

Introduction

Purpose

This manual provides the instructions to replace the 10.4-inch display in a FlexPay™ II or FlexPay IV, that include:

- Installing the 10.4-inch Screen Kit (M14620K001) for FlexPay II CRIND® to replace 10.4-inch Display (M10370), which is obsolete
- Replacing a defective 10.4-inch Display (M14004A00X) with a spare 10.4-inch display for FlexPay IV CRIND

IMPORTANT INFORMATION

Ensure that the FlexPay Control Board (FCB) is upgraded with software version 02.3.05 or later if it is not already upgraded.

Note: The new display will not work without the latest software version.

Intended Users

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

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Required Tools

The following tools and materials are required for installing the 10.4-inch Screen Kit and the spare 10.4-inch display:

- Standard Socket Set
- Metric Socket Set
- 1/4-inch and 8-mm Nut Drivers
- Phillips® Screwdriver
- Torque Wrench

Parts List

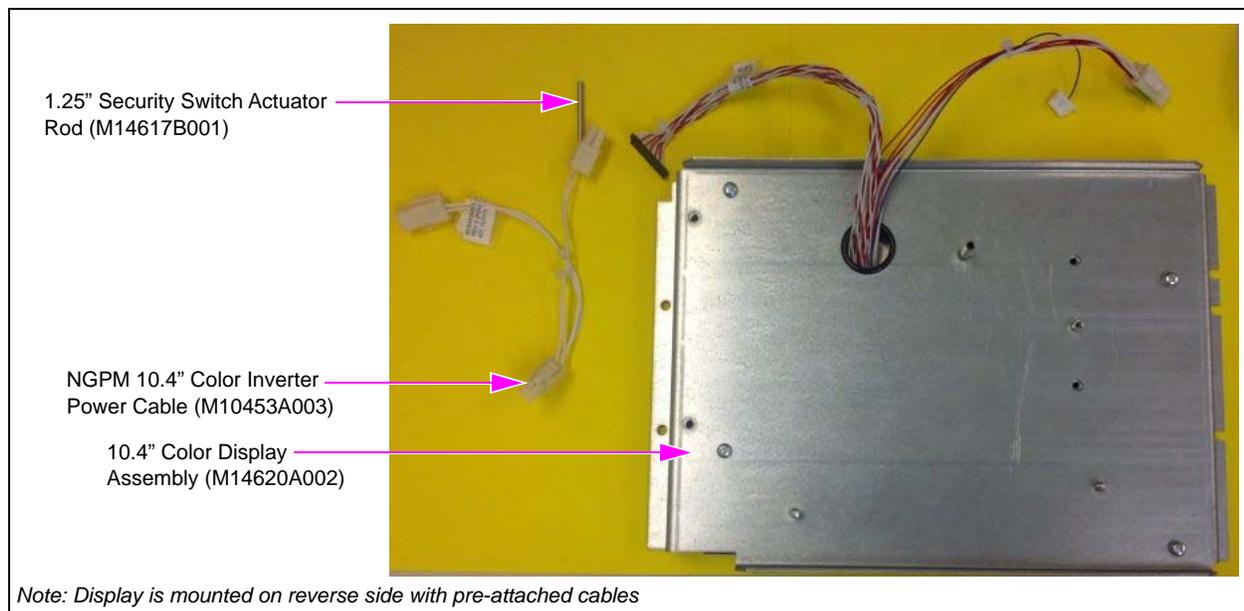
The following table lists the parts included in the 10.4-inch Screen Kit (see [Figure 1](#)):

Item#	Description	Part Number	Quantity
1	Rod, 1.25" Security Switch Actuator	M14617B001	1
2	Assembly, 10.4" Display, Color	M14620A002	1
3	Cable, Next Generation Payment (NGPM) 10.4" Color Inverter Power	M10453A003	1
4	Bracket, 10.4" Display Support	M13571A001	1

The following table lists the part for replacing the defective 10.4-inch display:

Item#	Description	Part Number	Quantity
1	Display, 10.4" Color	M14004A00X	1

Figure 1: Kit Components



Related Documents

Document Number	Title	GOLD SM Library
MDE-3804	Encore® and Eclipse® Start-up/Service Manual	<ul style="list-style-type: none"> Encore and Eclipse Service Manual
MDE-4902	Encore 700 S Start-up and Service Manual	<ul style="list-style-type: none"> Encore and Eclipse CRIND and TRIND®
MDE-5221	FlexPay IV CRIND Start-up Manual	FlexPay IV

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractor
CRIND	Card Reader in Dispenser
ESD	Electrostatic Discharge
FCB	FlexPay Control Board
GOLD	Gilbarco Online Documentation
OSHA	Occupational Safety and Health Administration
NGPM	Next Generation Payment
TRIND	Transmitter/Receiver in Dispenser

Important Safety Information

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

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

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

Preliminary Precautions

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

Emergency Total Electrical Shut-Off

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

⚠ WARNING

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



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

Total Electrical Shut-Off Before Access

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

Evacuating, Barricading, and Shutting Off

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



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

Read the Manual

Read, understand, and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call the Technical Assistance Center (TAC) at 1-800-743-7501. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations

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

Replacement Parts

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

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol



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

Signal Words

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



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



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



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

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

Working With Fuels and Electrical Energy

Prevent Explosions and Fires

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

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

No Open Fire



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

No Sparks - No Smoking



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

Working Alone

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

Working With Electricity Safely

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

Hazardous Materials

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

WARNING

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

WARNING

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

In an Emergency

Inform Emergency Personnel

Compile the following information and inform emergency personnel:

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

WARNING



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

WARNING

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

WARNING



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

WARNING



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

WARNING



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

WARNING

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

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

Lockout/Tagout

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

Before You Begin

Before replacing the obsolete 10.4-inch display on FlexPay II, read and understand all safety information found in *MDE-3804 Encore and Eclipse Start-up/Service Manual*.

Before installing the spare 10.4-inch display on FlexPay IV, read and understand all safety information found in *MDE-5221 FlexPay IV CRIND Start-up Manual*.

CAUTION



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

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

- 1 Inform the manager.
- 2 Barricade the unit to be worked on.
- 3 Remove power to the unit at the breaker panel. Follow OSHA lockout/tagout procedures.
- 4 Open the main dispenser door.
- 5 Match the parts received in the kit with [“Parts List”](#) on [page 2](#).



WARNING

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

Replacing 10.4-inch Screen in FlexPay II

The new display uses a new hardware interface on the FCB; therefore, prior to replacing the display, you must verify that the unit has software that can support the new display.

IMPORTANT INFORMATION

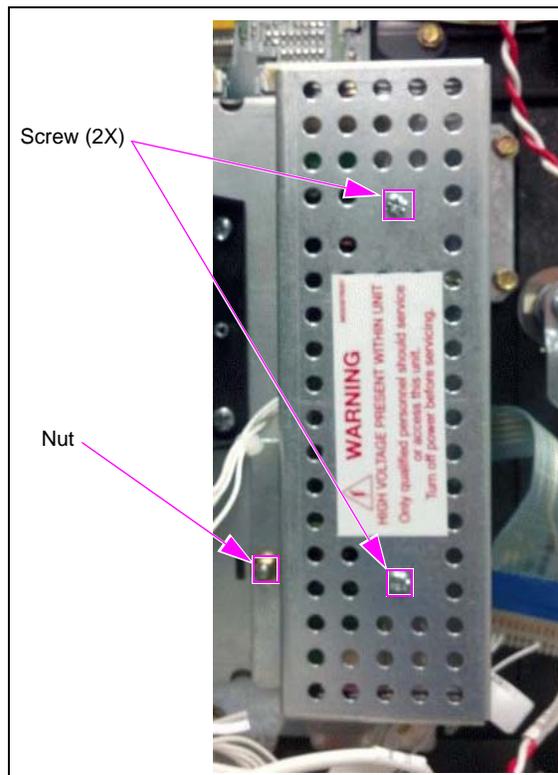
Ensure that the FCB is upgraded with software version 02.3.05 or later, if it is not already upgraded.

Note: Upgrade the software version for the new display to work.

To install the 10.4-inch Screen Kit (M14620K001) into FlexPay II, proceed as follows:

- 1 Remove the 7-mm nut and two Phillips-head screws mounting the protective bracket over the backlight inverter (see [Figure 1](#)).

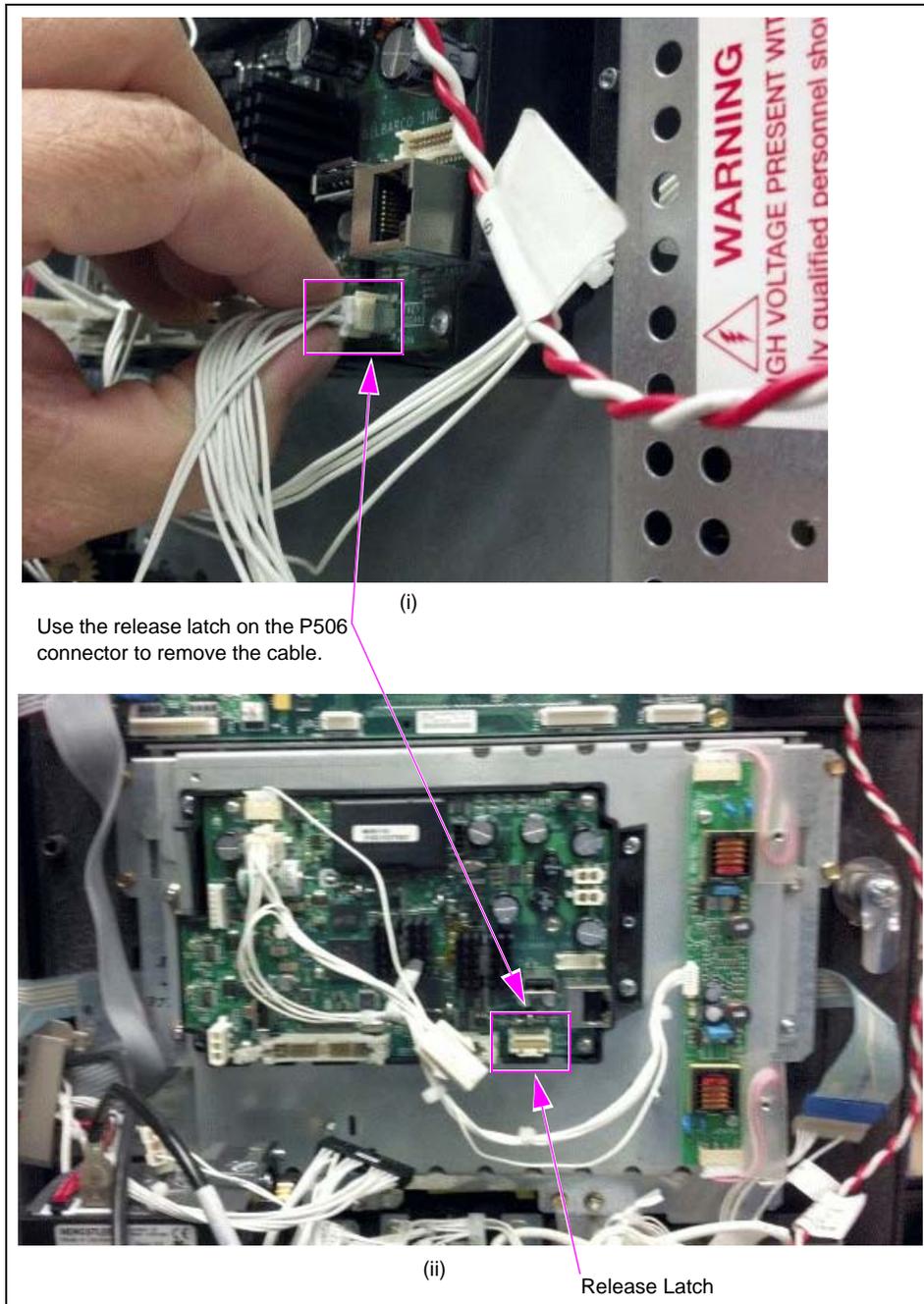
Figure 1: Removing One Nut and Two Screws



- 2 Remove all the cables from the FCB/display assembly.

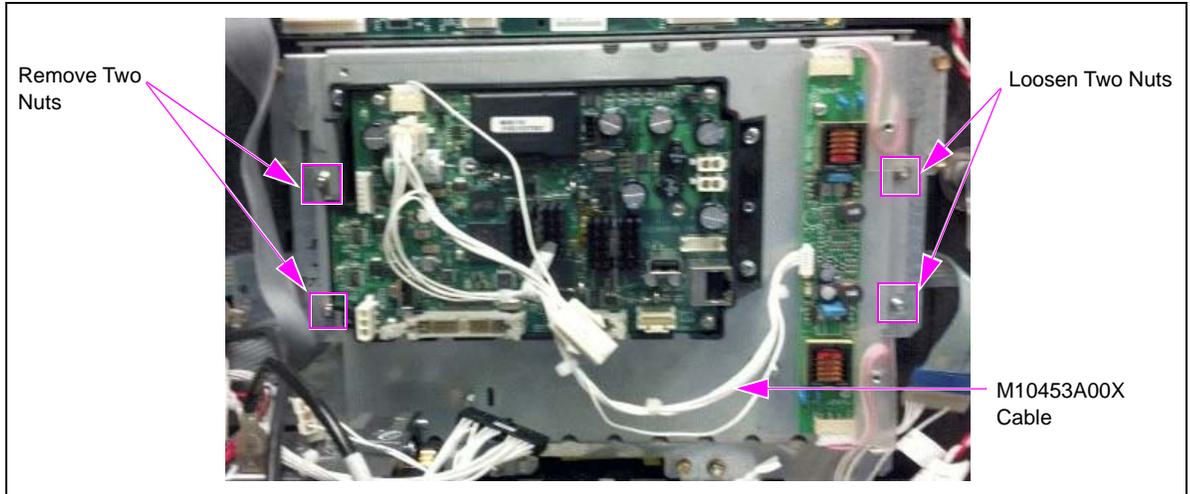
Note: Grasp the connector to depress the latch at the bottom; do not pull on the wires or they will detach.

Figure 2: Removing Cables



- 3 Remove the FCB/display assembly from the dispenser by removing four 7-mm nuts [two on the right and two on the left (see [Figure 3](#))].

Figure 3: Removing FCB/Display Assembly

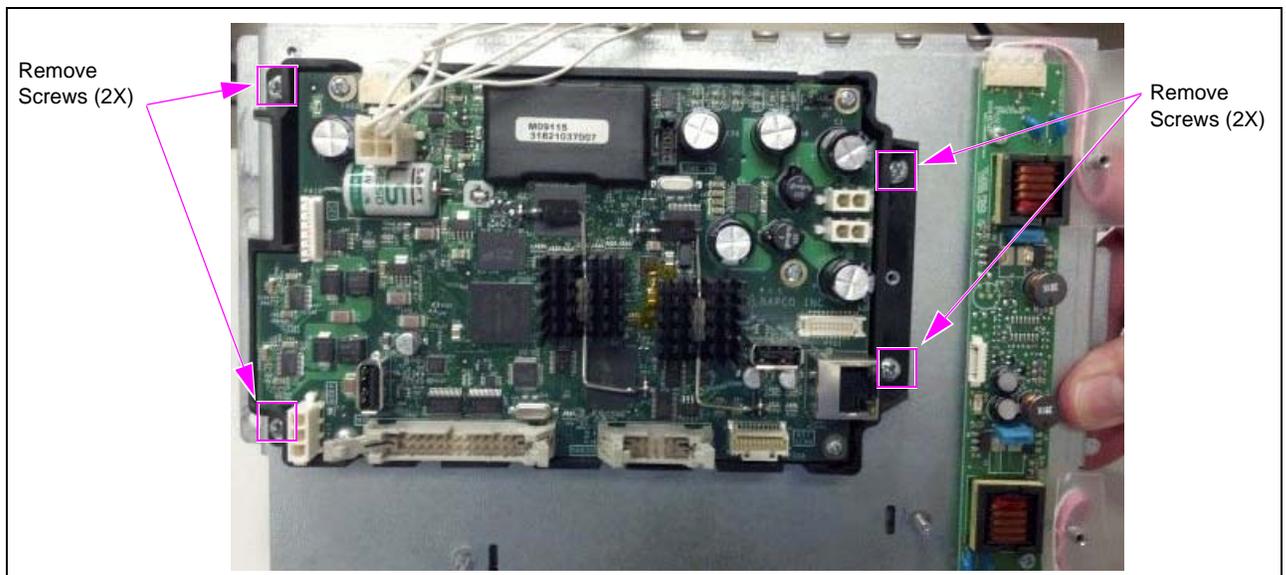


FCB/display assembly is now detached from the dispenser.

- 4 Remove the M10453A00X Cable that goes between the inverter board and the FCB (see [Figure 3](#)).
- 5 Place the assembly with the display side down on a safe and flat/smooth surface and remove the board and plastic housing from the display sheet metal by removing the four Phillips-head screws.

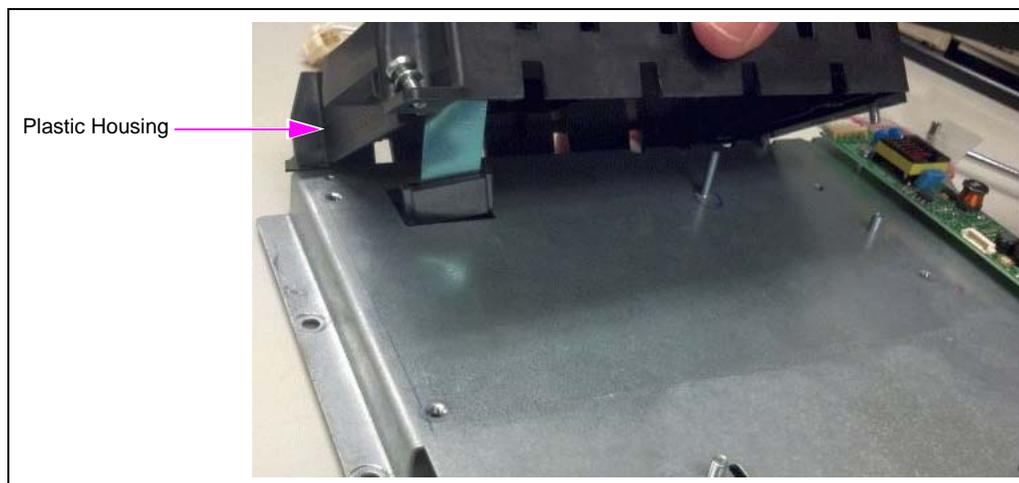
Note: It is important to keep the FCB and the plastic housing together. If these are separated, it will render the FCB inoperative.

Figure 4: Removing Board and Plastic Housing



- Carefully tilt the plastic housing and disconnect the cable from the back of the display.

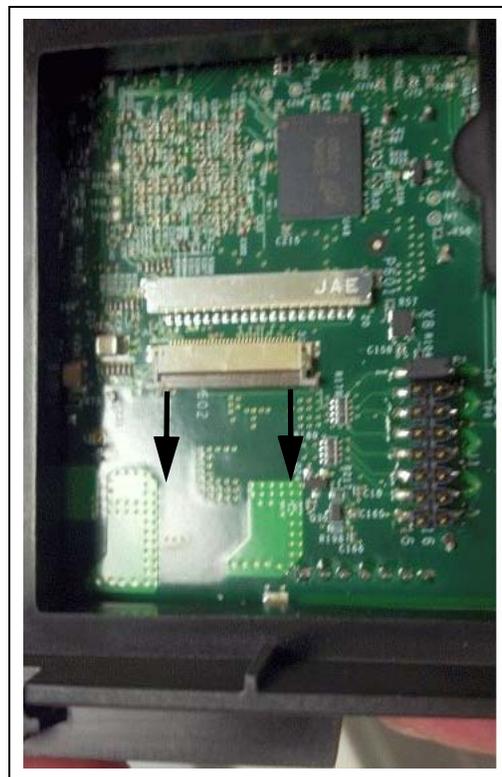
Figure 5: Tilting Plastic Housing



- Grasping the corners of the brown latch, slide the brown latch (see [Figure 6](#)), and remove the blue cable from the circuit board.

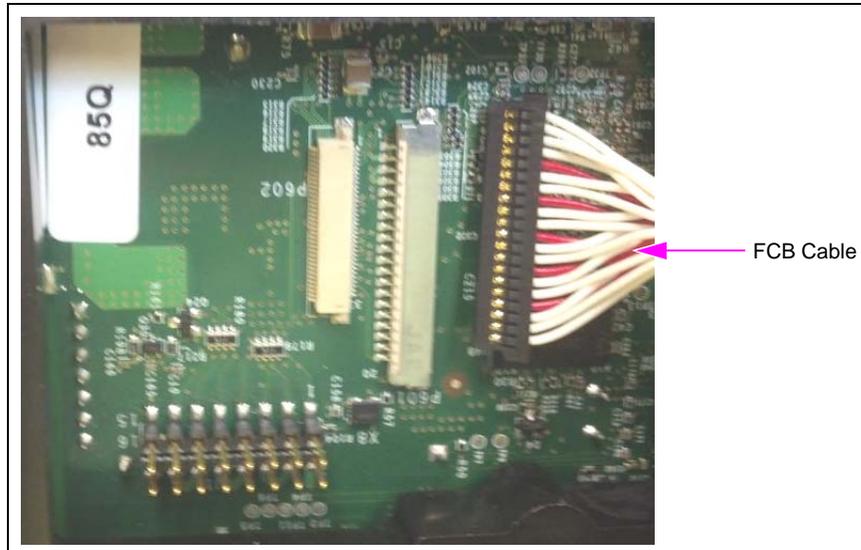
Note: Ensure care when grasping the corners of the brown latch.

Figure 6: Sliding Brown Latch Forward



- 8 Position the FCB over the 10.4-inch Color Display Assembly (M14620A002) and connect to P601. Orient the cable with the visible metal contacts (see [Figure 7](#)).

Figure 7: Positioning FCB Cable and P601

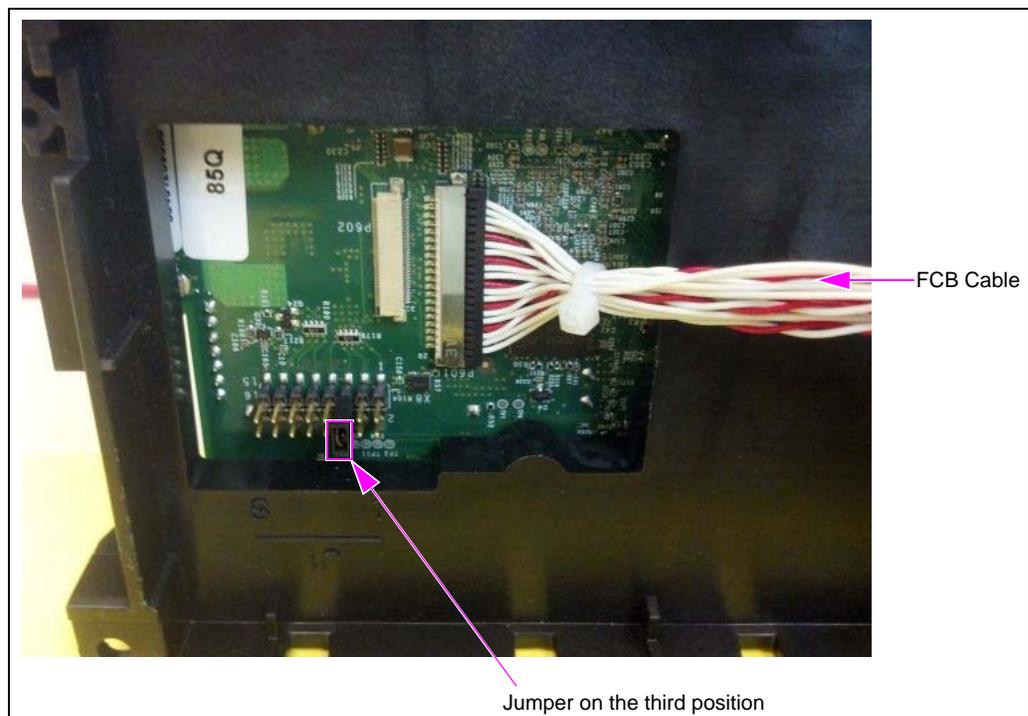


- 9 Leaving all other positions open, fully insert the FCB cable into P601 and put a jumper on the third position (see [Figure 8](#)).

Notes: 1) The minimum software version for the 10.4-inch color display assembly is 02.3.05.

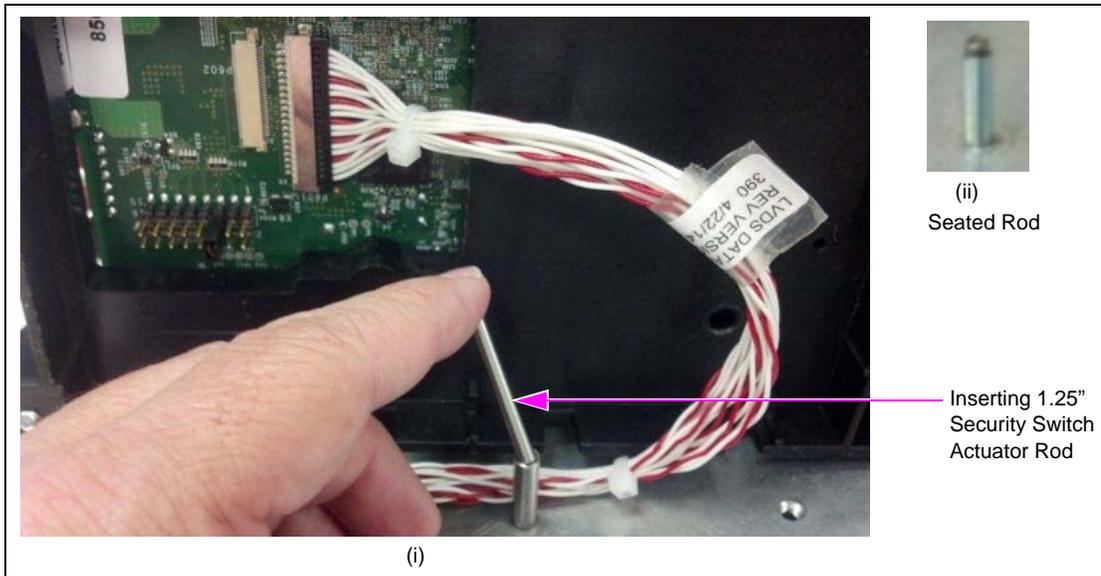
2) If the jumper is not on the third position, the display will not work.

Figure 8: Connecting FCB Cable and P601



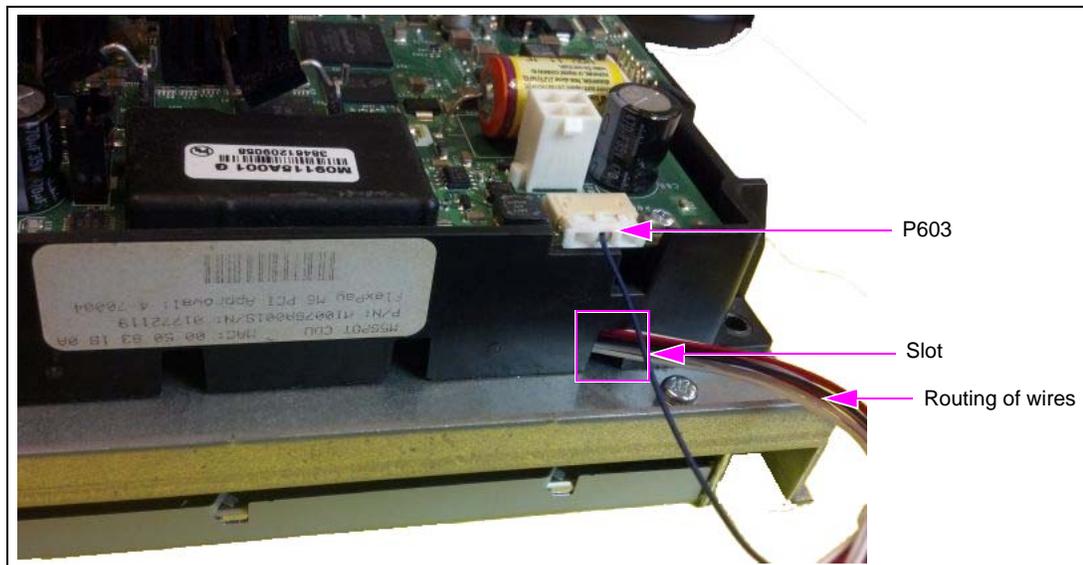
- 10 Insert the 1.25-inch Security Switch Actuator Rod (M14617B001) provided in the kit into the tube. The correct rod will project outward slightly, past the cylinder.
Note: If this rod is not present or is the wrong rod, the unit will not activate.

Figure 9: Inserting Security Switch Actuator Rod (M14617B001)



- 11 Lower the FCB assembly onto the display bracket and ensure the wires are routed out of the slot near P603 (see [Figure 10](#)).
- 12 Connect FCB assembly to P603 and ensure the wires are not being pinched (see [Figure 10](#)).

Figure 10: Connecting FCB to P603



13 Mount the board and plastic housing onto the display assembly using the four Phillips-head screws retained in step 5 on page 9. Under each screw, place a Flat Washer (K65235-22). Securely tighten the screws in a diagonal pattern with a torque wrench to 16+/-2 inch-lbs.

14 Mount the complete assembly back onto the dispenser and then reattach all cables.

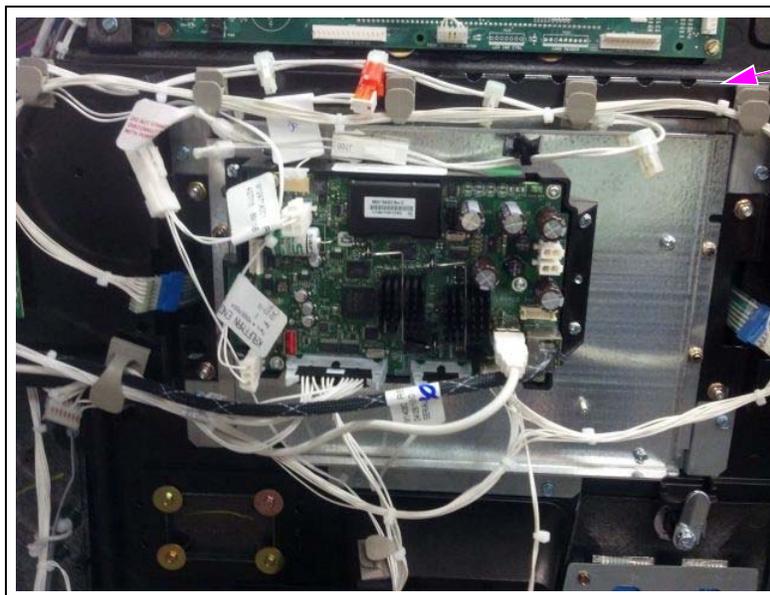
Following are the torque settings for the different door types:

- Non-threaded insert doors: 16 inch-lbs
- Threaded insert doors: 12 inch-lbs

If the door has a black metal bracket (see Figure 11) that the display mounts to, proceed to step 3 on page 19.

Note: Units with a black metal bracket have connections pre-positioned for the FCB and the display.

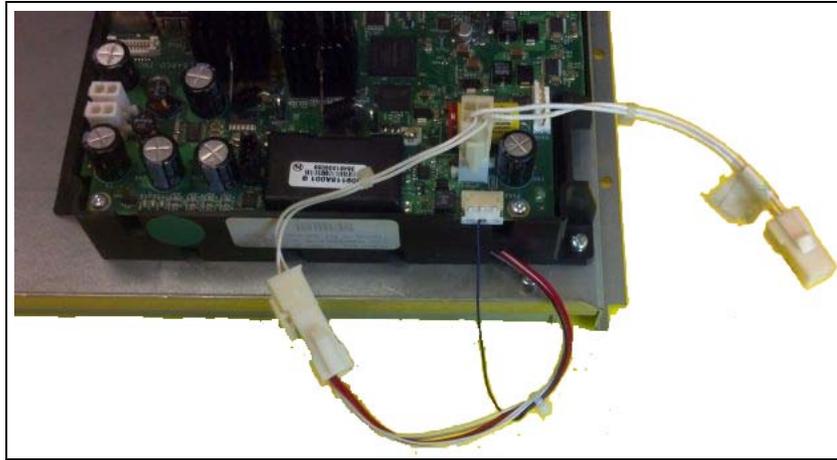
Figure 11: Assembly Mounted onto Dispenser



Black Metal Bracket
 Note: NGPM 10.4" Color
 Inverter Power Cable
 (M10453A003) is not
 required.

If the door does not have a black metal bracket, you will need to use NGPM 10.4-inch Color Inverter Power Cable (M10453A003) to provide power to the FCB and the display.

Figure 12: Door Without Black Metal Bracket



Continue to [“Completing Installation”](#) on [page 19](#).

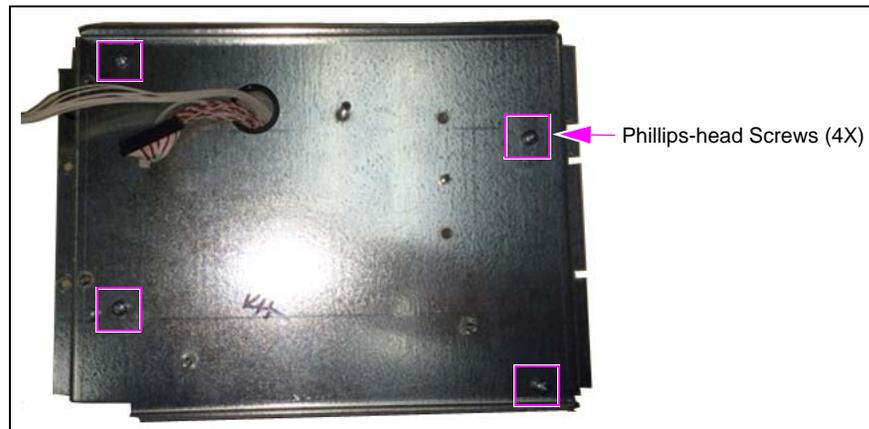
Replacing 10.4-inch Screen in FlexPay IV

To install the spare 10.4-inch Display (M14004A00X) into FlexPay IV CRIND, proceed as follows:

- 1 Remove the 10.4-inch Color Display from the 10.4-inch Display Support Bracket (M13571A001), included in the kit (see [Figure 13](#)). The included bracket is for FlexPay II; therefore, it is not needed for this installation.

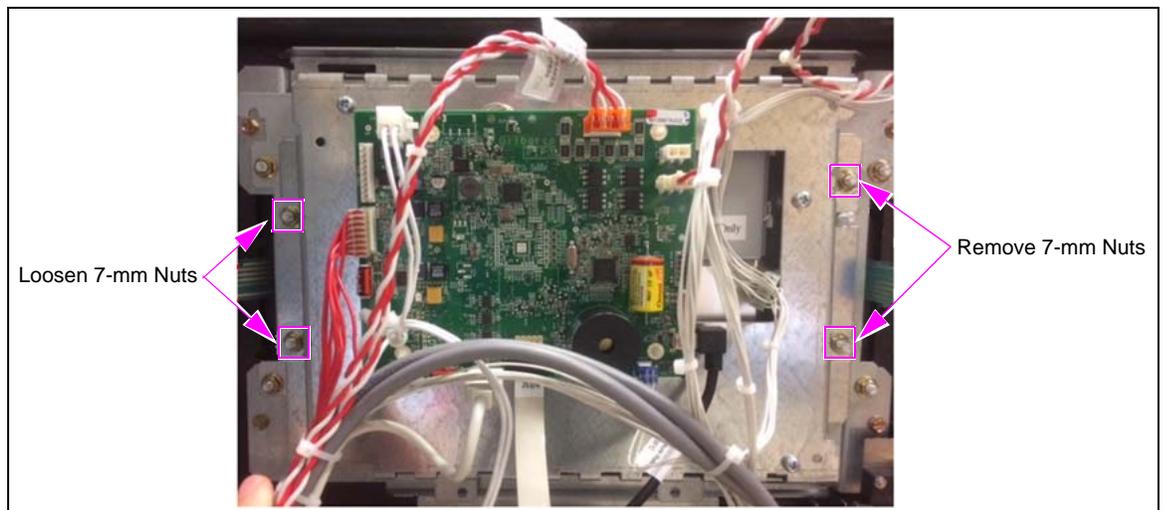
Note: The two L-shaped brackets remain attached to the display.

Figure 13: Removing Phillips-head Screws from Bracket



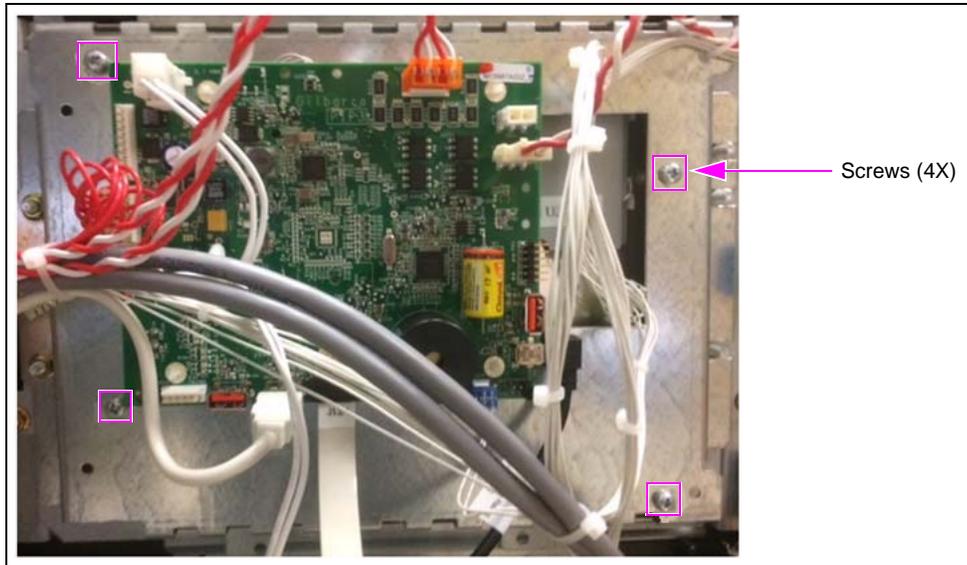
- 2 Loosen the two 7-mm nuts on the left and remove the two 7-mm nuts on the right (see [Figure 14](#)).

Figure 14: Removing 7-mm Nuts



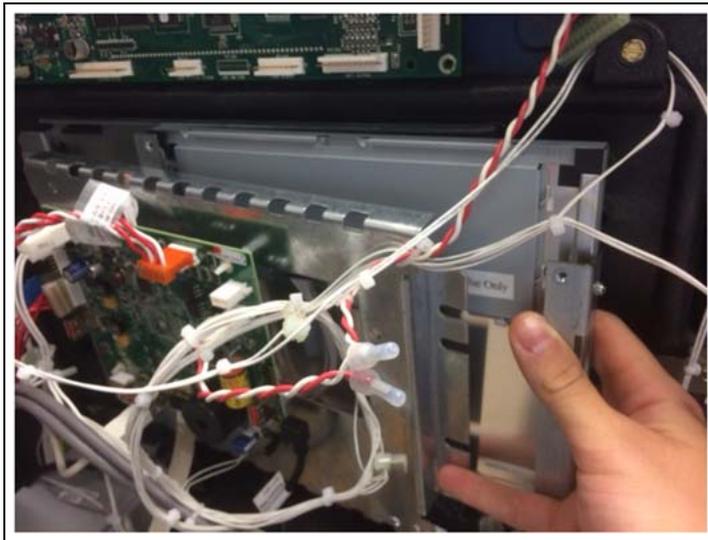
- 3 Loosen and remove the four Phillips-head screws that hold the display mounted to the bracket (see [Figure 15](#)).

Figure 15: Loosening Phillips-head Screws



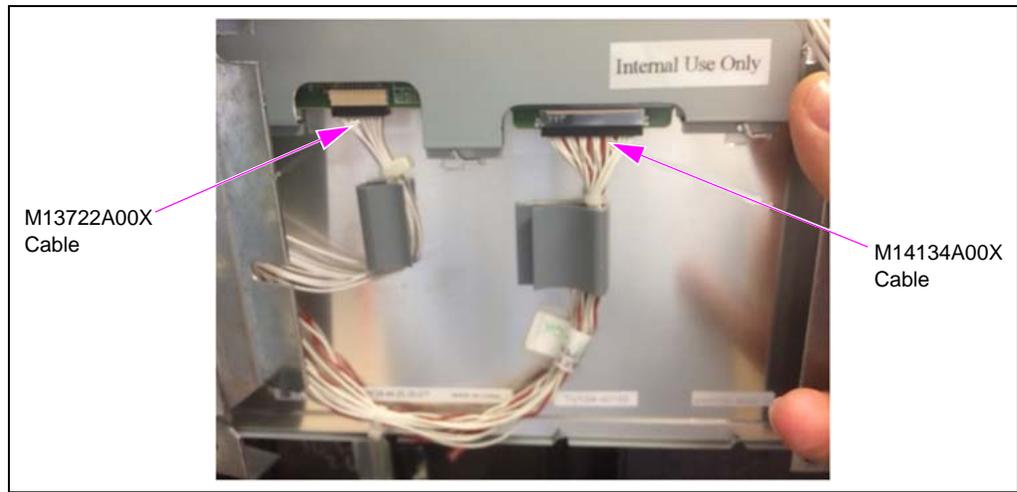
- 4 Remove the defective 10.4-inch screen from the bracket mount to expose the rear side of the display and its cable connections (see [Figure 16](#)).

Figure 16: Removing 10.4-inch Screen from Door



- 5 Detach the cables from the rear side of the screen (see [Figure 17](#)).

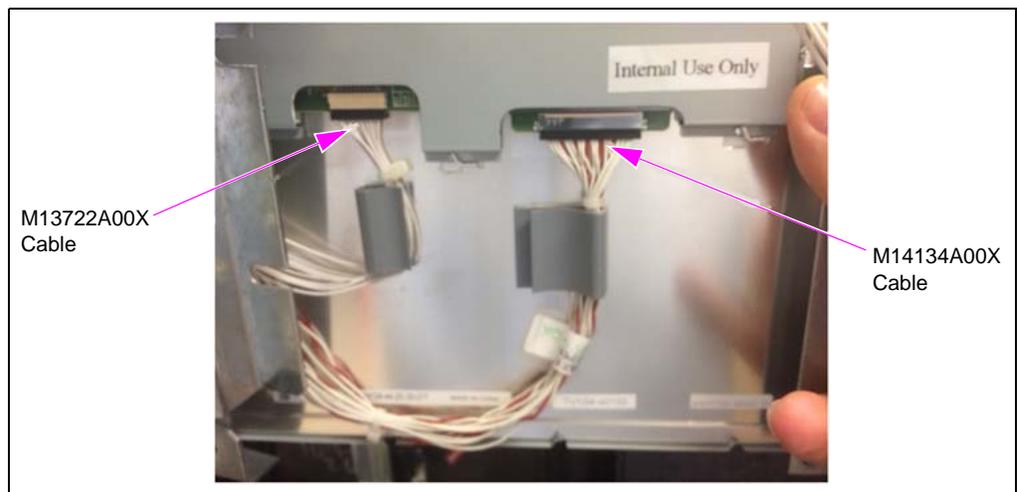
Figure 17: Detaching Cables



The defective 10.4-inch display is now removed.

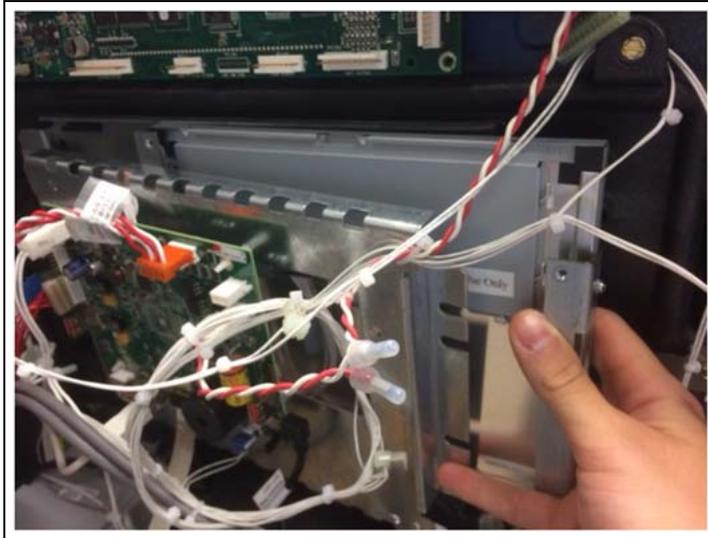
- 6 Attach the cables to the new 10.4-inch Display (M14004A00X) at the rear side of the screen (see [Figure 18](#)).

Figure 18: Attaching Cables



- 7 Mount the 10.4-inch display to the door (see [Figure 19](#)).

Figure 19: Mounting 10.4-inch Screen to Door

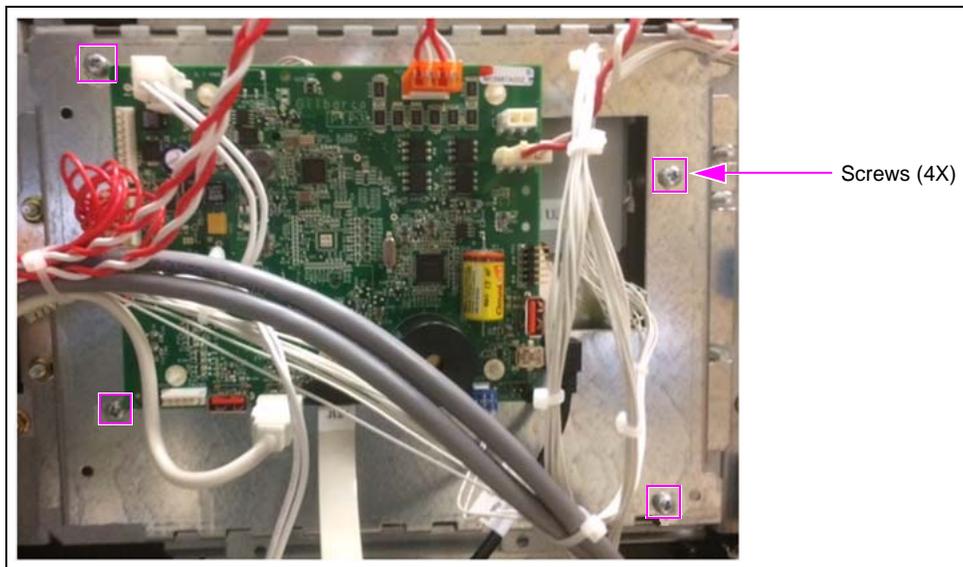


- 8 Reinsert and tighten the four Phillips-head screws that hold the display mounted to the bracket removed earlier in step 3 on [page 16](#) (see [Figure 20](#)). Securely tighten the screws in a diagonal pattern with a torque wrench. **Do not overtighten the screws.**

Following are the torque settings for the different door types:

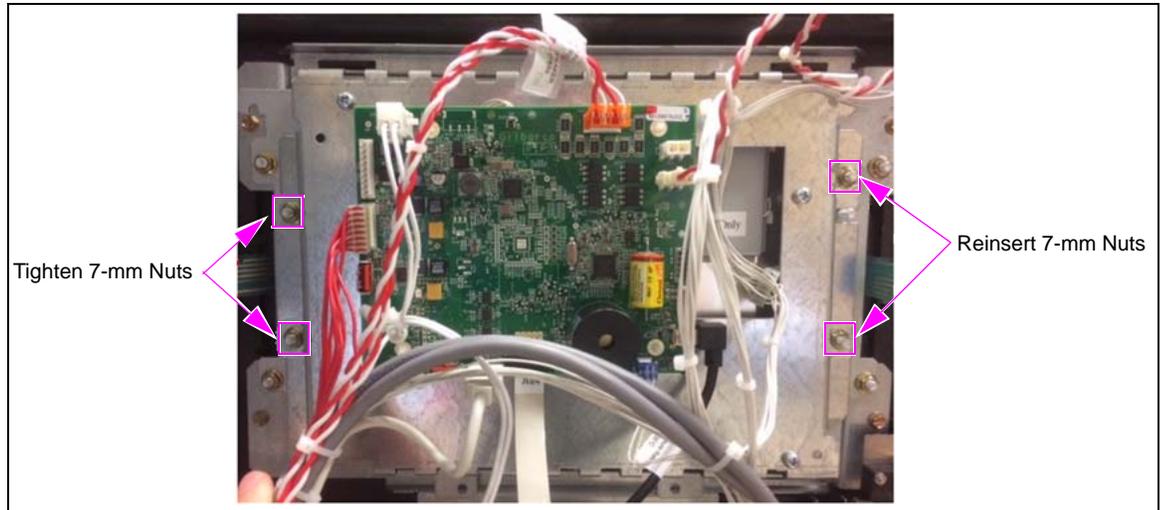
- Non-threaded insert doors: 16 inch-lbs
- Threaded insert doors: 12 inch-lbs

Figure 20: Tightening Phillips-head Screws



- 9 Reinsert the two 7-mm nuts on the right and tighten the two 7-mm nuts on the left that hold the 10.4-inch display bracket in place (see [Figure 21](#)).

Figure 21: Tightening 7-mm Nuts



- 10 Ensure to reconnect all wires, screws, and nuts.
- 11 Recommission the FlexPay IV CRIND. For more information on recommissioning, refer to *MDE-5221 FlexPay IV CRIND Start-up Manual*.

Completing Installation

After all the connections are made and the unit is ready to be powered up, proceed as follows:

- 1 Reinspect all the connections and cable routing.

IMPORTANT INFORMATION

Cable routing is critical. It is very important to route and dress the cables properly. Exercise care in routing the cables, keeping in mind that the door(s) opens and closes for service. The cables must be dressed neatly. Ensure there is no interference after the cables are connected and routed.

- 2 Clean up the work site, removing all materials to be discarded and all tools.
- 3 Power on the unit at the breaker panel and reactivate the unit.
- 4 Observe the display after powering on. Ensure the display is readable.
Note: The unit needs to be activated. For more information on activation, refer to MDE-5221 FlexPay IV CRIND Start-up Manual.

Installing the 10.4-inch Screen Kit is now complete.

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