

## Introduction

### Purpose

This manual provides installation instructions for M07813K00X Encrypted Card Reader Retrofit Kits. The kits are used in the following units:

<b>Unit Type</b>	<b>Kit Number</b>
Encore® S (Encrypted Contactless Card Reader)	M07813K001
Encore S (Encrypted Card Reader)	M07813K002
Encore 500 (Encrypted Contactless Card Reader)	M07813K003
Encore 500 (Encrypted Card Reader)	M07813K004
Encore 300 (Encrypted Contactless Card Reader)	M07813K005
Encore 300 (Encrypted Card Reader)	M07813K006
The Advantage (Encrypted Contactless Card Reader) Series dispensers with Infoscreen, Monochrome, or Single-line with American Disabilities Act (ADA) Card Reader in Dispenser (CRIND®) features and using space reserved for cash acceptor	M07813K007
The Advantage (Encrypted Contactless Card Reader) Series dispensers with Infoscreen, Monochrome, or Single-line with ADA CRIND features and reserving the space for cash acceptor	M07813K008
The Advantage® (Encrypted Card Reader) Series dispensers with Infoscreen®, Monochrome, or Single-line with ADA CRIND features	M07813K009

The Encrypted Card Reader option provides protection against theft.

*Note: This feature requires that the dispenser subject to installation contains the Card Reader option. Door replacements that contain aluminum CRIND doors or pre-ADA doors may be required for the Advantage Series dispensers.*

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## Required Reading

Before installing this kit, the installer must read, understand, and follow:

- This manual
- NFPA 30A, The Automotive and Marine Service Station Code
- NFPA 70, The National Electric Code
- Applicable federal, state, and local codes and regulations

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

*Note: This kit must be installed by a Gilbarco Authorized Service Contractor (ASC) to ensure warranty.*

## Required Tools

The following tools are required to install the Encrypted Card Reader (ECR) Retrofit Kit:

- IC Extraction Tool, Digikey K158-ND (or equivalent)
- IC Extraction Tool, AMP 821903-1 (or equivalent)
- Isopropyl alcohol (END-1082)
- Nut drivers, 1/4-inch, 8 mm, 3/8-inch, 9/32-inch
- Putty knife
- CSC test card
- Ratchet set, standard
- Screwdrivers, flat blade and cross tip
- Static guard wrist strap

## Parts Lists

The following tables provide the parts list information for the Encrypted Card Reader Retrofit Kits.

### Encore S Encrypted Contactless Card Reader Kit (M07813K001)

Item	Description	Part Number	Quantity
1	Encrypted Card Reader	M07577B001	2
2	Cable, ESD Ground Card	M07709A002	2
3	PCA, 13.5 MHz Antenna	M05170A001	2
4	Decal, FCC/IC Recognition	N23951-11	2
5	Cable, Antenna Eccore/ADV	M07703A001	2
6	Bracket, Contactless Smart	M07573B001	2
7	Gasket, Card Reader	M00682B003	2
8	Screw SEL TP HEX HD 6-20X	Q11677-24	4
9	Tape Foam - 2 inch pieces	K85492-56	4
10	Lens, TRIND® CSC Reader	M05987B002	2
11	Screw Metric M4 X 8	M00419B117	8
12	Gasket, TRIND, ECE	M06010B002	2
13	Cable, ECR/SmartPad Interface	M07702A001	2
14	Cable Mount, Adhesive	Q13558-04	6
15	Card, Card Reader Cleaning	Q11482	1
16	Decal, Patent and FCC	M02962B009	1
17	CCN Software (Download)	V03.1	-
18	Encrypted Card Reader, Installation Manual	MDE-4635	1

### Encore S Encrypted Card Reader Kit (M07813K002)

Item	Description	Part Number	Quantity
1	Encrypted Card Reader	M07577B001	2
2	Cable, ESD Ground Card	M07709A002	2
3	Bracket, Contactless Smart	M07573B001	2
4	Gasket, Card Reader	M00682B003	2
5	Screw SEL TP HEX HD 6-20X	Q11677-24	4
6	Cable, ECR/SmartPad Interface	M07702A001	2
7	Cable Mount, Adhesive	Q13558-04	6
8	Card, Card Reader Cleaning	Q11482	1
9	CCN Software (Download)	V03.1	-
10	Encrypted Card Reader, Installation Manual	MDE-4635	1

### Encore 500 Encrypted Contactless Card Reader Kit (M07813K003)

Item	Description	Part Number	Quantity
1	Encrypted Card Reader	M07577B001	2
2	Cable, ESD Ground Card	M07709A001	2
3	PCA, 13.5 MHz Antenna	M05170A001	2
4	Decal, FCC/IC Recognition	N23951-11	2
5	Cable, Antenna Eccore/ADV	M07703A001	2
6	Bracket, Card Reader	M07574B001	2
7	Gasket, Card Reader	M00682B001	2
8	Screw SEL TP HEX HD 6-20X	Q11677-24	8
9	Screw TF WSHR HEX HD CS	Q11657-290	4
10	Tape Foam - 2 inch pieces	K85492-56	4
11	Cable, ECR/SmartPad Interface	M07702A003	2
12	Cable Mount, Adhesive	Q13558-04	6
13	Card, Card Reader Cleaning	Q11482	1
14	Decal, Patent and FCC	M02962B009	1
15	CCN Software (Download)	V03.1	-
16	Encrypted Card Reader, Installation Manual	MDE-4635	1

### Encore 500 Encrypted Card Reader Kit (M07813K004)

Item	Description	Part Number	Quantity
1	Encrypted Card Reader	M07577B001	2
2	Cable, ESD Ground Card	M07709A001	2
3	Bracket, Card Reader	M07574B001	2
4	Gasket, Card Reader	M00682B001	2
5	Screw SEL TP HEX HD 6-20X	Q11677-24	8
6	Cable, ECR/SmartPad Interface	M07702A003	2
7	Cable Mount, Adhesive	Q13558-04	6
8	Card, Card Reader Cleaning	Q11482	1
9	CCN Software (Download)	V03.1	-
10	Encrypted Card Reader, Installation Manual	MDE-4635	1

### Encore 300 Encrypted Contactless Card Reader Kit (M07813K005)

Item	Description	Part Number	Quantity
1	Encrypted Card Reader	M07577B001	2
2	Cable, ESD Ground Card	M07709A001	2
3	PCA, 13.5 MHz Antenna	M05170A001	2
4	Decal, FCC/IC Recognition	N23951-11	2
5	Cable, Antenna Eccore/ADV	M07703A001	2
6	Bracket, Card Reader	M07574B001	2
7	Gasket, Card Reader	M00682B003	2
8	Screw SEL TP HEX HD 6-20X	Q11677-24	8
9	Screw TF WSHR HEX HD CS	Q11657-290	4
10	Tape Foam - 2 inch pieces	K85492-56	4
11	Cable, ECR/SmartPad Interface	M07702A002	2
12	Cable Mount, Adhesive	Q13558-04	6
13	Card, Card Reader Cleaning	Q11482	1
14	Decal, Patent and FCC	M02962B009	1
15	Software CRIND BIOS V60.X.XX	K93744-02	1*
16	Software CRIND BIOS V62.X.XX	KXXXXX-XX	1**
17	Encrypted Card Reader, Installation Manual	MDE-4635	1

\* Without SmartPad

\*\* With SmartPad

### Encore 300 Encrypted Card Reader Kit (M07813K006)

Item	Description	Part Number	Quantity
1	Encrypted Card Reader	M07577B001	2
2	Cable, ESD Ground Card	M07709A001	2
3	Bracket, Card Reader	M07574B001	2
4	Gasket, Card Reader	M00682B001	2
5	Screw SEL TP HEX HD 6-20X	Q11677-24	8
6	Cable, ECR/SmartPad Interface	M07702A002	2
7	Cable Mount, Adhesive	Q13558-04	6
8	Card, Card Reader Cleaning	Q11482	1
9	Software CRIND BIOS V60.X.XX	K93744-02	1*
10	Software CRIND BIOS V62.X.XX	KXXXXX-XX	1**
11	Encrypted Card Reader, Installation Manual	MDE-4635	1

\* Without SmartPad

\*\* With SmartPad

## Advantage Series Encrypted Contactless Card Reader Kit (M07813K007) Using Space Reserved for Cash Acceptor

Item	Description	Part Number	Quantity
1	Encrypted Card Reader	M07577B001	2
2	Cable, ESD Ground Card	M07709A003	2
3	PCA, 13.5 MHz Antenna	M05170A001	2
4	Cable, Antenna Eccore/ADV	M07703A001	2
5	Bracket, Card Reader	M07576B001	2
6	Gasket, Card Reader	N23505-02	2
7	Screw SEL TP HEX HD 6-20X	Q11677-24	8
8	Screw TF WSHR HEX HD CS	Q11657-290	4
9	Cable Tie	Q10178-02	2
10	Tape Foam - 2 inch pieces	K85492-56	4
11	Cable, ECR/SmartPad Interface	M07702A004	2
12	Cable Mount, Adhesive	Q13558-04	18
13	Clamp, Cable Mounting	Q13459-01	2
14	Card, Card Reader Cleaning	Q11482	1
15	Decal, FCC/IC Recognition	N23951-11	2
16	Decal, Patent and FCC	M02962B009	1
17	Software CRIND BIOS V60.X.XX	K93744-02	1*
18	Software CRIND BIOS V62.X.XX	KXXXXX-XX	1**
19	Encrypted Card Reader, Installation Manual	MDE-4635	1

\* Without SmartPad

\*\* With SmartPad

## Advantage Series Encrypted Contactless Card Reader Kit (M07813K008) Reserving Space for Cash Acceptor

Item	Description	Part Number	Quantity
1	Encrypted Card Reader	M07577B001	2
2	Cable, ESD Ground Card	M07709A003	2
3	PCA, 13.5 MHz Antenna	M05170A001	2
4	Cable, Antenna Eccore/ADV	M07703A002	2
5	Bracket, Card Reader	M07576B001	2
6	Gasket, Card Reader	N23505-02	2
7	Screw SEL TP HEX HD 6-20X	Q11677-24	8
8	Screw TF WSHR HEX HD CS	Q11657-290	4
9	Cable Tie	Q10178-02	2
10	Tape Foam - 2 inch pieces	K85492-56	4
11	Cable, ECR/SmartPad Interface	M07702A004	2
12	Cable Mount, Adhesive	Q13558-04	6
13	Clamp, Cable Mounting	Q13459-01	2
14	Card, Card Reader Cleaning	Q11482	1
15	Decal, FCC/IC Recognition	N23951-11	2
16	Decal, Patent and FCC	M02962B009	1
17	Software CRIND BIOS V60.X.XX	K93744-02	1*
18	Software CRIND BIOS V62.X.XX	KXXXXX-XX	1**
19	Encrypted Card Reader, Installation Manual	MDE-4635	1

\* Without SmartPad

\*\* With SmartPad

## Advantage Series Encrypted Card Reader Kit (M07813K009) Using Space for Cash Acceptor

Item	Description	Part Number	Quantity
1	Encrypted Card Reader	M07577B001	2
2	Cable, ESD Ground Card	M07709A003	2
3	Bracket, Card Reader	M07576B001	2
4	Gasket, Card Reader	N23505-02	2
5	Screw SEL TP HEX HD 6-20X	Q11677-24	8
6	Cable, ECR/SmartPad Interface	M07702A004	2
7	Cable Mount, Adhesive	Q13558-04	6
8	Clamp, Cable Mounting	Q13459-01	2
9	Card, Card Reader Cleaning	Q11482	1
10	Software CRIND BIOS V60.X.XX	K93744-02	1*
11	Software CRIND BIOS V62.X.XX	KXXXXX-XX	1**
12	Encrypted Card Reader, Installation Manual	MDE-4635	1

\* Without SmartPad

\*\* With SmartPad

## IMPORTANT INFORMATION

Standard Encore units manufactured after January 1, 2005 may not have openings in the customer interface door for Scanner, Cash Acceptor, or Transmitter/Receiver In Dispenser (TRIND)/Contactless. If your unit was built after January 1, 2005 and does not have these openings, it will require the installation of an M01208A00X Customer Interface Module (CIM™) door with CRIND device and CIM graphics to install a Contactless Smart Card Retrofit Kit. Verify the unit's date code prior to installation. Refer to MDE-3893 Encore and Eclipse® Series Owner's Manual for details on understanding the date codes.

## Related Documents

Document Number	Title	GOLD Library
MDE-2540	The Advantage®, Legacy®, and MPD® Series Owner's Manual	The Advantage and Legacy Models
MDE-2562	CRIND Service Manual	CRIND and TRIND
MDE-3804	Encore and Eclipse Series Start-Up/Service Manual	Encore and Eclipse
MDE-3893	Encore/Eclipse Owners Manual	Encore and Eclipse
MDE-4516	Encore S Series Owner's Manual	Encore and Eclipse
MDE-4625	Graphics Panel Application and Repair	Encore and Eclipse
PT-1728	The Advantage Series Illustrated Parts Manual	Parts Manual
PT-1736	CRIND Illustrated Parts Manual	Parts Manual
PT-1936	Encore Series Pump and Dispenser Illustrated Parts Manual	Parts Manual
PT-1938	Eclipse Series Pump and Dispenser Parts Manual	Parts Manual

## Abbreviations and Acronyms

Term	Description
ADA	American Disabilities Act
CRIND	Card Reader in Dispenser
CSC	Contactless Smart Card
ESD	Electrostatic Discharge
PCA	Printed Circuit Assembly
POS	Point of Sale
RF	Radio Frequency
TRIND	Transmitter/Receiver in Dispenser



# Important Safety Information

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 Hazard Association (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.

## 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 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



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

#### WARNING



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

#### WARNING



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

**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.

# Installation of the Encrypted Card Reader Retrofit Kit

## Installing the M07813K001 Kit in an Encore S Unit (with Contactless Card Reader Option)

When you install an Encrypted Card Reader kit, the existing Card Reader must be removed and replaced with the Encrypted Card Reader.

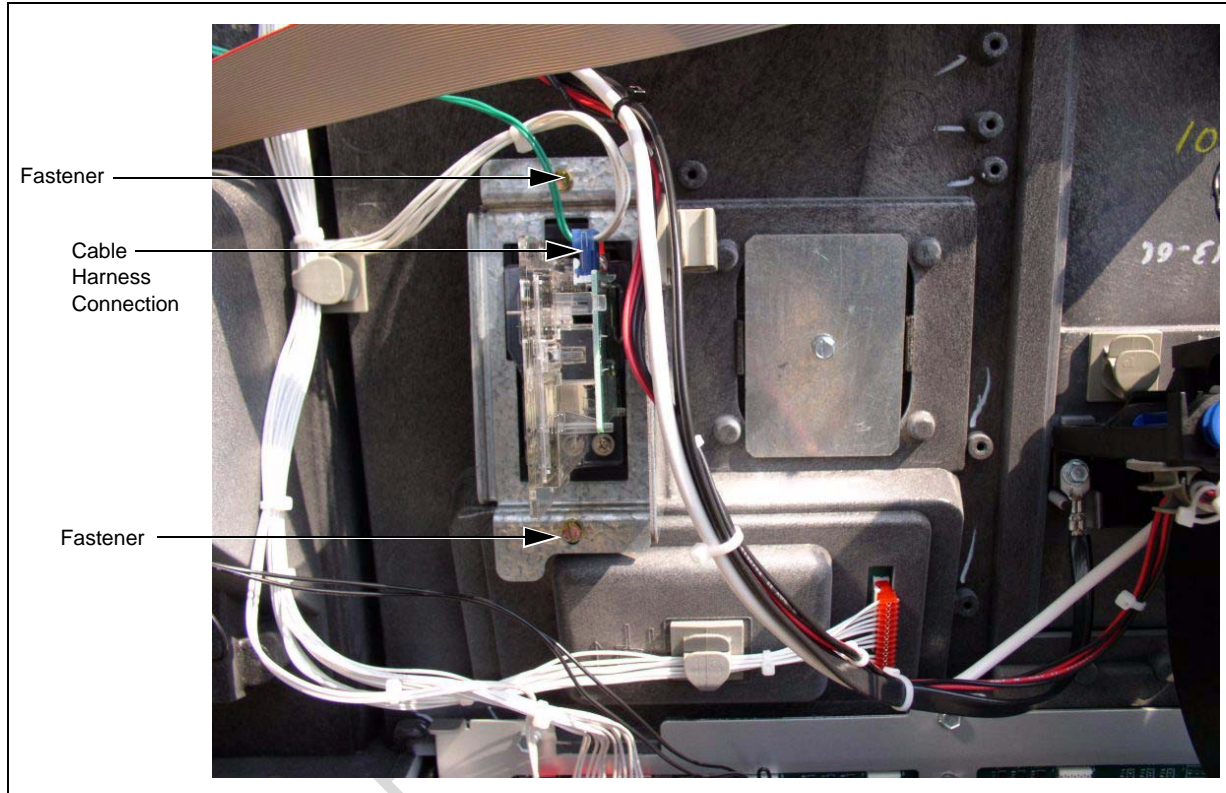
### Removing the Existing Card Reader

To remove the existing Card Reader, proceed as follows:

*Note: Read all instructions before beginning and observe all safety precautions.*

- 1 Obtain an approval from the store manager or responsible personnel to remove the unit from service.
- 2 Remove AC power to the unit using the station circuit breaker. Refer to MDE-3893 Encore/Eclipse Owners Manual for details.
- 3 Remove the lower hydraulics panel. The main door has a lower latch underneath the lower left main door corner. Open this latch. Locate the upper main door lock. Insert the main door key and open the main door.
- 4 Repeat step 2 for Side 2 of the unit.
- 5 Disconnect the cable harness or ribbon cable connection from the Card Reader (see [Figure 1 on page 12](#)).
- 6 Use a 1/4 inch nut driver to remove the two hex head screws (see [Figure 1 on page 12](#)) that secure the Card Reader bracket (see [Figure 1 on page 12](#)) and the Card Reader to the option door. Dispose of the Card Reader and bracket, unless you want to keep the Card Reader as a used spare part.  
*Note: Make a note of the Card Reader's gasket orientation. This information will be useful when you install the new Card Reader gasket (M00682B003) and bracket (M07573B001). Also, ensure that the option door has been cleaned with isopropyl alcohol and a clean cloth prior to installing the new Card Reader gasket (M00682B003).*
- 7 Remove the old Card Reader gasket from the option door. Use a putty knife, if required.

Figure 1: Rear View of the Encore S Main Door with Card Reader



### Installing the Encore Encrypted Card Reader Assembly

To install this assembly, proceed as follows:

- 1 Remove the adhesive backing from the Card Reader gasket (M00682B003) and place the gasket over the Card Reader opening from the inside of the open main door.

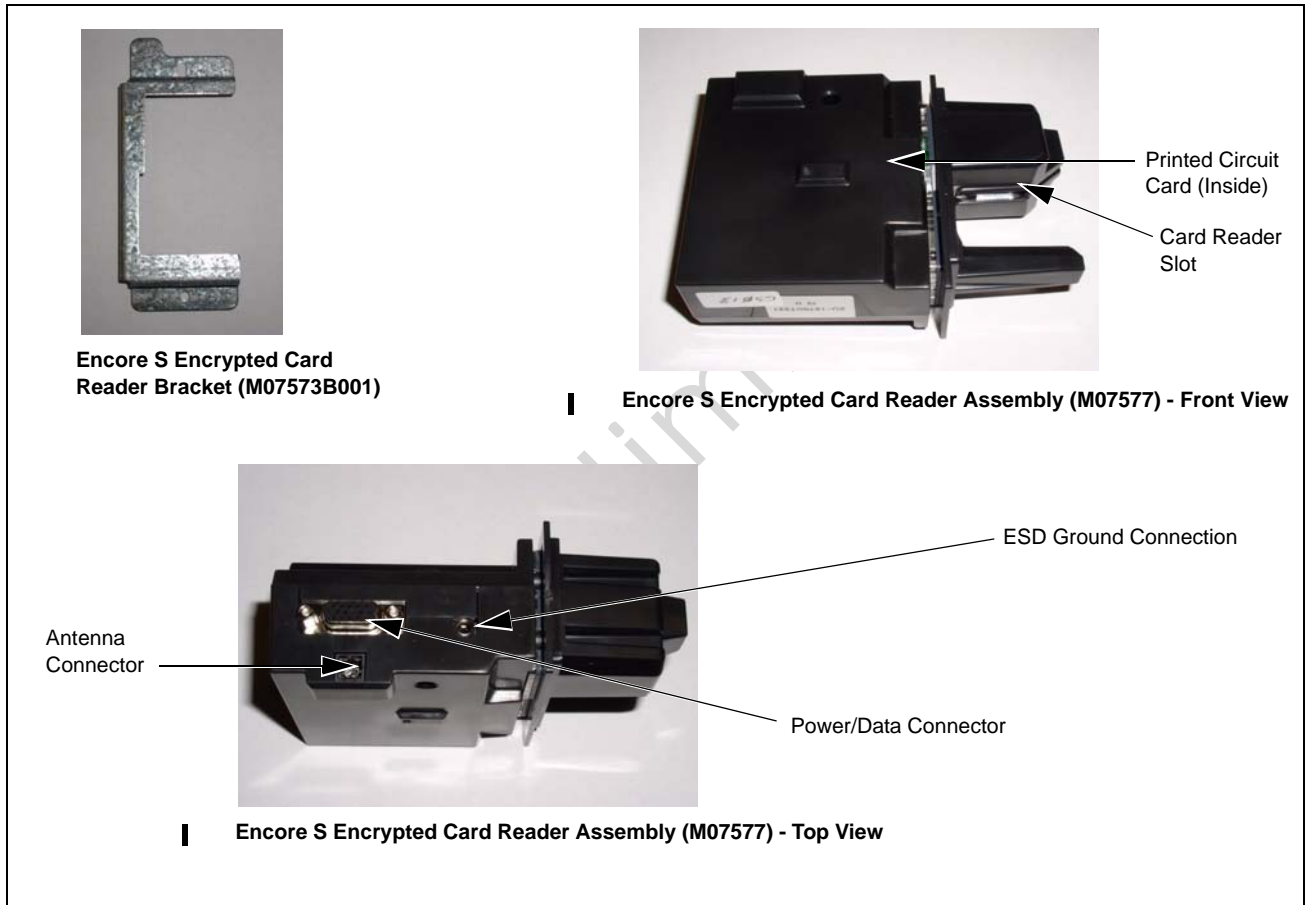
#### CAUTION

A properly grounded ESD wrist strap must be worn when performing step 2. Failure to use electrostatic precautions may damage electronic components and void warranty.

- 2 Obtain the Encrypted Card Reader assembly (M07577B001) (Figure 2 on page 13) and Contactless Smart bracket (M07573B001) (Figure 2 on page 13) from the kit.

- 3 From the rear of the main door, position the Card Reader and then the Card Reader bracket on the door such that the Card Reader slot (Figure 2) is positioned on the top.

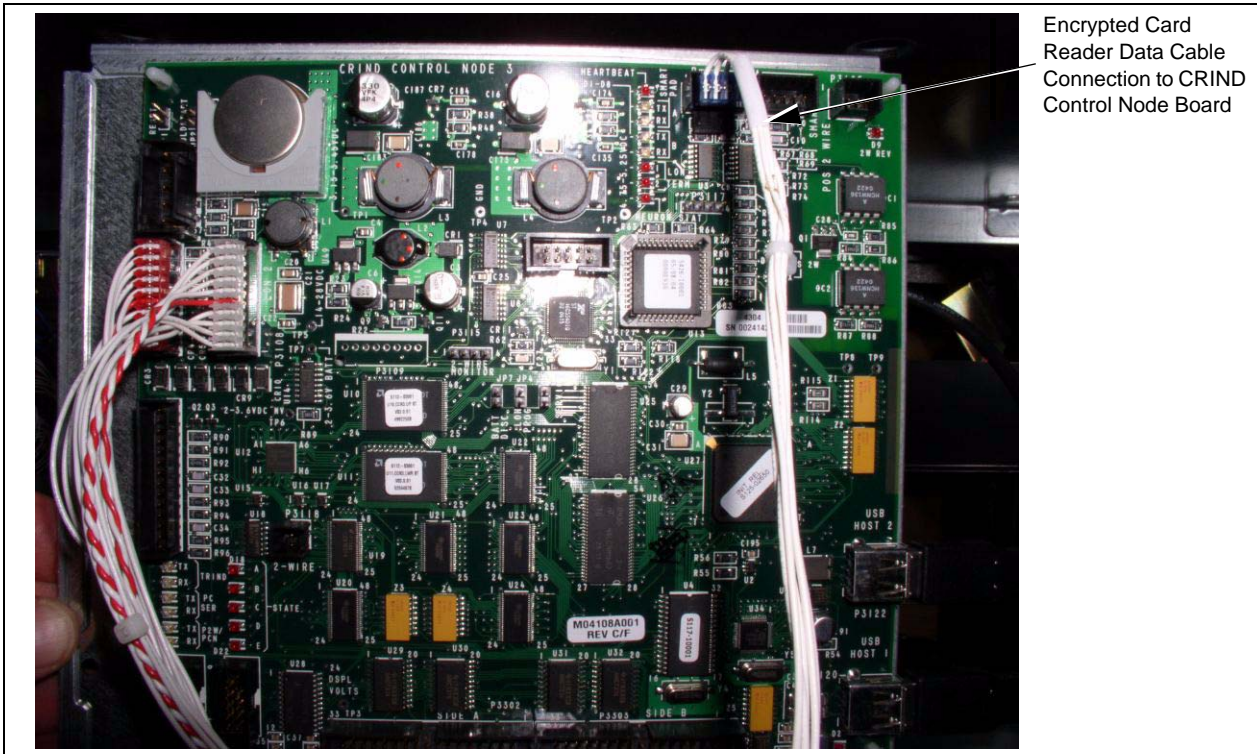
**Figure 2: Encrypted Card Reader Assembly and Encore S Bracket**



- 4 Loosely secure the Encrypted Card Reader bracket and Card Reader to the main door using the two Q11677-24 screws (provided in the kit) in the top and bottom two holes (looking from the back of the Card Reader).
- 5 Remove the power/data cable from the current Card Reader. Remove the ESD Ground Connection cable from the current Card Reader (if it has one).
- 6 Align the Card Reader and bracket. Securely tighten the two mounting screws (Q11677-24).
- 7 Reconnect the 7-pin power/data cable (M07702A001) to the 7-pin Power/Data connector (see Figure 2) on the Card Reader. If the dispenser is equipped with SmartPad™, connect the SmartPad end of the cable (M07702A001) to the SmartPad CRIND keypad connector. If the dispenser is not equipped with SmartPad (that is, has a regular CRIND keypad), do not connect the SmartPad end of the cable (M07702A001), which means that the SmartPad end of the cable (M07702A001) remains loose and the dispenser's CRIND keypad connection remains unaltered.

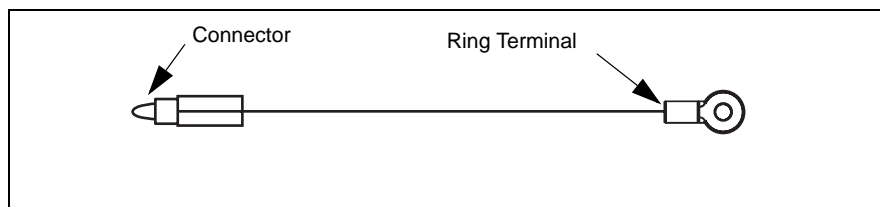
- 8 Connect the J3101/J3102 end to the SmartPad port on the CRIND Control Node Board (see [Figure 3 on page 14](#)).

**Figure 3: CRIND Control Node Board Showing the Connection of J3101/J3102 End to the SmartPad Port**



- 9 Insert the connector end of the ESD Ground Card cable (M07709A002) (see [Figure 4](#)) to the ESD Ground Connection (see [Figure 2 on page 13](#)) on the Card Reader.

**Figure 4: Encore/Eclipse ESD Ground Card Cable (M07709A002)**



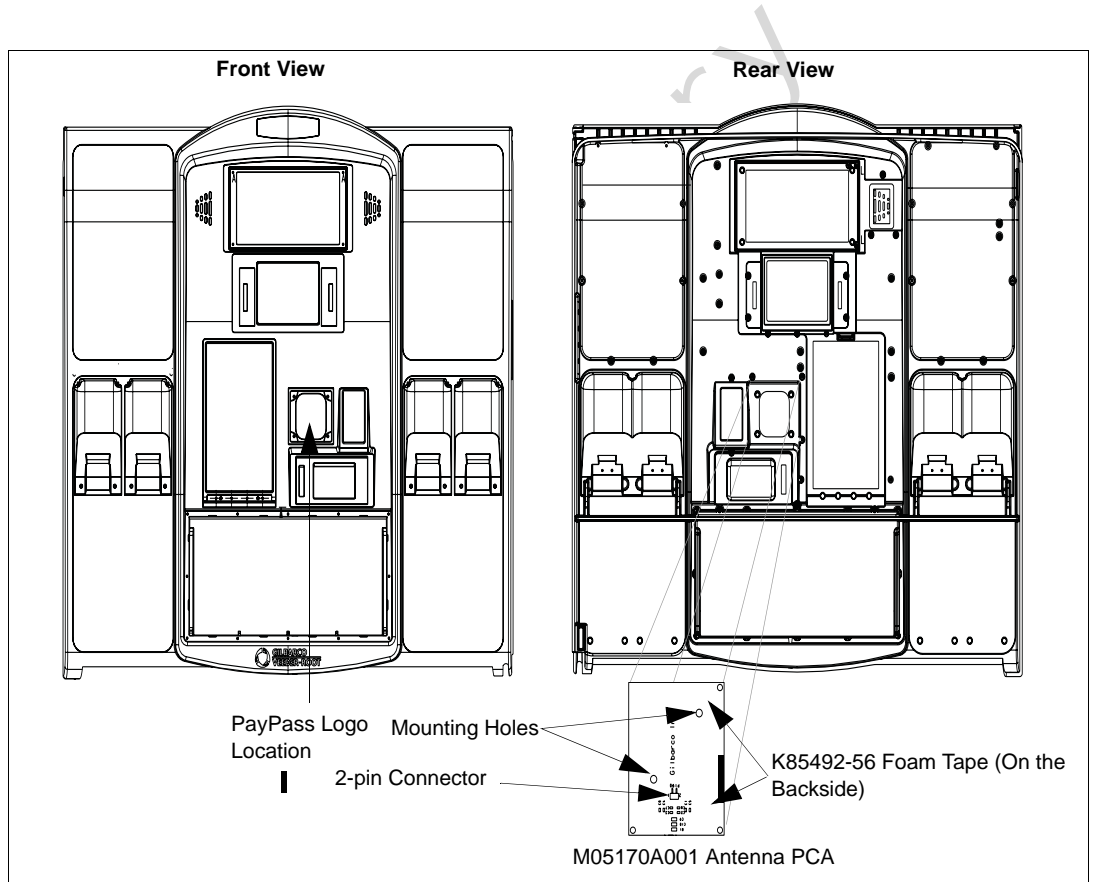
- 10 Locate the ground ring terminal on the lower portion of the monochrome display mounting bracket and remove the screw that secures the ground connection. Retain the screw for reinstallation.
- 11 Connect the ring terminal ([Figure 4](#)) of the ESD Ground Card cable (M07709A002) to the monochrome display mounting bracket ground connection. Secure the connection with the screw and lock washer that was removed in step 10.
- 12 Ensure that all ground cables are secured to the unit with sufficient slack to prevent cable pulls

and pinching.

### Installing the Antenna PCA

The RF antenna must be located directly behind the area where the MasterCard® PayPass™, American Express ExpressPay<sup>SM</sup> and other logo graphics are attached as shown in [Figure 5](#).

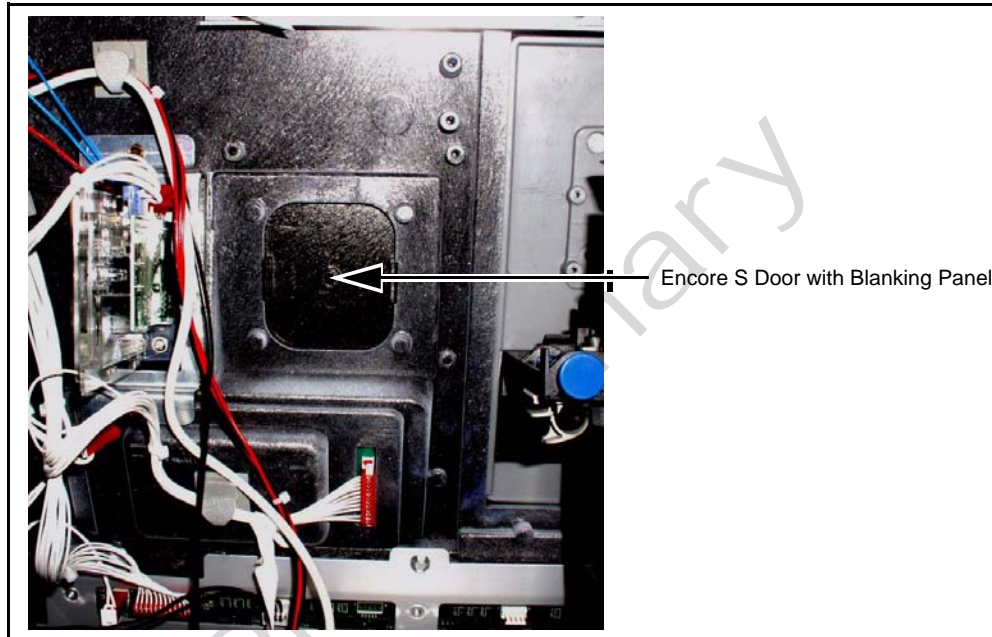
**Figure 5: Encore S Main Door Showing Antenna PCA Location**



To install the antenna, proceed as follows:

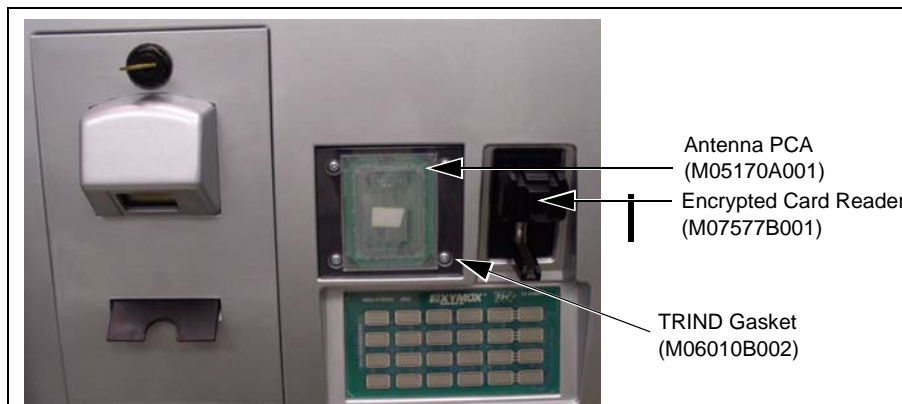
- 1 Remove the small bracket holding in the TRIND blanking panel, and knock out the TRIND blanking panel ([Figure 6](#)) using a hammer.

**Figure 6: Encore S Door with the Blanking Panel**



- 2 Remove the narrow sealing gasket from the exposed TRIND lens space on the outside of the door and replace it with the TRIND gasket (M06010B002).
- 3 Locate the M05170A001 Antenna PCA placed on the TRIND CSC Reader Lens (M05987B002) and place it over the TRIND gasket. Secure the TRIND CSC Reader Lens by installing and tightening the four screws (M00419B117) (see [Figure 7](#)).
- 4 Connect one end of the M07703A001 Antenna Cable to the Card Reader antenna connector of the Encrypted Card Reader top ([Figure 2 on page 13](#)) and the other end of the antenna cable to the 2-pin connector on the M05170A001 PCA antenna ([Figure 5 on page 15](#)).

**Figure 7: Antenna PCA on TRIND CSC Reader Lens**



- 5 Repeat steps 1-4 on the other side of the unit.



## Loading the CRIND Software and Purging Persistent Memory

To load the CRIND software, proceed as follows:

- 1 Remove the CRIND two-wire from the CRIND node. This terminates any interference that may occur.
- 2 Connect the Download cable to the laptop and the laptop port on the CRIND node.
- 3 Download the appropriate software to the CRIND node.
- 4 Purge the Persistent Memory after the download is complete.
- 5 Reprogram the CRIND IDs and CRIND node.
- 6 Enable the required options (for example, Cash Acceptors, Barcode Scanners, and so on).
- 7 Connect the two-wire back on the CRIND node. Allow the Point of Sale (POS) to download the CRIND.
- 8 Test the new Card Reader.

### IMPORTANT INFORMATION

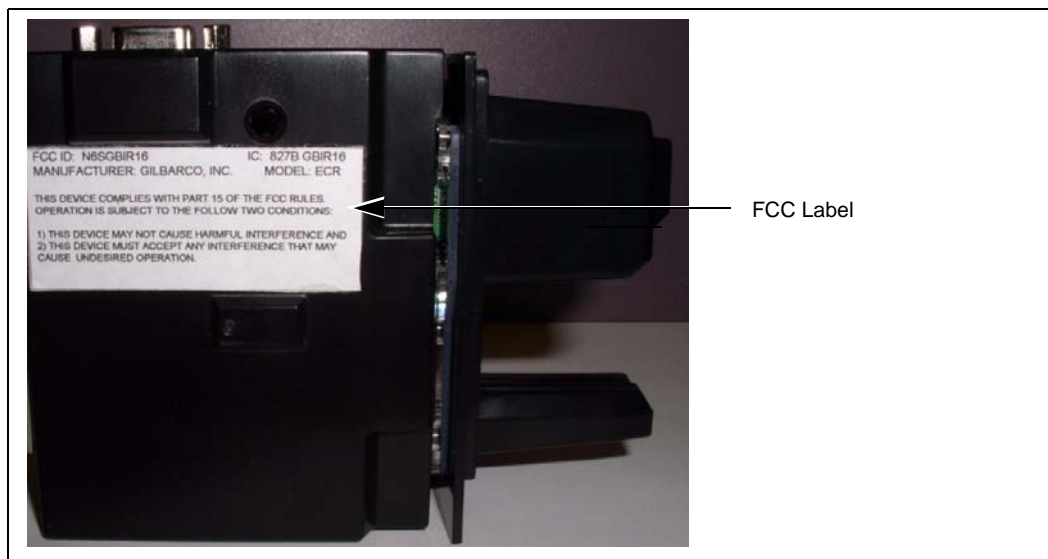
RF Read performance will be severely affected by crimps/bends in the antenna cable.

## Completing the Installation for Encore S Units

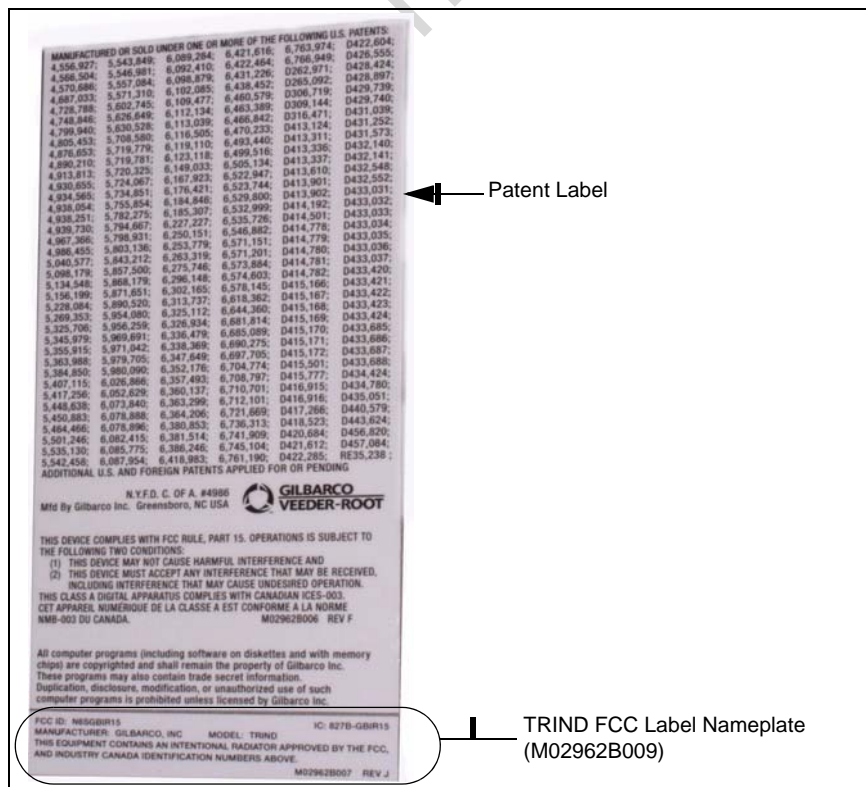
To complete the installation, proceed as follows:

- 1 Install the N23951-11 UL/CA Recognition Decal on the Card Reader bracket as shown in [Figure 8](#).

**Figure 8: FCC Label on Smart Card Reader (Side)**



- 2 Close and secure the main doors using the security latch and the main door lock. Reinstall and lock the lower panel door.
- 3 Restore power to the unit. Refer to MDE-4516 Encore 500 S Owners Manual for details.
- 4 Test the RF Readers by sliding the CRIND diagnostic card (Q12534) through both the readers with the magnetic strip facing upwards.
- 5 Verify if a valid read was made from the diagnostic card.
- 6 Pass the Encrypted Card Reader test card in front of the RF antenna (flat side towards the antenna).
- 7 Verify if a valid read was made from the test card. The CRIND beeper will emit an audible beep upon performing a successful read.  
*Note: The test card should be read from a minimum distance of 1 inch when presented parallel to the bezel surface.*
- 8 Apply the appropriate graphic logos. These are order entry items. Refer MDE-4625 Graphics Panel Application and Repair for graphic application instructions.
- 9 Obtain the FCC Decal (M02962B009) from the kit and install it under the patent label.



## Installing the M07813K002 Kit in an Encore S Unit (without Contactless Card Reader Option)

The installation instructions for the M07813K002 kit are similar to the installation instructions for the M07813K001 kit.

To install the M07813K002 Kit, proceed as follows:

- 1 Remove the existing Card Reader. Refer to [“Removing the Existing Card Reader”](#) on page 11 for instructions.
- 2 Install the Encore Encrypted Card Reader assembly. Refer to [“Installing the Encore Encrypted Card Reader Assembly”](#) on page 12 for instructions.
- 3 Load the CRIND software and purge the persistent memory. Refer to [“Loading the CRIND Software and Purging Persistent Memory”](#) on page 17 for instructions.
- 4 Complete the installation by referring to [“Completing the Installation for Encore S Units”](#) on page 17.  
*Note: Do not perform steps 4 to 7.*
- 5 Verify that the Card Reader will read a card.

## Installing the M07813K003 Kit in an Encore 500 Unit (with Contactless Card Reader Option)

When you install an Encrypted Card Reader kit, the existing Card Reader must be removed and replaced with the Encrypted Card Reader.

### Removing the Existing Card Reader

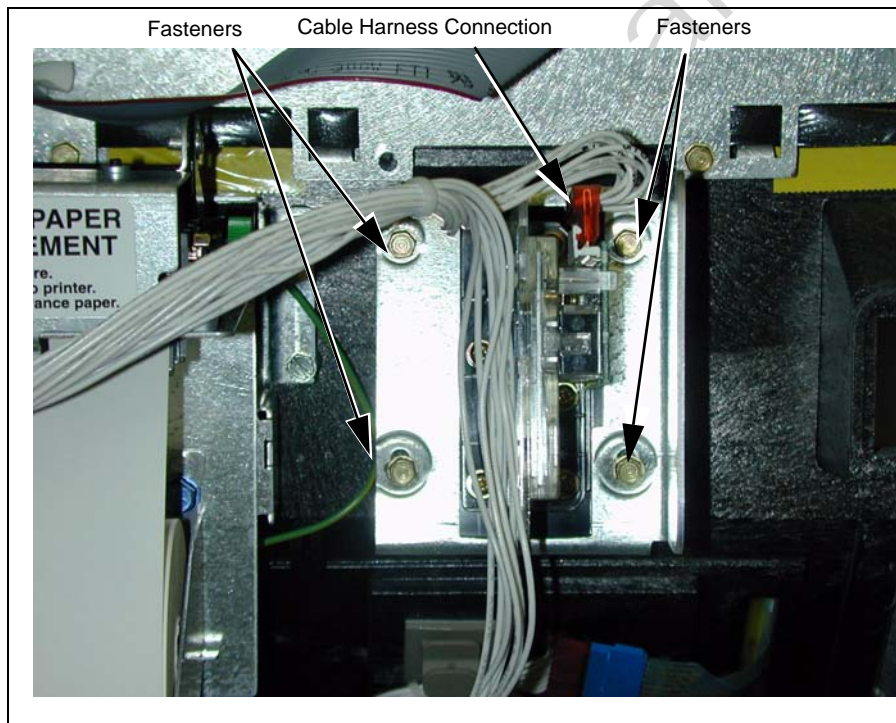
To remove the existing Card Reader, proceed as follows:

*Note: Read all instructions before beginning and observe all safety precautions.*

- 1 Obtain an approval from the store manager or responsible personnel to remove the unit from service.
- 2 Remove AC power to the unit using the station circuit breaker. Refer to MDE-3893 Encore/Eclipse Owners Manual for details.
- 3 Locate the main door, insert the key, and open the door.
- 4 Repeat step 2 for Side 2 of the unit.
- 5 Disconnect the cable harness or ribbon cable connection from the Card Reader (see [Figure 9](#) on page 20).

- 6 Use a 1/4 inch nut driver to remove the four hex head screws (see [Figure 9](#)) that secure the Card Reader bracket (see [Figure 9](#)) and the Card Reader to the option door. Dispose of the Card Reader and bracket, unless you want to keep the Card Reader as a used spare part.  
*Note: Make a note of the Card Reader's gasket orientation. This information will be useful when you install the new Card Reader gasket (M00682B001) and bracket (M07574B001). Also, ensure that the option door has been cleaned with isopropyl alcohol and a clean cloth prior to installing the new Card Reader gasket (M00682B001).*
- 7 Remove the old Card Reader gasket from the option door. Use a putty knife, if required.

**Figure 9: Rear View of Encore 500 Main Door with Card Reader**



### Installing the Encore Encrypted Card Reader Assembly

To install this assembly, proceed as follows:

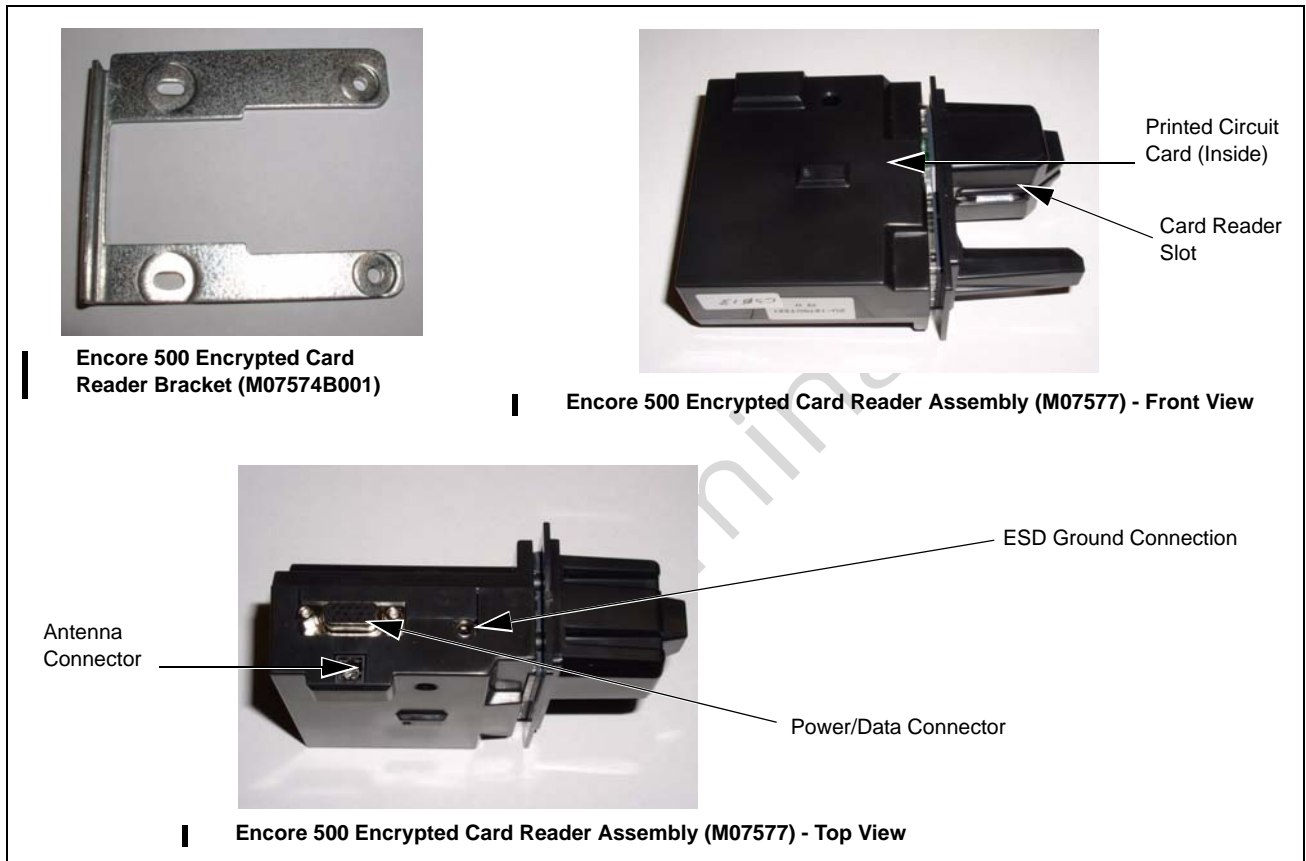
- 1 Remove the adhesive backing from the Card Reader gasket (M00682B001) and place the gasket over the Card Reader opening from the inside of the open main door.

#### CAUTION

A properly grounded ESD wrist strap must be worn when performing step 2. Failure to use electrostatic precautions may damage electronic components and void warranty.

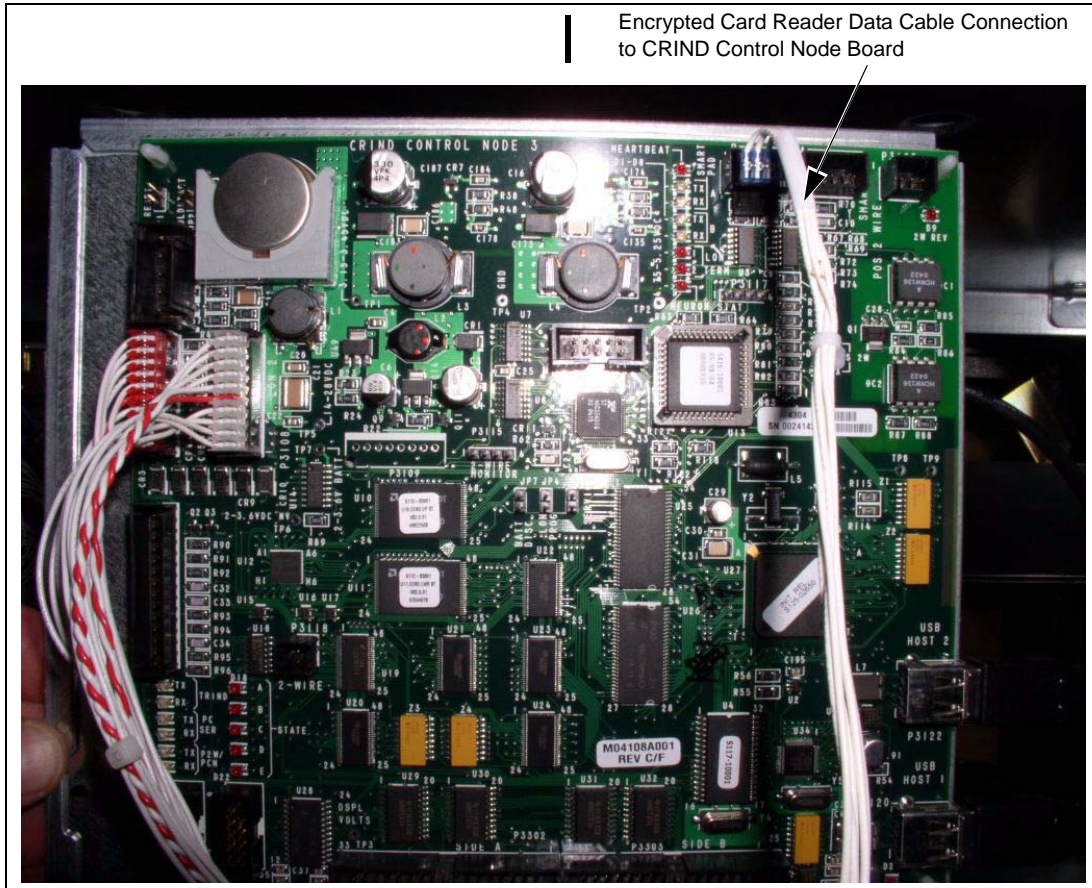
- 2 Obtain the Encrypted Card Reader assembly (M07577B001) ([Figure 10 on page 21](#)) and contactless smart bracket (M07574B001) ([Figure 10 on page 21](#)) from the kit.
- 3 From the rear of the main door, position the Card Reader and then the Card Reader bracket in the door such that the Card Reader slot ([Figure 10 on page 21](#)) is positioned on the top.

Figure 10: Encrypted Card Reader Assembly and Encore 500 Bracket



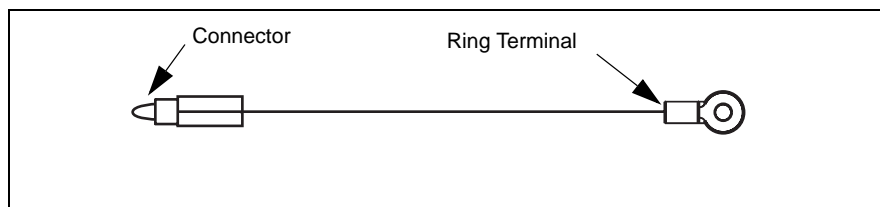
- 4 Loosely secure the Encrypted Card Reader bracket and Card Reader to the main door using the four Q11677-24 screws (provided in the kit) in the Side 4 holes (looking from the back of the Card Reader).
- 5 Remove the power/data cable from the current Card Reader. Remove the ESD Ground Connection cable from the current Card Reader (if it has one).
- 6 Align the Card Reader and bracket. Securely tighten the four mounting screws (Q11677-24).
- 7 Reconnect the 7-pin power/data cable (M07702A003) to the 7-pin Power/Data connector (see [Figure 10](#)) on the Card Reader. If the dispenser is equipped with SmartPad, connect the SmartPad end of the cable (M07702A003) to the SmartPad CRIND keypad connector. If the dispenser is not equipped with SmartPad (that is, has a regular CRIND keypad), do not connect the SmartPad end of the cable (M07702A003), which means that the SmartPad end of the cable (M07702A003) remains loose and the dispenser's CRIND keypad connection remains unaltered.
- 8 Connect the J3101/J3102 end to the SmartPad port on the CRIND Control Node Board (see [Figure 11 on page 22](#)).

Figure 11: CRIND Control Node Board Showing the Connection of J3101/J3102 End to the SmartPad Port



- 9 Insert the connector end of the ESD Ground Card cable (M07709A001) (see [Figure 12](#)) to the ESD Ground Connection (see [Figure 10 on page 21](#)) on the Card Reader.

Figure 12: Encore/Eclipse ESD Ground Card Cable (M07709A001)



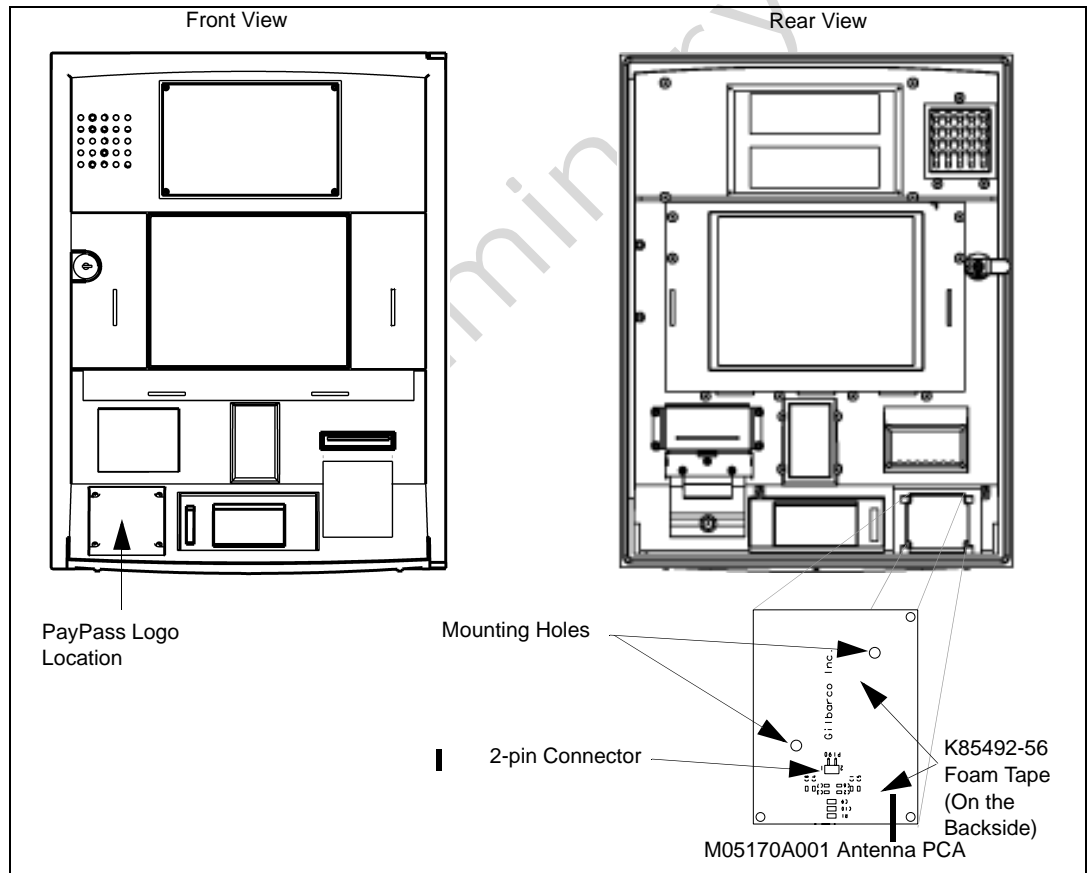
- 10 Locate the ground ring terminal on the lower portion of the monochrome display mounting bracket and remove the screw that secures the ground connection. Retain the screw for reinstallation.
- 11 Connect the ring terminal ([Figure 12](#)) of the ESD Ground Card cable (M07709A001) to the monochrome display mounting bracket ground connection. Secure the connection with the screw and lock washer that was removed in step 10.
- 12 Ensure that all ground cables are secured to the unit with sufficient slack to prevent cable pulls

and pinching.

### Installing the Antenna PCA

The RF antenna must be located directly behind the area where the MasterCard PayPass, American Express ExpressPay and other logo graphics are attached as shown in [Figure 13](#).

**Figure 13: Encore 500 Main Door Showing Antenna PCA Location**



To install the antenna, proceed as follows:

- 1 Locate the area where the antenna PCA will be mounted.
- 2 Using isopropyl alcohol, clean the mounting surface.
- 3 Locate the M05170A001 Antenna PCA and the two 2 inch strips of K85492-56 foam tape in the kit. Install the two strips of foam tape to the antenna's rear surface (non-component side of antenna PCA). These strips may already be installed on the antenna (PCB).
- 4 Peel the protective cover from the foam adhesive strips on the antenna and orient the antenna as shown in [Figure 13 on page 23](#) and attach it to the main door surface by pressing the foam tape firmly against the main door.
- 5 Using two Q11657-290 screws (part of the kit), secure the antenna in place by inserting the screws in the mounting holes ([Figure 13 on page 23](#)) and turning the self-tapping screws into the main door.

### CAUTION

When drilling on the island, always use a non-sparking manual (hand) drill. Else, remove the door and move to a safe place to drill.

*Note: Since there are no pilot holes in the plastic for these antenna mounting screws, significant force is required to get the screws to penetrate the plastic. If problems are encountered, it is acceptable to drill a pilot hole of 1/8 inch diameter or less, by a maximum depth of 3/16 inch to start each screw. Do not completely drill through the plastic.*

- 6 Connect one end of the M07703A001 Antenna Cable to the Card Reader antenna connector of the Encrypted Card Reader top ([Figure 10 on page 21](#)) and the other end of the antenna cable to the 2-pin connector on the M05170A001 PCA antenna ([Figure 13 on page 23](#)).
- 7 Repeat steps 1 to 6 on the other side of the unit.

### Loading the CRIND Software and Purging Persistent Memory

To load the CRIND software, proceed as follows:

- 1 Remove the CRIND two-wire from the CRIND node. This terminates any interference that may occur.
- 2 Connect the Download cable to the laptop and the laptop port on the CRIND node.
- 3 Download the appropriate software to the CRIND node.
- 4 Purge the Persistent Memory after the download is complete.
- 5 Reprogram the CRIND IDs and CRIND node.
- 6 Enable the required options (for example, Cash Acceptors, Barcode Scanners, and so on).



- 7 Connect the two-wire back on the CRIND node. Allow the Point of Sale (POS) to download the CRIND.
- 8 Test the new Card Reader.

### IMPORTANT INFORMATION

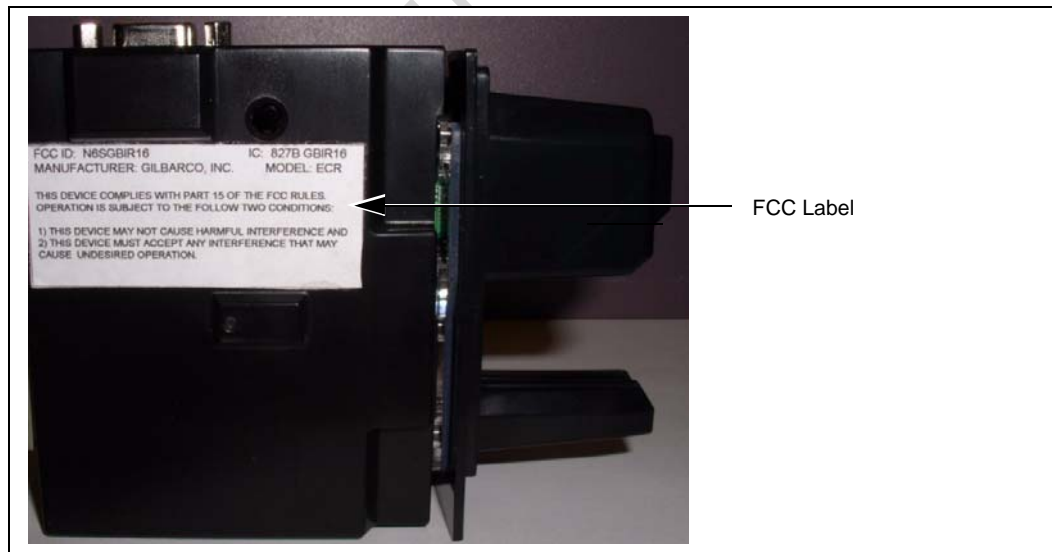
RF Read performance will be severely affected by crimps/bends in the antenna cable.

### Completing Installation for Encore 500 Units

To complete the installation, proceed as follows:

- 1 Install the N23951-11 UL/CA Recognition Decal on the back of the Card Reader as shown in [Figure 14](#).

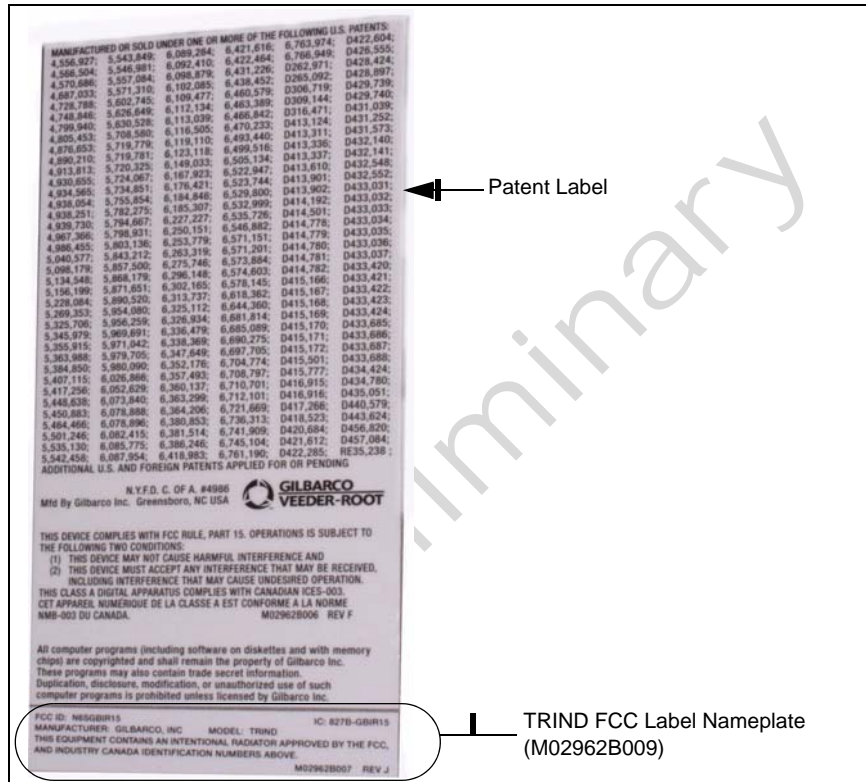
**Figure 14: FCC Label on Smart Card Reader (Side)**



- 2 Close and secure the main doors using the security latch and the main door lock. Reinstall and lock the lower panel door.
- 3 Restore power to the unit. Refer to MDE-4516 Encore 500 S Owners Manual for details.
- 4 Test the RF Readers by sliding the CRIND diagnostic card (Q12534) through both the readers with the magnetic strip facing upwards.
- 5 Verify if a valid read was made from the diagnostic card.
- 6 Pass the Encrypted Card Reader test card in front of the RF antenna (flat side towards the antenna).
- 7 Verify if a valid read was made from the test card. The CRIND beeper will emit an audible beep upon performing a successful read.

*Note: The test card should be read from a minimum distance of 1 inch when presented parallel to the bezel surface.*

- 8 Apply the appropriate graphic logos. These are order entry items. Refer MDE-4625 Graphics Panel Application and Repair for graphic application instructions.
- 9 Obtain the FCC Decal (M02962B009) from the kit and install it under the patent label.



## Installing the M07813K004 Kit in an Encore 500 Unit (without Contactless Card Reader Option)

The installation instructions for the M07813K004 kit are similar to the installation instructions for the M07813K003 kit.

To install the M07813K004 Kit, proceed as follows:

- 1 Remove the existing Card Reader. Refer to [“Removing the Existing Card Reader”](#) on page 19 for instructions.
- 2 Install the Encore Encrypted Card Reader Assembly. Refer to [“Installing the Encore Encrypted Card Reader Assembly”](#) on page 20 for instructions.
- 3 Load the CRIND software and purge the persistent memory. Refer to [“Loading the CRIND Software and Purging Persistent Memory”](#) on page 24 for instructions.
- 4 Complete the installation by referring to [“Completing Installation for Encore 500 Units”](#) on page 25.  
*Note: Do not perform steps 4 to 7.*
- 5 Verify that the Card Reader will read a card.

## Installing the M07813K005 Kit in an Encore 300 Unit (with Contactless Card Reader Option)

When you install an Encrypted Card Reader kit, the existing Card Reader must be removed and replaced with the Encrypted Card Reader.

### Removing the Existing Card Reader

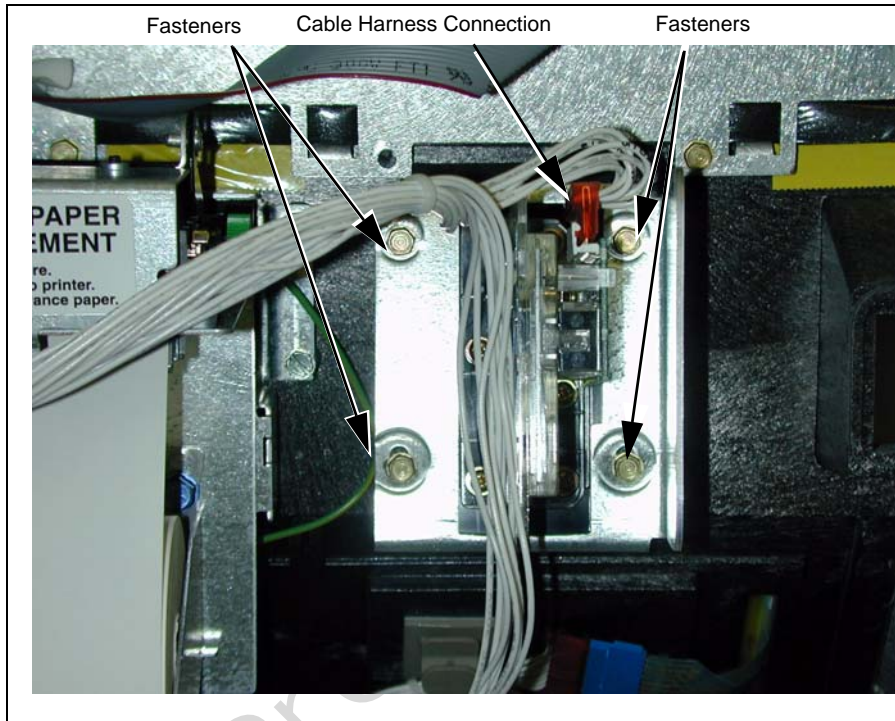
To remove the existing Card Reader, proceed as follows:

*Note: Read all instructions before beginning and observe all safety precautions.*

- 1 Obtain an approval from the store manager or responsible personnel to remove the unit from service.
- 2 Remove AC power to the unit using the station circuit breaker. Refer to MDE-3893 Encore/Eclipse Owners Manual for details.
- 3 Locate the main door, insert the key, and open the door.
- 4 Repeat step 2 for Side 2 of the unit.
- 5 Disconnect the cable harness or ribbon cable connection from the Card Reader (see [Figure 15 on page 28](#)).
- 6 Use a 1/4 inch nut driver to remove the four hex head screws (see [Figure 15 on page 28](#)) that secure the Card Reader bracket (see [Figure 15 on page 28](#)) and the Card Reader to the option door. Dispose of the Card Reader and bracket, unless you want to keep the Card Reader as a used spare part.

*Note: Make a note of the Card Reader's gasket orientation. This information will be useful when you install the new Card Reader gasket (M00682B001) and bracket (M07574B001). Also, ensure that the option door has been cleaned with isopropyl alcohol and a clean cloth prior to installing the new Card Reader gasket (M00682B001).*
- 7 Remove the old Card Reader gasket from the option door. Use a putty knife, if required.

Figure 15: Rear View of Encore 300 Main Door with Card Reader



### Installing the Encore Encrypted Card Reader Assembly

To install this assembly, proceed as follows:

- 1 Remove the adhesive backing from the Card Reader gasket (M00682B001) and place the gasket over the Card Reader opening from the inside of the open main door.

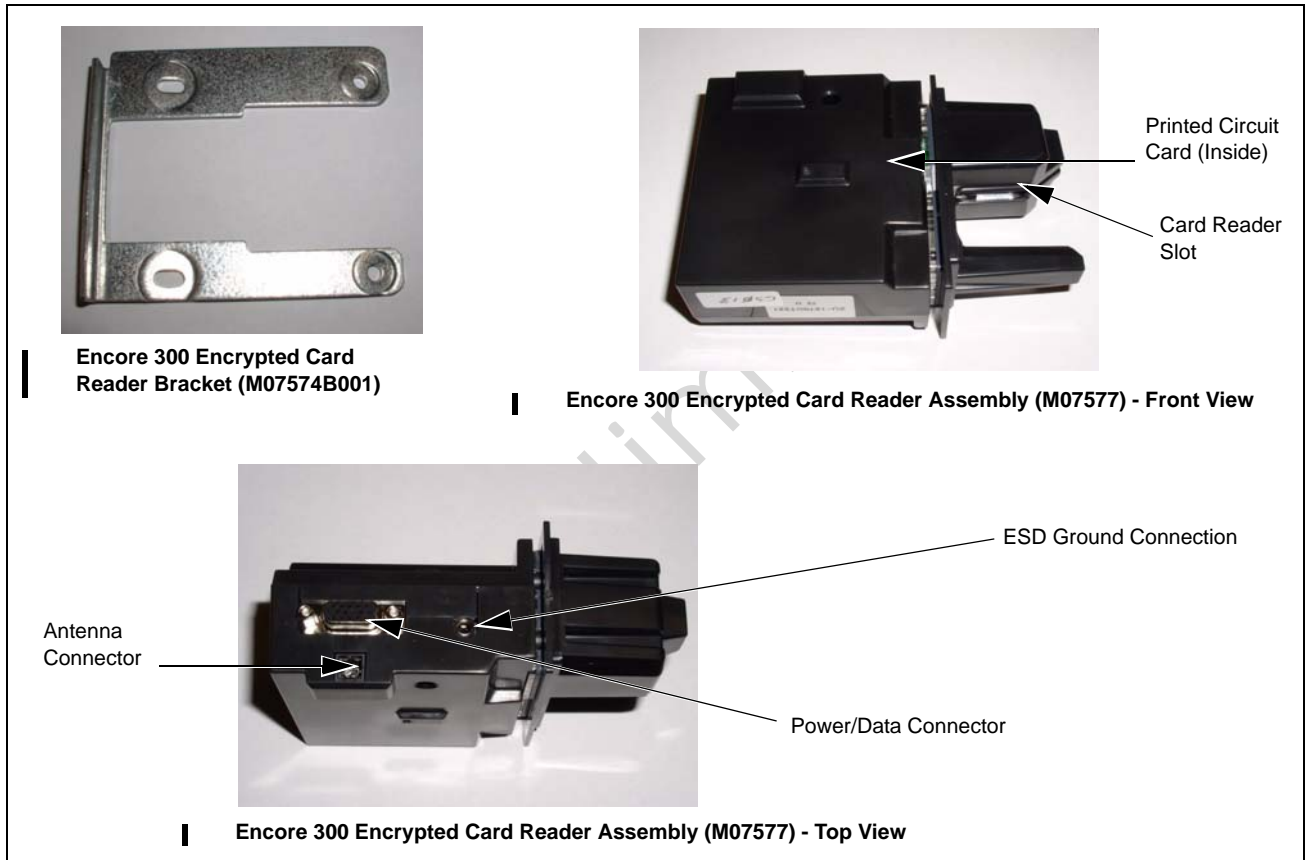
#### CAUTION

A properly grounded ESD wrist strap must be worn when performing step 2. Failure to use electrostatic precautions may damage electronic components and void warranty.

- 2 Obtain the Encrypted Card Reader assembly (M07577B001) (Figure 16 on page 29) and contactless smart bracket (M07574B001) (Figure 16 on page 29) from the kit.

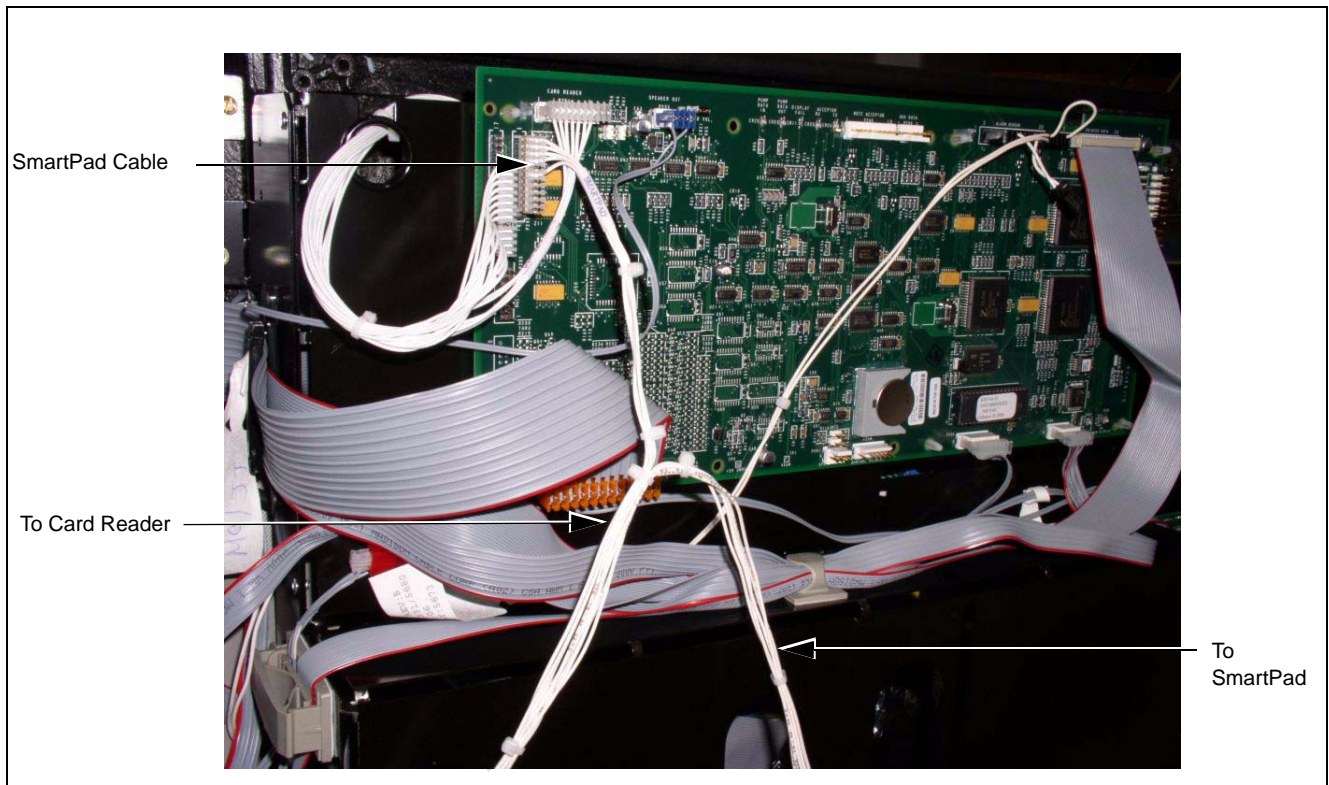
- 3 From the rear of the main door, position the Card Reader and then the Card Reader bracket in the door such that the Card Reader slot (Figure 16) is positioned on the top.

**Figure 16: Encrypted Card Reader Assembly and Encore 300 Bracket**



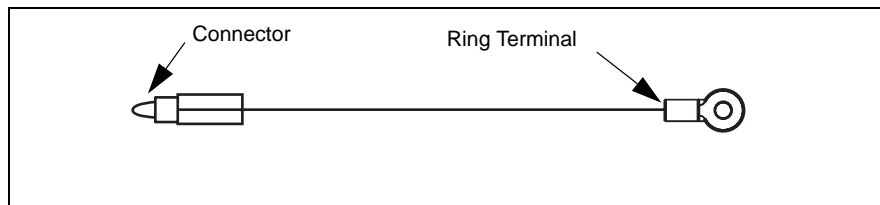
- 4 Loosely secure the Encrypted Card Reader bracket and Card Reader to the main door using the four screws (Q11677-24) provided in the kit, to the four holes (looking from the back of the Card Reader).
- 5 Remove the power/data cable from the current Card Reader. Remove the ESD Ground Connection cable from the current Card Reader (if it has one).
- 6 Align the Card Reader and bracket. Securely tighten the four mounting screws (Q11677-24).
- 7 Reconnect the 7-pin power/data cable (M07702A002) to the 7-pin Power/Data connector (see Figure 16) on the Card Reader. If the dispenser is equipped with SmartPad, connect the SmartPad end of the cable (M07702A002) to the SmartPad CRIND keypad connector. If the dispenser is not equipped with SmartPad (that is, has a regular CRIND keypad), do not connect the SmartPad end of the cable (M07702A002), which means that the SmartPad end of the cable (M07702A002) remains loose and the dispenser's CRIND keypad connection remains unaltered.
- 8 Connect the J282 end of the M07702A002 cable to the SmartPad port on the CRIND Control Logic Board (see Figure 17 on page 30) - either M03651 (current production) or T17764.

**Figure 17: CRIND Control Logic Board (M03651) Showing the Connection of J282 End to the SmartPad Port**



- 9 Insert the connector end of the ESD Ground Card cable (M07709A001) (see [Figure 18](#)) to the ESD Ground Connection (see [Figure 16](#) on page 29) on the Card Reader.

**Figure 18: Encore/Eclipse ESD Ground Card Cable (M07709A001)**

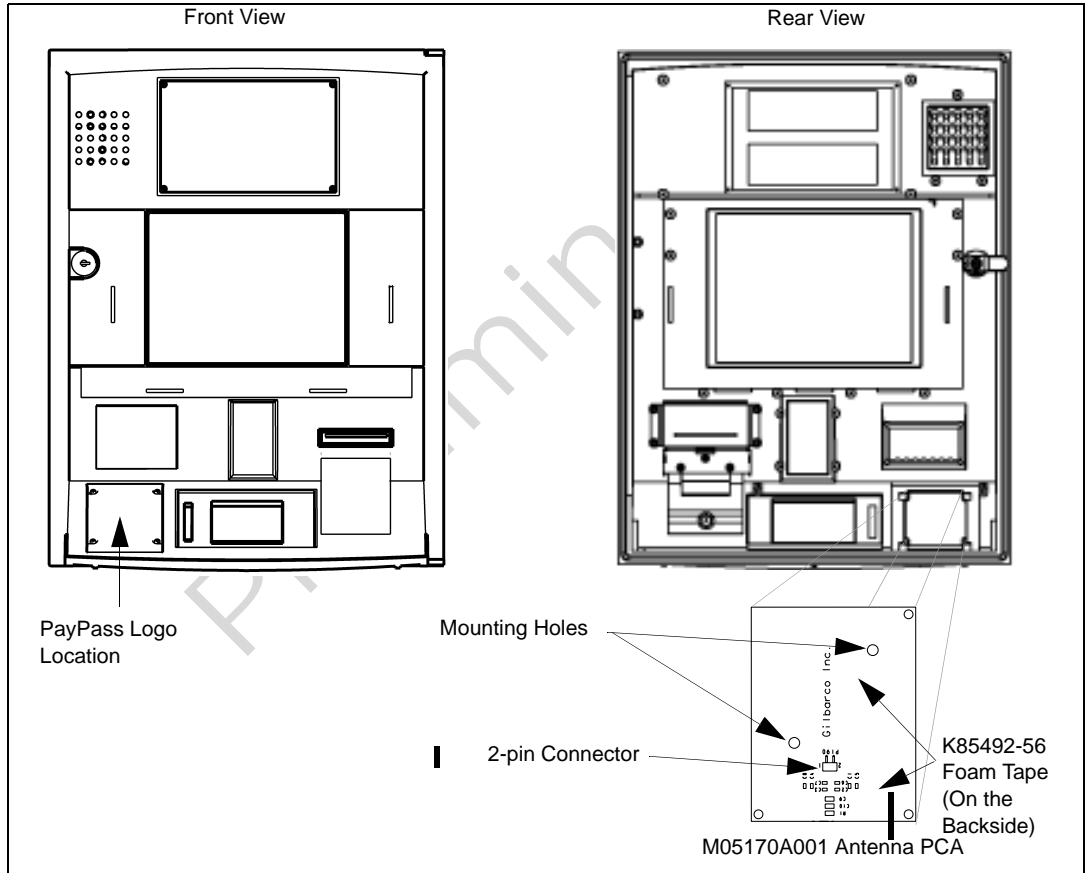


- 10 Locate the ground ring terminal on the lower portion of the monochrome display mounting bracket and remove the screw that secures the ground connection. Retain the screw for reinstallation.
- 11 Connect the ring terminal ([Figure 18](#)) of the ESD Ground Card cable (M07709A001) to the monochrome display mounting bracket ground connection. Secure the connection with the screw and lock washer that was removed in step 10.
- 12 Ensure that all ground cables are secured to the unit with sufficient slack to prevent cable pulls and pinching.

### Installing the Antenna PCA

The RF antenna must be located directly behind the area where the MasterCard PayPass, American Express ExpressPay and other logo graphics are attached as shown in [Figure 19](#).

**Figure 19: Encore 300 Main Door Showing Antenna PCA Location**



To install the antenna, proceed as follows:

- 1 Locate the area where the antenna PCA will be mounted.
- 2 Using isopropyl alcohol, clean the mounting surface.
- 3 Locate the M05170A001 Antenna PCA and the two 2 inch strips of K85492-56 foam tape in the kit. Install the two strips of foam tape to the antenna's rear surface (non-component side of antenna PCA). These strips may already be installed on the antenna (PCB).
- 4 Peel the protective cover from the foam adhesive strips on the antenna and orient the antenna as shown in [Figure 19 on page 31](#) and attach it to the main door surface by pressing the foam tape firmly against the main door.
- 5 Using two Q11657-290 screws (part of the kit), secure the antenna in place by inserting the screws in the mounting holes ([Figure 19 on page 31](#)) and turning the self-tapping screws into the main door.

### CAUTION

When drilling on the island, always use a non-sparking manual (hand) drill. Else, remove the door and move to a safe place to drill.

*Note: Since there are no pilot holes in the plastic for these antenna mounting screws, significant force is required to get the screws to penetrate the plastic. If problems are encountered, it is acceptable to drill a pilot hole of 1/8 inch diameter or less, by a maximum depth of 3/16 inch to start each screw. Do not completely drill through the plastic.*

- 6 Connect one end of the M07703A001 Antenna Cable to the Card Reader antenna connector of the Encrypted Card Reader top ([Figure 16 on page 29](#)) and the other end of the antenna cable to the 2-pin connector on the M05170A001 PCA antenna ([Figure 19 on page 31](#)).
- 7 Repeat steps 1-6 on the other side of the unit.

### **Cold-starting the CRIND Devices using the M03651A001, A002 and T17764 CRIND Logic Boards**

- 1 Locate the CRIND Logic Board (s) on side 1 and side 2 main doors.
- 2 Use a chip remover to remove the current firmware chip located at U7 (located directly above connector P266).
- 3 On side 1 of the unit, install the required firmware chip at U7 on the CRIND Logic Board. Repeat the procedure on the other side of the unit.
- 4 Install a jump jack on JP-19 (cold-start) on both side 1 and side 2, if you are using the M03651A001 or A002 CRIND Logic Board. If you are using the T17764 CRIND Logic Board install a jump jack on JP-11 (cold-start) on the CRIND Logic Boards on both sides of the unit.



- 5 Power-up the dispenser. At this point, both CRIND devices will cold-start and start a download sequence. Once the download sequence starts, you can remove the jump jacks from JP-19 or JP-11 (as applicable) on both the CRIND Logic Boards. If you wait too long, a message will be displayed on the CRIND display prompting you to remove the jump jacks.

Once the CRIND devices have completed the download process, they will automatically start communicating with the POS.

### IMPORTANT INFORMATION

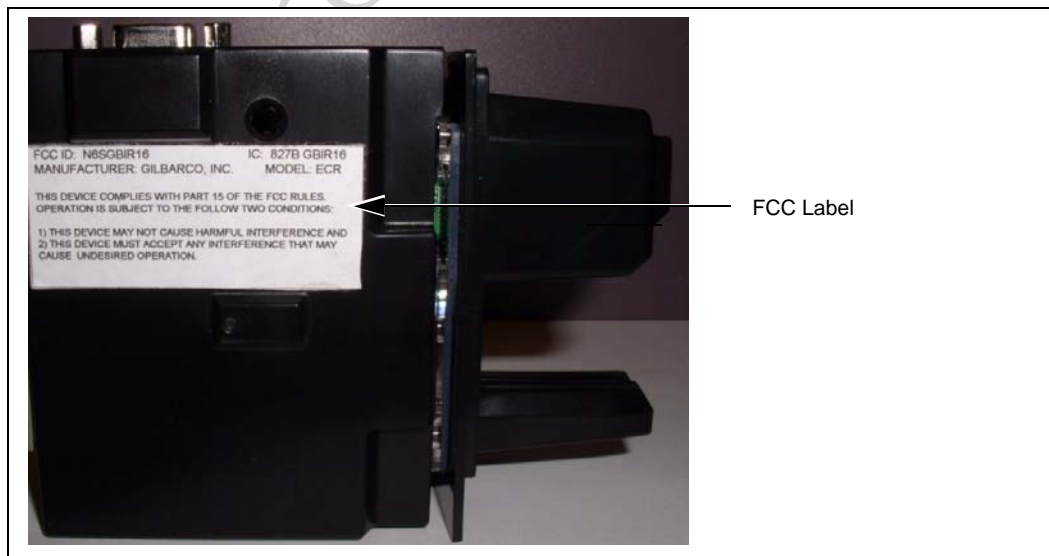
- RF Read performance will be severely affected by crimps/bends in the antenna cable.

### Completing Installation for Encore 300 Units

To complete the installation, proceed as follows:

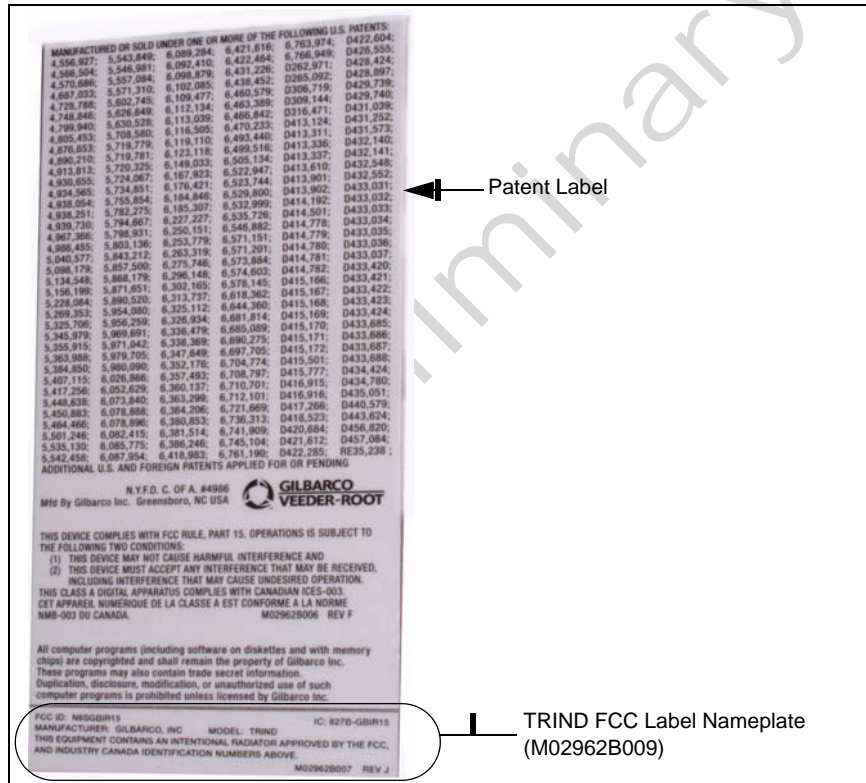
- 1 Install the N23951-11 UL/CA Recognition Decal on the back of the Card Reader as shown in [Figure 20](#).

**Figure 20: FCC Label on Smart Card Reader (Side)**



- 2 Close and secure the main doors using the security latch and the main door lock. Reinstall and lock the lower panel door.
- 3 Restore power to the unit. Refer to MDE-3893 Encore and Eclipse Owner's Manual for details.
- 4 Test the RF Readers by sliding the CRIND diagnostic card (Q12534) through both the readers with the magnetic strip facing upwards.
- 5 Verify if a valid read was made from the diagnostic card.
- 6 Pass the Encrypted Card Reader test card in front of the RF antenna (flat side towards the antenna).

- 7 Verify if a valid read was made from the test card. The CRIND beeper will emit an audible beep upon performing a successful read.  
*Note: The test card should be read from a minimum distance of 1 inch when presented parallel to the bezel surface.*
- 8 Apply the appropriate graphic logos. These are order entry items. Refer MDE-4625 Graphics Panel Application and Repair for graphic application instructions.
- 9 Obtain the FCC Decal (M02962B009) from the kit and install it under the patent label.



## Installing the M07813K006 Kit in an Encore 300 Unit (without Contactless Card Reader Option)

The installation instructions for the M07813K006 kit are similar to the installation instructions for the M07813K005 kit.

To install the M07813K006 Kit, proceed as follows:

- 1 Remove the existing Card Reader. Refer to [“Removing the Existing Card Reader”](#) on page 27 for instructions.
- 2 Install the Encore Encrypted Card Reader Assembly. Refer to [“Installing the Encore Encrypted Card Reader Assembly”](#) on page 28 for instructions.

- 3 Cold-start the CRIND Devices. Refer to [“Cold-starting the CRIND Devices using the M03651A001, A002 and T17764 CRIND Logic Boards”](#) on page 32 for instructions.
- 4 Complete the installation by referring to [“Completing Installation for Encore 300 Units”](#) on page 33.  
*Note: Do not perform steps 4 to 7.*
- 5 Verify that the Card Reader will read a card.

## Installing the M07813K007 Kit in an Advantage Series Unit Using Space Reserved for Cash Acceptor (with Contactless Card Reader Option)

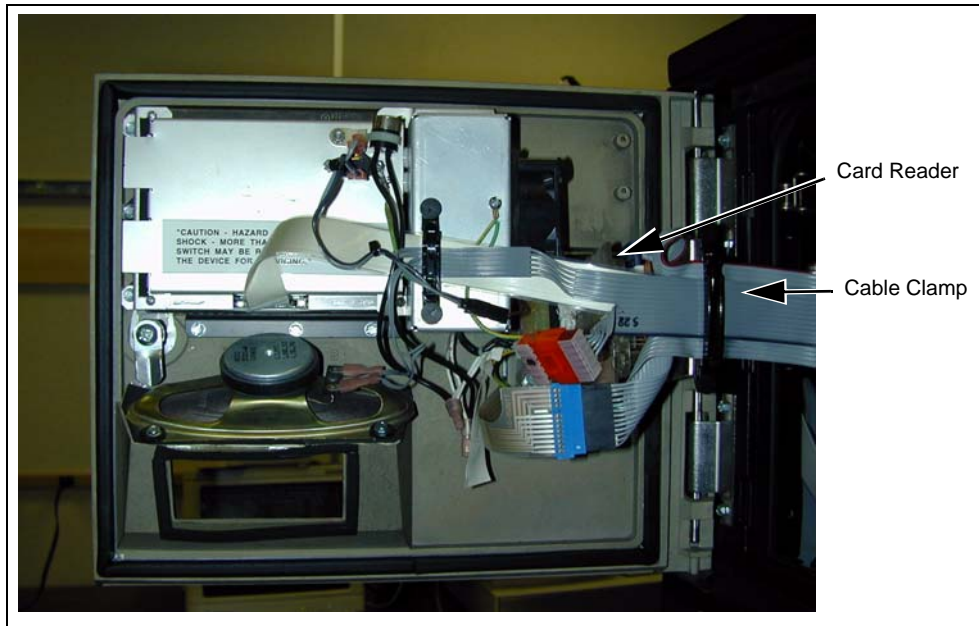
When you install an Encrypted Card Reader kit, the existing Card Reader must be removed and replaced with the Encrypted Card Reader.

### Removing the Existing Card Reader

*Note: Read all instructions before beginning and observe all safety precautions.*

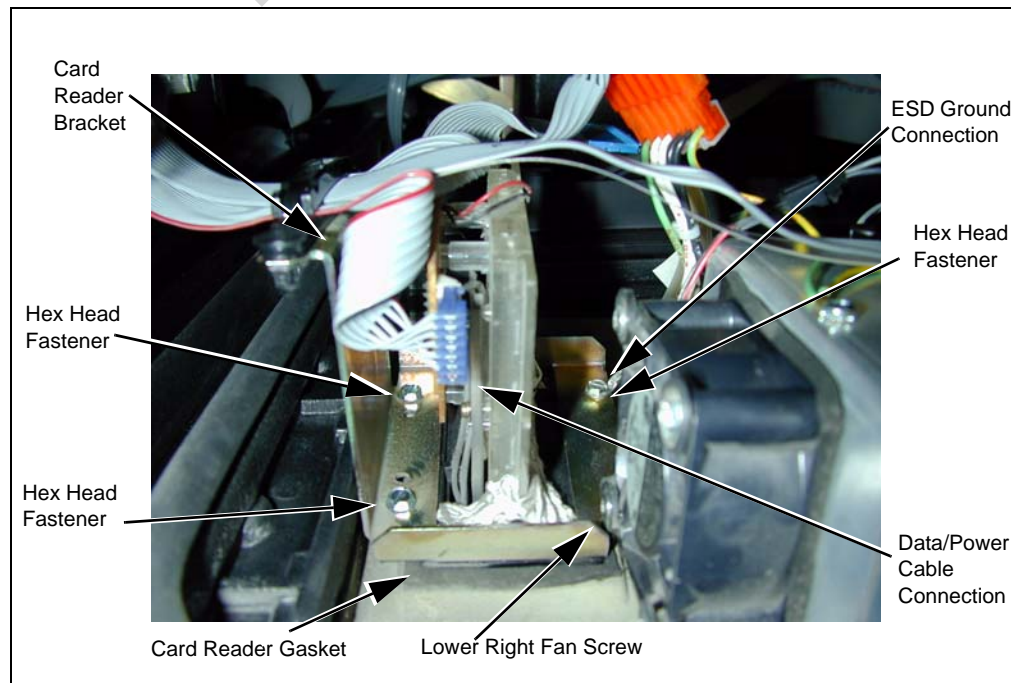
- 1 Obtain an approval from the store manager or responsible personnel to remove the unit from service.
- 2 Remove power to the unit. Refer to MDE-2540 The Advantage, Legacy and MPD Series Owner’s Manual for information on removing system power.
- 3 Using the key open the left and right option doors.
- 4 From side 1, unlatch the four draw latches located behind the right and left option doors. Use a 5/32 inch Allen wrench or 3/8 Hex to loosen the four screws at the bottom of the main access door.
- 5 On side 1, open the main access door by lifting slightly. Place the main access door hinge bracket pin into the end slot/lock position. This locks into a maximum 90° angle.
- 6 Carefully remove the cable clamp (see [Figure 21 on page 36](#)) from the Card Reader mounting bracket (leave it attached to the cables). Ensure that you do not damage the clamp because it will be reattached to the new bracket after the new Card Reader is installed.

Figure 21: Left Option Door Opened



- 7 Disconnect the Data/Power cable connection (see [Figure 22](#)) from the Card Reader.

Figure 22: Top View of the Card Reader Mounted in the Option Door



- 8 Using a cross-tip screwdriver, remove the screw that secures the ESD ground cable ([Figure 22](#)) to the option door chassis.

- 9 Using a 1/4 inch nut driver, remove the four hex head screws (Figure 22 on page 36) that secure the Card Reader bracket (Figure 22 on page 36) and the Card Reader to the option door. Dispose of the Card Reader.

*Note: Make a note of the Card Reader's gasket orientation. This information will be useful when installing the new Card Reader Gasket. Also, ensure that the option door surface has been cleaned with isopropyl alcohol and a clean cloth prior to installing the new Card Reader gasket.*

- 10 Remove the old Card Reader gasket (Figure 22 on page 36) from the option door. Use a putty knife, if necessary.
- 11 If installing an Encrypted Card Reader assembly on side 2, repeat the steps from Note: to step 10.

### Installing the Advantage Encrypted Card Reader Assembly

To install this assembly, proceed as follows:

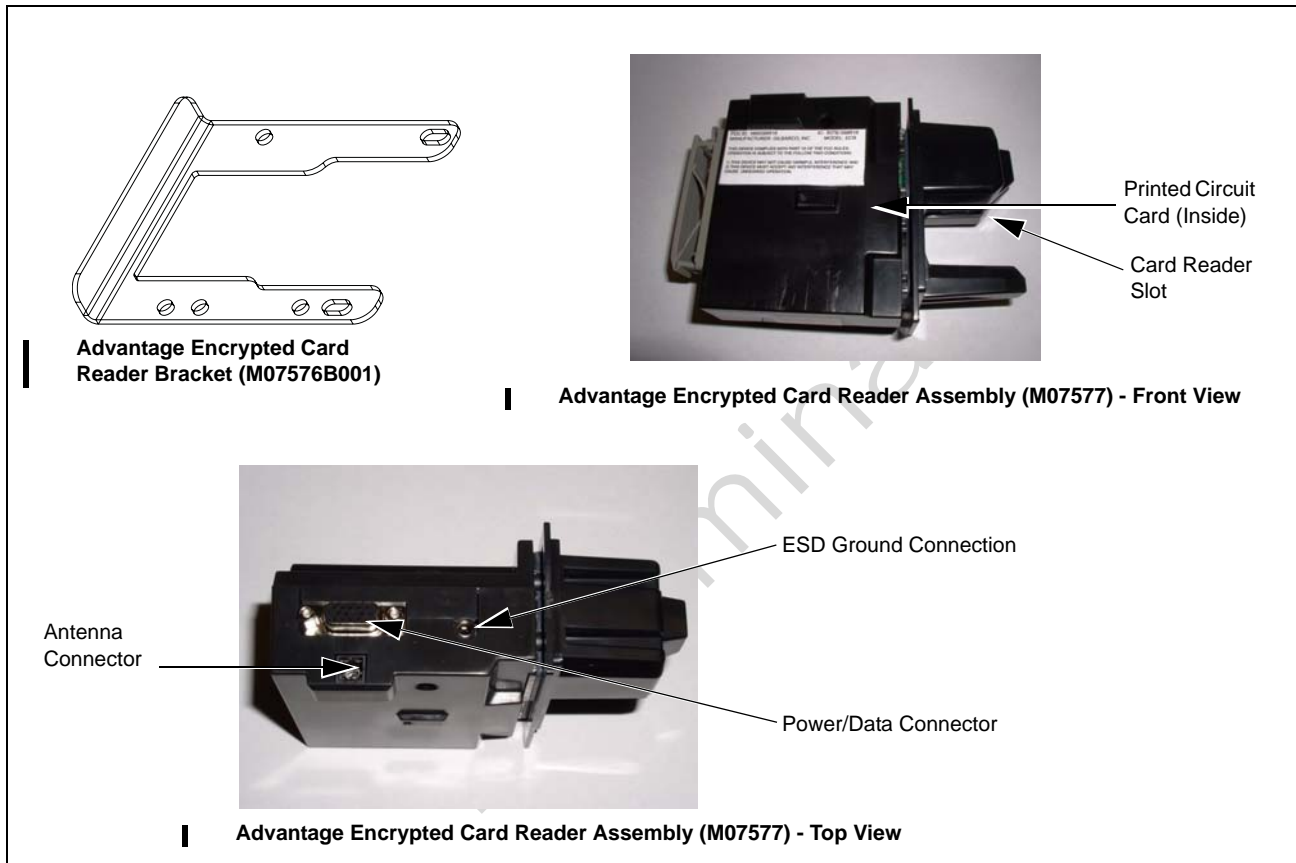
- 1 Remove the adhesive backing from the Card Reader gasket (M00682B001) and place the gasket over the Card Reader opening from the inside of the open main door.

#### CAUTION

A properly grounded ESD wrist strap must be worn when performing step 2. Failure to use electrostatic precautions may damage electronic components and void warranty.

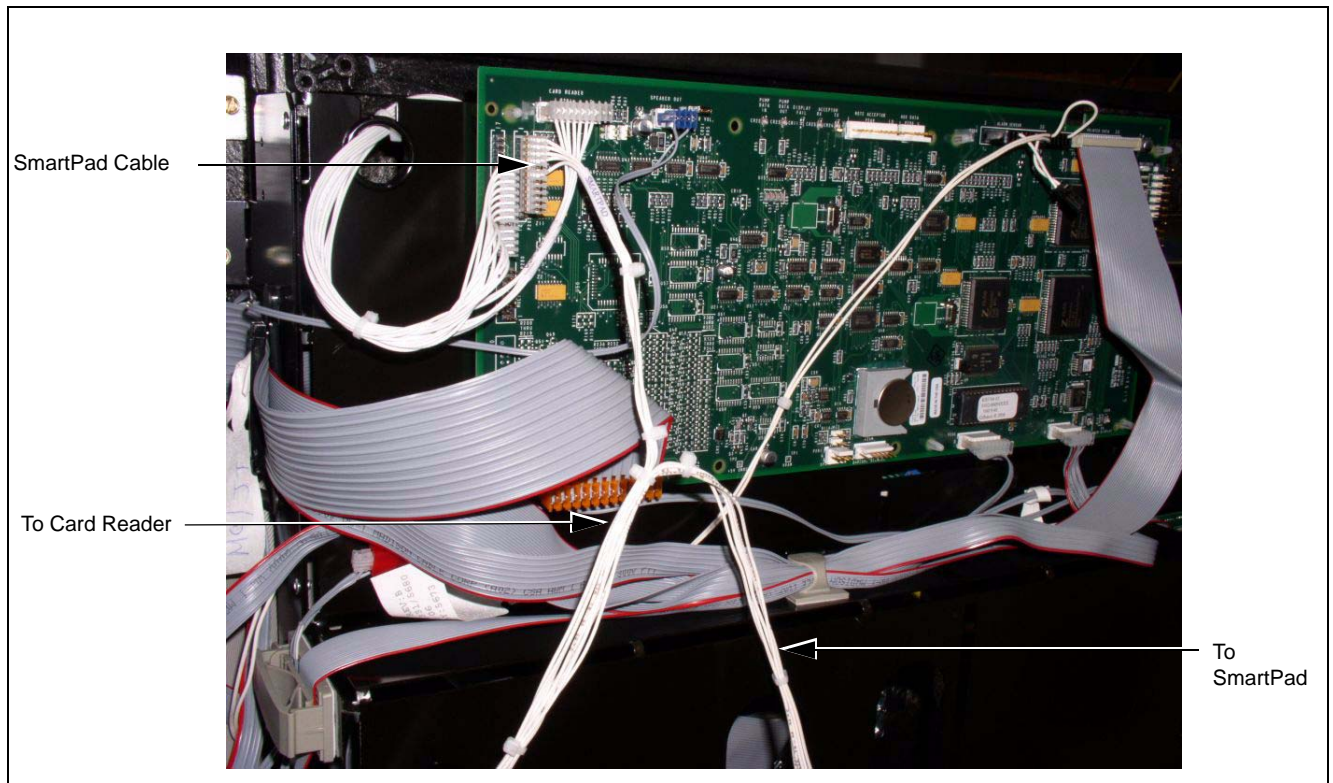
- 2 Obtain the Encrypted Card Reader assembly (M07577B001) (Figure 23 on page 38) and contactless smart bracket (M07576B001) (Figure 23 on page 38) from the kit.
- 3 From the rear of the main door, position the Card Reader and then the Card Reader bracket in the door such that the Card Reader slot (Figure 23 on page 38) is positioned on the top.

Figure 23: Encrypted Card Reader Assembly and Advantage Bracket



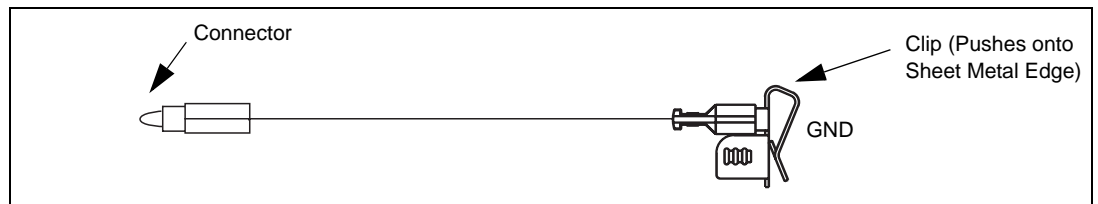
- 4 Loosely secure the Encrypted Card Reader bracket and Card Reader to the main door using the four screws (Q11677-24) provided in the kit, to the four holes (looking from the back of the Card Reader).
- 5 Remove the power/data cable from the current Card Reader. Remove the ESD Ground Connection cable from the current Card Reader (if it has one).
- 6 Align the Card Reader and bracket. Securely tighten the four mounting screws (Q11677-24).
- 7 Reconnect the 7-pin power/data cable (M07702A004) to the 7-pin Power/Data connector (see [Figure 23](#)) on the Card Reader. If the dispenser is equipped with SmartPad, connect the SmartPad end of the cable (M07702A004) to the SmartPad CRIND keypad connector. If the dispenser is not equipped with SmartPad (that is, has a regular CRIND keypad), do not connect the SmartPad end of the cable (M07702A004), which means that the SmartPad end of the cable (M07702A004) remains loose and the dispenser's CRIND keypad connection remains unaltered.
- 8 Connect the J282 end to the SmartPad port on the CRIND Control Logic Board (see [Figure 24 on page 39](#)).

**Figure 24: CRIND Logic Board Showing the Connection of J282 End to the SmartPad Port**



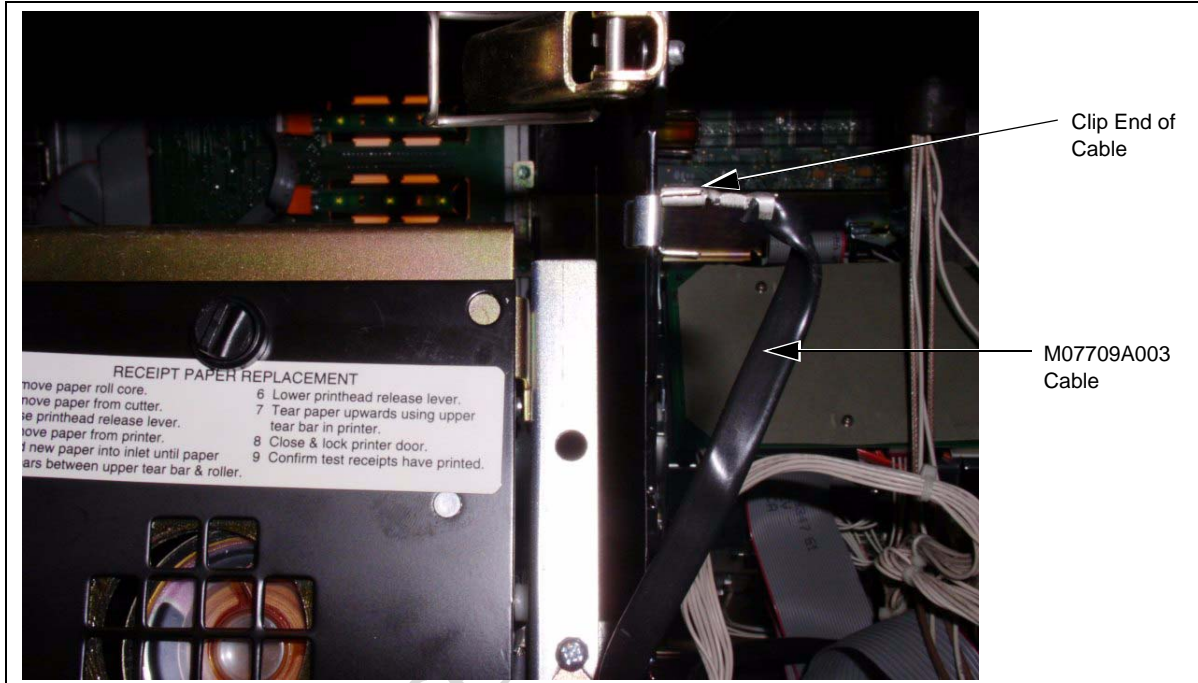
- 9 Insert the connector end of the ESD Ground Card cable (M07709A003) (see [Figure 25](#)) to the ESD Ground Connection (see [Figure 23 on page 38](#)) on the Card Reader.

**Figure 25: Advantage ESD Ground Card Cable (M07709A003)**



- 10 Connect the clip end ([Figure 25](#)) of the ESD Ground Card cable (M07709A003) to the sheet metal inside the Advantage Series unit head (see [Figure 26 on page 40](#)).

Figure 26: Advantage ESD Card Reader Ground Cable M07709A003



## Installing the Antenna PCA

*Note: Installation of the PCA antenna will require positioning the antenna as shown in [Figure 27 on page 41](#). Using cloth and isopropyl alcohol, remove any dust or dirt from the antenna location prior to removing the adhesive backing from the PCA antenna.*

- 1 Locate the M05170A001 Antenna PCA and two 2 inch strips of K85492-56 foam tape in the kit and install the two strips of foam tape to the antenna's rear surface (non-component side of antenna PCA). These strips may already be installed.
- 2 Peel the protective cover from the foam adhesive strips on the antenna and carefully position the antenna under the Card Reader as shown on [Figure 27 on page 41](#) and press firmly into place.
- 3 Using the two screws (Q11657-290) provided in the kit, secure the antenna in place by inserting the screws in the mounting holes ([Figure 27 on page 41](#)) and turning the self-tapping screws into the option door.

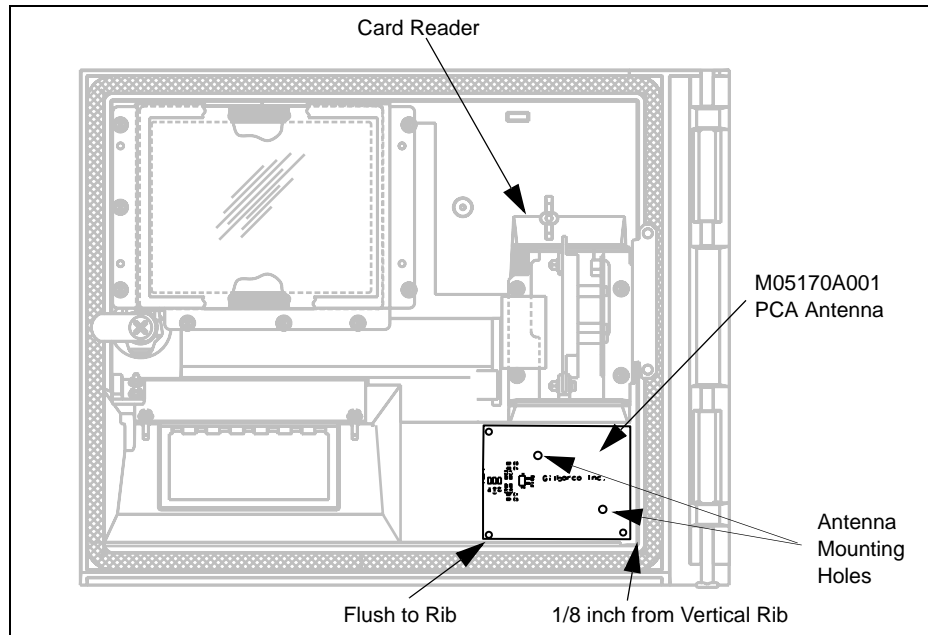
### CAUTION

When drilling on the island, always use a non-sparking manual (hand) drill. Else, remove the door and move to a safe place to drill.



*Note: Since there are no pilot holes in the plastic for these antenna mounting screws, significant force is typically required to get the screws to penetrate the plastic. If problems are encountered, it is acceptable to drill a pilot hole of 1/8 inch diameter or less, by a maximum depth of 3/16 inch to start each screw. **Do not** completely drill through the plastic.*

**Figure 27: PCA Antenna Location**



*Note: A graphic on the outside of the door indicates the antenna location.*

## CAUTION

Refer to [Figure 23 on page 38](#) and ensure that the Antenna Cable is inserted into the 2-pin Antenna connector on the Encrypted Card Reader assembly. Failure to connect the cable properly will damage the card reader.

- 4 Connect one end of the M07703A001 antenna cable to the Card Reader antenna connector of the Encrypted Card Reader top (see [Figure 23 on page 38](#)) and the other end of the antenna cable to the 2-pin connector on the M05170A001 PCA antenna (see [Figure 27](#)).
- 5 Connect the other end of the antenna cable to the 2-pin RF connector on the M05170A001 PCA antenna ([Figure 27](#)).
- 6 Dress the cables properly to avoid pinching during door opening and closing. Use Q13558-04 Cable Mounts as required.

## **Cold-starting the CRIND Devices using the M03651A001, A002 and T17764 CRIND Logic Boards**

To cold-start the CRIND devices, proceed as follows:

- 1 Locate the CRIND Logic Board (s).
- 2 Use a chip remover to remove the current firmware chip located at U7 (located directly above connector P266).
- 3 On side 1 of the unit, install the required firmware chip at U7 on the CRIND Logic Board. Repeat the procedure on the other side of the unit.
- 4 Install a jump jack on JP-19 (cold-start) on both side 1 and side 2, if you are using the M03651A001 or A002 CRIND Logic Board. If you are using the T17764 CRIND Logic Board install a jump jack on JP-11 (cold-start) on the CRIND Logic Boards on both sides of the unit.
- 5 Power-up the dispenser. At this point, both CRIND devices will cold-start and start a download sequence. Once the download sequence starts, you can remove the jump jacks from JP-19 or JP-11 (as applicable) on both the CRIND Logic Boards. If you wait too long, a message will be displayed on the CRIND display prompting you to remove the jump jacks.
- 6 Once the CRIND devices have completed the download process, they will automatically start communicating with the POS.

<b>IMPORTANT INFORMATION</b>
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- |  |
|--|
| <b>I</b> RF Read performance will be severely affected by crimps/bends in the antenna cable. |
|--|

## **Completing Installation for the Advantage Series Units**

To complete the installation, proceed as follows:

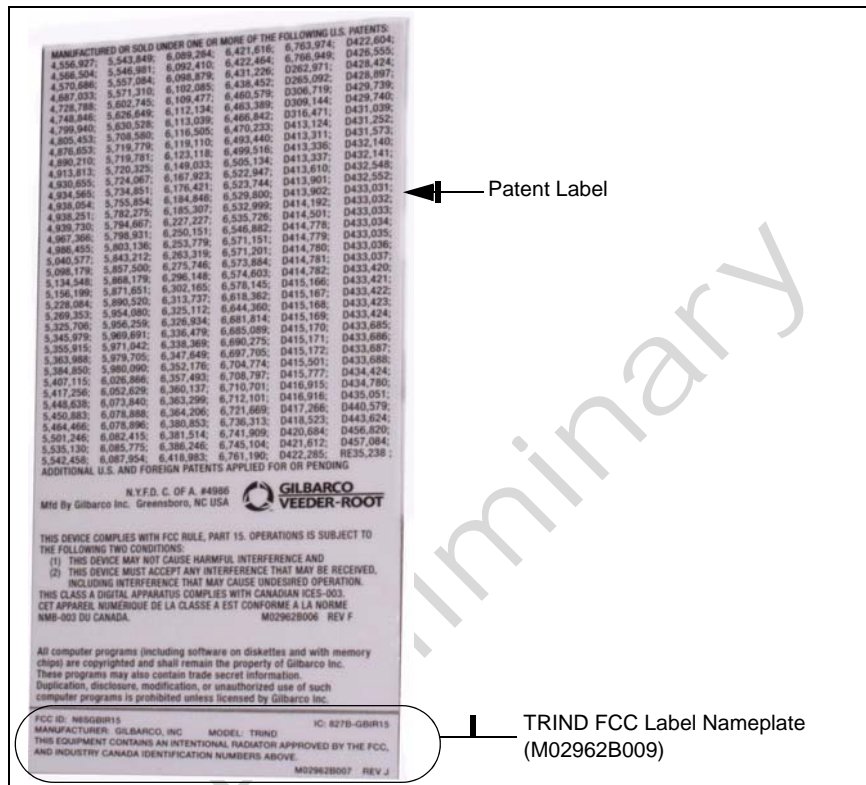
- 1 Install the N23951-11 UL/CA Recognition Decal on the back of the Card Reader as shown in [Figure 28 on page 43](#).
- 2 Install the Cable Mounting Clamp (Q13459-01) to the rear of the Card Reader and dress cables through it.

Figure 28: FCC Label on Smart Card Reader (Side)



- 3 Close and secure the main doors using the security latch and the main door lock. Reinstall and lock the lower panel door.
- 4 Restore power to the unit. Refer to MDE-2540 The Advantage, Legacy, and MPD Series Owners Manual for details.
- 5 Test the RF Readers by sliding the CRIND diagnostic card (Q12534) through both the readers with the magnetic strip facing upwards.
- 6 Verify if a valid read was made from the diagnostic card.
- 7 Pass the Encrypted Card Reader test card in front of the RF antenna (flat side towards the antenna).
- 8 Verify if a valid read was made from the test card. The CRIND beeper will emit an audible beep upon performing a successful read.  
*Note: The test card should be read from a minimum distance of 1 inch when presented parallel to the bezel surface.*
- 9 Apply the appropriate graphic logos. These are order entry items. Refer MDE-4625 Graphics Panel Application and Repair for graphic application instructions.

10 Obtain the FCC Decal (M02962B009) from the kit and install it under the patent label.



## Installing the M07813K008 Kit in an Advantage Series Unit Reserving Space for Cash Acceptor (with Contactless Card Reader Option)

The installation instructions for this kit are similar to the installation instructions for the M07813K007 kit. However, the space where the antenna should be installed should be on the right Options door, since a cash acceptor is either being used, or the space is being reserved for a future cash acceptor on the left Options door.

To install the M07813K008 Kit, proceed as follows:

- 1 Remove the existing Card Reader. Refer to [“Removing the Existing Card Reader”](#) on page 35 for instructions.
- 2 Install the Advantage Encrypted Card Reader assembly. Refer to [“Installing the Advantage Encrypted Card Reader Assembly”](#) on page 37 for instructions.
- 3 Install the Antenna PCA. Refer to [“Installing the Antenna PCA”](#) on page 45 for instructions.
- 4 Cold-start the CRIND device. Refer to [“Cold-starting the CRIND Devices using the M03651A001, A002 and T17764 CRIND Logic Boards”](#) on page 42 for details.
- 5 Complete the installation by referring to [“Completing Installation for the Advantage Series Units”](#) on page 42.

## Installing the Antenna PCA

*Note: Installation of the PCA antenna will require positioning the antenna as shown in [Figure 29 on page 46](#). Using cloth and isopropyl alcohol, remove any dust or dirt from the antenna location prior to removing the adhesive backing from the PCA antenna.*

- 1 Open the right side of the option door.
- 2 Refer to [Figure 29 on page 46](#) and mark the proposed position of the antenna on the back of the right hand option door.
- 3 Locate the M05170A001 Antenna PCA and the two 2 inch strips of K85492-56 foam tape in the kit and install the two strips of foam tape to the antenna's rear surface (non-component side of antenna PCA). These strips may be already installed on the PCA.
- 4 Peel the protective cover from the foam adhesive strips on the antenna and carefully position the antenna in the position marked in the previous step (step 3) as shown in [Figure 29 on page 46](#) and press firmly into place.
- 5 Using the two Q11657-290 screws (part of the kit), secure the antenna in place by inserting the screws in the mounting holes ([Figure 29 on page 46](#)) and turning the self-tapping screws into the option door.

### CAUTION

When drilling on the island, always use a non-sparking manual (hand) drill. Else, remove the door and move to a safe place to drill.

*Note: Since there are no pilot holes in the plastic for these antenna mounting screws, significant force is typically required to get the screws to penetrate the plastic. If problems are encountered, it is acceptable to drill a pilot hole of 1/8 inch diameter or less, by a maximum depth of 3/16 inch to start each screw. **Do not** completely drill through the plastic.*

- 6 Connect one end of the M07703A002 antenna cable to the Card Reader antenna connector of the encrypted Card Reader top (see [Figure 23 on page 38](#)) and the other end of the antenna cable to the 2-pin connector on the M05170A001 PCA antenna (see [Figure 29 on page 46](#)).

Figure 29: Antenna PCA Location on the Right Side of the Option Door

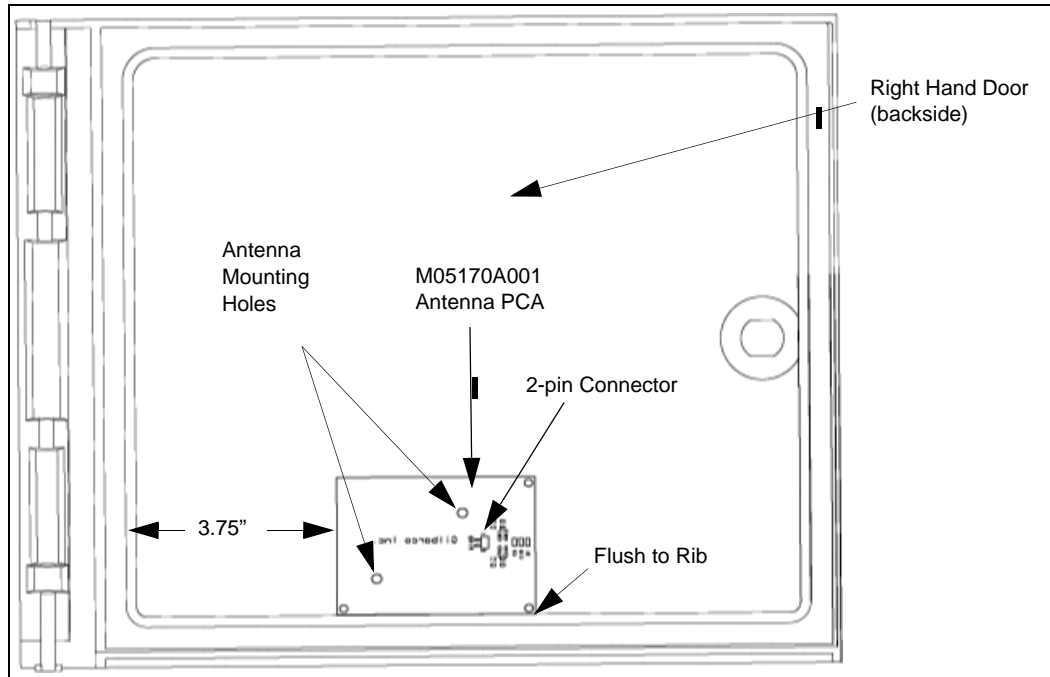
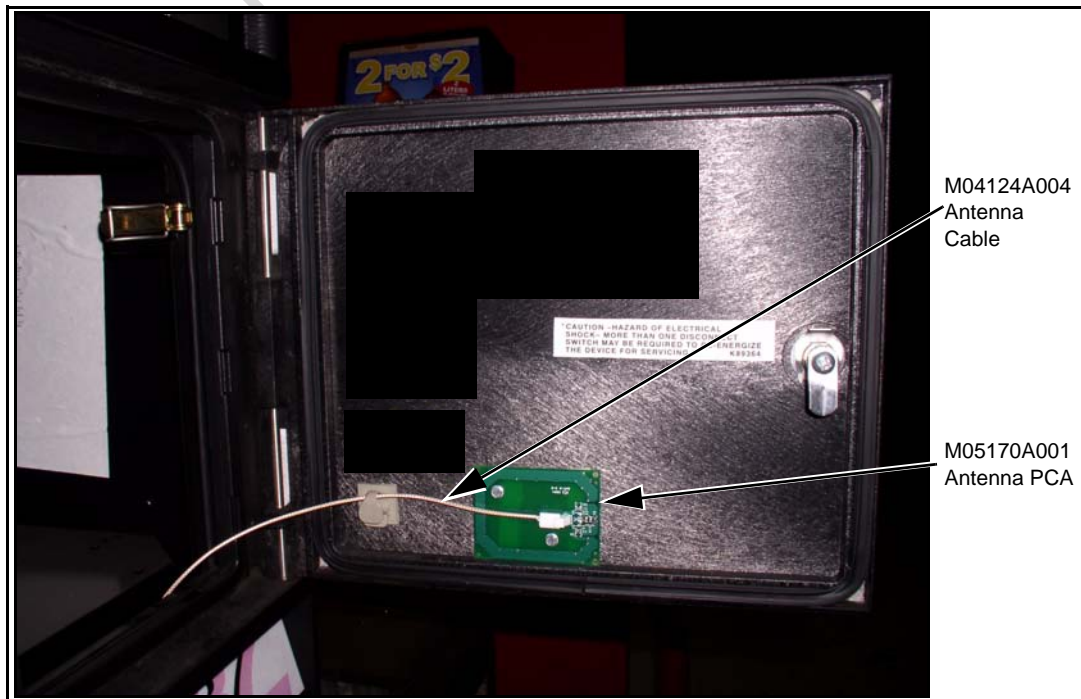


Figure 30: Antenna PCA Mounted on the Right Side Option Door



**CAUTION**

Refer to [Figure 29 on page 46](#) and [Figure 30 on page 46](#) and ensure that the Antenna Cable is inserted into the 2-pin Antenna connector on the dual-head card assembly. Failure to connect the cable properly will damage the card reader.

- 7 Use the cable mounts (Q13558-04) to properly dress the cables, to avoid pinching or excessive stretching during opening/closing of either or both doors (see [Figure 29 on page 46](#)).

**IMPORTANT INFORMATION**

RF Read performance will be severely affected by crimps/bends in the antenna cable.

**Figure 31: Cable Properly Dressed from the Antenna to the Card Reader  
(Looking at the Rear of the Right Door with the Door Closed)**



- 8 Repeat the steps 1 to 7 for the other side of the unit.

## Installing the M07813K009 Kit in an Advantage Series Unit Using Space Reserved for Cash Acceptor on the Left Options Door (without Contactless Card Reader Option)

The installation instructions for this kit are similar to the installation instructions for the M07813K007 kit. The difference is that there is no Contactless Card Reader option.

To install the M07813K009 kit, proceed as follows:

- 1 Remove the existing Card Reader. Refer to [“Removing the Existing Card Reader” on page 35](#) for instructions.
- 2 Install the Advantage Encrypted Card Reader assembly. Refer to [“Installing the Advantage Encrypted Card Reader Assembly” on page 37](#) for instructions.
- 3 Cold-start the CRIND device. Refer to [“Cold-starting the CRIND Devices using the M03651A001, A002 and T17764 CRIND Logic Boards” on page 42](#) for details.
- 4 Complete the installation by referring to [“Completing Installation for the Advantage Series Units” on page 42](#).  
*Note: Do not perform steps 5 to 10.*
- 5 Verify that the Card Reader will read a card.

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