

Introduction

Purpose

This manual provides instructions for installing the Hybrid Card Reader 2 (HCR 2) Shield Kit (M13193K002).

Note: Use this shield only when a Global Contactless Module (GCM) is installed.

IMPORTANT INFORMATION

This information is not intended to serve as a replacement for any installation, service, parts manuals, or training curriculum. To get copies of Gilbarco® manuals, visit Gilbarco Online Documentation (GOLDSM) at <http://www.gilbarco.com/interactive/login.cfm>.

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Required Tools

Following tools are required for installing the HCR 2 Shield Kit:

- 7 mm Nut Driver
- Wire Cutter
- Electrostatic Discharge (ESD) Wrist Strap with Alligator Clip

Parts List

Following table lists the parts included in this kit:

Item	Description	Part Number	Quantity
1	Top Card Reader Shield (see Figure 4 on page 7)	M13340A001	1
2	Bottom Card Reader Shield (see Figure 2 on page 6)	M13341B001	1
3	Metric M5 X 10 Screw	M00417B101	1
4	Star Washer	K50866	1
5	HCR 2 Shield Ground Wire	M04431A005	1
6	Nut	M00414B005	1

Related Documents

Document Number	Title	GOLD Library
MDE-3804	Encore® and Eclipse® Start-up/Service Manual	- Encore and Eclipse - Service Manual
MDE-5030	Hybrid Card Reader 2 (HCR 2) Kit (M12492K001) Installation Instructions	- Advantage® and Legacy® Models - Encore and Eclipse - FlexPay EMV®
MDE-5117	FlexPay™ Global Contactless Module (GCM) Kit (EPK GCM WAYNE) Installation on Wayne® Dispenser with EMV Retrofit Kit	- Encore and Eclipse - FlexPay EMV
MDE-5120	FlexPay Global Contactless Module (GCM) Kit (EPK GCM ECIM) Installation Instructions for Encore S E-CIM™	- Encore and Eclipse - FlexPay EMV
MDE-5123	FlexPay Global Contactless Module Kit (EPK GCM ENC3) Installation Instructions for Encore 300	- Encore and Eclipse - FlexPay EMV
MDE-5130	FlexPay Global Contactless Module (GCM) Kit (EPK GCM ENC5) Installation Instructions for Encore 500	- Encore and Eclipse - FlexPay EMV
MDE-5137	FlexPay Global Contactless Module (GCM) Kit (EPK GCM 500 S) Installation Instructions for Encore 500 S	- Encore and Eclipse - FlexPay EMV
MDE-5138	FlexPay Global Contactless Module (GCM) Kit (EPK GCM ADV) Installation Instructions for The Advantage Series	- Advantage and Legacy Models - FlexPay EMV
MDE-5142	FlexPay Global Contactless Module (GCM) Kit (EPK GCM ECL) Installation Instructions for Eclipse	- Encore and Eclipse - FlexPay EMV

Abbreviations and Acronyms

Term	Description
CD	Computer Display
E-CIM	Enhanced Customer Interface Module
EMV	EuroPay®, MasterCard®, and Visa®
EPP	Encrypting PIN Pad
ESD	Electrostatic Discharge
GCM	Global Contactless Module
GOLD	Gilbarco Online Documentation
HCR	Hybrid Card Reader
LED	Light Emitting Diode
OPT	Outdoor Payment Terminal
OSHA	Occupational Safety and Health Administration
SCR	Secure Card Reader
SPOT	Secure PIN Pad for Outdoor Terminal

Important Safety Information

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

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

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

Preliminary Precautions

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

Emergency Total Electrical Shut-Off

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

⚠ WARNING




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

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

Total Electrical Shut-Off Before Access

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

Evacuating, Barricading, and Shutting Off

Any procedure that requires access to the pump/dispenser or STPs requires the following actions:



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

Read the Manual

Read, understand, and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call a Gilbarco Authorized Service Contractor or call the Gilbarco Support Center at 1-800-800-7498. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations

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

Replacement Parts

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

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol



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

Signal Words

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



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



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



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

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

Working With Fuels and Electrical Energy

Prevent Explosions and Fires

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

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

Important Safety Information

No Open Fire



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

No Sparks - No Smoking



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

Working Alone

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

Working With Electricity Safely

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

Hazardous Materials

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

WARNING

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

WARNING

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

In an Emergency

Inform Emergency Personnel

Compile the following information and inform emergency personnel:

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

WARNING



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

WARNING

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

WARNING



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

WARNING



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

WARNING



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

WARNING

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

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

Lockout/Tagout

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

Before You Begin

Before you begin, read and understand all safety information found in *MDE-3804 Encore and Eclipse Start-up/Service Manual*. Especially important are the cautions and warnings for handling and disposing hazardous fuels, removing power from the unit, and other warnings regarding use of safety equipment and barricades (refer to [“Important Safety Information”](#) on [page 3](#)).

CAUTION



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

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 Match the parts received in kits with [“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.



WARNING

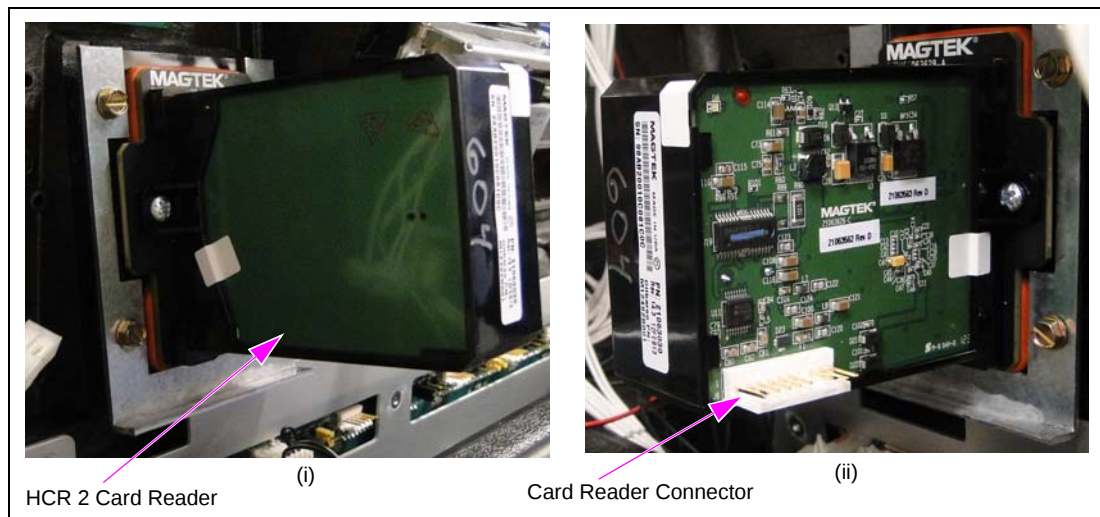
Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Be sure to clean hands after handling equipment. Do not place any equipment in the mouth.

Installing HCR 2 Shield Kit (M13193K002)

To install the HCR 2 Shield Kit, proceed as follows:

- 1 Remove the lower hydraulic panel.
Note: This step is required for Encore S E-CIM and Encore 700 S units only.
- 2 Open the electronic cabinet bezel (main door) and locate the HCR 2 card reader (see [Figure 1](#)).
- 3 Wear ESD wrist strap and attach the alligator clip to the dispenser frame.
- 4 Disconnect the card reader cable from the HCR 2 card reader.

Figure 1: HCR 2 Card Reader



- 5 Slide the Bottom Card Reader Shield (M13341B001) from the rear into position on the left side of the card reader as shown in [Figure 2](#).

Figure 2: Bottom Card Reader Shield

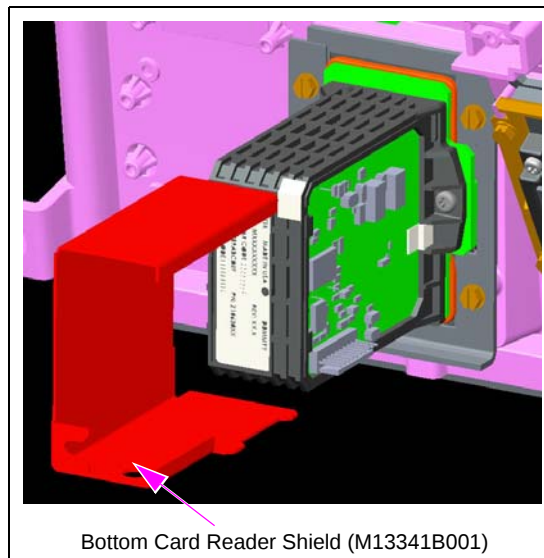
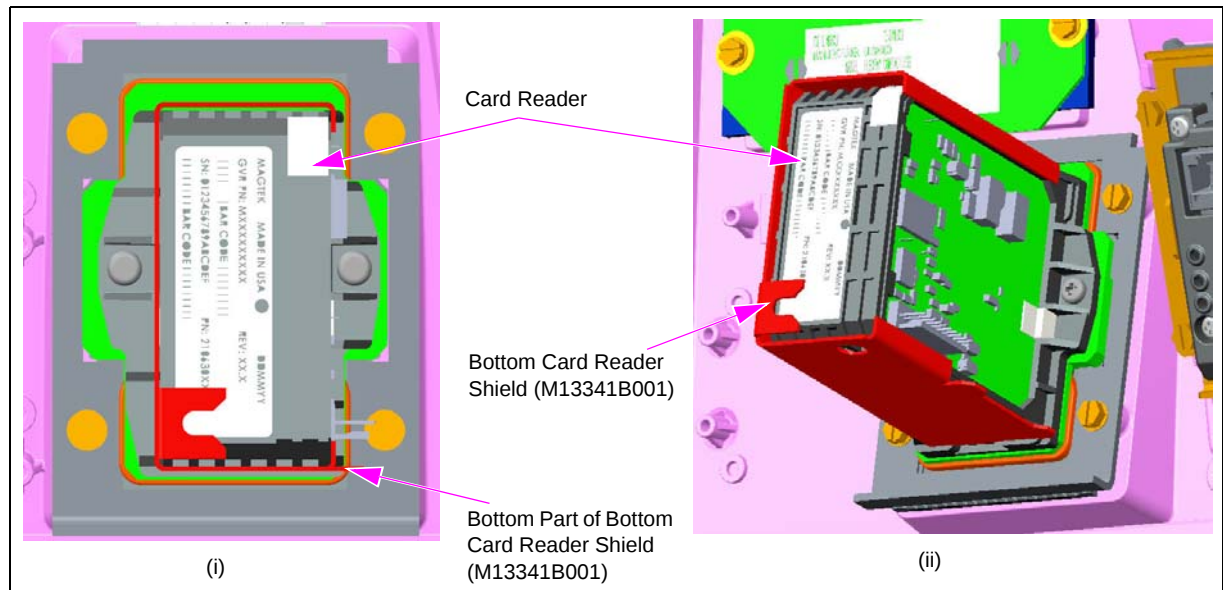


Figure 3: Installing Bottom Card Reader Shield

- 6 Position the Top Card Reader Shield (M13340B001) with its rear face under the slotted tab of bottom card reader shield and slide the top card reader shield to mate with the bottom card reader shield. The ground stud goes in the ground slot of bottom card reader shield as shown in Figure 4.

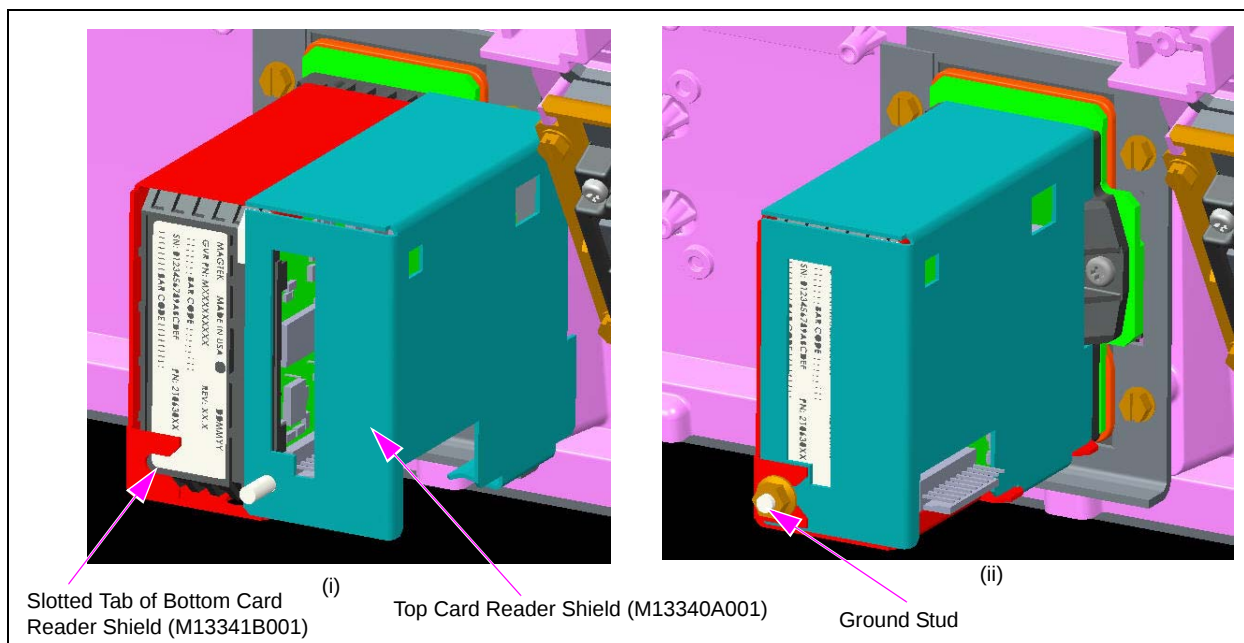
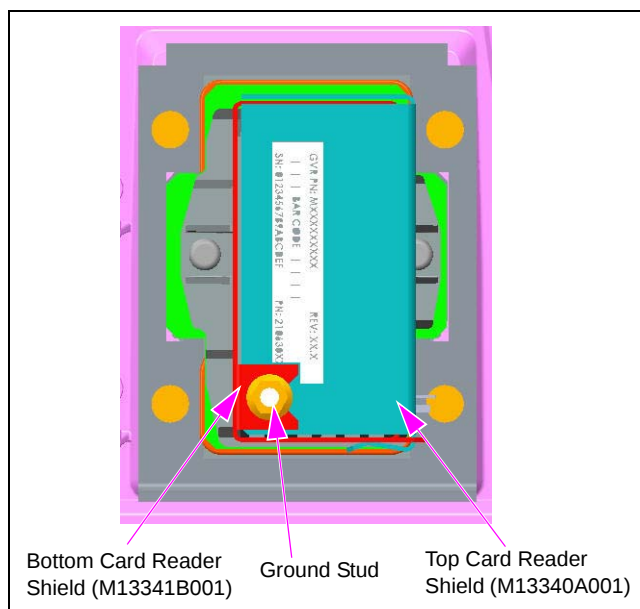
Figure 4: Positioning Top Card Reader Shield

Figure 5: Rear View of Installed Card Reader Shield

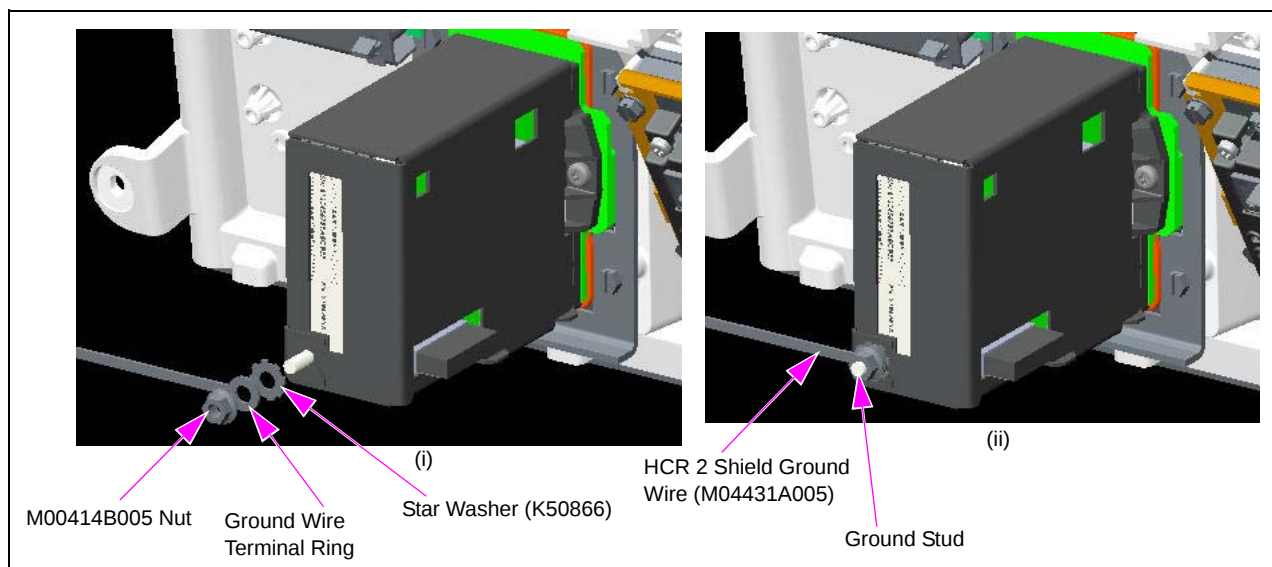


- 7 Assemble the HCR 2 Shield Ground Wire (M04431A005), Star Washer (K50866), and M00414B005 Nut to the ground stud as shown in [Figure 6](#).

Notes: 1) The star washer must be placed between the ground cable and the shield to allow a good connection.

2) The card reader shield must be grounded to the chassis (earth ground).

Figure 6: Assembling HCR 2 Shield Ground Wire



- 8 Attach the other end of the HCR 2 shield ground wire to one of the four places listed in [Figure 7](#) through [Figure 10](#) on [page 10](#) (varies depending on the unit type).
Note: Use the existing nut for grounding.

Figure 7: Attaching HCR 2 Shield Ground Wire to Grounding Bracket Below EMV Display (Encore 300/500)

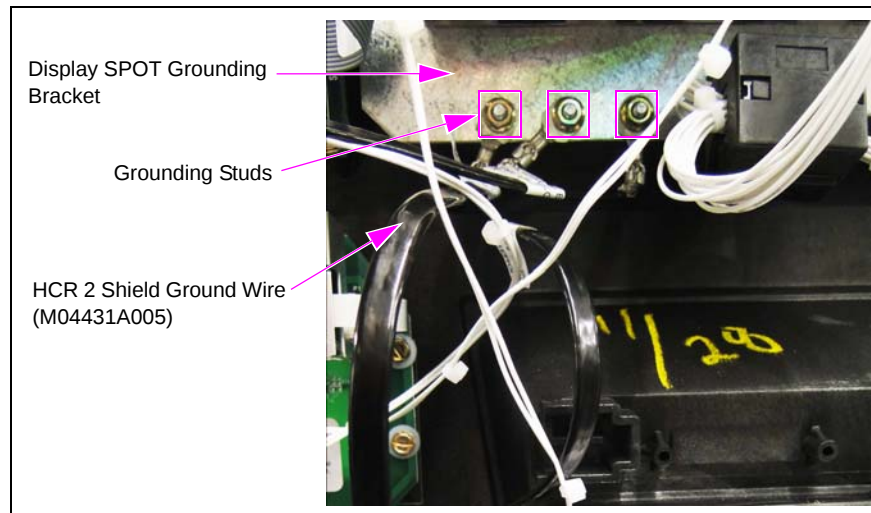
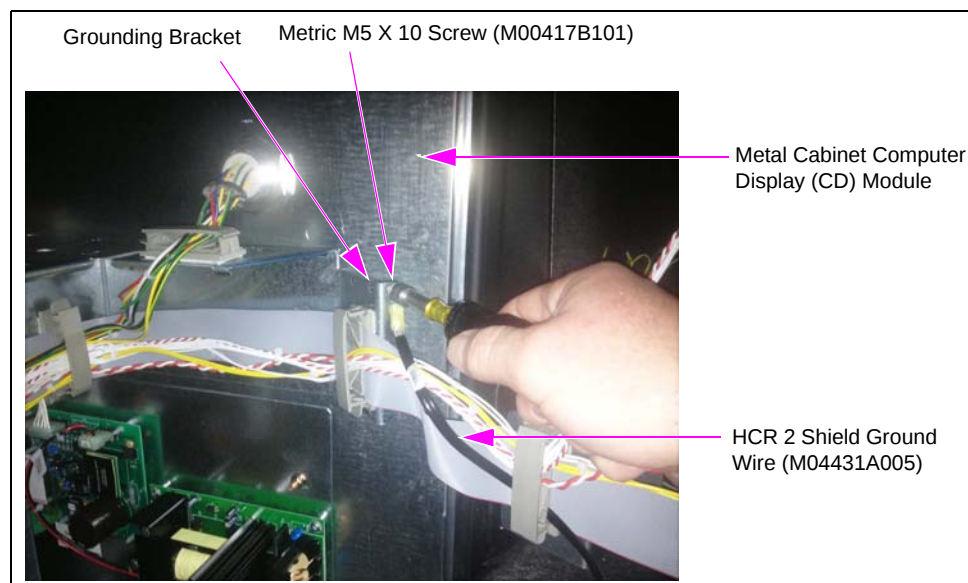
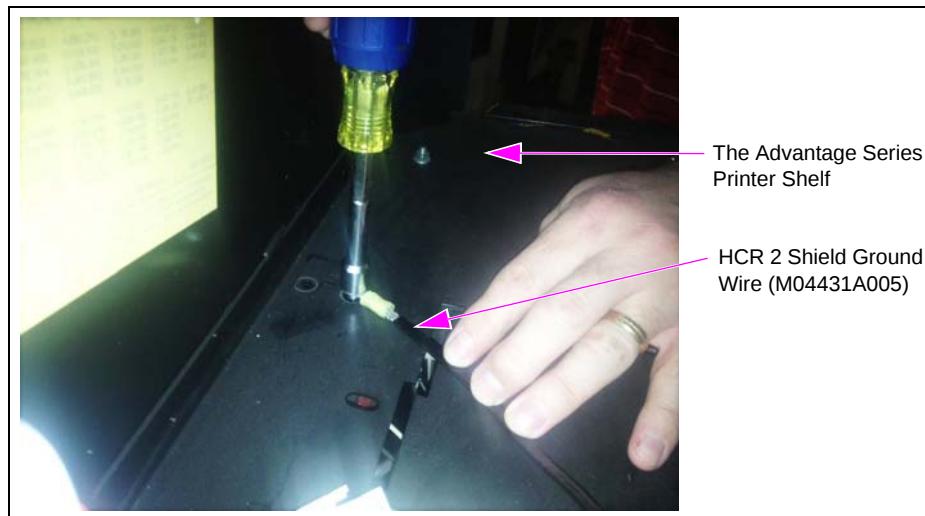


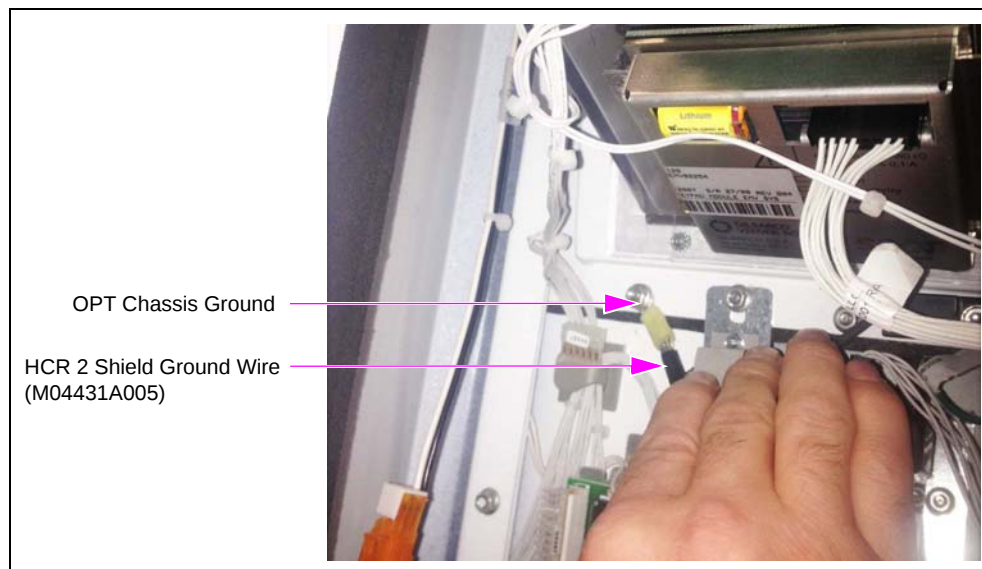
Figure 8: Attaching HCR 2 Shield Ground Wire to Ground Lug at Door Hinge on CD Module (Encore S E-CIM)



**Figure 9: Attaching HCR 2 Shield Ground Wire to Top Shelf Adjacent to Printer
(The Advantage Series)**



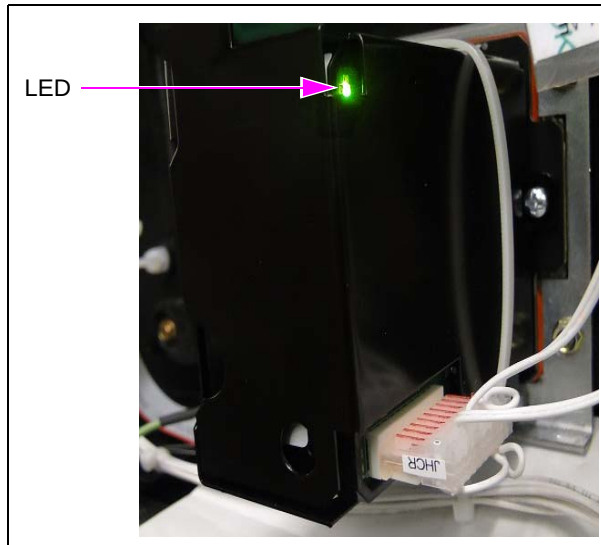
**Figure 10: Attaching HCR 2 Shield Ground Wire Below Customer Keypad
[Husky® Outdoor Payment Terminal (OPT)]**



- 9** Reconnect the card reader cable.
- 10** Power up the unit at the breaker panel.

- 11** Verify that the Light Emitting Diode (LED) on the right-hand side of the HCR 2 shows constant green once the unit is fully booted up.

Figure 11: LED on HCR 2



- 12** If the LED is not constant green, troubleshoot the HCR 2 unit and verify that all the cables are connected.
- 13** After the LED is constant green, close and latch the electronic cabinet bezel (main door) and lower hydraulic panel.
- 14** Verify that the unit is operational, and run a credit card and contactless transaction.

Installing the HCR 2 Shield Kit is now complete.

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