

# Introduction

## **Purpose**

This manual provides instructions to install the Incandescent to LED Backlight Adapter Kits (M14385K00X). These kits are designed for Encore® 500 units built prior to April 16, 2004 and are to be ordered one per side. They do not support units built with the M00458A001/A002 Power Supply. To support these units, the power supply must be replaced with the M00016K003 Kit.

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# **Required Tools**

Following tools are required to install the Incandescent to LED Backlight Adapter Kits:

- Nut Driver Set (Metric)
- Pin Extractor
- Flat-blade Screwdriver
- · Pair of Pliers
- Wire Cutter/Stripper

## **Parts List**

Following table lists the parts included in Incandescent to LED Adapter Kit 3 + 0 (M14385K001):

ltem	Description	Part Number	Quantity
1	Power Supply Assembly	M07953A003	1
2	Cash Acceptor Line Cable	M02367A004	1
3	Cable-tie	Q10178-03	1
4	Screw, Metric M5 X 10	M00417B101	1
5	Screw, Metric M4 X 12	M00417B115	1
6	Printed Circuit Assembly (PCA), Sandpiper™ (SP)-III Door Node 5, Encore 500 (Square Bezel)	M13170A001	1
7	Price per Unit (PPU) Display Module Square Bezel SP-III Assembly	M12855A001	3
8	Main Display to PPU Cable	M10699A004	1
9	Adapter Cable	M14386A001	1
10	Cable, Push-to-start/Pump Stop	M06114A001	1

Following table lists the parts included in Incandescent to LED Adapter Kit 5+0 (M14385K002):

ltem	Description	Part Number	Quantity
1	Power Supply Assembly	M07953A003	1
2	Cash Acceptor Line Cable	M02367A004	1
3	Cable-tie	Q10178-03	1
4	Screw, Metric M5 X 10	M00417B101	1
5	Screw, Metric M4 X 12	M00417B115	1
6	PCA, SP-III Door Node 5, Encore 500 (Square Bezel)	M13170A001	1
7	PPU Display Module Square Bezel SP-III Assembly	M12855A001	5
8	Main Display to PPU Cable	M10699A005	1
9	Adapter Cable	M14386A001	1
10	Cable, Push-to-start/Pump Stop	M06114A001	1

Following table lists the parts included in Incandescent to LED Adapter Kit 3+0 Dual (M14385K003):

ltem	Description	Part Number	Quantity
1	Power Supply Assembly	M07953A003	1
2	Cash Acceptor Line Cable	M02367A004	1
3	Cable-tie	Q10178-03	1
4	Screw, Metric M5 X 10	M00417B101	1
5	Screw, Metric M4 X 12	M00417B115	1
6	PCA, SP-III Door Node 5, Encore 500 (Square Bezel)	M13170A001	1
7	PPU Display Module Square Bezel SP-III Assembly	M12855A002	3
8	Main Display to PPU Cable	M10699A004	1
9	Adapter Cable	M14386A001	1
10	Cable, Push-to-start/Pump Stop	M06114A001	1

Following table lists the parts included in Incandescent to LED Adapter Kit 5+0 Dual (M14385K004):

ltem	Description	Part Number	Quantity
1	Power Supply Assembly	M07953A003	1
2	Cash Acceptor Line Cable	M02367A004	1
3	Cable-tie	Q10178-03	1
4	Screw, Metric M5 X 10	M00417B101	1
5	Screw, Metric M4 X 12	M00417B115	1
6	PCA, SP-III Door Node 5, Encore 500 (Square Bezel)	M13170A001	1
7	PPU Display Module Square Bezel SP-III Assembly	M12855A002	5
8	Main Display to PPU Cable	M10699A005	1
9	Adapter Cable	M14386A001	1
10	Cable, Push-to-start/Pump Stop	M06114A001	1

## **Related Documents**

Document Number	Title	GOLD™ Library
MDE-3804	Encore and Eclipse® Start-up/Service Manual	<ul><li> Encore and Eclipse</li><li> Service Manual</li></ul>

# **Abbreviations and Acronyms**

Term	Description
CIM™	Customer Interface Module
ESD	Electrostatic Discharge
GOLD	Gilbarco® Online Documentation
LED	Light Emitting Diode
LON	Local Operating Network
OSHA	Occupational Safety and Health Administration
PCA	Printed Circuit Assembly
PPU	Price per Unit
SP	Sandpiper

# **Important Safety Information**

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

 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.

### No Open Fire

Open flame

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**

Read and understand all the safety information found in MDE-3804 Encore and Eclipse Start-up/Service Manual.

## **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. Follow OSHA lockout/tagout procedures.
- 4 Isolate two-wire to the unit.

## **↑** WARNING

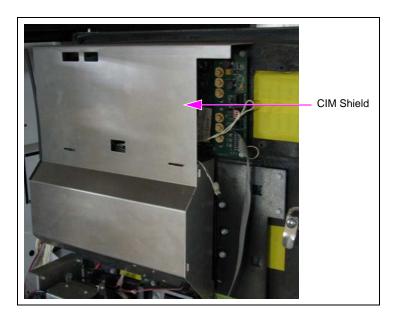
Failure to turn off the unit during kit installation may cause injury or bodily harm from electrical shock. Ensure that all power to the unit is switched off before opening the door to the unit and during kit installation.

# Installing Incandescent to LED Backlight Adapter Kits

To install Incandescent to Light Emitting Diode (LED) Backlight Adapter Kits, proceed as follows:

1 Remove the CIM shield, if it exists.

Figure 1: Removing CIM Shield



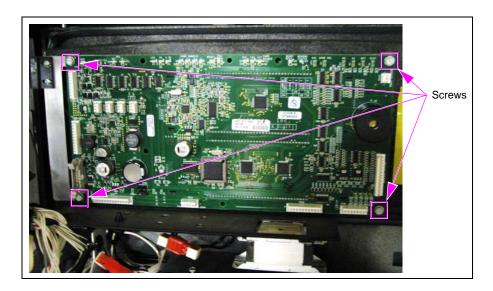
**2** Unplug and remove the Door Node Assembly (M00062A001 or M01785A001/A002/A003/A004) and retain the screws.

Figure 2: Unplugging and Removing Door Node Assembly



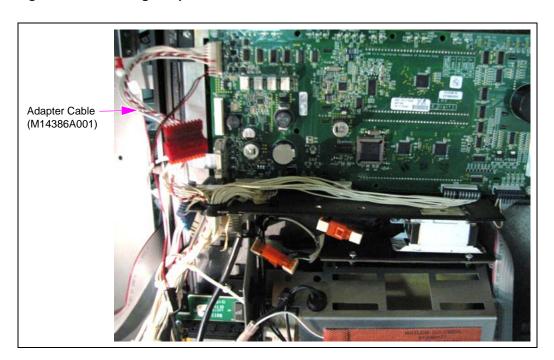
- **3** Unplug the Local Operating Network (LON) cable at P2109 and P2112 ports. Rearrange the LON bus cables in such a way that the LON ends at the door node.
- 4 Install the new Door Node (M13170A001) to the bezel using the screws removed in step 2 on page 7.

Figure 3: Installing New Door Node



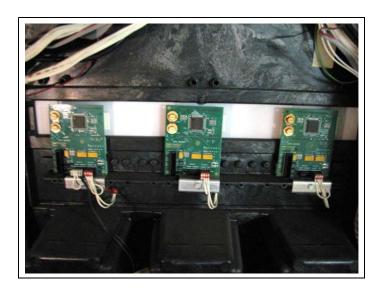
**5** Connect the new Adapter Cable (M14386A001) to LON cable. Connect the P2109 port to the LON connector. Connect the J2109 connector of the new adapter cable to the P2109 port on the door node.

**Figure 4: Connecting Adapter Cable** 



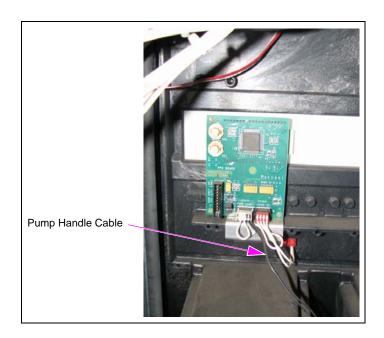
- **6** Connect all the other cables which were removed when replacing the existing door node with the new door node except the PPU Cable (M0509A001/A004). These cables can be discarded.
- 7 Route Soft Key Cable (M01200A001) to avoid pinching, if the CIM shield is used.
- **8** Unplug and remove all the PPU Assemblies (M00065A001). Ensure to note the grade jump jack locations. Retain the screws.

Figure 5: Removing PPU Assemblies



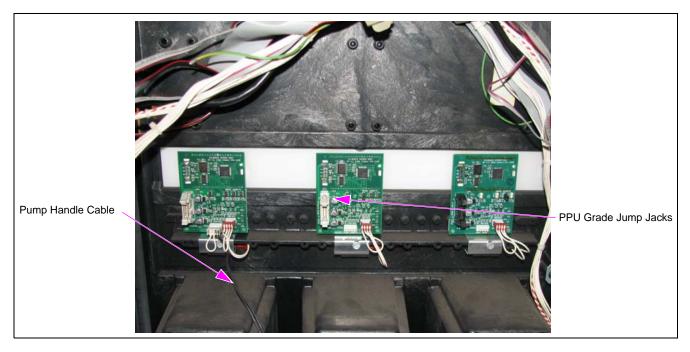
**9** Remove pump handle cable from the PPU.

Figure 6: Removing Pump Handle Cable from PPU



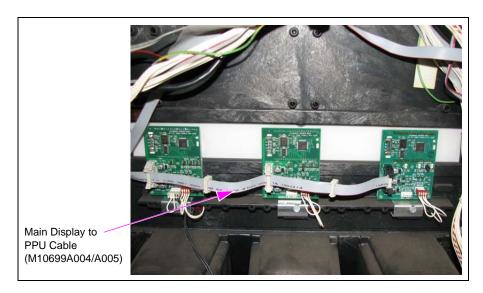
10 Install the new PPU Assemblies (M12855A001) to the bezel using the screws removed in step 8 on page 9. Connect pump handle cable and install PPU grade jump jacks.

Figure 7: Installing New PPU Assemblies and PPU Grade Jump Jacks



11 Connect the Main Display to PPU Cable [M10699A004/A005 (if unit has more than three grades) by connecting the J2127 connector to the P2127 port on the door node then connect each J2201 connector to the P2201 port in an existing PPU assembly.

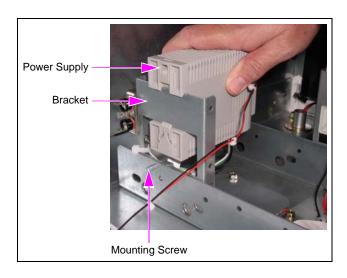
Figure 8: Connecting Main Display to PPU Cable



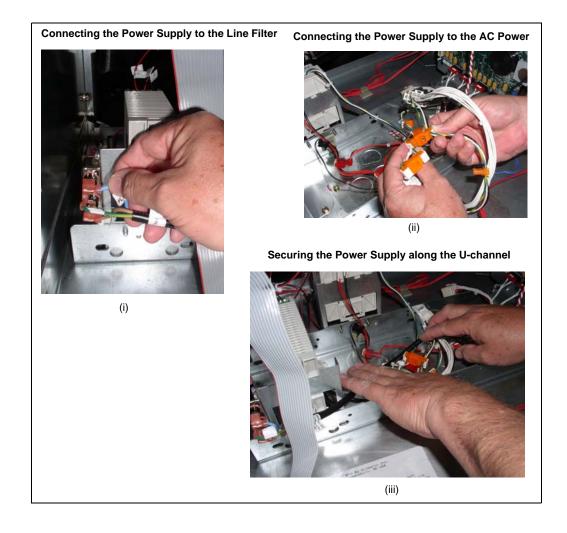
12 If Push-to-start or Push-to-stop option is available, unplug and remove the M01201A002 Cable. Connect the J2111 connector of the Push-to-start Cable (M06114A001) to the P2111 port on door node. Connect the connector on the other end of cable to the Push-to-start or Push-to-stop keypad.

13 Install Power Supply (M07953A003) in unused location in the U-channel.



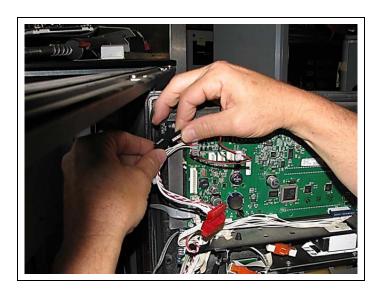


**Figure 10: Connecting Power Supply** 



14 Run the DC power cable through the adapter cable connector PHTR PWR.

Figure 11: DC Power Cable Through Adapter Cable



**15** Reinstall any covers that were removed.

Installing the Incandescent to LED Backlight Adapter Kits for Encore 500 unit is now complete.

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