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Retrofit G7 Printer GVR Encore 300, 500, 500S or 700S (US & Canada) Installation Guide		

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Kit Part Number: RF00024-XX

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Release History

Version	Prepared by	Date	Change description
0	Michael Doh	October 2019	Initial version to be approved by UL (Based on DCV-00213 R2)
1	Michael Doh	19-Dec-2019	Updated kit part number and added G7 15 inch kits
2	Michael Doh	31-Jan-2020	Additional kit part numbers in section 4, first paragraph and additional photo in section 4, step 13.
3	Michael Doh	12-Feb-2020	Corrected errors
4	Michael Doh	19-Mar-2020	Corrected document number in the header
5	Michael Doh	24-Mar-20	Updated manual description, kit part number and added details for pulser type 1
6	Michael Doh	27-Mar-2020	Corrected error in pulser type 1 re-screw step

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1 Introduction

The documentation provides some basic guidelines for installing the G7 Printer into a GVR Encore 300, 500, 500S or 700S dispenser.

This Retro-Fit Kit:

- can only be installed in combination with any of these UL Listed by Report Retrofit Kits:
 - For USA:
 - RF00029-XX RF00023-XX RF00011-XX
 - 6002-0004-8801
 - 6002-0005-8801
 - For USA & Canada:
 - RF00030-XX
 - RF00031-XX
- can be installed into either Side A or Side B the dispenser.
- is for a single Side. For a double-sided installation, two of these Kits are required.

1.1 Tools Required

The following tools are required to mount the G7 Printer:

- Gilbarco "CH 751" Key
- Gilbarco "GBCO" Key
- Flat 5mm screwdriver
- Side cutters
- Cable (zip) ties
- Needle Nose Pliers
- 5/16" Socket or Nut Driver
- Torx T15 Screw Driver
- 11/32" Ring Spanner
- 10mm Socket or Nut Driver
- 10mm Ring Spanner
- 6" ruler (150mm ruler)



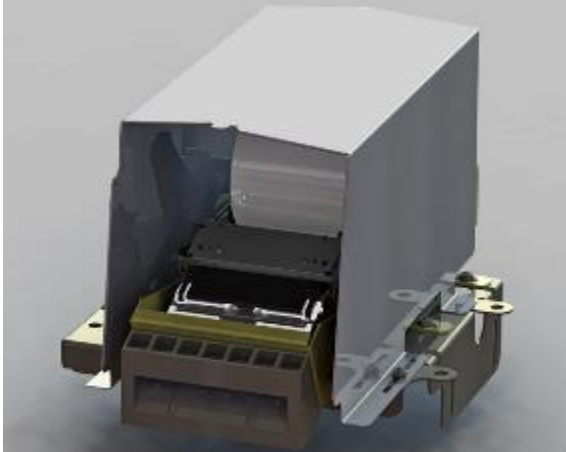
WARNING
Do NOT use power tools if working on a fuel station
forecourt.
Any spark could cause an explosion.

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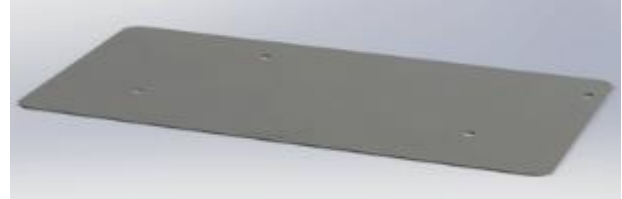
1.2 Installation Kit Contents

Unpack the Retro-Fit Kit and check that all of the parts listed below are present.

Printer Assembly (MZ0086):



Blank Base Plate (MP0649):



2 x Pulser Type 6 Plate (MP0650):



Foot Bracket Left (MP0604):






Distinguishing feature: vertical slots

Foot Bracket Right (MP0605):



Distinguishing feature: threaded inserts

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Fastener Kit (FK0010):		Cables:	
Comprising:		Comprising:	
ITEM	QTY		EK0157 USB A-B Cable
MN0031 NUT, SEMS, #8-32 UNC, EXTERNAL STAR WASHER, SS304	2		EK0117 Printer low-voltage DC cable
MW0046 WASHER, #10 X 3/4" OD, SS304, ZINC	1		EK0156 Earth cable
MS0166 SCREW, SERRATED FLANGE, #10-32 UNC X 3/4", HEX HEAD, SS410, ZINC	7		
MS0177 SCREW, SEMS, M6X12, HEX HEAD, SS410, ZINC	4		
MS0178 SCREW, M6X80, HEX HEAD, SS410, ZINC	4		
MN0040 NUT, M6, SS304, ZINC	4		
MF0046 FASTENER, CABLE CLIP, SELF ADHESIVE 12 x 11mm	2		
MN0027 NUT, K-LOCK, 10-32, SS304, ZINC	6		

2 Safety & Compliance Information


This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining or servicing the G7 Printer. 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 fuelling equipment and dispensing devices.

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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 G7 Printer.

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 affected 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 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

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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

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.

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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.

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

For Canada: Follow all applicable requirements in Canadian Electrical Code (CE Code), CSA C22.1.

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 Modules have a UL File Reference of MH61528 and carry labels similar to this:



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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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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.

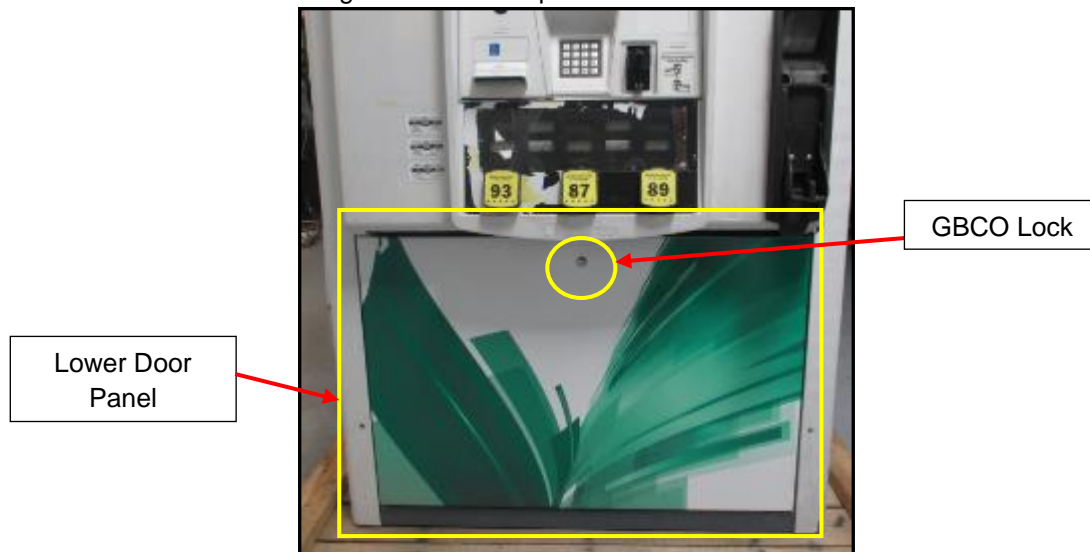
1. Please ensure all safety procedures are followed per requirement by the customer before installing the retrofit kit.
2. Remove power to Pump and follow the OSHA Lock-out/Tag-out procedures.
3. This installation will require various panel replacements. The panels will be removed from the door and replaced with pre-built panels with the OPT modules pre-fitted.

4 Disassembly

If you are installing a printer in combination with Retro-Fit Kit part Number 6002-0004-8801, or 6002-0005-8801, please refer to the instructions in those kits for the printer-disassembly process, and then proceed to Section 5 of this guide. Otherwise, continue with this section.

The following procedure details the disassembly or removal of the printer assembly from the Encore-500-S Dispenser. If the Lower Door Panel has already been removed and the dispenser door has already been opened due to other installation work, please go to Step 4.

1. Unlock and remove the panel door with the “GBCO” key. Set it aside. Do not discard the lower door. It will be re-installed later during the installation procedure.



2. Undo the lower door latch located underneath the left-hand side of the Main Dispenser Door.

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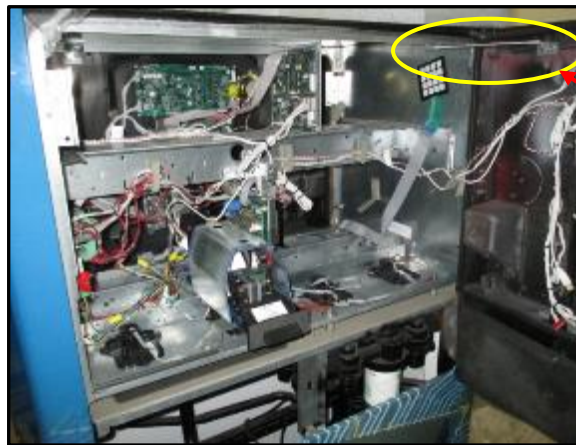
Latch in the
Locked Position



Latch in the
Unlocked Position

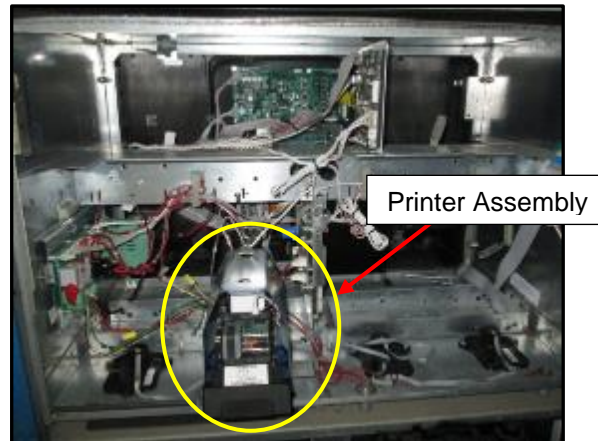


3. Using the Gilbarco “751” key, unlock the main dispenser door lock located on the upper left-hand side of the Main Dispenser Door. Open the door until it latches into its fully open position using the door stay at the top right of the Dispenser (to unlatch the stay when closing the door, lift the stay upwards).

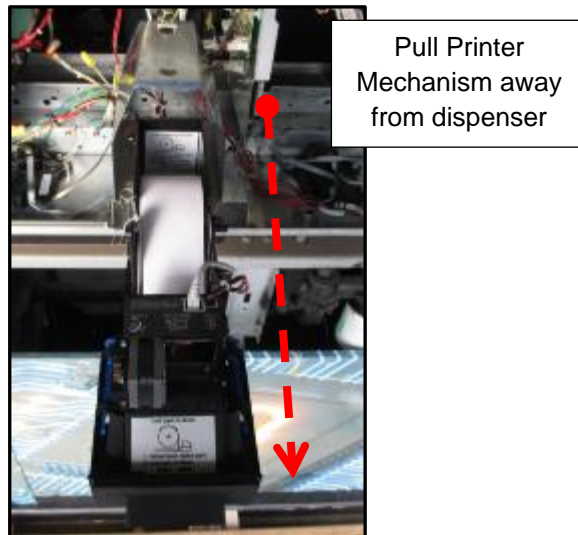


Door Stay

4. Locate the Printer Assembly.

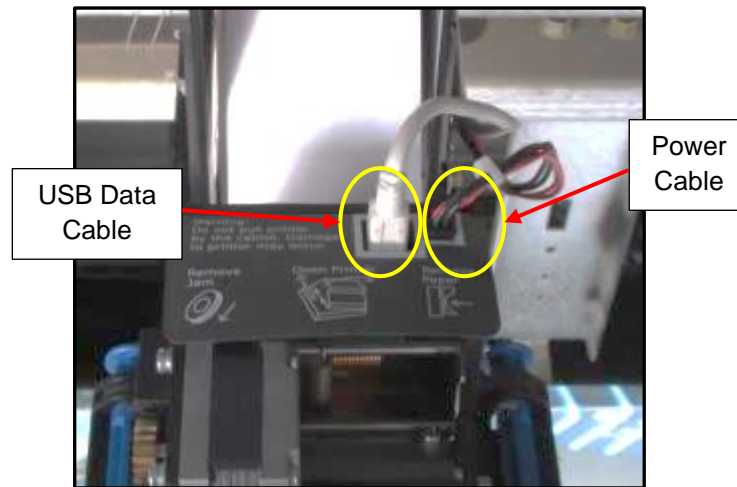
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5. Pull the Printer Mechanism fully forward.

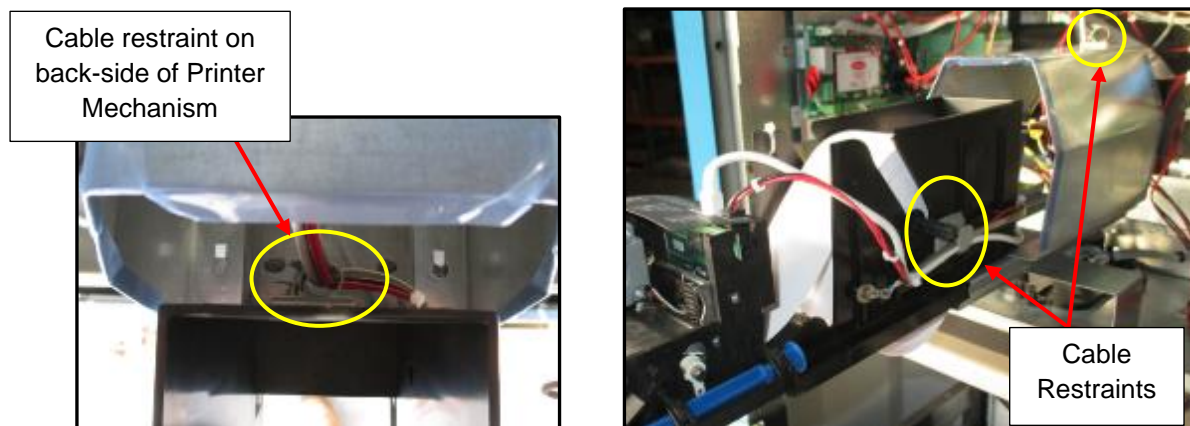


6. Unplug both the power cable and the USB data cable.

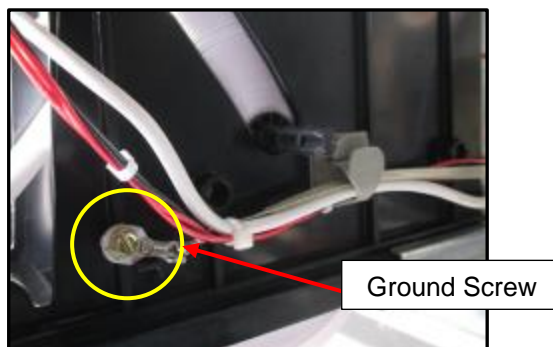
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7. Unfasten the cable restraints on the Printer Assembly. There is one on the top of the Printer Shield, one on the side of the Printer Mechanism, and one on the back-side of the Printer Mechanism.



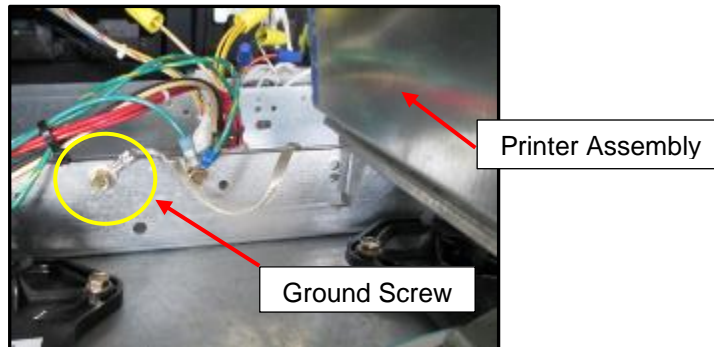
8. Remove the Ground Screw located on the side of the Printer Mechanism. The screw can be discarded; it will not be re-installed.



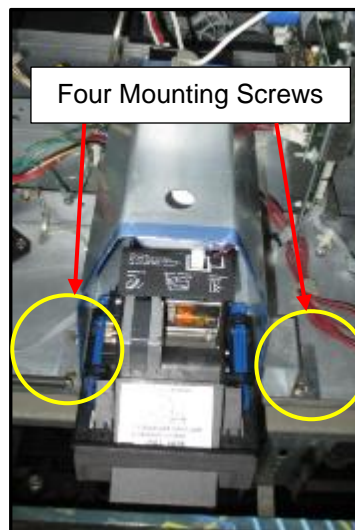
9. Pull the Printer Cables through the back of the Printer Assembly and lay them inside the Electronics Cavity.

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10. Remove the Ground Screw located on the Electronics Cavity Interior Channel, left of the Printer Assembly. The Printer Assembly's Ground Screw is separate and by itself from other grounding locations inside the Dispenser. Retain the screw for re-installation later.

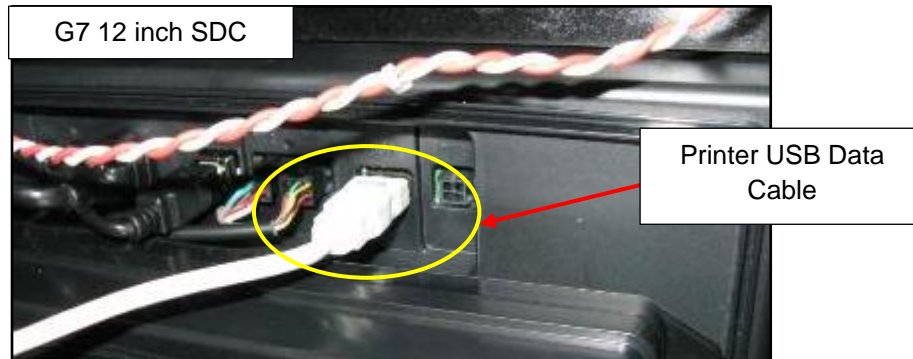


11. Slide the printer assembly back, so that it does not tip over when the mounting screws are removed in the next step.
12. Remove the four mounting screws that are fastening the Printer Bracket to the Electronics Cavity Frame. Remove the Printer Assembly and screws. Retain the screws in case they are needed later.

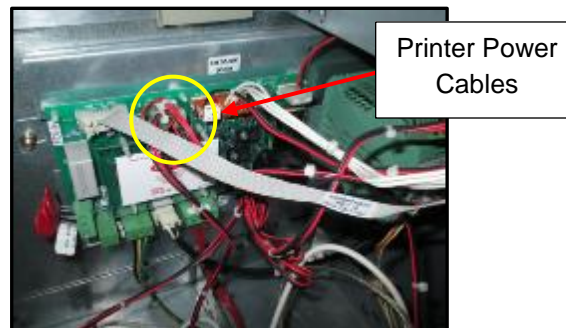


13. Unplug the USB cable from the SDC module. (Note: for the G7 15 inch SDC, can be inserted into any of the four USB slots)

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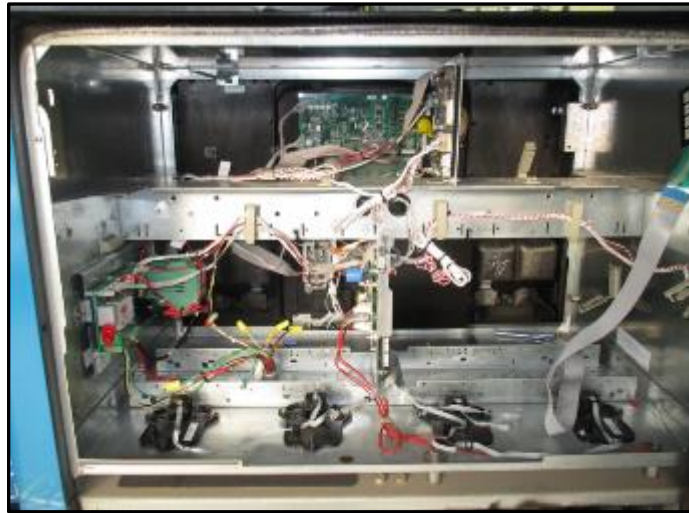


14. Unplug the printer's power cable from the Power Supply Assembly terminal P4 for Side-A (P5 for Side-B).



15. Remove the Printer Cables from the Dispenser. Unfasten any cable restraints necessary and re-fasten them after the printer cables are removed.

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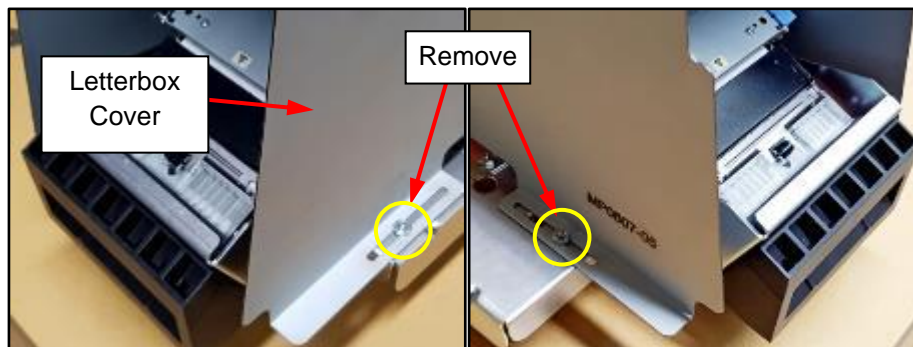


5 Pre-Installation

This section outlines assembly stages that are to be completed before installing printer kit into the dispenser.

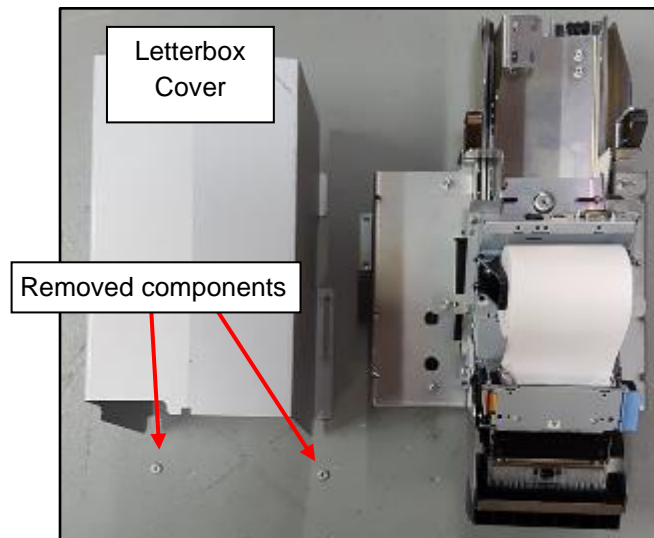
Note: Take care with this assembly – the printer mechanism is on roller slides and its weight can shift easily.

1. With sub-assembly MZ0086 Sitting on a firm surface remove the following components:
 - a. Remove the Letterbox Cover by removing the two #6-32 Nuts circled below using a 5/16" nut driver in the locations shown (one on each side of the Letterbox Cover):

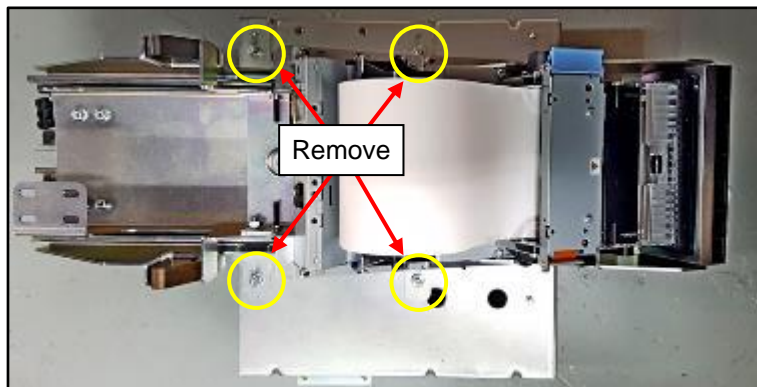


- b. Place removed components and fasteners in a safe location as they will be reused later in the install process:

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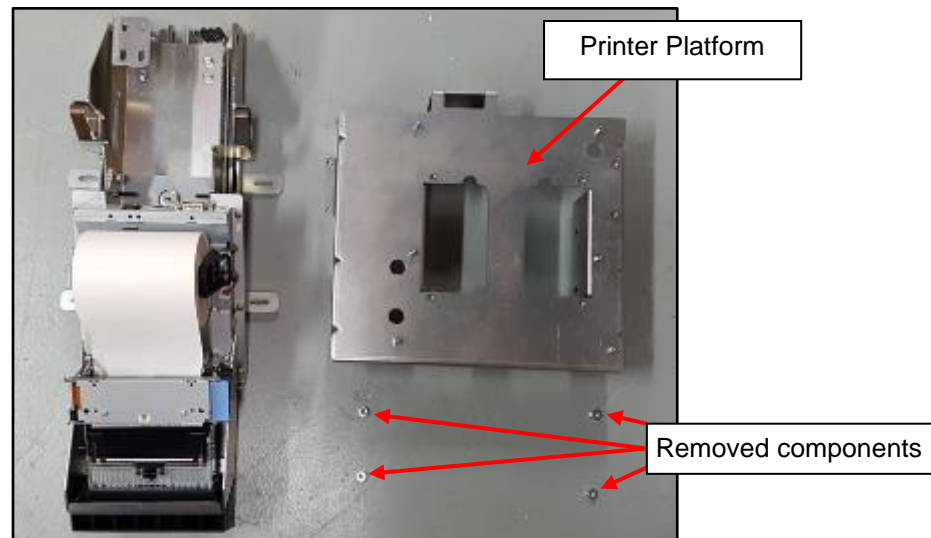


- c. Remove the four Nuts circled below from the locations shown to separate the Printer Platform from the rest of sub assembly MZ0086 using a 5/16" ring spanner or socket:

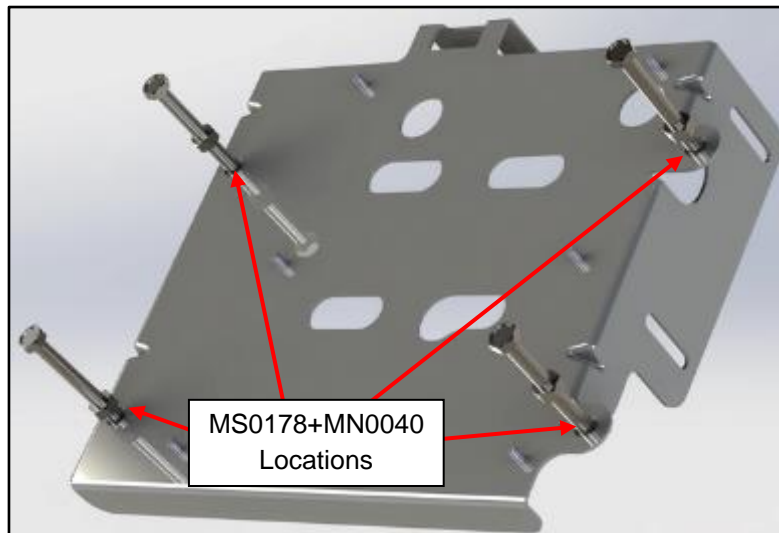


- d. Place removed components and fasteners in a safe location as they will be reused later in the install process:

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2. Take the four MS0178 M6x80 Hex Head Screws and onto each one wind an MN0040 M6 Nut to about halfway along the thread.
3. Then screw the MS0178 Height Jacking Screws into the Printer Platform in the locations shown, until the threads are well engaged:



This completes the Pre-Installation section.

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6 Installation

This section outlines assembly stages that are to be completed on the pump. The install procedure is common for both A and B sides. References to “left hand” and “right hand” are as viewed from the side you are working on.

6.1 Determine the pulser type

1. Unlock and open the pump door if it is not already open.
2. Identify which of the following Pulser types are present in the Dispenser and proceed to the step indicated.

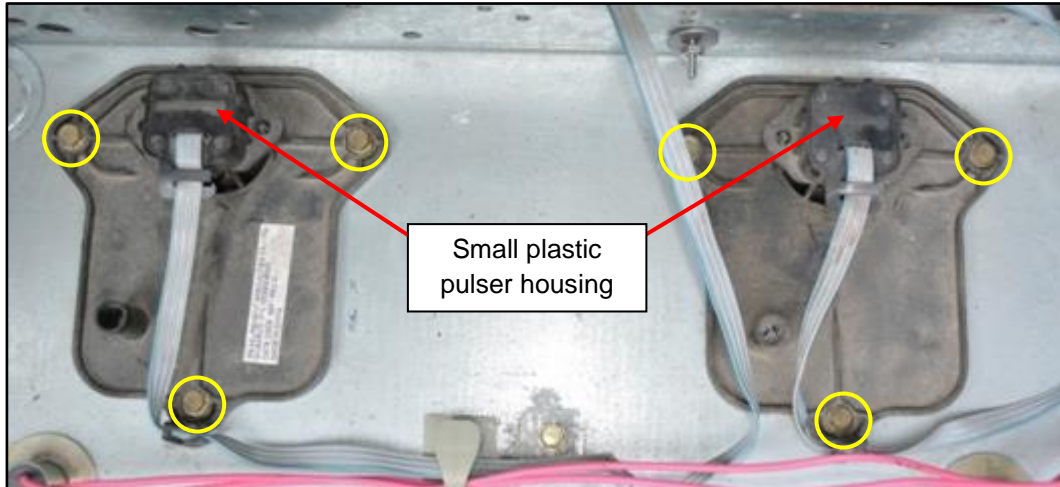
6.1.1 No Pulser



If there are no pulsers present on the left hand side of the Dispenser, proceed to Step 6.2.1.

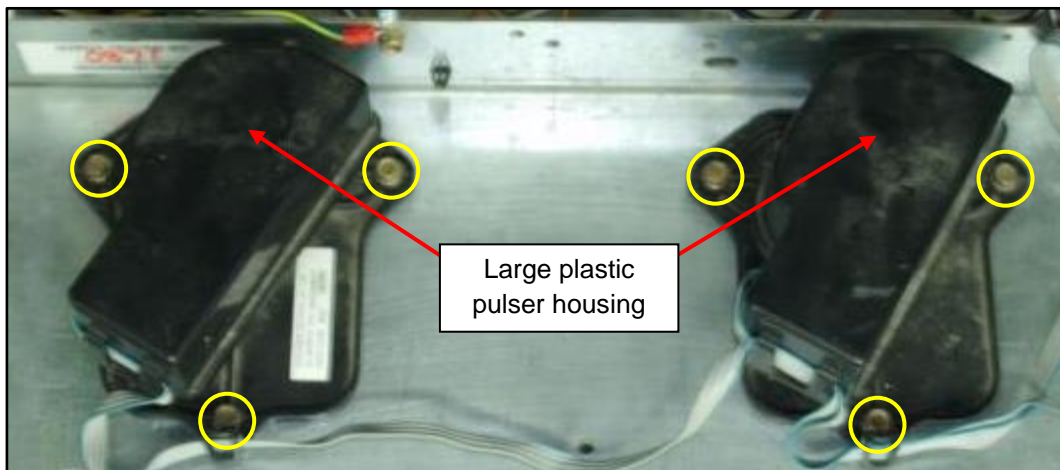
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6.1.2 Pulser Type 1: Small plastic pulser on a plastic base



If the pulsers have a small plastic housing on top of a plastic base with 3 screws (circled above), proceed to Step 6.2.2

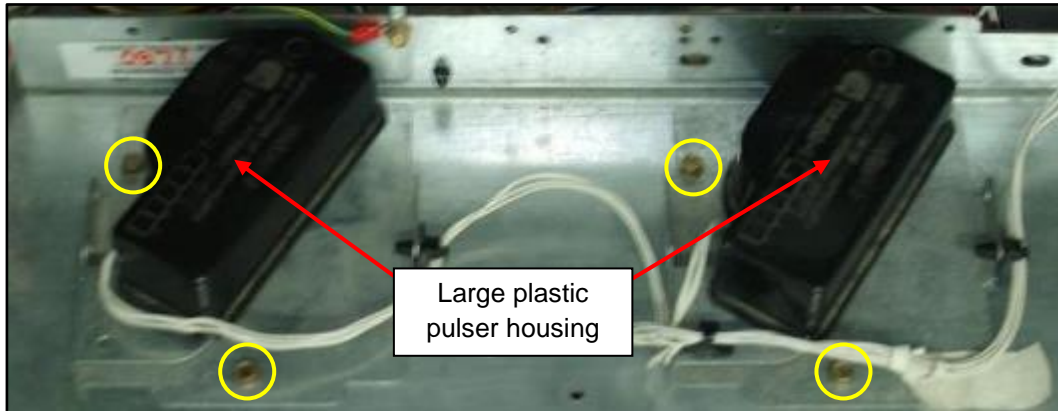
6.1.3 Pulser Type 2: Large plastic pulser on a plastic base



If the pulsers have a large plastic housing on top of a plastic base with 3 screws (circled above), proceed to Step 6.2.3

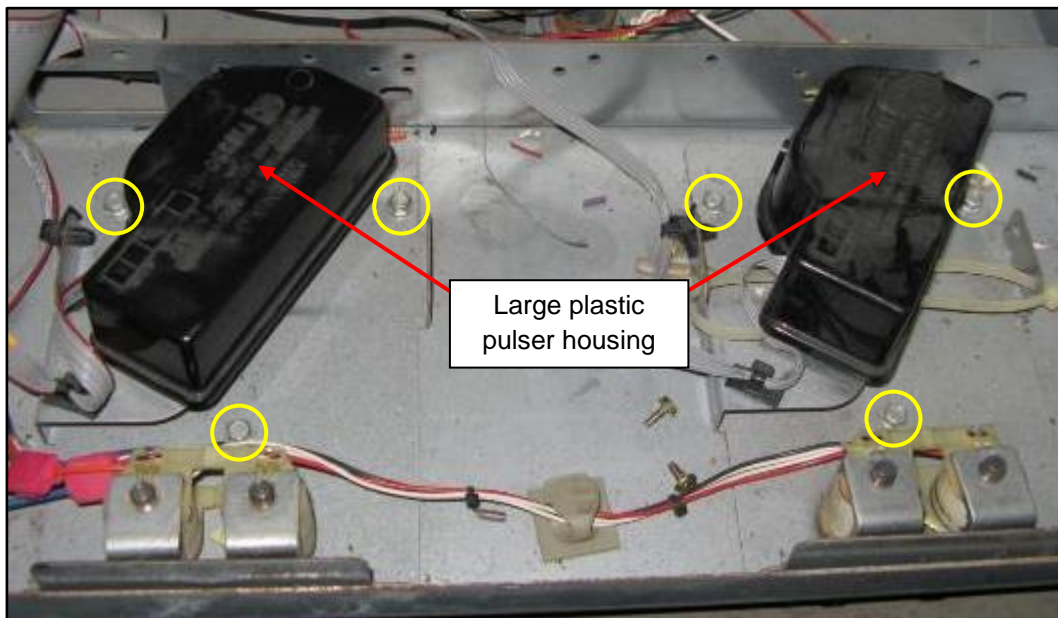
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6.1.4 Pulser Type 3: Large plastic pulser on a 2-screw small metal base



If the pulsers have large plastic bodies on top of a metal base with 2 screws (circled above), proceed to Step 6.2.4

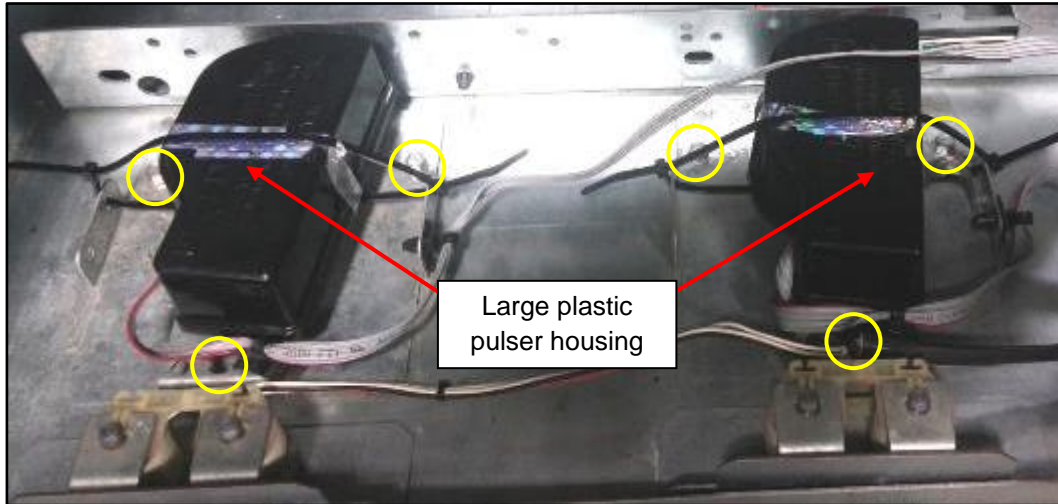
6.1.5 Pulser Type 4: Large plastic pulser on a 3-screw large metal base



If the pulsers have large plastic bodies on top of a large metal base that extends to the front of the dispenser and is fitted with 3 screws, proceed to Step 6.2.5.

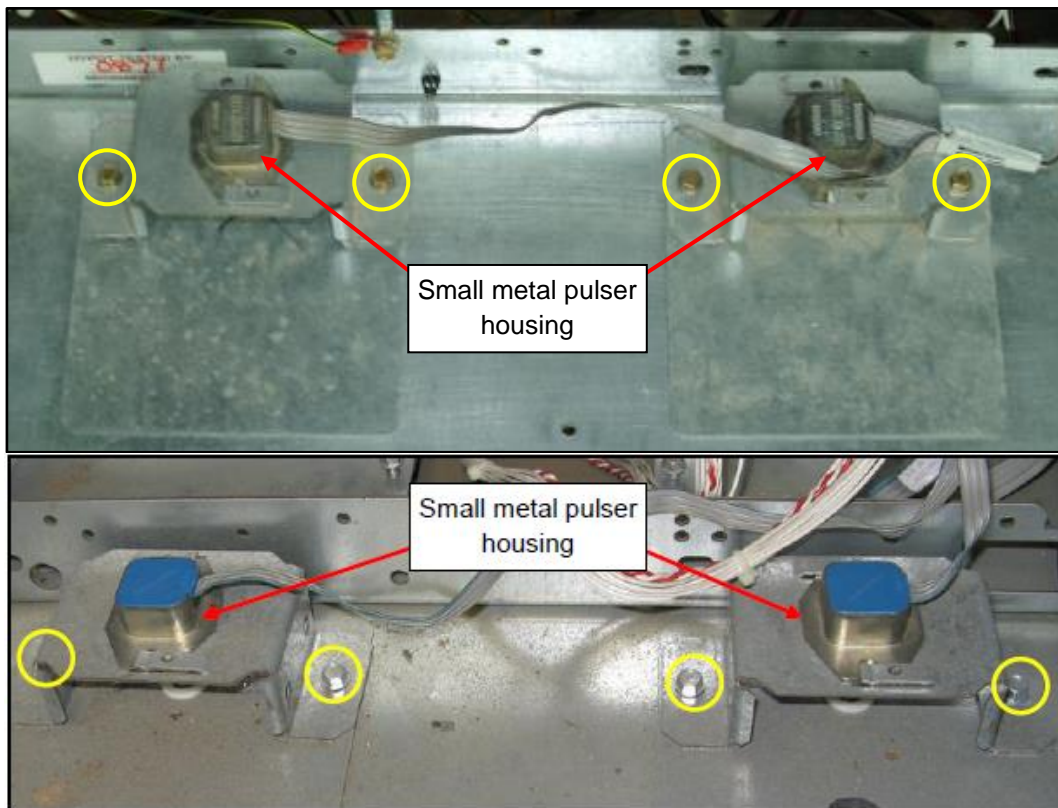
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6.1.6 Pulser Type 5: Large plastic pulser on a 3-screw small metal base



If the pulsers have large plastic bodies on top of small metal bases fitted with 3 screws (circled above), proceed to Step 6.2.6

6.1.7 Pulser Type 6: Small metal pulser on a 2-screw small metal base



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If the pulsers have small metal bodies on top of a small metal base fitted with 2 screws (circled above), proceed to Step 6.2.7

6.2 Install the Foot Bracket Assemblies

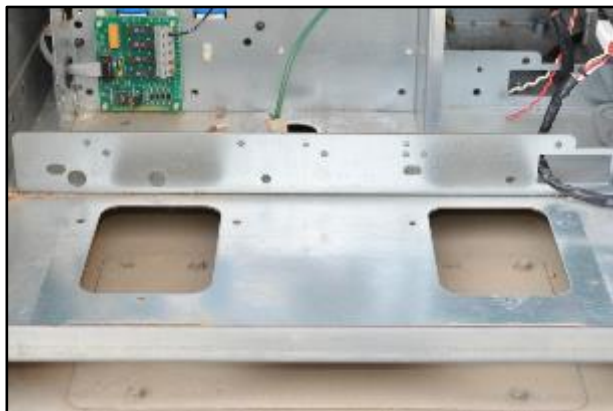
6.2.1 No Pulser: Installing the Printer Feet

1. Prepare for foot installation.

- a. Remove the current Cover Plate using a 5/16" socket or nut driver. Retain the screws. Discard the Cover Plate.

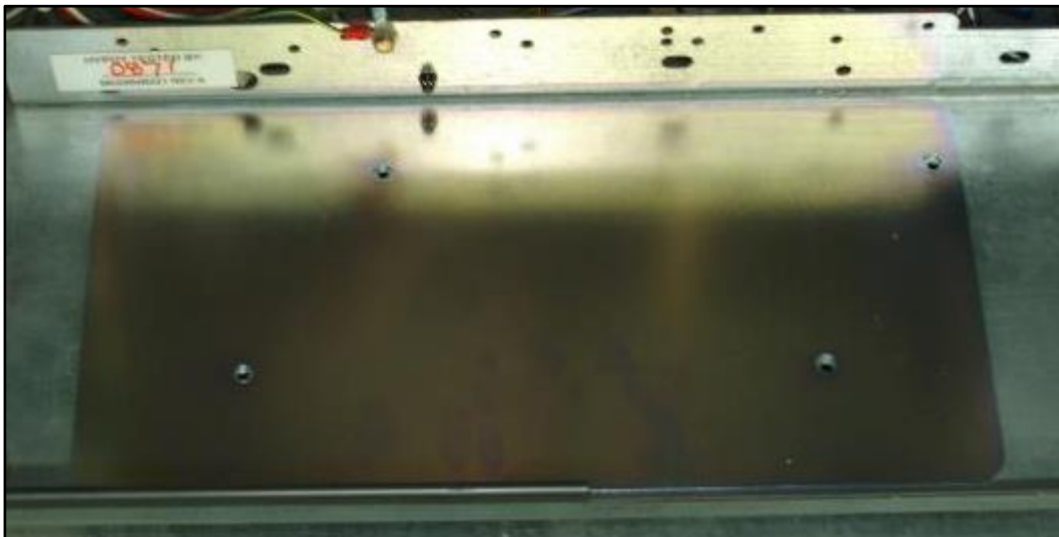


Screws being removed.




Cover Plate removed.

- b. Place the Blank Base Plate (MP0649) aligning the screw holes as shown below.

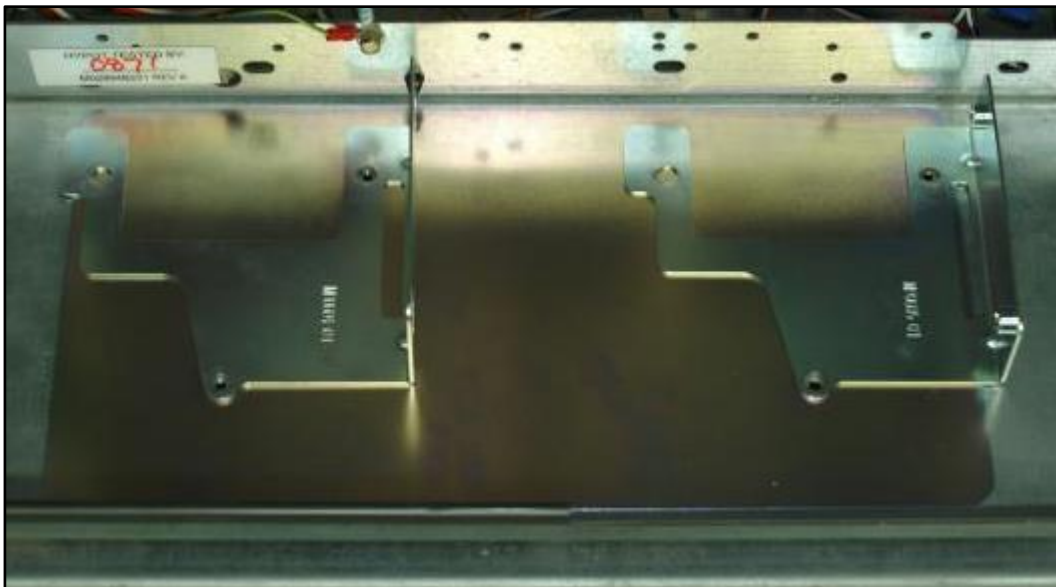


2. Install feet brackets.

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Note: Verify the correct foot bracket is installed to the correct side. The install steps are the same but the slot configuration of the foot bracket are different from left to right side.

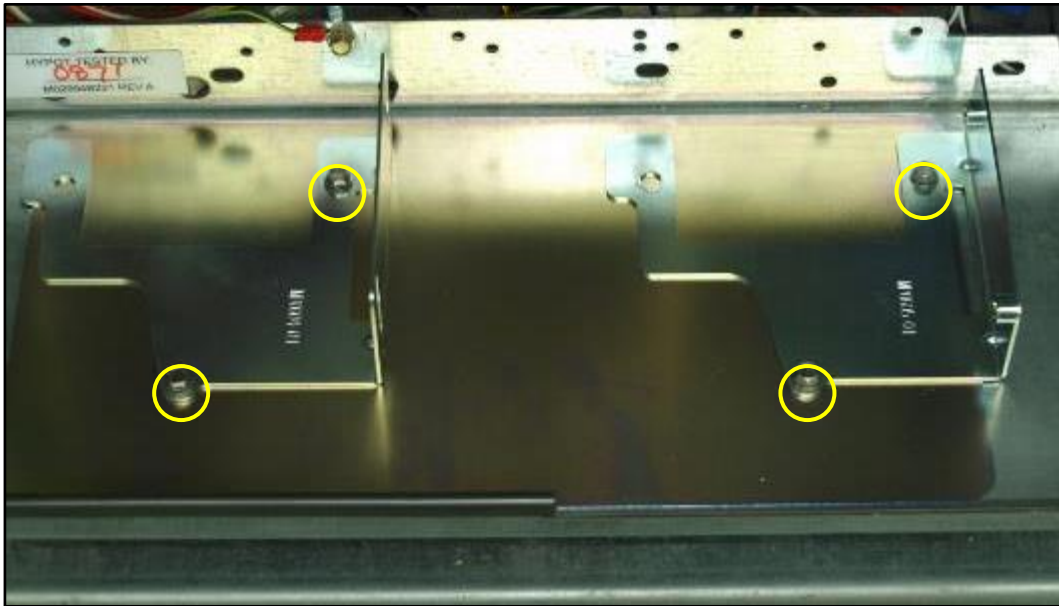
- a. Obtain the feet brackets and place on the Blank base Plate.



- b. Place each foot bracket to align with the correct hole set (MP0604 with the two vertical slots on the left, MP0605 with the threaded inserts on the right) and install with two MS0166 #10-32 x 3/4" Hex Head Screws per bracket (circled below):

Note: For any of the holes that have not been used before (i.e. there is no thread in the hole), re-use one of the original screws instead. Check this before attempting to force a supplied screw into the hole. The supplied screws will not work to cut a new thread.

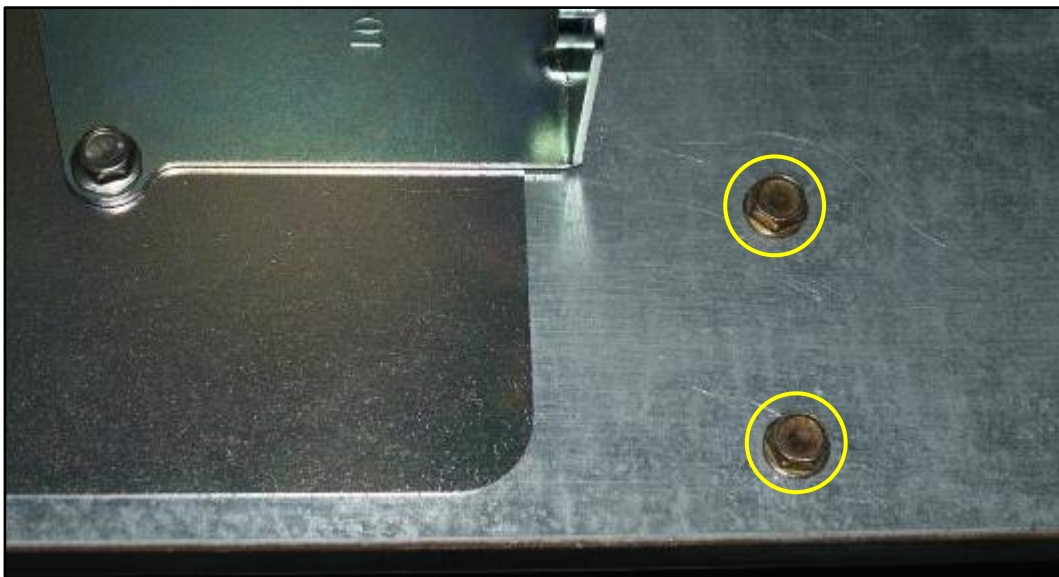
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3. Using a 5/16" socket or nut driver, tighten all four MS0166 (or original) screws to secure the Foot Brackets to the cabinet.

Note: *In some cases the mounting holes may be stripped. If this occurs, use the provided nuts (MN0027) with the screw in all stripped hole locations to properly secure the foot brackets to the cabinet.*

4. To block the remaining holes, re-install the two right hand Printer Mounting screws (circled below) originally removed with the old printer in Section 4 Step 12

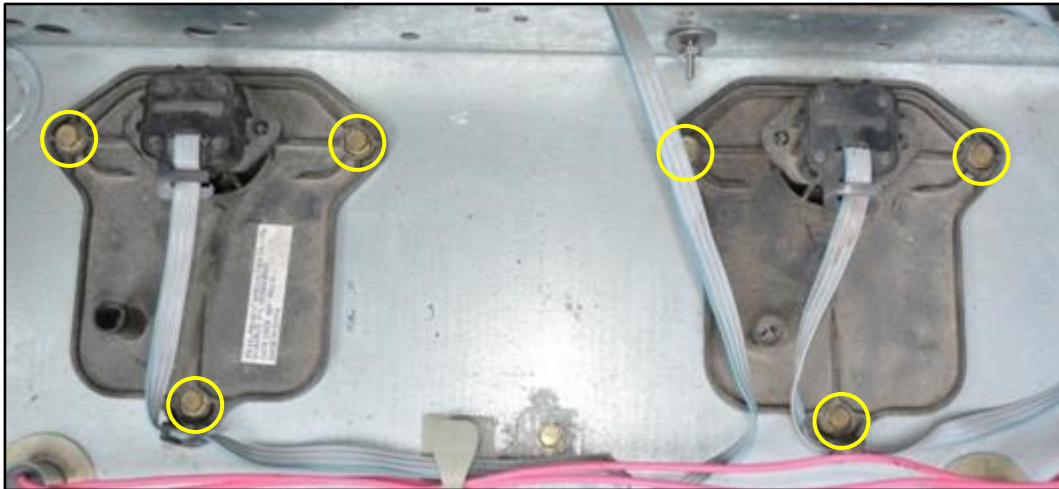


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5. Proceed to Section 6.3.

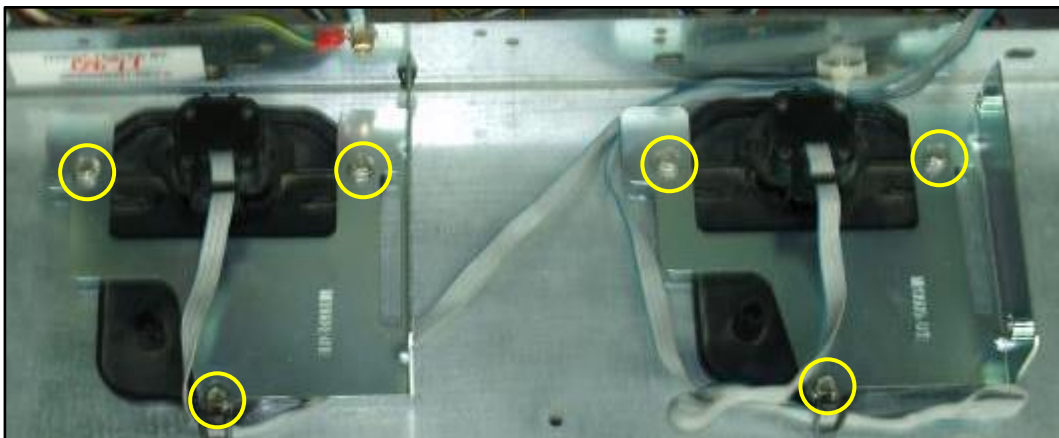
6.2.2 Pulser Type 1: Installing the Printer Feet

1. While still holding the pulser down with a hand, using a 5/16" socket or nut (alternatively could be Torx T15) driver, remove all screws holding the pulser (circled below). Retain the pulser and the screws.



Note: Verify the correct foot bracket is installed to the correct side. The install steps are the same but the slot configuration of the foot bracket are different from left to right side.

2. While still holding the pulser down with a hand, Install the foot bracket (MP0604 with vertical slots on the left, and MP0605 with threaded inserts on the right).
 - a. Slide in the foot bracket under the cable and place on top of the plastic base as shown:



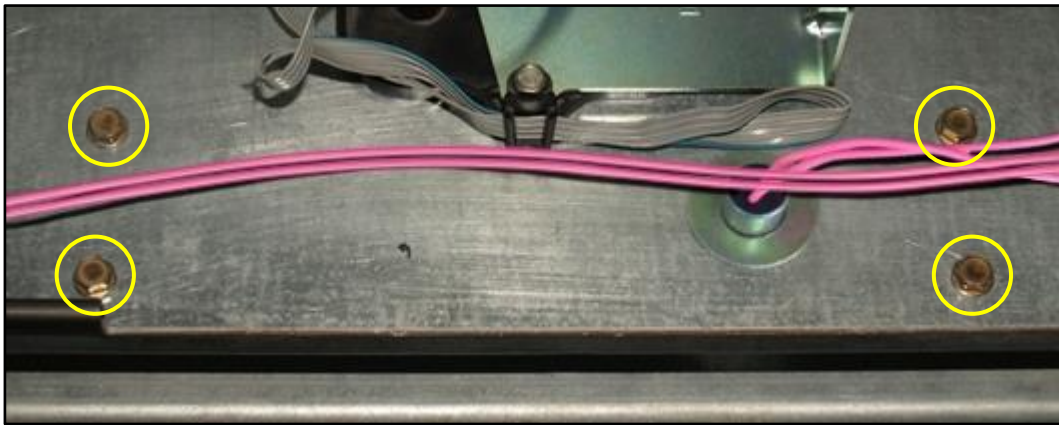
3. Using a 5/16" socket or nut driver, install and tighten all six MS0166 screws (circled above) to secure the Foot Brackets to the cabinet. Take care not to pinch any cables.

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Note: For any of the holes that have not been used before (i.e. there is no thread in the hole), re-use one of the original screws instead. Check this before attempting to force a supplied screw into the hole. The supplied screws will not work to cut a new thread.

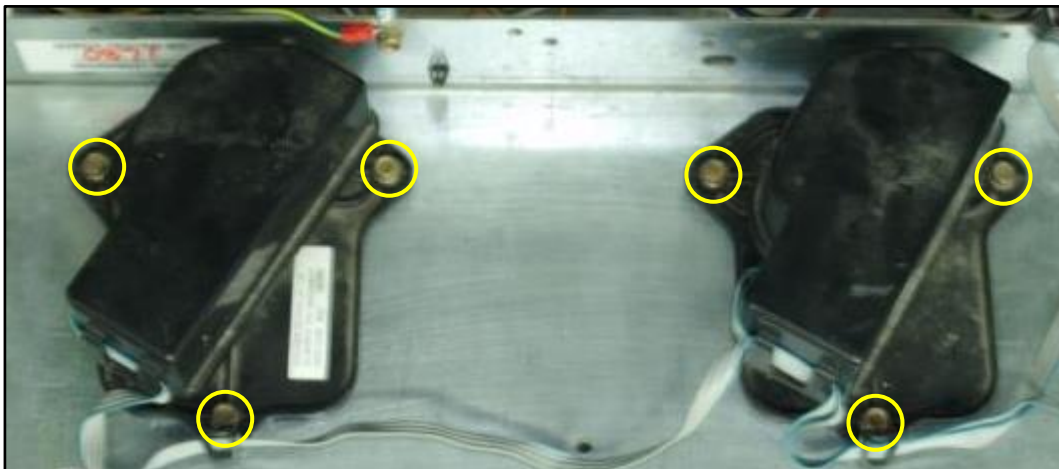
Note: In some cases the mounting holes may be stripped. If this occurs, use the provided nuts (MN0027) with the screw in all stripped hole locations to properly secure the foot brackets to the cabinet.

4. To block the remaining holes, re-install the four Printer Mounting screws (circled below) originally removed with the old printer in Section 4 Step 12



5. Go to Step 6.3.

6.2.3 Pulser Type 2: Installing the Printer Feet



1. Using a 5/16" socket or nut driver, remove all screws holding the pulser (circled above). Retain the pulser and the screws.
2. Install the foot bracket (MP0604 Left, MP0605 Right).

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- a. Slide in each foot bracket under the large housing and cable as shown below:



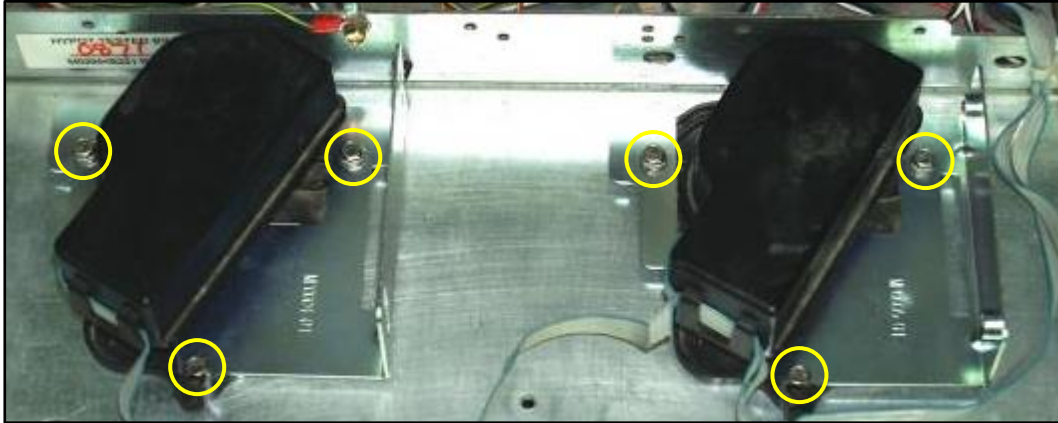
Note: Verify the correct foot bracket is installed to the correct side. The install steps are the same but the slot configuration of the foot bracket are different from left to right side.

- b. Align all the screw hole locations on the Pulser with each Foot Bracket:



- c. Using a 5/16" socket or nut driver, install and tighten all six MS0166 screws (circled below) to secure the Foot Brackets to the cabinet. Take care not to pinch any cables.

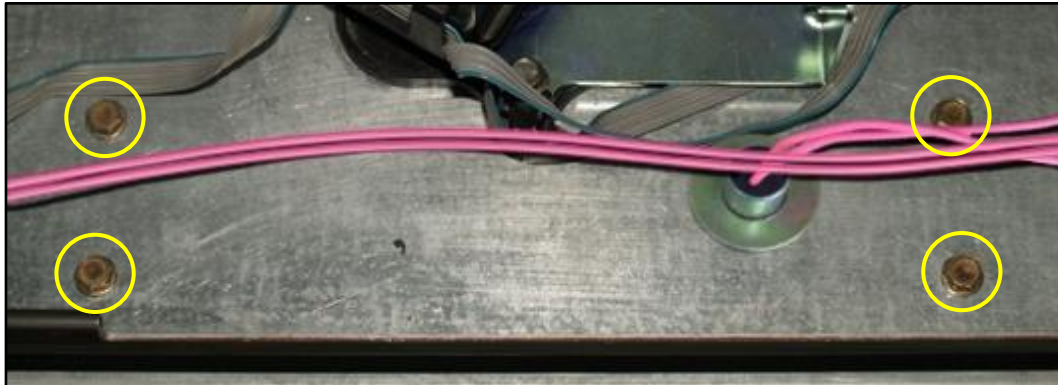
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Note: For any of the holes that have not been used before (i.e. there is no thread in the hole), re-use one of the original screws instead. Check this before attempting to force a supplied screw into the hole. The supplied screws will not work to cut a new thread.

Note: In some cases the mounting holes may be stripped. If this occurs, use the provided nuts (MN0027) with the screw in all stripped hole locations to properly secure the foot brackets to the cabinet.

- d. To block the remaining holes, re-install the four Printer Mounting screws (circled above) originally removed with the old printer in Section 4 Step 12

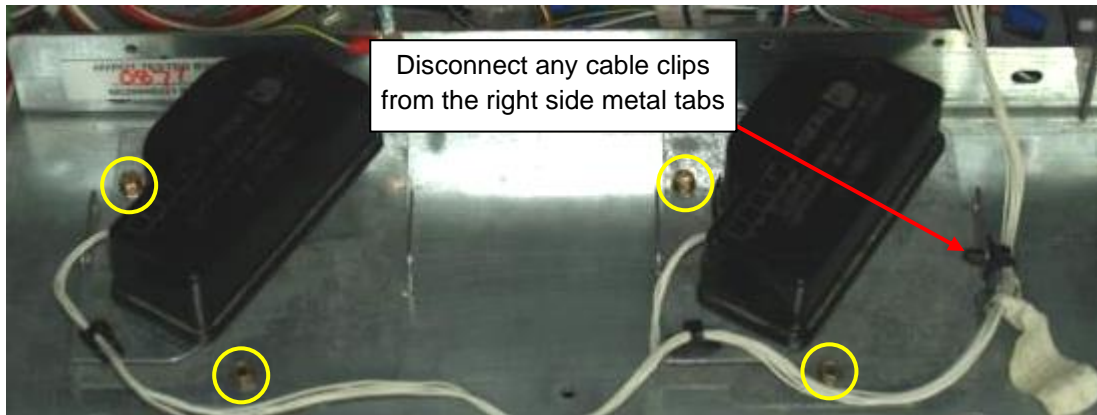


2. Go to section 6.3.

6.2.4 Pulser Type 3: Installing the Printer Feet

1. Using a 5/16" socket or nut driver, remove all screws holding the pulser (circled above). Retain the pulser and the screws.
2. Use Side Cutters to cut off and remove any cable ties (zip ties) holding down the plastic pulser body to the metal base.

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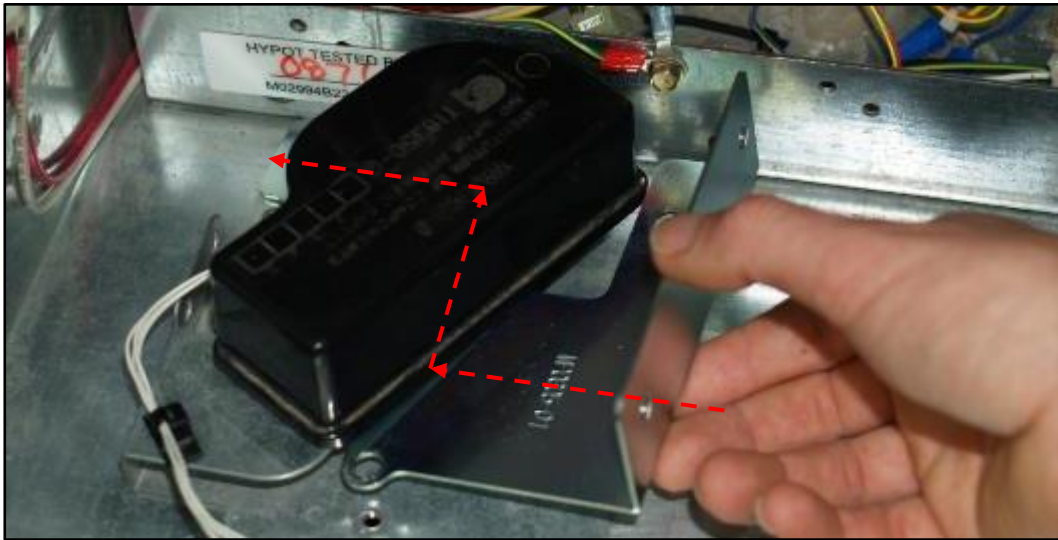
3. Use Needle Nose Pliers to disconnect any plastic cable clips from the right side metal tabs. Retain these clips to be re-installed later.



Note: Verify the correct foot bracket is installed to the correct side. The install steps are the same but the slot configuration of the foot bracket are different from left to right side.

4. Install the foot bracket (MP0604 Left, MP0605 Right).
 - a. Slide in each foot bracket under the large pulser housing and any cables as shown:

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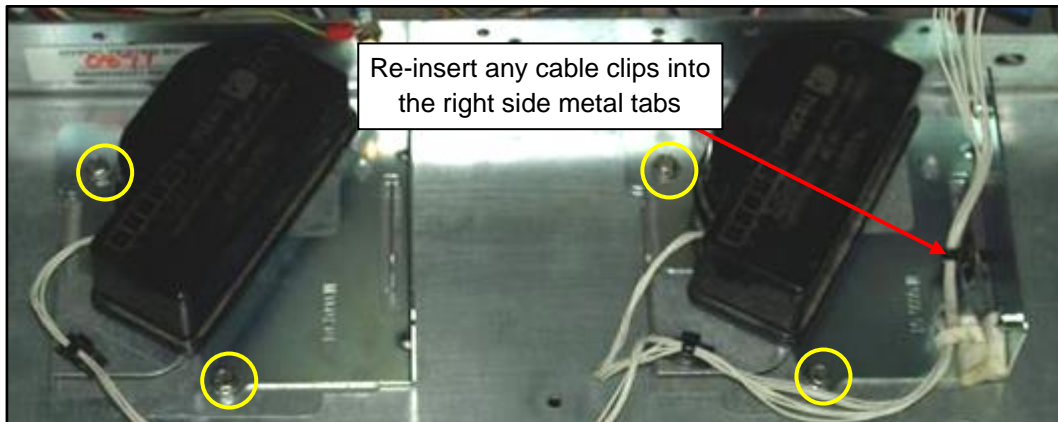


b. Align each Foot Bracket with the screw holes.



c. Using a 5/16" socket or nut driver, install and tighten all four MS0166 screws (circled above) to secure the Foot Brackets to the cabinet. Take care not to pinch any cables.

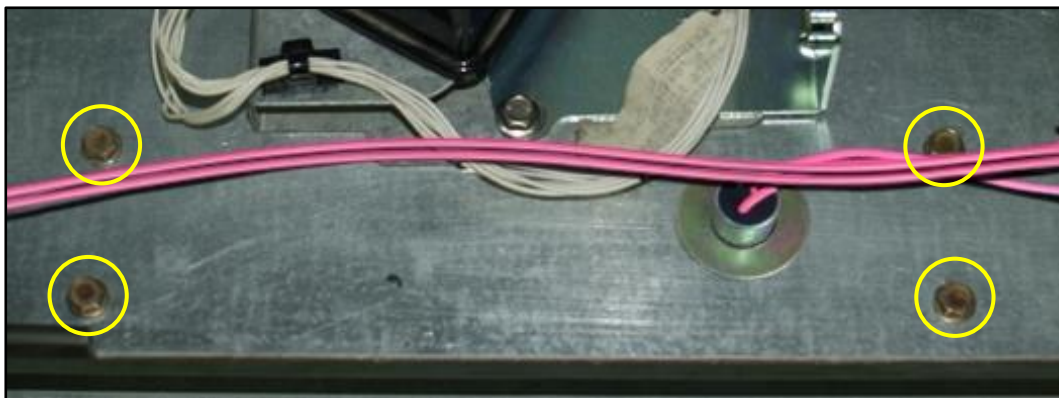
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Note: For any of the holes that have not been used before (i.e. there is no thread in the hole), re-use one of the original screws instead. Check this before attempting to force a supplied screw into the hole. The supplied screws will not work to cut a new thread.

Note: In some cases the mounting holes may be stripped. If this occurs, use the provided nuts (MN0027) with the screw in all stripped hole locations to properly secure the foot brackets to the cabinet.

- d. Re-insert any cable clips.
- e. Re-apply any cable ties (zip ties) to hold down the plastic pulser bodies to the metal base.
- f. To block the remaining holes, re-install the four Printer Mounting screws (circled above) originally removed with the old printer in Section 4 Step 12

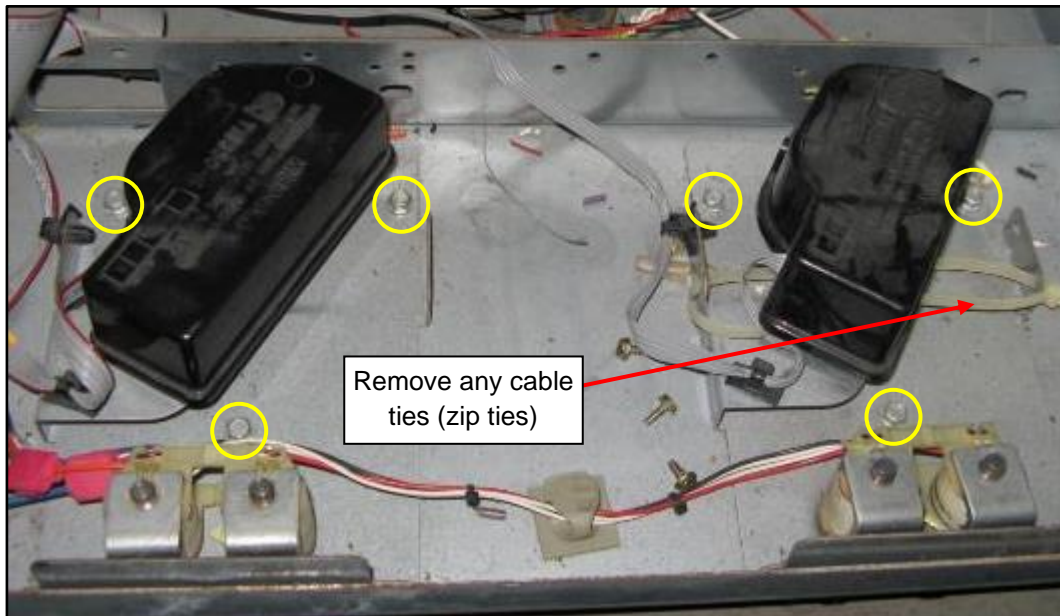


- 5. Go to Section 6.3.

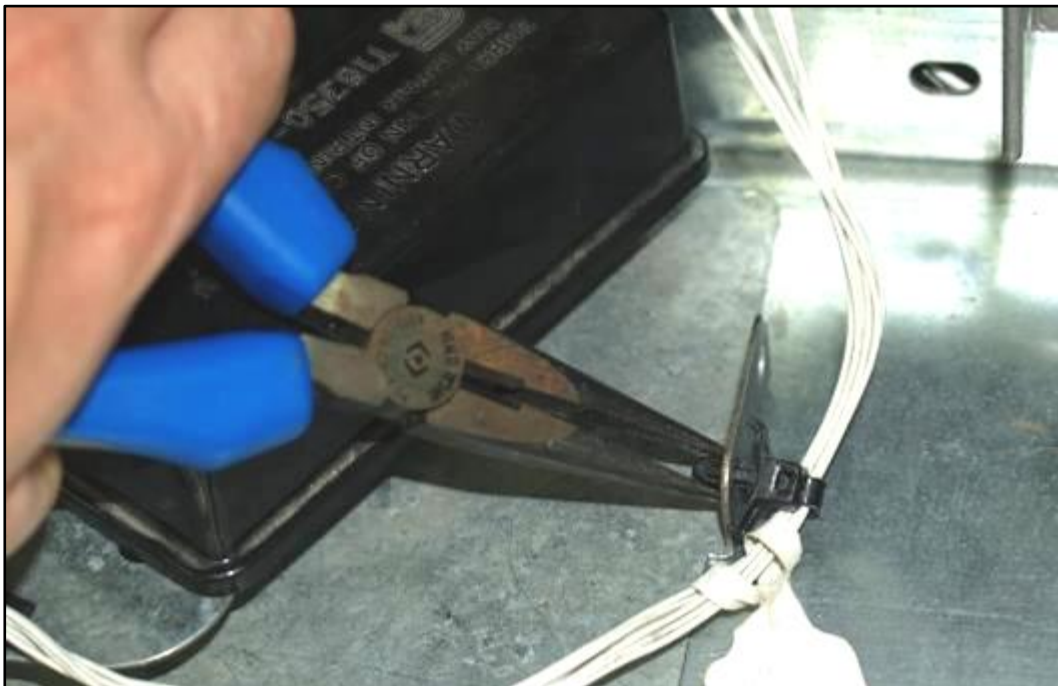
6.2.5 Pulser Type 4: Installing the Printer Feet

- 1. Using a 5/16" socket or nut driver, remove all screws holding the pulser (circled above). Retain the pulser and the screws.
- 2. Use Side Cutters to cut off and remove any cable ties (zip ties) holding down the plastic pulser body to the metal base.

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3. Use Needle Nose Pliers to disconnect any plastic cable clips from the right side metal tabs. Retain these clips to be re-installed later.

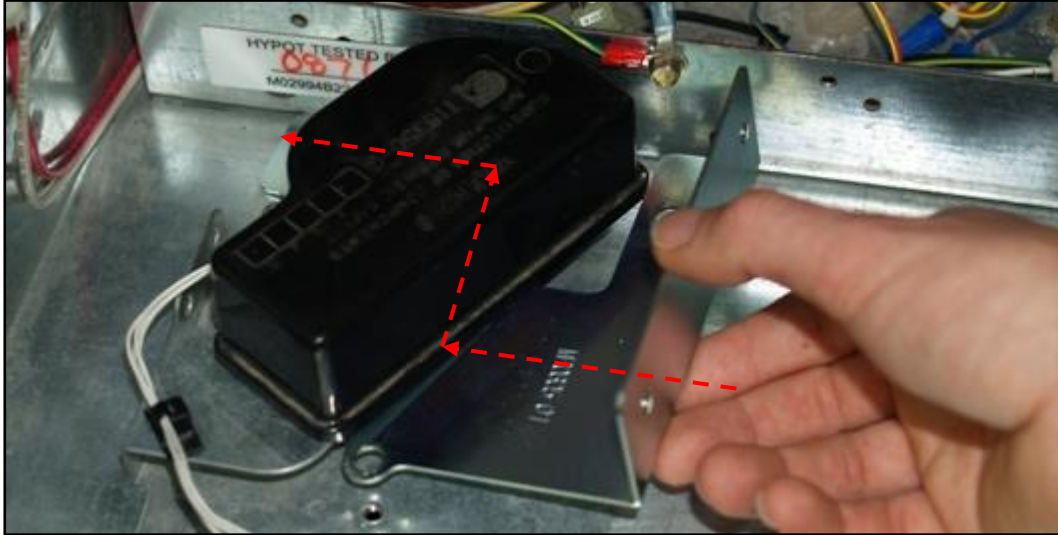


Note: Verify the correct foot bracket is installed to the correct side. The install steps are the same but the slot configuration of the foot bracket are different from left to right side.

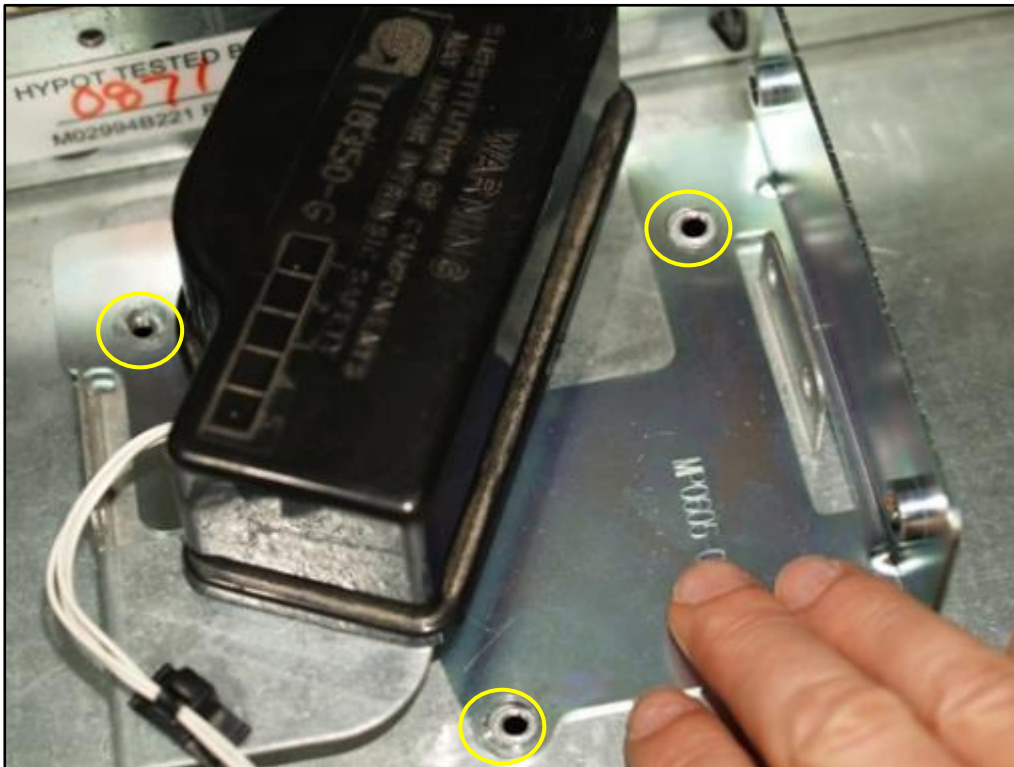
4. Install the foot bracket (MP0604 Left, MP0605 Right).

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- a. Slide in each foot bracket under the large pulser housing and any cables as shown:

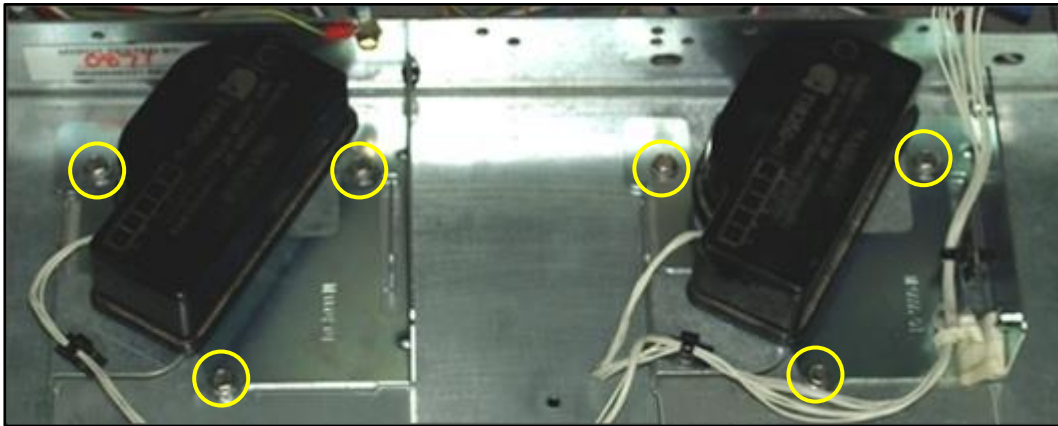


- b. Align each Foot Bracket with the screw holes.



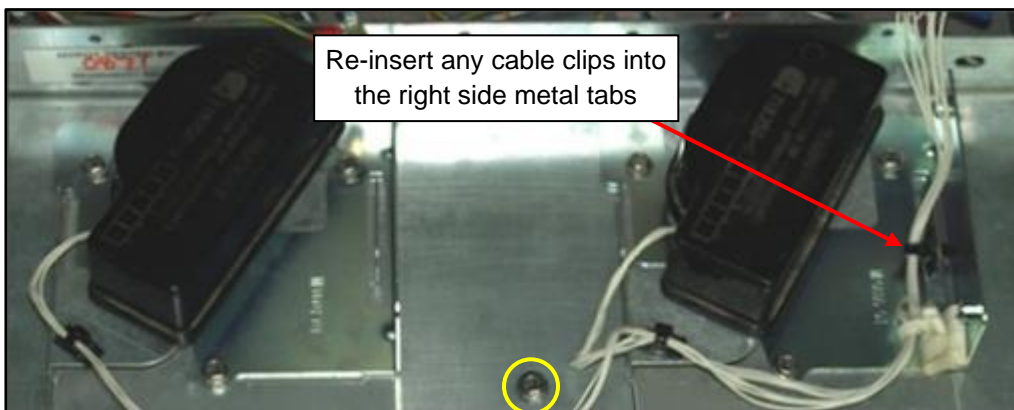
- c. Using a 5/16" socket or nut driver, install and tighten all six MS0166 screws (circled above) to secure the Foot Brackets to the cabinet. Take care not to pinch any cables.

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Note: For any of the holes that have not been used before (i.e. there is no thread in the hole), re-use one of the original screws instead. Check this before attempting to force a supplied screw into the hole. The supplied screws will not work to cut a new thread.

Note: In some cases the mounting holes may be stripped. If this occurs, use the provided nuts (MN0027) with the screw in all stripped hole locations to properly secure the foot brackets to the cabinet.



- d. To block the remaining holes, re-install the four Printer Mounting screws originally removed with the old printer in Section 4 Step 12 in the positions circled below:

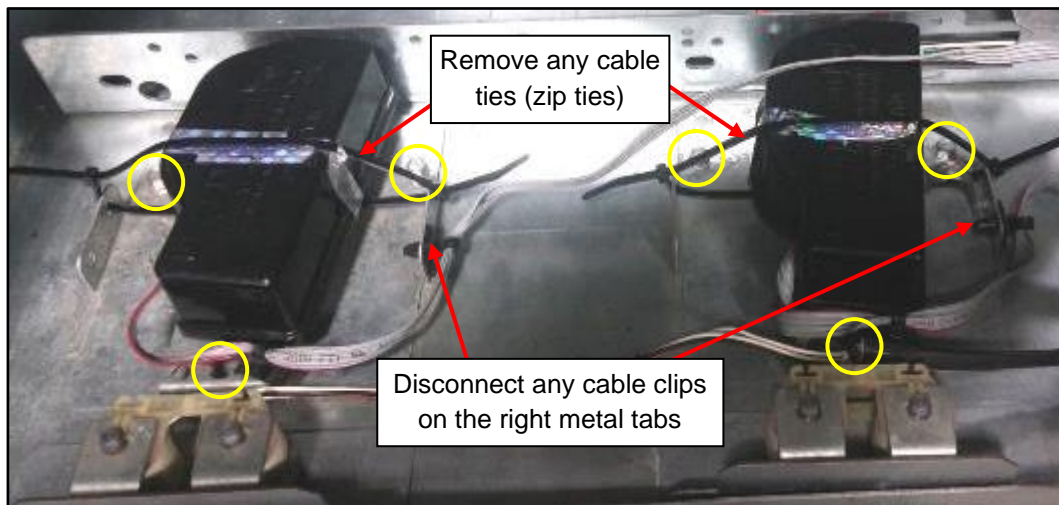
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- e. Re-insert any cable clips.
 - f. Re-apply any cable ties (zip ties) to hold down the plastic pulser bodies to the metal base.
6. Go to Section 6.3.

6.2.6 Pulser Type 5: Installing the Printer Feet

1. Using a 5/16" socket or nut driver, remove all screws holding the pulser (circled above). Retain the pulser and the screws.
2. Use Side Cutters to cut off and remove any cable ties (zip ties) holding down the plastic pulser body to the metal base.



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3. Use Needle Nose Pliers to disconnect any plastic cable clips from the right side metal tabs. Retain these clips to be re-installed later.



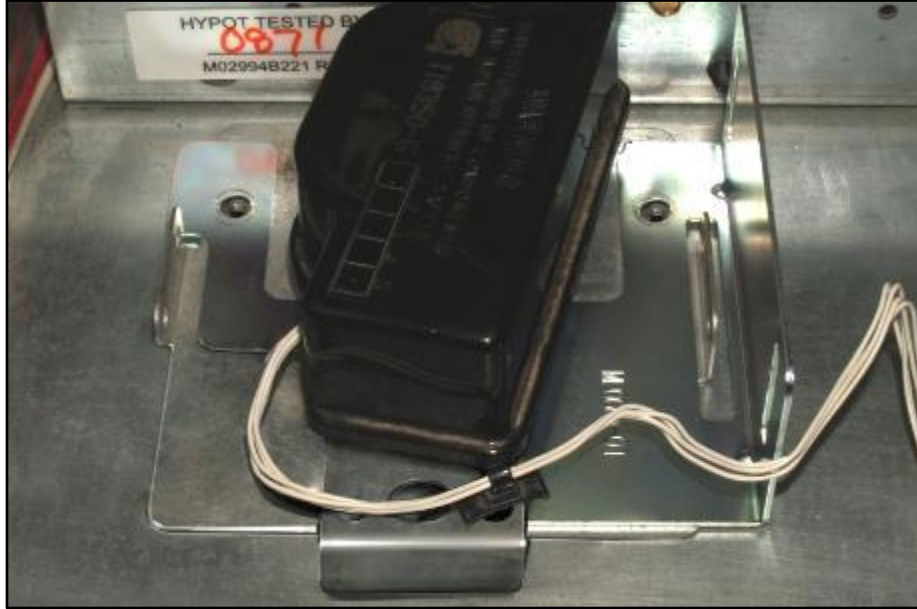
Note: Verify the correct foot bracket is installed to the correct side. The install steps are the same but the slot configuration of the foot bracket are different from left to right side.

4. Install the foot bracket MP0604 (Left, distinguishing feature is vertical slots) and MP0605 (Right, distinguishing feature are threaded inserts).
 - a. Slide in each foot bracket under the large pulser housing and any cables as shown; lift the front of the pulser slightly to get the Foot Bracket in place. Place the pulser back in its original position.

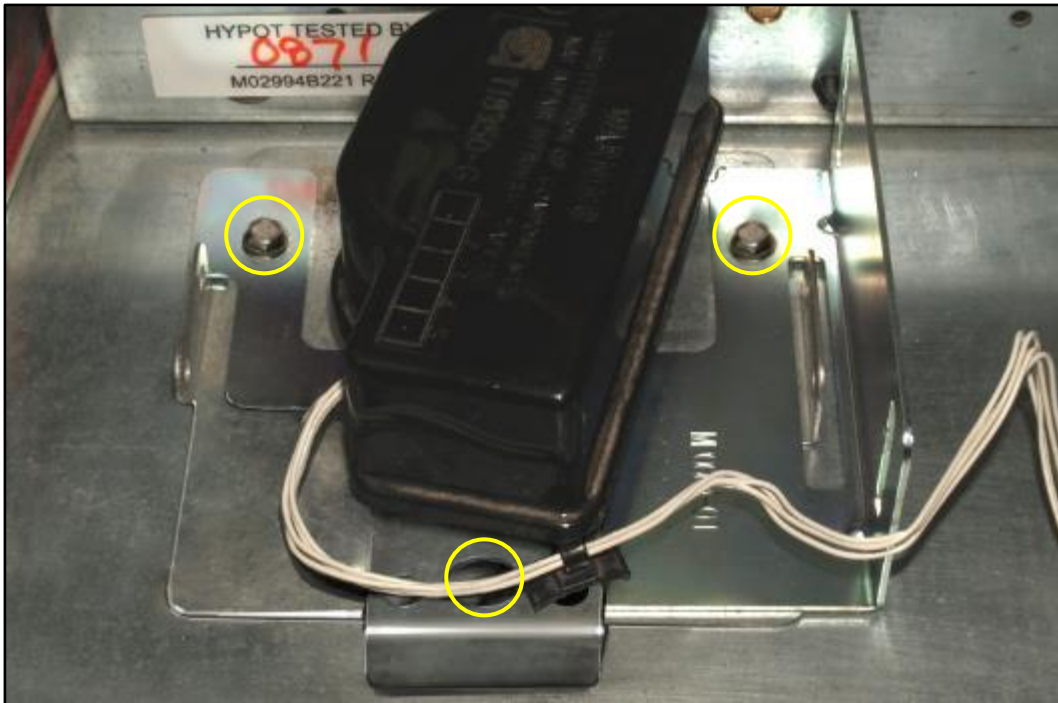



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- b. Align each Foot Bracket with the screw holes.



- c. Using a 5/16" socket or nut driver, install and tighten all three MS0166 screws on each Foot Bracket (circled below) to secure to the cabinet. Take care not to pinch any cables.



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Note: For any of the holes that have not been used before (i.e. there is no thread in the hole), re-use one of the original screws instead. Check this before attempting to force a supplied screw into the hole. The supplied screws will not work to cut a new thread.

Note: In some cases the mounting holes may be stripped. If this occurs, use the provided nuts (MN0027) with the screw in all stripped hole locations to properly secure the foot brackets to the cabinet.

- d. Re-insert any cable clips.
- e. Re-apply any cable ties (zip ties) to hold down the plastic pulser bodies to the metal base.
- f. To block the remaining holes, re-install the four Printer Mounting screws originally removed with the old printer in Section 4 Step 12, in the positions circled below:

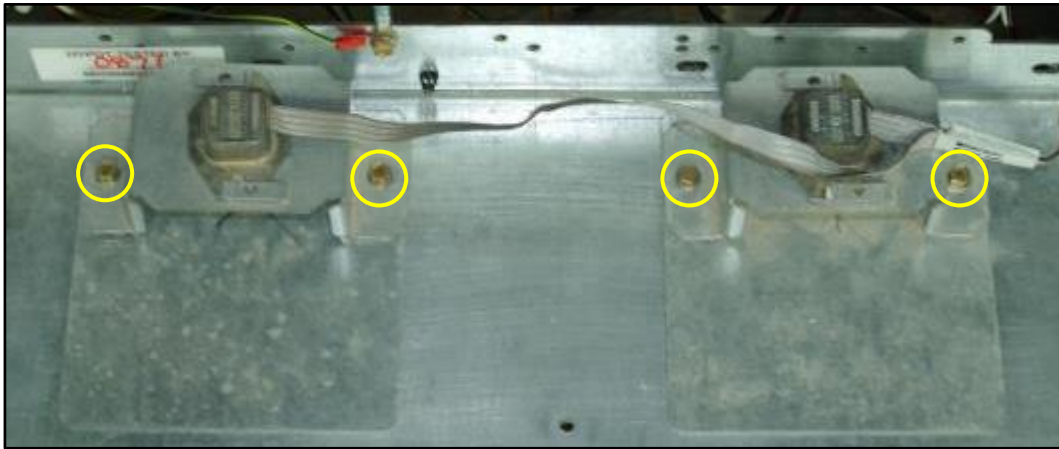


5. Go to Step 6.3.

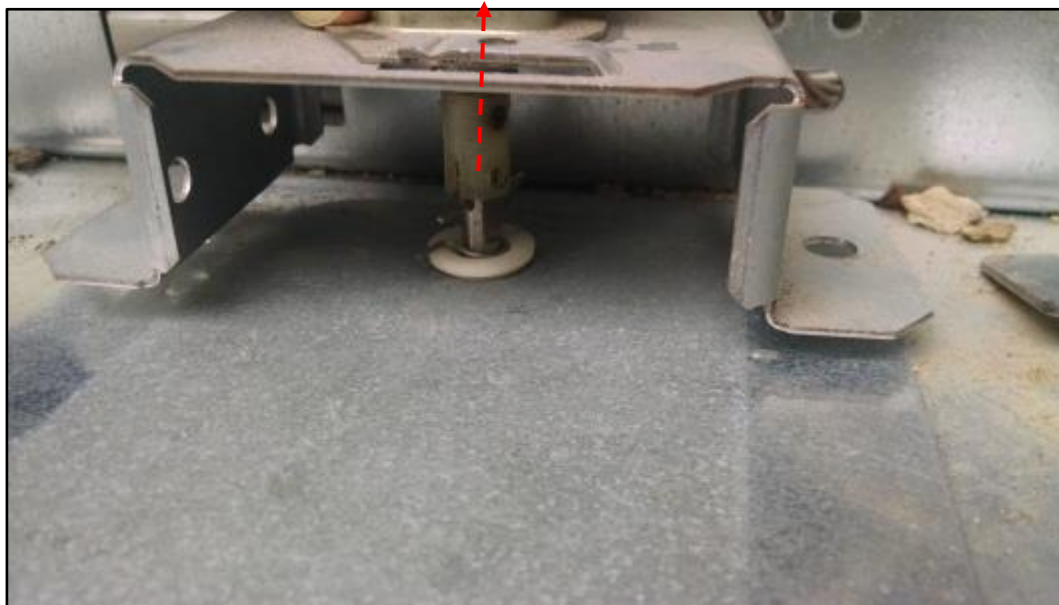
6.2.7 Pulser Type 6: Installing the Printer Feet

1. Remove the pulser.
 - a. Use Side Cutters to cut off and remove any cable ties (zip ties) holding down the plastic pulser body to the metal base.
 - b. Unscrew the four screws (circled above) attaching the pulser and remove. Retain the pulser and the screws.

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c. Lift the pulser off the shaft. Retain the pulser:

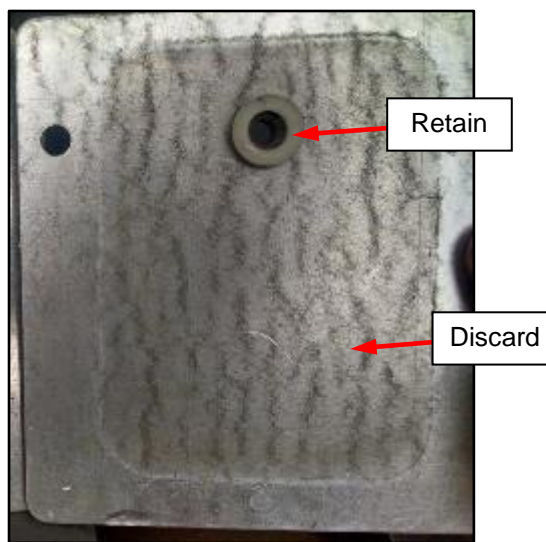


d. Un-latch the pin on each pulser by swinging the pin up and sliding it out. Retain the two pins.

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- e. Lift off the 2-screw hole plates and pop out the white sleeve on each plate. Retain the white sleeves and discard the old plates.



2. Transfer old components and install the new plates.

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- a. Install the white sleeves into the new 3-screw hole plates (MP0650).
(The plate is symmetric so it can be used either side up.)



- b. Place each MP0650 3-hole plate back on pump and shaft.



- c. Reinsert the pin and swing down.

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3. Reinstall the Pulser.

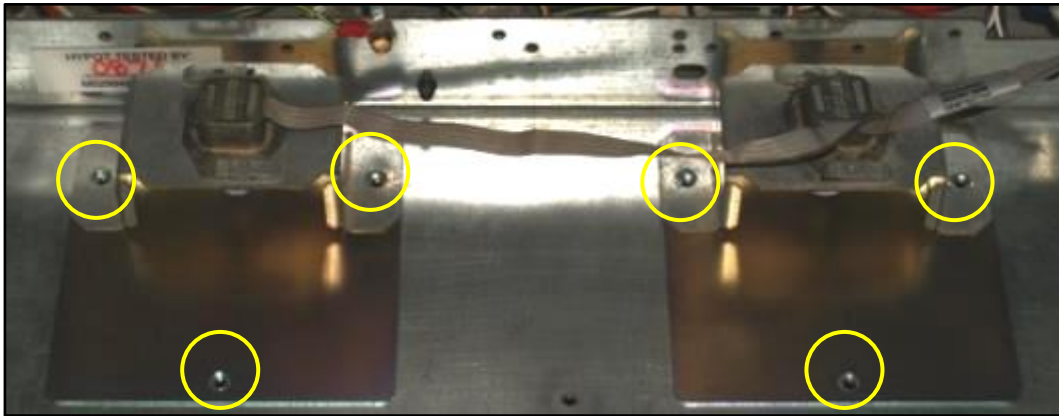
- a. Place pulser collar down on shaft (aligning flat ends of shaft and collar)



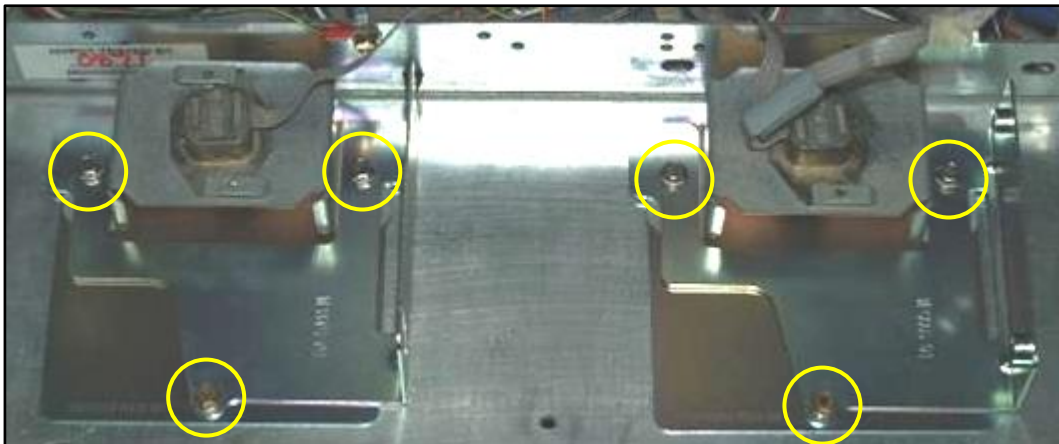
Note: Verify the correct foot bracket is installed to the correct side. The install steps are the same but the slot configuration of the foot bracket are different from left to right side.

4. Install the foot bracket MP0604 (Left, distinguishing feature is vertical slots) and MP0605 (Right, distinguishing feature are threaded inserts).
 - a. Place each Foot Bracket onto the pulser and align with the new 3-screw hole plates.

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- b. Using a 5/16" socket or nut driver, install and tighten all six MS0166 screws on each Foot Bracket (circled below) to secure to the cabinet. Take care not to pinch any cables.

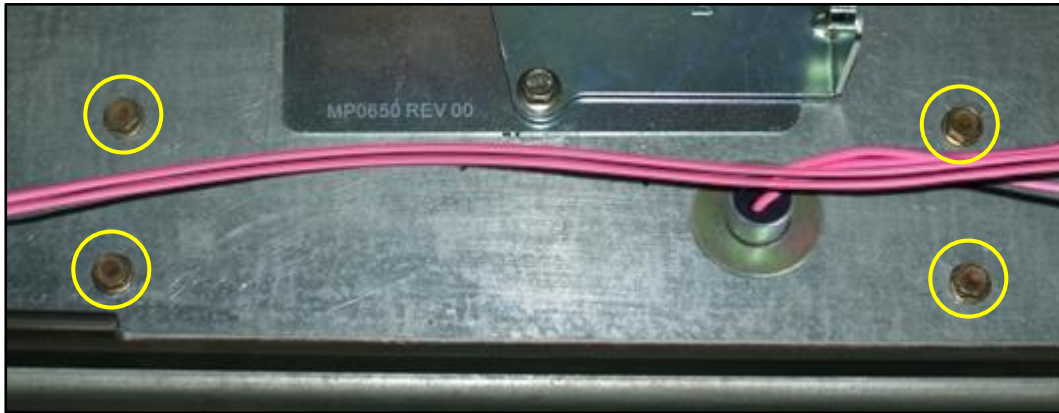


Note: For any of the holes that have not been used before (i.e. there is no thread in the hole), re-use one of the original screws instead. Check this before attempting to force a supplied screw into the hole. The supplied screws will not work to cut a new thread.

Note: In some cases the mounting holes may be stripped. If this occurs, use the provided nuts (MN0027) with the screw in all stripped hole locations to properly secure the foot brackets to the cabinet.

- c. Re-insert any cable clips.
- d. If you removed any cable ties (zip ties) in step 1a, you need to replace them with new ones now.
- e. To block the remaining holes, re-install the four Printer Mounting screws (circled above) originally removed with the old printer in Section 4 Step 12

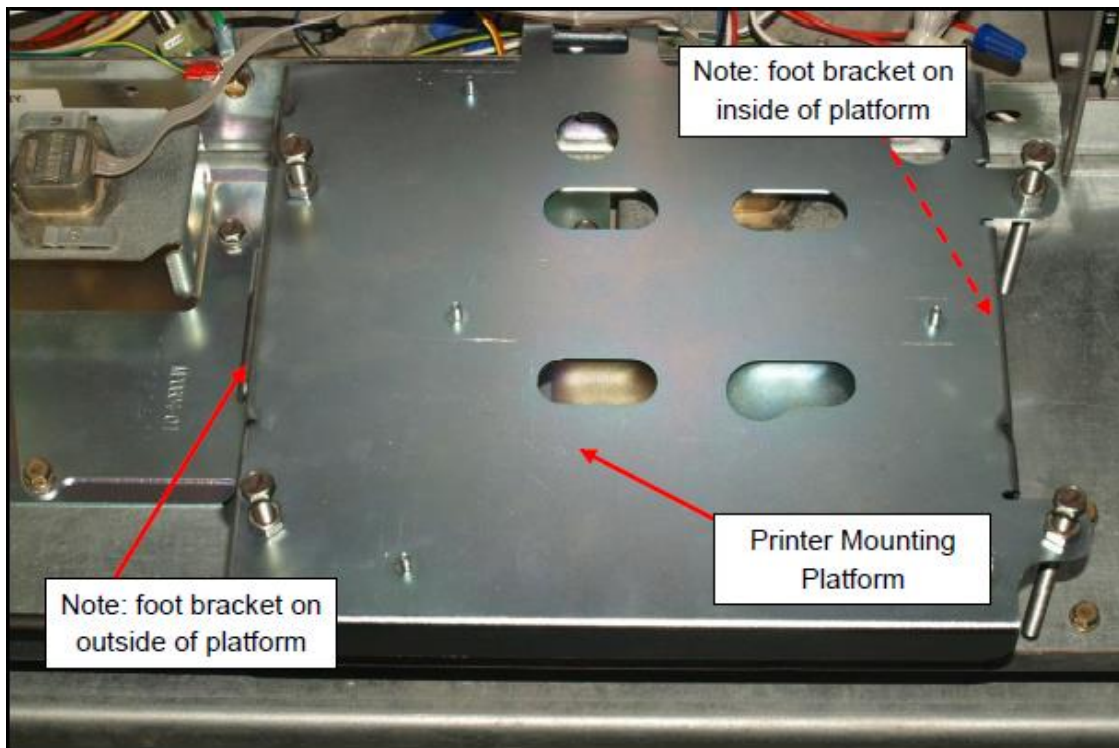
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5. Go to Step 6.3.

6.3 Install the Printer Mounting Platform onto the Foot Brackets

1. Place the Printer Mounting Platform from Pre-installation Step 3 onto the feet brackets as shown:

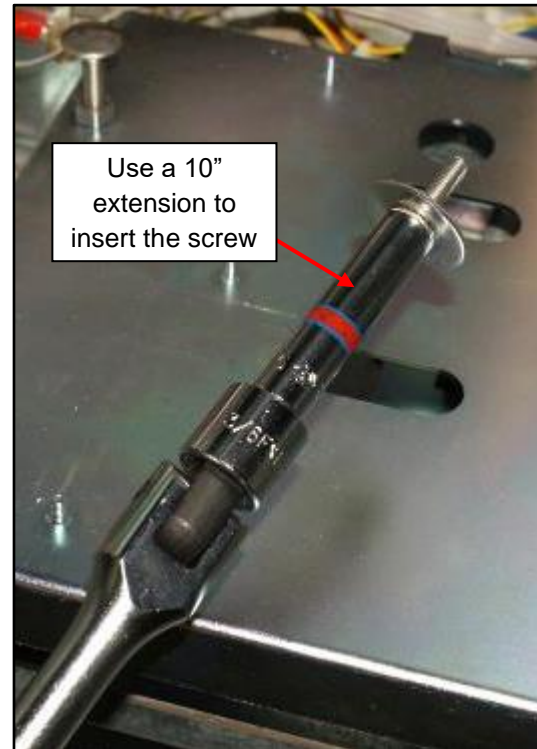
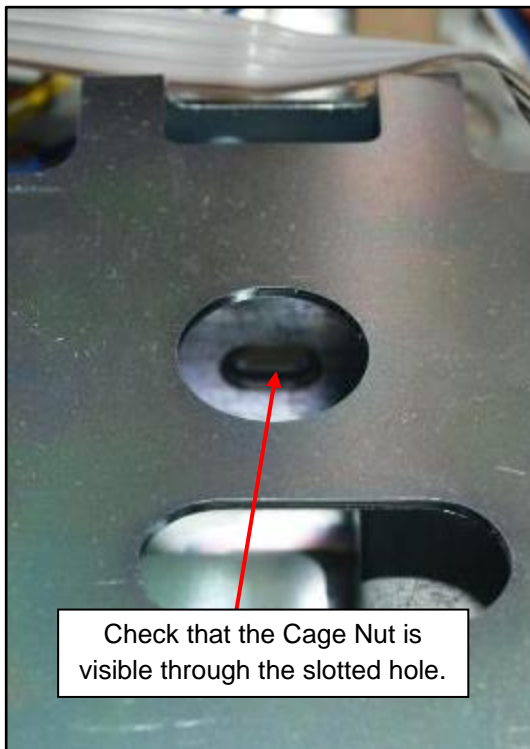


Note: Ensure the Rear Tab on the rear of the Printer Mounting Platform is on the inside of the Cabinet Rail:

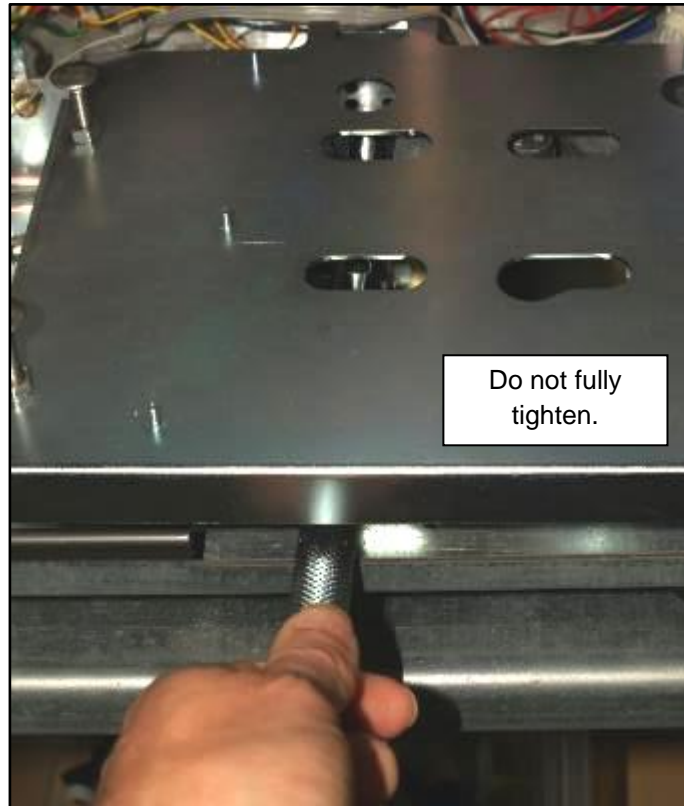
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2. Place an MW0046 #10 Washer onto an MS0166 #10-32 x $\frac{3}{4}$ " Hex Head Screw, and insert the screw through the slotted hole in the cabinet rail and into the Cage Nut on the rear tab of the Printer Mounting Bracket. If the nut is not visible through the slotted hole in the cabinet rail, slide the Cage Nut up or down until it can be seen. To fit the screw, use a $\frac{5}{16}$ " nut driver or socket with a shaft of at least 10". Do not tighten the screw.

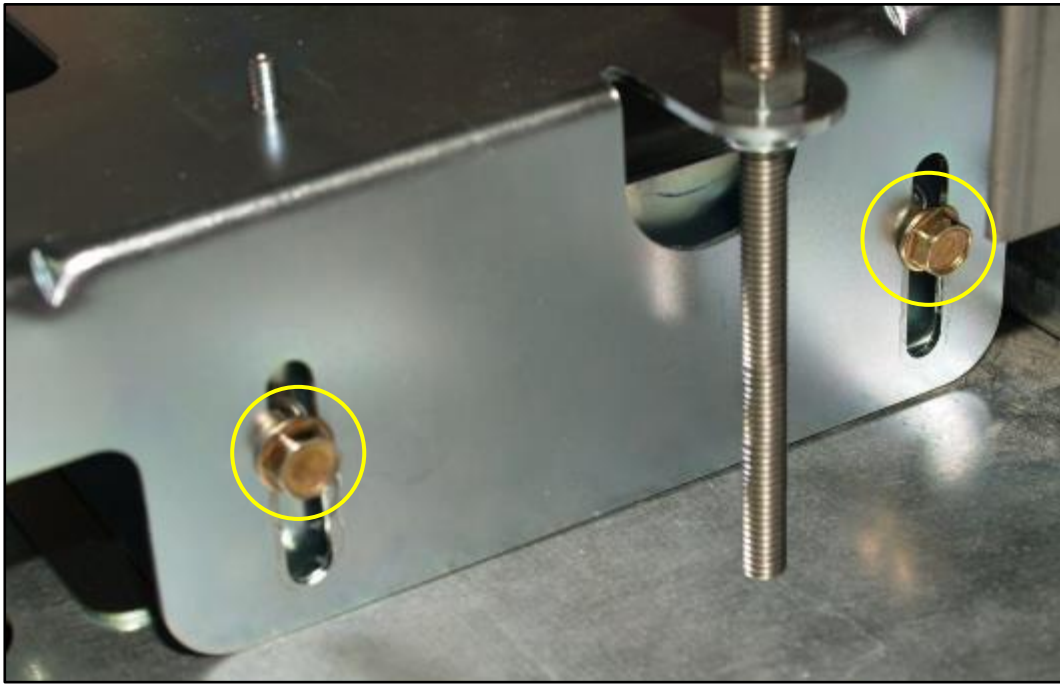


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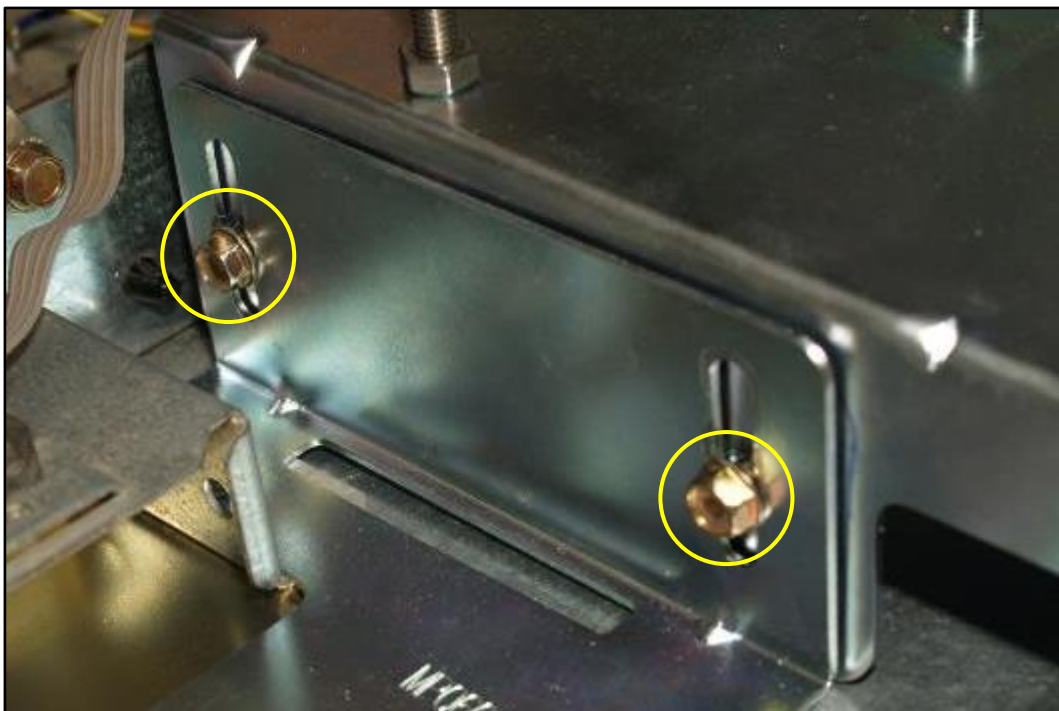


3. Insert two MS0177 M6x12 Sems Screws (circled below) in the right-hand side of the Printer Mounting Platform, threading them into MP0605. Do not tighten the screws.

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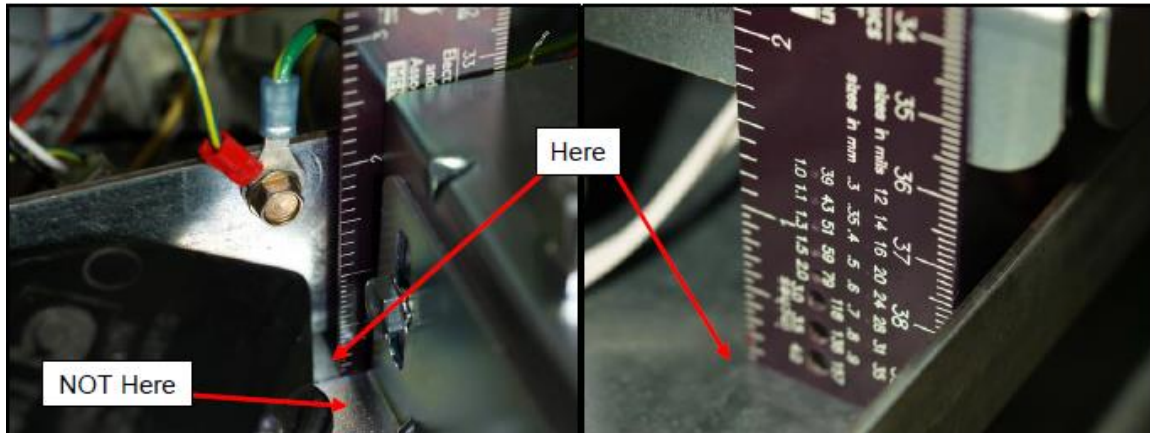


4. Insert two MS0177 M6x12 Sems Screws (circled below) in the left-hand side of the Printer Mounting Bracket, threading them into MP0604. Do not tighten the screws.



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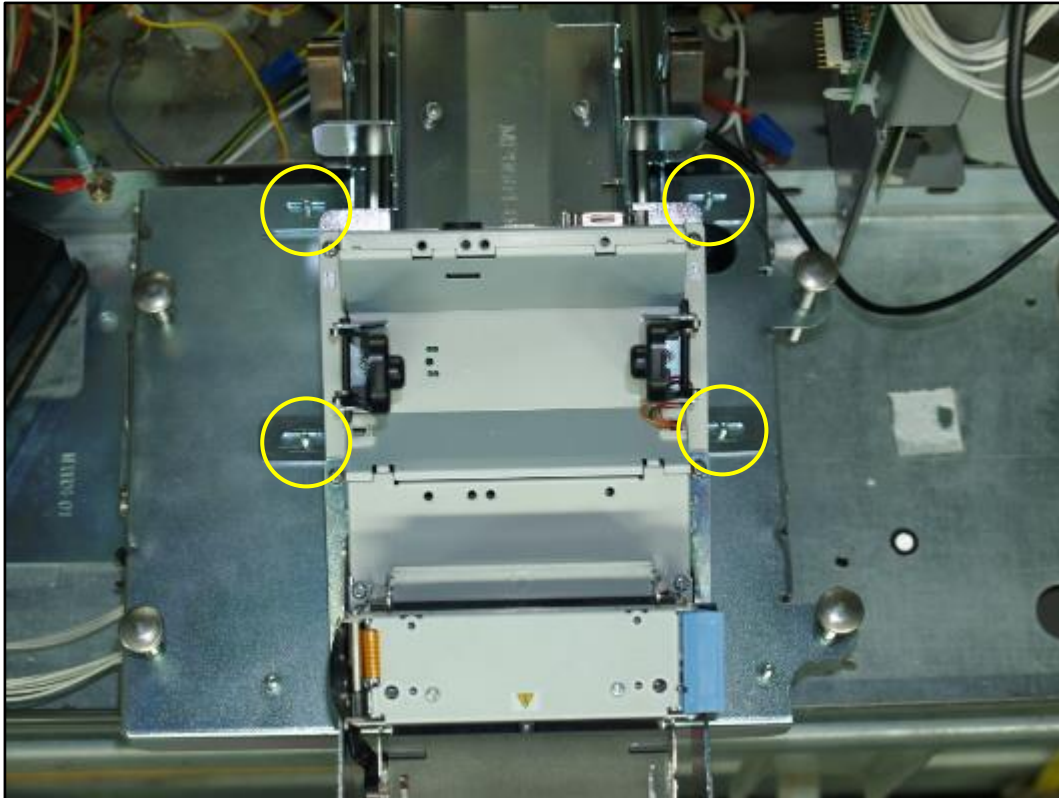
5. Adjust all four height jacking screws MS0178 (inserted in Pre-installation Step 3), until the Printer Platform is 2 ½" (about 64mm) above the Dispenser Cabinet Base. Tighten the four MS0177 Screws on the sides. Do not tighten the last MS0177 screw attached to the Cage Nut. For consistency, ensure you measure from the base of the dispenser cabinet on both left and right sides:



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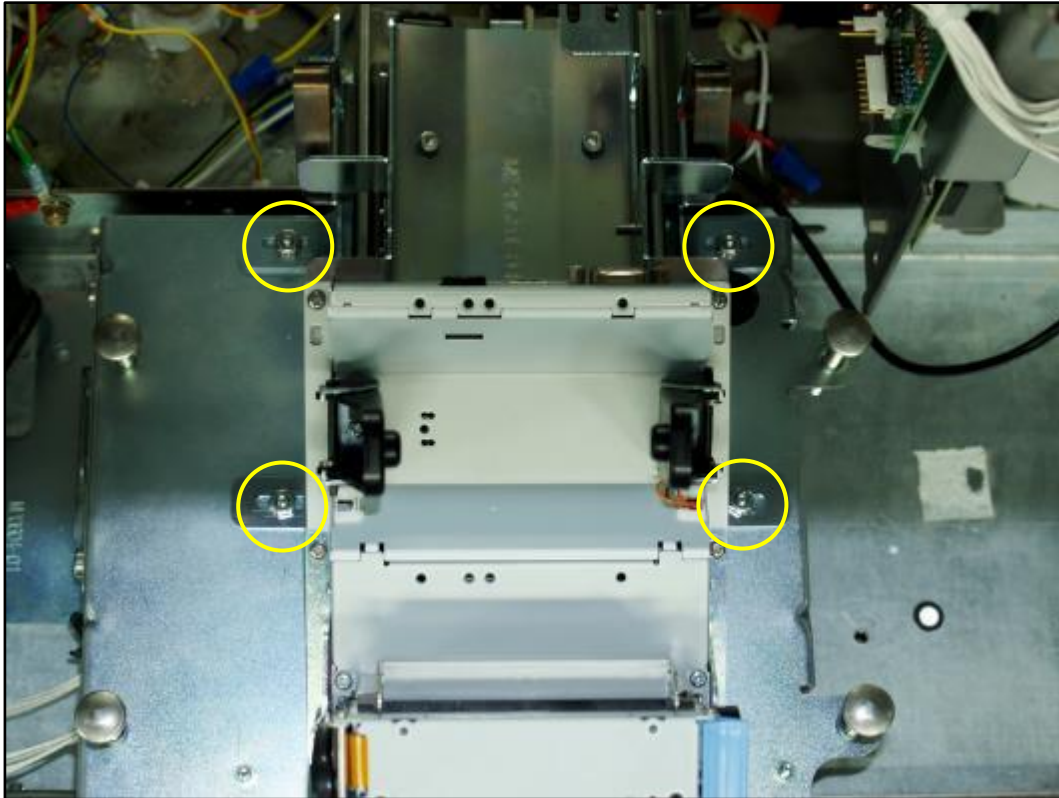
6.4 Install the Printer to the Printer Mounting Bracket

1. Align and lower the Printer Assembly (MZ0086) onto the studs in the Printer Mounting Platform.



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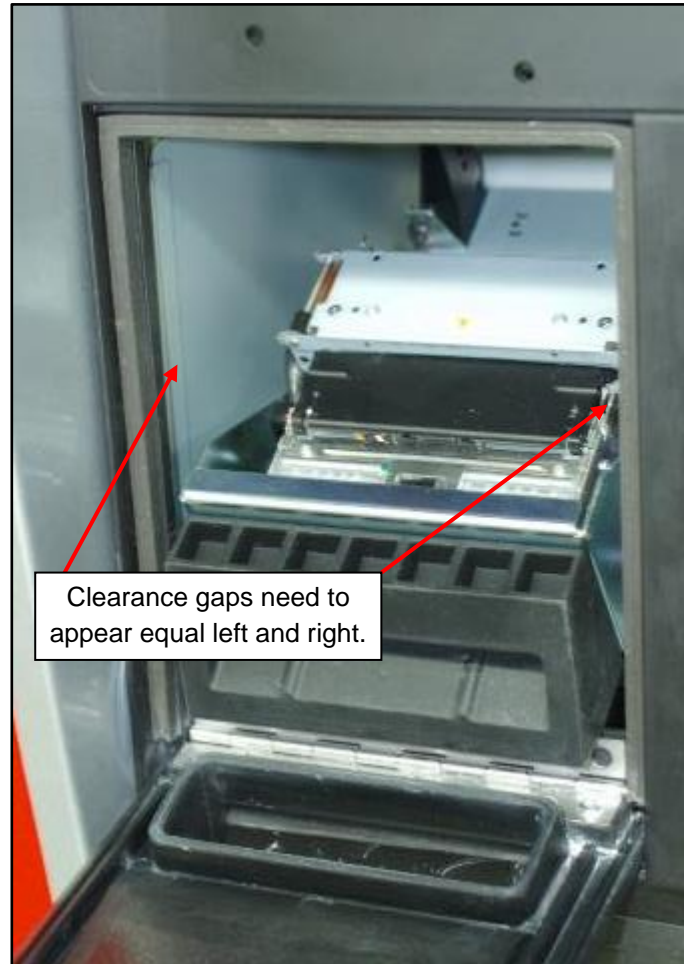
2. Loosely re-install the #6-32 Nuts removed in Pre-Installation Step 1c to the studs. To allow for further adjustments to the Printer Assembly, do not fully tighten.



6.5 Final Adjustments

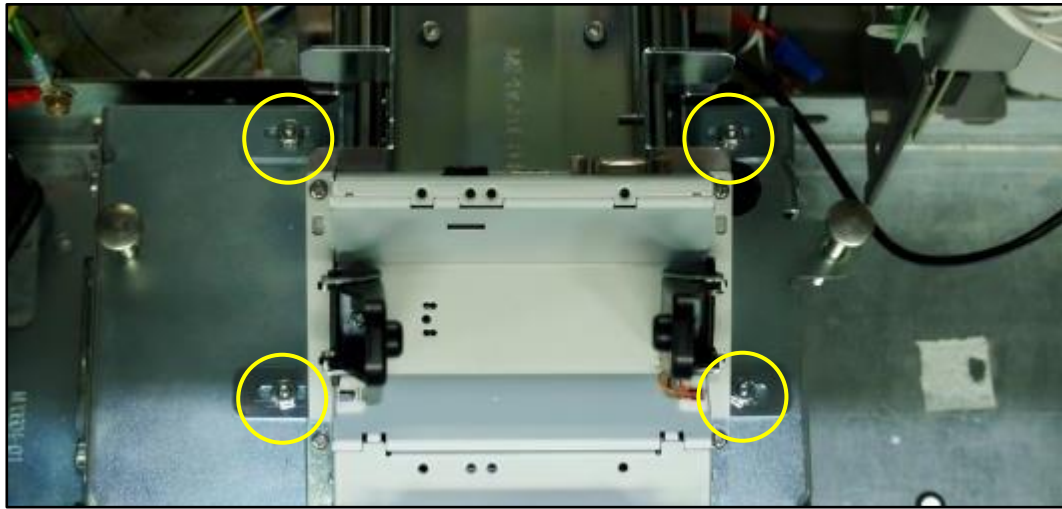
1. Adjust the side to side alignment of the Printer Assembly.
 - a. Close the Dispenser Door and open the Printer Door.
 - b. Pull out the Printer Assembly only far enough to check the position relative to the Printer Door opening. The Printer Assembly should appear to have equal clearance with the sides of the Printer Door opening on the left and right.
 - c. Push the Printer Assembly back inside the Dispenser. Open the Dispenser Door and adjust The Printer assembly left or right on the studs as needed.
 - d. Close the Dispenser Door and repeat the checking process, pull out the Printer Assembly and check that the clearance is equal left and right. Continue this cycle until the Printer assembly is centralized.

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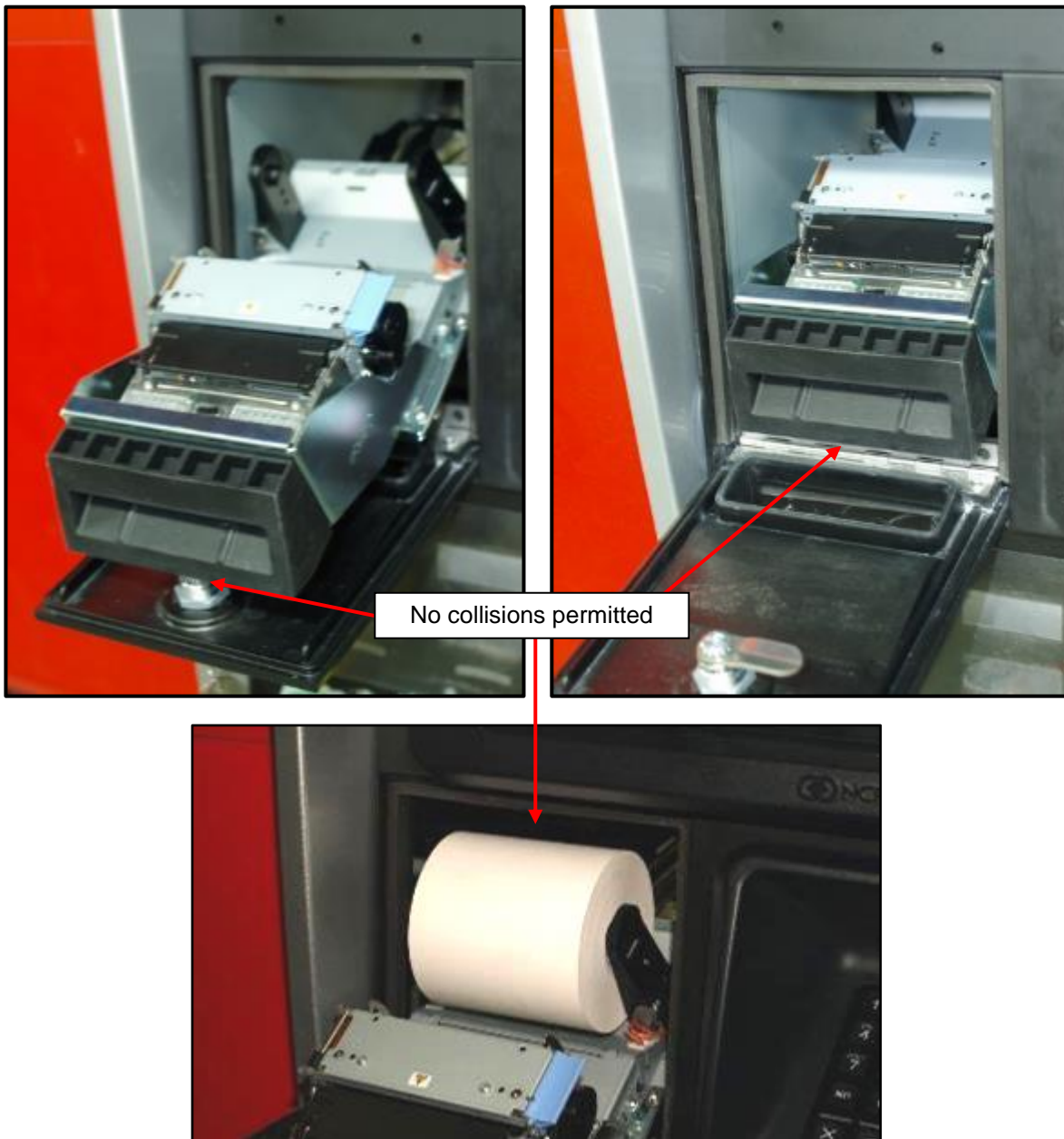
- e. Once the Printer Assembly is centralized, open the Dispenser Door and tighten the four nuts (circled below) to lock the Printer Assembly side-to-side position.

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2. Check clearance between the Printer Assembly and the Printer Door.
 - a. Close the Dispenser Door. If it isn't already open, open the Printer Door.
 - b. Pull the Printer Assembly all the way out and check for any collision between the Gasket and the Printer Door Lock. Also check for clearance between the bottom lip of the Gasket and the Printer Door opening near the hinge. Fit a full roll of printer paper to the printer and check for collisions between the roll of paper and the top of the Printer Door opening.
 - c. If there is any collision, push the Printer Assembly back inside the Dispenser and open the Dispenser Door.

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- d. Loosen off the four locking screws MS0177 on the sides of the Printer Platform.
- e. Adjust the four height adjustment Jacking Screws MS0178 on the top of the Printer Platform as needed. Press down gently on the printer Platform during adjustment to ensure it continues to sit properly on the Jacking Screws (it can tilt if not pressed down)

NOTE: 1 full revolution of these screws equals 1mm of vertical height adjustment.

- f. Tighten the four locking screws MS0177 on the sides of the Printer Platform.
- g. Close and lock the Dispenser Door and pull out the Printer Assembly as far as it will go and recheck for any collision. If there is still a collision, push the printer all the way back

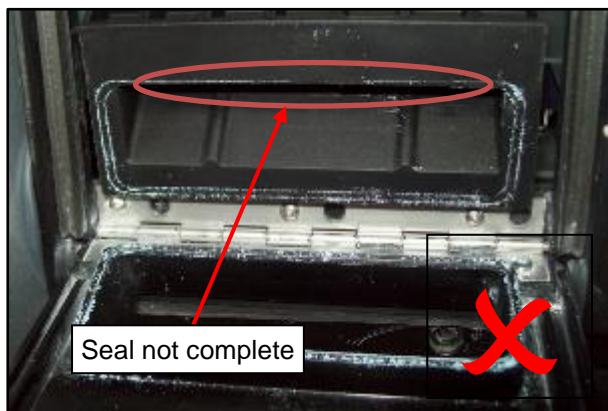
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in, open the Dispenser Door and repeat the adjustment cycle from Step c. above until there isn't any collision. If there is no collision, proceed to the next step.

3. Verify a full seal is made with the printer gasket to the printer door opening.
 - a. Apply chalk to the sealing edges of the Printer Door:



- b. Close & lock the door, then unlock and open it.
 - c. Inspect the Printer Gasket for evidence of a double-sealing line.
 - d. If there isn't a double chalk mark (as shown below left), fine tuning of the height adjustment is required. Return to the height adjustment process in the previous Step 2 c. and repeat the cycle until a double chalk line is seen.

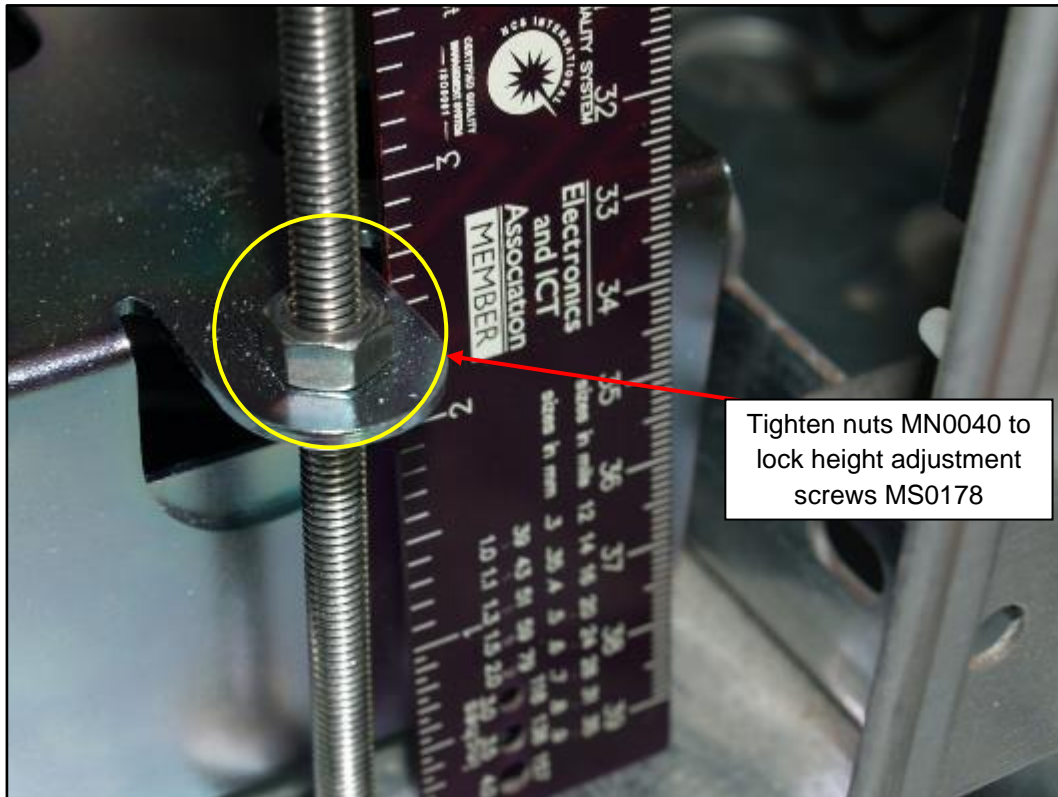


Note: A dual chalk ring should be visible on all four sides around the printer gasket opening.

Note: To achieve a double chalk line and no collisions, it may be necessary to introduce a small amount of tilt to the Printer Platform. In this instance adjust front and rear Height Jacking Screws by different numbers of turns to achieve the required tilt.

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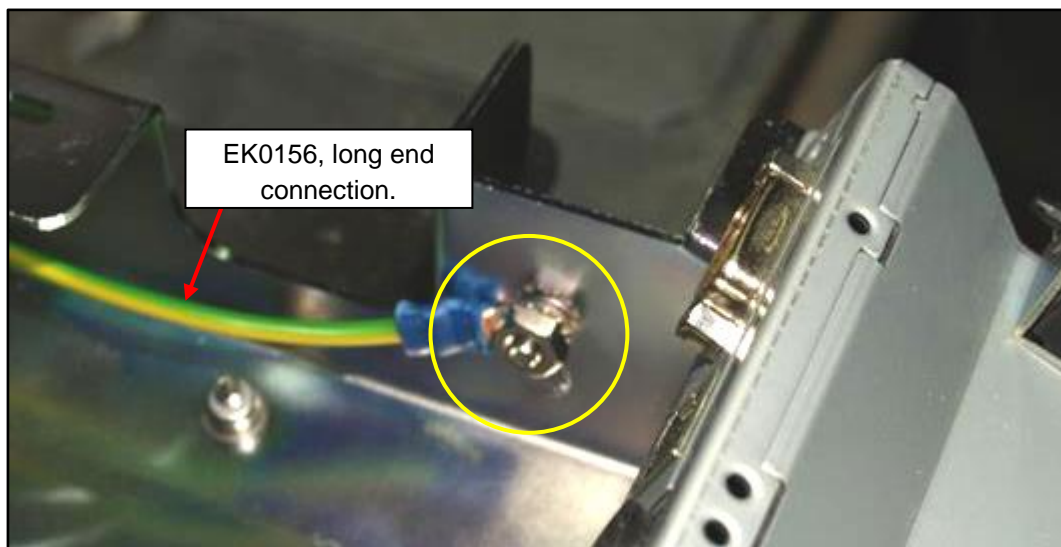
- e. After a proper fit is achieved, clean off any remaining chalk on both the Printer Gasket face and the Printer Door edges.
- f. Open the Dispenser Door and tighten the MS0177 screw attached to the Cage Nut.
- g. Lock the four Height Adjustment Jacking Screws MS0178 in place by tightening the four Nuts MN0040 (circled below) installed at the end of the Pre-Installation Step:



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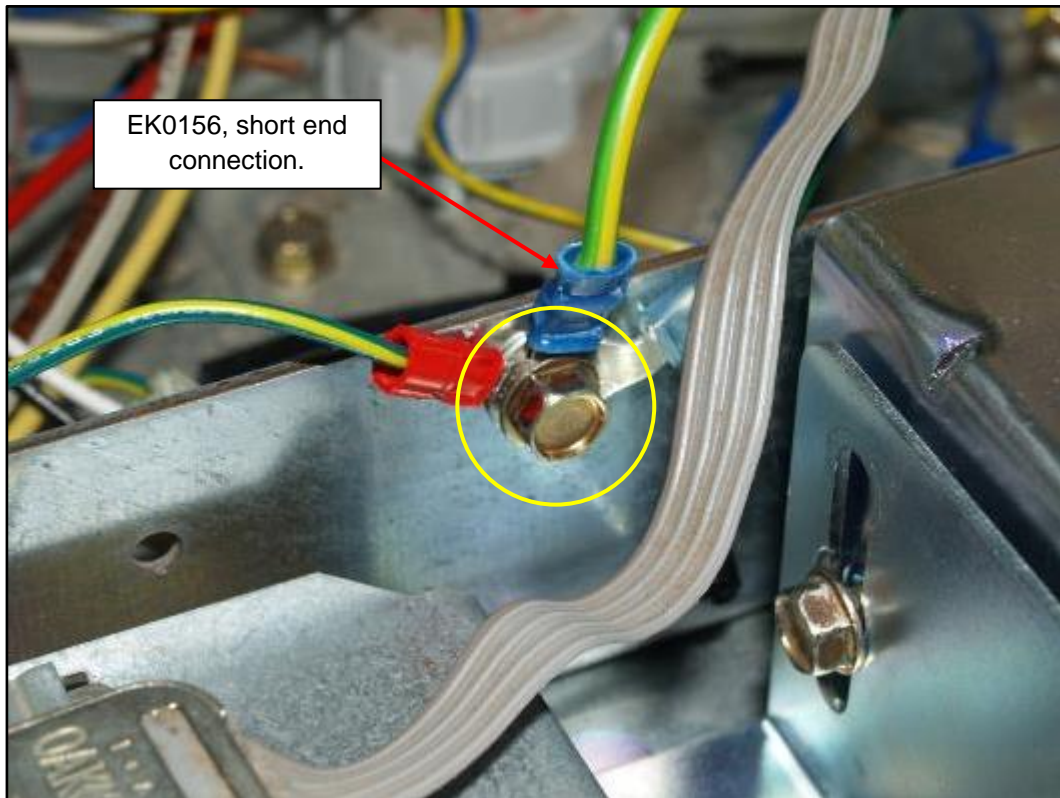
6.6 Cable Installation

1. Unlock and open the Dispenser door.
2. Remove the paper roll before proceeding.
3. Slide the Printer Assembly out to its fullest extent.
4. Attach the long end of the EK0156 earth cable to the stud on the side of the Printer Assembly, install and tighten an MN0031 #8-32 Sems Nut (circled below):

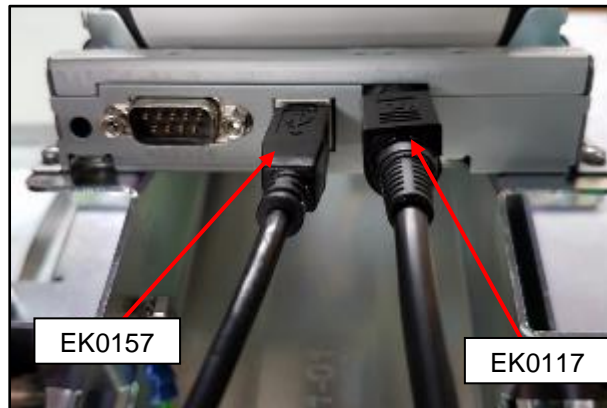


5. Pass the rest of EK0156 through the void behind the Printer Assembly into the pump cabinet.
6. Note the location of the earth bolt near the Printer Assembly inside the Dispenser Cabinet. Undo and remove the bolt. Place the third connector (the short end) of EK0156 onto the bolt (you may need to screw the bolt through the connector). Re-insert the bolt in the location you noted, and tighten it:

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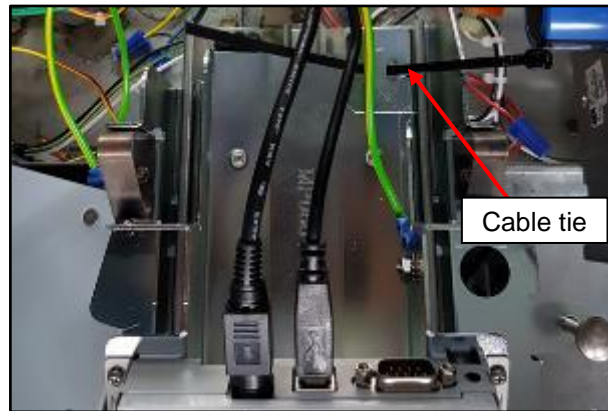
7. Plug the EK0157 printer USB & EK0117 printer Power cables into the rear of the printer as shown:



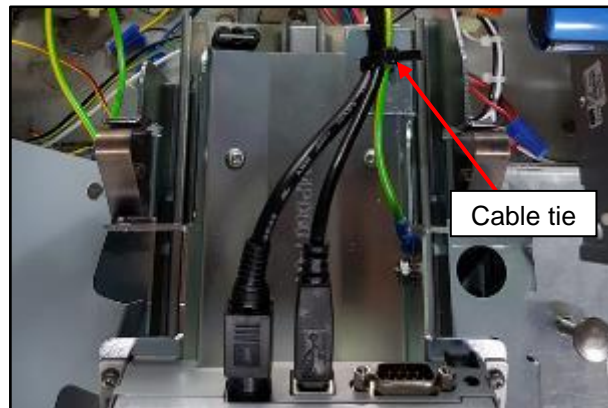
8. Pass both the cables through the void behind the paper roll into the pump cabinet.

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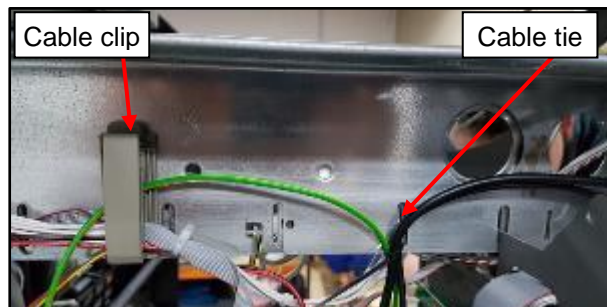
9. Insert a cable tie (zip tie) into the location shown below on the Printer Assembly and lay the EK0157, EK0117 and EK0156 power, USB and Earth cables as indicated.



10. Tighten cable tie to hold the cables in the correct location. Cut off the excess cable tie tail.

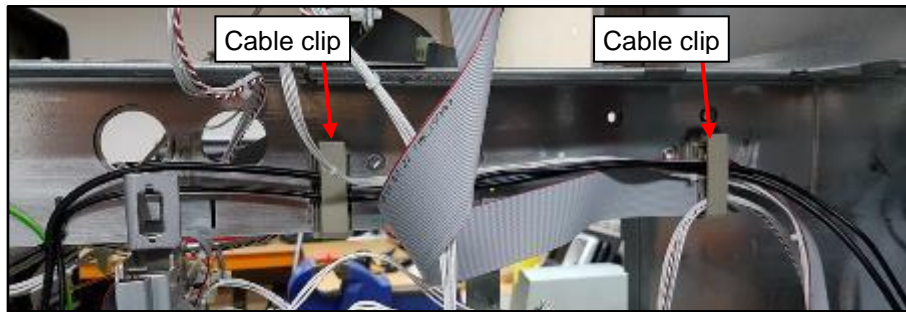


11. With the printer mechanism all the way out, cable-tie the three cables (EK0157, EK0117, EK0156) onto the pump's equipment shelf in the location shown. Also clip the EK0156 earth cable into the cable clip to the left of the cable tie:

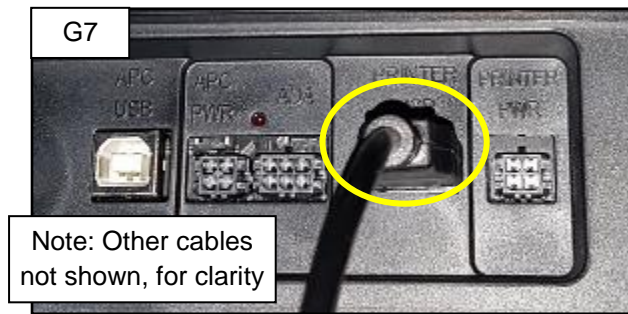


12. Pass the EK0157 & EK0117 cables to the right, under the equipment shelf and above other modules, using the existing cable clips for support:

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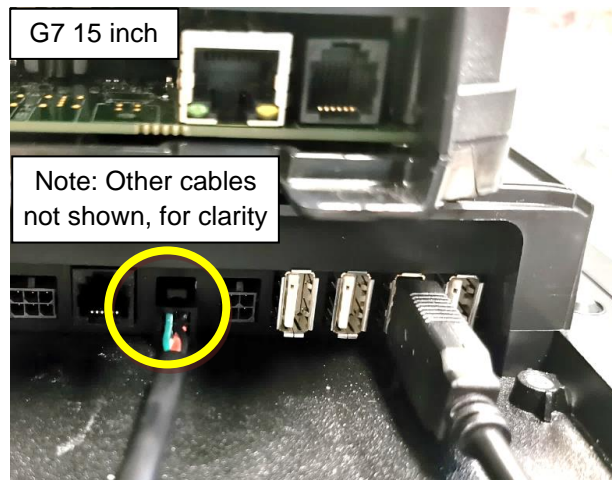
13. Plug EK0157 into the “PRINTER USB” socket on the G7 or the G7 15 inch SDC (Note: for the G7 15 inch, can be inserted into any of the four USB slots):



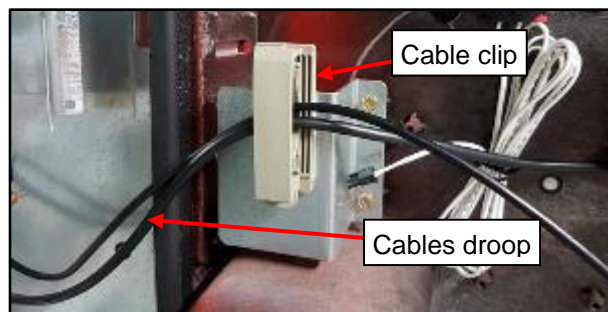
14. Plug EK0117 into the “PRINTER PWR” socket on the G7 or the G7 15 inch SDC:



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15. Draw the cables gently away from the G7 or the G7 15 inch SDC, and secure them with the cable clip on the pump door, leaving the any excess as a droop where the cables cross the pump door hinge area:



16. Use cable ties to secure any loose cables.

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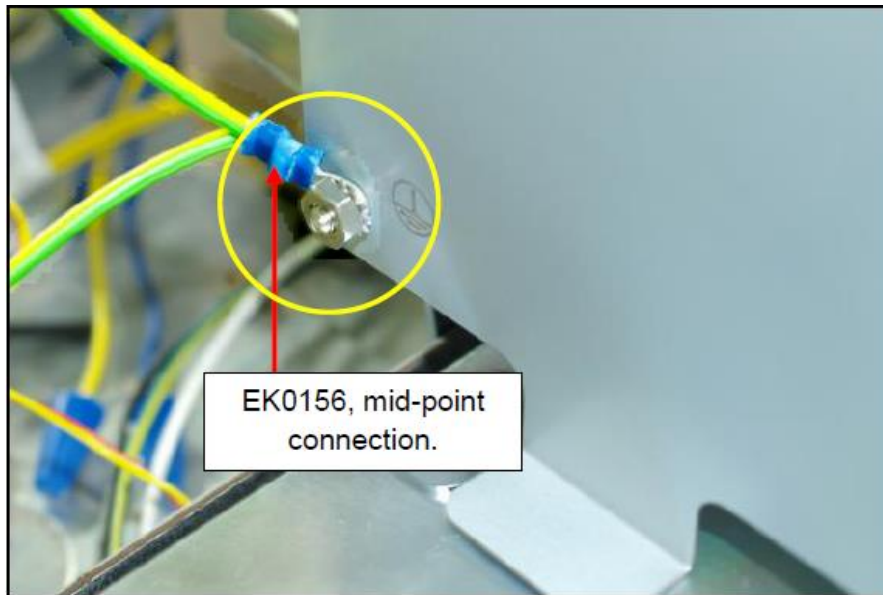
6.7 Installation of Letterbox Cover

1. Re-install the Letterbox Cover to the studs on the Printer Platform and start the two #6-32 Nuts removed in Pre-Installation Step 1a. Do not tighten the nuts yet.

Left-sideLetterbox Cover InstallationRight-side

2. Close and lock the Dispenser Door.
3. Unlock and open the opposite side main Dispenser Door if it is not already open.
4. From that side, reach into the dispenser cabinet and push the Letterbox Cover away from you so that it just contacts the dispenser door.
5. Re-open the Dispenser Door for the side you are installing.
6. Tighten the #6-32 Nuts (circled above) with a 5/16" nut driver or socket.
7. Attach the 'mid-point' connector of EK0156 to the earth stud on outside of the Letterbox Cover, install and tighten an MN0031 #8-32 Sems Nut (circled below)

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8. Pull out the printer to its fullest extent and fit a full roll of paper in the printer.
9. Pull the printer in and out a few times to the fullest extent of travel. Observe that the cables out the back of the Printer Assembly do not rub on the full paper roll or snag on any obstruction.
10. If the cables require additional guidance to keep them clear of the printer paper or other obstructions, apply the Cable Clips MF0046 to the side or roof of the Letterbox Cover as needed and secure the cables with cable ties.

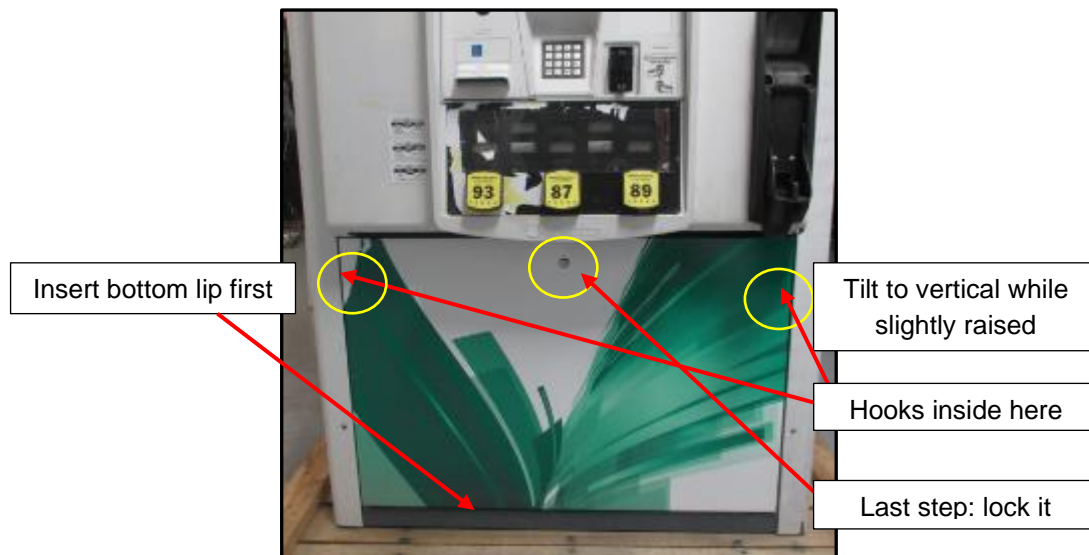
Note: Before pulling cable ties fully tight, recheck there is enough slack in the cable routing to allow the Printer Assembly the full range of travel. Once you are satisfied that the cables do not snag and are not under any strain during motion, fully tighten the cable ties and cut off any excess tail.

11. Push the Printer Assembly fully back and close and lock the Dispenser Doors on both sides.

6.8 Install Completion

1. Pull the Printer Assembly fully forward and feed the paper through the Printer mechanism.
2. Push the Printer assembly fully back and close and lock the Printer Door.
3. Reinstall the panel below the door and lock it.
 - a. Tilt the top of the panel outwards and insert its bottom lip first.
 - b. Bring the panel close to vertical, then lift it slightly to it slips over the upper hooks.
 - c. The press the panel closed and allow it to drop a little into place.
 - d. Finally, lock the panel with the "GBCO" key.

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4. The installation procedure is now complete.
5. Restore power to the Dispenser.
6. Test the printer operation.