

Introduction

Purpose

This manual provides instructions to replace the M04104A001, M07555A001, M07555A002, or M07555A003 Power Supply Assembly with M07555A004 Encore® Power Supply Assembly. It also allows the removal of the auxiliary power supply to make the unit compatible with Insite360™ remote power cycle.

Intended Users

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

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Required Tools and Materials

Following tools are required to install the power supply assembly in the dispenser:

- Phillips® and Flat-blade Screwdriver
- 3- or 5-mm Nut Driver

Parts List

Following table lists the parts included in the Insite360 Encore Power Supply Retrofit Kit (M00016K001 and M00016K002):

Item	Description	Part Number	Quantity
1	Assembly, Power Supply, Encore	M07555A004	1
2	Assembly, Bezel Barrier (for M00016K002 only)	M02178A003	2

Optional Parts List

Following table lists the parts included in the Insite360 Encore Power Supply Retrofit Kit:

Item	Description	Part Number
1	Decal, Earth Ground	K89727
2	Two-wire, Power, Submersible Turbine Pump (STP) Cable	M05547A006
3	Ground Wire	M00672A004

Related Documents

Document Number	Title	GOLD SM Library
MDE-3804	Encore and Eclipse® Start-up/Service Manual	<ul style="list-style-type: none">Encore and EclipseService Manual
MDE-5314	Insite360 Encore Remote Management Installation, Start-Up, and Service Manual	<ul style="list-style-type: none">Encore and EclipseService Manual
FE-363	Field Wiring Diagrams for Encore 500/700 (M07555 Power Supply Only)	<ul style="list-style-type: none">Encore and EclipseEncore and Eclipse InstallersField Wiring Diagrams

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractors
AFP	Auxiliary Feature PCB
CRIND®	Card Reader In Dispenser
DCM	Dispenser Communication Module
ESD	Electrostatic Discharge
GOLD	Gilbarco Online Documentation
HIP	Hub Interface PCB
OSHA	Occupational Safety and Health Administration
PCA	Printed Circuit Assembly
PCB	Printed Circuit Board
PCN	Pump Control Node
STP	Submersible Turbine Pump
UL®	Underwriters Laboratories

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 Gilbarco 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.

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.

Before You Begin

CAUTION



A properly grounded Electrostatic Discharge (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.

To prepare the site and dispenser for the upgrade, proceed as follows:

- 1 Inform the manager.
- 2 Barricade the unit to be worked on.
- 3 Remove power to the unit at the breaker panel at the back room before installing the power supply. Follow OSHA lockout/tagout procedures.
- 4 Open the main door of the unit to access the power supply.
- 5 Read all the safety information provided in *MDE-3804 Encore and Eclipse Start-up/Service Manual*.
- 6 Match the parts received in the kit with the “[Parts List](#)” on [page 1](#).

WARNING

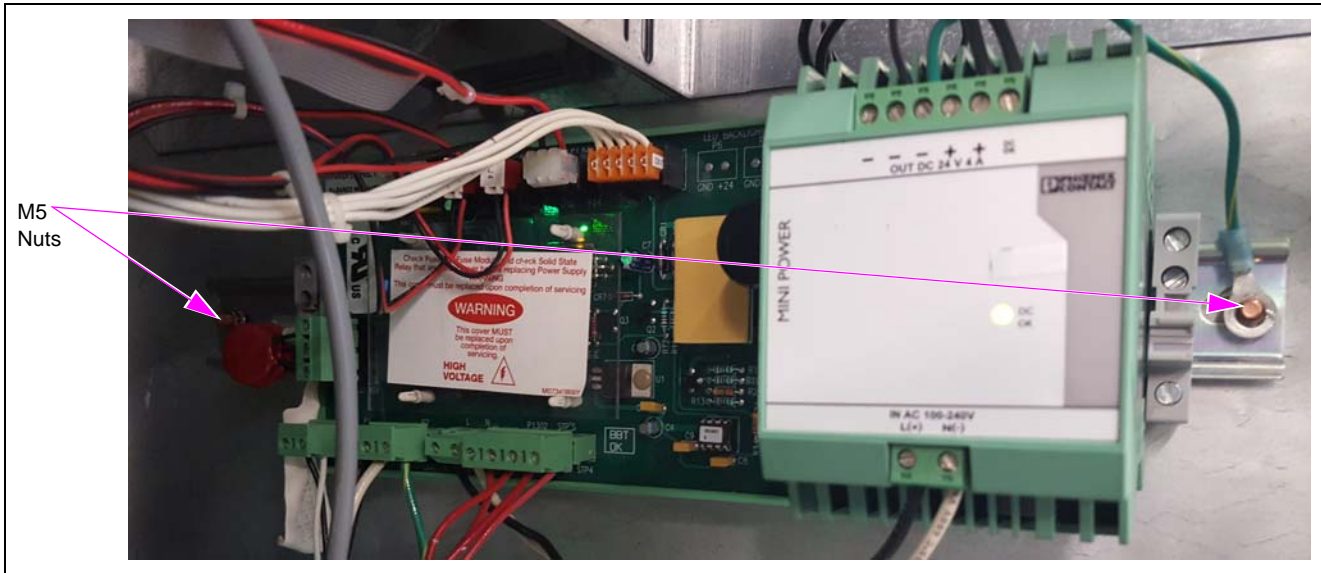
Failure to turn off the unit during the installation of the kit may cause injury or bodily harm from electrical shock. Ensure that all power to the unit is switched off before opening the door to the unit and during kit installation.

Removing Existing Power Supply Assembly

To remove the existing power supply assembly, proceed as follows:

- 1 Remove all connections from the existing power supply.
- 2 Loosen and remove the two M5 nuts from the assembly (see [Figure 1](#)).

Figure 1: Removing M04104A001 Power Supply Assembly



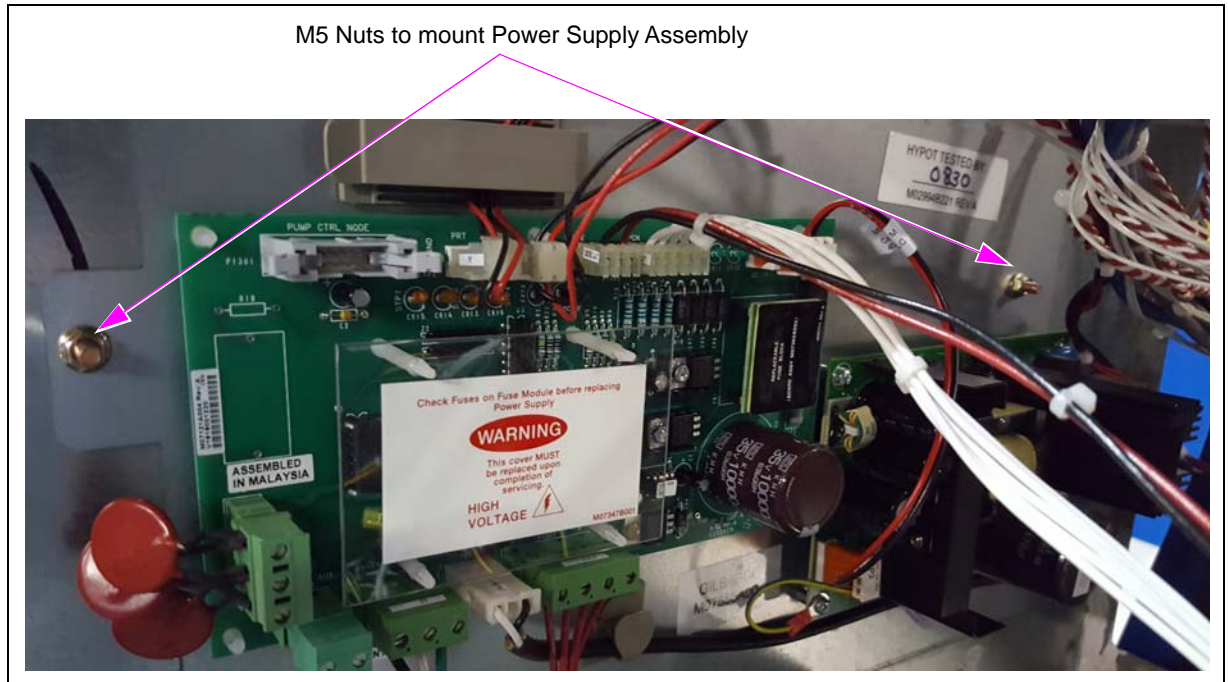
- 3 Remove the power supply assembly from the unit.

Installing M07555A004 Power Supply Assembly

To install the M07555A004 Power Supply Assembly, proceed as follows:

- 1 Mount the M07555A004 Power Supply Assembly at the same location from where the old power supply assembly was removed.
- 2 Insert and tighten the two M5 nuts that were removed in step 2 on [page 6](#).

Figure 2: Mounting M07555A004 Power Supply Assembly

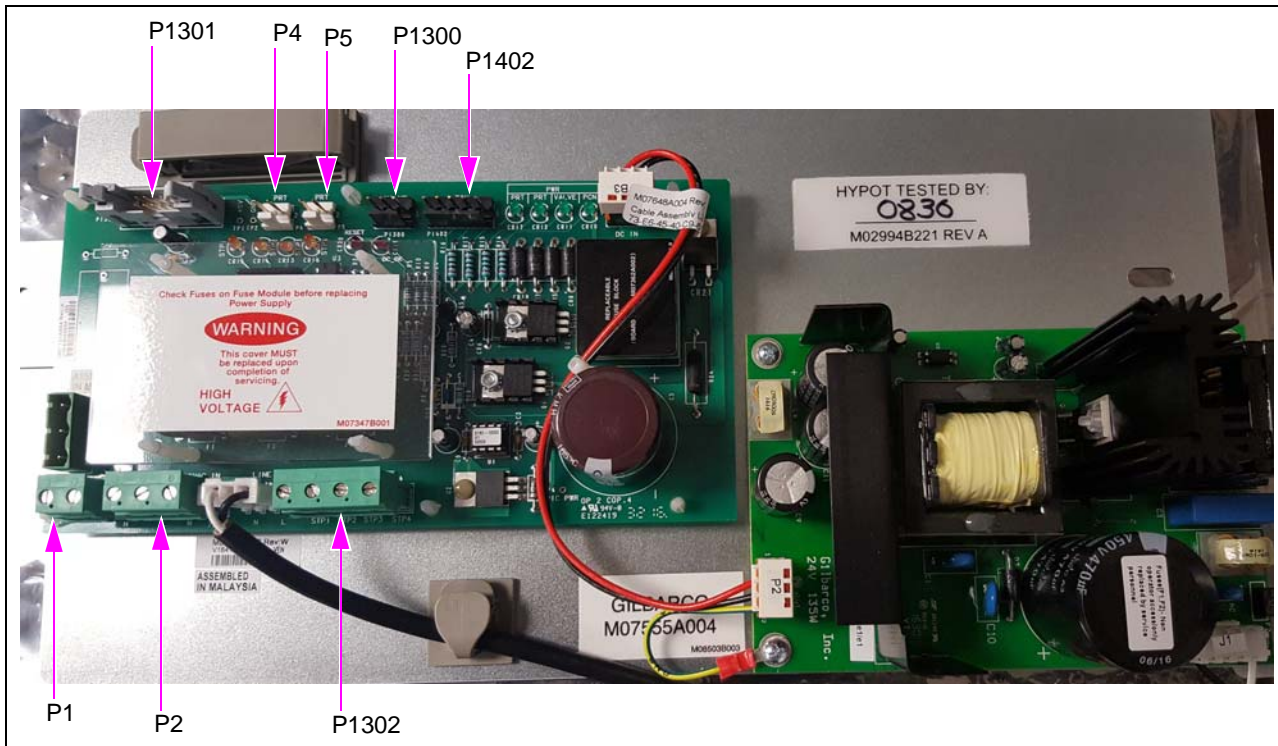


- 3 Reconnect all the cables that were disconnected from the old Power Supply Printed Circuit Assembly [PCA (M07121)] to the new power supply PCA (see [Figure 3](#) on [page 8](#)).

Following table provides information on connectors and their connections:

From (Connector)	To
P1301	Pump Control Node (PCN) STP Control
P4	Side A Printer
P5	Side B Printer
P1300	Valve Drivers
P1402	Power to PCN, CRINDs, and Dispenser Communication Module (DCM)2.1
P2	Power Cable P2 to Power Supply from Conduit/Building <i>Note: Verify that P2 is connected with the ground. If not, use the M00672A004 Ground Wire provided in the kit. Connect the ring terminal to a mounting location in the U-channel.</i>
P1302	STP Power Cable
P1	Power Distribution Cable

Figure 3: Power Supply PCA Cable Connections



Installing M0755A004 Power Supply Assembly (for Units with CRIND Retrofit Kit)

To install the M0755A004 Power Supply Assembly in the units that have CRIND Retrofit Kit installed, proceed as follows:

- 1 Disconnect the power cable from the Auxiliary Feature PCB (AFP), Hub Interface PCB (HIP) 2, or DCM2/DCM2.1. Also, disconnect following cables:

FlexPay™ II Cables

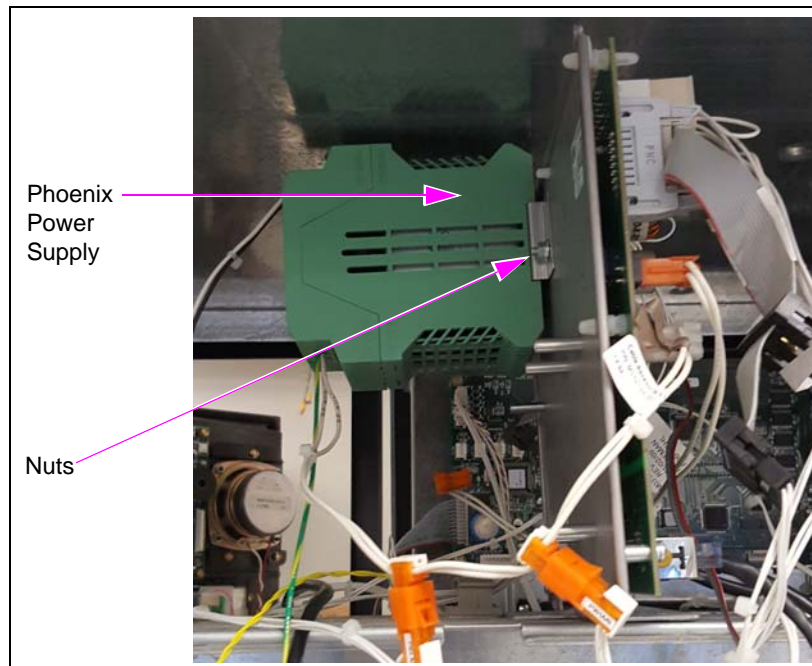
- CRIND Power Cable (M07974A002)
- Phoenix Power Cable (M07973A003)

FlexPay IV Cables

- 24 VDC Distribution Cable (M13120A001)
- 24 VDC Power to HIP/Fuse Board Cable (M12777A003)

- 2 Disconnect the AC power from the Phoenix power supply.
- 3 Remove the green Phoenix Power Supply (M04161B001) from the AFP, HIP2, or DCM2/DCM2.1 bracket located on the T-rail (see [Figure 4](#)).
- 4 Pull the release latch on the bottom with a flat-head screwdriver.

Figure 4: Removing Phoenix Power Supply

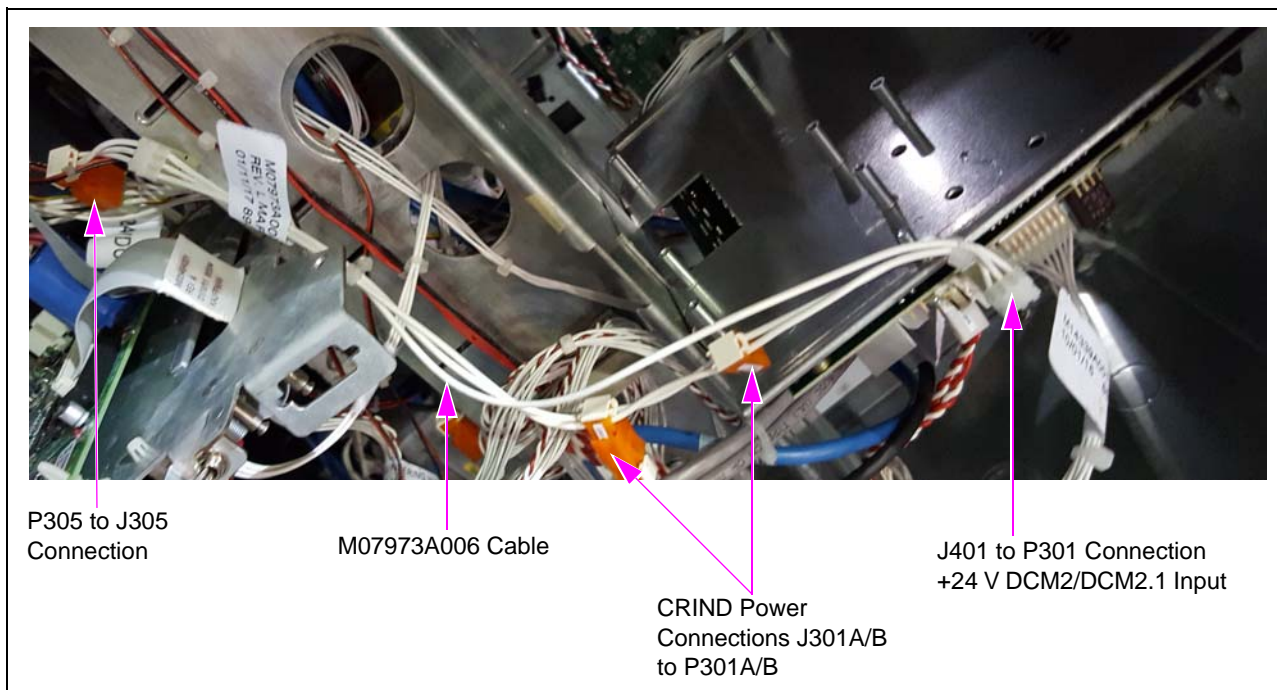


- 5 Install the 24 VDC M07973A006 Power Cable (see [Figure 5](#)).
- 6 Make following connections:
 - Connect P305 to J305.
 - Connect J401 to P301 on the DCM2/DCM2.1 assembly.
 - Connect power to each CRIND (J301A to P301A/B and J301B to P301A/B).

CAUTION

Ensure that the M07973A006 Cable (from P305) is not connected to the M04406A001 AC Distribution Cable as the M04406A001 Cable is used for 120 VAC and we require +24 VDC. So M07973A006 Cable should be connected to the part of PCN cable running from P1402 port of the power supply.

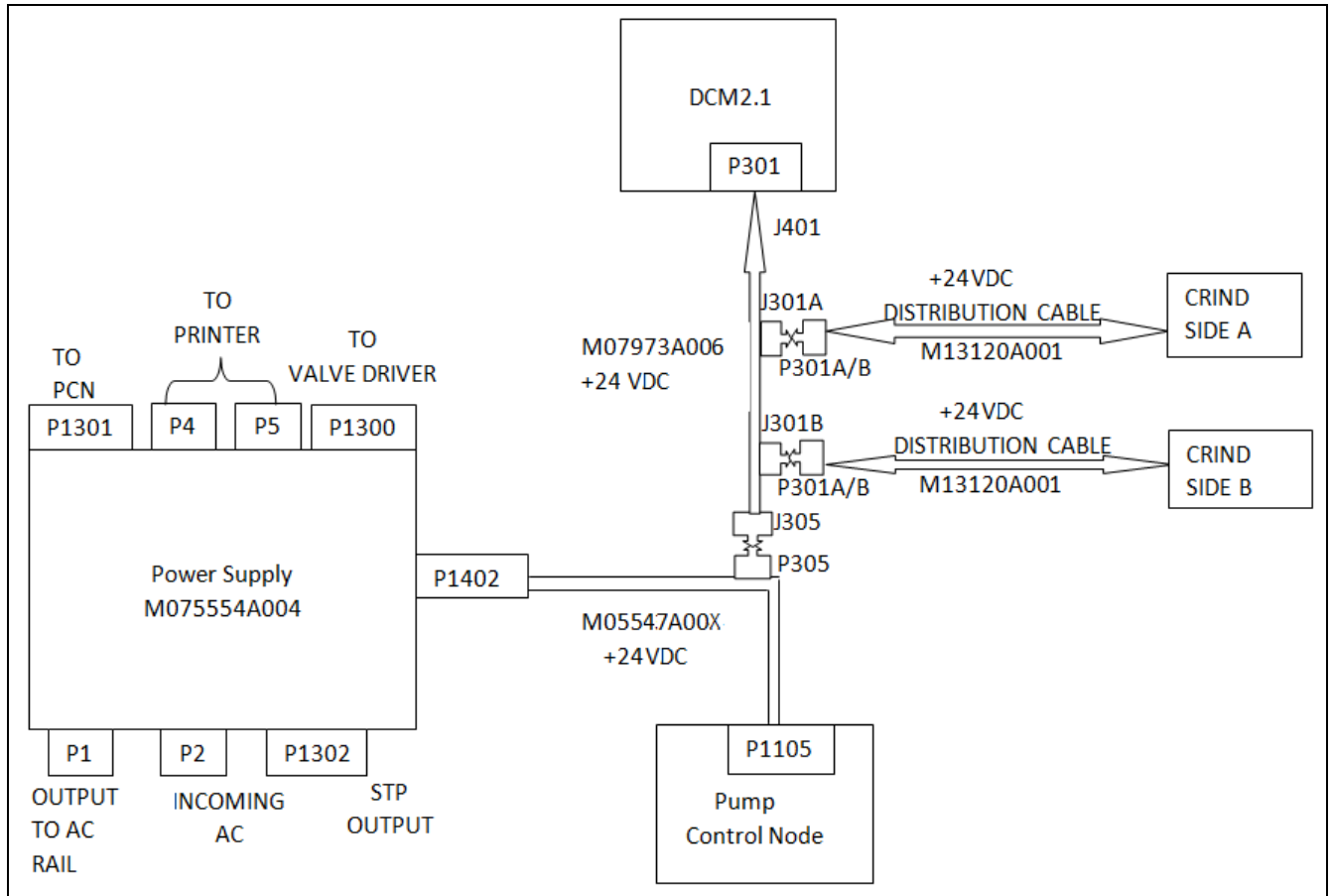
Figure 5: Cable Connections



Following table provides information on cable connectors and their connections:

From Connector#	Through Cable	To Connector#	Voltage
J305	M07973A006/ M05547A00X	P305	+24 VDC
J301A	M07973A006	P301A/B	+24 VDC
J301B	M07973A006	P301A/B	+24 VDC
J401	M07973A006	P301 (on DCM2/DCM2.1)	+24 VDC

Figure 6: Block Diagram for Wiring

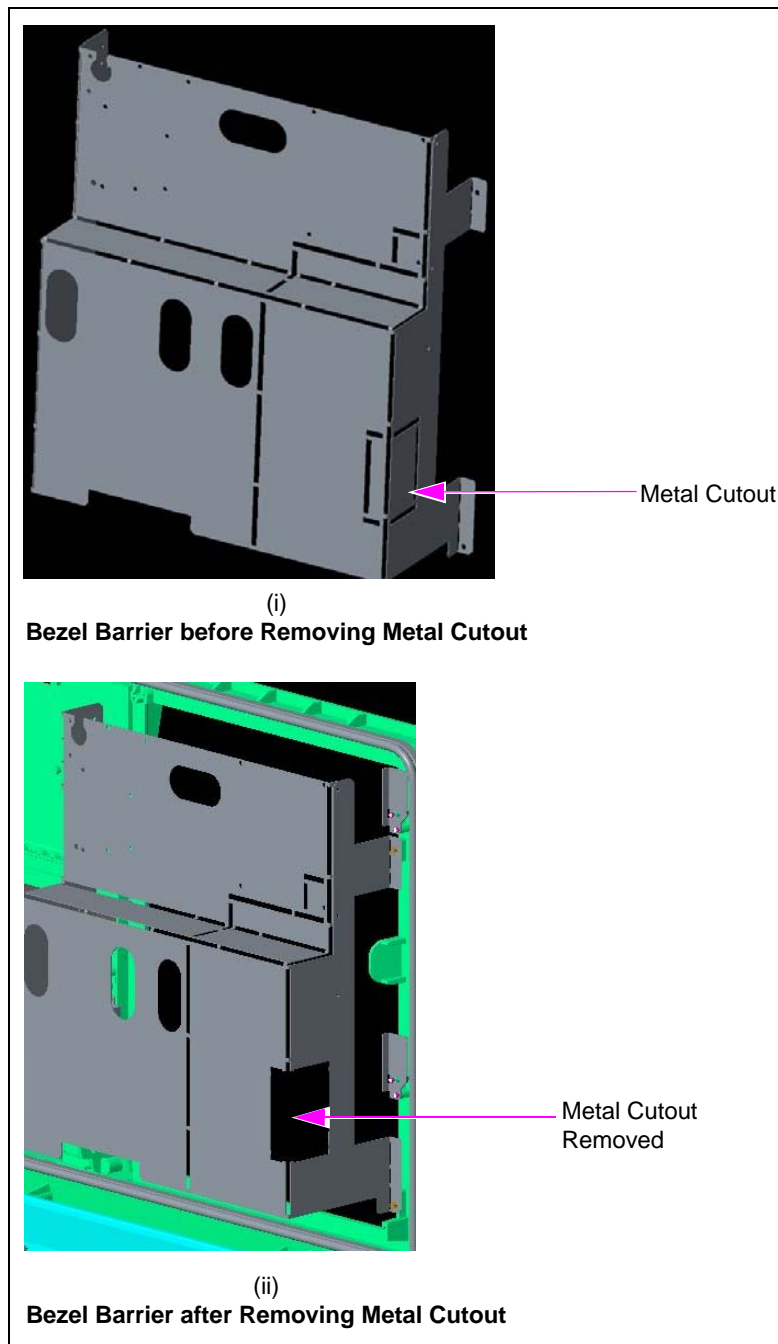


Installing Bezel Barrier (FlexPay II and FlexPay IV Kits on Encore 500)

To install the new Bezel Barrier (M02178A003), proceed as follows:

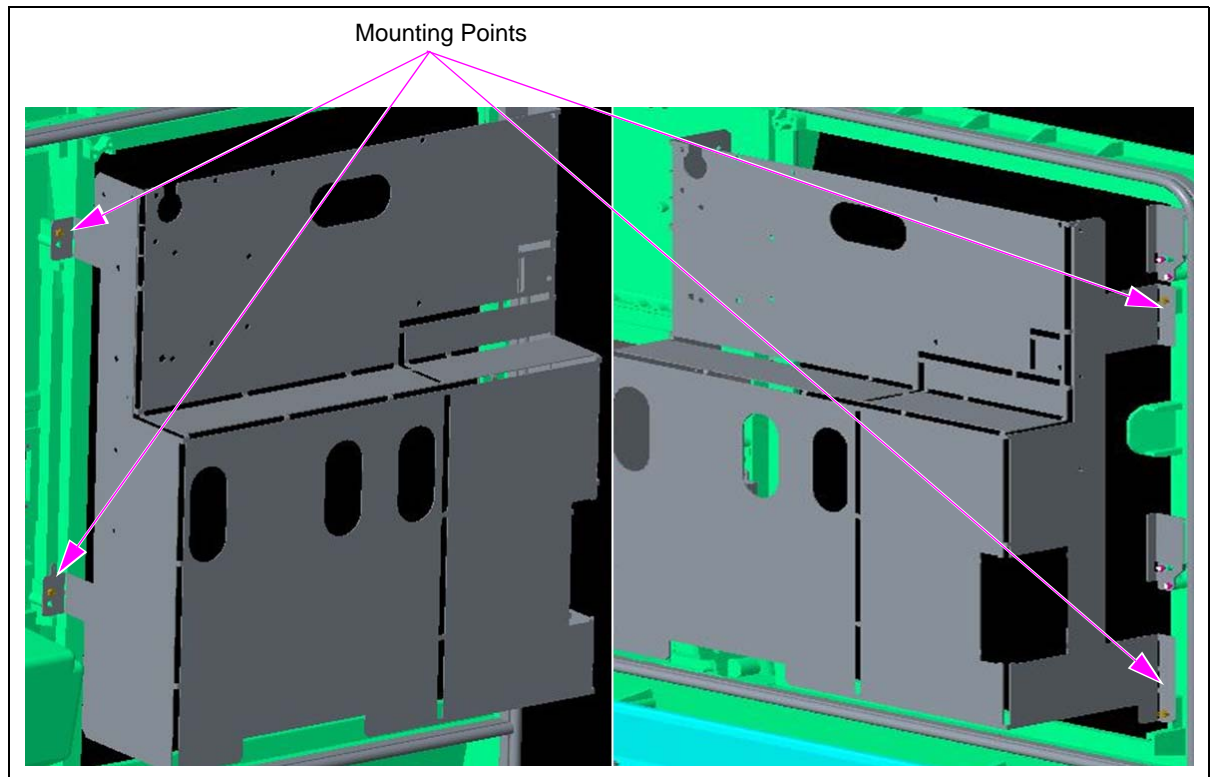
- 1 Remove the boards on the existing bezel barrier where applicable.
- 2 Break and remove the metal cutout on the new bezel barrier.

Figure 7: Removing Metal Cutout



- 3 Mount the bezel barrier on the door.

Figure 8: Mounting Bezel Barrier



- 4 Remount and reconnect the Printed Circuit Boards (PCBs) where applicable.

CAUTION

Ensure that the power supply and cables are installed properly. Before switching on the power supply, inspect all the work and test the unit for proper operation. Verify that the M07973A006 Power Cable is connected to the part of PCN cable running from P1402. Check the CRIND connections J301A and J301B. Check the Underwriters Laboratories (UL) bucket with verify if the applicable PCBs are remounted. Check the connections.

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