

Introduction

Purpose

This manual provides instructions for installing the Transmitter/Receiver IN Dispenser (TRIND®) Retrofit Kit (M06879K00X) in Encore® S Series units that have the Card Reader IN Dispenser (CRIND®) device. These kits are for Mobil and Exxon®/Esso.

IMPORTANT INFORMATION

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the Federal Communications Commission (FCC) Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

The long term characteristics or the possible physiological effects of radio frequency electromagnetic fields have not yet been investigated by Underwriters' Laboratories (UL®) Incorporated.

Industry Canada Warning

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause interference, and
- This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- l'appareil ne doit pas produire de brouillage, et
- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Following table lists the TRIND Retrofit Kits for various dispensers:

Dispenser	TRIND Retrofit Kit
Encore S TRIND Dual-sided Unit (Mobil)	M06879K001
Encore S TRIND Dual-sided Unit (Exxon/Esso)	M06879K002
Encore S TRIND Single-sided Unit (Mobil)	M06879K003
Encore S TRIND Single-sided Unit (Exxon/Esso)	M06879K004
Encore S Enhanced TRIND Dual-sided Unit (Mobil)	M06879K005
Encore S Enhanced TRIND Dual-sided Unit (Exxon/Esso)	M06879K006

The TRIND option allows customers to automatically authorize CRIND device-equipped units using a hand-held low frequency transponder tag provided by a Major Oil Company (MOC) or retailer.

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Required Reading

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

- This Manual.
- National Fire Protection Agency (NFPA) 30A, The Automotive and Marine Service Station Code.
- NFPA 70, The National Electric Code.
- Applicable Federal, state, and local codes and regulations.

Failure to do so may adversely affect the safe use and operation of the equipment.

Note: To ensure valid warranty, this kit must be installed by a Gilbarco® Authorized Service Contractor (ASC).

Required Tools and Materials

Following tools and materials are required to install the TRIND Retrofit Kit (M06879K00X):

- Clean Cloth or Rag
- Isopropyl Alcohol (Part Number END-1082)
- Metric Nut Drivers
- Standard Nut Drivers
- Multimeter
- Needle Nose Pliers
- Pliers
- Pocket Knife
- Putty Knife or Scraper
- Diagnostic Card (Q12534-170)
- Metric Ratchet Set
- Standard Ratchet Set
- Flat-blade and Phillips® Screwdrivers
- Static Guard Wrist Strap
- TRIND Hand-held Test Tag (Q13630-02)

Related Documents

Document Number	Title	GOLD Library
MDE-3664	TRIND Service and Parts Manual	<ul style="list-style-type: none"> • Parts Manual • Service Manual
MDE-3804	Encore/Eclipse® Start-up/Service Manual	<ul style="list-style-type: none"> • Encore and Eclipse • Service Manual
MDE-4516	Encore S Series Owners Manual	Encore and Eclipse
PT-1736	The Advantage®/MPD®/CRIND Illustrated Parts Manual	Parts Manual
PT-1936	Encore Illustrated Parts Manual	Parts Manual

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractor
AWG	American Wire Gauge
CCN	CRIND Control Node
CRIND	Card Reader IN Dispenser
EMC	Environmental Management Console
FCC	Federal Communications Commission
LED	Light Emitting Diode
MOC	Major Oil Company
NFPA	National Fire Protection Agency
OSHA	Occupational Safety and Health Administration
PCA	Printed Circuit Assembly
RFID	Radio Frequency Identification
TRIND	Transmitter/Receiver IN Dispenser
UL	Underwriters' Laboratory

Parts List

Following tables provide the parts lists for the TRIND Retrofit Kit (M06879K00X):

TRIND Retrofit Kit M06879K001 for Mobil and M06879K002 for Exxon/Esso Parts List

The M06879K001 and M06879K002 Kits have the same quantities for all the listed parts.

Item	Description	Part Number	Quantity
1	Assembly, TRIND Electronics	M06380A001	1
2	Nut, Metric, Hex Serrated Flange	M00414B005	3
3	Cable, TRIND Power	M06763A001	1
4	Decal, Patent and FCC	M02962B007	1
5	Diagram, Block TRIND	R20775	0
6	Diagram, Interconnection, TRIND	T20663	0
7	Jumper (0.1-inch Centers)	Q11011-01	10
8	Assembly, Light and Inductor	M06143A00X (see Note 1)	2
9	Lens, TRIND	M05987B001	2
10	TRIND Graphic	ENS0701G00X (see Note 2)	2
11	Card Reader Instructions Graphic	ENS0702G010	2
12	Screw, Metric, Thread Forming	M00419B117	8
13	Screw, Hex Washer Head, Thread Forming	Q11677-24	6
14	Cable, 0.1-inch Centers, 14-position, 22 American Wire Gauge (AWG) Ribbon	M00515A002	1
15	Cable, 0.1-inch Centers, 10-position, 22 AWG Ribbon	M00507A001	2
16	Cable, TRIND Option Door Data and Power	R20773-G2	2
17	Gasket, TRIND	M06010B002	2

Notes: 1) Mobil Kit (M06879K001) contains Light and Inductor Assembly M06143A003 (Red). Exxon/Esso Kit (M06879K002) contains Light and Inductor Assembly M06143A004 (Amber).
 2) Mobil Kit (M06879K001) contains TRIND Graphic ENS0701G002. Exxon/Esso Kit (M06879K002) contains TRIND Graphic ENS0701G001.

TRIND Retrofit Kit M06879K003 for Mobil and M06879K004 for Exxon/Esso Parts List

The M06879K003 and M06879K004 Kits have the same quantities for all the listed parts.

Item	Description	Part Number	Quantity
1	Assembly, TRIND Electronics	M06380A002	1
2	Nut, Metric, Hex Serrated Flange	M00414B005	3
3	Cable, TRIND Power	M06763A001	1
4	Decal, Patent and FCC	M02962B007	1
5	Diagram, Block TRIND	R20775	-
6	Diagram, Interconnection, TRIND	T20663	-
7	Jumper (0.1-inch Centers)	Q11011-01	10
8	Assembly, Light and Inductor	M06143A00X (see Note 1)	1
9	Lens, TRIND	M05987B001	1
10	Screw, Metric, Thread Forming	M00419B117	8
11	Screw, Hex Washer Head, Thread Forming	Q11677-24	6
12	Cable, 0.1-inch Centers, 14-position, 22 AWG Ribbon	M00515A004	1
13	Cable, 0.1-inch Centers, 10-position, 22 AWG Ribbon	M00507A001	1
14	Cable, TRIND Option Door Data and Power	R20773-G2	1
15	Gasket, TRIND	M06010B002	1
16	TRIND Graphic	ENS0701G00X	1
17	Card Reader Instructions Graphic	ENS0702G010	1

Notes: 1) Mobil Kit (M06879K003) contains Light and Inductor Assembly M06143A003 (Red).
Exxon/Esso Kit (M06879K004) contains Light and Inductor Assembly M06143A004 (Amber).
2) Mobil Kit (M06879K003) contains TRIND Graphic ENS0701G002. Exxon/Esso Kit
(M06879K004) contains TRIND Graphic ENS0701G001.

TRIND Retrofit Kit M06879K005 for Mobil and M06879K006 for Exxon/Esso Parts List

The M06879K005 and M06879K006 Kits have the same quantities for all the listed parts.

Item	Description	Part Number	Quantity
1	Assembly, TRIND Electronics	M06380A002	1
2	Nut, Metric, Hex Serrated Flange	M00414B005	3
3	Cable, TRIND Power	M06763A001	1
4	Decal, Patent and FCC	M02962B007	1
5	Diagram, Block TRIND	R20775	-
6	Diagram, Interconnection, TRIND	T20663	-
7	Jumper (0.1-inch Centers)	Q11011-01	10
8	Assembly, Light and Inductor	M06143A00X (see Note 1)	2
9	Lens, TRIND E-CIM™	M07698B001	2
10	Screw, Metric, Thread Forming	M00419B117	8
11	Screw, Hex Washer Head, Thread Forming	Q11677-24	6
12	Gasket TRIND Lens	M07715B002	2
13	Cable, 0.1-inch Centers, 14-position, 22 AWG Ribbon	M00515A004	1
14	Cable, 0.1-inch Centers, 10-position, 22 AWG Ribbon	M00507A001	2
15	Cable, TRIND Option Door Data and Power	R20773-G2	2
16	Gasket, TRIND	M07908B001	4
17	TRIND Graphic	ENS0701G00X	2
18	Screw, Metric, Thread Forming	M00419B311	8

Notes: 1) Mobil Kit (M06879K005) contains Light and Inductor Assembly M06143A003 (Red).
Exxon/Esso Kit (M06879K006) contains Assembly, Light and Inductor M06143A004 (Amber).
2) Mobil Kit (M06879K005) contains TRIND Graphic ENS0701G002. Exxon/Esso Kit
(M06879K006) contains TRIND Graphic ENS0701G001.

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 a Gilbarco Authorized Service Contractor or call the Gilbarco Support Center at 1-800-800-7498. 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.

Important Safety Information

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.

Installing TRIND Retrofit Kit (M06879K00X)

This manual consists of the following sections:

- “Addressing Gateway Board”
- “Installing Enhanced Gateway Board [TRIND Electronics Assembly (M06380A001)]” on page 12
- “Installing Light and Inductor Assembly (M06143A00X)” on page 13
- “Routing Cables” on page 15
- “TRIND Cable Block Diagram (R20775), Sheet 2” on page 19
- “Enabling TRIND Device and Verifying Addresses” on page 20
- “Testing TRIND Device” on page 20
- “Completing Installation” on page 22

Perform the following procedures to install the TRIND Retrofit Kit (M06879K00X).

Before You Begin

 CAUTION	
	A properly grounded ESD wrist strap must be worn while servicing any electronic devices or components. Failure to use electrostatic precautions may damage electronic components and void warranty.

- 1 Inform the manager.
- 2 Barricade the unit to be worked on.
- 3 Follow OSHA lockout/tagout procedures and remove power to the Encore S Series unit at the breaker panel.

 WARNING	
Failure to turn off the unit during the installation of the kit may cause injury or bodily harm from electrical shock. Ensure that all power to the unit is switched off before opening the door to the unit and during the installation of the kit.	

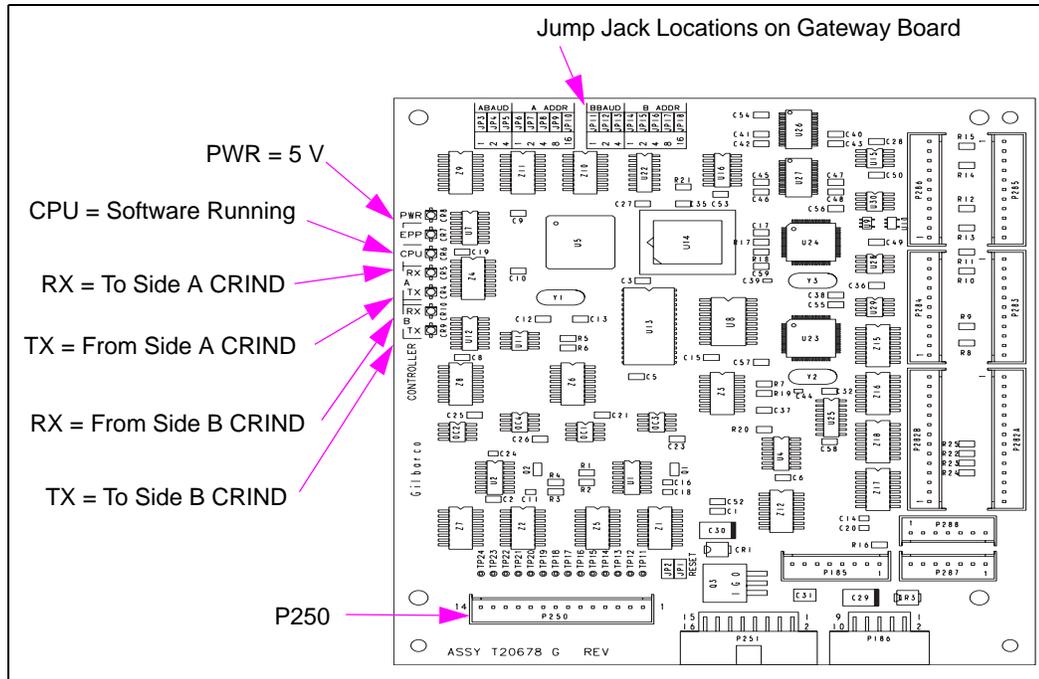
- 4 Read all the safety information provided in *MDE-3804 Encore/Eclipse Start-up/Service Manual*.
- 5 Isolate two-wire to the unit.

Addressing Gateway Board

The Gateway Board contains jump jacks that are used to set up addresses that will match the addresses set in the software on the CRIND Control Node (CCN) Printed Circuit Assembly [PCA (M00089)].

To set up addresses on the Gateway Board, proceed as follows:

Figure 1: Gateway Board (T20678-GX) Jump Jack Location



- 1 Set the jump jacks (see [Figure 1](#) on [page 10](#)) on the Gateway Board (T20678-GX) to match the CRIND addresses of the fueling unit subject to TRIND installation. For the jack settings that correspond to a CRIND address, refer to the following table:

Note: For generic CRIND, address the Gateway Board to correspond with the proper CRIND address. This must be done in accordance with Site Controller requirements.

MOC Encore CRIND Addresses	Jack Settings				
Side 1 = Address on Gateway Board T20678 Side 'A'	JP6	JP7	JP8	JP9	JP10
Side 2 = Address on Gateway Board T20678 Side 'B'	JP14	JP15	JP16	JP17	JP18
1	IN	OUT	OUT	OUT	OUT
2	OUT	IN	OUT	OUT	OUT
3	IN	IN	OUT	OUT	OUT
4	OUT	OUT	IN	OUT	OUT
5	IN	OUT	IN	OUT	OUT
6	OUT	IN	IN	OUT	OUT
7	IN	IN	IN	OUT	OUT
8	OUT	OUT	OUT	IN	OUT
9	IN	OUT	OUT	IN	OUT
10	OUT	IN	OUT	IN	OUT
11	IN	IN	OUT	IN	OUT
12	OUT	OUT	IN	IN	OUT
13	IN	OUT	IN	IN	OUT
14	OUT	IN	IN	IN	OUT
15	IN	IN	IN	IN	OUT
16	OUT	OUT	OUT	OUT	IN
17	IN	OUT	OUT	OUT	IN
18	OUT	IN	OUT	OUT	IN
19	IN	IN	OUT	OUT	IN
20	OUT	OUT	IN	OUT	IN
21	IN	OUT	IN	OUT	IN
22	OUT	IN	IN	OUT	IN
23	IN	IN	IN	OUT	IN
24	OUT	OUT	OUT	IN	IN
25	IN	OUT	OUT	IN	IN
26	OUT	IN	OUT	IN	IN
27	IN	IN	OUT	IN	IN
28	OUT	OUT	IN	IN	IN
29	IN	OUT	IN	IN	IN
30	OUT	IN	IN	IN	IN
31	IN	IN	IN	IN	IN
32	OUT	OUT	OUT	OUT	OUT

Installing Enhanced Gateway Board [TRIND Electronics Assembly (M06380A001)]

To install the Enhanced Gateway Board assembly from Side 2 of the unit, proceed as follows:

- 1 Place the TRIND Electronics Assembly [M06380A001 (see [Figure 2](#))] on the shelf provided, aligning the three studs on the underside of the bracket with the holes provided on the shelf (see [Figure 3](#)).

Figure 2: TRIND Electronics Assembly

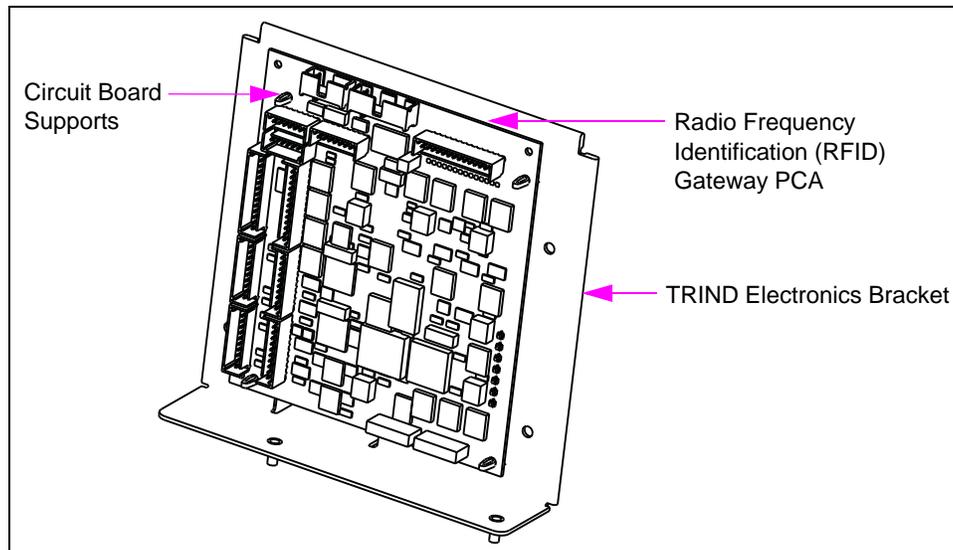
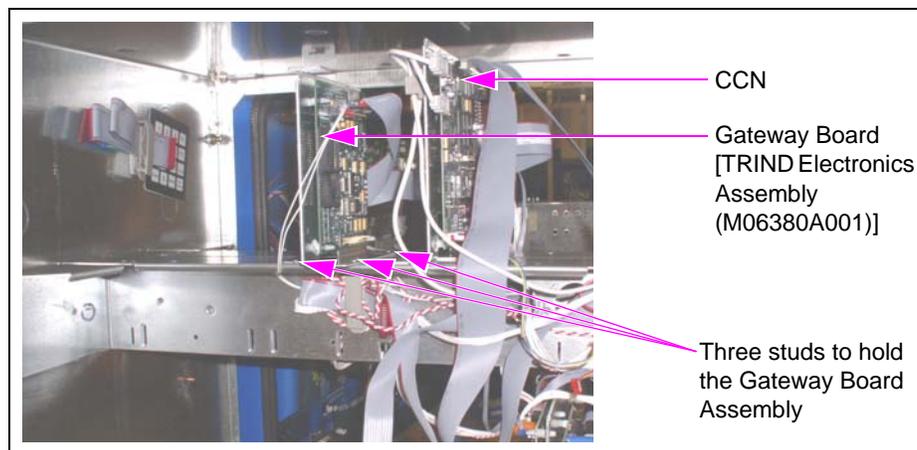


Figure 3: Enhanced Gateway Board on Shelf

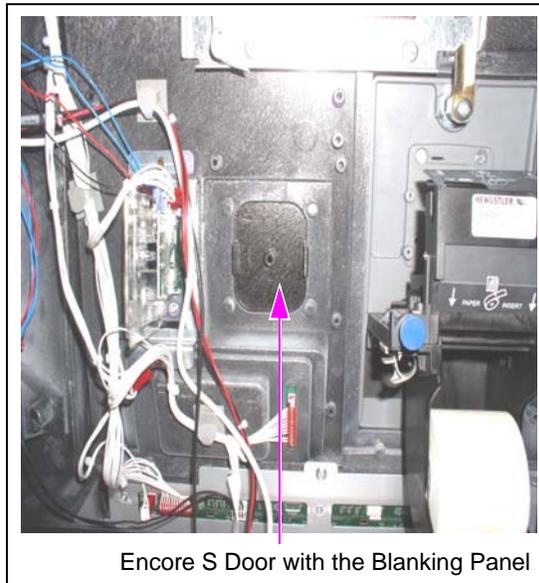


Installing Light and Inductor Assembly (M06143A00X)

To install the Light and Inductor Assembly, proceed as follows:

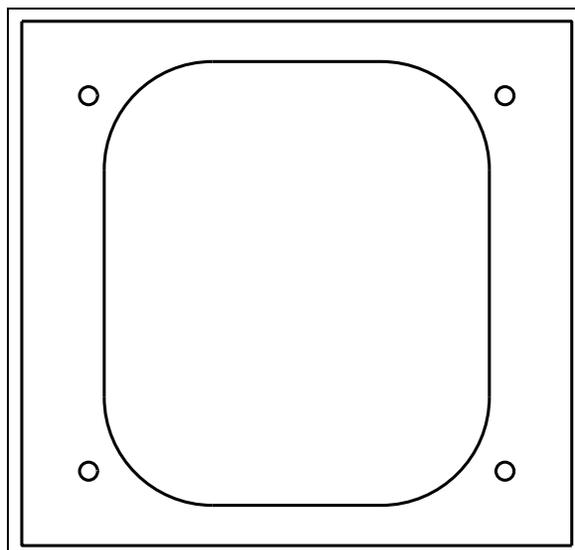
- 1 Remove the small bracket holding the TRIND blanking panel and knock out the TRIND Blanking Panel (see [Figure 4](#)) using a hammer.

Figure 4: Encore S Door with TRIND Blanking Panel



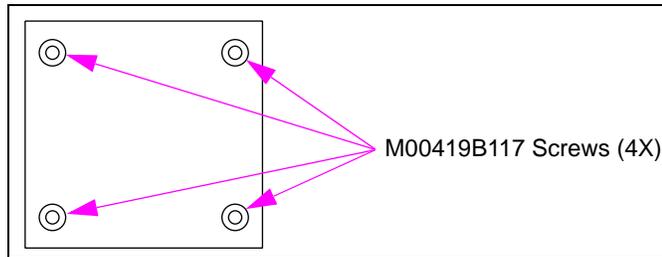
- 2 Remove the narrow sealing gasket from the space that is now exposed on the outside of the door and place the TRIND Gasket [[M06010B002](#) (see [Figure 5](#))].

Figure 5: TRIND Gasket



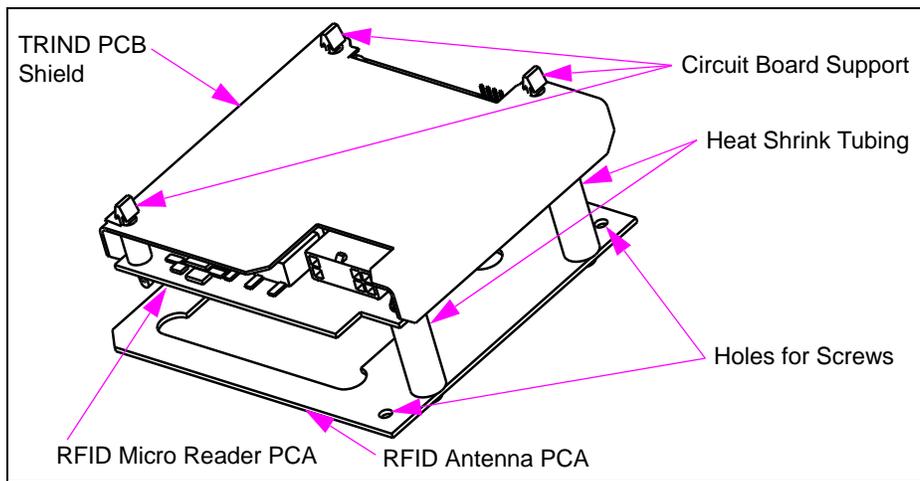
- 3 Place the TRIND Lens (M05987B001) on the TRIND gasket. Install and tighten the four M00419B117 Screws (see Figure 6).

Figure 6: TRIND Lens



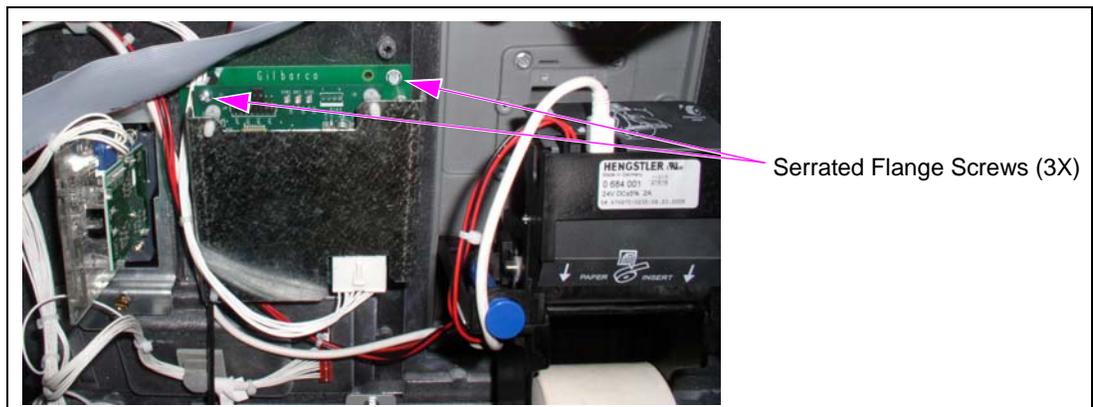
- 4 Install the Light and Inductor Assembly (see Figure 7) on the inside of the Encore S bezel using the three Q11677-24 Screws provided in the kit (see Figure 8).

Figure 7: Light and Inductor Assembly



- 5 Repeat steps 1 (on page 12) to 4 for the other side of the bezel.

Figure 8: Light and Inductor Assembly Secured to Door



Routing Cables

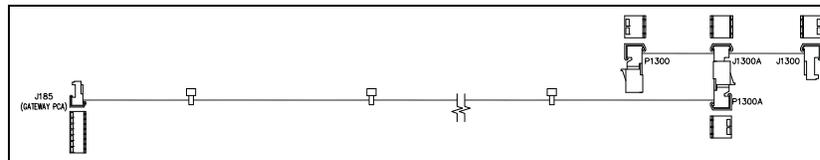
Note: To ensure compliance with Environmental Management Console (EMC) standards, do not remove the ferrite beads from cable assemblies provided with them.

To install the retrofit kit cables, proceed as follows. For details on making connections, refer to “TRIND Cable Block Diagram (R20775), Sheet 2” on page 19.

- 6 Obtain the TRIND Power Cable [M06763A001 (see [Figure 9](#))] from the kit and make the following connections:
 - Connect J185 to P185 on the Gateway PCA Board.
 - Connect J1300 to P1300 on the M04104 Power Supply.

Note: If a cable is already connected to P1300, remove and reconnect it to P1300 on the TRIND Power Cable.

Figure 9: TRIND Power Cable

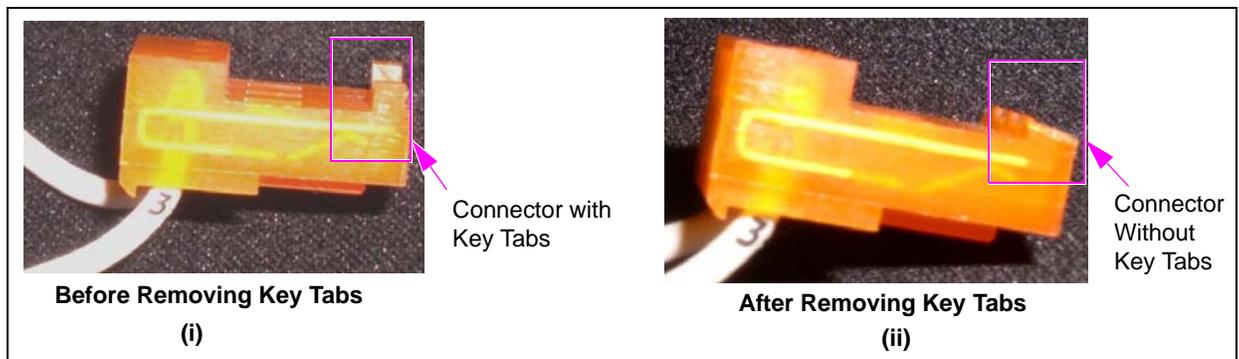


CAUTION

Make this connection carefully using the labels on the cable. Failure to do so may damage the Gateway PCA Board.

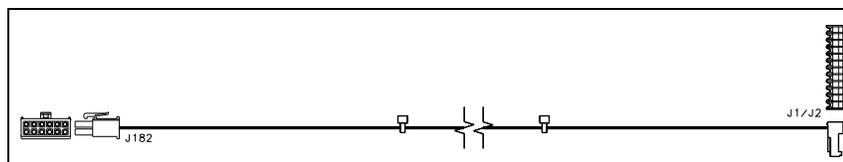
Note: If you find key tabs in front of the J1300 Connector, snip them off (see [Figure 10](#)).

Figure 10: Before and After Removing Key Tabs



- 7 Obtain the TRIND Option Door Data and Power Cable [R20773-G2 (see [Figure 11](#))] from the kit and connect the J182 end of the cable to P182 on the Light and Inductor Assembly.

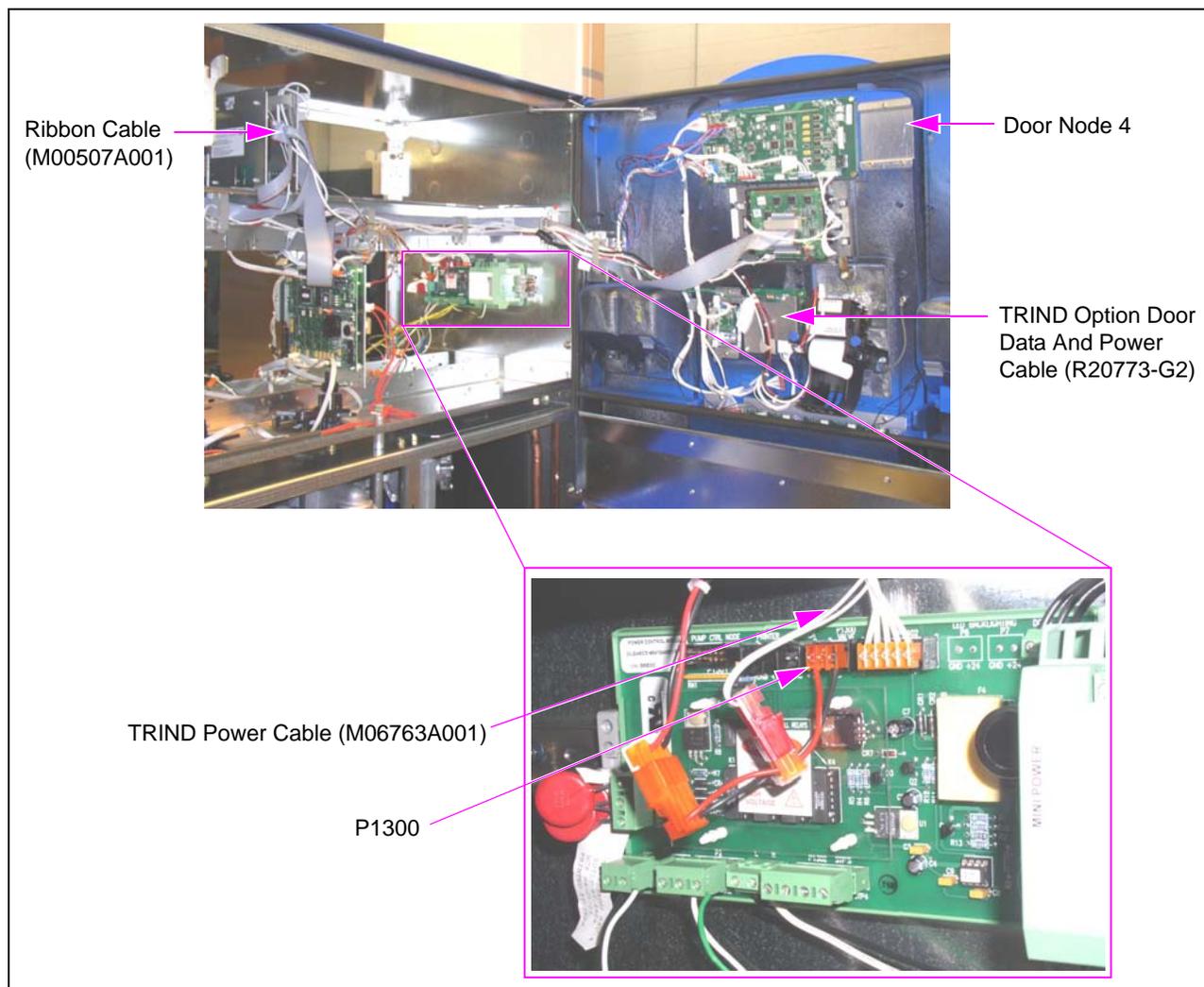
Figure 11: TRIND Option Door Data and Power Cable



- 8 Secure the TRIND Option Door Data and Power Cable to the door. Route and feed the other cables.
- 9 Route the cables to and along the door for both the main doors using the cable clamps as shown in [Figure 12](#).

Note: Ensure that the cables are secured with sufficient slack to allow the door to open and close without pinching or pulling the cabling.

Figure 12: Door-to-Cabinet Cable Routing View



- 10 Connect the J1/J2 end of the TRIND Option Door Data and Power Cable to P2 end of the Ribbon Cable (M00507A00X) extending from the shelf as shown in [Figure 13](#).

Figure 13: Ribbon Cable



- 11 Feed the cables to the proper location on the main door.
- 12 Route the cables to and along the door using the cable clamps.
Note: Ensure that the cables are secured with sufficient slack to allow door to open and close without pinching or pulling the cabling.
- 13 Connect the J1/J2 end of the TRIND Option Door Data and Power Cable to the P1 end of the Ribbon Cable extending from the shelf.
- 14 Obtain the TRIND Gateway 14-position Ribbon Cable [M00515A00X (see [Figure 14](#))] from the kit and perform the following to connect the Enhanced Gateway Board to CCN PCA (M00089A00X):
- Connect J250 on the TRIND Gateway 14-position Ribbon Cable to plug P250 on the Enhanced Gateway Board.
 - Connect J3110 on the TRIND Gateway 14-position Ribbon Cable to plug P3110 on the CCN PCA (see [Figure 15](#) and [Figure 16](#) on [page 18](#)).

Figure 14: TRIND Gateway 14-position Ribbon Cable

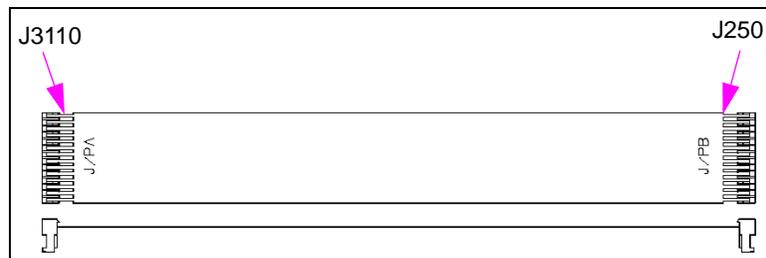


Figure 15: TRIND Gateway Ribbon Cable Connections

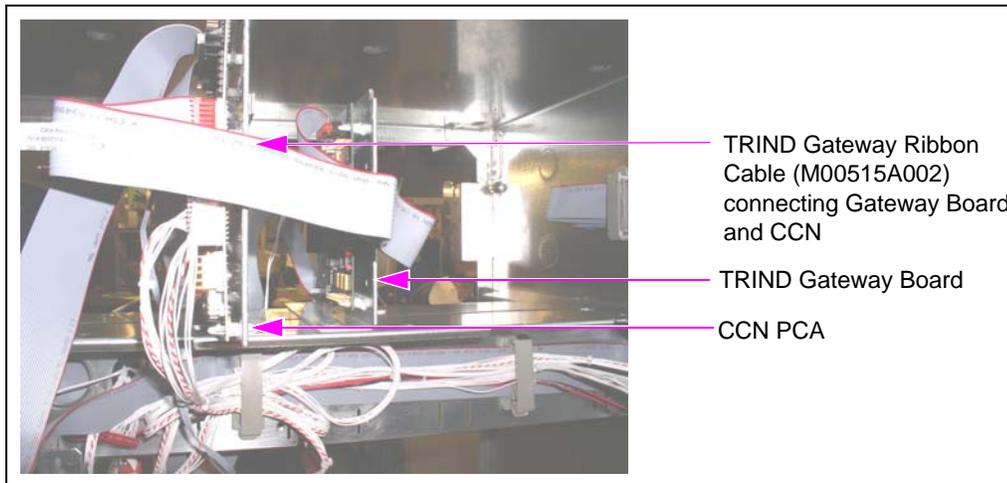
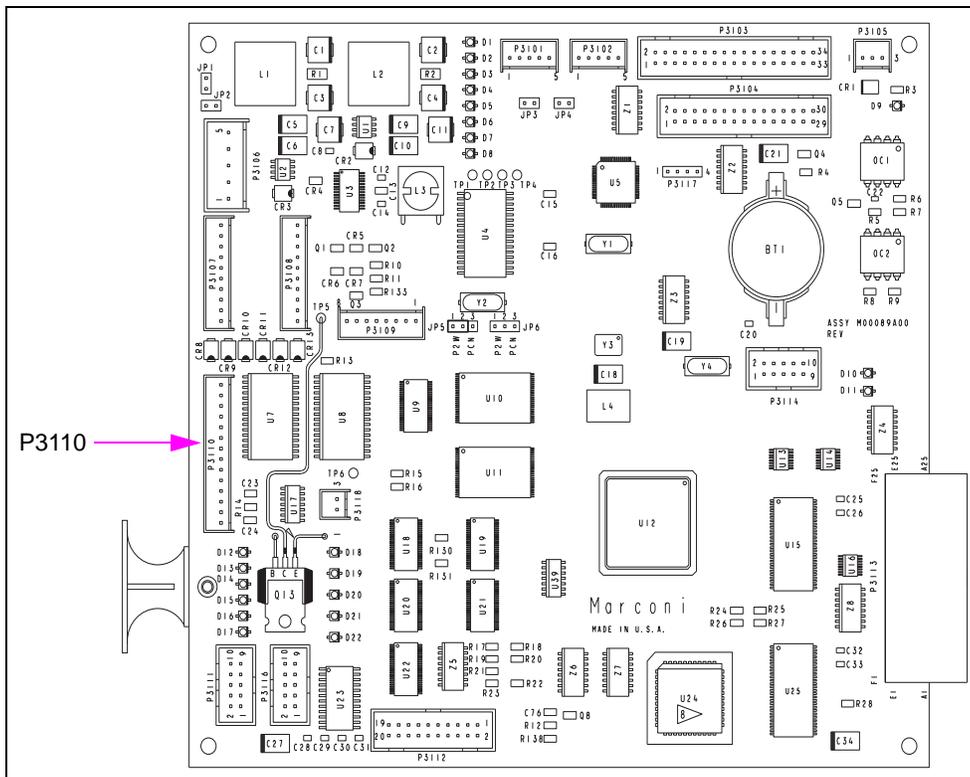
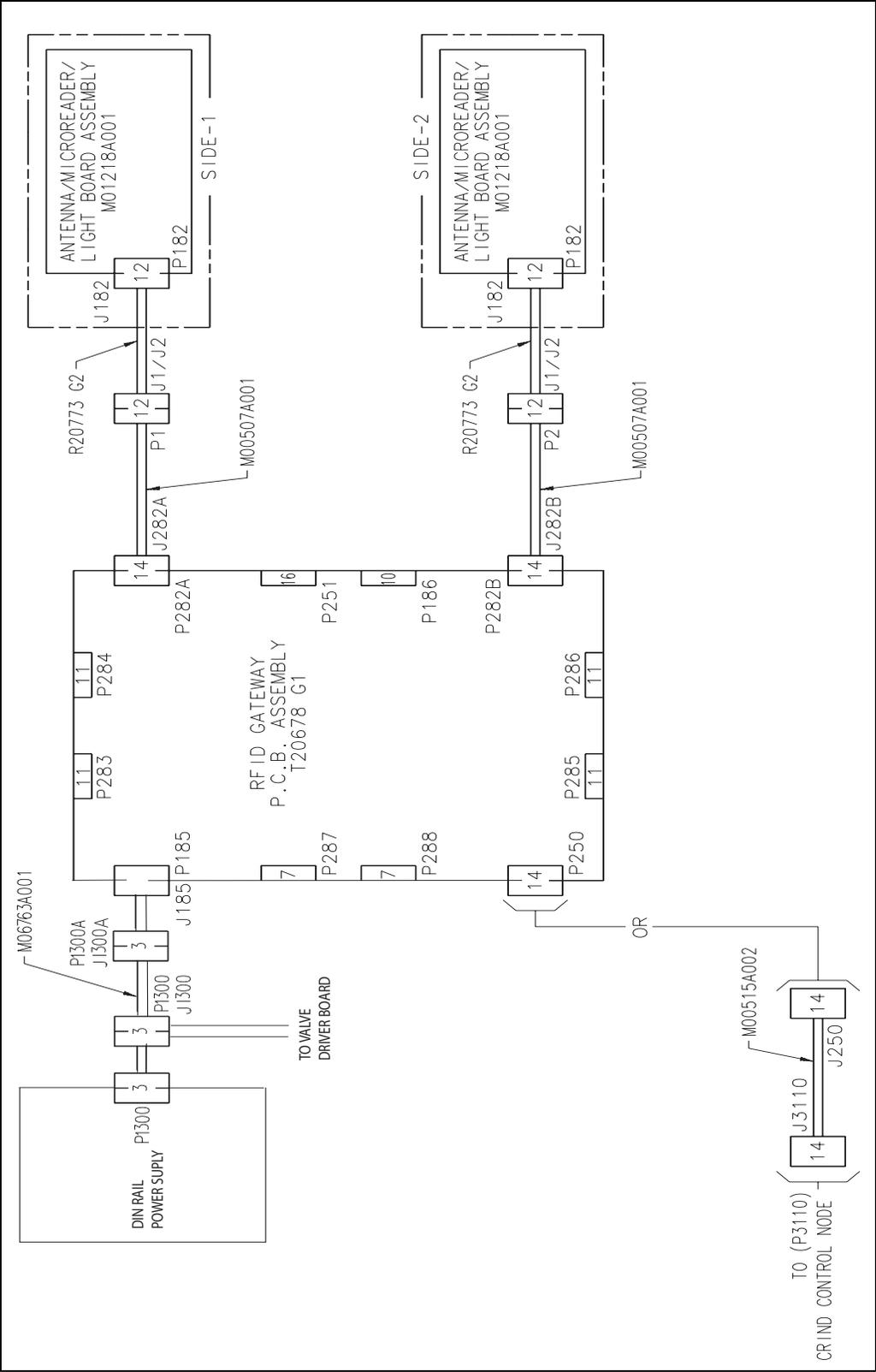


Figure 16: CCN PCA



TRIND Cable Block Diagram (R20775), Sheet 2

Figure 17: TRIND Cable Block Diagram (R20775)



Enabling TRIND Device and Verifying Addresses

To enable the TRIND device and verify the CRIND addresses with the Gateway Board, proceed as follows:

- 1 Restore power to the fueling units. Refer to *MDE-3804 Encore/Eclipse Start-up/Service Manual*.
- 2 Initiate CRIND BIOS Diagnostics using Diagnostic Card (Q12534-170).
- 3 Select **1. Main Menu** from the Diagnostic startup menu window.
- 4 Select **1. Device Config** from the main menu window.
- 5 Select **4. TRIND** from the Device Config window.
- 6 Select **1. Yes** for the “Enable TRIND” item from the TRIND Menu window to enable TRIND. Press **ENTER** on the CRIND Keypad to have the selection accepted.
- 7 Press **CANCEL** several times until the Diagnostic startup menu appears.
- 8 Select **1. Main Menu** from the Diagnostic startup menu window.
- 9 Select **1. CRIND Config** from the main menu window.
- 10 Select **CRIND ID’s** from the CRIND Config window.
- 11 Select **1. CRIND ID Side A** for Side 1, or **2. CRIND ID Side B** for Side 2 from the CRIND ID’s window.
- 12 Observe and note the CRIND ID in the CRIND ID Side A or CRIND ID Side B window. Verify if the ID value is the same as the dispenser address set up on the Gateway Board. For details, refer to [“Addressing Gateway Board”](#) on [page 10](#).

Testing TRIND Device

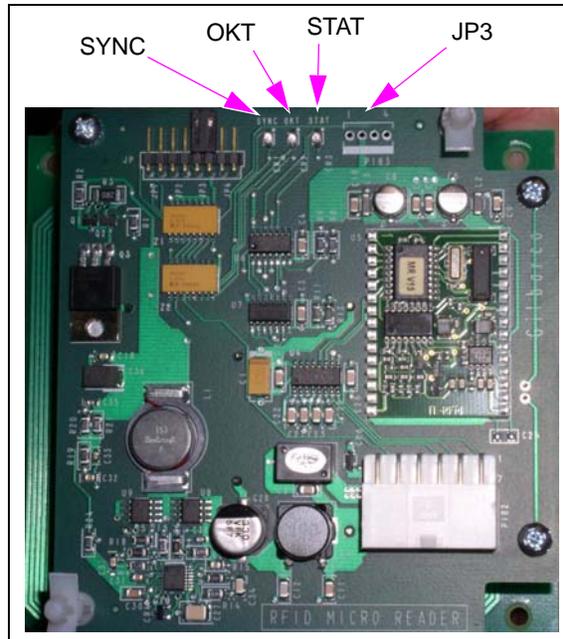
For details on wire connections, refer to [“TRIND Cable Block Diagram \(R20775\), Sheet 2”](#) on [page 19](#).

To test the TRIND device, proceed as follows:

- 1 If the G-SITE® system or other third-party system is not operational (the application has not been loaded), then proceed to step [2](#). Else, proceed to step [6](#) on [page 21](#).
- 2 Place the unit in “standalone” mode.

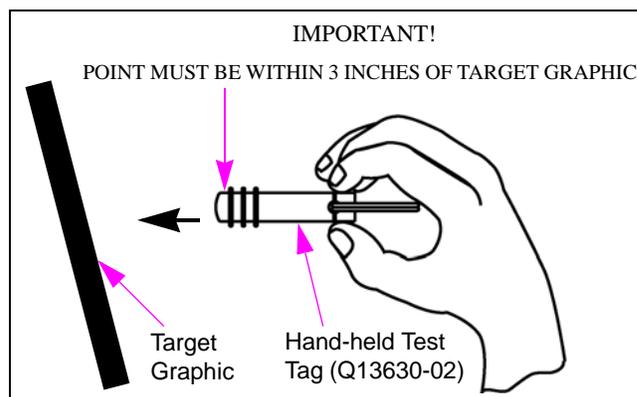
- 3 Locate the Side 1 cable harness and disconnect P1 of Ribbon Cable, or locate RFID Micro Reader PCA (M06100A00X) that is a part of the Light and Inductor Assembly and place a jumper in JP3.

Figure 18: RFID Micro Reader with Antenna PCA



- 4 Restore power to the TRIND device by reconnecting TRIND Power Cable.
- 5 Allow about 12 seconds for the Gateway Board software to start up. Ensure that the SYNC and STAT Light Emitting Diodes (LEDs) on RFID Micro Reader PCA glow and the OKT LED is illuminated.
- 6 From Side 1 of the unit, point the Hand-held Test Tag (Q13630-02) at the TRIND target graphic. The TRIND indicator will glow when the tag is approximately 3 inches or less away for the target graphic. Repeat for Side 2.
Note: If the indicator fails to glow, check whether the indicator on the other side is glowing. If so, it indicates a crossing of Side 1 and Side 2 cables. Check the connections.

Figure 19: TRIND Hand-held Test Tag



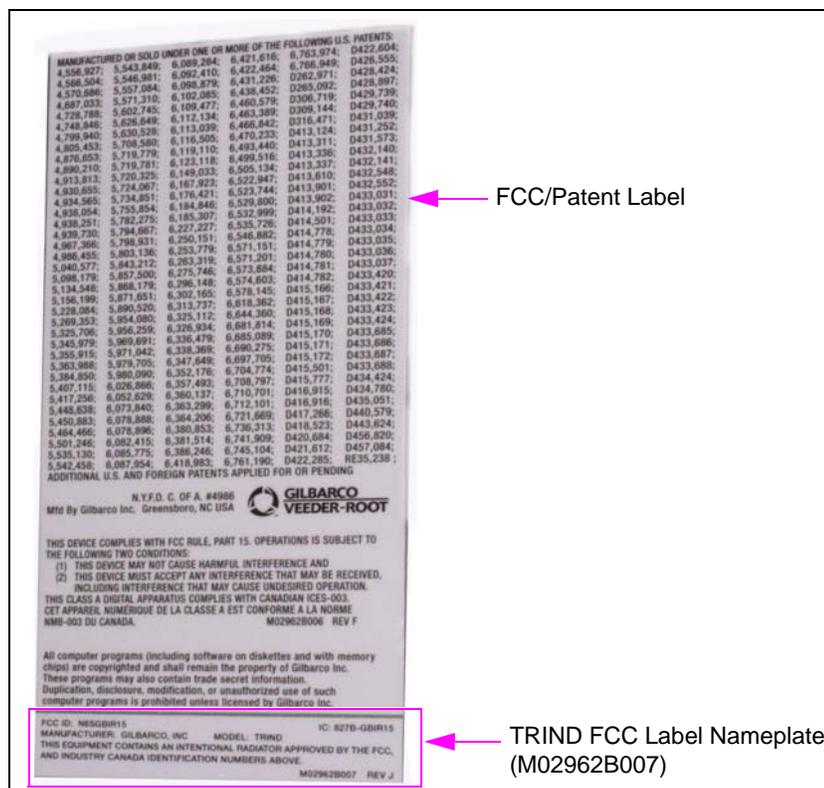
- 7 After completing the test successfully, remove power from the unit(s), remove the jumper cable or jump jack from JP3, and restore power to the unit.

Completing Installation

After completing all tests, proceed as follows:

- 1 Ensure that all the newly installed cables and wires are properly dressed. Do not obstruct main door closure.
- 2 Obtain the TRIND FCC Label Nameplate (M02962B007) from the kit and install the label under the FCC/Patent label located on the inner column sheathing (see [Figure 20](#)).

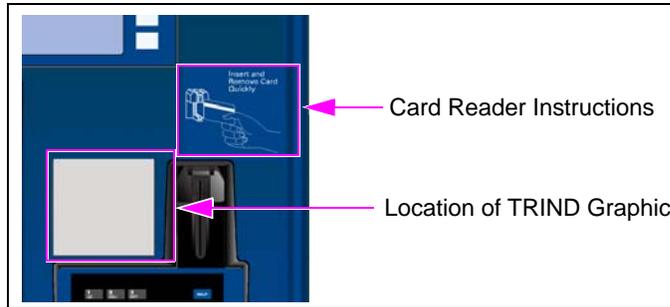
Figure 20: Location of TRIND FCC Label Nameplate



- 3 Close and secure all the doors.

- 4 Install the TRIND graphics on the TRIND lens and the card reader instructions as shown in [Figure 21](#).

Figure 21: Location of TRIND Graphics and Card Reader Instructions



- 5 Clean up the work site by removing all the tools and materials to be discarded.

Installing Encore S Series TRIND Retrofit Kit is now complete.

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7300 West Friendly Avenue · Post Office Box 22087
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Phone (336) 547-5000 · <http://www.gilbarco.com> · Printed in the U.S.A.
MDE-4544D Encore® S Series TRIND® Retrofit Kit (M06879K00X) Installation Manual · May 2013