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Retrofit G7 or G7 15 inch + InvencoLink GVR Encore 500S or 700S (US) Installation Guide		

Retrofit G7 or G7 15 inch + InvencoLink GVR Encore 500S or 700S (US) Installation Guide


Kit Part Number:

RF00011-XX	G7 15 inch, Grey
RF00023-XX	G7 15 inch, Black
RF00029-XX	G7, Black
RF00061-XX	G7 15 inch, Painted color

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Release History

Version	Prepared by	Date	Change description
0	Michael Doh	October 2019	Initial version to be approved by UL (Based on DCV-00461)
1	Michael Doh	December 2019	Added G7 15 inch SDC module kit
2	Michael Doh	January 2020	Typing error corrections
3	Michael Doh	February-2020	Corrected errors
4	Michael Doh	March-2020	Added Grey variant and updated kit part number format
5	Michael Doh	March-2020	Added details relating to ethernet connections, new cable variant EK0227 and included 700S dispenser
6	Michael Doh	March-2020	Added details for procedures relating to cable EK0227 and gasket MP0509, format updates and corrections
7	Michael Doh	March-2020	Header, list of tools and card removal procedure updated
8	Jojie Adigue	September 2020	Added painted colored kits
9	Shibani Joshi	April 2022	Updated procedure for installing audio exciter kits and PSU assembly part number
10	Shibani Joshi	16-Jun-2022	Updates made to the exciter kit based on UL comments (refer to DCV-00462 for comments)
11	Shibani Joshi	23-Aug-2022	Removed EK0129 (Red cable) from kits content and procedure.

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Invenco has taken great effort to verify the accuracy of this document but assumes no responsibility for any technical inaccuracies or typographical errors



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1 Introduction

The documentation provides some basic guidelines for installing the G7 or the G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) systems (Where the suffix -XX in the part numbers are any numbers or letters relating to optional configurations).

- G7 Outdoor Payment Terminal (OPT) Black system:
Kit part number: RF00029-XX
- G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) Black system:
Kit part number: RF00023-XX
- G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) Grey system:
Kit part number: RF00011-XX
- G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) Painted Color system:
Kit part number: RF00061-XX

IMPORTANT NOTE: The installer must review the entire installation guide prior to starting any work on the dispenser. If the construction of the dispenser in the installation guide does not match the construction of the dispenser being retrofitted, then do not proceed with the installation and contact customer service.


In particular, an earlier revision of the above Retrofit kits may not have the InvencoLink DC power cable fitted on the PSU assembly. If this is the case, stop the installation and contact technical support to obtain the correct matching revision of the kit.

Invenco Link

An InvencoLink converter is required to be fitted in the pump to communicate to the store. However, if the RF00011-XX kit is being installed, the pump has ethernet cables already fitted for communication to the store and this is not required.

This Retro-Fit Kit can be installed into either Side A or Side B of a GVR Encore 500S or 700S dispenser;

- **For a single-sided installation, or if this Kit will be installed into Side A (i.e. the first side installed) of a double-sided installation, and ethernet cables are not installed in the pump, it requires the pre-installation of UL Listed by Report Retrofit Kit Part Number RF00033-XX (InvencoLink Converter) before installation into the dispenser.** The process is covered in §4.2 Pre-Installation Procedure of this instruction, by reference to the instructions in that Kit.
- **For a double-sided installation, two of these Kits are required.**

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1.1 Tools Required


The following tools are required to mount the G7 or the G7 15 inch (G7-100 SDC-15) OPT:

- 70% Isopropyl Alcohol (IPA) cleaner (rubbing alcohol)
- Gilbarco “CH 751” Key
- Gilbarco “GBCO” Key
- Philips #1 screwdriver
- Philips #2 screwdriver
- Flat 5mm screwdriver
- Side cutters
- Cable (zip) ties
- Pliers
- ¼”, 5/16” Socket or Nut Driver
- #6, #8 & #10 Hex Socket or Nut Driver



WARNING




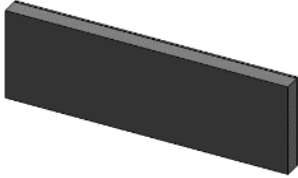
Do NOT use power tools if working on a fuel station forecourt.
Any spark could cause an explosion.

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1.2 Installation Kit Contents

G7 Outdoor Payment Terminal (OPT) Black system (RF00029-XX):

Unpack the G7 Retro-Fit Kit (RF00029-XX) and check that all of the parts listed below are present. Also refer to the pre-installation procedure (section 4.2.) relating to the communication method parts.

RFK Panel with pre-installed G7 OPT (RP00029-XX): 	PSU plate with cables (EZ0703): 
One of Gasket (MP0651): 	Two of Gasket (MP0652): 

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One of Gasket (MP0509):



Optional Part

1 x IA0132 Audio Exciter Kit

Comprising:



1 x EO0095 Exciter



1 x MO0051 Exciter
Mounting Lug



1 x MS0307 Screw, Exciter
Mount, Encore

Fastener Kit (FK0007):

Comprising:


- MS0101 SCREW, #6-22 x 1/2", HEX HEAD
- 10 1/4", SS410
- MS0149 SCREW #4-24 X 3/8", HI-LO
- 5 THREAD, PAN HEAD, PHILIPS #1, SS410
- MS0150 SCREW, SEMS, #6-20 X 3/8", TYPE
- 6 B, HEX HEAD 1/4", SS410, WASHER 3/4"
- 2 MN0029 #8-32 LockNut
- 3 MF0040 cable ties

Cable Kit (IA0042):






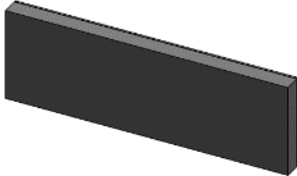
Comprising (clockwise from top left):

- EK0124 Gilbarco Pump to PSU Adaptor
- EK0139 Gilbarco E500S to InvencoLink
- EK0131 Cat-5e, Flexible, YELLOW

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G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) Black system (RF00023-XX):

Unpack the G7 15 inch (G7-100 SDC-15) Retro-Fit Kit (RF00023-XX) and check that all of the parts listed below are present. Also refer to the pre-installation procedure (section 4.2.) relating to the communication method parts.

RFK Panel with pre-installed G7 15 inch OPT (RP00023-XX): 	PSU plate with cables (EZ0703): 
One of Gasket (MP0651): 	Two of Gasket (MP0652): 

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One of Gasket (MP0509):



Optional Part

1 x IA0132 Audio Exciter Kit

Comprising:



1 x EO0095 Exciter



1 x MO0051 Exciter
Mounting Lug



1 x MS0307 Screw, Exciter
Mount, Encore

Fastener Kit (FK0007):

Comprising:

- MS0101 SCREW, #6-22 x 1/2", HEX HEAD
- 10 1/4", SS410
- MS0149 SCREW #4-24 X 3/8", HI-LO
- 5 THREAD, PAN HEAD, PHILIPS #1, SS410
- MS0150 SCREW, SEMS, #6-20 X 3/8", TYPE
- 6 B, HEX HEAD 1/4", SS410, WASHER 3/4"
- 2 MN0029 #8-32 LockNut
- 3 MF0040 cable ties

Cable Kit (IA0042):



Comprising (clockwise from top left):

- EK0124 Gilbarco Pump to PSU Adaptor
- EK0139 Gilbarco E500S to InvencoLink
- EK0131 Cat-5e, Flexible, YELLOW

**Retrofit G7 or G7 15 inch + InvencoLink GVR Encore 500S or 700S (US)
Installation Guide****G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) Grey system (RF00011-XX):**

Unpack the G7 15 inch (G7-100 SDC-15) Retro-Fit Kit (RF00011-XX) and check that all of the parts listed below are present. Also refer to the pre-installation procedure (section 4.2.) relating to the communication method parts.

RFK Panel with pre-installed G7 15 inch OPT (RP00011-XX):



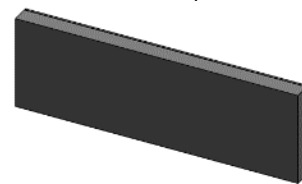
PSU plate with cables (EZ0703):



One of Gasket (MP0651):



Two of Gasket (MP0652):



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One of Gasket (MP0509):



Optional Part

1 x IA0132 Audio Exciter Kit

Comprising:



1 x EO0095 Exciter



1 x MO0051 Exciter
Mounting Lug



1 x MS0307 Screw, Exciter
Mount, Encore

Fastener Kit (FK0007):

Comprising:

- MS0101 SCREW, #6-22 x 1/2", HEX HEAD
- 10 1/4", SS410
- MS0149 SCREW #4-24 X 3/8", HI-LO
- 5 THREAD, PAN HEAD, PHILIPS #1, SS410
- MS0150 SCREW, SEMS, #6-20 X 3/8", TYPE
- 6 B, HEX HEAD 1/4", SS410, WASHER 3/4"
- 2 MN0029 #8-32 LockNut
- 3 MF0040 cable ties

Cable Kit (IA0089):




Comprising (clockwise from top left):

- EK0124 Gilbarco Pump to PSU Adaptor
- EK0131 Cat-5e, Flexible, YELLOW
- EK0227 Gilbarco Power to PSU Adaptor




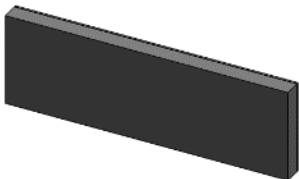
Note: The ethernet cable EK0131 is not normally required for the installation, but included as a spare part in case the existing ethernet cable pre-installed in the pump requires replacement due to damage, or too short etc...

Cable EK0227 is only required for side A installation. Discard for side B installation

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G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) Painted Color system (RF00061-XX):

Unpack the G7 15 inch (G7-100 SDC-15) Retro-Fit Kit (RF00061-XX) and check that all of the parts listed below are present. Also refer to the pre-installation procedure (section 4.2.) relating to the communication method parts.

RFK Panel with pre-installed G7 15 inch OPT (RP00061-XX): 	PSU plate with cables (EZ0703): 
One of Gasket (MP0651): 	Two of Gasket (MP0652): 

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One of Gasket (MP0509):



Optional Part

1 x IA0132 Audio Exciter Kit

Comprising:



1 x EO0095 Exciter



1 x MO0051 Exciter
Mounting Lug



1 x MS0307 Screw, Exciter
Mount, Encore

Fastener Kit (FK0007):

Comprising:


- MS0101 SCREW, #6-22 x 1/2", HEX HEAD
- 10 1/4", SS410
- MS0149 SCREW #4-24 X 3/8", HI-LO
- 5 THREAD, PAN HEAD, PHILIPS #1, SS410
- MS0150 SCREW, SEMS, #6-20 X 3/8", TYPE
- 6 B, HEX HEAD 1/4", SS410, WASHER 3/4"
- 2 MN0029 #8-32 LockNut
- 3 MF0040 cable ties

Cable Kit (IA0042):



Comprising (clockwise from top left):

- EK0124 Gilbarco Pump to PSU Adaptor
- EK0139 Gilbarco E500S to InvencoLink
- EK0131 Cat-5e, Flexible, YELLOW

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2 Safety & Compliance Information

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining or servicing the G7 or G7 15 inch (G7-100 SDC-15) OPT. Before proceeding, check the relevant hazard and safety information. Fire, explosion or electrical shock could occur and cause death or serious injury if these safe service procedures are not followed.

2.1 Preliminary Precautions

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

2.2 Emergency Total Electrical Shut-Off

Locate the forecourt emergency fuel shut-off valves and electrical isolation breakers. Understand how to use these, should they be required. Locate the switch or circuit breakers that shut-off all power to all fuelling equipment and dispensing devices.

2.3 Total Electrical Shut-Off Before Access

Any procedure requiring access to electrical components or the electronics of a pump/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 the G7 or G7 15 inch (G7-100 SDC-15) OPT.


2.4 Evacuation, Barricading and Shut-Off

Any procedures requiring accessing a pump/dispenser head requires the following three actions:

- An evacuation of all unauthorized persons and vehicles
- Using safety tape or cones as barricades to the affected units
- A total electrical shut-off of the affected unit(s)

2.5 Read the Manual

Read, understand and follow this manual and any other labels or related materials supplied with the equipment. If you do not understand a procedure, call an Invenco Authorized Service Centre or Invenco Service Officer. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

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2.6 Follow the Regulations

Regulations in OSHR (Occupational Safety and Health Regulations), national, state and local codes, including customer requirements 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 and may affect the safe use and operation of the equipment.

2.7 Replacement Parts

Use only genuine Invenco replacement parts and retrofit kits on your installation. Using parts other than genuine Invenco replacement parts could create a safety hazard and violate local regulations.

3 Safety Symbols and Terminology



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 hazard. 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: Designates a hazard or unsafe practice which may result in minor injury, property or equipment damage.

Working With Fuels and Electrical Energy

3.1 Prevent Explosions and Fires

Fuels and their vapors may explode or burn if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause potentially explosive vapors in the vicinity of dispenser or island.

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3.1.1 No Open Flames



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

3.1.2 No Sparks - No Smoking



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

3.1.3 Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Be familiar with Cardiopulmonary Resuscitation (CPR) methods if you are working with or around high voltages. This information is available from the First Aid training providers. 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 Tag-out/Lockout procedures. If you are not familiar with this requirement, refer to information in the relevant manual and OSHA documentation.

3.1.4 Working with Electricity Safety

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 Tag-out/Lockout requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while equipment is down.

Follow all applicable requirements in NFPA 30, 30A and 70, and those of the Local Authority Having Jurisdiction for electrical wiring.


3.1.5 Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Be sure to clean hands after handling equipment. Do not place any equipment in mouth.

3.1.6 In an Emergency

Compile the following information in case of emergency:

- Location of accident (e.g. address, front/back of building, etc).
- Nature of accident (e.g. possible heart attack, struck by a vehicle, burns, etc).
- Age of victim (e.g. baby, teenager, middle-age, elderly).
- Whether or not victim has received first aid (e.g. stopped bleeding by application of pressure etc).
- Whether or not victim has vomited (e.g. if swallowed or inhaled something etc).

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

3.1.7 Approvals

Invenco develops and maintains its hardware and software products using industry-standard quality processes, and is audited by various bodies.

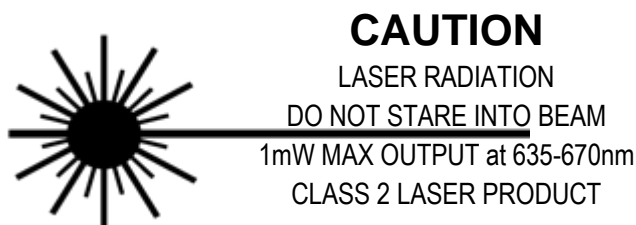
The Invenco G7 or G7 15 inch (G7-100 SDC-15) Modules have UL File References of E469526 and E480135 and carry labels similar to this:



The Invenco Retro-Fit Kit has UL File Reference of MH61528.


3.1.8 Laser Warning

Some modules of the G7 or G7 15 inch (G7-100 SDC-15) OPT may incorporate a barcode reader. The barcode reader incorporates a laser aiming system. The Laser has a Class 2 output power to IEC 60825-1:2007 / ANSI Z136.1



3.2 Computer Programs and Documentation

All Invenco Group Ltd. computer programs (including software on discs and within memory chips) and documentation are copyrighted by, and shall remain the property of, Invenco Group Ltd. Such computer programs and documents may also contain trade secret information. The duplication, disclosure, modification, or unauthorized use of computer programs or documentation is strictly prohibited, unless otherwise licensed by Invenco Group Ltd.

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4 Installation Guide

1. Please ensure all safety procedures are followed per requirement by the customer before installing the retrofit kit.
2. Remove power to Pump and follow the OSHA Lock-out/Tag-out procedures.



WARNING

Failure to turn off the unit during 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 of the unit and during kit installation.

3. This installation will require various panel replacements. The panels will be removed from the door and replaced with pre-built panels with the OPT modules pre-fitted.

4.1 Disassembly Procedure

Before installation of the equipment can take place, the existing electronic payment assembly must be removed from the dispenser. This section covers the removal of these components including:

- CIM panel and attached components (Display, Keypad, etc)
- Card Reader and Plate
- CRIND Control Board & Mounting Bracket

Note: Throughout this disassembly procedure there are many cable assemblies that will be unplugged and will not be reused. It is up to the discretion of the installer whether to remove these cables or position them inside of the dispenser cavity in as to not cause obstruction.

Note: It may be necessary to unplug a cable assembly on various boards such as the totalizer board or Door Node to remove other CRIND related cable assemblies. Unplug these cables as necessary and re-plug them in immediately afterwards. It is recommended that the installer of this kit marks each unplugged cable after it is unplugged to make it is easier to identify them when it comes time for re-installation.

1. At the main disconnect panel, disconnect all power to the dispenser and the pump servicing the dispenser. Tag all disconnected breakers to prevent others from reconnecting power.
2. Identify the A Side of the dispenser.

Note: For the purposes of this manual, Side A of the dispenser refers to the side with the weights & measures tag on the inside of the electronics cabinet. You may need to open both doors to determine which is Side A. See steps 3-5 below.

3. Unlock and remove the panel door with the "GBCO" key. Set it aside. Do not discard the lower door. It will be re-installed later during the installation procedure. (Fig 1.1)

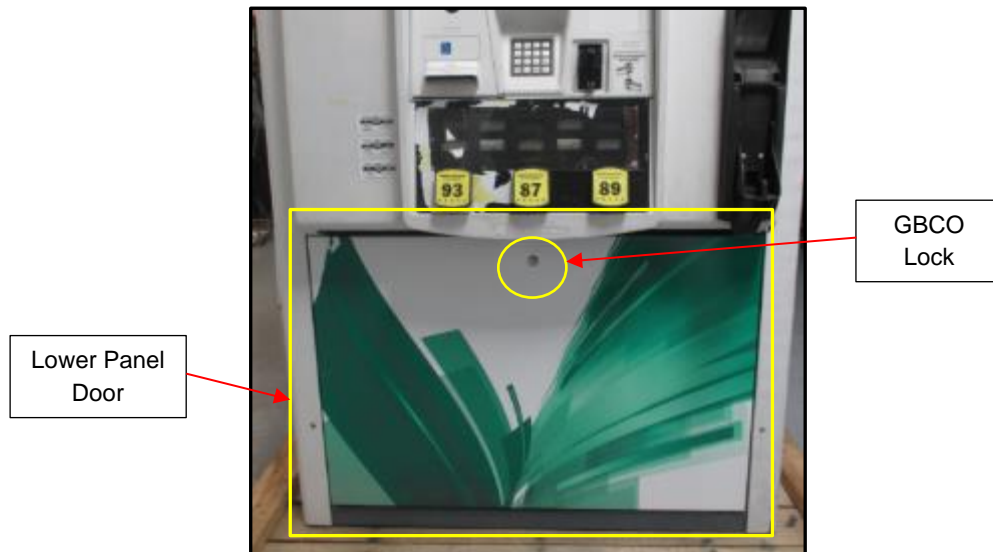
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Fig 1.1 – Location of Panel Door and Lock

4. Undo the lower door latch located underneath the left-hand side of the Main Dispenser Door.



5. Unlock the main dispenser door lock located on the upper left-hand side of the Main Dispenser Door using the “CH 751” key. Open the door until it locks into its fully open position. (Fig 1.3a)

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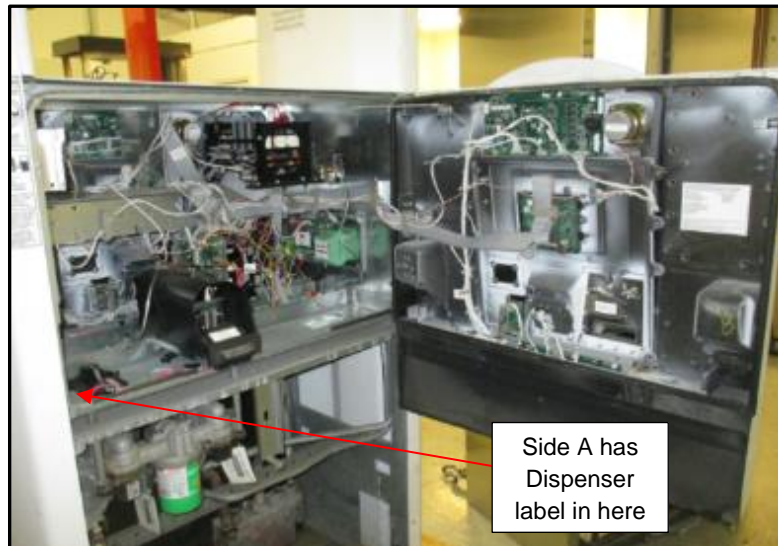


Fig 1.3a – Main Dispenser Door in fully opened position

NOTE: At this stage, if the RF00011-XX kit is being installed, check to ensure that the dispenser has ethernet cables already fitted, i.e., as per Fig 1.3b below. If this is not present, the installation kit is not suitable for this installation – stop the installation, close the dispenser back and contact customer service for support.



Fig 1.3b – Ethernet cables pre-installed in the dispenser

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6. Unfasten the cable clips holding the Monochrome Display assembly cables, and unplug the cables. (Fig 1.4)

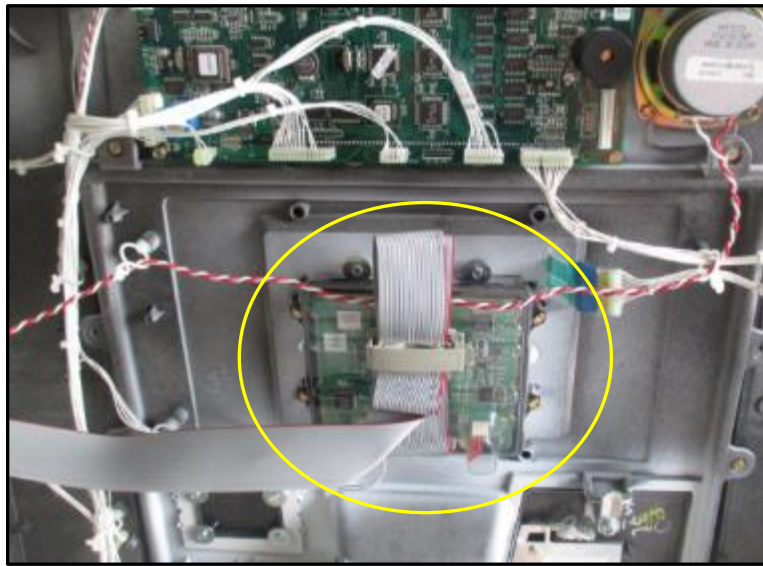


Fig 1.4 – Location of Monochrome Display

7. Unplug the Customer Keypad and Card Reader assembly cables. (Fig 1.5a and 1.5b)

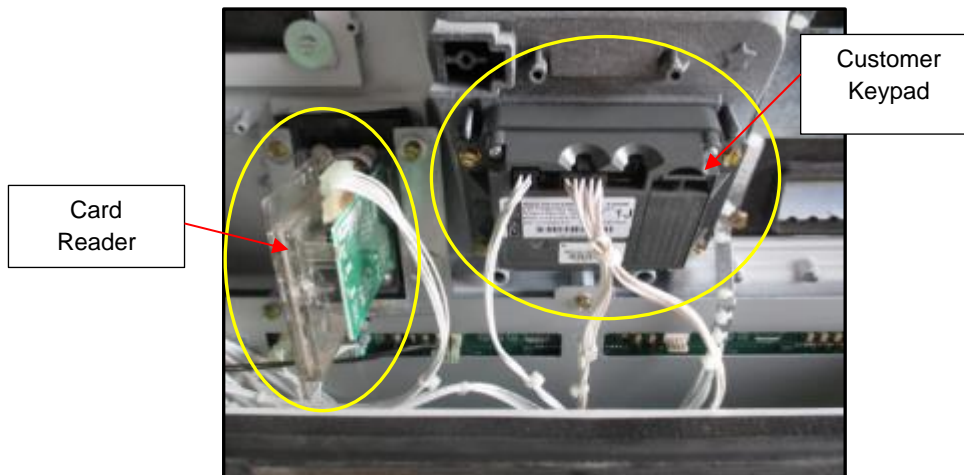


Fig 1.5a – Encore 500S Location of Card Reader and Customer Keypad

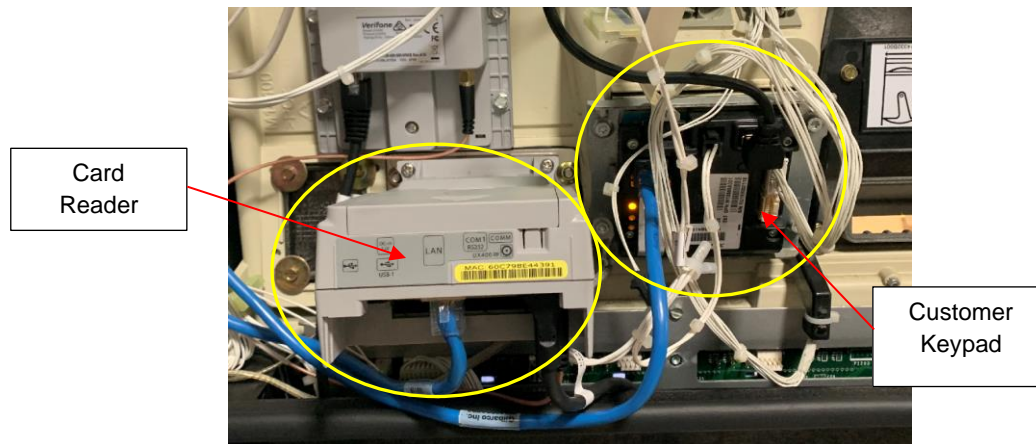
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Fig 1.5b – Encore 700S Location of Card Reader and Customer Keypad

8. Remove and discard the three ¼” screws that fasten the ADA keypad plate to the dispenser door (if present). (Fig 1.6)

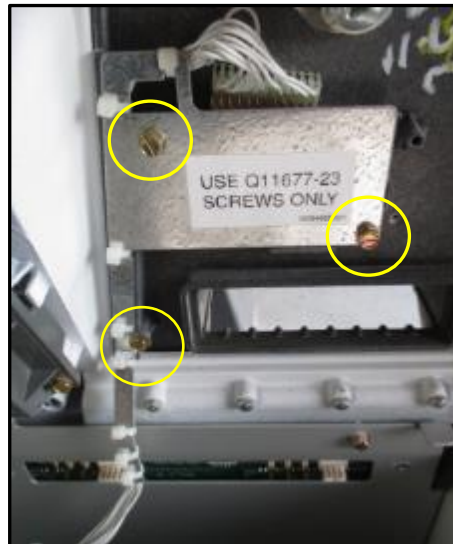



Fig 1.6 – Location of ADA Keypad Plate screws

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9. Unplug the ADA keypad (if present). (Fig 1.7)

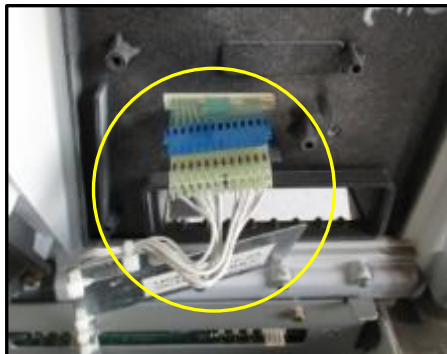


Fig 1.7 – Location of ADA keypad cable assembly

10. Unplug the Softkey cable assembly from both the Softkeys and the Door Node at terminal position P2106 (If present). (Fig 1.8)

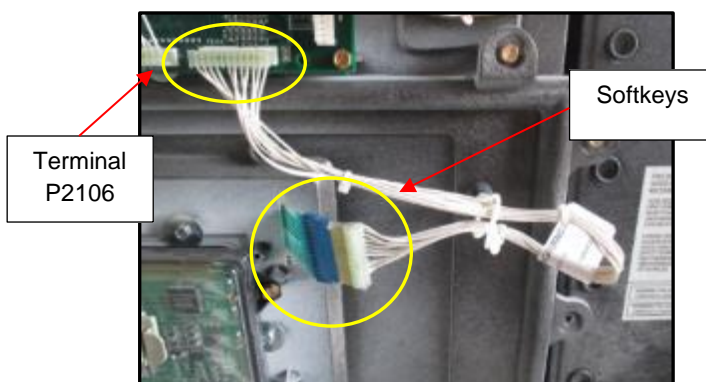



Fig 1.8 – Location of Softkey cable assembly

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11. Remove and discard the four sheet-metal screws that fasten the card reader plate to the door (Encore 500S: #6; Encore 700S: 5/16") and remove the card reader and plate from the dispenser door. The card reader plate can be discarded. It will not be re-installed. (Fig 1.9a and Fig 1.9b)

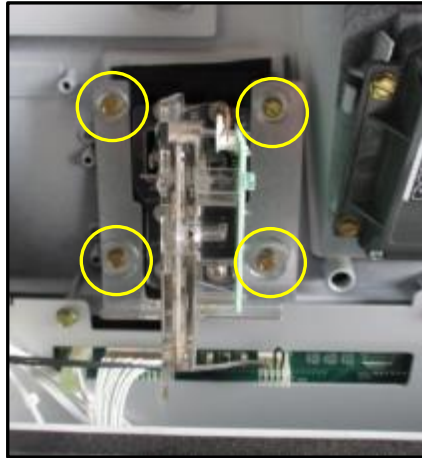


Fig 1.9a – Encore 500S Location of Card Reader plate screws

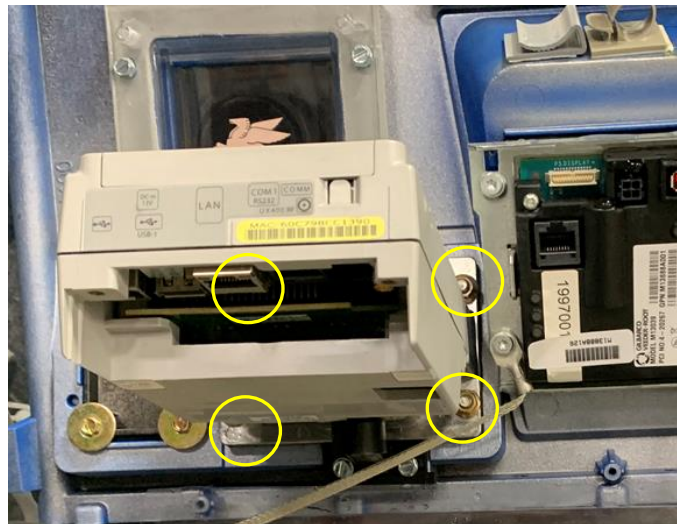



Fig 1.9b – Encore 700S Location of Card Reader plate screws

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12. Remove and discard the three #6-3/8" sheet-metal screws that fasten the PPU assembly to the door. (Fig 1.10)

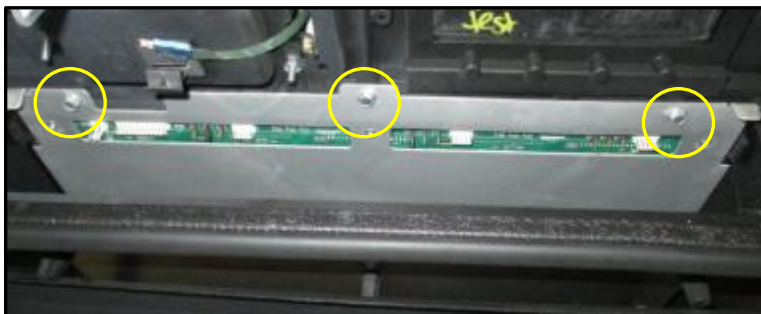


Fig 1.10 – Location of PPU Panel screws

13. Remove the Grade Select buttons (Note the order of grades for when they are later re-installed).
 - a. Use a small flathead screwdriver to gently push in the lock tab located on the bottom side of the grade select buttons. (Fig 1.11 a,b,c)



Fig 1.11 – Grade Button



Lock Tab location



Flathead on Lock Tab

Flat head
and lock tab

- b. Firmly lift up on the buttons to remove them.
 - c. Set the buttons aside. They will be re-installed later in the process.

14. Remove the Product ID Overlay to expose screws. (Fig 1.12)

Note: Removing the Product ID Overlay will render it unusable. A new overlay will need to be applied during the installation process.

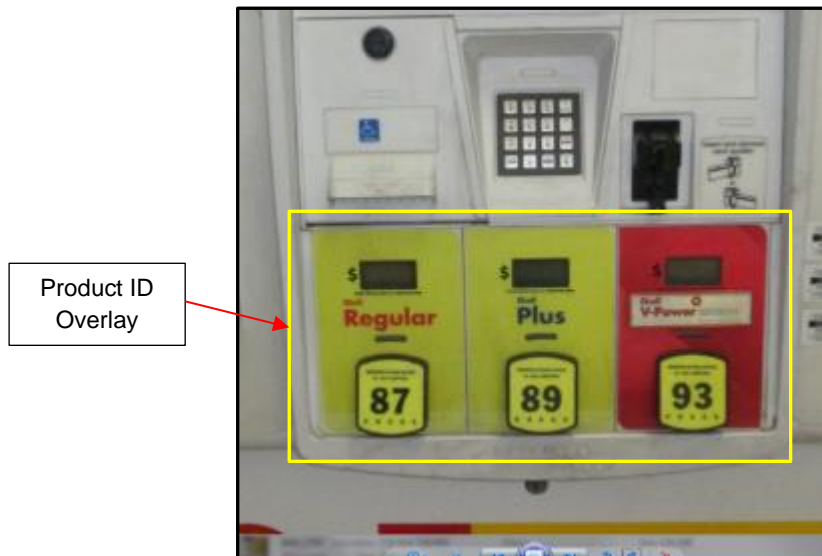
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Fig 1.12 – Location of Product ID Overlay

- 15.** Remove and discard the top five fastening screws on the Product ID Plexi-Bezel on the front of the Dispenser Door. (Fig 1.13)

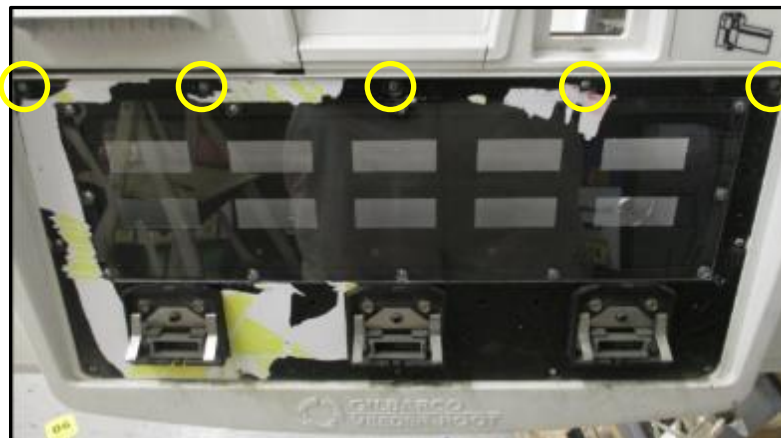


Fig 1.13 – Location of fastening screws on Product ID Plexi-Bezel

- 16.** Remove the four #6-3/8" sheet-metal screws fastening the Door Node to the back side of the Dispenser Door. Save these screws for later re-use during installation. Carefully set the Door Node inside the electronics cavity out of the way. Use a soft anti-static cloth to protect the electronics and displays from damage. Undo any necessary cable restraints that may be present. (Fig 1.14)

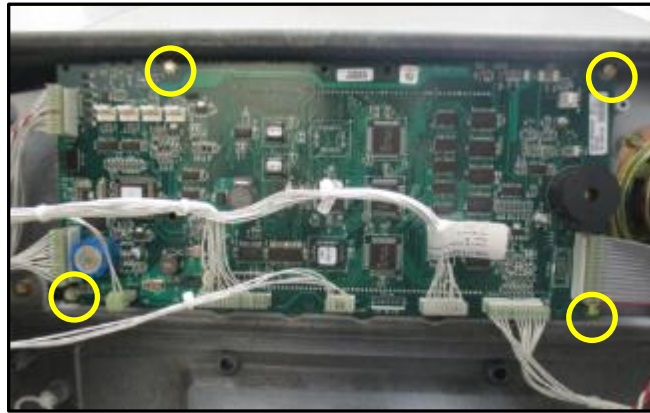
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Fig 1.14 – Location of Door Node screws

- 17.** Remove and discard the three #6 self-tapping screws and washers immediately below the CIM panel Display Window, and the 10 #6-22 x 1/2" self-tapping screws fastening the CIM panel to the Dispenser Door. (Fig 1.15)

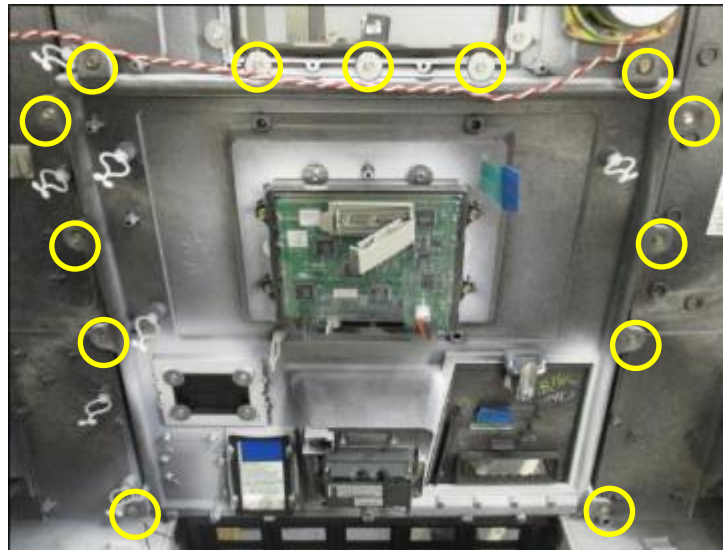


Fig 1.15 – Location of CIM Panel screws

- 18.** Remove the CIM Panel along with any remaining attached components. These can be discarded. They will not be reinstalled. (Fig 1.16 a,b)

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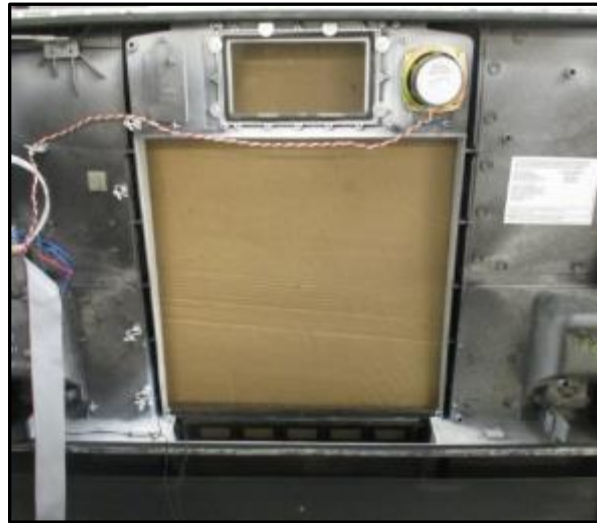


Fig 1.16a – Dispenser Door after CIM removal



Fig 1.16b – CIM Panel with components after removal

19. For a double-sided installation, repeat steps 1-18 for Side-B (if present).

Note: The Encore 500S or 700S communicates certain data amongst several dispenser components via a LON cable assembly, commonly referred to as LON Headers. The LON cables need to be connected to each necessary component in a “loop” or “Ring” setup, which is a network topology that is set up in a circular fashion in such a way that they make a closed loop. In most cases the necessary components that the LON loop is connected to are: the CPU Board, the CRIND Control Node, and both Door Nodes. The CRIND Control Node is going to be removed from the loop during this disassembly procedure, which will create an “opening” in the loop. This “opening” needs to be closed in order for the components to communicate. Follow the steps 20-22 to correctly remove the components and close the opening in the loop.

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- 20.** Identify the CRIND Control Node located on the upper electronics rail inside of the electronics cavity, and the CPU Board mounted below. (Fig 1.17)

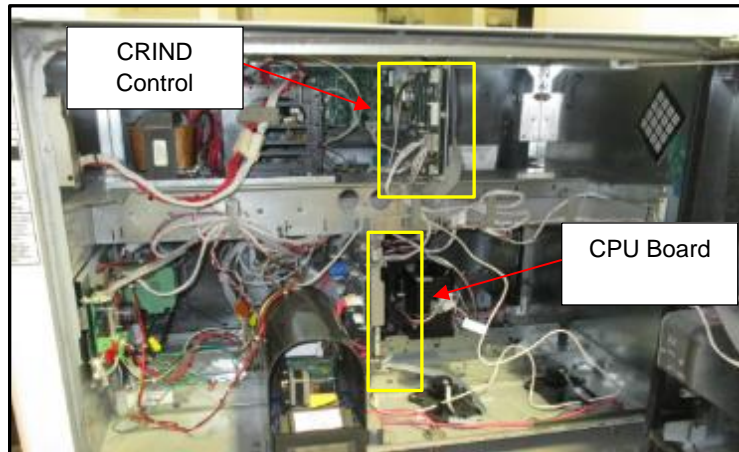


Fig 1.17 – Location of CRIND Control Node and CPU Board

- 21.** There are two LON terminal locations on the CRIND Control Node. Locate which LON Cable directly connects the CRIND Control Node and the CPU Board. Unplug this cable from both boards and discard it. It will not be re-installed. (Fig 1.18 a,b,c,d)

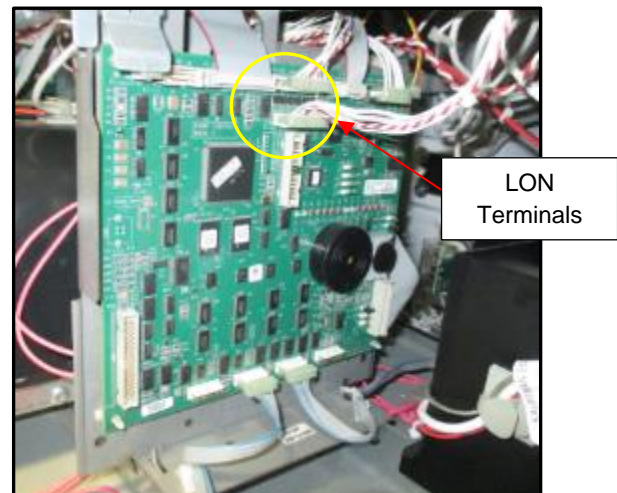


Fig 1.18a,b – LON Terminals, CRIND Control Node (left) & CPU Board (right)

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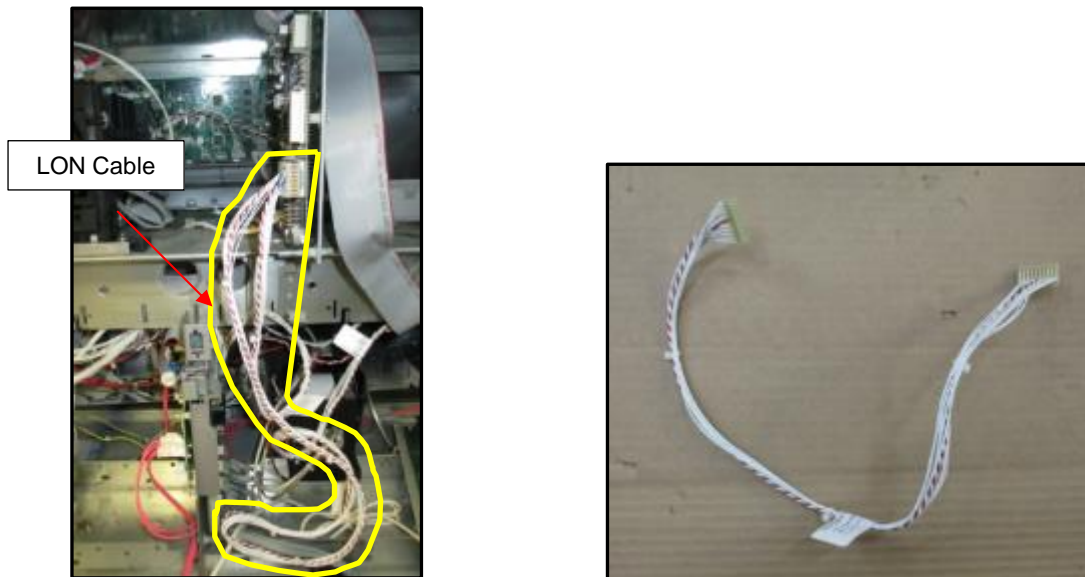
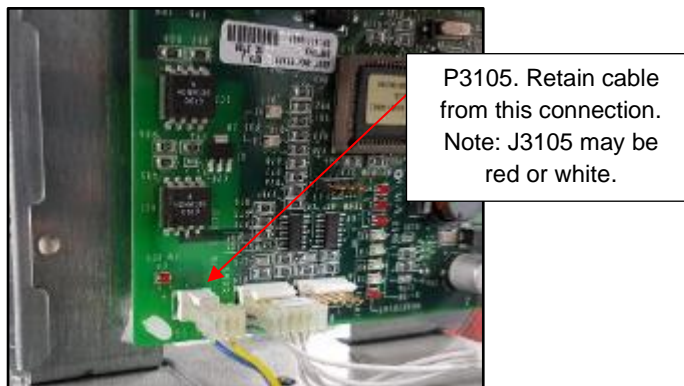


Fig 1.18c,d – LON Cable before (left) & after (right) removal

22. Unplug the remaining LON Cable from the CRIND Control Node and plug it in the now open LON terminal on the CPU Board.
23. Unplug every remaining cable attached to the CRIND Control Node. Mark the blue/yellow cable on P3105 (has connector J3105) for later reconnection during installation (not required for installing kit RF00011-XX).



24. Remove the CRIND Control Node by using a pair of needle nose pliers and squeeze the plastic standoffs (4) that the board is mounted on. The CRIND Control Node can be discarded. It will not be re-installed. (Fig 1.19)

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Fig 1.19 – CRIND Control Node after removal

- 25.** Remove and discard the three 9/32" nuts that are fastening the CRIND Control Bracket to the upper electronics rail in the electronics cavity. (Fig 1.20)

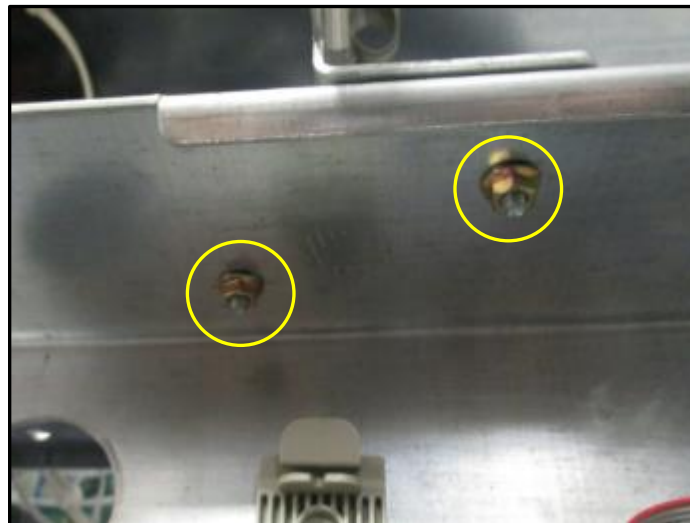



Fig 1.20 – Location of CRIND Control Bracket nuts

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- 26.** Remove the CRIND Control Bracket from the dispenser. It can be discarded. It will not be re-installed. (Fig 1.21)

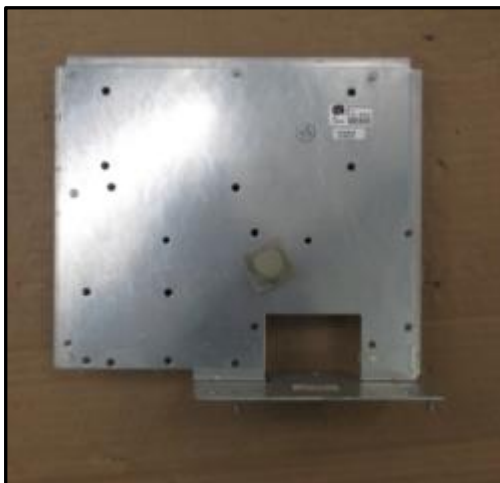



Fig 1.21 – CRIND Control Bracket after removal

- 27.** The disassembly process is complete. The dispenser is now ready for the Installation procedure to begin.

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4.2 Pre-Installation Procedure

This Retro-Fit Kit does not include a communications method for the OPT (for RK00011-XX kit, this is not required, as the dispenser is already fitted with ethernet cables for communication with the store). When this Retro-Fit Kit is being installed on Side A (i.e. the first side) of the dispenser, a communications method **MUST** first be installed.

The approved communications methods are listed below.

UL Report Number	Kit Part Number	Retro-Fit Kit Description
MH61528	RF00033-XX	InvencoLink DSP232

If the above communication is required to be installed (applies to kits RF00023-XX, RF00029-XX and RF00061-XX):

For Side B (i.e. the second side), you **MUST** have Side A (i.e. the first side) already installed, and you may then proceed to §4.3 Installation Procedure.

For Side A (i.e. the first side), select the PSU Plate Assembly from this Retro-Fit Kit package and apply the communications method selected from the table above, following the installation instructions supplied with that Kit (DCV-00465).

After the above process has been completed, fit the MP0509 gasket on to the RFK panel assembly (RF00011-XX, RF00023-XX, RF00029-XX or RF00061-XX).

Note: Clean the surface area on the panel with rubbing alcohol. Make sure there is no dust or other residue from the cleaning process. The surface must be clean and dry.

Remove the paper adhesive on gasket (MP0509) and stick it at the front of bottom of the panel.

Align the top edge of the MP0509 gasket against the top edge of the bottom panel as shown below.

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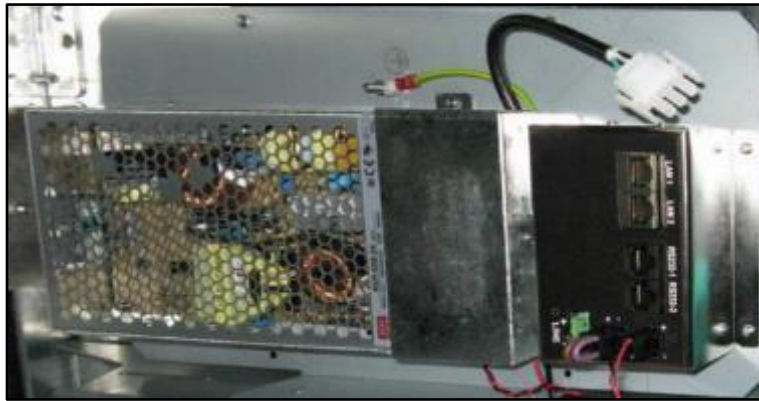
Once the communications method and gasket have been assembled as per the above instructions, proceed to §4.3 Installation Procedure.

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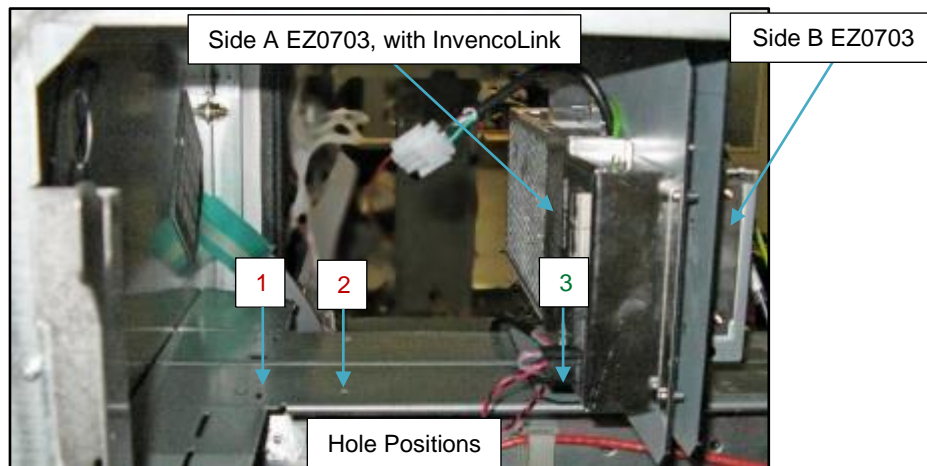
4.3 Installation Procedure

This section follows from the Disassembly procedure above, and assumes the pump is still open. References to “left-hand” and “right-hand” are as viewed into the pump on the Side you’re working on.

1. Install the EZ0703 PSU Plate assembly. For Side A, the PSU Plate Assembly may have just had the InvencoLink converter installed.



- a. Mount the EZ0703 PSU Plate Assembly on the upper electronics rail.
 - i. For Side A, in the third set of holes from the left side of the dispenser (when looking from the B Side) as shown.
 - ii. For Side B, beside the Side A assembly, back to back in the next holes, as shown:



Looking from the B-Side of the dispenser

- b. Place an MN0029 #8 LockNut on each stud and tighten with a 5/16" nut driver. Note you will need to place one nut from each side of the dispenser.

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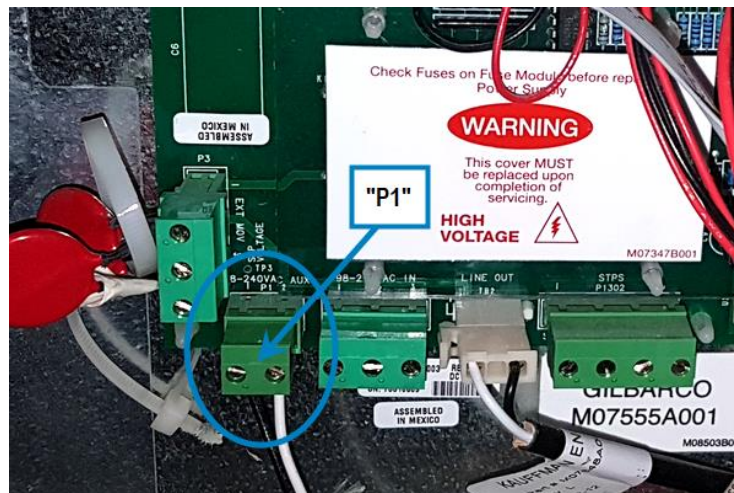
2. Pump adaptor installation:

2.1 For side A of RF00011-XX installation only, apply the following steps first, otherwise for side B or for the other kits, skip to step 2.2.

Cable EK0227 has:

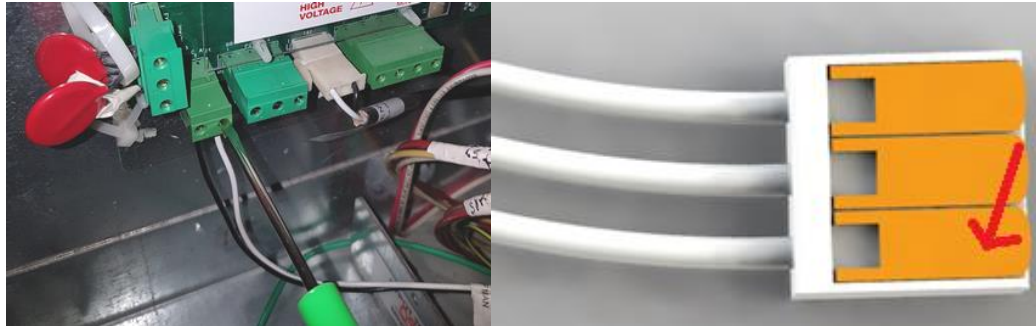
- Two wires with cut insulation at one end for connection to the existing connector plugged in the mains aux (P1)
- Single large white connector at the other end for connection to the PSU.
- Two three-way splice blocks to provide continuity for all required connections
- A green/yellow wire attached to a ring terminal for earth connection

- Identify the connector plugged in at the mains aux (P1) on the dispenser power supply board

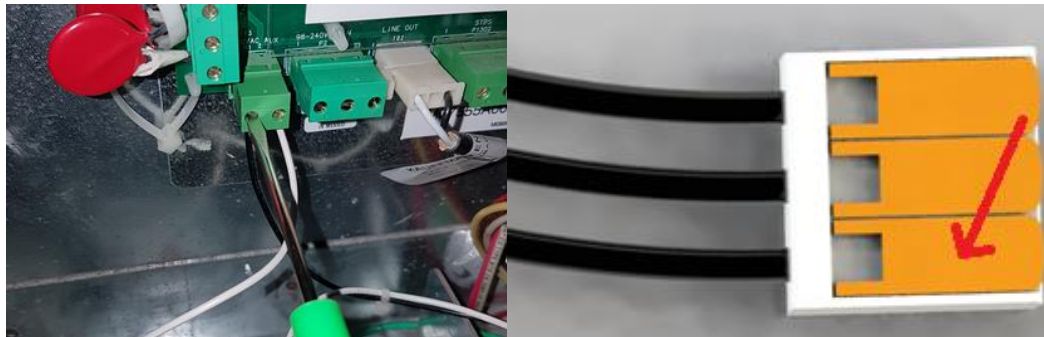


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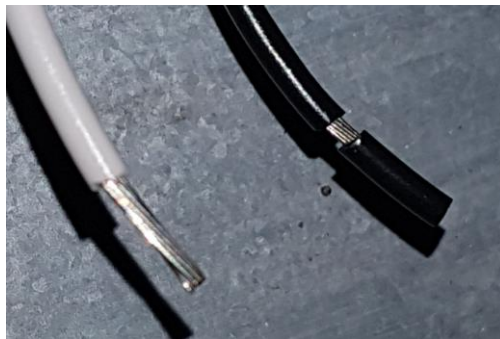
- b. Unscrew the WHITE wire from the P1 connector above and screw on to the EK0227 splice block terminal with the other WHITE wires. Lift the orange spring loaded lever on the splice terminal to insert and secure the wire in place.



- c. Unscrew the BLACK wire from the P1 connector above and screw on to the EK0227 splice block terminal with the other BLACK wires. Lift the orange spring loaded lever on the splice terminal to insert and secure the wire in place.



- d. Remove the cut insulation ends from the WHITE and BLACK wires at one end of EK0227.



- e. Screw the above wire ends on to the P1 connector from step b above. BLACK wire to the left and WHITE wire to the right side.

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- f. Identify the nearest ground connection location on the dispenser chassis and undo the #8 or #10 hex bolt with the existing ground connections.

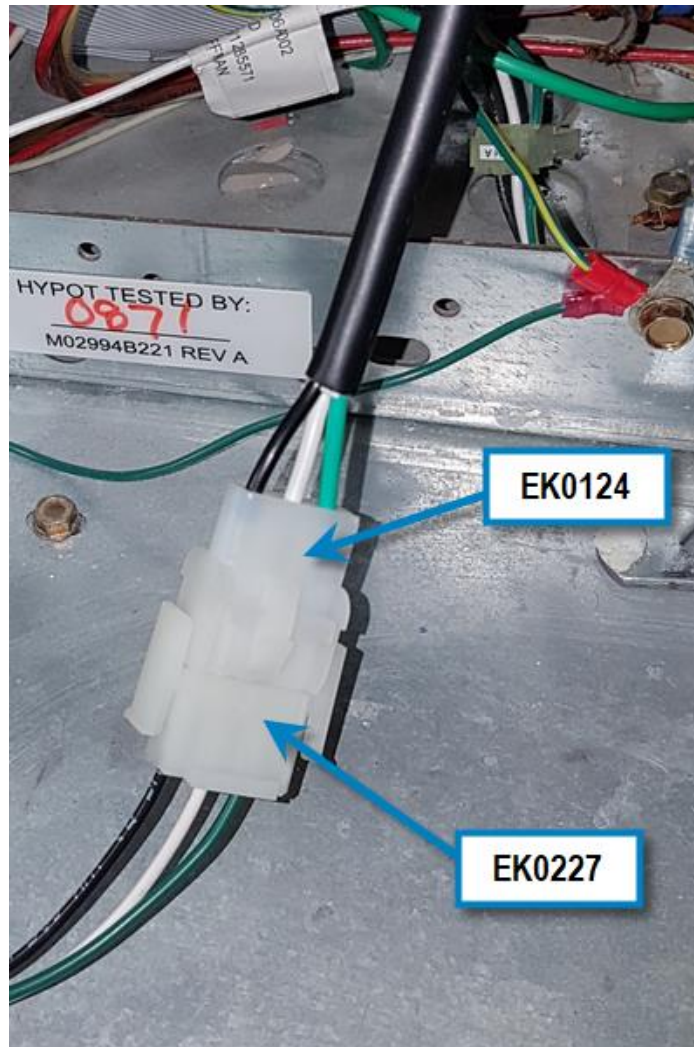


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- g. Place the ring terminal under the existing terminals, reinsert and tighten the hex bolt



- h. Take EK0124 from the parts kit, and connect the single-connector end into the white connector of EK0227

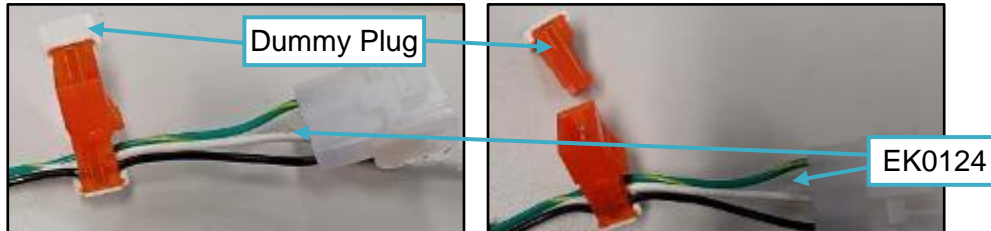


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2.2 For RF00023-XX, RF00029-XX or RF00061-XX installation, start from here:

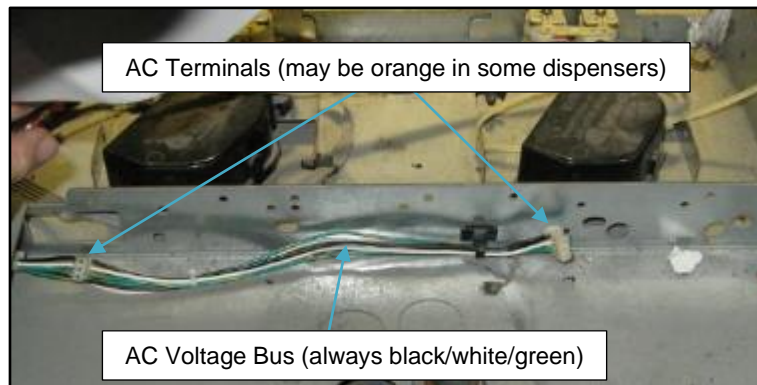
Cable EK0124 has three connectors at one end and a single connector at the other end.

EK0124 is supplied with a “dummy plug” for safety in some installations. The plug looks like this:

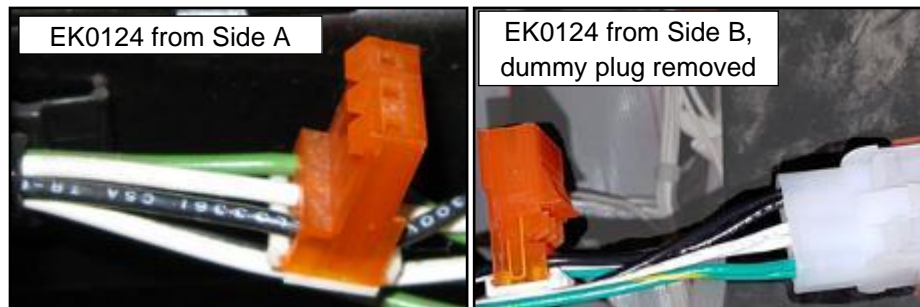


Unplug and discard the female dummy plug from the three-connector end of EK0124.

- For Side A of RF00023-XX, RF00029-XX or RF00061-XX kit installation, plug the now-exposed male orange connector into an available AC terminal port on the AC voltage cable bus assembly in the dispenser, typically located somewhere along the bottom of the electronics cavity (For Side A of RF00011-XX, this connection has already been made in step 2.1).
- For Side B, plug the now-exposed male orange connector into the available orange female connector on the EK0124 from Side A.

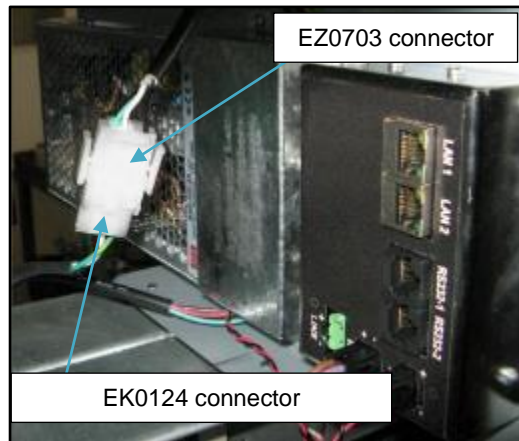


Note: There are several points of connection along the pre-existing AC voltage cable bus assembly in the dispenser. Locate an unused terminal port. Do not unplug an occupied port.



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3. Connect the large white plug at the single-connector end of EK0124 into the AC power connector on the EZ0703 PSU Plate Assembly.



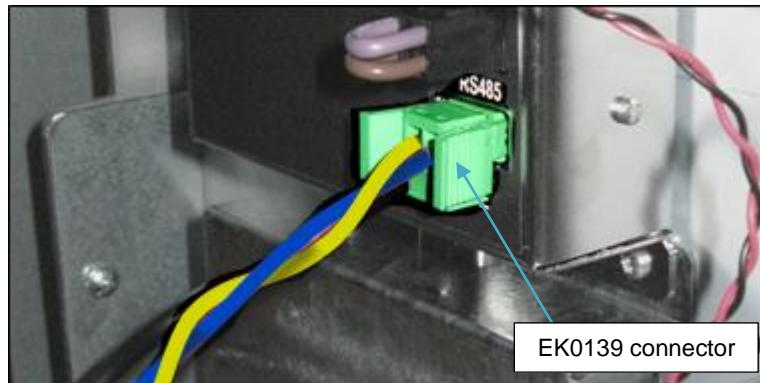
4. For the RF00011-XX kit, the pump has ethernet cables pre-installed in the pump and the InvencoLink converter is not required to be installed. In this case, skip steps 5 and 6.
5. Plug the EK0131 YELLOW patch cable into the LAN-1 socket on the InvencoLink converter. If doing Side B, then plug the cable into the LAN-2 socket.



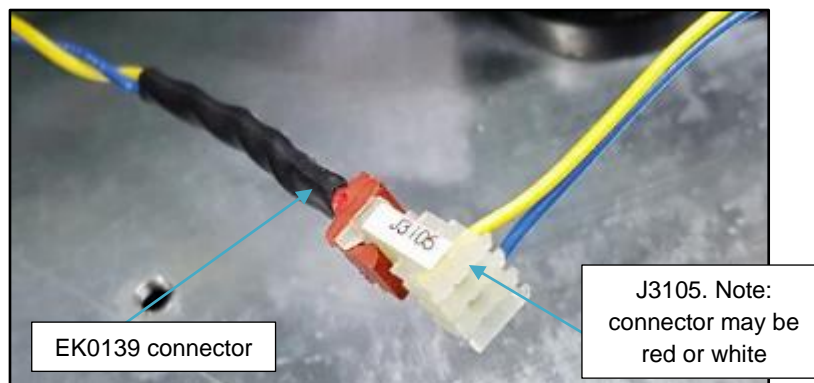
The red cable will not be plugged in for this installation

6. For Side A only:
 - a. install the Green connector on EK0139 into the "LINE" socket on InvencoLink converter on EZ0703.

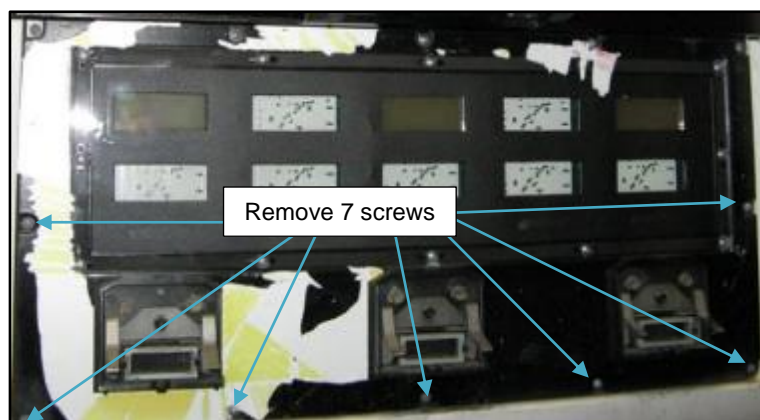
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- b. Install the other end of EK0139 (small, 3-pin connector) into the J3105 pump communications connector that was marked in disassembly step 23, using the below pictures. The connectors are polarized for correct connection. Do not force them – they only go together one way, as shown:

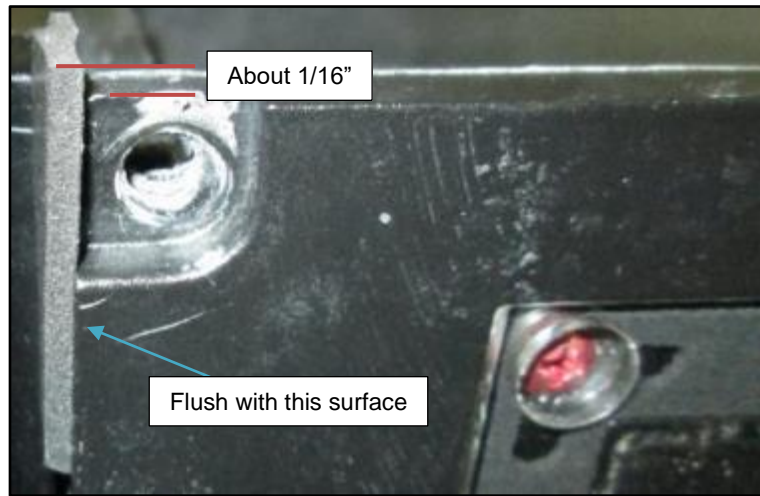


7. Unscrew the entire PPU panel by removing seven screws as shown. Keep the screws, they will be used to re-fit the PPU panel:



8. Ease the top of the PPU panel forwards out of the dispenser door about an inch or so.
9. Remove the backing paper from each of the two MP0652 gaskets and apply them one to each side of the top of the PPU panel as shown (only one side is shown):

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10. Gently flex the center top of the PPU panel forward, so that the two top corners can be eased back into place in the dispenser door without rubbing or otherwise damaging the gaskets just installed. The gaskets will become slightly compressed when you release the flex on the panel.
11. Reinstall and tighten the seven screws removed in step 7.
12. From inside the dispenser door, apply an MP0651 gasket across the top of the PPU panel as shown:



Note that the long part of the gasket goes on the back of the PPU panel, and the shorter part goes across the top of the PPU panel, between the vertical edges of the dispenser door opening.

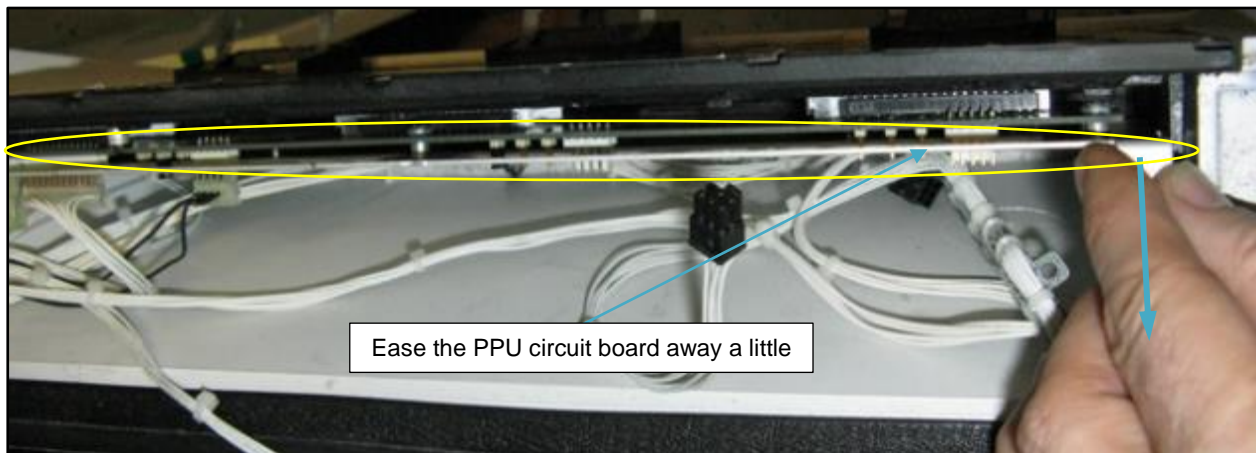
13. Acquire pre-assembled RP00029-XX black RFK Door containing G7 OPT, RP00023-XX black or RP00061-XX painted RFK door containing G7 15 inch (G7-100 SDC-15) OPT, or RP00011-XX Grey RFK door containing G7 15 inch (G7-100 SDC-15) OPT



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To avoid damaging the pump door plastic in the following steps where screws are being placed into the Encore 500S or 700S pump door, it is very important to start each screw *by hand*, ensuring you use the existing thread.
DO NOT USE any type of powered tool to tighten the screws.

14. Ease the PPU circuit board back a little to enable the lower edge of the RFK Door to sit properly:



15. Have a couple of MS0101 hex-headed screws, and the nut driver handy.
Hold the top edge of the RFK Door, and carefully place the bottom edge of the RFK Door into the opening in the Encore 500S or 700S pump door from inside. Take great care not to damage any gaskets.



16. Ease the RFK Door into the gap until it is vertical against the screw bushes on the Encore 500S or 700S pump door. Be careful not to pinch any wires.

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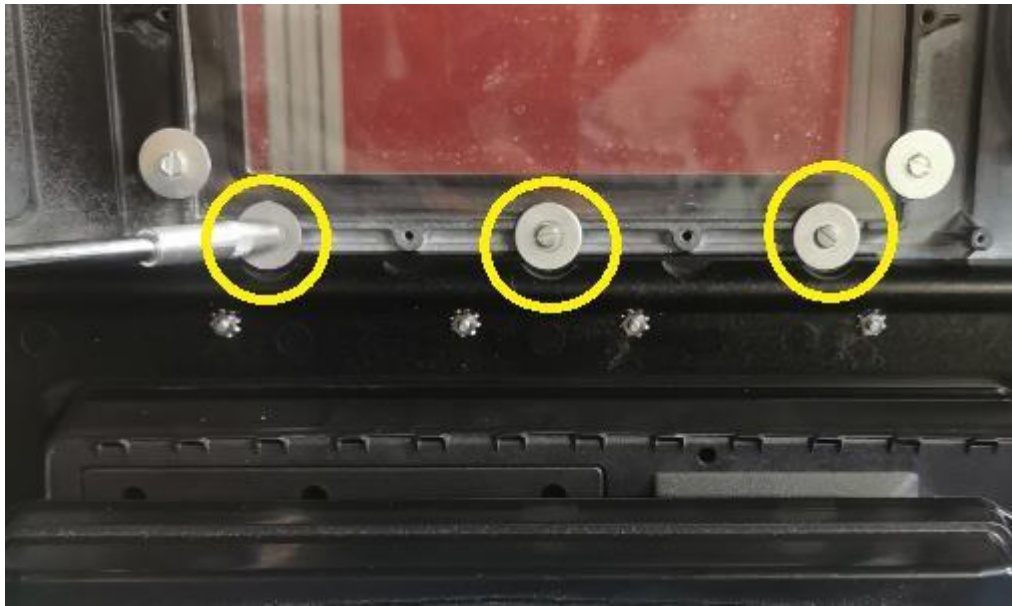


17. Insert the two MS0101 screws ready from Step 15 into bushes on either side of the RFK door. If there are any bushes stripped or split or otherwise unusable discontinue the retro-fit process and contact technical support for advice.
Tighten the screws with a 1/4" nut driver.



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18. Place the remaining eight MS0101 screws into as many of the other bushes around the sides of the RFK door as you can. If there are any bushes stripped or split or otherwise unusable discontinue the retro-fit process and contact technical support for advice.
Tighten all screws with a ¼" nut driver.
19. Place three MS0150 hex-headed screws immediately below the CIM panel Display Window (in the same locations as where the three #6 self-tapping screws and washers were removed from step 17 of the disassembly procedure. Tighten the screws with a ¼" nut driver.



20. Through the front of the pump door insert and tighten five MS0149 Philips screws along the top edge of the PPU panel.



21. Press the PPU circuit board gently back into place against the Encore 500S or 700S pump door, then insert three MS0150 hex-headed screws. Tighten the screws with a ¼" nut driver.

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22. Take the Door Node from inside the Encore 500S or 700S cabinet and place it back onto the pump door in the correct position. Insert the four 1/4"-headed screws from Disassembly Step 16 in the corner holes of the Door Node board. Tighten the screws with a 1/4" nut driver.



23. Undo the zip-tie (if present) that bundles the white printer cable that was previously disconnected:



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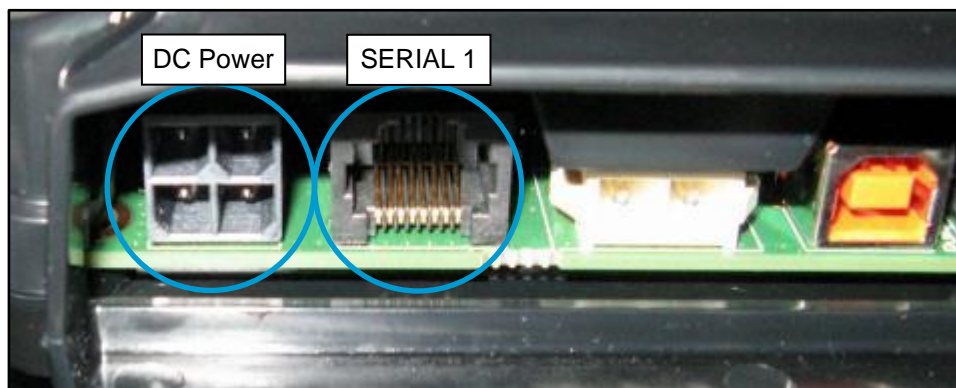
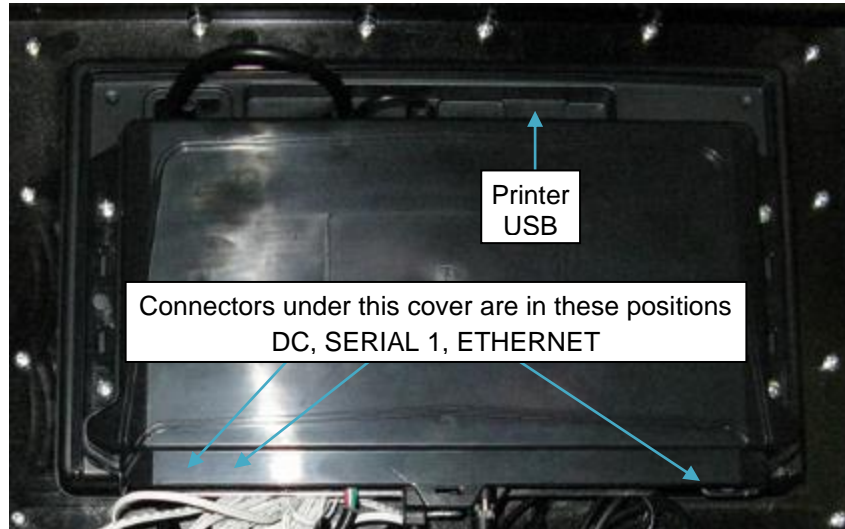
24. Gather the following cables (however, for RF00011-XX kit, applies to the ethernet cable that was pre-installed in the pump instead EK0131):
- EK0131 Yellow patch cable
 - White printer cable (from step 23)
 - Black DC cable pre-installed on EZ0703 PSU Plate Assembly
25. Route the cables from step 24 along underneath the electronics shelf to the right-hand side of the pump cabinet, then out along the right-hand side of the cabinet.



(Red cable will not be present)

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26. Locate the DC POWER and SERIAL 1 connectors on the RFK Door (use pictures below).



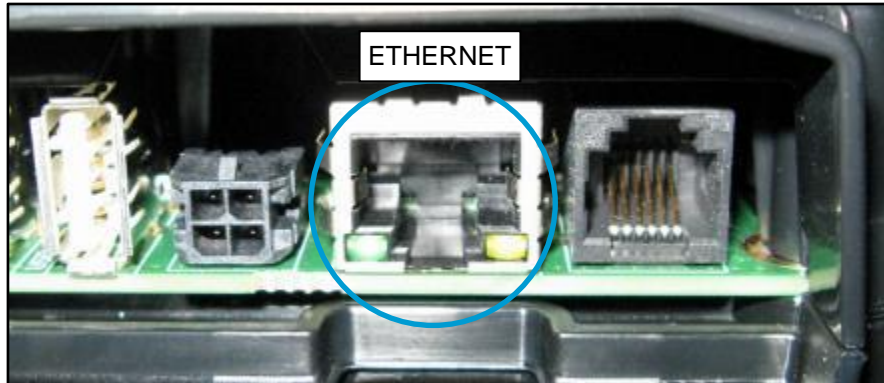
27. Plug the BLACK DC cable (from Step 25) into the DC POWER socket and ensure it clips into place.



(The red cable will not be plugged in for this installation)

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28. Locate the ETHERNET connector on the RFK Door (also use picture in Step 26).



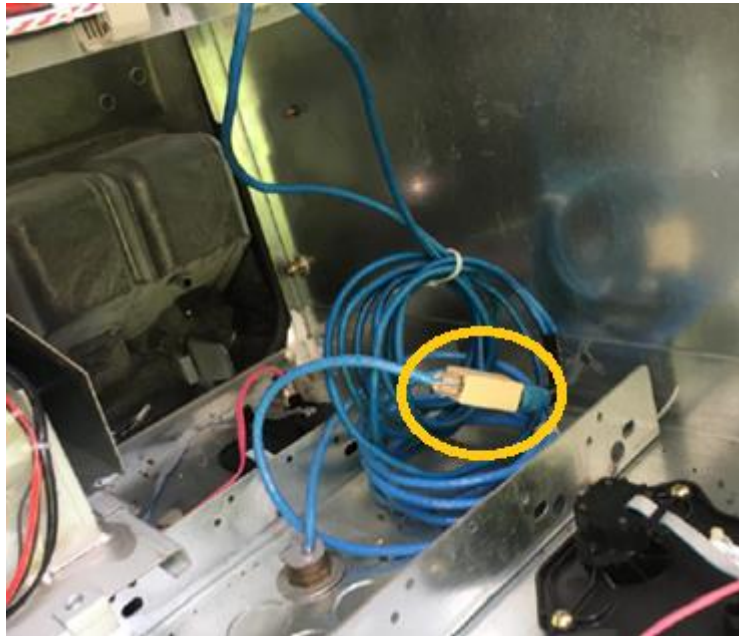
29. Plug the EK0131 YELLOW patch cable or the ethernet cable pre-installed in the pump (from Step 25), into the ETHERNET socket and ensure it clips into place.



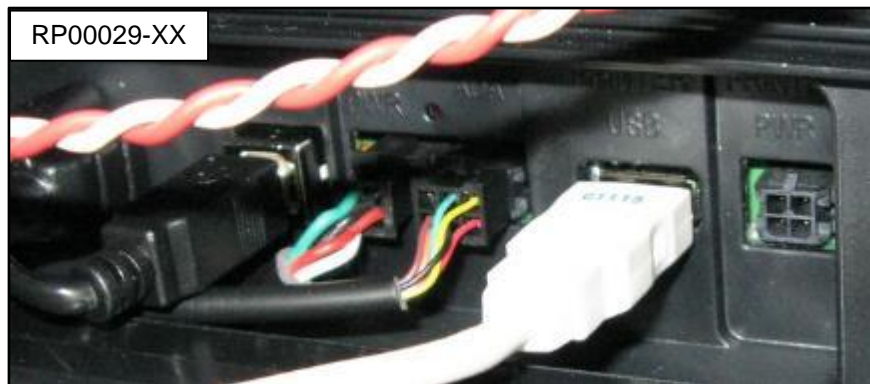
NOTE: If at this point, it is identified that the ethernet cable pre-installed in the pump is too short to reach and connect to the ethernet socket (ensure that this is confirmed with the door in the fully open position), remove this cable and replace with the EK0131 cable provided with the kit.

- Connect one end of the EK0131 ethernet kit to the ethernet socket.
- Trace and follow the same routing back from the ethernet connector, back through the points as specified in steps 24 and 25 (ensure there is enough slack that the cable will not become too taut when the door is in fully opened position)
- Continue trace the same routing back to the ethernet splitter in the dispenser (as was shown in disassembly step 5).
- Remove the existing cable that was too short from the splitter and connect the other end of the EK0131 ethernet cable instead.

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30. Plug the WHITE Printer cable (from step 25) into the PRINTER USB socket on RFK Door (also use picture in Step 26) (Note: for the G7 15 inch, can be inserted into any of the four USB slots)



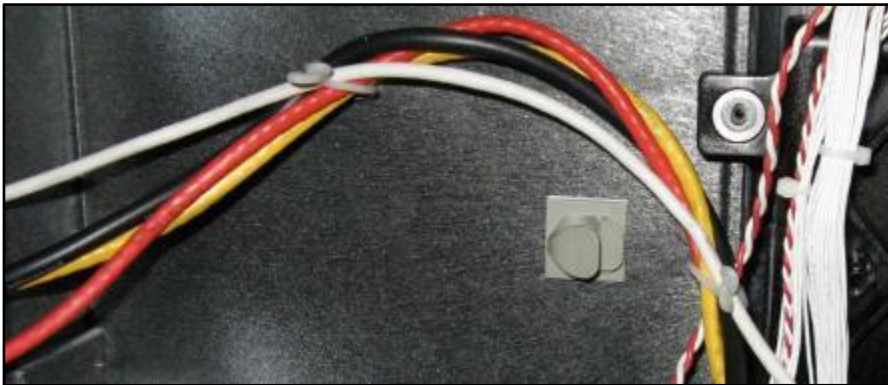
(also use picture in Step 25).

RP00023-XX, RP00061-XX
or RP00011-XX

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31. Gather all of the cables from the above steps into a cable-retention clip on the left rear of the RFK Door and secure the clip. Draw any excess cable length back through the cable-retention clips in the pump cabinet and stow them neatly. Use zip-ties if necessary.



32. Replace the PPU selector buttons on the front of the Encore 500S or 700S Pump Door. Ensure you keep the same order as noted in Disassembly Step 13. For each button:
- Hook the top of the button over the top of the clip.
 - Swing the button downward until it sits on the clip.
 - Press **VERY HARD** on the bottom of the button until it snaps loudly into place. Mind your fingers!

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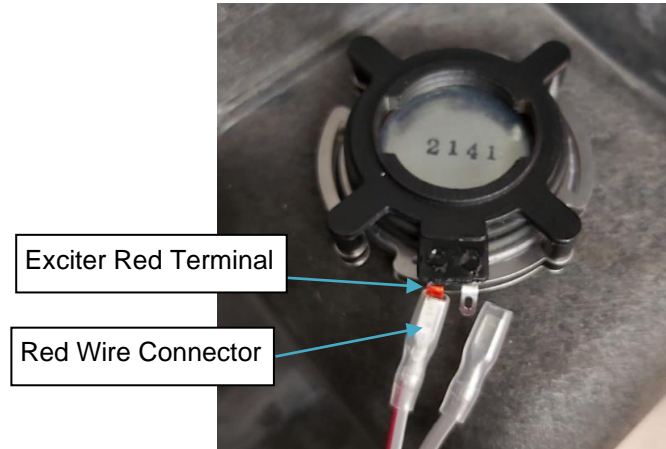


33. If the customer has requested the installation of Exciters
- On the panel place the lug (MO0051) on one of the bosses.
 - Ensure the mounting lug is pressed in fully before screwing the lug in using MS0307 screws.

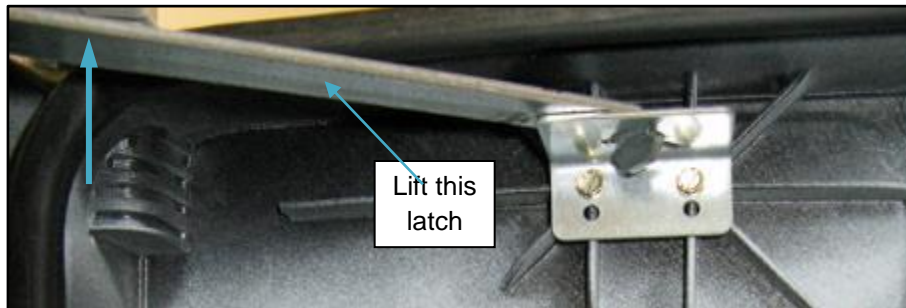


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- c. Screw the Exciter EO0095 onto the mounting lug by turning clockwise.
- d. There will be an audio cable connected into the RFK Door with its other end left unconnected. Connect the free end of this cable to the exciter EO0095 with the red wire connector to the red terminal on the exciter.

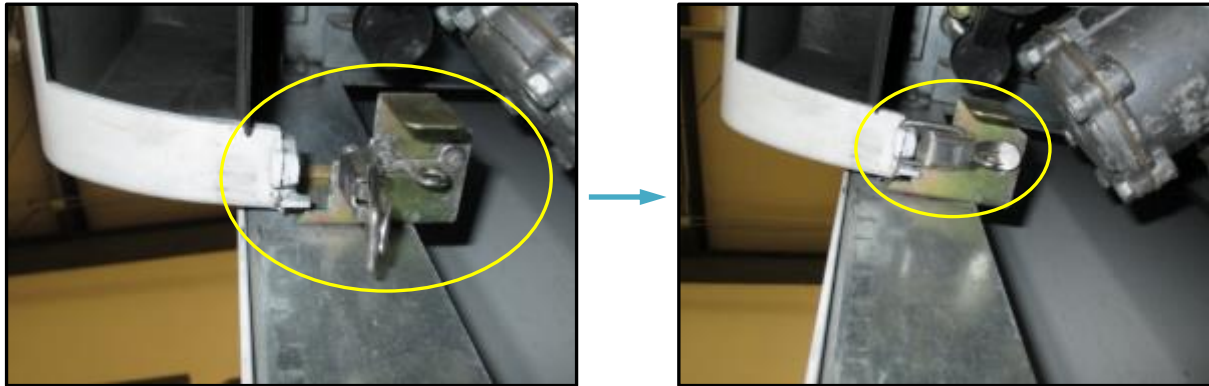


34. Tidy up any loose wiring, using cable ties to secure the wires. 3 x MF0040 cables ties are provided with the fastener kit FK0007.
35. For a double-sided installation, repeat steps 1-5 and 7-34.
36. Close up the dispenser. For each open Side:
 - a. Lift the Encore 500S or 700S Pump Door open-latch to release the door:



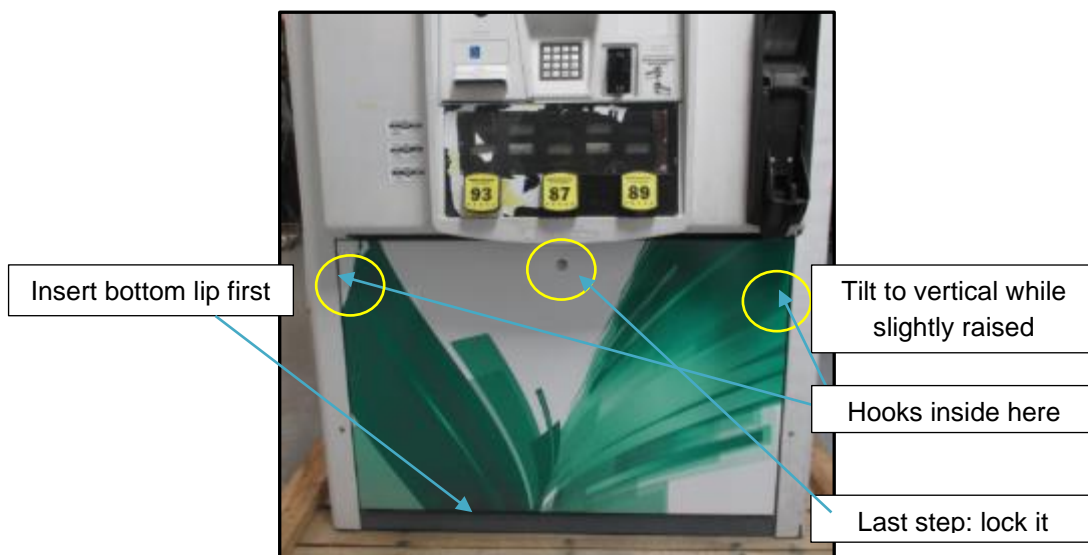
- b. Then close the Pump Door carefully, ensuring no cables are pinched. If cables will be pinched, re-open the Pump Door and secure and/or re-arrange the cables securely. Then continue closing the door.
 - c. Lock the top and re-latch the bottom of the door.

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37. Reinstall the panel below the door and lock it. For each open Side:

- Tilt the top of the panel outwards and insert its bottom lip first.
- Bring the panel close to vertical, then lift it slightly to it slips over the upper hooks.
- The press the panel closed and allow it to drop a little into place.
- Finally, lock the panel with the “GBCO” key.




38. The installation procedure is now complete.

4.3.1 Wiring Completion

Ensure that all cables are tidy and cannot become snagged or pinched when the door of the cabinet is opened and closed.



WARNING – Local regulations may also require that the installation is electrically tested and certified BEFORE switch-on.

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5 First Power-Up

Once the installation is complete and the wiring is certified (if necessary), power may be applied.

The G7 G7 15 inch (G7-100 SDC-15) OPT takes a couple of minutes to complete its start-up phase, during which several information screens will be presented.

The terminal will display the following screen whilst attempting to connect to the LAN. This screen will persist until a connection can be made:



If the terminal is successful in connecting to the LAN it will display the following screen and the rest of the start-up sequence will continue:

