
	Document Number	DCV-000540
	Date Released	Feb 2021
	Revision Number/Security level	R04 S2
Retrofit G7 or G7 15 inch + InvencoLink Wayne Helix (US and Canada) Standard Installation Guide		

Retrofit G7 or G7 15 inch + InvencoLink Wayne Helix Standard (US and Canada) Installation Guide

Kit Part Numbers	Brief Description
RF00014-XX	G7 15 inch Wayne Helix Standard, Black
RF00063-XX	G7 12 inch Wayne Helix Standard, Black

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Release History


Version	Prepared by	Date	Change description
0	Adam C	July 2020	Created
1	Michael Doh	07-Aug-2020	Review and updates for initial release
2	Michael Doh	13-Aug-2020	Addressed UL comments
3	Michael Doh	18-Aug-2020	Corrected typing errors, updated parts list and specified installation in pumps without intercom speakers only
4	Jojie Adigue	03-Feb-2021	Changed the power supply P/N from EZ0429 to EZ0702

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1 Introduction

The documentation provides some basic guidelines for installing the G7 or the G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) system:


- G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) system, Wayne Helix Standard Dispenser (without intercom speaker), Black:
Kit part number: RF00014-XX
- G7 Outdoor Payment Terminal (OPT) system, Wayne Helix Standard Dispenser (without intercom speaker), Black:
Kit part number: RF00063-XX

This Retro-Fit Kit can be installed into either Side A or Side B of a Wayne Helix dispenser.

NOTE: Two kits are required for a full installation of the G7 or G7 15 inch OPT system to the Wayne Helix dispenser. A single side installation is not possible.

CAUTION: Do not proceed unless two G7 or G7 15 inch Wayne Helix Retrofit kits are available for installation on a Helix Standard Dispenser.

- **For a single-sided installation, or if this Kit will be installed into Side A (i.e. the first side installed) of a double-sided installation, it requires the pre-installation of UL Listed by Report Retrofit Kit Part Number RF00033-XX (Invenco Link Converter) before installation into the dispenser.** The process is covered in §4.3.2 Prepare and Install the Helix Power Supply Assembly procedure of this instruction, by reference to the instructions in that Kit.
- **For a double-sided installation, two of these Kits are required.**
- **For each side installation, a printer kit is also required to be installed with this kit. Following the completion of the installation of this kit, it requires the installation of UL Listed by Report Retrofit Kit Part Number RF00025-XX (Retrofit G7 Printer Wayne Helix), by referencing the instructions in that kit (DCV-00541).**

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IMPORTANT NOTE: The installer must review the entire installation guide prior to starting any work on the dispenser. If the construction of the dispenser in the installation guide does not match the construction of the dispenser being retrofitted, then do not proceed with the installation and contact customer service.

In particular, an earlier revision of the above Retrofit kits may not have the InvencoLink DC power cable fitted on the PSU assembly. If this is the case, stop the installation and contact technical support to obtain the correct matching revision of the kit.

1.1 Tools Required

The following tools are required to mount the G7 or the G7- 15 inch (G7-100 SDC- 15) OPT:


- Torx T25 security screwdriver
- Philips #1 screwdriver
- Philips #1 screwdriver with >5" shaft
- Flat 5mm screwdriver
- Small adjustable spanner
- Side cutters
- Cable (zip) ties
- Pliers
- ¼" Socket or Nut Driver
- Small flat blade scraper or putty knife.



WARNING

Do NOT use power tools if working on a fuel station forecourt.


Any spark could cause an explosion.


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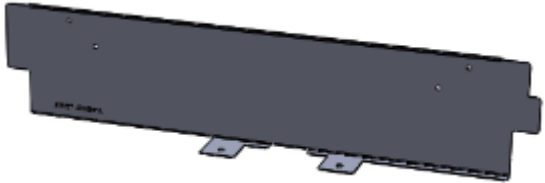





1.2 Installation Kit Contents


G7 15 inch (G7-100 SDC-15) Outdoor Payment Terminal (OPT) system, Black (RF00014-XX):

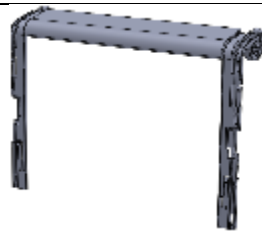
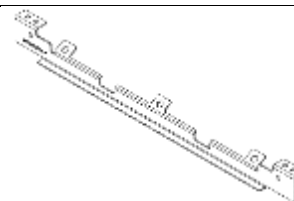

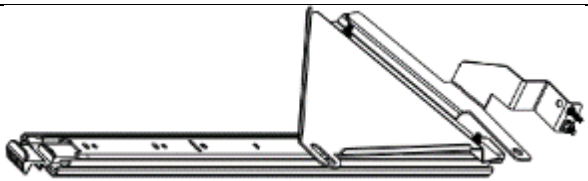
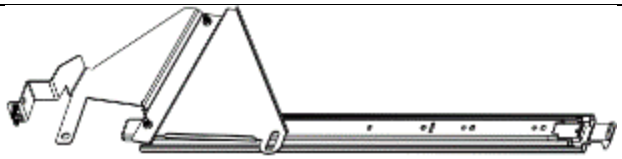




Unpack the G7 Wayne Helix Standard Black Retro-Fit Kit (RF00014-XX) and check that all the parts listed below are present. Also refer to the power supply assembly-installation procedure (section 4.3.) relating to the communication method parts.


Retrofit Kit Contents		
Part Number	Description	Illustration
1 x RP00014-XX	G7 15 inch Wayne Helix Standard RFK panel assembly (The ADA module is optional)	




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1 x EZ0702	PSU Plate Assembly with cables	
1 x MP0908 (497-0517696)	Helix PSU Mounting Bracket (one per dispenser)	
1 x MP0999 (497-0521281)	Buzzer Adhesive Pad (one per dispenser)	
2 x MN0029	#8-32 Lock Nuts (ext. washer)	
1 x MS0249 (006-8617819)	PSU Screw A (one per dispenser) 6-32 x 0.375"	
2 x MS0146 (006-8611215)	PSU Screw B (two per dispenser) 6-32 x 1/2"	
2 x MN0076 (006-8611426)	PSU Nut B (two per dispenser) 6-32 KEP	

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1 x MP0933 (497-0517598)	Helix Upper Plastic Collar Door Frame	
1 x MP1000 (497-0522916)	PPU Bracket	
2 x MW0058 (006-8626923)	Totalizer Spacer Washer	
1 x MZ0212	Printer Side Slide Rail Assembly	
1 x MZ0222	Card Reader Side Slide Rail Assembly	
2 x MS0245 (006-8611475)	Slide Rail Screw #6-19 x 3/8"	
2 x MN0078 (006-8611847)	Slide Rail Nut M4 KEP	
MO0023 + MO0033 (497-0515297)	Lock Assembly (Optional per installation location)	
2 x MS0280	Hi-Lo, #8-18 x 3/8", Pan Head Philips Screws	


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Cables kit comprising:		
1 x EK0203 (497-0519397)	Wayne Helix to InvencoLink	
1 x EK0131 (497-0513384)	Cat-5e, Flexible, YELLOW	
1 x EK0126 (497-0513686)	Wayne Pump to PSU Adaptor	
7 x MS0257 (006-8626866)	Screw – M4x12, Truss Head, Phillips	All spares, none used


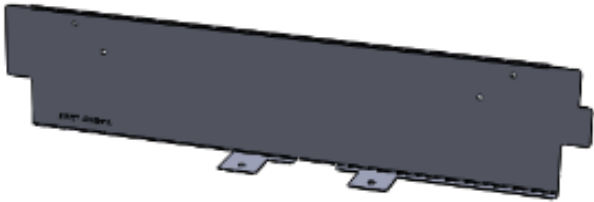





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G7 Outdoor Payment Terminal (OPT) system, Black (RF00063-XX):


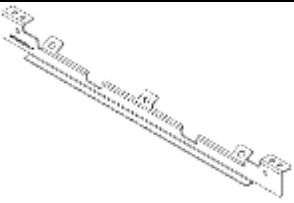

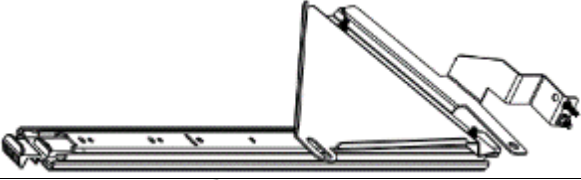
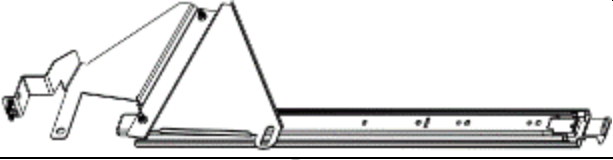




Unpack the G7 Wayne Helix Standard Black Retro-Fit Kit (RF00063-XX) and check that all the parts listed below are present. Also refer to the power supplier assembly installation procedure (section 4.3.) relating to the communication method parts.


Retrofit Kit Contents		
Part Number	Description	Illustration
RP00063-XX	G7 Wayne Helix Standard RFK panel assembly	




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1 x EZ0702	PSU Plate Assembly with cables	
1 x MP0908 (497-0517696)	Helix PSU Mounting Bracket (one per dispenser)	
2 x MN0029	#8-32 Lock Nuts (ext. washer)	
1 x MP0999 (497-0521281)	Buzzer Adhesive Pad (one per dispenser)	
1 x MS0249 (006-8617819)	PSU Screw A (one per dispenser) 6-32 x 0.375"	
2 x MS0146 (006-8611215)	PSU Screw B (two per dispenser) 6-32 x 1/2"	
2 x MN0076 (006-8611426)	PSU Nut B (two per dispenser) 6-32 KEP	

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1 x MP0933 (497-0517598)	Helix Upper Plastic Collar Door Frame	
1 x MP1000 (497-0522916)	PPU Bracket	
2 x MW0058 (006-8626923)	Totalizer Spacer Washer	
1 x MZ0212	Printer Side Slide Rail Assembly	
1 x MZ0222	Card Reader Side Slide Rail Assembly	
2 x MS0245 (006-8611475)	Slide Rail Screw #6-19 x 3/8"	
2 x MN0078 (006-8611847)	Slide Rail Nut M4 KEP	
MO0023 + MO0033 (497-0515297)	Lock Assembly (Optional per installation location)	
2 x MS0280	Hi-Lo, #8-18 x 3/8", Pan Head Philips Screws	

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2 Safety & Compliance Information

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining or servicing the G7 or G7 15 inch (G7-100 SDC-15). Before proceeding, check the relevant hazard and safety information. Fire, explosion or electrical shock could occur and cause death or serious injury if these safe service procedures are not followed.

2.1 Preliminary Precautions

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

2.2 Emergency Total Electrical Shut-Off

Locate the forecourt emergency fuel shut-off valves and electrical isolation breakers. Understand how to use these, should they be required. Locate the switch or circuit breakers that shut-off all power to all fueling equipment and dispensing devices.

2.3 Total Electrical Shut-Off Before Access

Any procedure requiring access to electrical components or the electronics of a pump/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 the Invenco OPT


2.4 Evacuation, Barricading and Shut-Off

Any procedures requiring accessing a pump/dispenser head requires the following three actions:

- An evacuation of all unauthorized persons and vehicles
- Using safety tape or cones as barricades to the effected units
- A total electrical shut-off of the affected unit(s)

2.5 Read the Manual

Read, understand and follow this manual and any other labels or related materials supplied with the equipment. If you do not understand a procedure, call an Invenco Authorized Service Centre or Invenco

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Service Officer. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

2.6 Follow the Regulations

Regulations in OSHR (Occupational Safety and Health Regulations), national, state and local codes, including customer requirements 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 and may affect the safe use and operation of the equipment.

2.7 Replacement Parts

Use only genuine Invenco replacement parts and retrofit kits on your installation. Using parts other than genuine Invenco replacement parts could create a safety hazard and violate local regulations.

3 Safety Symbols and Terminology



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 hazard. 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: Designates a hazard or unsafe practice which may result in minor injury, property or equipment damage.

Working with Fuels and Electrical Energy

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3.1 Prevent Explosions and Fires

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

3.1.1 No Open Flames



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

3.1.2 No Sparks - No Smoking



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


3.1.3 Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Be familiar with Cardiopulmonary Resuscitation (CPR) methods if you are working with or around high voltages. This information is available from the First Aid training providers. 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 Tag-out/Lockout procedures. If you are not familiar with this requirement, refer to information in the relevant manual and OSHA documentation.

3.1.4 Working with Electricity Safety

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 Tag-out/Lockout requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while equipment is down.

Follow all applicable requirements in NFPA 30, 30A and 70, and those of the Local Authority Having Jurisdiction for electrical wiring.

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3.1.5 Hazardous Materials

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

3.1.6 In an Emergency

Compile the following information in case of emergency:

- Location of accident (e.g. address, front/back of building, etc.)
- Nature of accident (e.g. possible heart attack, struck by a vehicle, burns, etc.)
- Age of victim (e.g. baby, teenager, middle-age, elderly).
- Whether or not victim has received first aid (e.g. stopped bleeding by application of pressure etc.)
- Whether or not victim has vomited (e.g. if swallowed or inhaled something etc.)

IMPORTANT:

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

3.1.7 Approvals


Invenco develops and maintains its hardware and software products using industry-standard quality processes and is audited by various bodies. The Invenco G7 or G7 15 inch (G7-100 SDC-15) Modules have a UL File References of E469526 and E480135 and carry labels similar to this:



The Invenco Retro-Fit Kit has UL File Reference of MH.61528

3.1.8 Laser Warning


Some modules of the G7 or G7 15 inch (G7-100 SDC-15) OPT may incorporate a barcode reader. The barcode reader incorporates a laser aiming system. The Laser has a Class 2 output power to IEC 60825-1:2007 / ANSI Z136.1

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3.2 Computer Programs and Documentation

All Invenco Group Ltd. computer programs (including software on discs and within memory chips) and documentation are copyrighted by, and shall remain the property of, Invenco Group Ltd. Such computer programs and documents may also contain trade secret information. The duplication, disclosure, modification, or unauthorized use of computer programs or documentation is strictly prohibited, unless otherwise licensed by Invenco Group Ltd.

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4 Installation Guide

1. Please ensure all safety procedures are followed per requirement by the customer before installing the retrofit kit.
2. Remove power to Pump and follow the OSHA Lock-out/Tag-out procedures.



WARNING

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

3. This installation will require various panel replacements. The panels will be removed from the door and replaced with pre-built panels with the OPT modules pre-fitted.

4.1 Disassembly Procedure


NOTE: This installation guide is valid for Helix Standard Dispensers without an intercom speaker. Check and verify at pre-installation step 3 to confirm before proceeding further.

Before installation of the equipment can take place, the existing door assembly must be removed from the dispenser. This section covers the removal of these components including:

- Removal of reused components, e.g. PPU panel
- Unused cables and wires from door components

Note: Throughout this disassembly procedure there are many cable assemblies that will be unplugged and will not be reused. It is up to the discretion of the installer whether to remove these cables or position them inside of the dispenser cavity. The loose cables need to be bundled and restrained using zip-ties or cable restraints. After the cables have been bundled, they must be placed in a location that will not cause obstruction, exposure, or hazard.

Note: It may be necessary to disconnect cable assemblies on various boards during this disassembly procedure in order to more easily access other components. Disconnect these cables as necessary. It is recommended that the installer of this kit either re-connect these cables immediately afterwards or mark each disconnected cable before it is unplugged to make it easier to identify when it comes time for re-installation.

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4.2 Pre-Installation Procedure


4.2.1 Shut off the main power to the dispenser before beginning the deinstallation

4.2.2 Open the dispenser.

1. Using the provided key for the dispenser, unlock the lower metal frame on the Helix dispenser.




Figure 1: Security Bolts

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2. Open the door and place the Prop Rod in the upper right corner to hold up the dispenser Collar Frame.



Figure 2: Door Prop Rod in position

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3. Check to verify that the dispenser does not have an existing intercom speaker. Visually identify to see if the intercom speaker is present on the upper plastic collar frame. If an intercom speaker is present, this installation guide does not cover installation in this dispenser. Close up the dispenser again and contact technical support for advice. Otherwise carry on with the next steps to complete the installation.

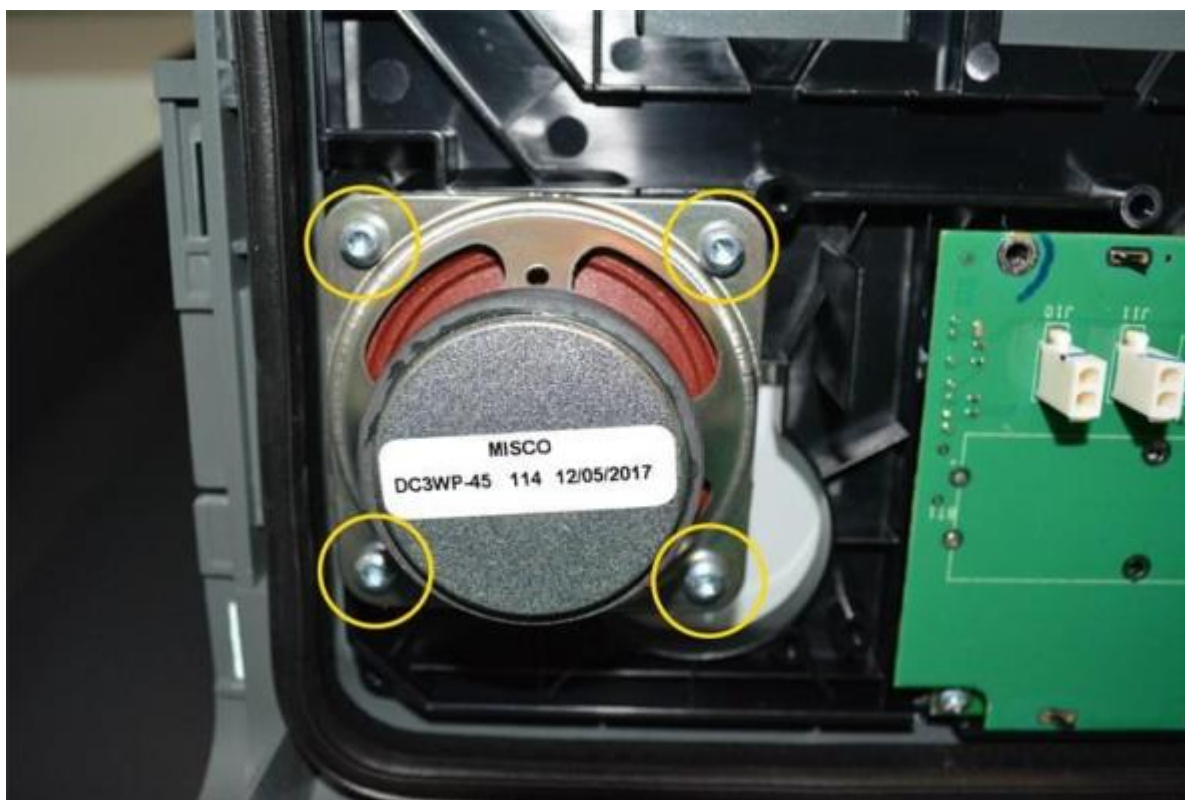



Figure 3: Intercom Speaker

4. Remove the lower metal Collar Frame
 - a. Unscrew the two attaching screws using a T7 Torx driver holding the upper and lower collar frame sections together. Retain the screws and set aside.

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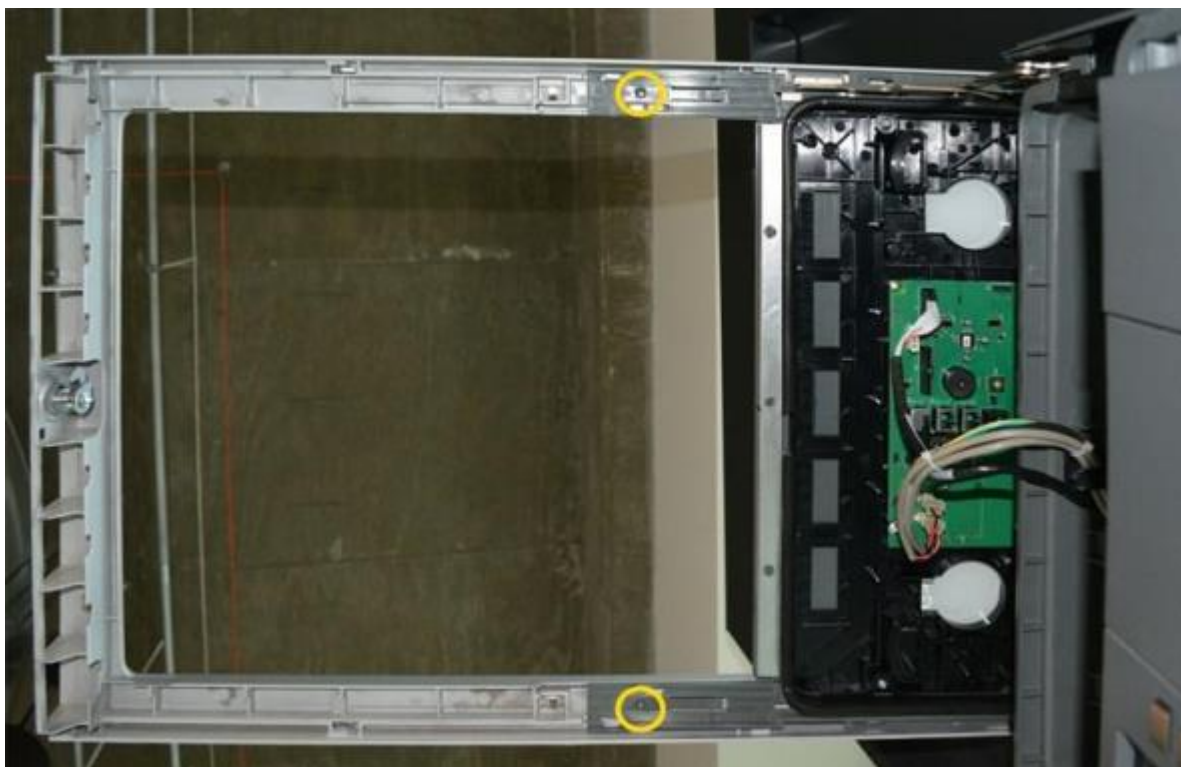



Figure 4: Location of attaching screws, viewed from below

- b. Using a flathead driver, leverage the plastic latch on the upper plastic frame away from the metal frame. Apply a sharp force to the bottom of the metal collar frame until the hooks disengage. Retain and set aside.



Caution: When the lower metal frame disengages from the upper plastic frame it could fall causing injury to the installer or damage to the frame itself. Hold in place to prevent injury or damage.

5. Repeat the previous steps to remove the Metal Collar Frame on the opposite side of the dispenser.


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4.2.3 Remove the dispenser shoulders

1. With both plastic frames on each side closed, lift slightly until the shoulders can be removed.




Figure 5: Prying point

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2. Pry up on the points indicated until the shoulder is loosened. Pull the rest of the way off.



Figure 6: Shoulder partially raised

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3. Repeat the removal step on the other dispenser shoulder. Retain both shoulder sections.



Caution: Be careful to apply enough force to loosen the shoulder piece but not enough to snap off the capturing feature. These components will be reinstalled.




Figure 7: Shoulder raised further

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4. Verify the upper plastic collar frame on each side of the dispenser is raised and the Prop Rod is in place after both shoulders have been removed.



Figure 8: Metal Collar Frame removed

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4.2.4 Uninstall the Helix Cabinet Components

1. Uninstall all components from the upper Plastic Collar Frame.

Note all connections to the Helix Customer Display. Unplug all connections to the Helix Customer Display and unscrew the grounding wire screw from the plastic collar frame using a T7 Torex driver. Retain the ground wire screw.

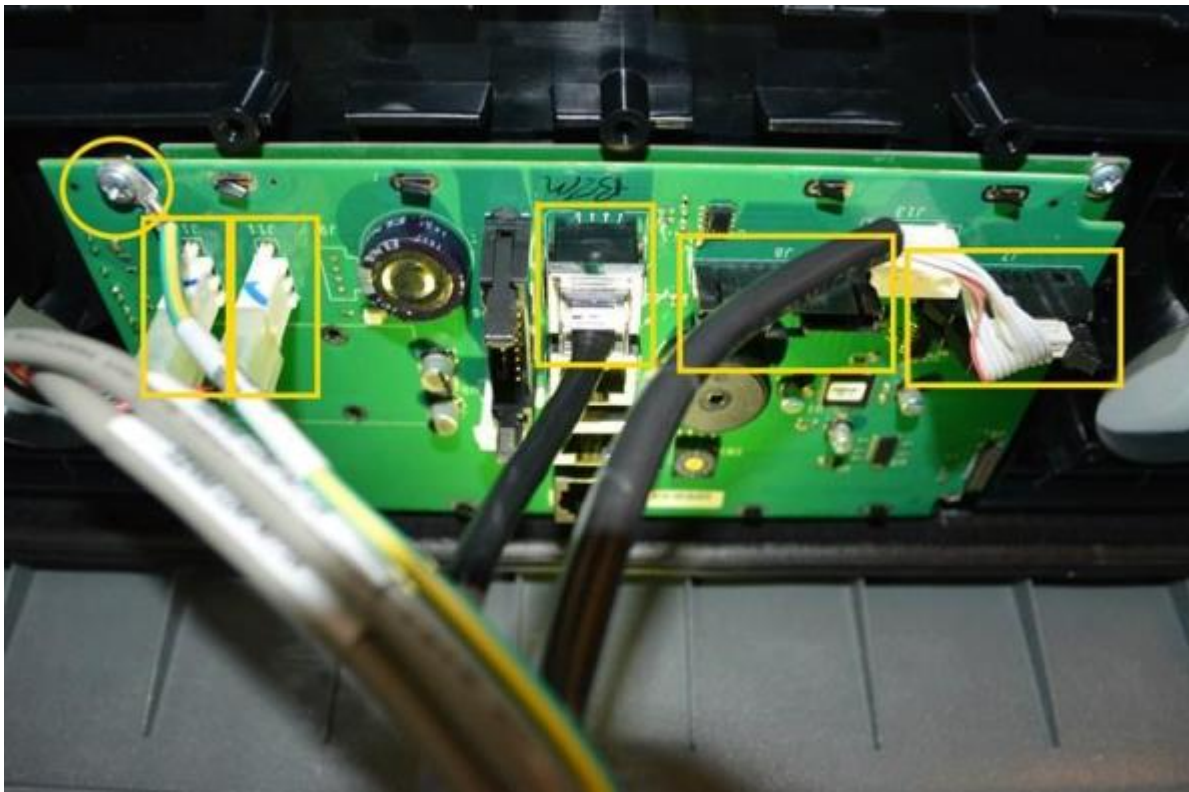




Figure 9: Note connections for later reinstallation

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2. Unlock the Helix STD components using the site's assigned key.



Figure 10: Unlock the STD components

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3. Uninstall the PPU panel.

- a. Pull out the Helix STD components and PPU Panel attached to the slide rails.



Figure 11: Pull out the STD components

- b. Note the cable connections to the PPU Board (located below the Helix STD components), PPU Grade Select Buttons Cable, Totalizer Cables, and Call/Intercomm Button cable for re-installation. Disconnect all cables from the PPU board, totalizers (if present), Grade Select Buttons, and Call Button (if present on PPU panel).

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Note: Up to 5 PPU's may be included depending on the configuration.



- c. Note the location of each Totalizer Bracket Assembly. Remove and retain the Totalizer Bracket Assembly if present. Discard attaching hardware.

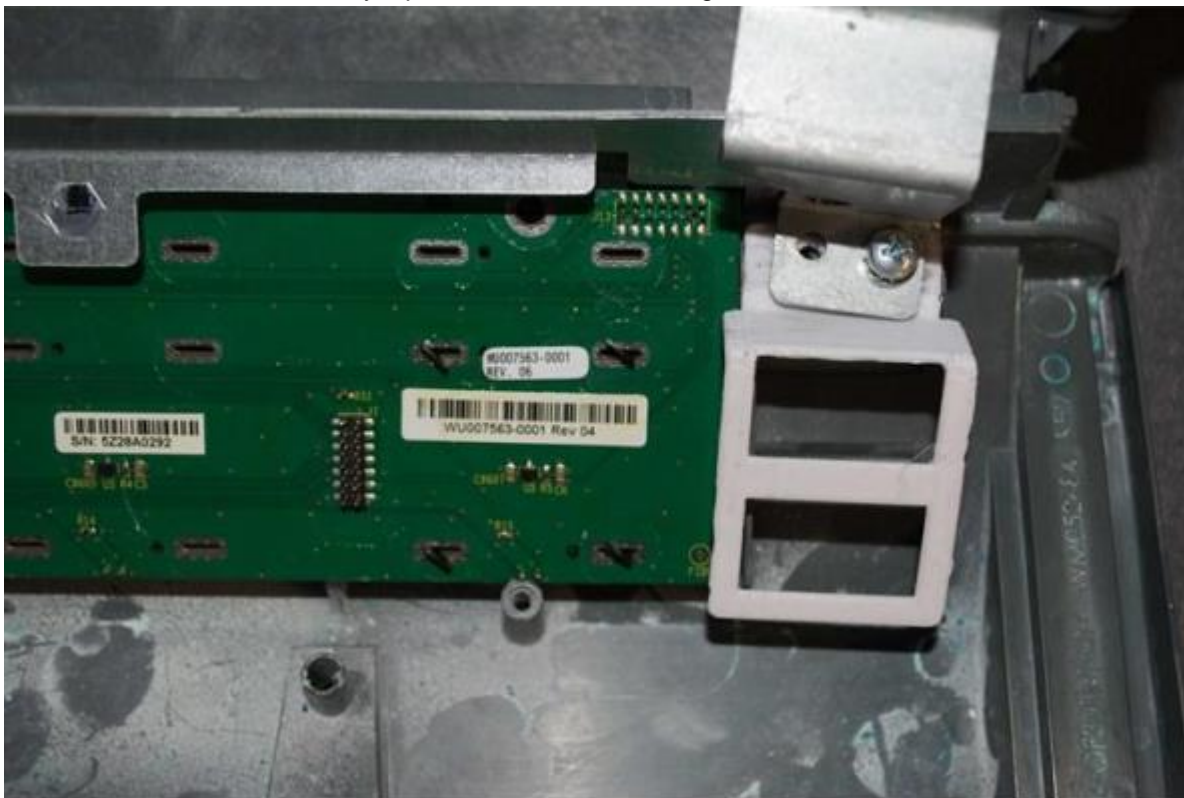



Figure 12: Location of totalizer bracket

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- d. Unscrew the metal PPU board bracket from the plastic PPU panel using a Philips head driver (or T7 Torex driver depending on screw type). Discard the hardware.




Figure 13: Location of PPU bracket screws

- e. Remove the PPU board from the metal bracket. Retain the PPU board and attaching hardware. Discard the metal bracket.

Note: Depending on the PPU configuration, the PPU board could be held on by 2 to 5 screws to the metal bracket.




Figure 14: Location of PPU board screws

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- f. Disengage the three plastic securing latches at the top of the PPU panel and pull off the lower portion of the gasket attached around the edge of the PPU panel. Remove and retain the plastic PPU panel.



Figure 15: Location of PPU Panel latches and gasket


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- g. Remove and discard the string gasket from the PPU panel.



Figure 16: PPU Panel string gasket

4. Remove the Helix STD Components.
 - a. Unplug all cables included in the black sleeved cable bundle from the Helix STD components attached to the slide rail pull-out (Card Reader, Screen, etc.).

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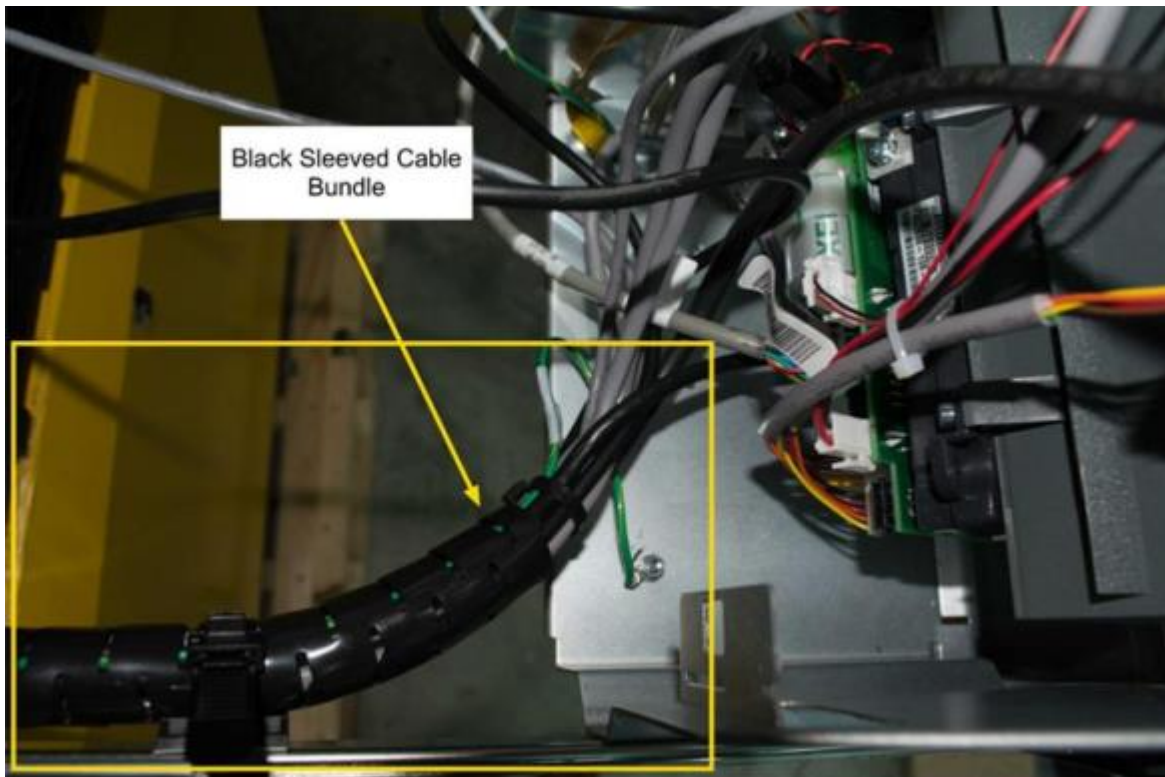



Figure 17: Black cable sleeve




Figure 18: Cables from sleeve to unplug

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- b. Open the printer door using the site assigned printer key and pull out the printer.



Figure 19: Printer door with lock

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- c. Unplug the printer cables from the printer unit.

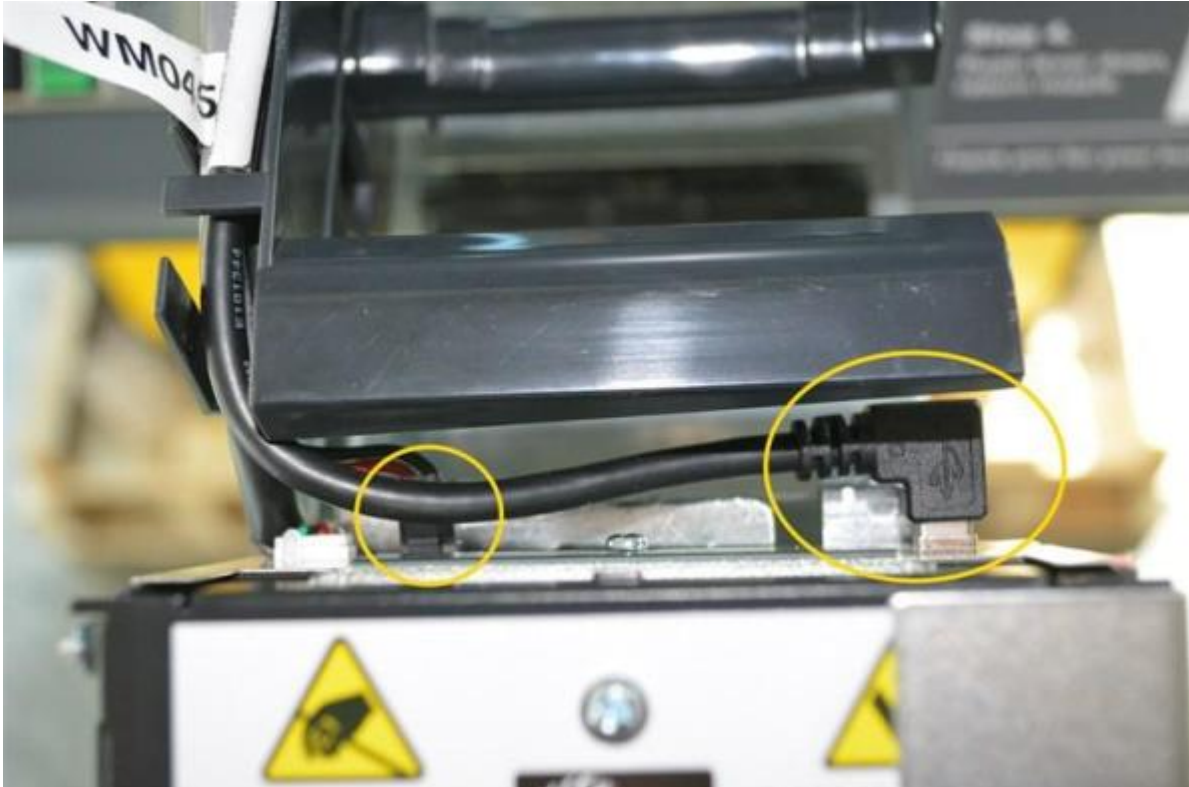


Figure 20: Unclip printer cables

- d. Unclip the Printer Cables from the routing channel along the side of the printer. Pull the cables through the printer door opening. Close and re-lock the printer door.



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Figure 21: Pull printer cables thru door opening

- e. Check that all connections are unplugged from the Helix STD components (including grounding wires) and unzip the cable bundle from the STD slide bar and place into the dispenser.

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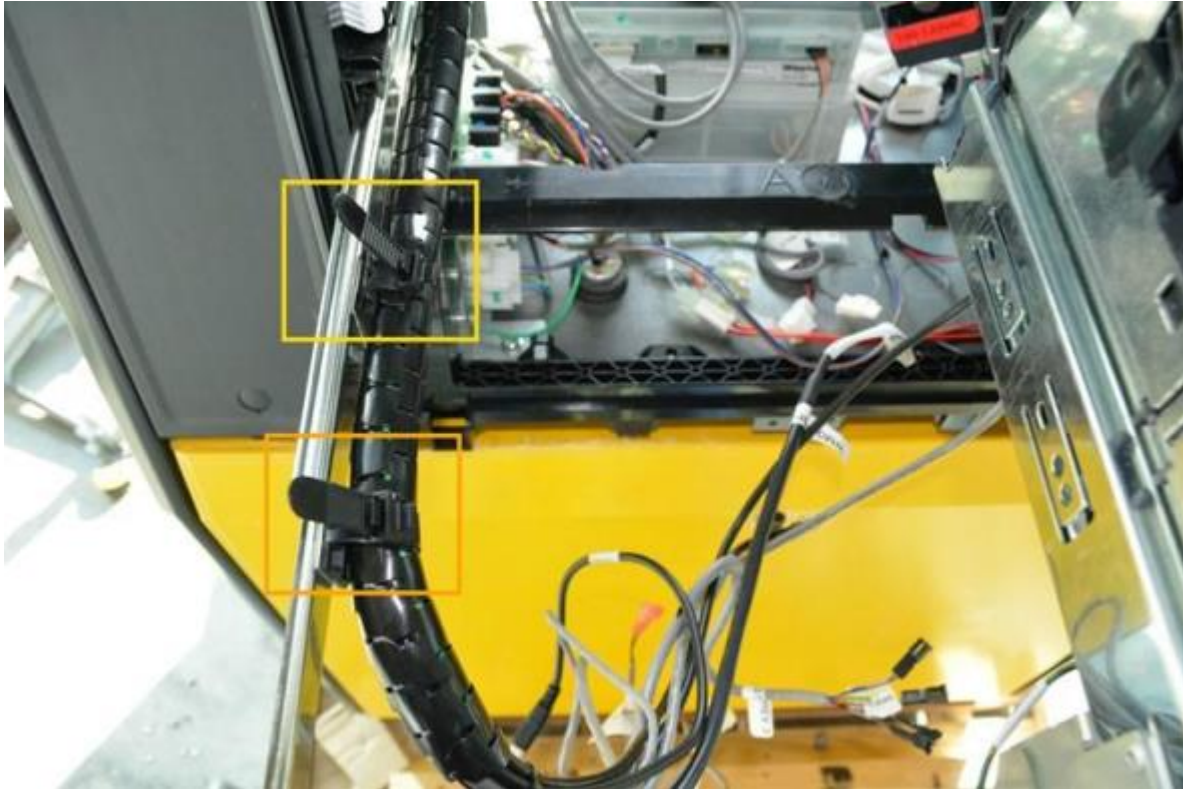


Figure 22: Unzip cable bundle from slide bar

- f. Remove the Helix STD components by disengaging the slide bars and pulling the components fully out of the dispenser. Depress the plastic catch lever on each slide bar track and pull out the STD components until the slide bars clear the dispenser. Discard the Helix STD components.



Caution: The Helix STD Components are heavy and could come loose quickly. A second installer may be needed when removing the STD components off the slide track rails.

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Figure 23: Slide catch levers in two places (one per slide)

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- g. Remove both slide rails from inside the dispenser. Depress the red security latch on the back side of the slide rail and pull the track out of the dispenser slide rail. Discard the rails.

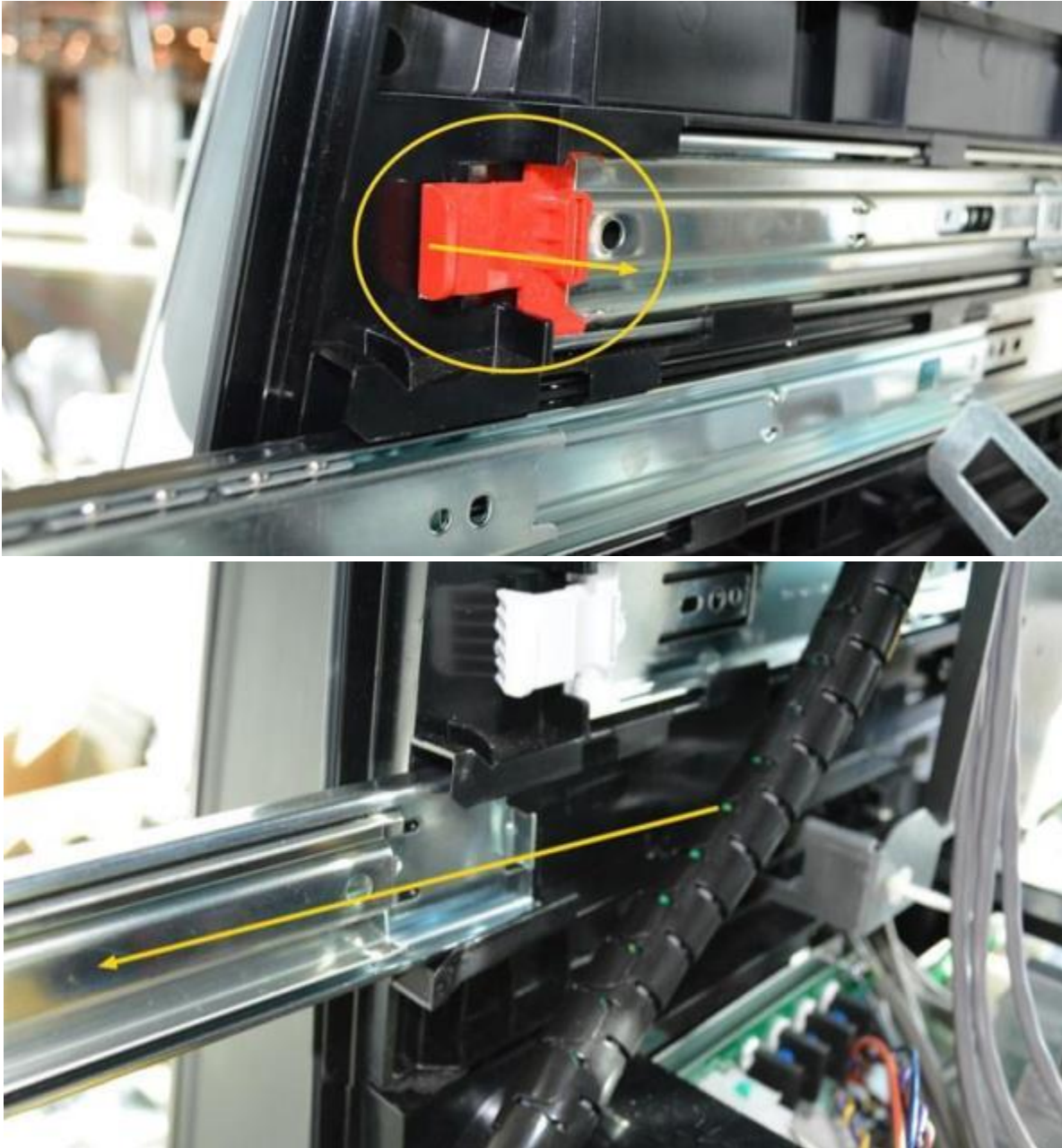




Figure 24: Remove the slide rails

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5. Remove reused cables from the Black Sleeved Cable Bundle and remove unused cables from the dispenser.
 - a. Remove any restraints holding the Black Sleeve Cable Bundle to the inside of the dispenser and remove the Black Sleeve from the cable bundle. Discard the black sleeve.
 - b. Identify the PPU cables for power and communication, PPU Grade Select Cable, Totalizer Cables (if present), and Call/Intercomm Button cables (if present on the PPU panel) from the Cable Bundle. Retain these cables and their dispenser connections.
 - c. Cut all cable ties holding the bundle. Remove and discard all other cables from the dispenser.

6. Repeat the previous steps for the opposite side of the dispenser.

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4.2.5 Uninstall the dispenser Upper Collar Frame

1. Disengage the prop rod from the collar frame.

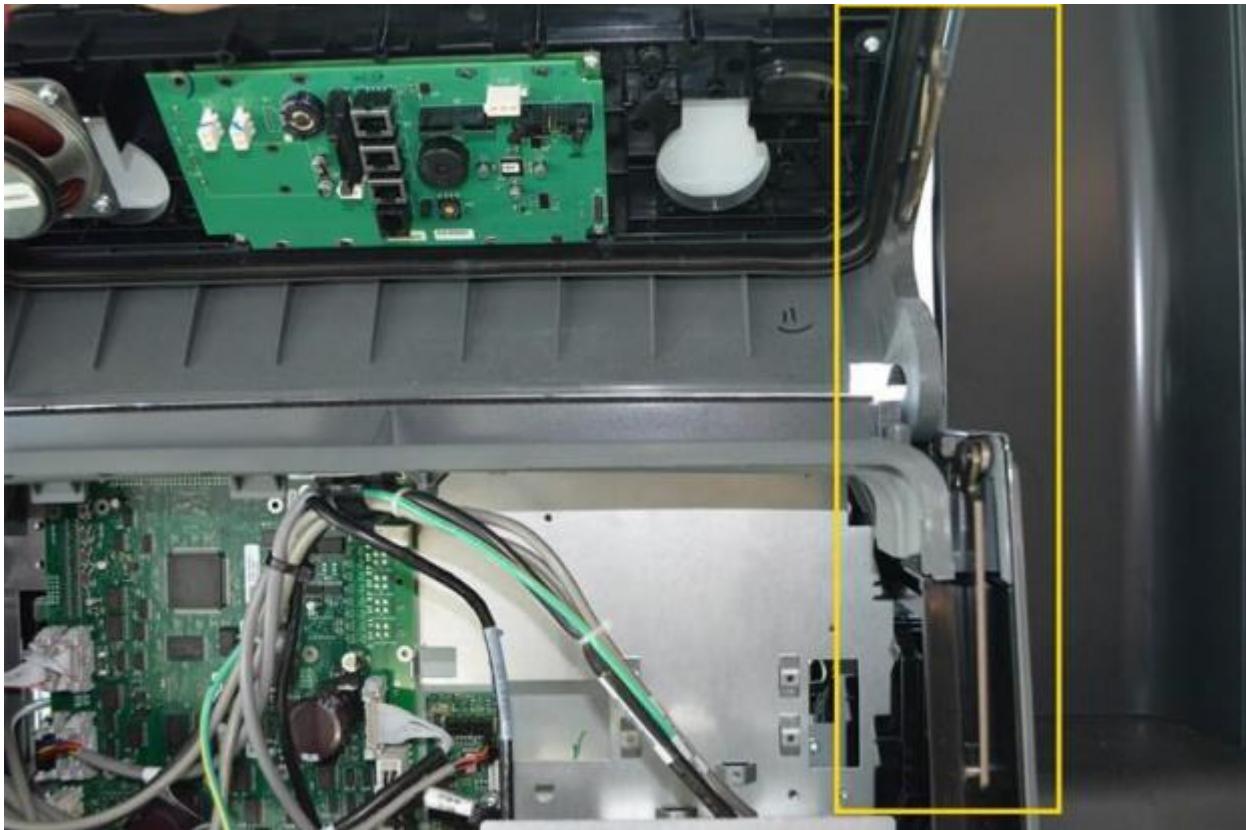


Figure 25: Disengage the Prop Rod

2. Keep the dispenser frame in the open position while pushing the hinge tab out on the right side of the dispenser (The side closest to the prop rod).


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Figure 26: Push the hinge tab out

3. Lift up on the collar frame until the hinge pin clears the hinge tab. Rest the right side of the frame on the dispenser.


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Figure 27: Hinge tab pushed out

4. Repeat the process on the left side hinge pin and hinge tab. Push out on the tab and lift up on the dispenser frame until the frame is removed from the dispenser.
5. Uninstall the Prop Rod Bracket.
 - a. Turn the Upper Collar frame on its side with the Prop Rod Bracket facing up.



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Figure 28: Prop Rod Bracket (silver)

- b. Push up on the bracket while wiggling side to side until it clears the edge of the collar frame.

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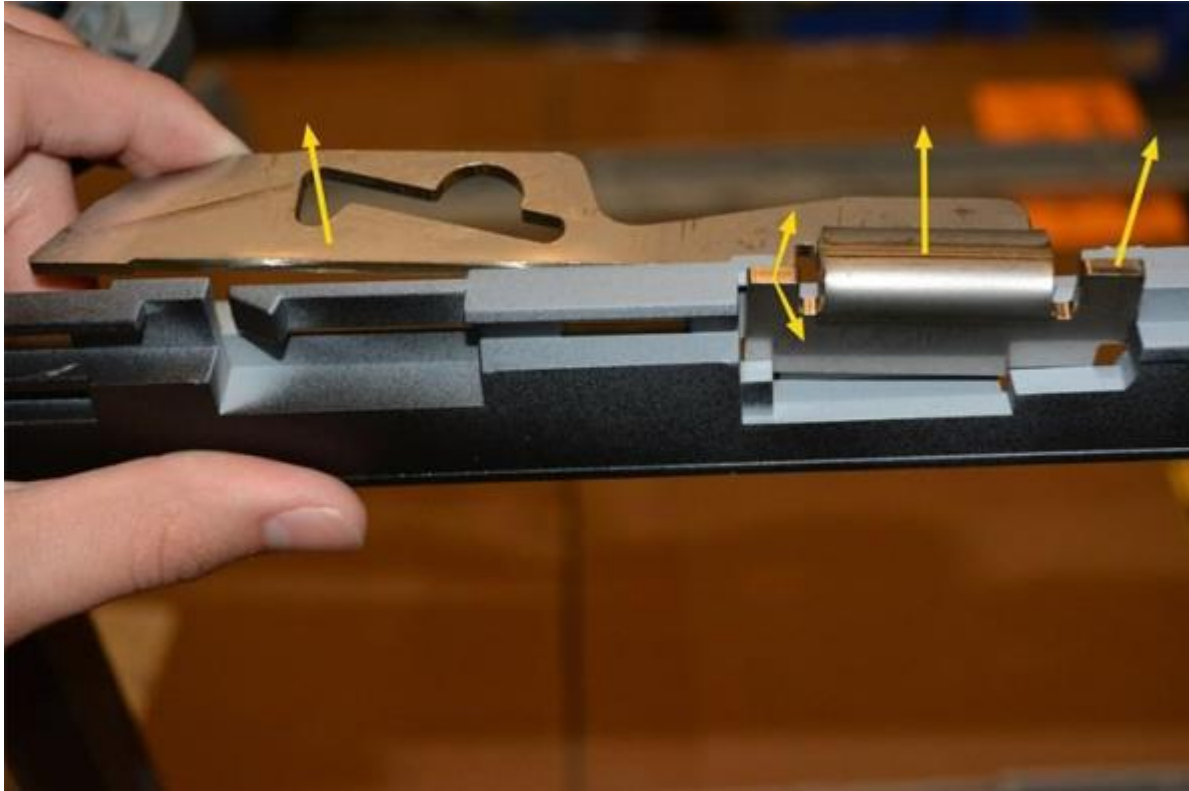



Figure 29: Push and wiggle the Prop Rod Bracket

- c. Continue to push up on the bracket until it is fully removed. Retain the Prop Rod Bracket.

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6. Remove the Customer Display from the plastic collar frame. Unscrew the remaining three screws holding the Customer Display with a T7 Torx driver. Retain the display and attaching hardware.

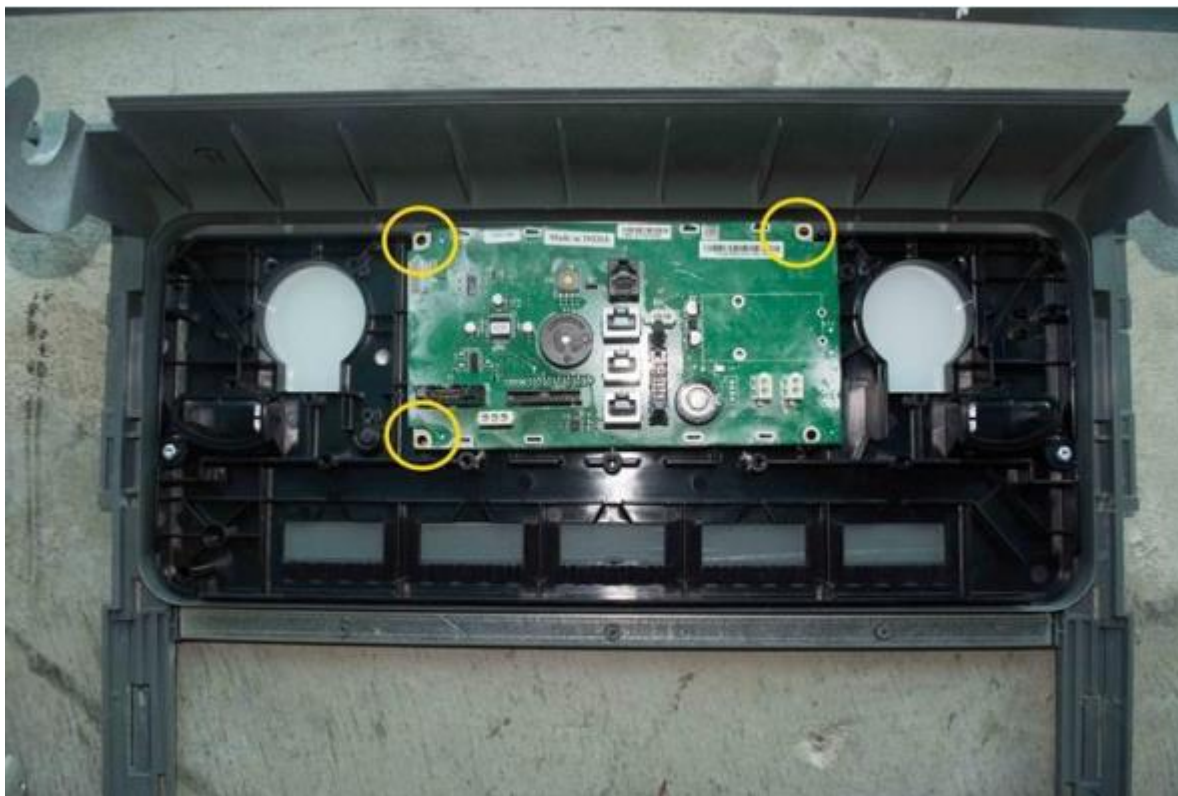



Figure 30: Screw locations for Customer Display

7. Discard the plastic collar frame.
8. Repeat for the opposite side of the dispenser.

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4.2.6 Uninstall the metal bracket components from the dispenser

1. Remove the metal cross bar bracket and attaching hardware from the dispenser.
 - a. Unscrew the two screws from the bracket.

Note: Detach any ground cables connected to the bracket at this time. Discard the attaching hardware.

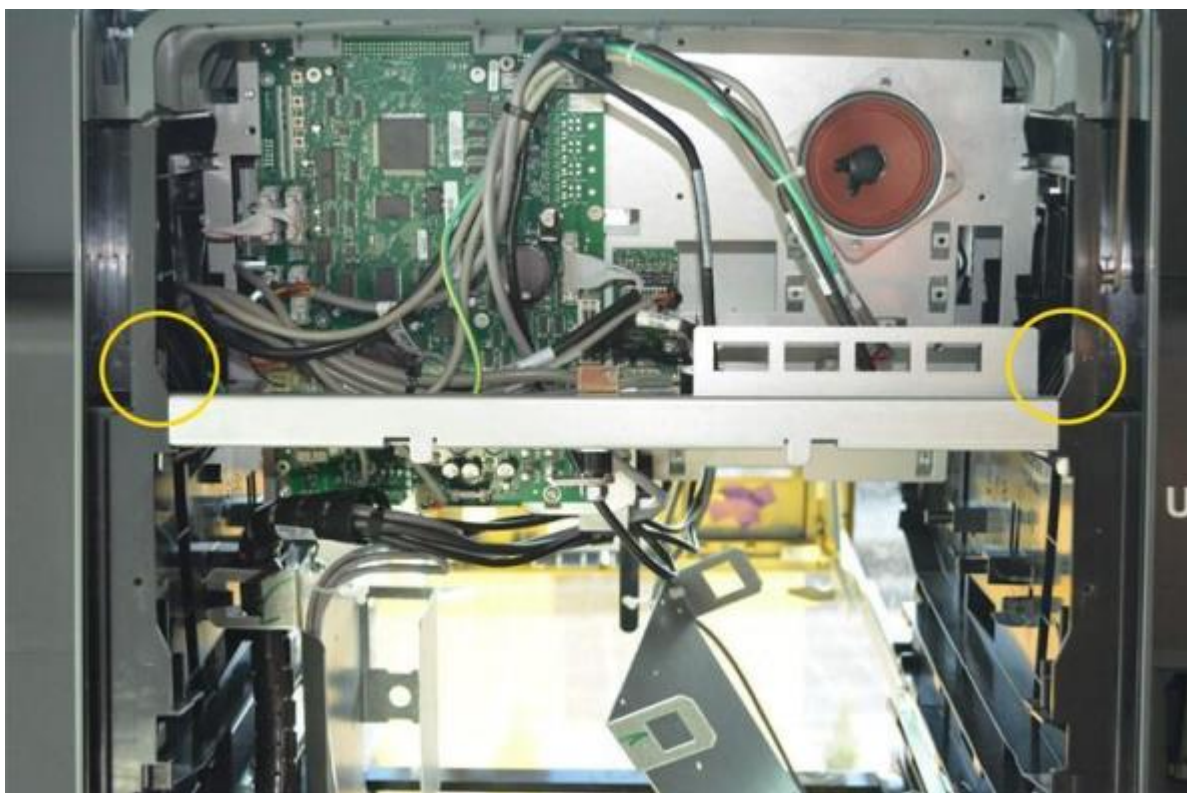



Figure 31: Screw locations for Metal Bracket

- b. Push in the catch on one side and firmly push up or use a rubber mallet on the underside of the bracket. Repeat the process on the other side of the bracket until both cleared their respective latches.

Note: The metal tab on the bracket may need to be bent with pliers or vice grips to clear the plastic catch.

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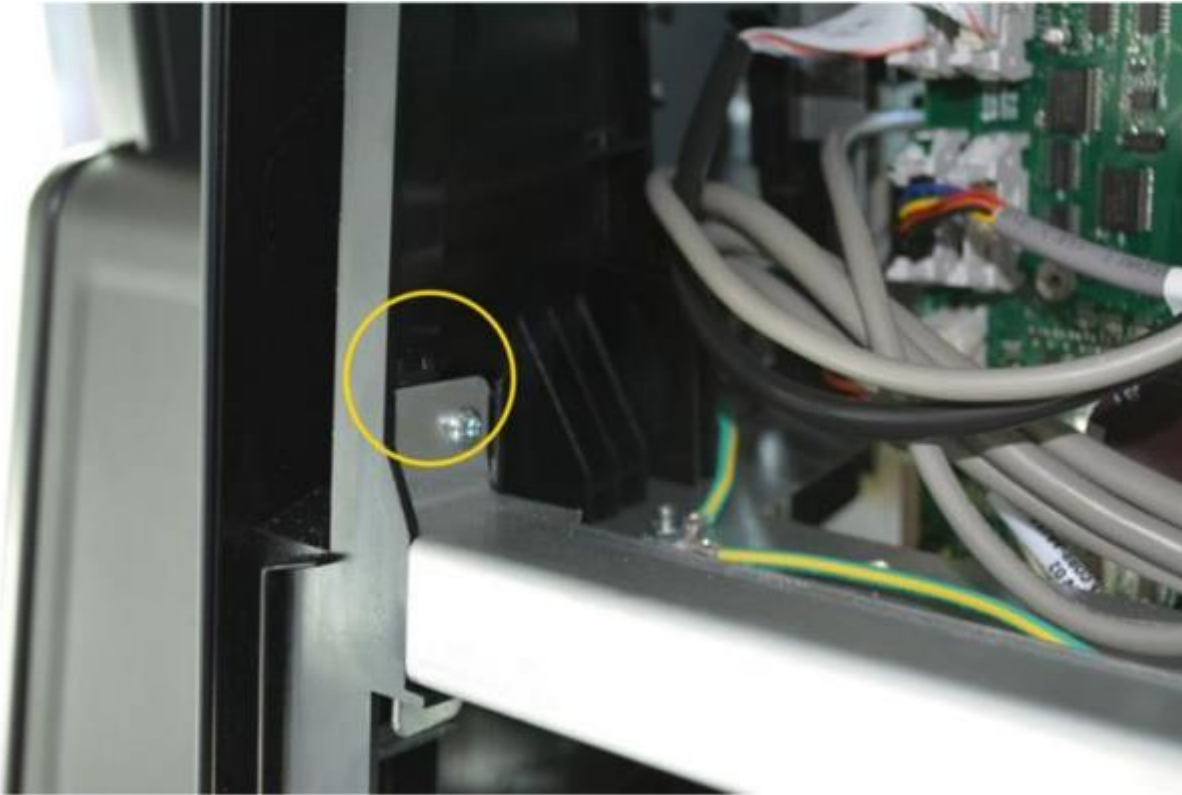



Figure 32: Screw location for Metal Bracket

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- c. Remove and discard the bracket and attaching hardware.



Figure 33: Metal Bracket loose in cabinet (bottom of image)

2. Repeat the previous steps for the opposite side of the dispenser.
3. Remove both bottom side metal brackets and attached components from the dispenser. Some components may need to be disconnected from cables. Discard the brackets and attached components.



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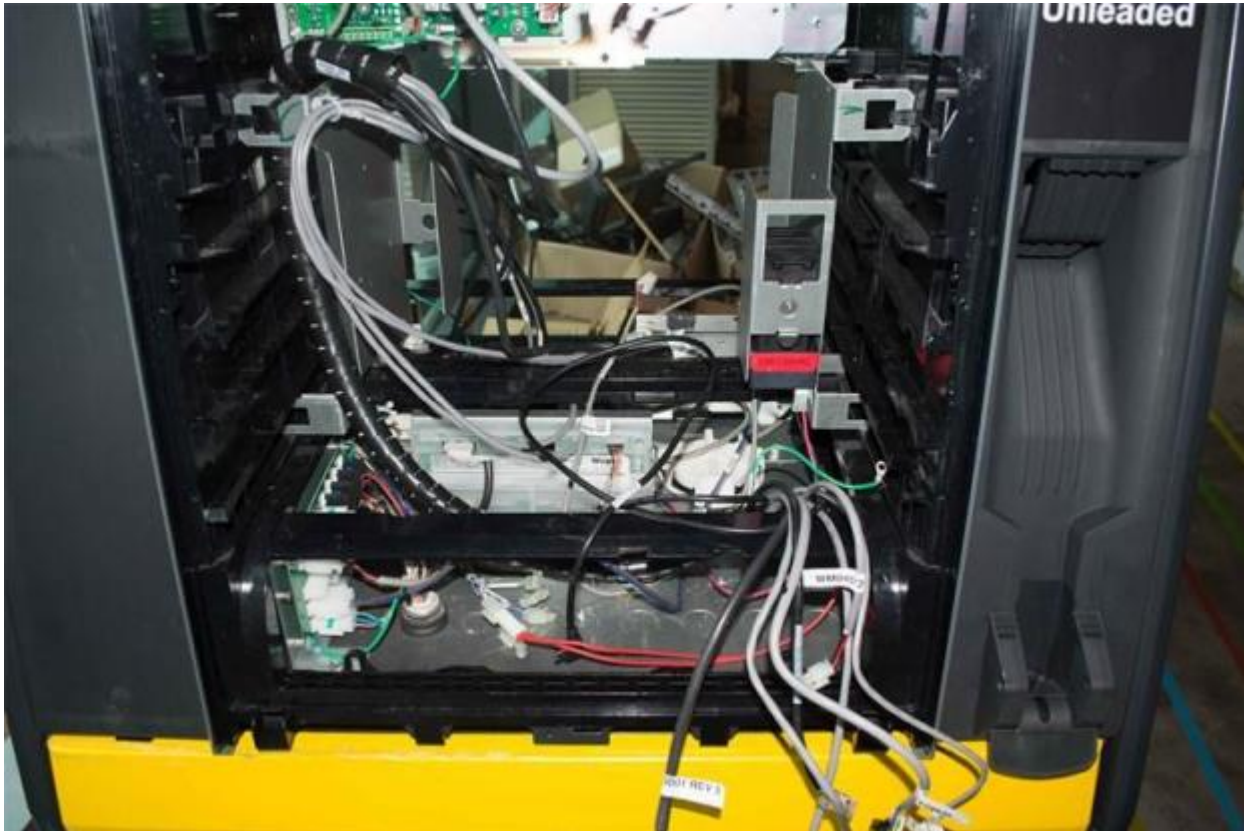



Figure 34: Bottom side metal brackets and components removed

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4. Remove the Helix STD Payment Controller Board components.
 - a. Identify the board shown below.



Figure 35: Helix STD Payment Controller Board

- b. Unplug all cables from the STD controller board.



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Figure 36: Location of Helix STD Payment Controller in the dispenser

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- c. Remove the STD controller board using a T7 Torex driver on the 4 corner screws holding the metal plates together.

Note: Unscrew the outside screws attaching the STD Controller Board Plate to the larger metal plate, not the board screw themselves. Pushing the screw from the back (the screw tip) may be necessary for the threads to engage on the larger plate.

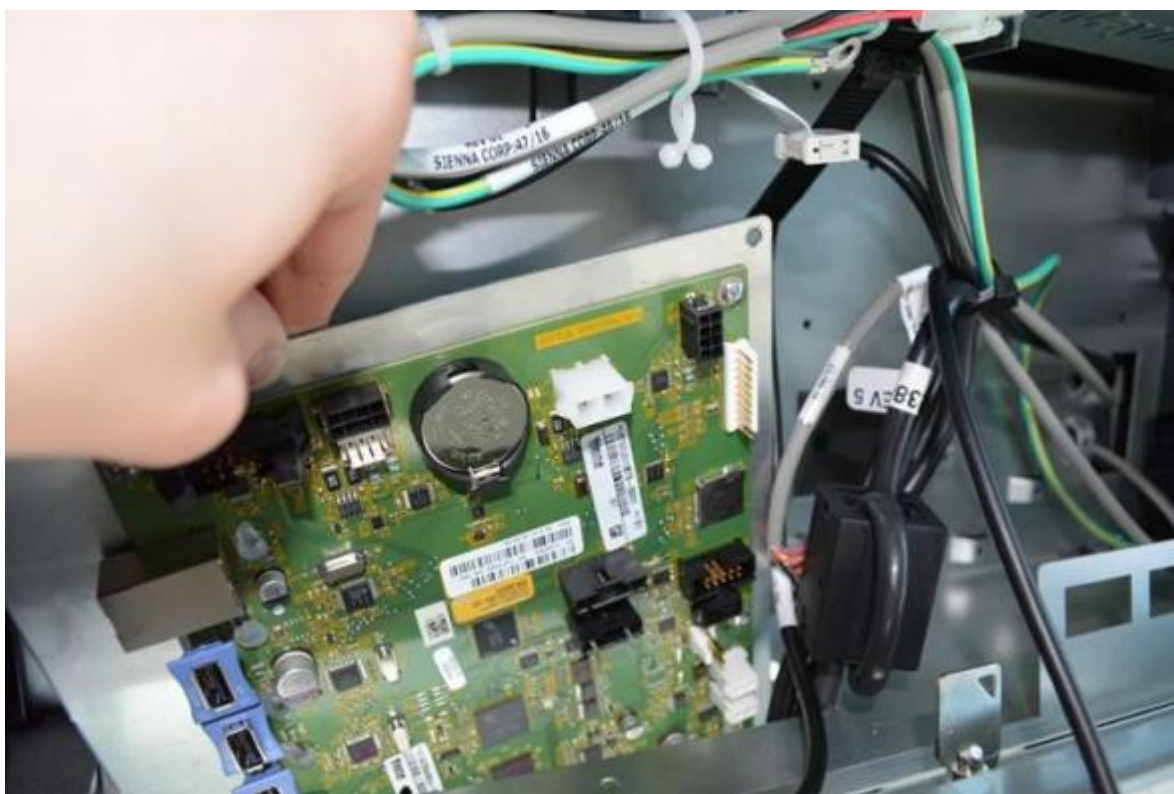



Figure 37: Remove the Helix STD Payment Controller Board and Bracket

5. Remove the lower metal plate from the dispenser to access the large metal plate previously holding the STD payment controller board.

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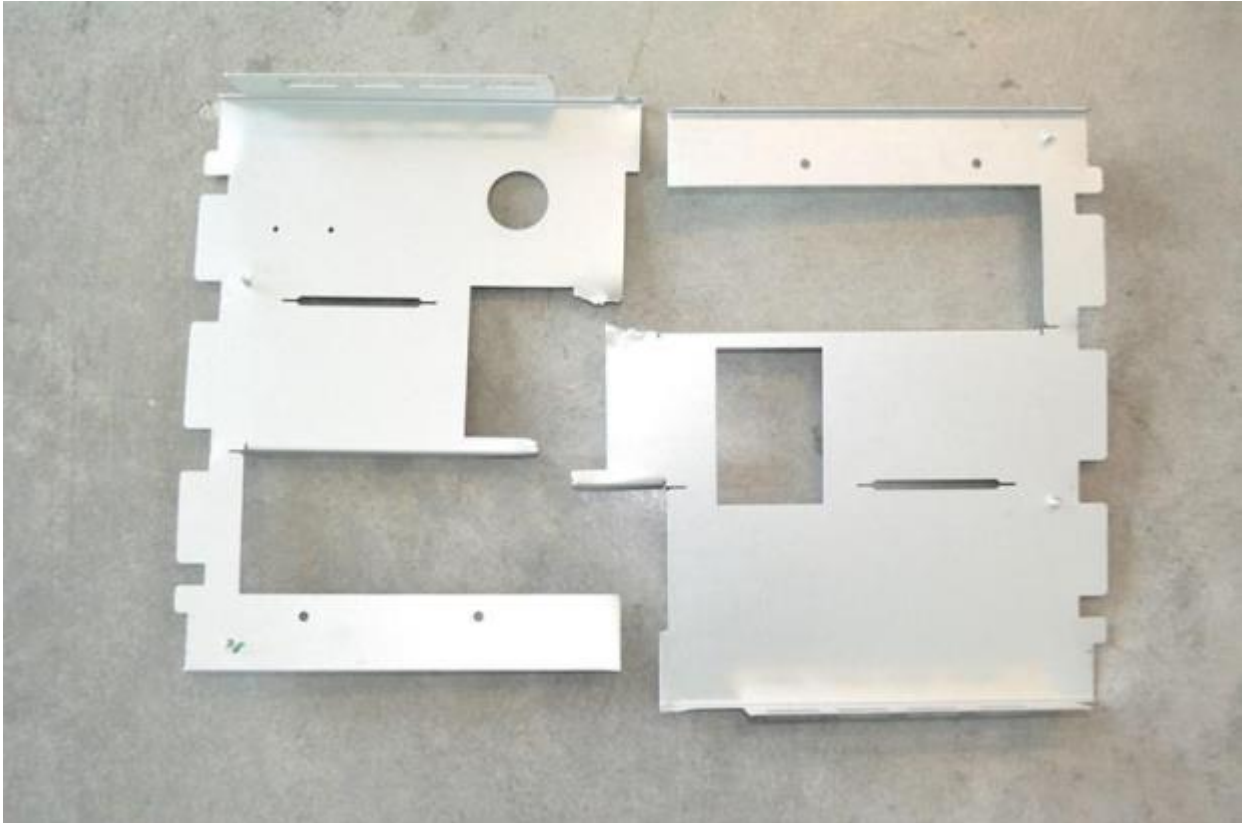



Figure 38: Lower metal plate after removal

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- a. Unscrew the buzzer from the lower metal plate.

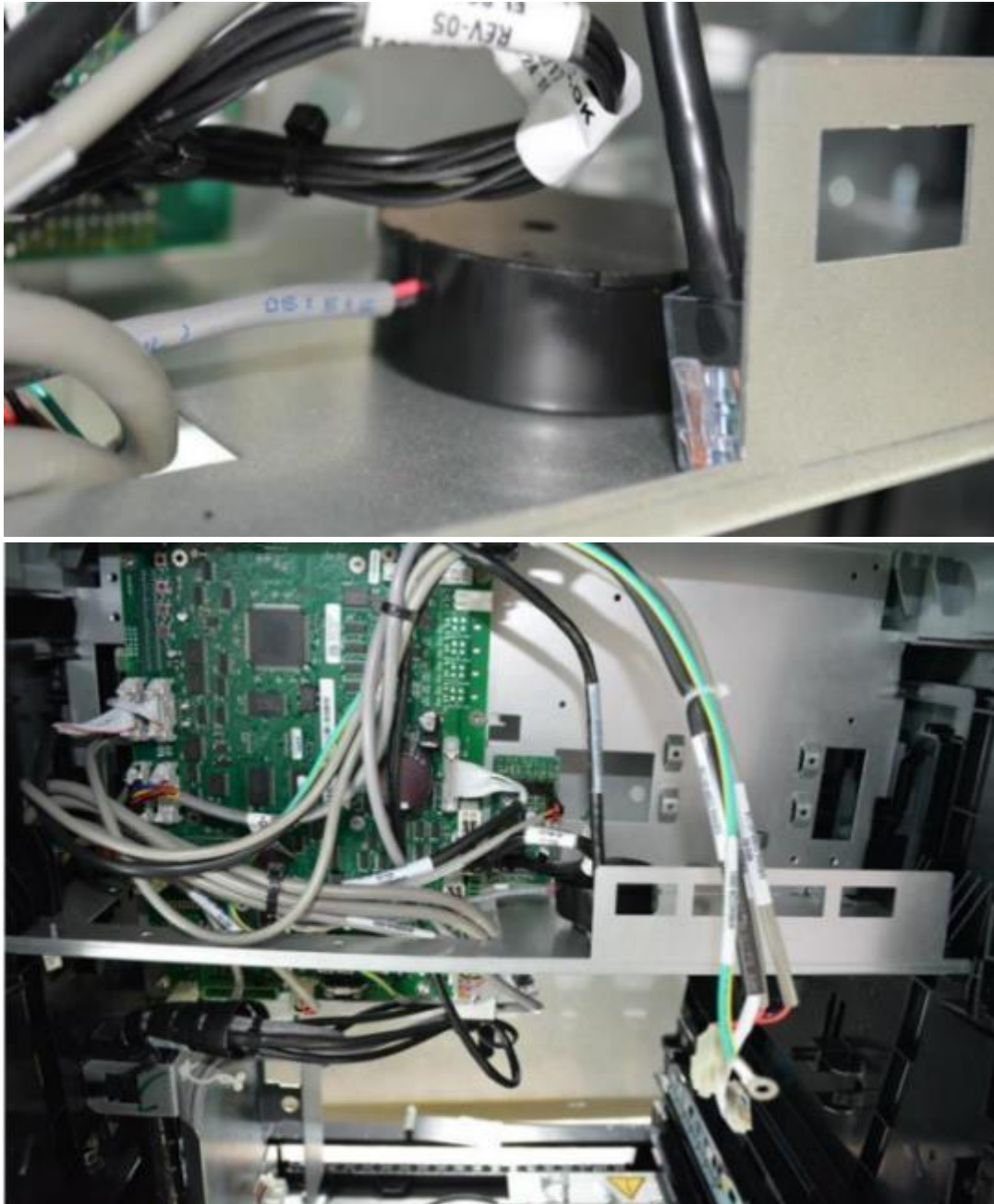



Figure 39: Buzzer on lower metal plate

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- b. Attach the buzzer to the Pump Controller Metal Panel using the supplied adhesive pad MP0999 (497-0521281).

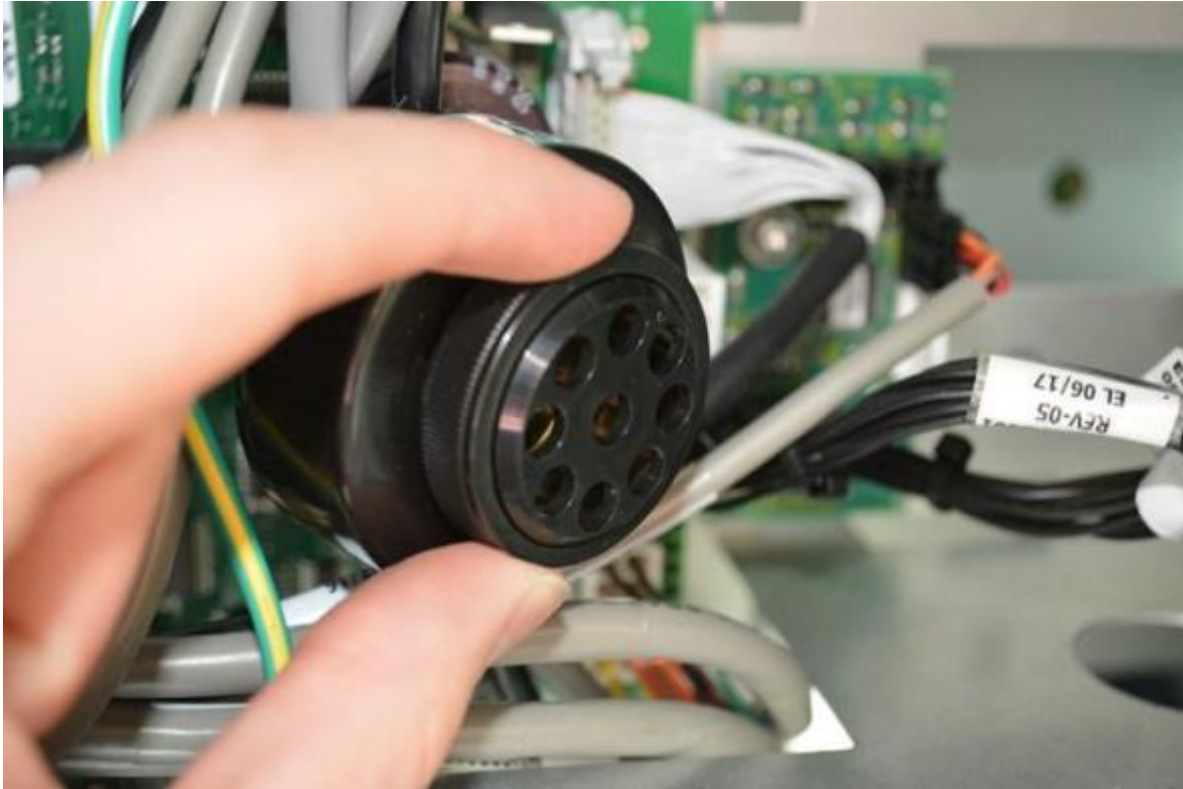



Figure 40: Buzzer removed from lower metal plate

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- c. Remove the nuts on the bottom plate stud and any nuts holding a ground wire to the bottom plate. Discard all hardware.

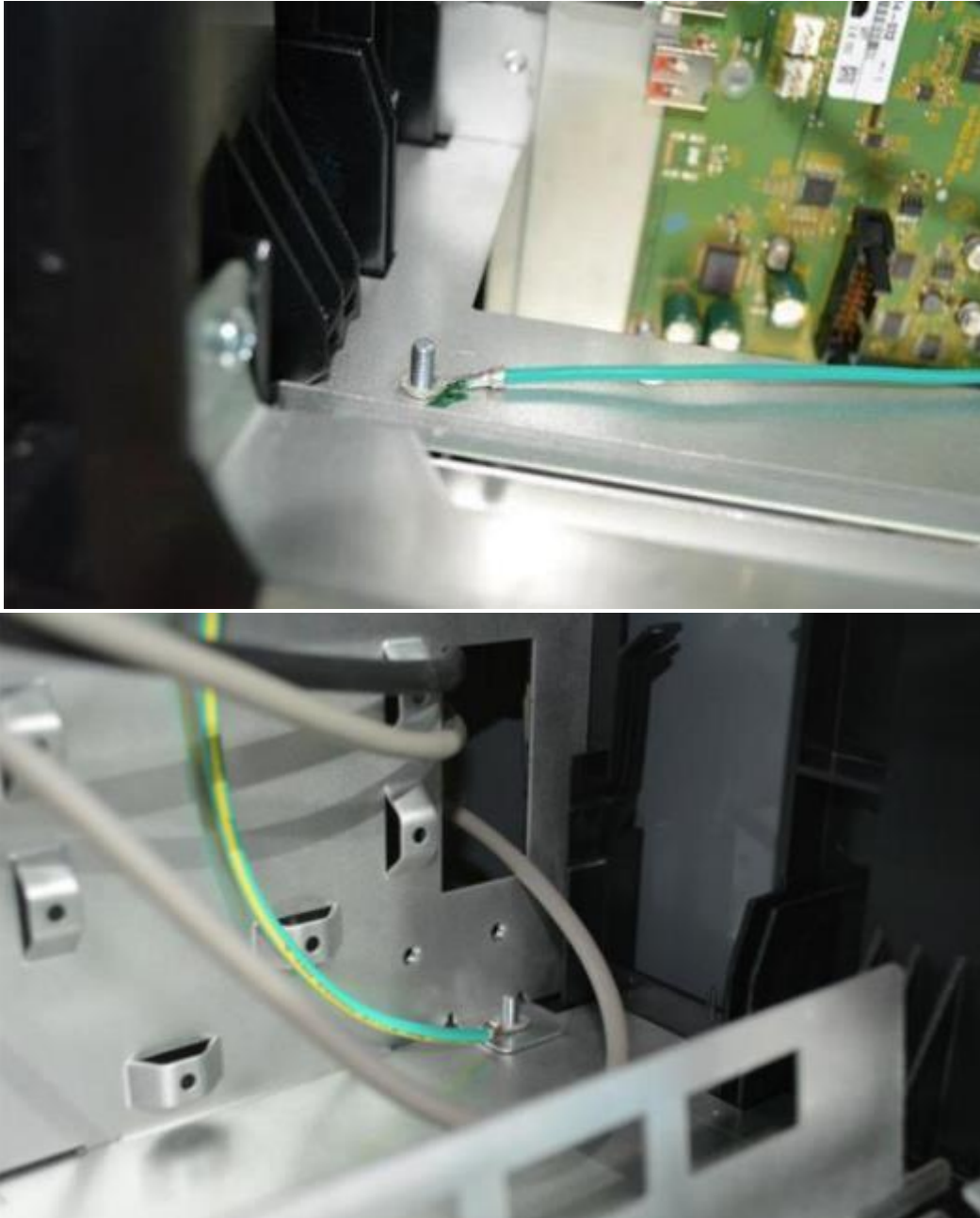



Figure 41: Ground wires to be disconnected from lower metal plate

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- d. Using a pair of tin snips or hand cutters, cut the bottom plate on the side of the buzzer as shown below.



Caution: Before making the cut, clear all cables away in the path of the hand cutters.

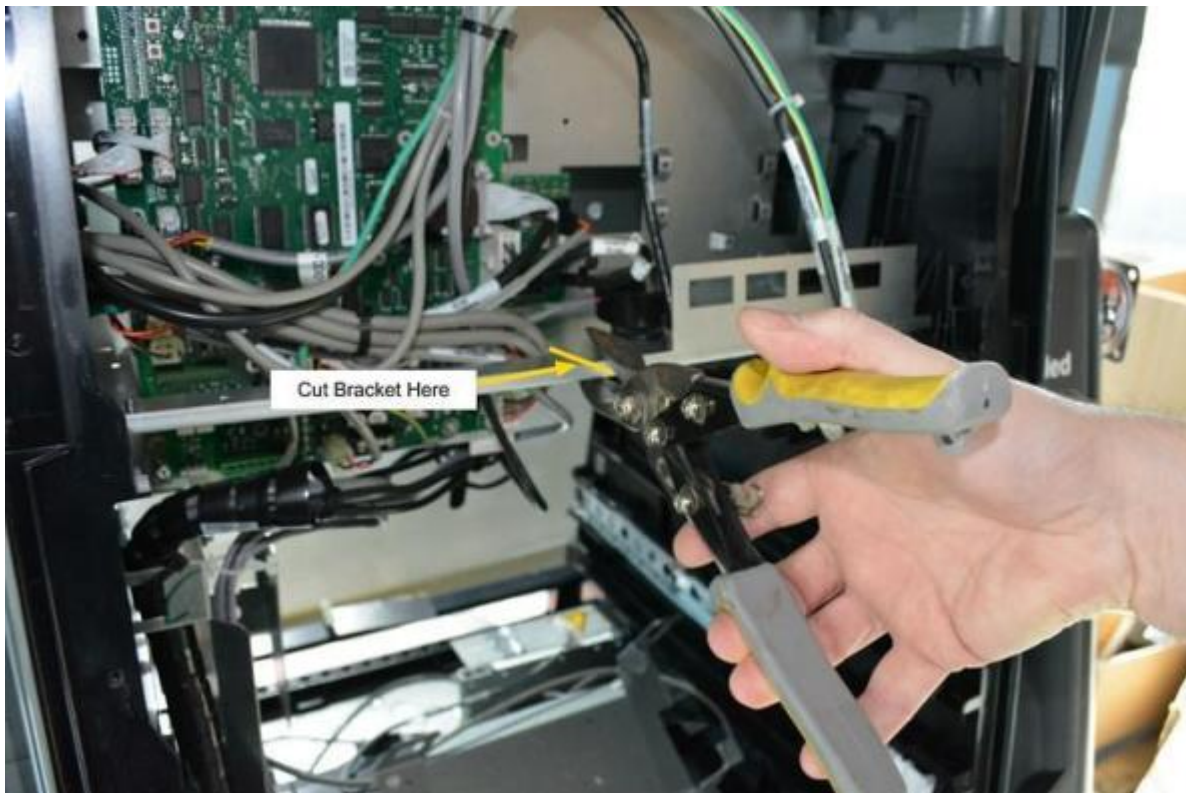



Figure 42: Cutting point on lower metal plate, buzzer side

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- e. Behind the Pump Controller panel, cut the lower metal plate as shown below.

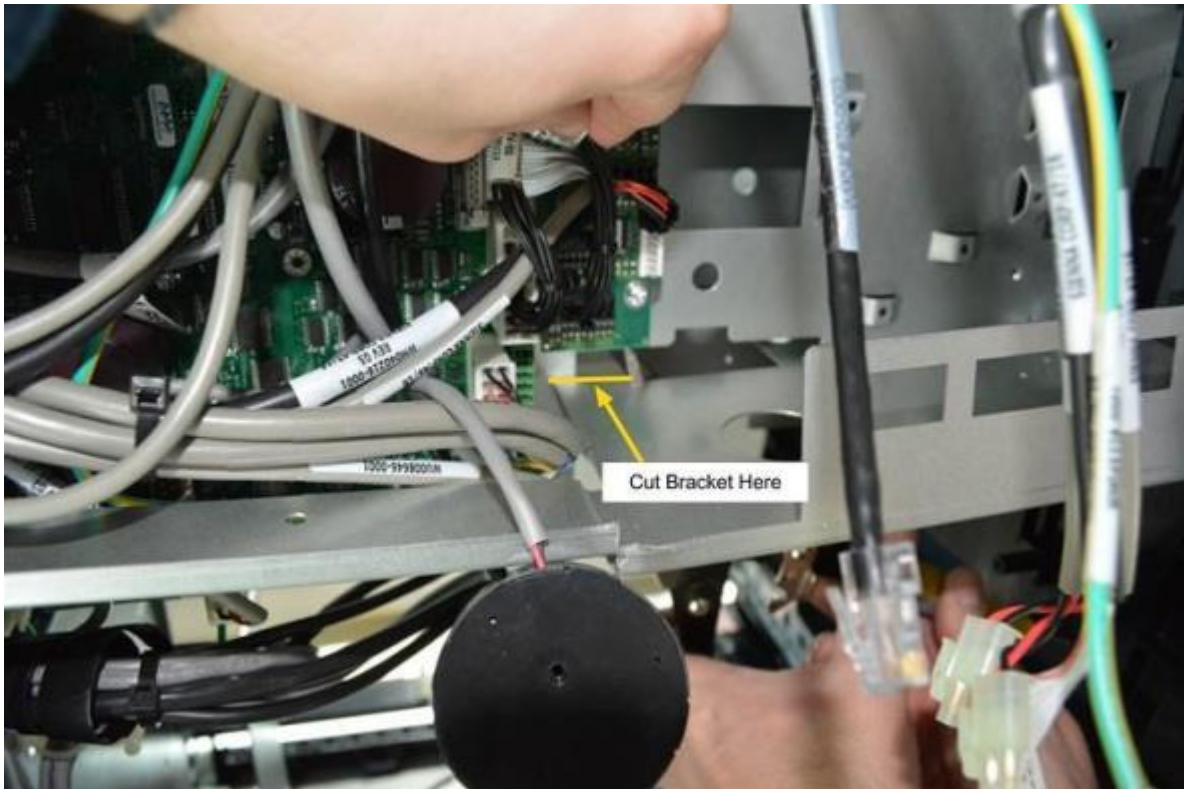



Figure 43: Cutting point on lower metal plate, behind Pump Controller Panel

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- f. Behind the Large Metal STD Payment Controller Board plate, cut the plate in the location below. Push on the plate until the cutter can get enough purchase on the plate.



Figure 44: Cutting point on lower metal plate, behind Payment Controller Board

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- g. Move to the opposite side of the dispenser and cut the metal plate in the location below.

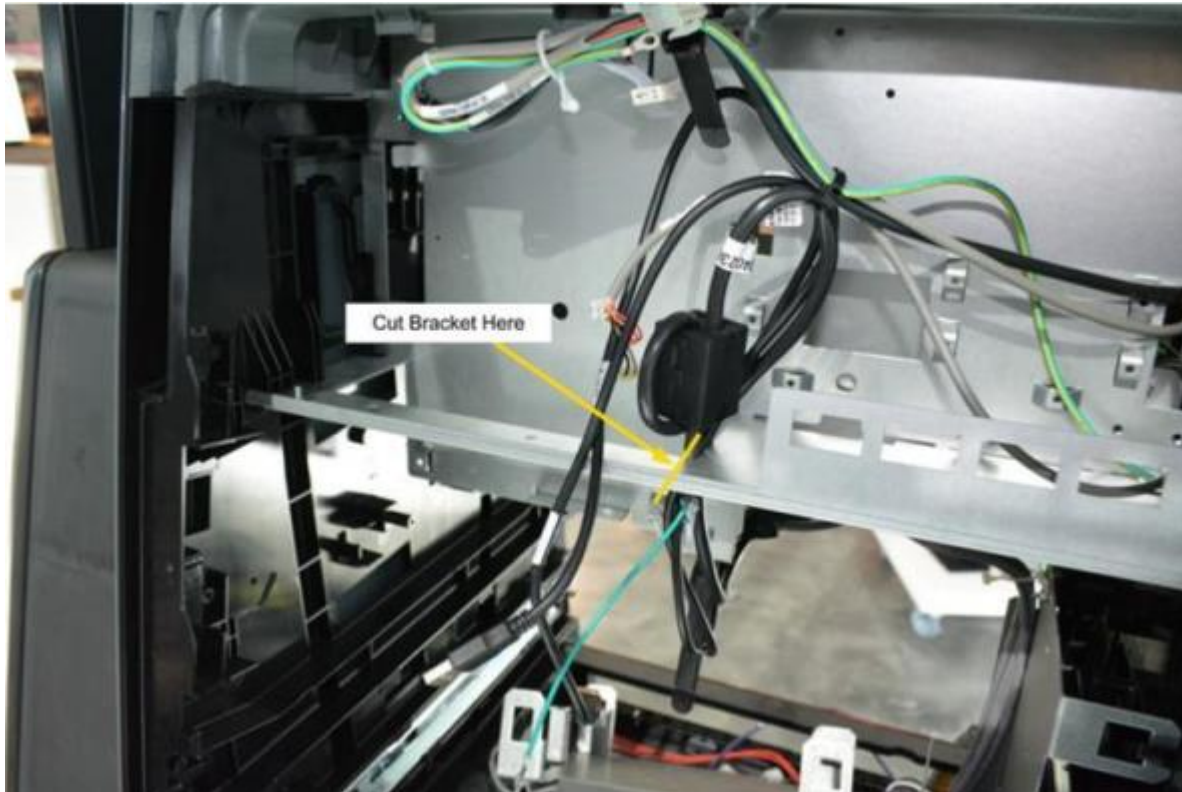


Figure 45: Cutting point on lower metal plate, opposite side of dispenser

- h. Once the plate is cut, bend down until the plate is pulled out of the dispenser side bosses holding it in place. You may also need to bend the Stud tabs up and out of the way with a flat head driver located on the right side of the panel on each side of the dispenser. Remove and discard the lower plate.

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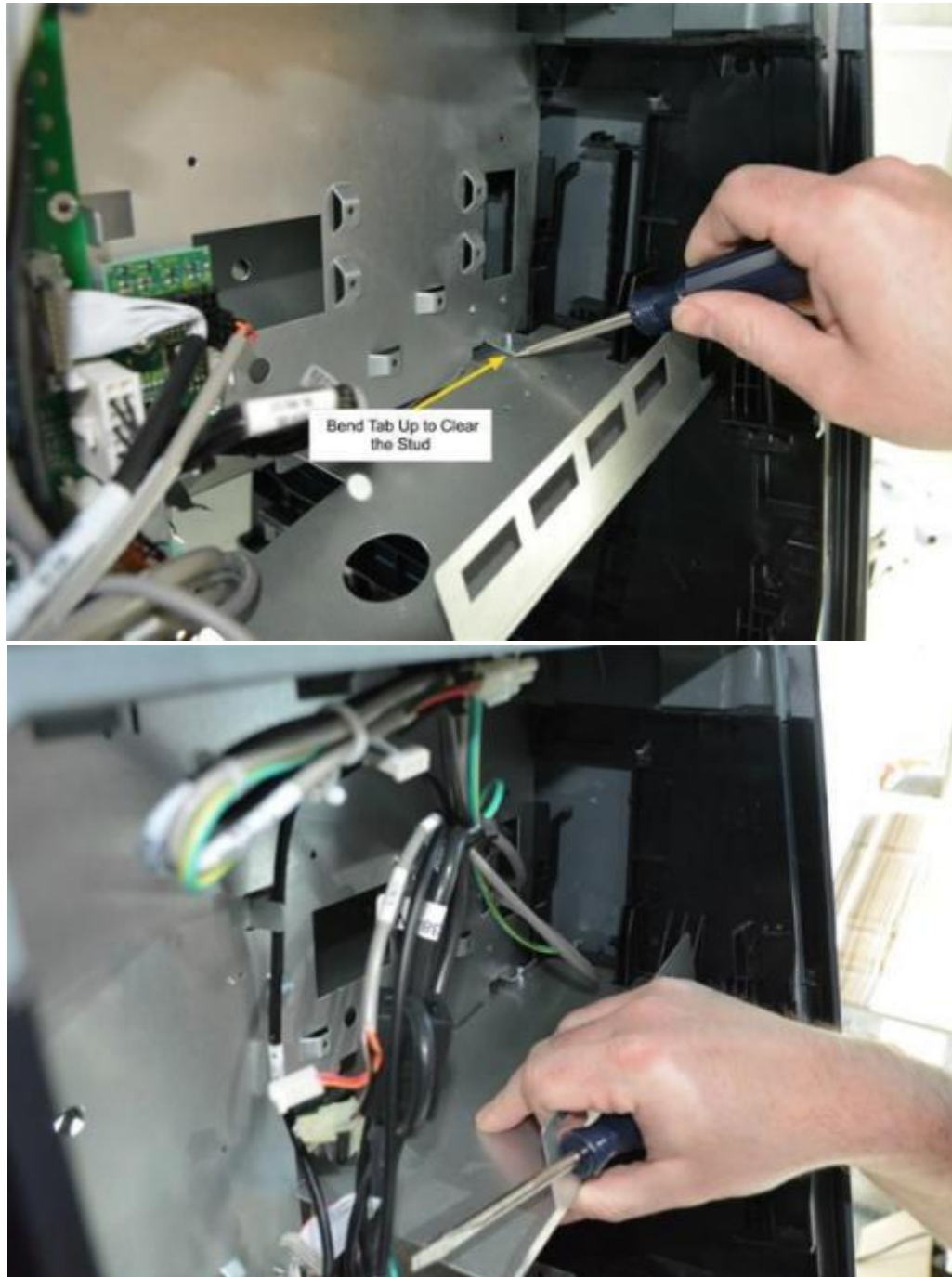


Figure 46: Bend tabs upward, and plate downward to clear studs


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6. Remove the remaining plate that held the STD payment controller board.
 - a. Push from the back of the plate so it bulges towards you.



Figure 47: Press on plate to make it bulge for easier removal

- b. Continue to pull on the plate until it disengages from the dispenser side bosses. Remove the plate and discard.
7. Continue to the Installation Section.

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4.3 Install the G7 or G7 15 Assembly into the Wayne Helix

This section follows from the Disassembly procedure above, and assumes the pump is still open.

4.3.1 Prepare and Install the Helix Power Supply Assembly

Identify Side A and B by looking at the designation on the inside of the dispenser.

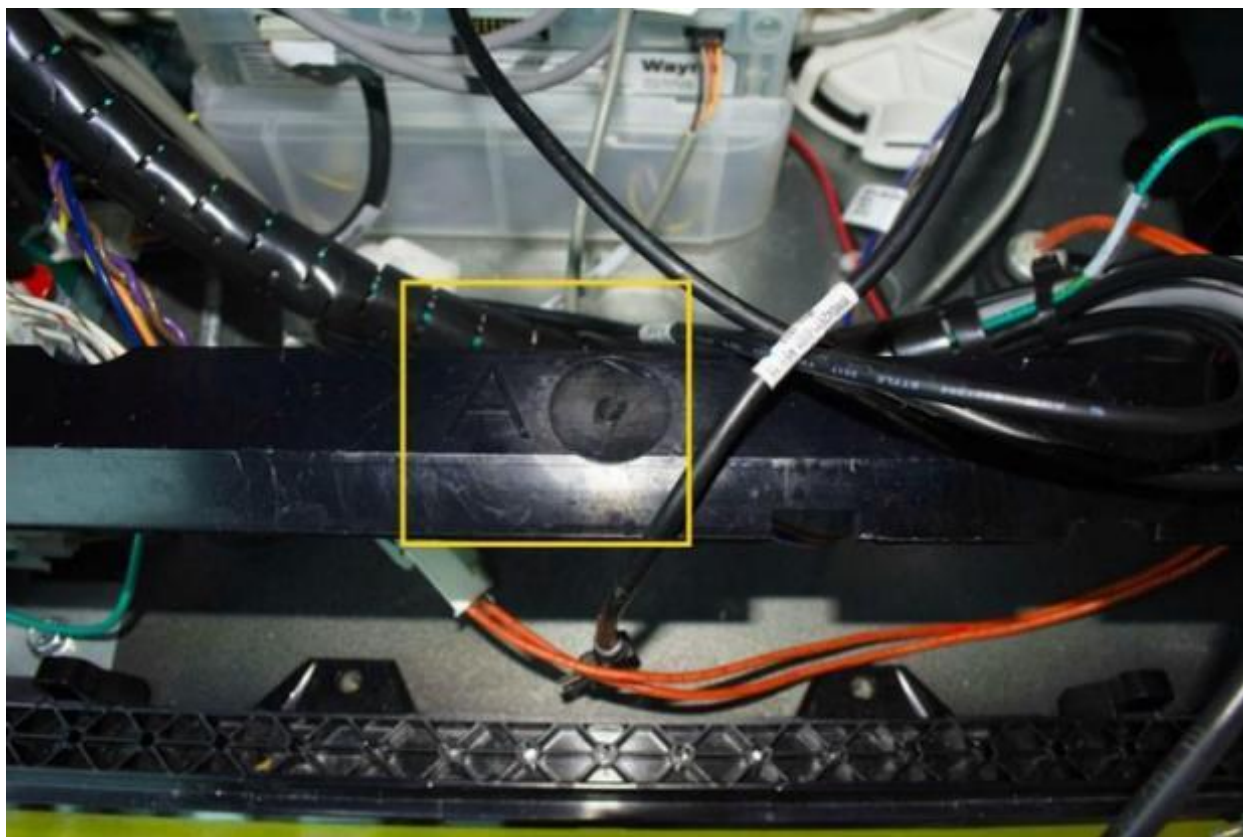



Figure 48: Identifying Side A

1. Attach both Power Supply Assemblies (PSU) (EZ0702) to the Helix PSU Mounting Bracket (MP0908 or 497-0517696).
 - a. Identify the stud wing on the PSU Assembly labeled "Ovation". Install the Helix PSU Mounting Bracket to this wing.

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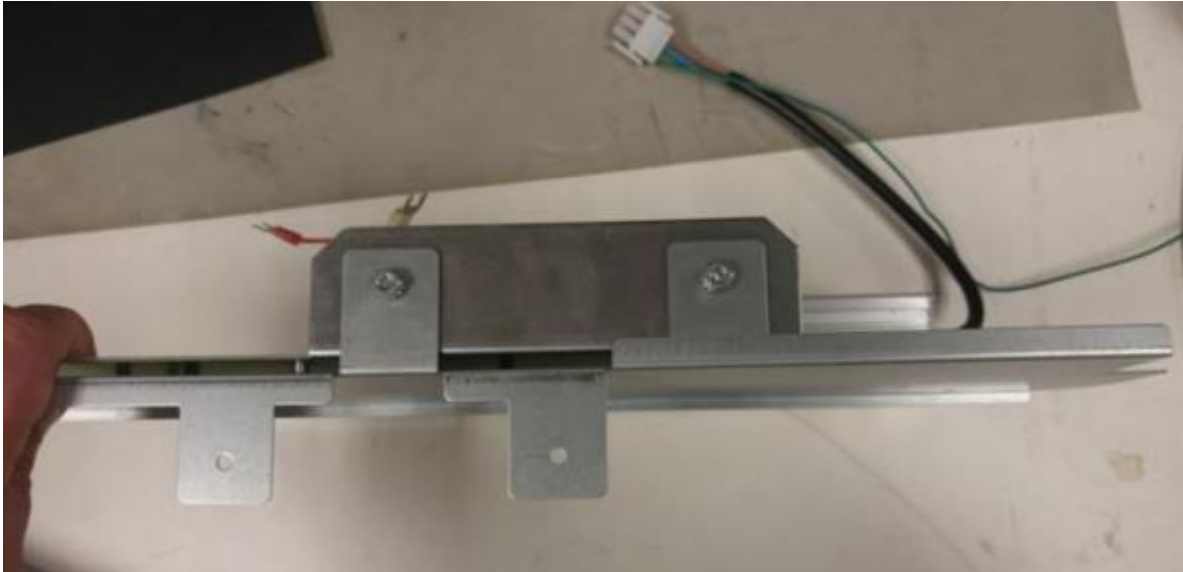



Figure 49: Install Helix PSU Mounting Bracket

- b. Install PSU Screw A (MS0249 or 006-8617819) into the back of the Helix PSU Mounting Bracket. Install the screw into the stud on one side and a PSU Screw B (MS0146 or 006-8611215) and nut (MN0076 or 006-8611426) assembly on the other side.



Figure 50: Install PSU screws A and B

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- c. Flip over and attach the second PSU Assembly to the Helix PSU Mounting Bracket with the 2 x MN0029 nuts on the "Ovation" wing.

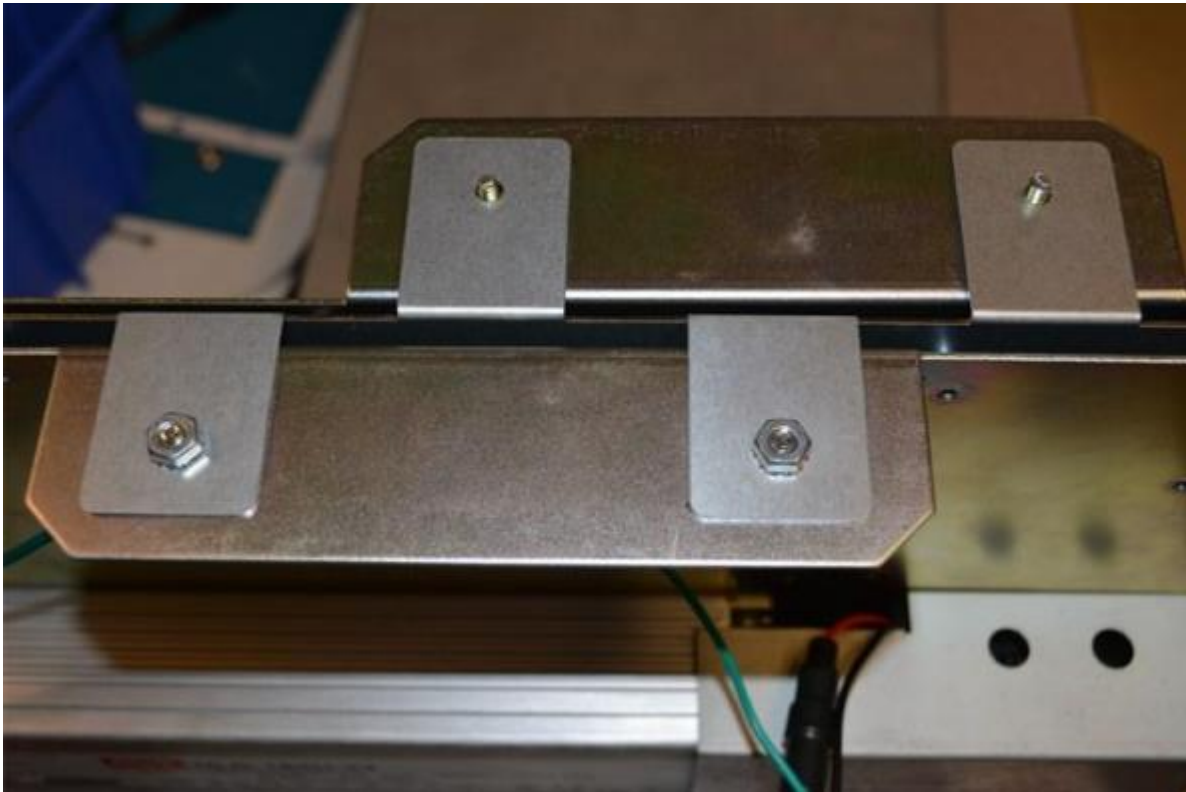



Figure 51: Install second Helix PSU Assembly

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- d. Install the PSU Screw B (MS0146 or 006-8611215) and nut (MN0076 or 006-8611426) assembly into the location below.

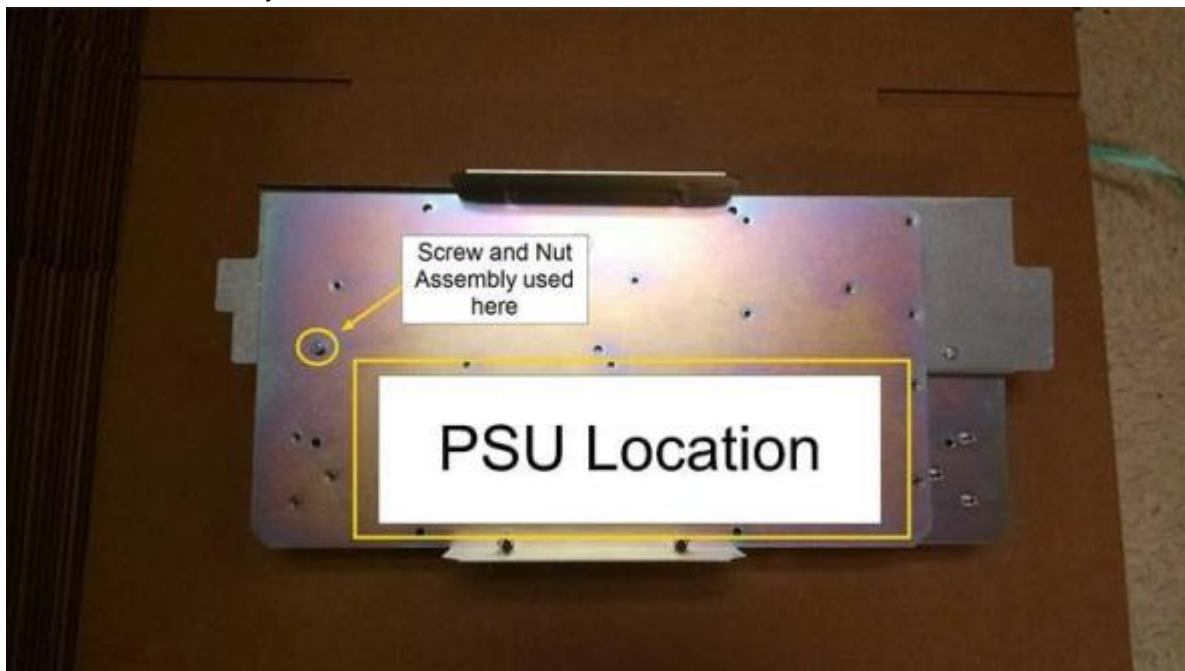


Figure 52: Install PSU screw B

2. Install the Dispenser Invenco Link Converter to one of the PSU brackets. Follow the Invenco Link Installation Instructions (DCV-00465). Acquire the Invenco Link Retrofit Kit, UL Listed by Report Retrofit kit part number RF00033-XX.


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Figure 53: InvencoLink installed on PSU Assembly for Side A

3. Install the Helix PSU Assembly with the Dispenser Invenco Link facing out towards you on the dispenser side opposite the pump controller board. Place the full Helix PSU Assembly into the dispenser cavity in the farthest back plastic bracket slots located in the center of the dispenser.



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Figure 54: PSU Assemblies installed, showing orientation

4. Connect Helix Power Adapter Cables (EK0126 or 497-0513686) to the Main AC power in line in the lower dispenser electronic cavity.
 - a. On Side A of the dispenser, identify the main AC power in line connected to the Power board in the lower left side of the dispenser.
 - b. Disconnect the main AC line.

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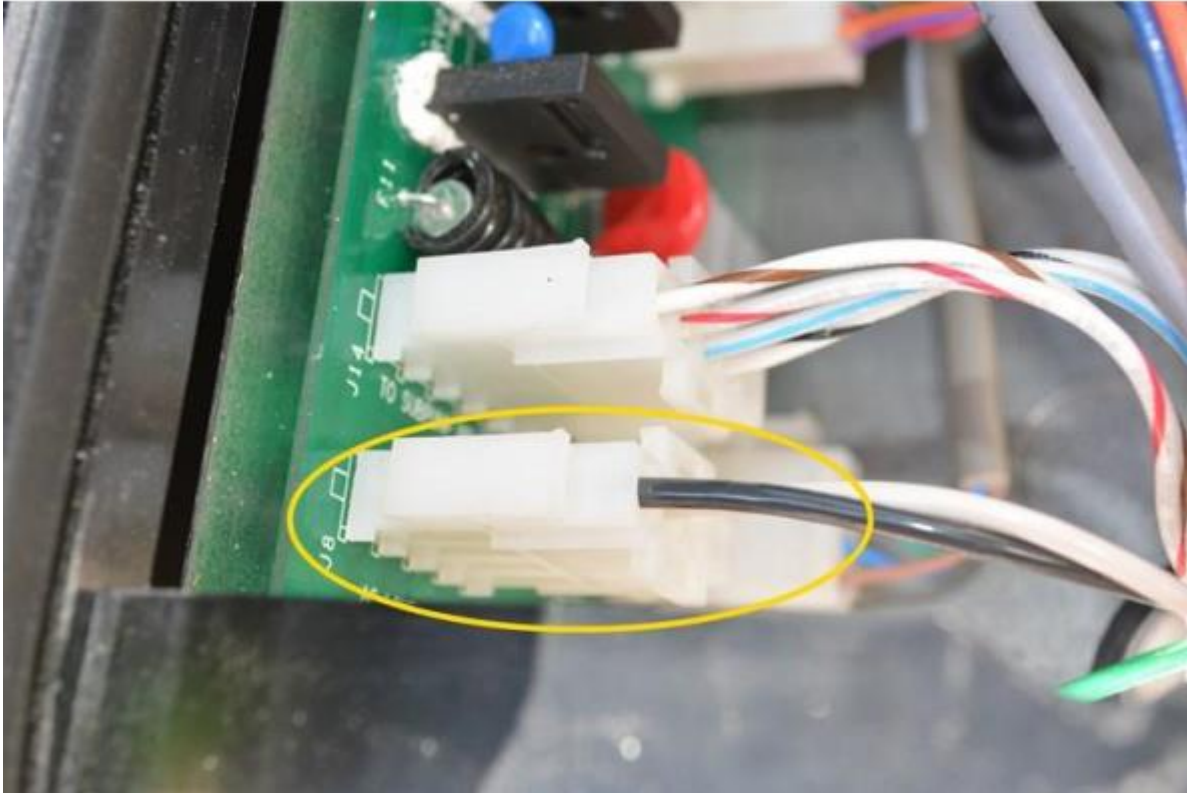



Figure 55: Main AC power line to disconnect

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- c. Acquire the Helix power adapter cable. Plug in the pigtail end of the cable to the main AC line.

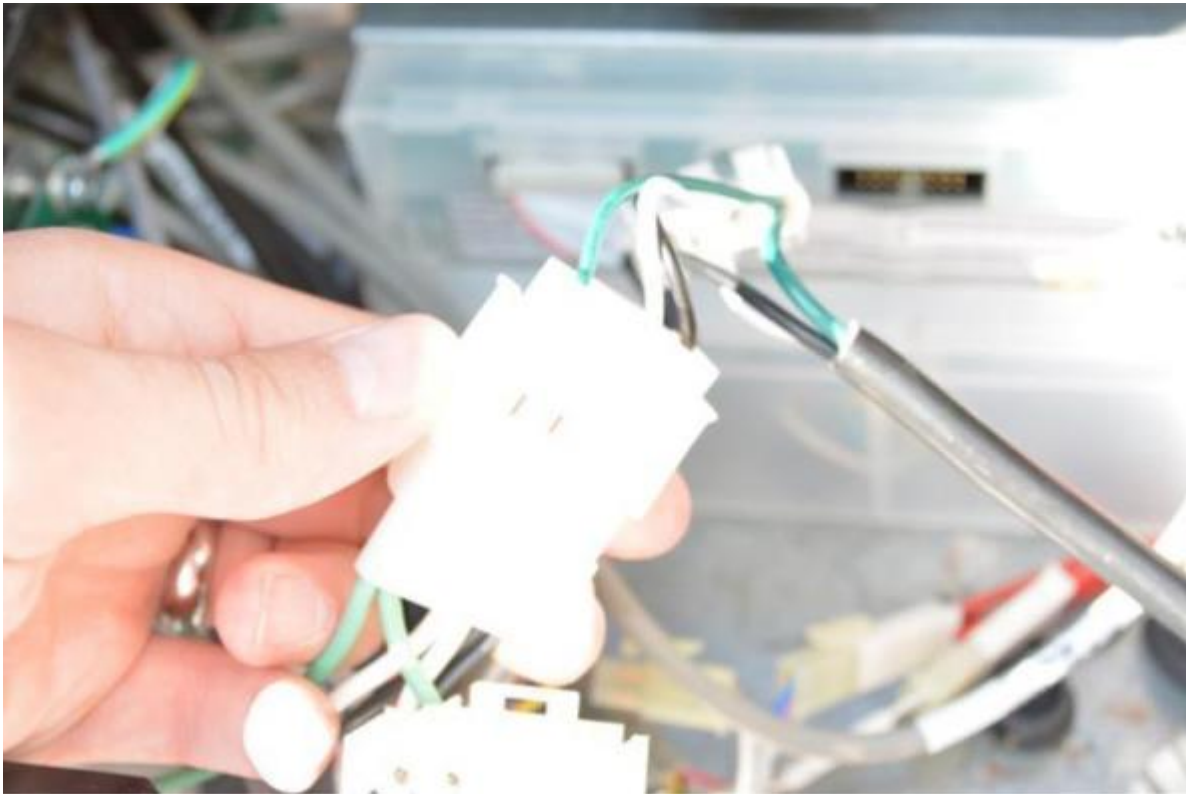




Figure 56: Plug in pigtail-end of Helix power adaptor cable

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- d. Connect the second Helix power adapter cable to the other pigtail end of the first connected cable.



Figure 57: Plug in second helix power adaptor cable

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- e. Connect the free pigtail end of the Helix power adapter cable to the Main Power Distribution Board connection previously disconnected.

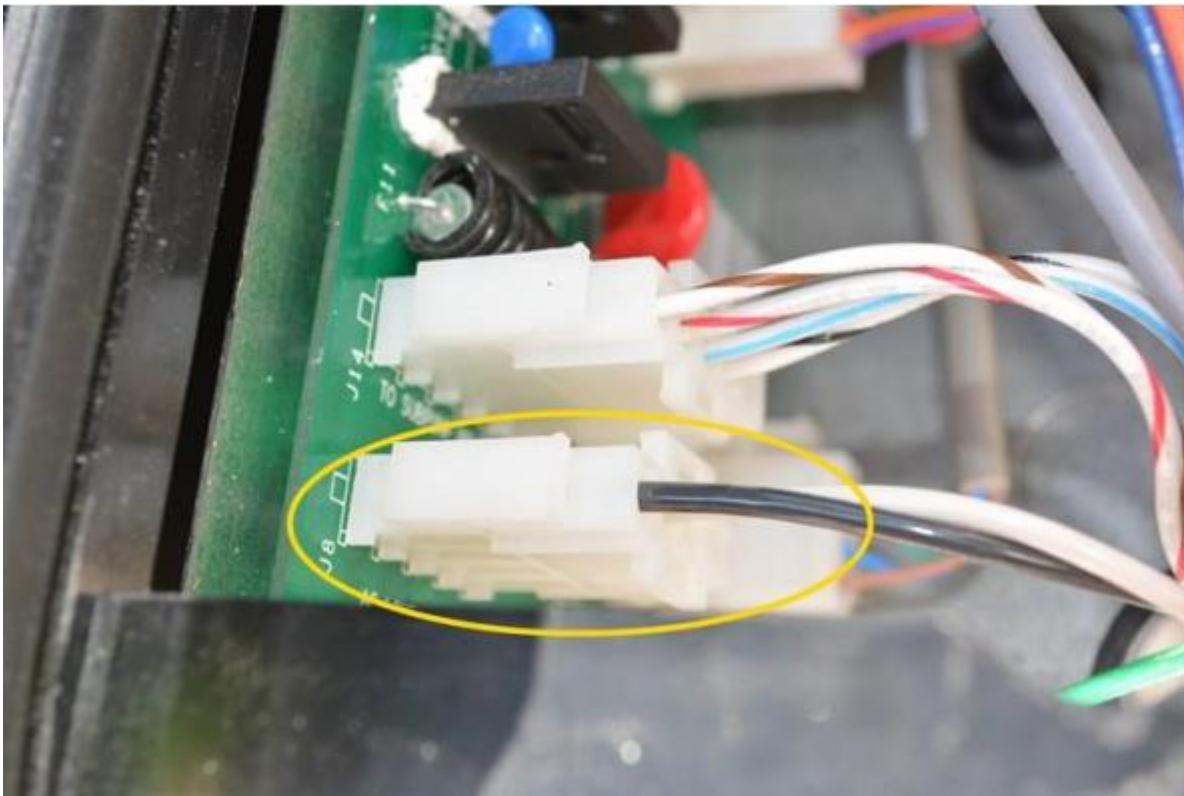




Figure 58: Second Helix power adaptor cable plugged into board

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5. Route both Helix Power Adapter Cables into the upper dispenser cavity.
 - a. On Side A of the dispenser, identify the cable routing duct in the lower right corner of the dispenser.



Figure 59: Cable-routing duct


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- b. Route the power adapter cables through the cable routing duct into the upper electronic cavity.

Note: Use a length of wire or twine to help route the cables up the duct. Drop the wire or twine into the top of the duct, wrap/tie the wire or twine to the cable and guide into and up the routing duct.




Figure 60: Twine/wire wrapped around connector to aid routing

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6. Route the Helix Pump Comm Adapter Cable (EK0203 or 497-0519397) into the wiring duct. Only one Comm Adapter Cable is needed per dispenser.
 - a. Acquire the Helix Pump Comm Adapter Cable and drop the dispenser connection end (white 4 pin connector) into the right side from side B cable routing duct.




Figure 61: Drop cable into Cable-routing duct

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- b. Route the comm connection through the cable routing duct and pull out from the bottom.



Figure 62: Cable exiting duct at the bottom

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- c. Plug the four-pin connector to the comm pass through on the comm board.

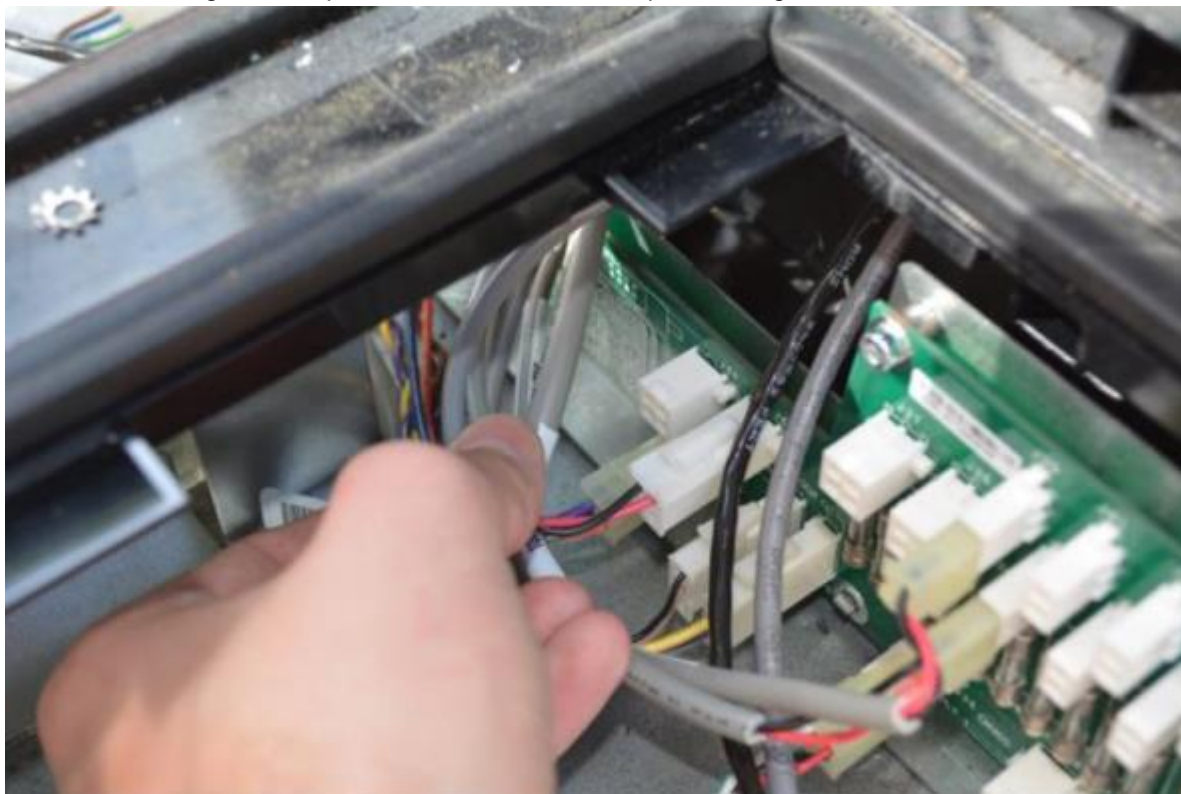




Figure 63: Connect cable to the comm board

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- d. Plug in the green connector to the Dispenser Invenco Link.




Figure 64: Plug green connector into InvencoLink

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7. Connect the preinstalled PSU power cables to the previously routed Helix power adapter cables.



Figure 65: Connect mains cable for each PSU Assembly

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8. Install the CAT network cable, Yellow for LAN (EK0131 or 497-0513384), to the Dispenser Invenco Link.
 - a. Connect the Side A connection in the LAN 1(Yellow) connection. Route the Side A connections over the opposite side to the communications board installed on Side A




Figure 66: Connect Yellow cable for Side A

- b. Connect the Side B connection in the LAN 2(Yellow) connection. Allow the B side network cables to fall into the B side dispenser cavity.



Figure 67: Connect Yellow and Red cables for Side B


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4.3.2 Install the Collar Frame

1. Acquire the Plastic Upper Collar Frame (MP0933 or 497-0517598). Install the retained Prop Rod bracket to the new plastic collar frame in the noted position from the uninstall process.
 - a. Place the retained Prop Rod Bracket into the new Plastic Collar Frame. Slide the end section into the gap indicated below.



Figure 68: Place Prop Rod Bracket

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- b. Push in the Prop Rod Bracket until the retaining feature engages and holds the Bracket in place.

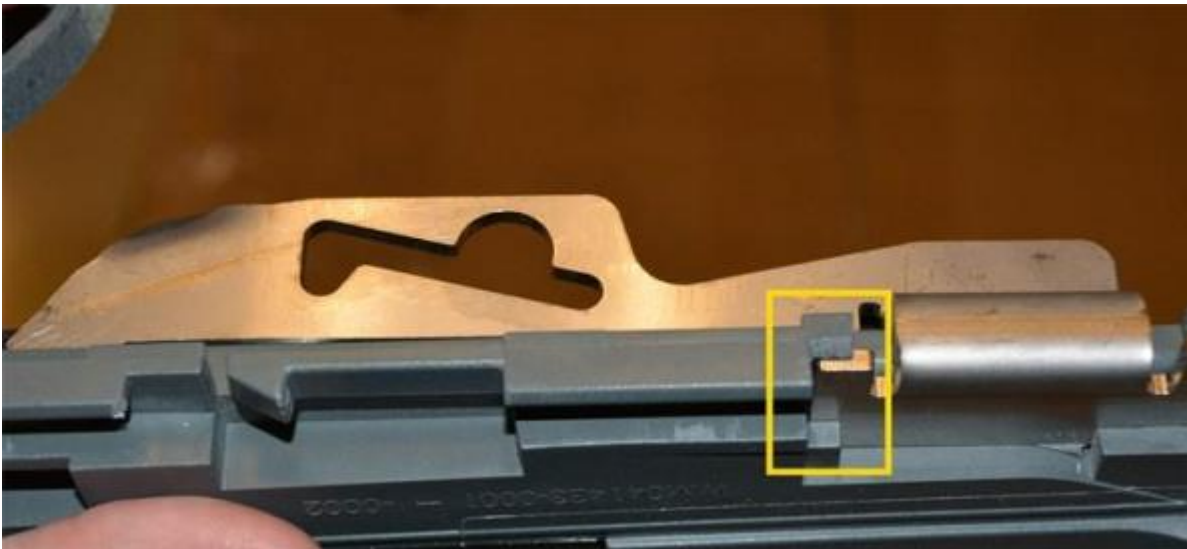




Figure 69: Check bracket-retaining feature

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2. Slide the new top plastic collar frame into the lower metal collar frame until the latches on each side engage.



Figure 70: Latch plastic collar frame into lower metal frame

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3. Secure the upper and lower frame collars together with the retained screws.

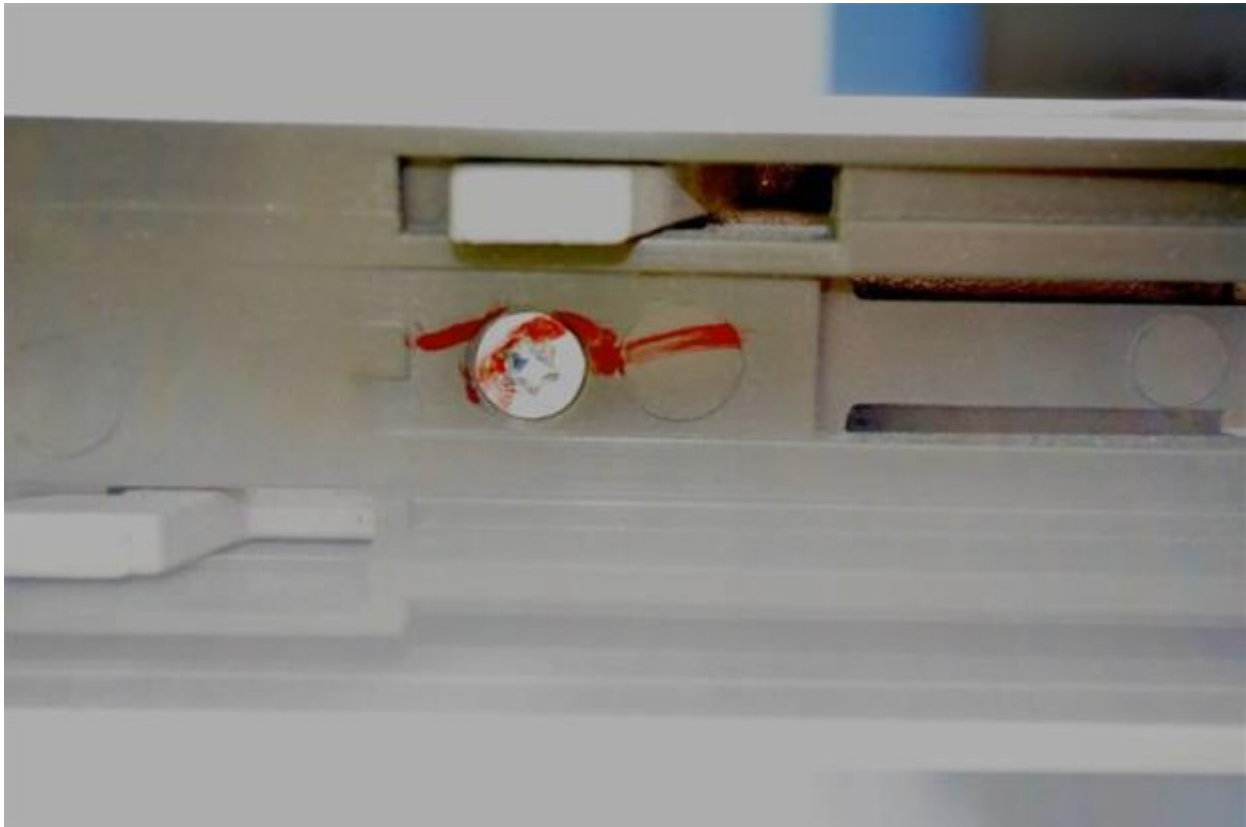



Figure 71: Use retained screws on the collars

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4. Place in the hinge pin section of the upper collar into the hinge

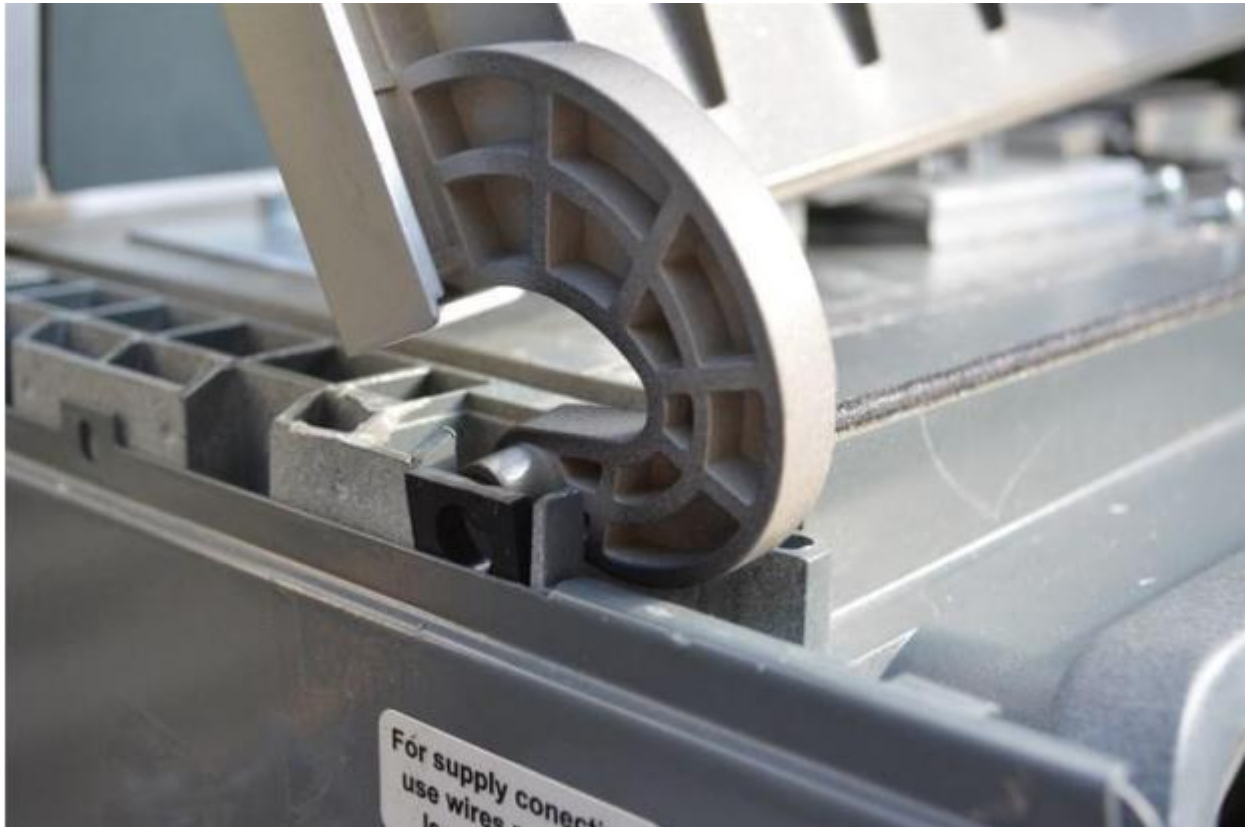



Figure 72: Placing hinge pin section

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5. Install the other hinge pin into the hinge and apply force until the hinge engages onto the hinge pin.

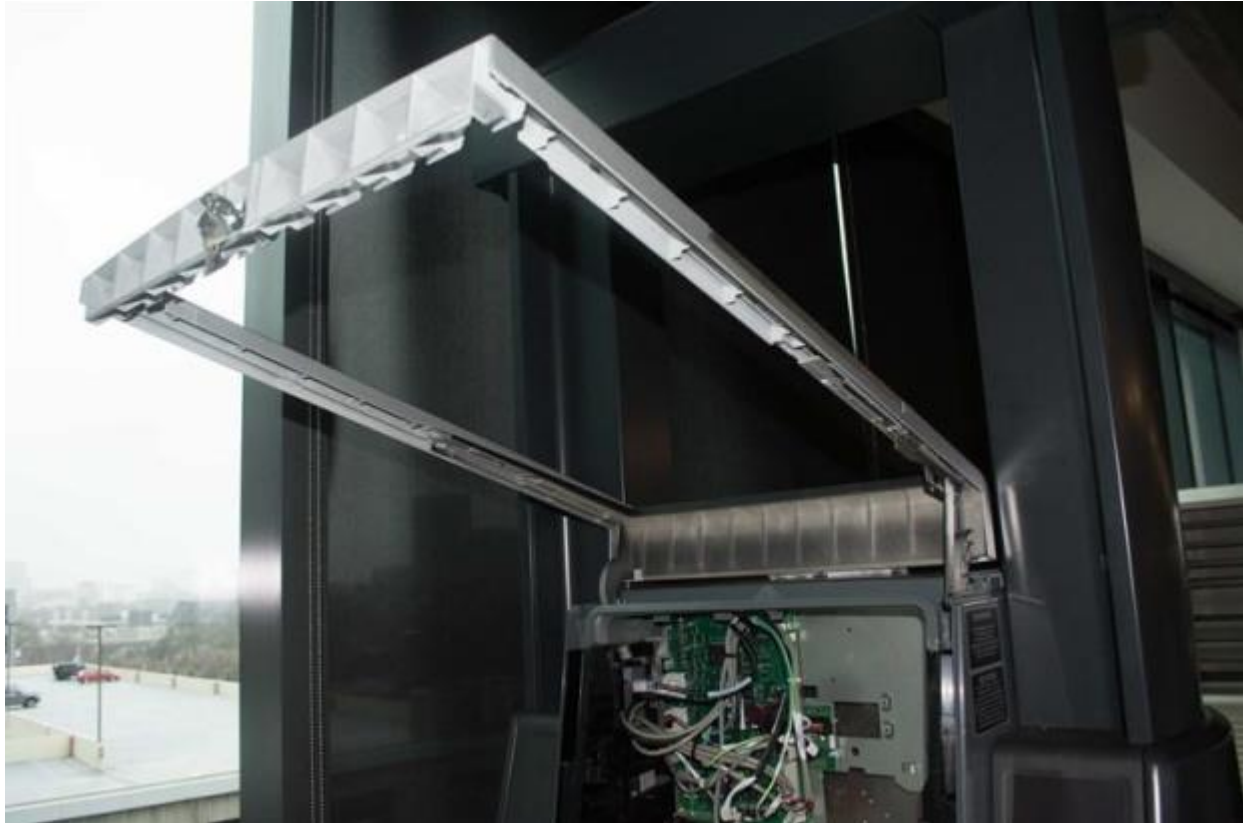




Figure 73: Complete mounted collars

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6. Repeat the previous steps for the opposite side of the dispenser.
7. Reinstall the dispenser shoulders over the hinges.
 - a. Both dispenser frames should be lowered and lifted until each shoulder piece on each side is in position.
 - b. Apply force to the top of each shoulder until it's seated into the top of the dispenser.




Figure 74: Apply force to seat the shoulders

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- c. Reopen the dispenser frames and engage the prop rods after both shoulders are reinstalled.



Figure 75: Re-open the frames using the Prop Rods

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4.3.3 Prepare to install the G7 or G7 15 inch Panel

1. Install the Customer Display onto the G7 or G7 15 inch Panel (RP00014-XX OR RP00063-XX).
 - a. Install the Customer Display, noting the orientation is correct and upright with the retained screws. The fourth screw is with the customer display grounding wire.



Figure 76: Screw the Customer Display onto the panel

2. Prepare the PPU Panel and Slide Rails.
 - a. Install the retained PPU board onto the new metal PPU bracket (MP1000 or 497-0522916) using the retained hardware.

Note: Depending on the PPU configuration, the PPU board could be held on by 2 to 3 screws to the metal bracket.

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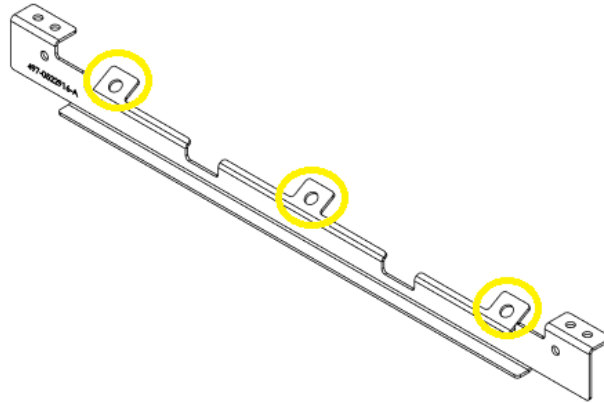



Figure 77: PPU Panel screw positions

- b. Remove the two outside slide rail sections from the Helix STD slide rail and bracket assemblies (Printer Side Slide Rail, MZ0212; Card Reader Side Slide Rail, MZ0222 by pulling back on the plastic latches as shown below.




Figure 78: Remove outside rail slide sections

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- c. Install the slide rails into the dispenser on Side A. Push all the way in until the latch engages.




Figure 79: Install slide rails into dispenser (Side A)

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- d. Additionally, fit the MS0280 screw for each bracket to further support the rail in position. Once the rails are slid in all the way until the latch engages as per the above, extend the rail fully to allow access to the screw hole on the base of the rail and fit the screw in place.



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- e. Rotate the remaining attached slide rails into position and secure with the pre-fitted screw and nut. Repeat on the opposite side.




Figure 80: Remaining slide rails

3. Combine the PPU and Slide Rail components to make the PPU Slide Rail Assembly.
 - a. Place the assembled PPU board and metal bracket onto the retained Plastic PPU plate.



Figure 81: PPU board and plate

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- b. If present place the Totalizer Bracket Assemblies in the previously noted location. Keep in place and install in between the PPU Bracket and Slide Rail Assembly. If no totalizers are present, use the supplied washer (MW0058 or 006-8626923) instead in the same location.

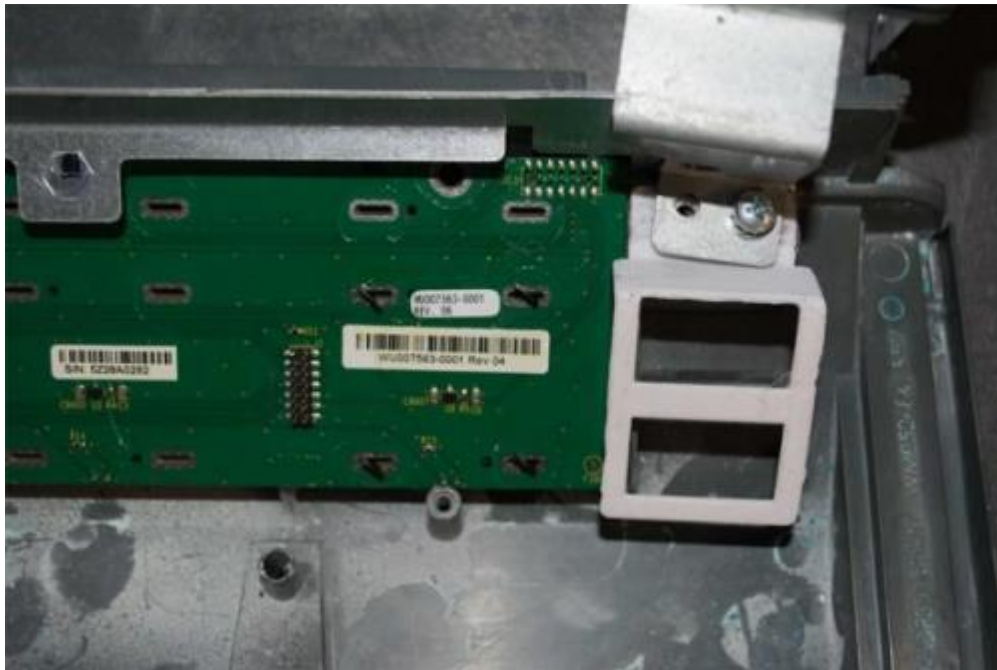



Figure 82: Totalizer Bracket Assembly in place



Figure 83: Washer in place of Totalizer Bracket Assembly

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- c. Attach the Printer Side Slide Rail onto the right side of PPU assembly with the screens facing away from you. Place the Slide Rail over the bracket and insert the screw MS0245 (or 006-8611475) into the top of the PPU Plate and metal bracket. Secure with the nut MW0078 (or 006-8611847) from the bottom.

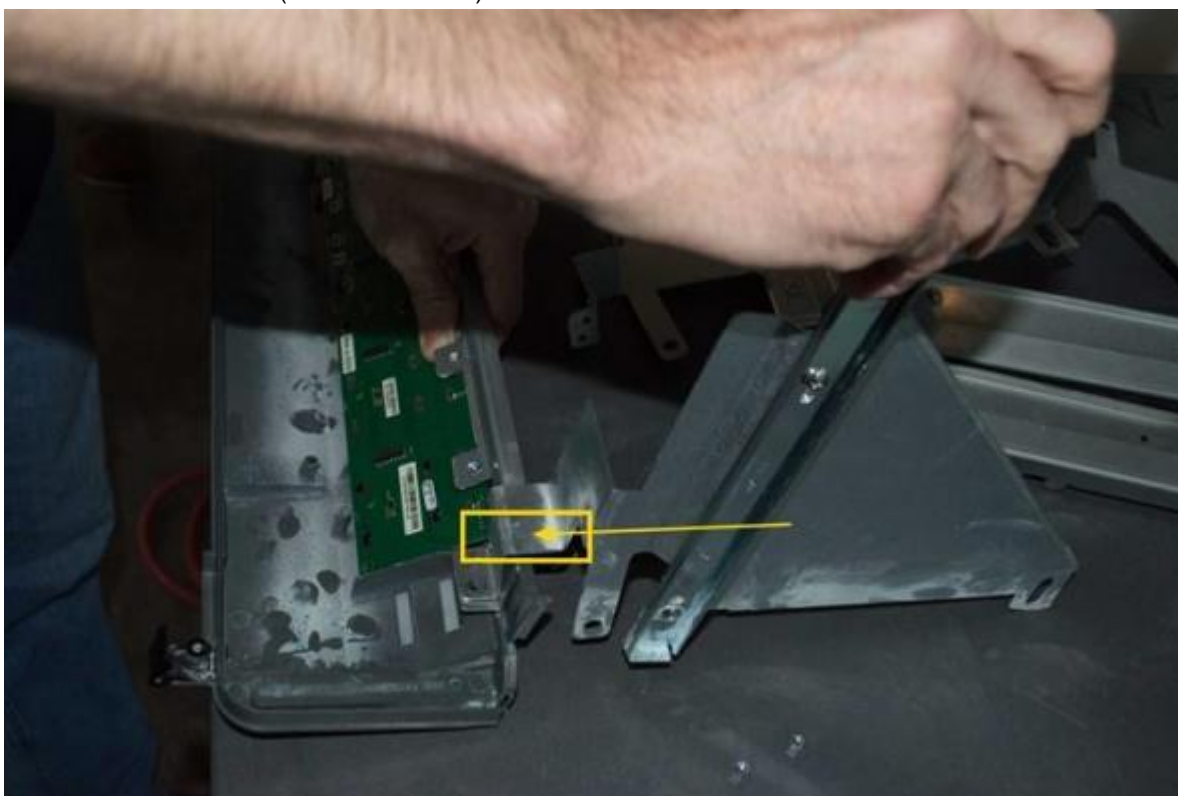


Figure 84: Printer Side Slide Rail positioning

- d. Secure with the pre-fitted Screw and Nut assembly in the location displayed below. The retained Totalizer Bracket or spacer washer (MW0058 or 006-8626923) should be in place at this time in the previously noted locations.

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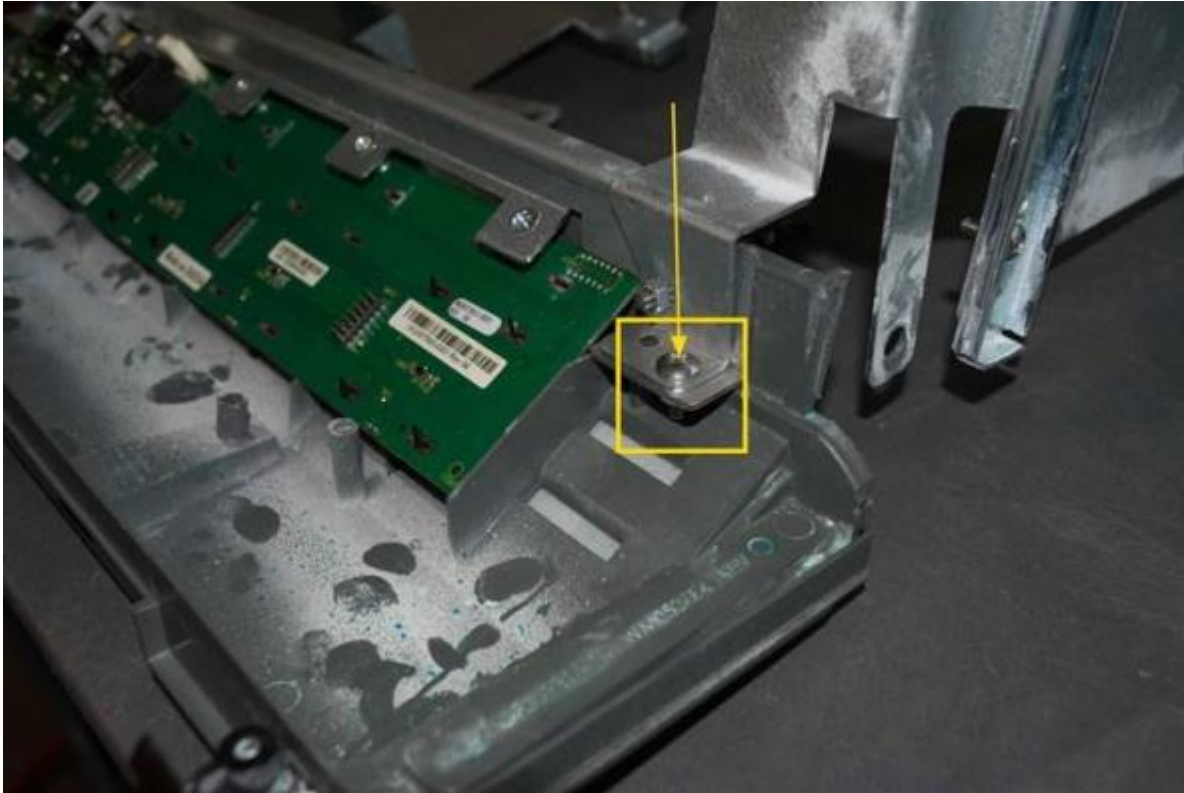



Figure 85: Totalizer Bracket or Washer

- e. Repeat on the Card Reader side to attach the Card Reader Side Slide Rail.

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4. Install the Slide Rail and PPU assembly to the Helix G7 or G7 15 inch panel.
 - a. Remove the 4 screw and nut assemblies from the Helix G7 or G7 15 inch Panel and retain.

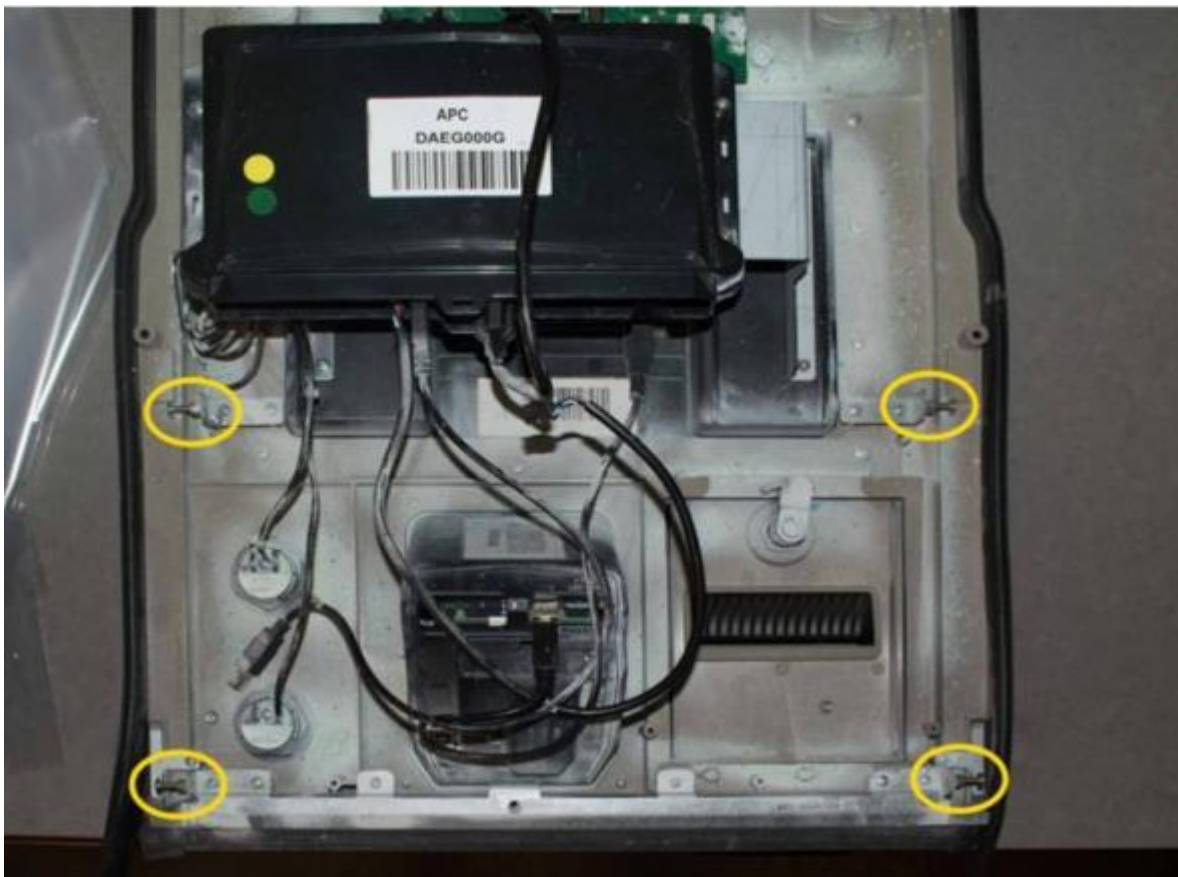




Figure 86: Helix G7 or G7 15 inch Panel screw locations

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- b. Place the PPU Plastic panel onto the bottom edge of the Helix Panel, making sure the gasket stays in place between the PPU and Helix panels.




Figure 87: Placing the PPU panel (top) onto the G7 or G7 15 inch panel (bottom)

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- c. Adjust the brackets until the screw locations and panel holes align correctly. Check the fit and middle gasket position.




Figure 88: Adjust the PPU panel position

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- d. Install the previously removed screw and nut assemblies to attach the Slide Rail PPU assembly to the G7 or G7 15 inch panel.



Figure 89: Reinstall the screws in four places


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- e. Install the bottom gasket around the PPU Plastic Plate. Start at the top edge of the PPU panel and work your way around to ensure a watertight seal.



Figure 90: Install the bottom gasket. Having a third hand may help

5. Install the UL Listed by Report Retrofit Kit RF00025-XX Helix Printer Kit to the G7 or G7 15 inch RFK panel following the Helix Printer Kit Installation Instructions (DCV-00541-XX).
6. Repeat the previous steps for the second side's G7 or G7 15 inch RFK Assembly.

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4.3.4 Install the G7 or G7 15 inch Assembly into the Helix STD Dispenser

1. Install the slide rails into the previously installed outer slide rails. Push the G7 or G7 15 inch panel into the dispenser until the slide rail catches engage and the G7 or G7 15 inch Panel Assembly's gasket is flush against the dispenser edge. Check the seal.



Caution: Do not lift by the PPU panel. It is suggested to lift by the Metal Slide Rail Brackets.



Figure 91: Install the panel onto the slide rails

2. Repeat the previous step for the opposite side of the dispenser.
3. Pull out the G7 or G7 15 inch Panel. Install the power cable, network cables, and grounding wire to the G7 or G7 15 inch panel components.
 - a. Plug in the power cable (preinstalled on the PSU), Yellow LAN Cable, and Red Data RS232 Cable to the APC (mounted on the SDC) on the G7 or G7 15 inch RFK panel assembly.

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Figure 92: Left to right: Sockets for Black, Red, and Yellow cables

- b. Attach the printer grounding wire to the PSU grounding stud. Remove the existing grounding nut, install the printer grounding wire, and reinstall the nut. Repeat for the second printer and install the grounding wire to the same grounding stud as the first printer.

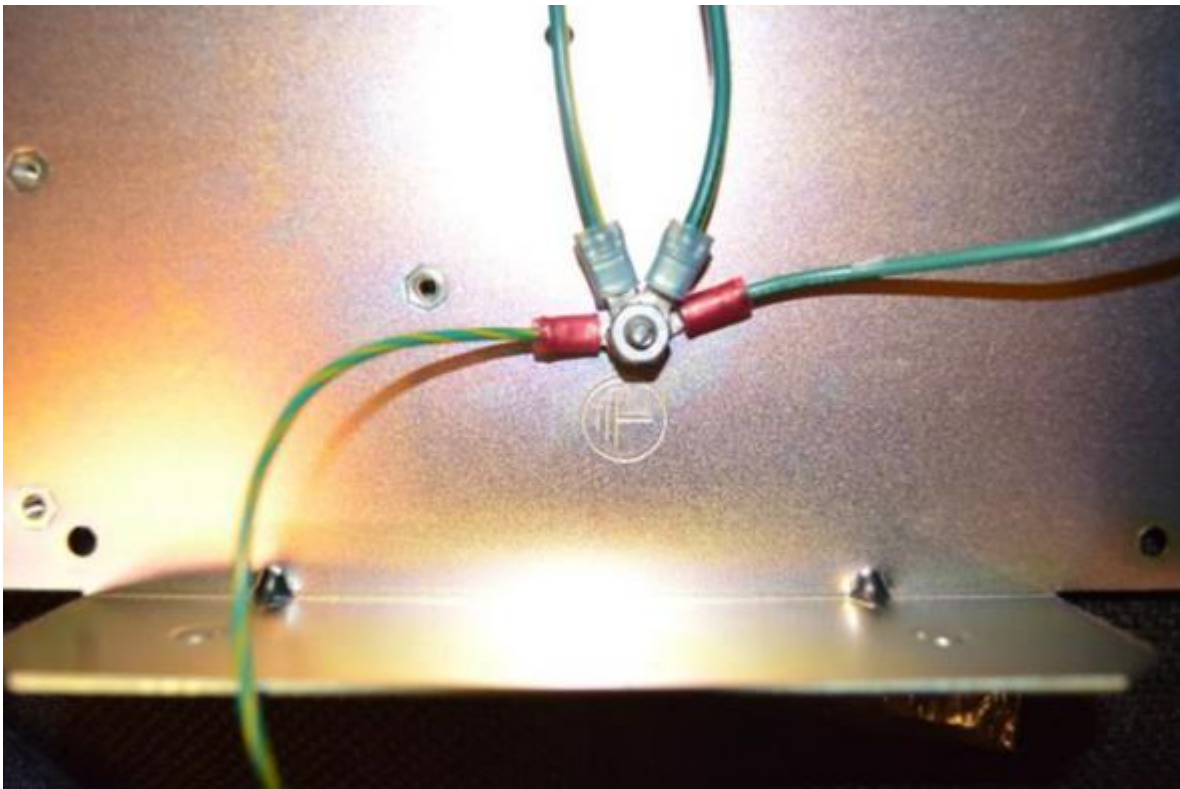



Figure 93: All earth (ground) cables attached to the stud on the PSU plate

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4. Push in the G7 or G7 15 inch Panel until the customer display cables, grounding wire, and comm speaker (if present) can be connected or installed using the retained hardware.
 - a. Install the grounding wire and customer display cables to the customer display to the previously noted locations.

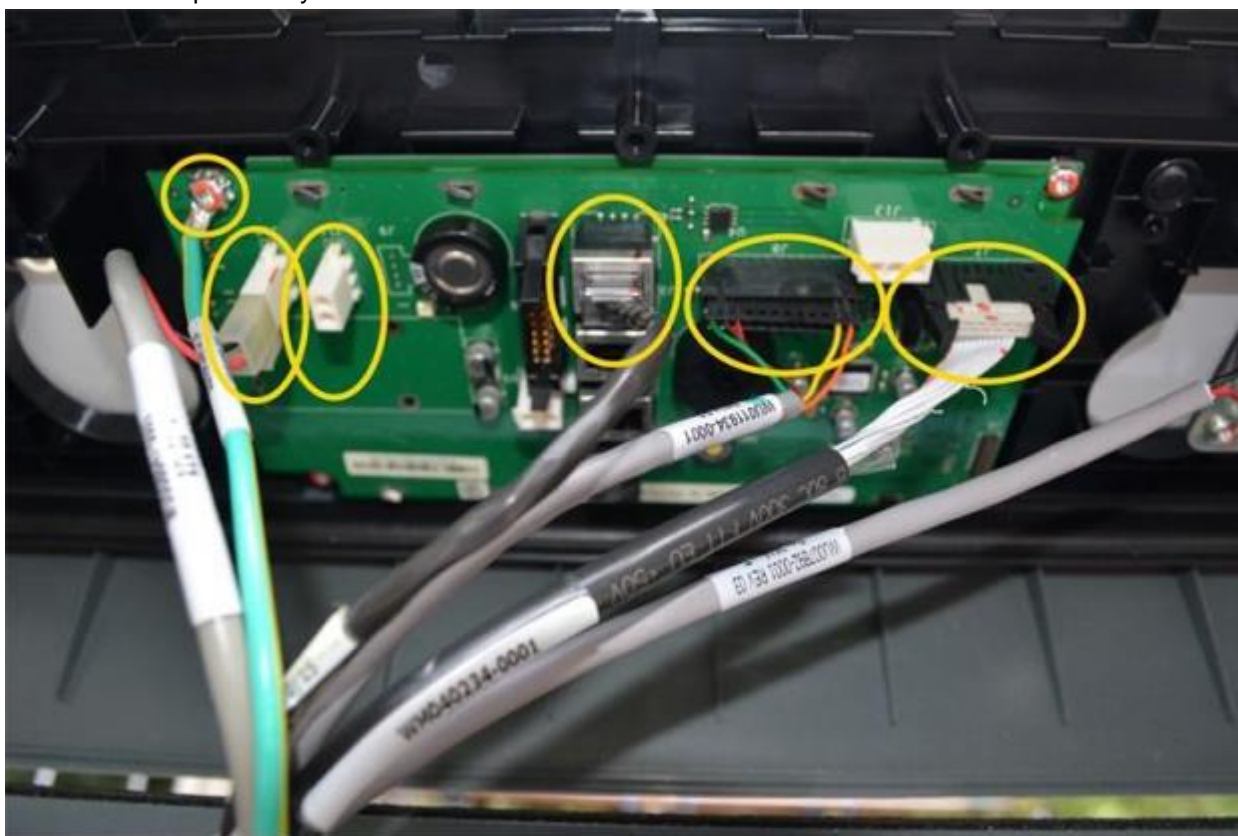


Figure 94: Install the Customer Display cables

5. Reconnect all PPU, Grade Select Button, totalizers (if present), and Call/Intercomm Button (if present on PPU panel) connections previously noted.


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Figure 95: Reconnect PPU button, Grade-Select and Totalizer cables

6. Replace the dispenser frame lock if required (optional per installation site order). Located at the bottom of the metal dispenser frame.
 - a. Take out the old lock, remove the lock cam screw and cam. unscrew the lock barrel nut. Remove the lock and lock gasket.

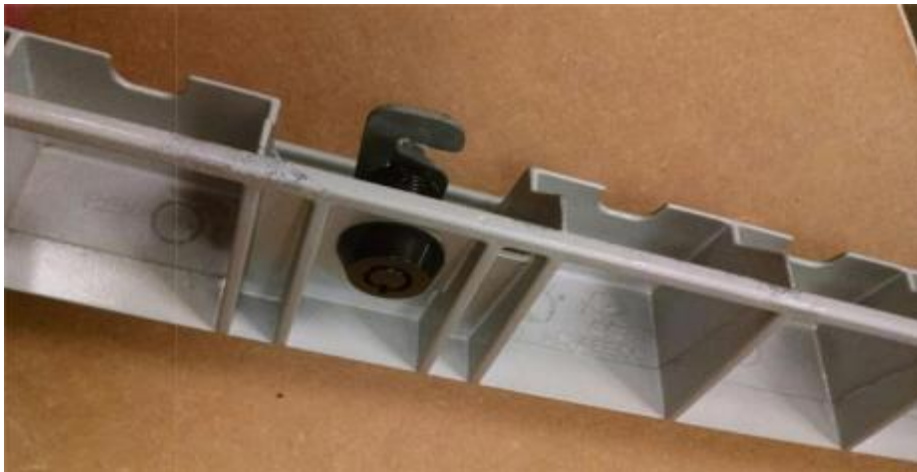


Figure 96: Remove the existing lock completely

- b. Install the new lock assembly MO0023 + MO0033 (497-0515297). Slide in the lock barrel and gasket. Install the lock barrel nut and tighten the lock into place. Install the new lock cam in the unlocked position with the bend towards the metal frame as shown below. Check to make sure the lock cam rotates up towards the cut away edge (the direction of the cam's point). Return to the open position and install the cam screw.



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Figure 97: Install the supplied lock assembly. Note orientation


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7. Route all cabling away from sharp edges, gaskets, and slide rails. Push the G7 or G7 15 inch panel into its closed position against the dispenser frame and secure with the two pre-fitted 7/8" long captive screws.



Figure 98: Secure the panel to the dispenser

8. Lower the Frame Collar and lock into place by pulling down on the frame collar initially, then pushing down the top part with one hand and locking the bottom part in place with the other.

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9. Repeat for Side B.


10. Return Power to the dispenser.

4.3.5 Wiring Completion

Ensure that all cables are tidy and cannot become snagged or pinched when the door of the cabinet is opened and closed.



WARNING – Local regulations may also require that the installation be electrically tested and certified BEFORE switch-on.

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5 First Power-Up

Once the installation is complete and the wiring is certified (if necessary), power may be applied. The G7 OPT takes a couple of minutes to complete its start-up phase, during which several information screens will be presented. The terminal will display the following screen whilst attempting to connect to the LAN. This screen will persist until a connection can be made:



If the terminal is successful in connecting to the LAN it will display the following screen and the rest of the start-up sequence will continue:



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