GILBARCO
VEEDER-ROOT

MDE-4098C
Monochrome Tilt Bezel Retrofit Kits
M02225K00X Installation Manual
February 2009

Introduction

Purpose

This manual provides instructions for installing the Monochrome Tilt Bezel Retrofit Kit M02225K00X for the Encore® Series 300 and 500 units.

Intended Users

This manual is intended for Gilbarco® Authorized Service Contractors (ASCs). It is recommended that the retrofit kit be installed by a Gilbarco ASC.
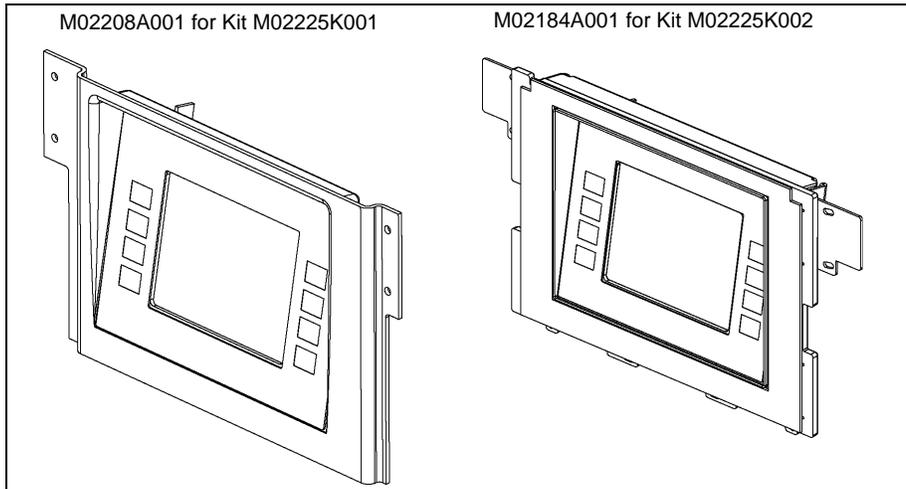
Overview

Installation of these kits provide an improvement in the level of monochrome display visibility by angling the display away from the viewer (see Figure 1 on page 2). These kits are specified for use in one and two-sided Encore 300 and 500 units. A dual-sided unit would require a quantity of two kits.

These kits have been shipped in two different configurations. However, installation instructions for the M02225K001 and M02225K002 kits vary slightly. Kits shipped prior to March 2002 are identified by the M02225K001 kit number and contain the M02208A001 Monochrome Display Bezel Assembly (see Figure 1 on page 2). Kits shipped after March 2002 are identified by the M02225K002 kit number and contain the M02184A001 Monochrome Display Bezel Assembly (see Figure 1 on page 2).

Note: This kit is intended for Light Emitting Diode (LED) Monochrome Graphic Displays Q13908 and/or M02636AXXX, where Q13908 and M02636AXXX are interchangeable. This kit is not intended for the fluorescent (backlight) Monochrome Graphic Displays Q13287.

Figure 1: Retrofit Kit Display Assembly Identification

M02208A001 for Kit M02225K001   M02184A001 for Kit M02225K002

Table of Contents

Required Tools

The following tools are required to install the Monochrome Tilt Bezel Retrofit Kits:

- Clean Cloth or Rag
- Card Reader IN Dispenser (CRIND®) Diagnostics Card
- Needle Nose Pliers
- Isopropyl Alcohol (part# END-1082)
- Nut Driver, 9/32-inch, 1/4-inch, 5/16-inch
- Nut Driver, 8 mm
- Pocket Knife or Gasket Scraper
- Q12534 CRIND Diagnostic Card
- Screwdrivers, Flat and Phillips® Head
- Static Guard Wrist Strap

Parts Lists

The following table lists the parts for the Monochrome Tilt Bezel Retrofit Kits M02225K001 and M02225K002.

			Quantity	
Item	**Description**	**Part Number**	**M02225K002**	**M02225K001**
1	Assembly, Monochrome Tilted Bezel	M02208A001	-	1
2	Bezel Assembly	M02184A001	1	-
3	Cable, CRIND Soft Keys	M01200A001 (Note 4)	1	-
4	Bracket, Monochrome Display Mounting	M02194A001	-	1
5	Bracket, Monochrome Display Support	M02253B001	-	1
6	Cable, Monochrome Retrofit Adaptor Display	M02228A001	1	1
7	Clamp, 2" Ribbon Adhesive	Q13459-01	1	-
8	Cable Mount, Adhesive	Q13558-04	1	-
9	Gasket, Touchscreen	R20059-02	-	1
10	Overlay, Monochrome Softkey	EU01003GXXX (Note 1)	1	-
11	Overlay, Monochrome Softkey	EU01001GXXX (Note 1)	-	1
12	Screw, Pan Head Phillips M4	Q12845-58	4	-
13	Sealant, Black RTU Silicon (Note 2)	16BR (Permatex®)	A/R (Note 3)	A/R (Note 3)
14	Rain Shield	M02206A002	1	1
15	Cable, 34 Position, 28 AWG Ribbon	M00553A001	1	-
16	Installation Manual, Monochrome Tilt Bezel Retrofit Kits	MDE-4098		

Notes:
1. EU0100XGXXX is an order entry item and can be ordered in multiple colors.
2. Before using Permatex obtain and read a current copy of the Material Safety Data Sheet (MSDS), especially sections concerned with health hazards, spill and storage procedures. To obtain the most recent version of MSDS, call Permatex, Inc. at 1-877-376-2839.
3. As Required (A/R), may be purchased locally from any automotive supply store.
4. All Encore 500 units built prior to mid-1991 require this longer soft key cable.

Related Documents

Document Number	Title	GOLD Library
MDE-3804	Encore and Eclipse® Series Start-Up/Service Manual	Service Manual
PT-1936	Encore Series Illustrated Parts Manual	Parts Manual

Required Reading

Before installing the equipment, the installer must read, understand, and follow:
- This manual
- National Fire Protection Agency (NFPA) 70, The National Electric Code (NEC)
- Applicable federal, state and local codes and regulations

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

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractor
CIM	Customer Interface Module
CRIND	Card Reader IN Dispenser
LCD	Liquid Crystal Display
LED	Light Emitting Diode
MSDS	Material Safety Data Sheet
NEC	National Electric Code

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.

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 to 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.

Installing Monochrome Tilt Bezel Retrofit Kit M02225K002

⚠ 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.

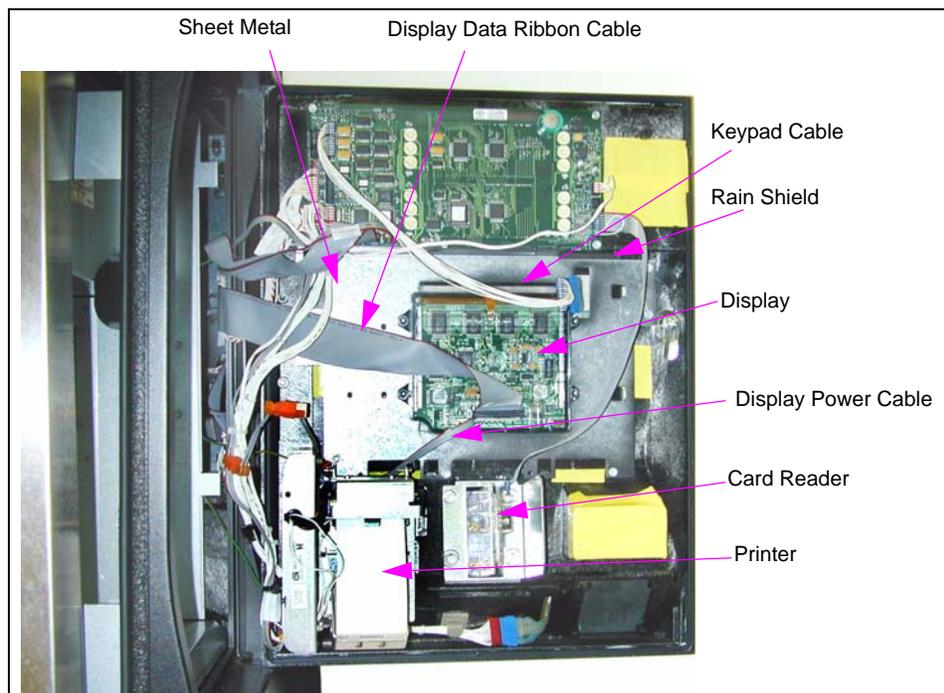This means that even if you activate these stops, fuel may continue to flow uncontrolled.

You must use the TOTAL ELECTRICAL SHUT-OFF in case of an emergency and not only these cashier station "stops."

To install the Monochrome Tilt Bezel Retrofit Kit, proceed as follows:

1 Remove the power supplied to the unit at the breaker located at building.

2 At the Encore unit, use the key to open the Customer Interface Module (CIM) door.

3 Disconnect the Display Keypad Cable (see Figure 2), the Display Power Cable (see Figure 2), and the Display Data Ribbon Cable (see Figure 2).
Note: In some units, the Display Data Ribbon Cable may not be long enough. In such cases, replace the cable with the M00553A001 cable provided in the kit.
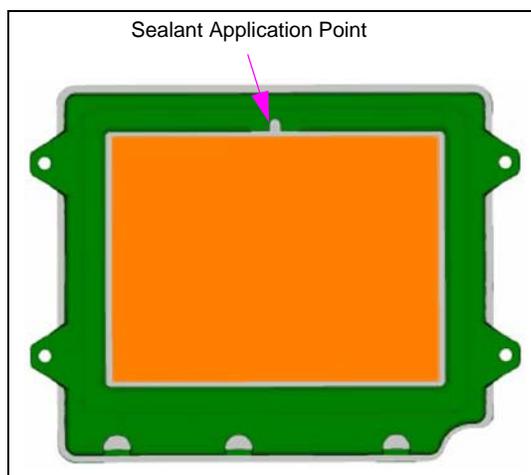
Figure 2: Rear View of the CIM Door Prior to Installation

4   Remove the Rain Shield (see Figure 2 on page 7) from inside the CIM Door using a 9/32-inch nut driver on the single nut located above the card reader (see Figure 2 on page 7). Discard the nut and Rain Shield.

5   Remove the fastener that secures the ground connection located above the printer (see Figure 2 on page 7) using a 9/32-inch nut driver. Retain the fastener for re-installation.

6   Remove the four fasteners that secure the display (see Figure 2 on page 7) to the mounting bezel on the CIM Door (two on either side of the display) using a 9/32-inch nut driver. Retain the display and fasteners for re-installation.

7   Obtain the sealant from the kit and apply the sealant to the monochrome display sealant point as shown in Figure 3.
   Note: Avoid spreading of the sealant on the display face. Ensure that the sealant is applied prior to performing the remaining steps; this will give the sealant application time to harden.
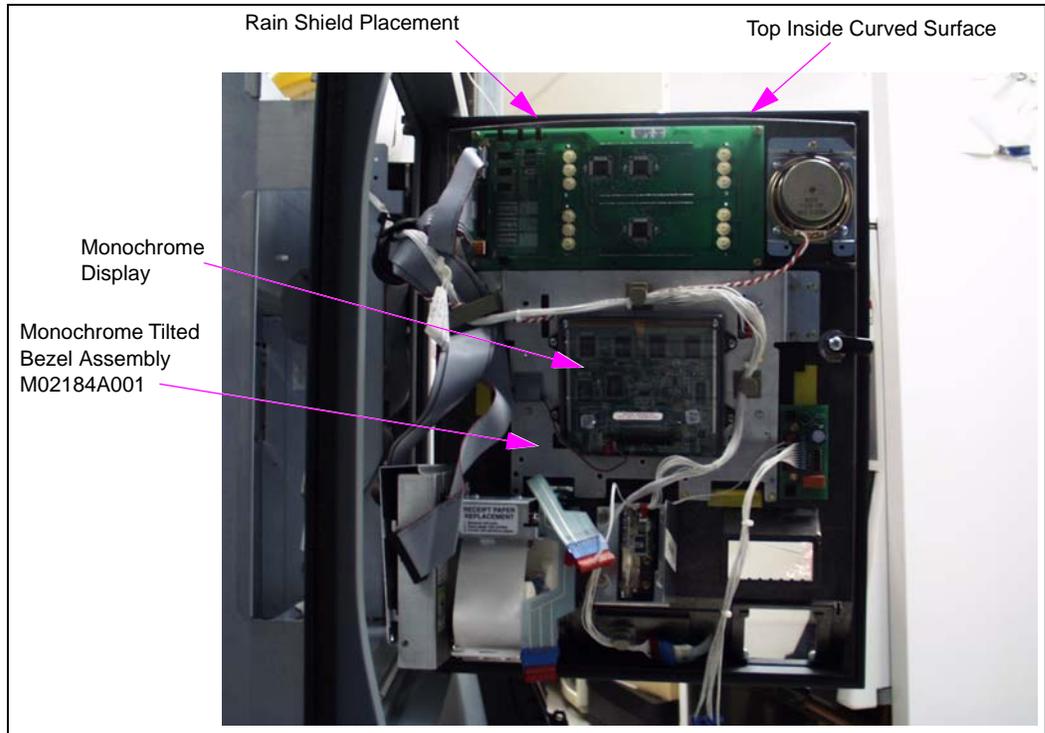
Figure 3: Monochrome Display

Sealant Application Point

8   Remove the eight fasteners that secure the sheet metal (see Figure 2 on page 7) to the door using a 1/4-inch nut driver. Discard the screws and sheet metal.

9   Remove the display lens from the CIM Door by applying pressure from the front of the CIM Door. Adequate pressure can be applied to the lens by lightly striking the lens with the palm of the hand from the front of the CIM Door. Discard the lens and the old keypad.

10   Obtain the new Display Gasket (M02539B001) from the kit, remove the adhesive backing, and install the gasket over the existing Display Gasket located on back of the CIM Door.

11   Attach Monochrome Tilted Bezel Assembly M02184A001 (see Figure 4 on page 9) to the CIM door and install the four fasteners using a 1/4-inch nut driver.

12   Place the two grounding cables on the studs on Monochrome Tilted Bezel Assembly M02184A001. One grounding cable comes from the UL® Barrier and the other comes from the printer. Use a 9/32-inch nut driver to fasten the nut.

13 Attach the monochrome display (see Figure 4) to the newly installed Titled Bezel Assembly (see Figure 4). Secure the display using the Q12845-58 fasteners and a Phillips screwdriver.

Figure 4: Rear View of CIM Door with Display Assembly M02184A001

14 Connect the Monochrome Retrofit Adaptor Display Cable M02228A001 between the power connector on the display and the Display Power Cable. Reconnect the Display Keypad Cable and the Display Data Ribbon Cable.

15 Using Isopropyl Alcohol and a clean cloth, clean the top inside curved surface (see Figure 4) on the CIM Door where Rain Shield M02206A001 will be installed.

16 Remove the adhesive strip cover from the Rain Shield M02206A001, and install the Rain Shield on the curved surface (see Figure 4) located on the top of the CIM Door.

17 Close and lock the CIM Door.

18 Restore power to the unit and verify that the display is activated.

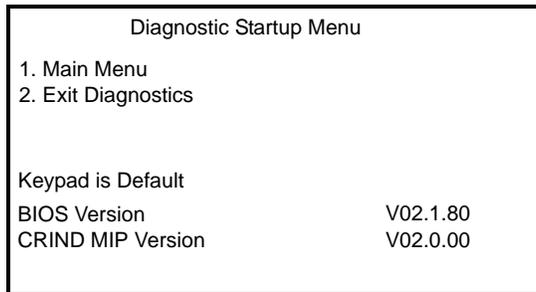**19** Add monochrome softkey overlay graphics to the front of the keypad.

Adjusting Monochrome Display Contrast in the Encore 500

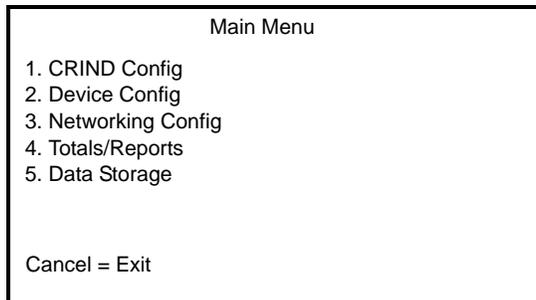To adjust the Encore 500 Monochrome Display contrast, proceed as follows:

Note: The following menus allow the monochrome Liquid Crystal Display (LCD) darkness to be adjusted. The unit's contrast setting defaults to a value of 35 following a coldstart or "Purge Persistent Memory" operation. Values for the contrast setting are 1 through 99.

1 Use the CRIND Diagnostic Card to activate the **Diagnostic Startup Menu** (see Figure 5). Select **1. Main Menu**. The **Main Menu** appears (see Figure 6).
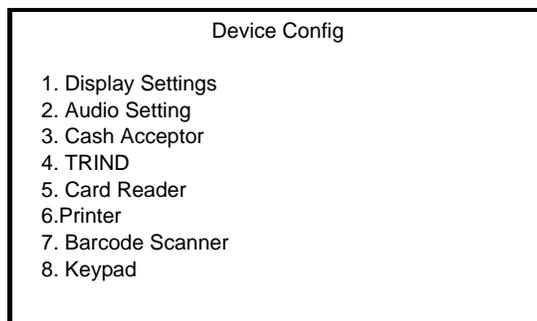
Figure 5: Diagnostic Startup Menu

```
          Diagnostic Startup Menu

1. Main Menu
2. Exit Diagnostics


Keypad is Default

BIOS Version                    V02.1.80
CRIND MIP Version               V02.0.00
```

Figure 6: Main Menu

```
                Main Menu

1. CRIND Config
2. Device Config
3. Networking Config
4. Totals/Reports
5. Data Storage



Cancel = Exit
```
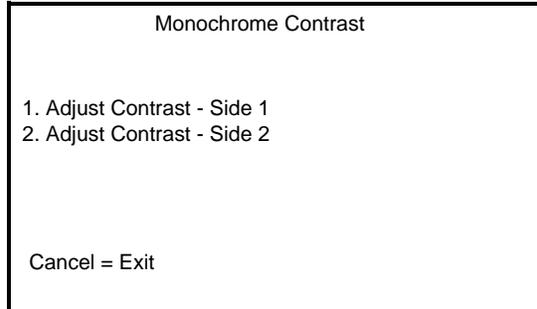
2 At the **Main Menu** (see Figure 6), select **2. Device Config**. The **Device Config Menu** (see Figure 7) appears.

Figure 7: Device Configuration Menu

```
                Device Config

 1. Display Settings
 2. Audio Setting
 3. Cash Acceptor
 4. TRIND
 5. Card Reader
 6.Printer
 7. Barcode Scanner
 8. Keypad
```

3 At the **Device Config Menu** (see Figure 7 on page 10), select **1. Display Settings**. The Display Selection Menu (see Figure 8) appears.
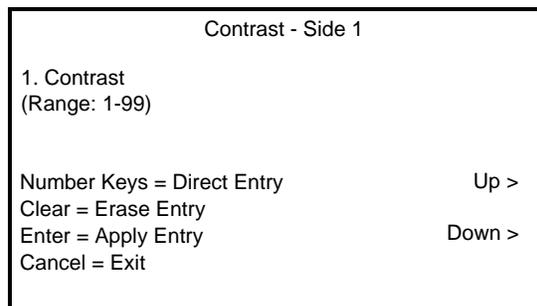
Figure 8: Display Selection Menu

```
┌─────────────────────────────────────────────┐
│             Monochrome Contrast              │
│                                              │
│                                              │
│  1. Adjust Contrast - Side 1                 │
│  2. Adjust Contrast - Side 2                 │
│                                              │
│                                              │
│                                              │
│                                              │
│   Cancel = Exit                              │
│                                              │
└─────────────────────────────────────────────┘
```

4 At the Display Selection Menu (see Figure 8), select **1. Adjust Contrast – Side 1** for Side 1 of unit, or **2. Adjust Contrast – Side 2** for Side 2 of the unit. For either selection, the respective Display Settings Screen (see Figure 9) appears.
Note: For the purpose of this document, only the Side 1 display will be illustrated.

Figure 9: Display Settings Screen

```
┌─────────────────────────────────────────────┐
│              Contrast - Side 1               │
│                                              │
│  1. Contrast                                 │
│  (Range: 1-99)                               │
│                                              │
│                                              │
│  Number Keys = Direct Entry          Up >    │
│  Clear = Erase Entry                         │
│  Enter = Apply Entry                 Down >  │
│  Cancel = Exit                               │
│                                              │
└─────────────────────────────────────────────┘
```

Display contrast can be adjusted using the following:
- **Number Keys**: Pressing digit keys allows the desired value to be set. If more than two digit keys are pressed on this menu setting, only the last two digits will be shown
- **Up/Down Function Keys**: Pressing the **Up** or **Down** function keys cause the contrast setting to increase or decrease correspondingly. Changes are committed to memory immediately and allow the user to view the display using the new setting.

5 At the Display Settings Screen (see Figure 9), adjust the display contrast to the desired setting using the **Number Keys** or the **Up/Down** function keys. If using the **Number Keys**, press **Enter** to commit the displayed setting to memory.

6 Press **Cancel** repeatedly to revert back to the **Diagnostic Startup Menu** (see Figure 5 on page 10).

Installing Monochrome Tilt Bezel Retrofit Kit M02225K001

<div style="border:1px solid black">

⚠ 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.

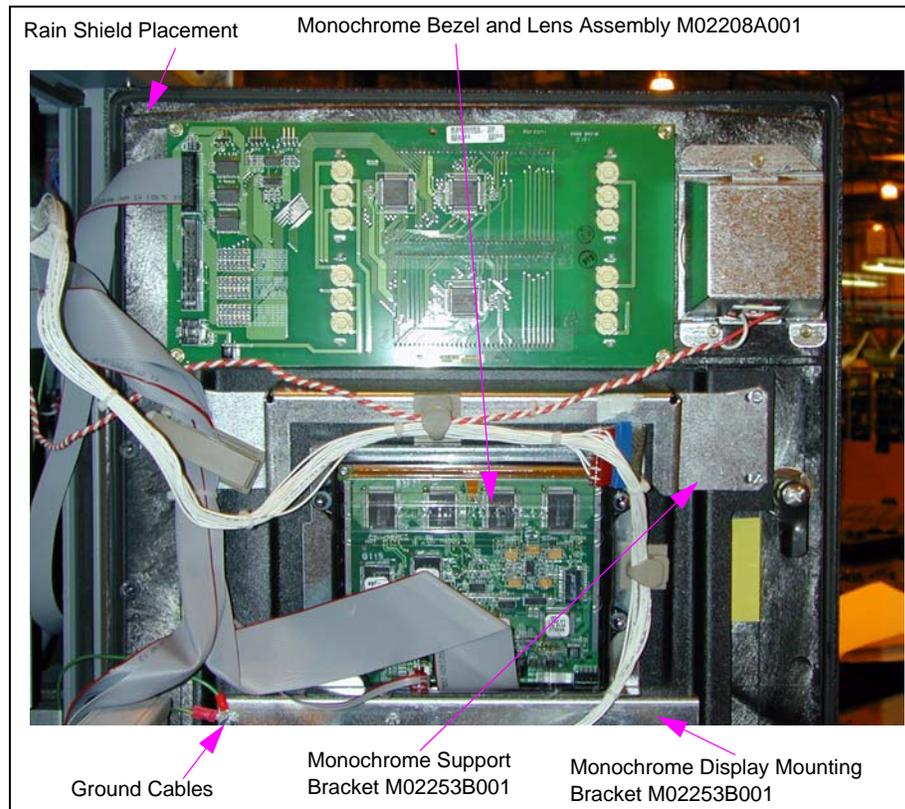This means that even if you activate these stops, fuel may continue to flow uncontrolled.

You must use the TOTAL ELECTRICAL SHUT-OFF in case of an emergency and not only these cashier station "stops."

</div>

To install the Monochrome Tilt Bezel Retrofit Kit, proceed as follows:

1   Remove the power supplied to the unit at the breaker located at building.

2   At the Encore unit, use the key to open CIM door.

3   Disconnect the Display Keypad Cable (see Figure 2 on page 7), the Display Power Cable (see Figure 2 on page 7), and the Display Data Ribbon Cable (see Figure 2 on page 7).

4   Remove the Rain Shield (see Figure 2 on page 7) from inside the CIM Door using a 9/32-inch nut driver on the single nut located above the card reader (see Figure 2 on page 7). Discard the nut and Rain Shield.

5   Remove the fastener that secures the ground connection located above the printer (see Figure 2 on page 7) using a 9/32-inch nut driver. Retain the fastener for re-installation.

6   Remove the four fasteners that secure the display (see Figure 2 on page 7) to the mounting bezel on the CIM Door (two on either side of the display) using a 9/32-inch nut driver. Retain the display and fasteners for re-installation.

7   Obtain the sealant from the kit and apply the sealant to the monochrome display sealant point as shown on Figure 3 on page 8.
    Note: Avoid spreading of the sealant on the display face. Ensure that the sealant is applied prior to performing the remaining steps; this will give the sealant application time to harden.

8   Remove the eight fasteners that secure the sheet metal (see Figure 2 on page 7) to the door using 1/4-inch nut driver. Retain the screws for re-installation and discard the sheet metal.

9   Remove the display lens from the CIM Door by applying pressure from the front of the CIM Door. Adequate pressure can be applied to the lens by lightly striking the lens with the palm of the hand from the front of the sheet metal. Discard the lens and the old keypad.

10 Obtain Display Gasket R20682-01 from the kit, and install the new gasket over the old gasket that is located on the back of the CIM Door.

11 Attach Monochrome Bezel and Lens Assembly M02208A001 (see Figure 10) and Support Bracket M02253B001 (see Figure 10) to the CIM door and install the four fasteners using a 1/4-inch nut driver.

Figure 10: Rear View of CIM Door with Display Assembly M02208A001

12 Attach Monochrome Display Mounting Bracket M02194A001 (see Figure 10) to the CIM door with four fasteners using a 1/4-inch nut driver.

13 Place the two grounding cables (see Figure 10) on the studs on Monochrome Display Mounting Bracket M02194A001. One grounding cable comes from the UL Barrier and the other comes from the printer. Use a 9/32-inch nut driver to fasten the nut.

14 Attach the monochrome display (see Figure 10) to the bracket and install the fasteners using a 9/32-inch nut driver. Verify that the sealant was installed.

15 Connect Monochrome Retrofit Adaptor Display Cable M02228A001 between the power connector on the display and the Display Power Cable. Reconnect the Display Keypad Cable and the Display Data Ribbon Cable.

16 Using Isopropyl Alcohol and a clean cloth, clean the top inside curved surface on the CIM Door where Rain Shield M02206A001 will be installed (see Figure 10).

17 Remove the adhesive strip cover from the Rain Shield M02206A001, and install the Rain Shield on the curved surface (see Figure 10) located on top of the CIM Door.
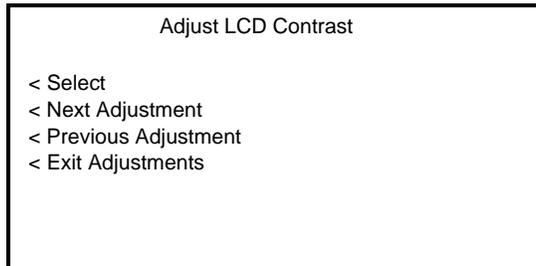
18 Close and lock the CIM Door.

19 Restore power to the unit and verify the display backlights are on.

20 Add monochrome softkey overlay graphics to the front of the keypad.

Adjusting Monochrome Display Contrast for the Encore 300

To adjust Monochrome Display contrast for the Encore 300, proceed as follows:
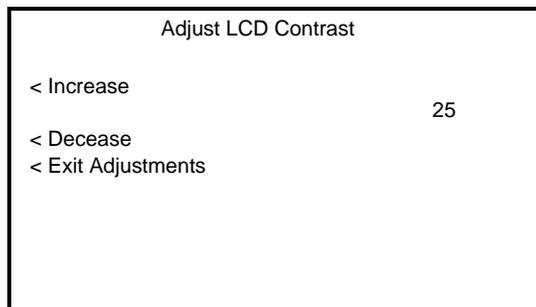
1 Using the CRIND diagnostic card, initiate CRIND Diagnostics and select test **20**. The **20-DISPLAY CONTRAST** message appears on the display.

2 Press **Enter**. The **Adjust LCD Contrast** display menu appears (see Figure 11).

Figure 11: Adjust LCD Contrast Display Menu

```
            Adjust LCD Contrast

< Select
< Next Adjustment
< Previous Adjustment
< Exit Adjustments
```

3 Press **Select**. The **Adjust LCD Contrast** adjustment menu appears (see Figure 12).

Figure 12: Adjust LCD Contrast Display Adjustment Menu

```
            Adjust LCD Contrast

< Increase
                                    25
< Decease
< Exit Adjustments
```

4 Use the **Increase/Decrease** keys to adjust the display contrast to the desired level.

5 Press **Exit Adjustments** to exit the contrast routine. Continue to exit until the diagnostics revert back to the **ENTER DIAGNOSTICS** instruction.

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