T10 EPP 9100 ATMs
Control Panel Upgrade

TDN 07103-00257 Rev D

REVISION HISTORY

ECO:	Date	07103-00276 Rev:	Description:
1030367	11/02/2023	C	Original T10 Release.
	02/27/2024	D	Updated software and plug-in file names

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PURPOSE

This guide covers upgrading the 9100 ATM to a T10 EPP.

SCOPE

This guide applies to all service personnel involved in installing, converting, or upgrading hardware on Triton ATMs nationwide and abroad.

APPLICATION

This guide provides information, methods and easy to follow instructions for upgrading to the T10 EPP.

Table of Contents

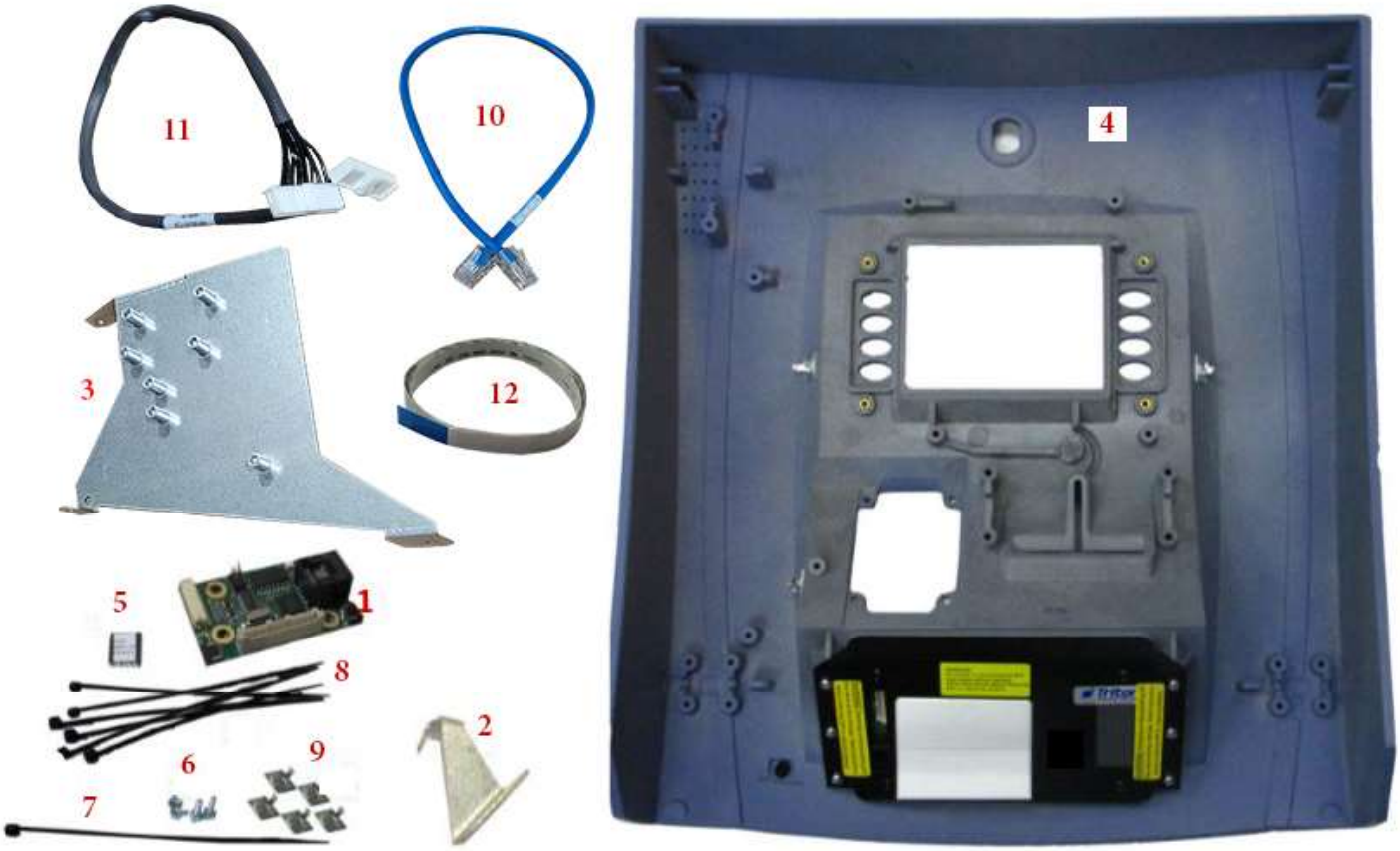
INTRODUCTION

This document describes how to perform the T10 Encrypted Pin Pad (EPP) control panel upgrade. The table below lists the tools required to perform the upgrade, the kit part number, a list with description of kit parts, followed by a photo of the parts. There are two lists: one list of parts for reuse, one list to discard parts from the old control panel, and detailed instructions with pictures for each step.

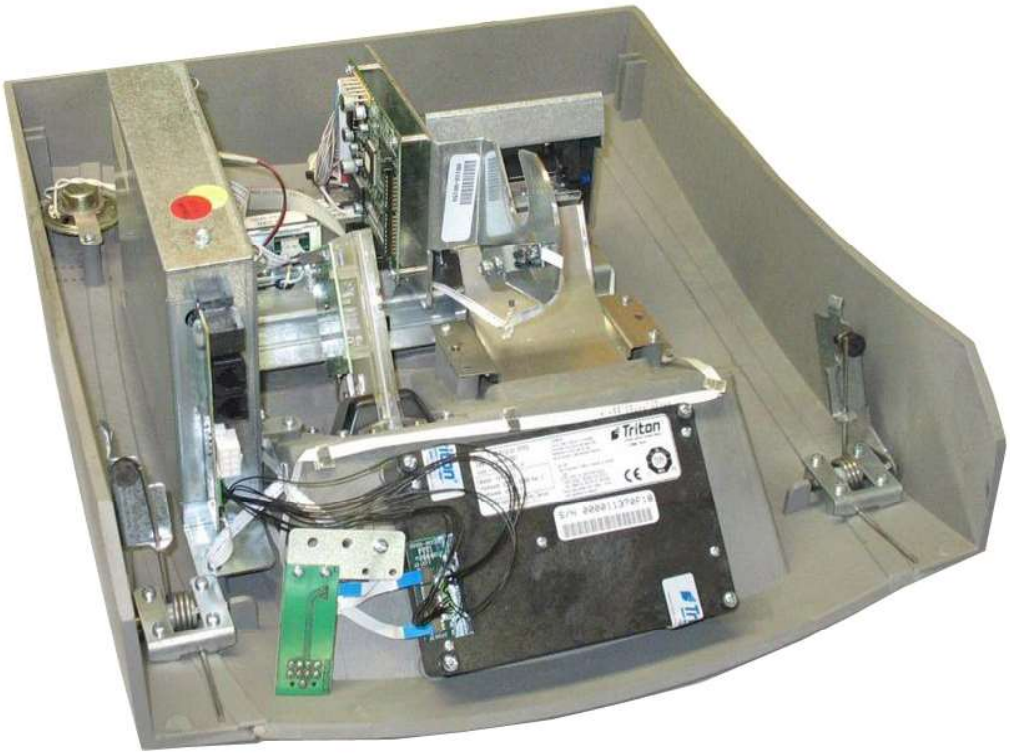
Tools Required:	3/16" Flathead screwdriver
	#1 Phillips screwdriver
	#2 Phillips screwdriver
	#2 Phillips screwdriver (long shaft)
	1/4" Nut-driver
	Medium Vise grips
	PLCC extraction tool
	Ratchet and Extension
	7/8" deep socket
	Side Cutters
	Software Transfer Cable
	Unless otherwise noted in the instructions, use a torque between 11-13.4 in/lbs on the electric screwdriver for all the screws.

KIT P/N: 06200-09100 BLUE CONTROL PANEL UPGRADE T10		
KIT P/N: 06200-09101 BRONZE CONTROL PANEL UPGRADE T10		
Parts Supplied		
	Description	Qty
1	**09105-30310**—"91xx to T10 Translator" circuit board This circuit board translates the old style SPED communications protocol into the T10 communications protocol.	1
2	**03011-02219**—"Headphone circuit board retaining bracket" This bracket provides a cable routing guide for all units and, in addition, mounts the headphone circuit board if speech is needed	1
3	**03011-02220**—"9100 speech and T10 Translator mounting bracket" This bracket attaches to the main-board assembly metal box, and mounts the "91xx to T10 Translator" circuit board needed for the T10 EPP.	1
4	**09200-00359** – 9100 Blue Control Panel Assembly w/ US T10 EPP Installed. **09200-07010** - 9100 Bronze Control Panel Assembly w/T10 EPP Installed. This is the new control panel plastic assembly. It comes with the T10 EPP preinstalled (09200-05130), and metal clips (03072-00047) in the proper locations for screen-key flat cable routing. The clips have tabs that you bend down to secure the flat cable. Also, has the Braille label installed	1
5	**09130-20009**—"9100 EPROM Version KD02.00. This is the EPROM chip that adds software to support communications to the T10 EPP. You install this EPROM into the main circuit board socket. You first pull the existing EPROM from its socket using a PLCC extraction tool, and then install the new EPROM into the socket. You must protect yourself against Electrostatic Discharges (ESD) during the removal and installation of the EPROM. Take time to familiarize yourself with the use of the PLCC extraction tool, and ESD protection guidelines.	1
6	**02054-00169**—Screws, #8x32, 3/8" long, pan head with/ext tooth washer These screws are used to attach the T10 Translator circuit board onto the bracket.	4
7	**03072-00052**—8" Ty-Wraps	1
8	**03072-00015**—6" Ty-Wraps	4
9	**03072-00047**—Metal Clips, 0.42"x0.82" with tabs	3
10	**09120-07197**—T10 EPP communications cable, RJ45-RJ45. This cable is attached between the T10 EPP and the T10 Translator circuit board.	1
11	**09120-07136**—T10 screen key cable This cable is attached between the T10 EPP and the T10 Translator circuit board.	1
12	**09120-00707**—flat screen key cable The flat cable is needed to attach the left and right 4-button screen key circuit boards. This cable is included it the kit as a spare and for older 9100 ATMs that have a shorter cable that won't reach to the T10 Translator circuit board when installed on the new control panel.	1

PARTS IN THE KIT



Parts to reuse from the old control panel include:
Mainboard assembly and screws
Printer assembly and screws
Low paper sensor
Low paper sensor flat cable
Printer chute and screws
Speaker, mounting bracket, and screws
Hinges, springs, and screws
SPED communications cable
LCD assembly
Screen key flat cables
Headphone board, flat cable
Card Reader, Card Reader Cable, Screws



Parts to discard from the old control panel
SPED
SPED mounting screws
Flat headphone bracket
Headphone bracket mounting screws
Cable routing clips

OVERVIEW

Read this manual and familiarize yourself with all the steps before starting the upgrade. The T10 EPP control panel upgrade for the 9100 ATM involves detaching the old control panel from the 9100 cabinet. Removing the mainboard, printer, and display assembly, as well as the speaker and some smaller hardware for reuse. These components, along with the new parts in this kit, will be installed onto a new control panel.
ALWAYS protect yourself against Electrostatic Discharges (ESD) during the removal and installation of all the electrical components. And, be careful when you remove and install the hinges and springs as the hinge retainer springs are both under heavy tension when the control panel is in the open position. Unless otherwise noted in the instructions, use a torque between 11-13.4 in-lbs on the electric screwdriver for all the screws.

SAFETY INFORMATION

CAUTION:
Observe proper Electrostatic Discharge (ESD) protection when handling electronic devices.

WARNING:
Be careful removing and installing the control panel hinges.

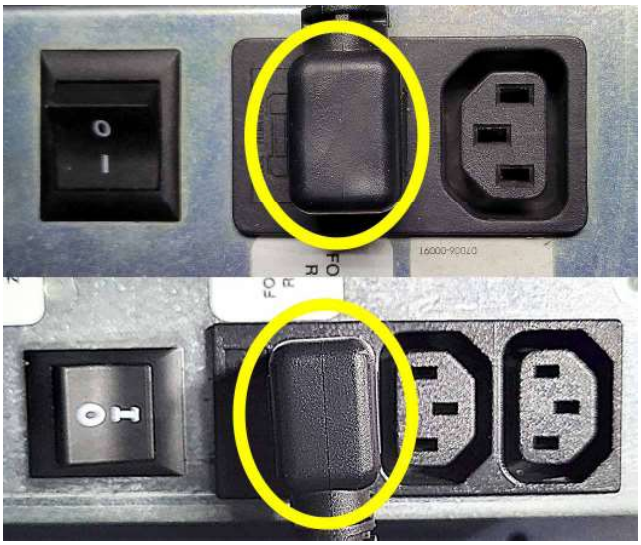
Improper grounding may cause damage to ATM components

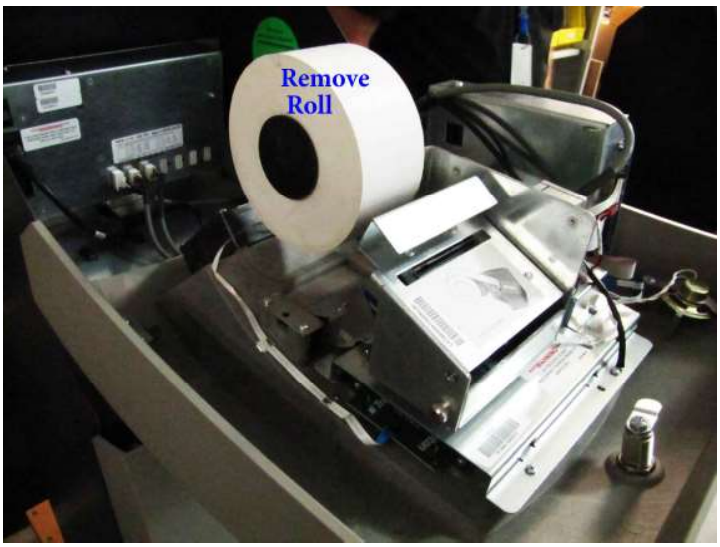
1.0 POWER OFF ATM AND START CONTROL PANEL REPLACEMENT

****NOTE****

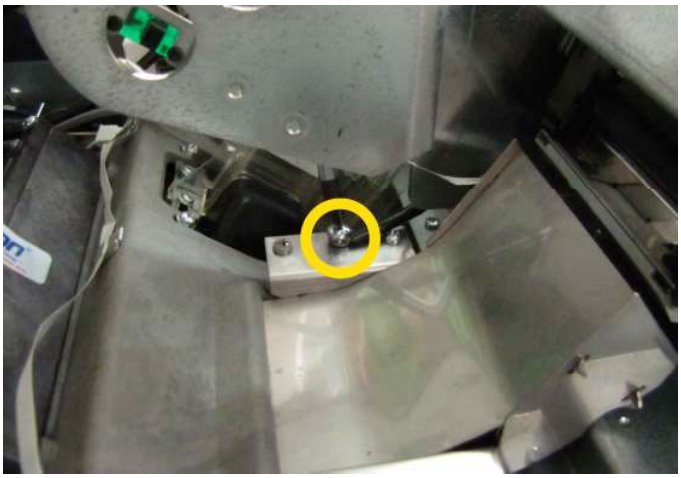
This manual contains Triton's recommended steps to covert 9100 to work with the T10. Throughout this document, directions (such as left and right) are referenced with the user facing the front of the ATM. Perform the following steps before removing the control panel.

1.1—Unlock and open the control panel. *Left Image*, press the switch off (O). Disconnect the AC power cord from the power supply, YELLOW circle. *Right image*, Remove the paper roll.

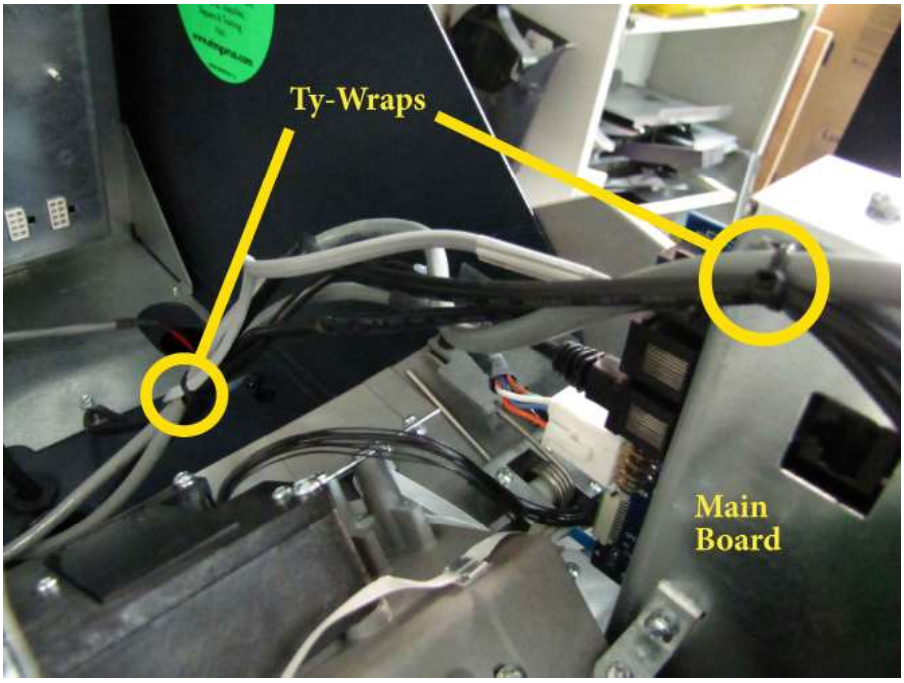


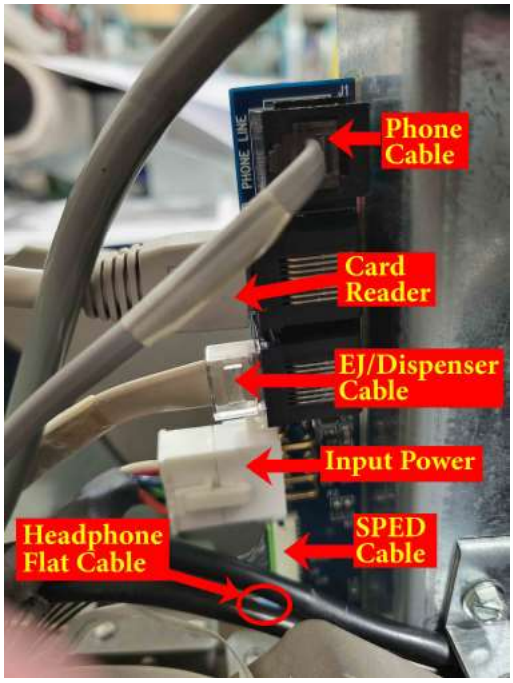


1.2—Remove and save the two ground wire screws. *Left Image*, the first is attached to the paper chute, YELLOW circle. *Right Image*, other screw is on the edge of the display bracket, YELLOW circle.

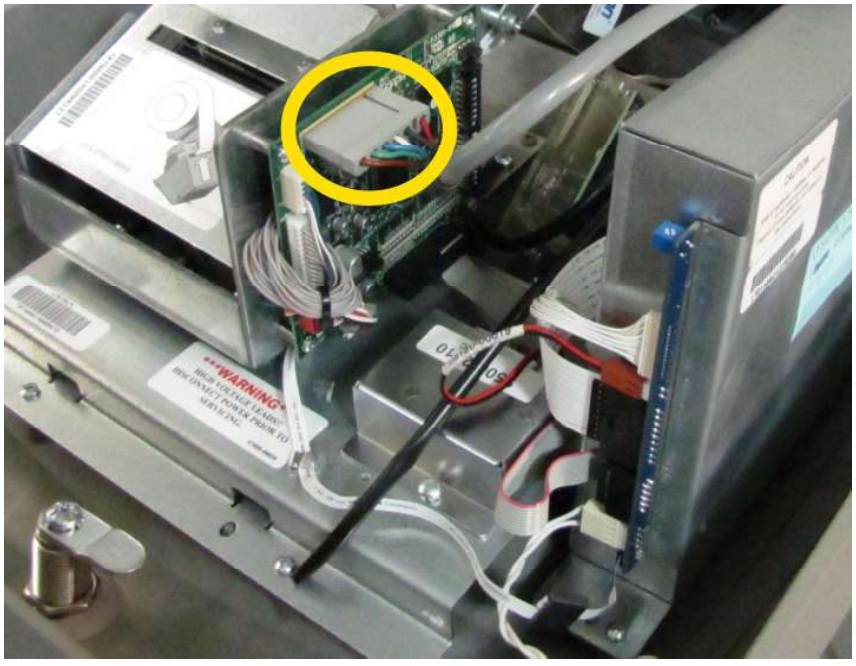


1.3—Cut the Ty-Wraps, YELLOW circle, that hold the cables together, *Left Image*. There are more Ty-Wraps holding cables not shown in this photo. *Right Image,* Unplug the Phone Cable, Card Reader, EJ/Dispenser Cable, Input Power, SPED Cable, and Headphone Flat Cable below the SPED Cable from the mainboard .



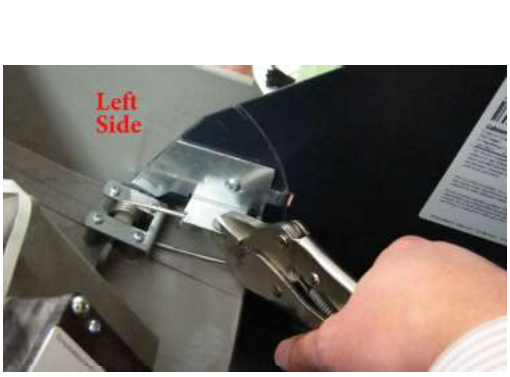


1.4—Unplug the printer power cable, YELLOW circle, from the printer controller board. Ensure that no other cables are attached from the back of the cabinet to the control panel. (Ex: phone cable, dispenser cable, etc.)

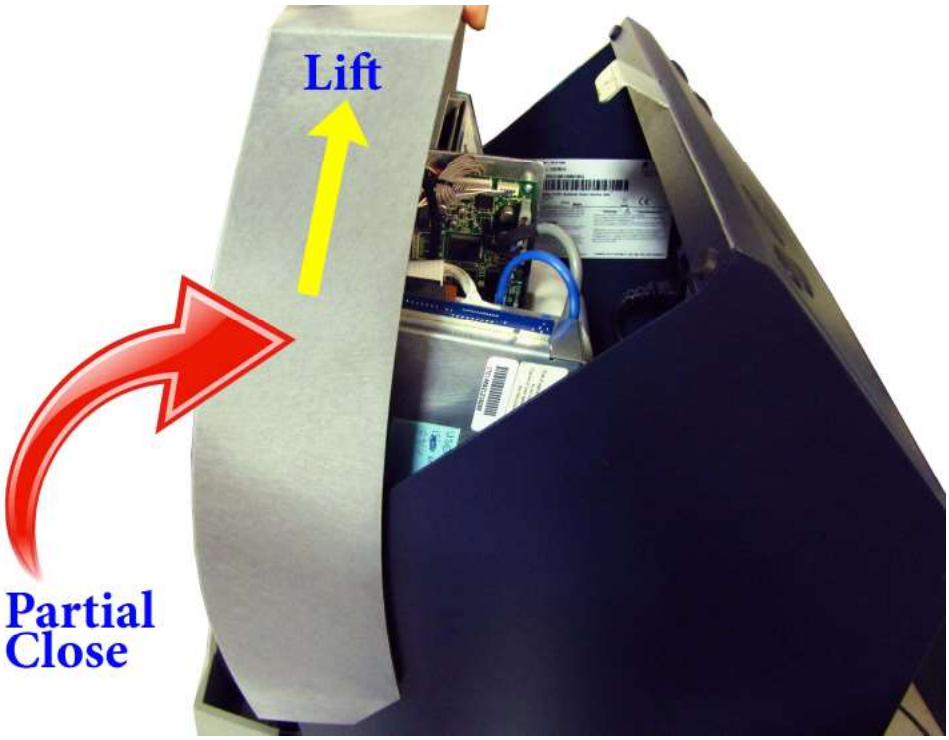


WARNING:
The hinge retainer spring is under tension when the control panel is in the open position, and can easily snap back when the screw is removed.

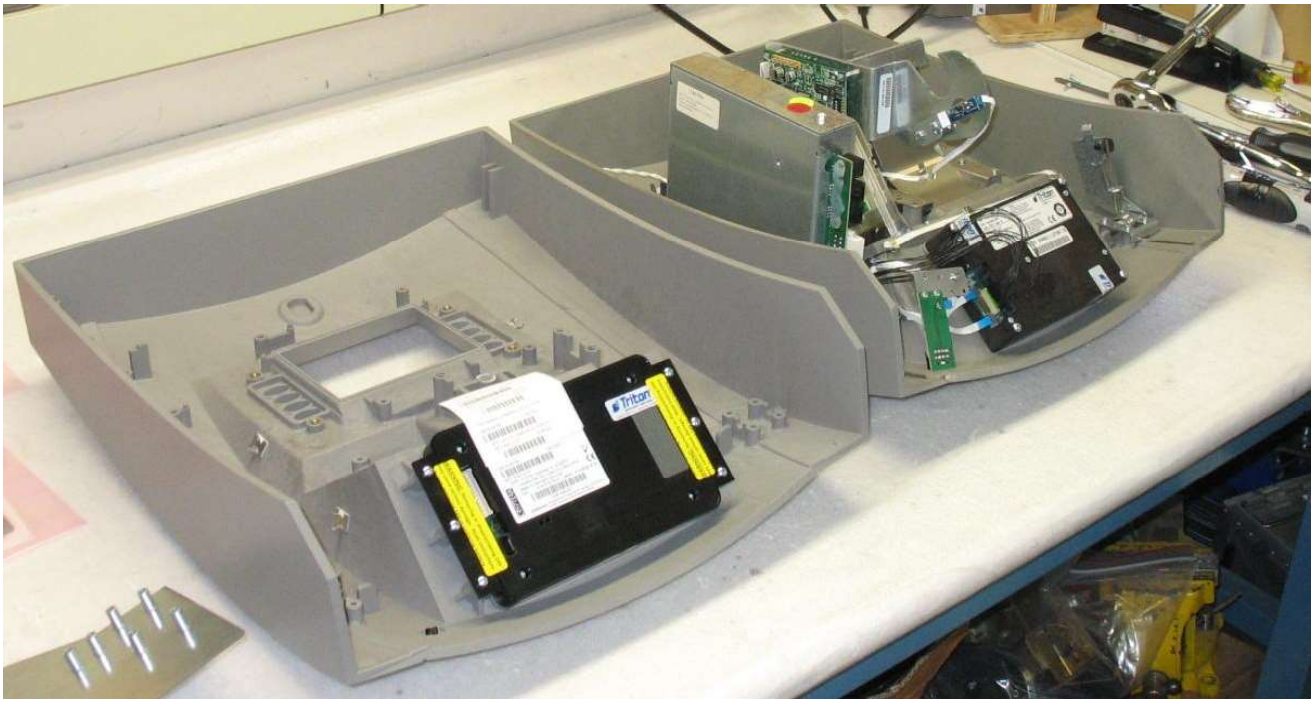
1.5—Ensure cables **DO NOT** interfere with the hinges. *Left Image, c*lamp the vise-grip pliers onto the left hinge. *Center Image*, keep a firm hold on the pliers while removing the screw, **YELLOW** circle. *Right Image*, pull the bracket away from the side of the cabinet and slowly release the spring tension by guiding the pliers counter clockwise. Repeat this process for the right hinge.



1.6—Remove the old control panel from the cabinet by partially closing the panel until it's in a vertical position, then lift panel off the cabinet as shown in image below. Place the old control panel on a flat surface.



1.7—Place the new control panel assembly (with T10 EPP) on a clean, flat surface to prevent scratching, next to the old control panel.



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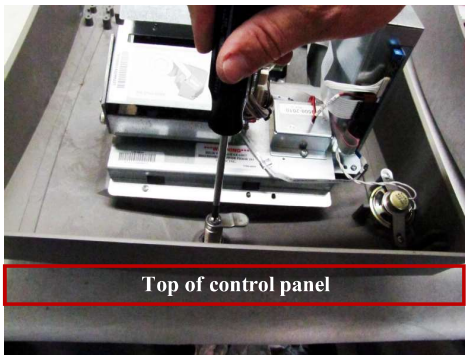
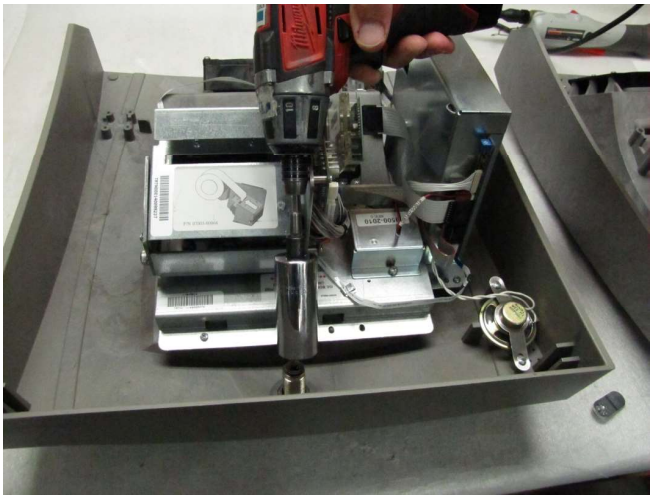
2.0 SWAP CONTROL PANEL LOCK

2.1—Remove the retainer screw and lock pawl from the old control panel lock.
NOTE: Remove screw with caution because lock assembly will come apart after screw is removed.



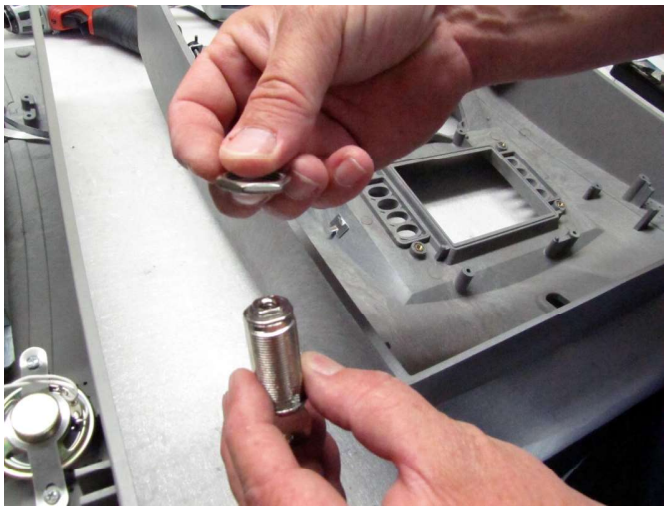
2.2—The small tab on the top of the lock assembly, YELLOW circle, should face the top of the panel, **Image 1**. Remove the large nut with a 7/8" deep socket, **Images 2 and 3**. Remove the lock and carefully keep it in the same position as before removal, **Image 4**.

1



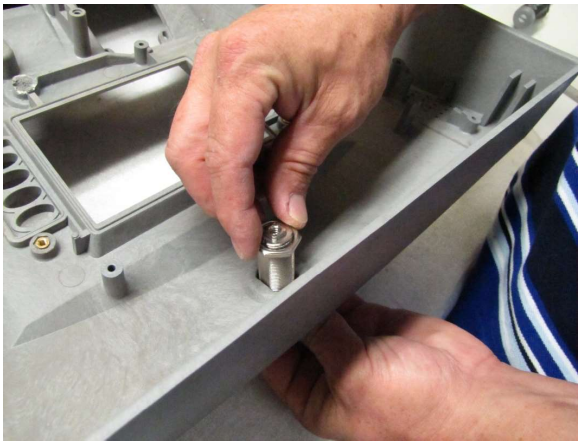
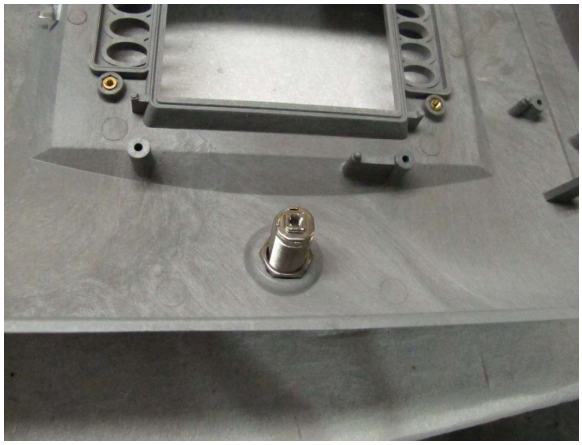
2

3

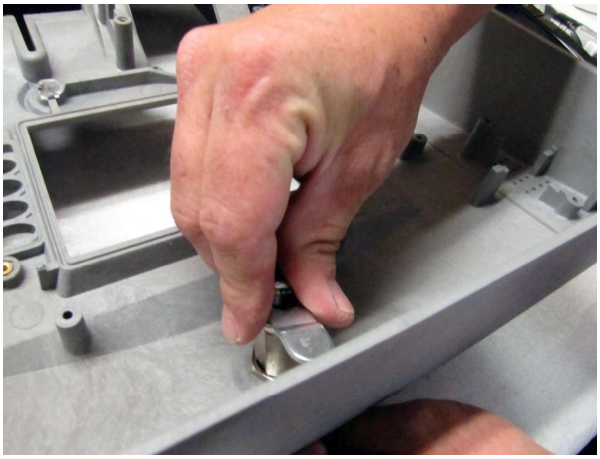
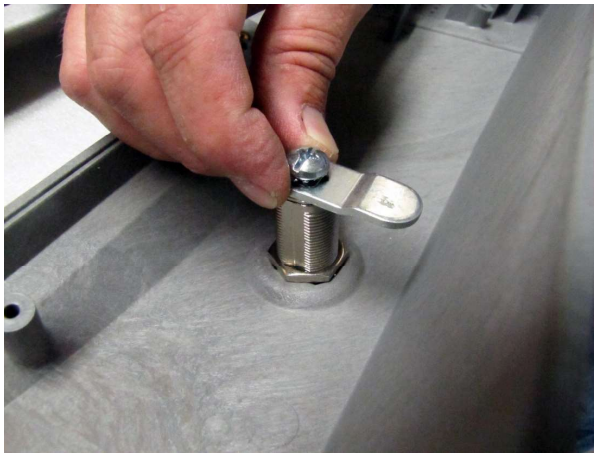


4

2.3—Hold the lock in its former position and install the lock onto the new control panel, *Left Image*. Screw on the large nut, *Right Image*.

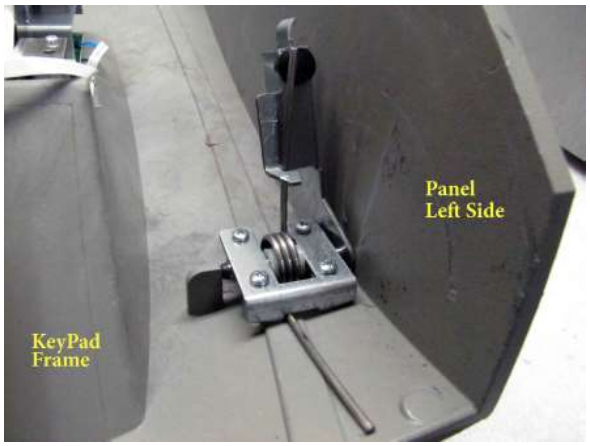
2.4—Place the lock pawl in locked position, *Left Image*, onto the lock body. Insert the retainer screw in the lock cam and tighten, *Right Image*. Use a torque between 22-30 in. lbs for the electric screwdriver. Lock shown in correct position in 3rd image below.


3.0 SWAP HINGES

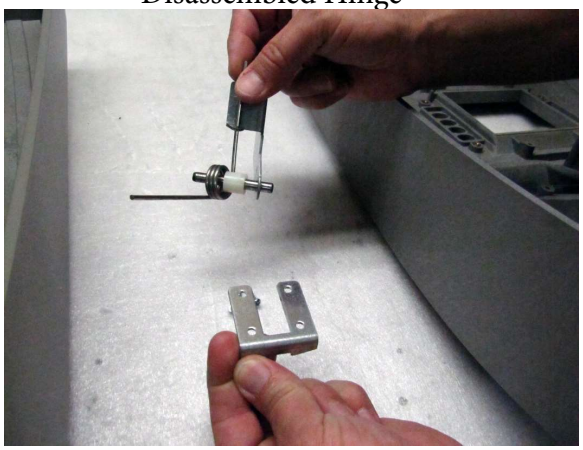
3.1—Remove the 4 screws from the left hinge of the old panel. Install the hinge onto the new control panel as shown in the image sequence 1-4, bottom 4 images.

Old Panel



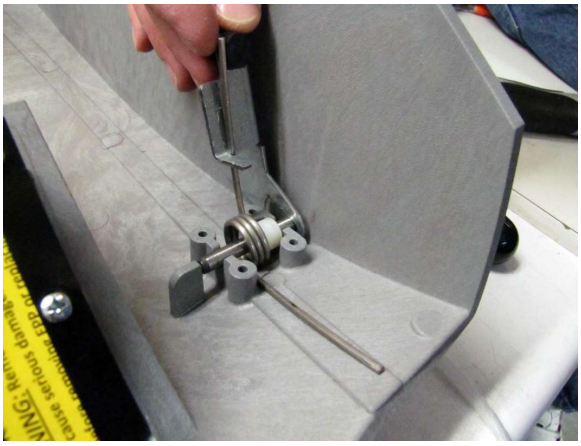
1

Disassembled Hinge



2

New Panel and Hinge Assembly



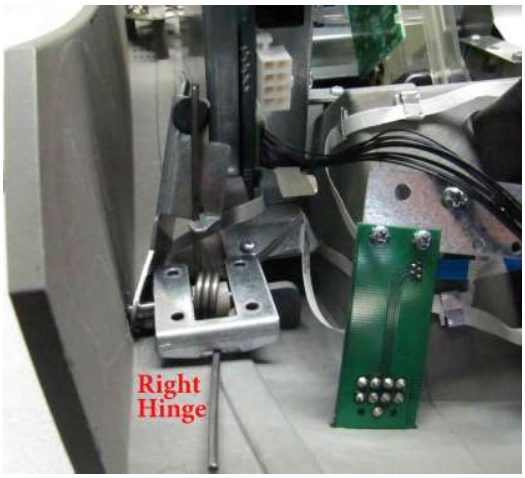
1

2

3

4

3.2—Remove the 4 screws from the right hinge of the old panel, *Image 1*. Hinge and screws, *Image 2*. Install the hinge onto the new control panel using only 2 of 4 screws, *Image 3*. The remaining 2 screws will be used to install the headphone bracket in the next step.
NOTE: Use the images 1-4 in step 3.1 as reference for installing the right hinge.

1 

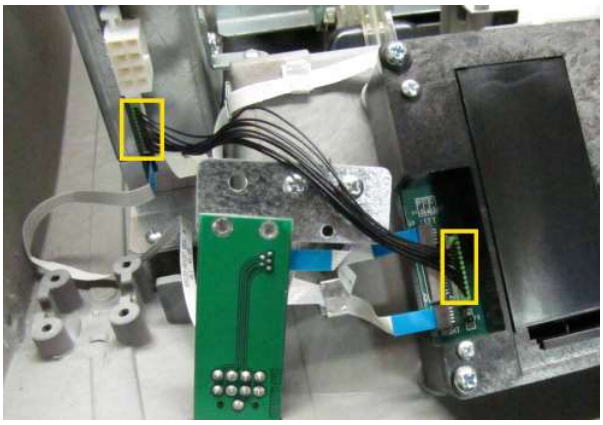
 2

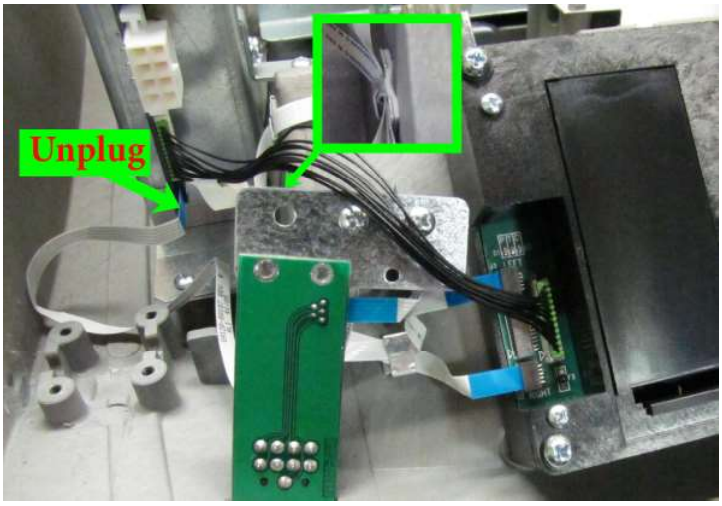

3

4.0 SWAP HEADPHONE BOARD

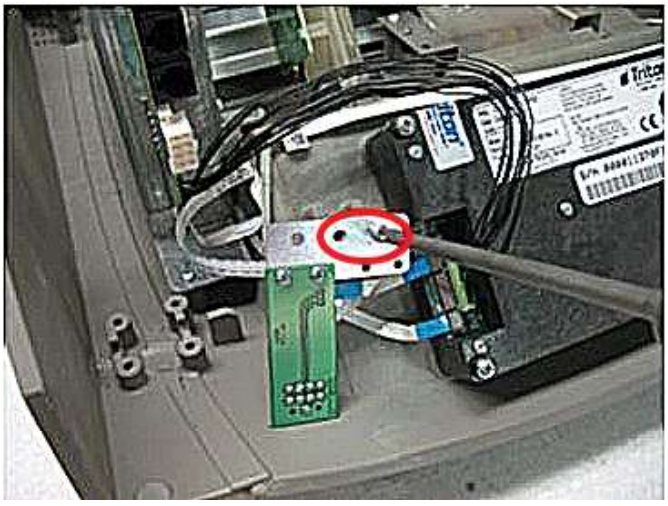
Note: Remove headphone board, bracket, and flat cable from old control panel.

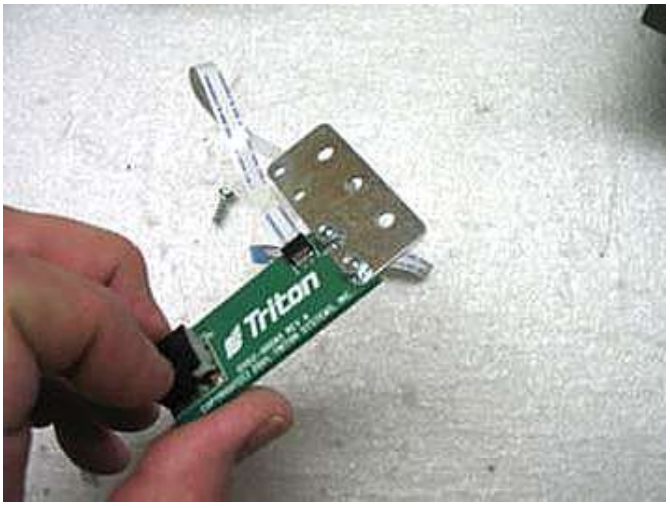
4.1—*Left Image*, unplug and save the SPED communications cable, **YELLOW** rectangles.
Right Image, unplug headphone flat cable from Mainboard. Remove flat cable from clip behind the Headphone board, **RED** box. Open metal clip and remove flat cable, but do not unplug from headphone board.



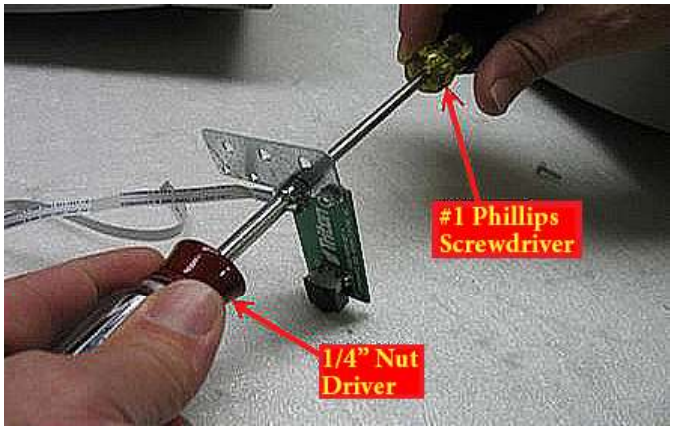


4.2—*Left Image*, remove two screws that hold the headphone board to the control panel, **RED** circles. Discard these two screws. Remove Headphone board/bracket/cable from the control panel, *Right Image*.



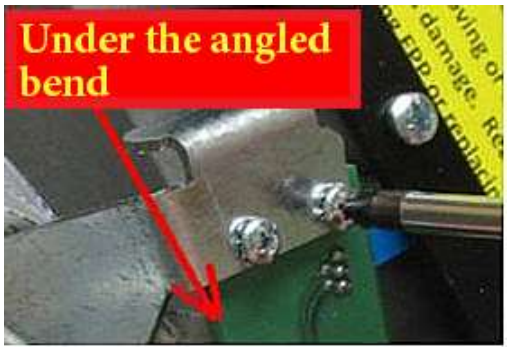


4.3—Remove the two screws and two nuts that hold the headphone board to the bracket using 1/4” nut driver and #1 Phillip screwdriver. Save these two screws and two nuts for installation on the new control panel headphone board bracket. Discard old headphone board bracket.



Install headphone board onto new angled headphone bracket

4.4—Position the headphone board on the new Headphone circuit board retaining bracket, kit **Item 2**, under the angled bend. Loosely attach headphone board to bracket using two screws, **RED** circles, and two nuts removed from step 4.3. The screws will be tightened in a later step.

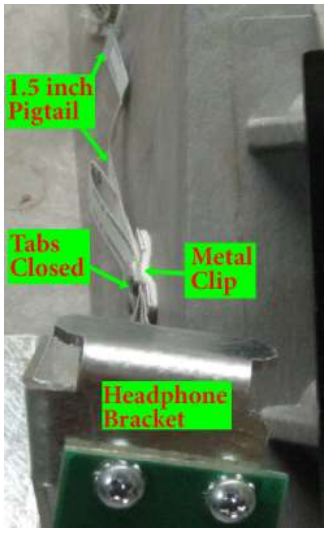


Install angled headphone bracket onto new control panel

4.5—*Left Image*, Note slot in control panel for headphone board edge and jack. *Right Image*, attach bracket onto the control panel over the hinge bracket using two of the screws holding the hinge bracket from step 3.2, **RED** circles.

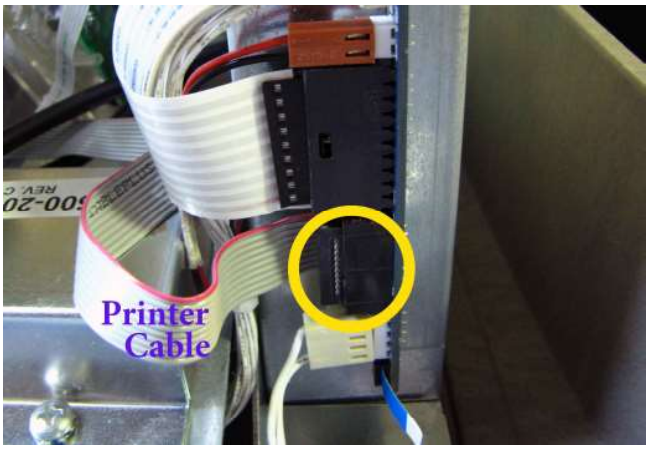
4.6—Slightly loosen the screws attaching the headphone board to the bracket. Position the end of the headphone board snugly into control panel slot. Hold board in slot and hold nuts on back of board while hand tightening the headphone board screws, **RED** circles.

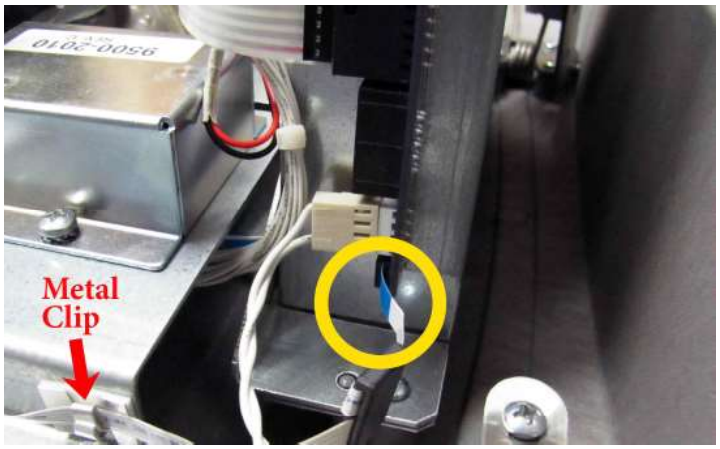
4.7—Fold the flat cable twice into the clip, but leave a 1.5 inch pigtail pass the clip, and close tabs over the cable. **Note: Do not crease cable to prevent damage.**



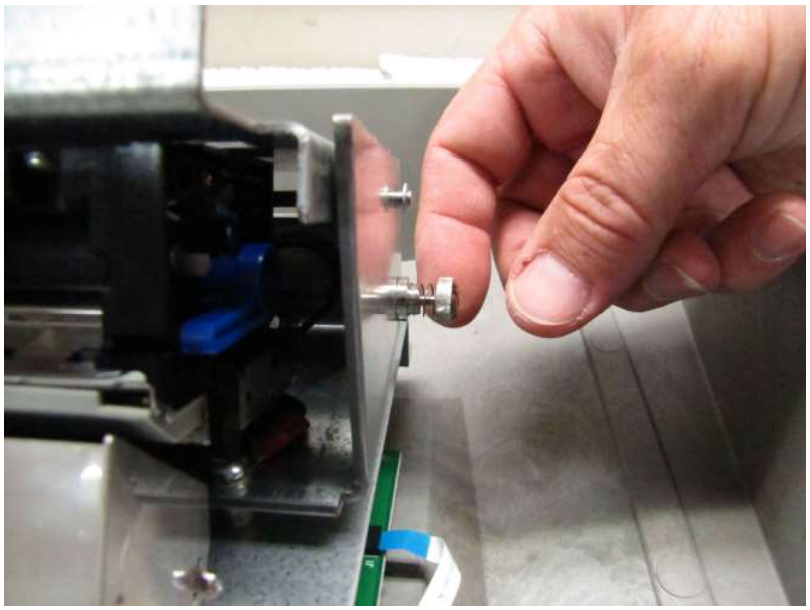
5.0 REMOVE PRINTER ASSEMBLY

5.1—*Left Image*, unplug the printer communications cable, YELLOW circle, from the mainboard.
5.2—*Right Image*, unplug the printer low-paper sensor cable, YELLOW circle, from the mainboard. Open metal clip tabs holding the flat low-paper sensor cable.

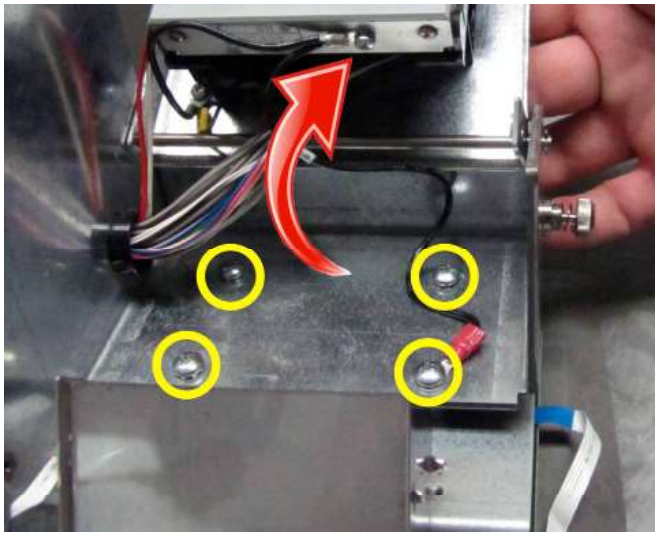




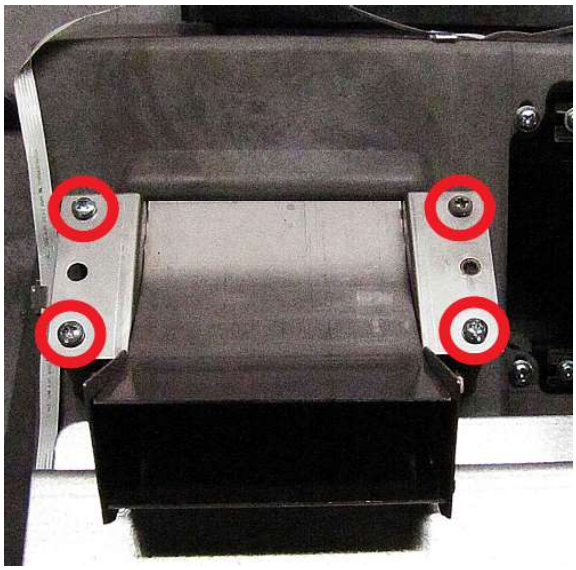
5.3—Loosen the thumb screw until the springs pushes it out as shown below.



5.4—*Left Image*, flip open the printer assembly. Remove and save the 4 screws, **YELLOW** circles. Note the location of the ground cable, but some older 9100 ATMs may not contain the ground cable. *Right Image*, Set the printer sub-assembly aside for later re-installment.

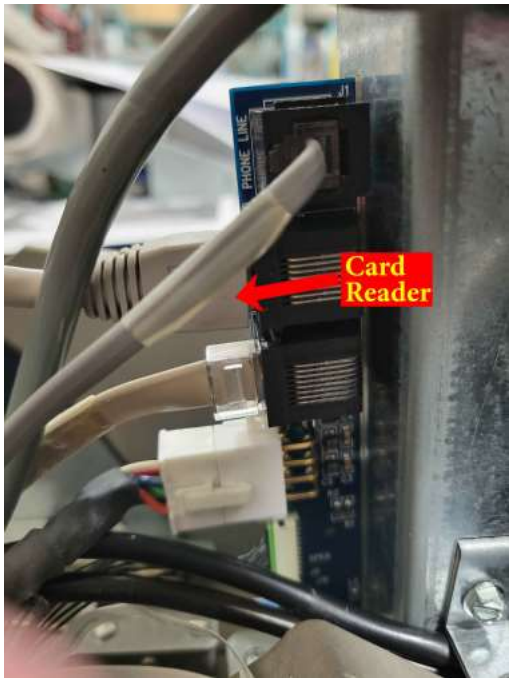


5.5—*Left Image*, remove the 4 screws, **RED** circle, on the paper chute. *Right Image*, Set the chute and screws aside for later re-installment.

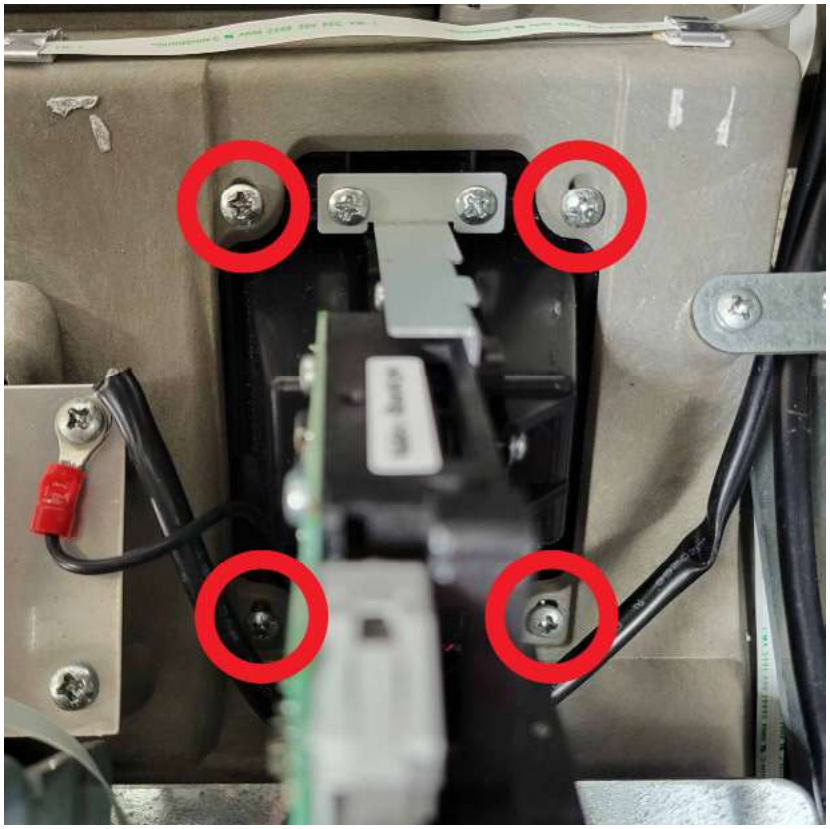


6.0 REMOVE CARD READER

6.1—Unplug the card reader communications cable from the mainboard as shown below.

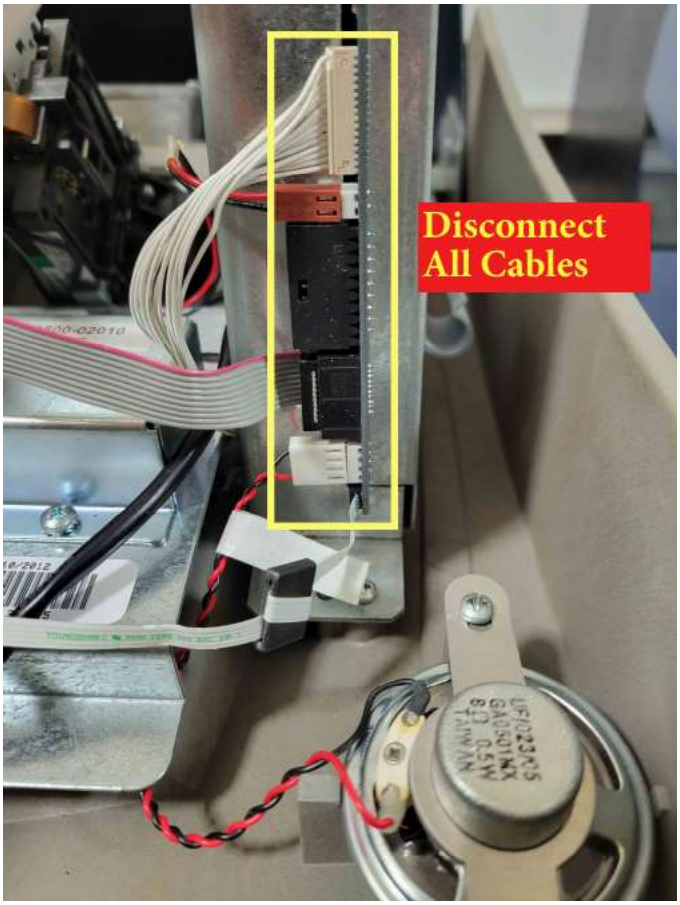


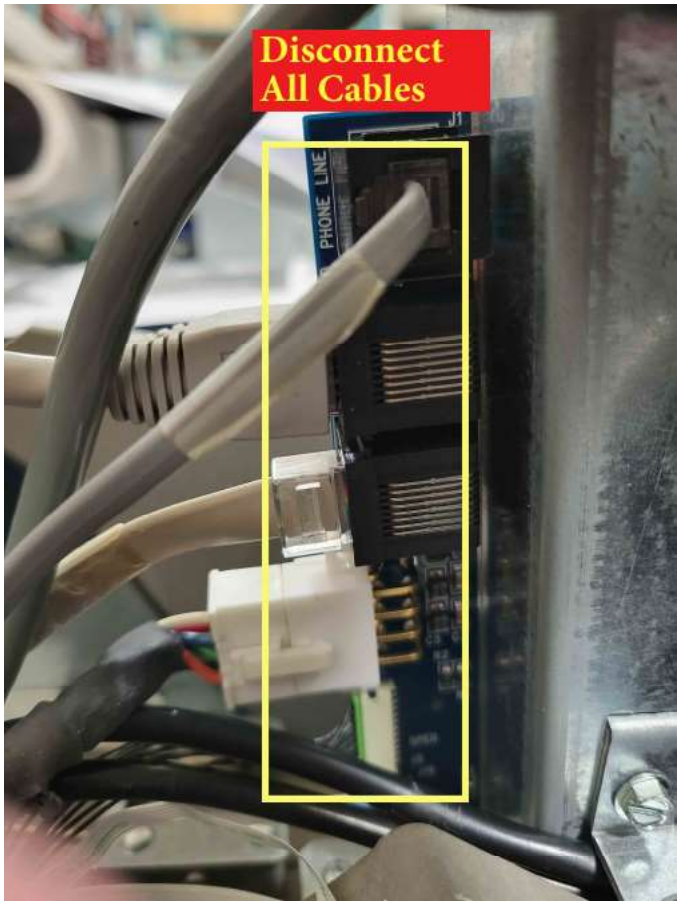
6.2—Remove Card Reader and screws, **RED** circles and set aside for later re-installation.



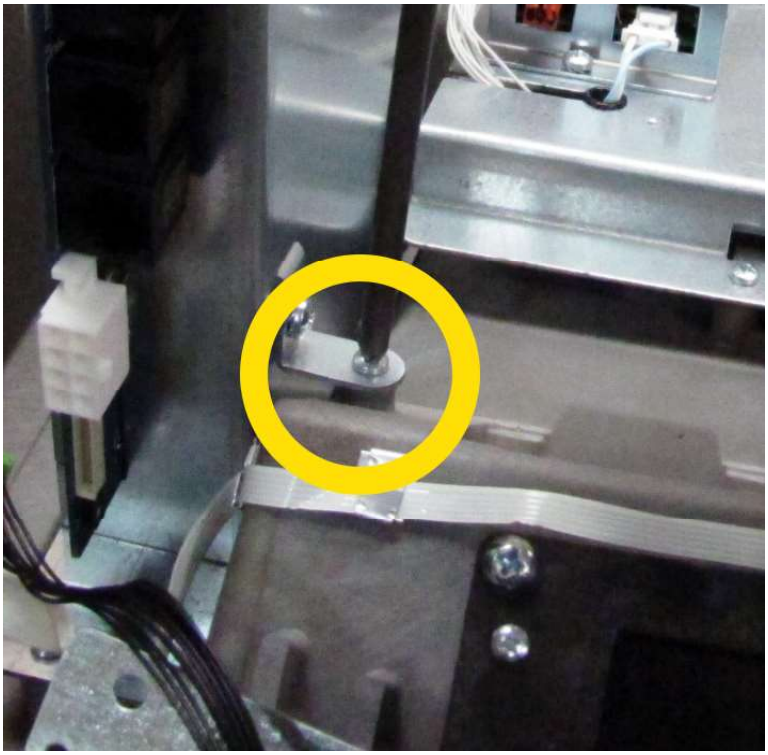
7.0 REMOVE MAINBOARD HOUSING

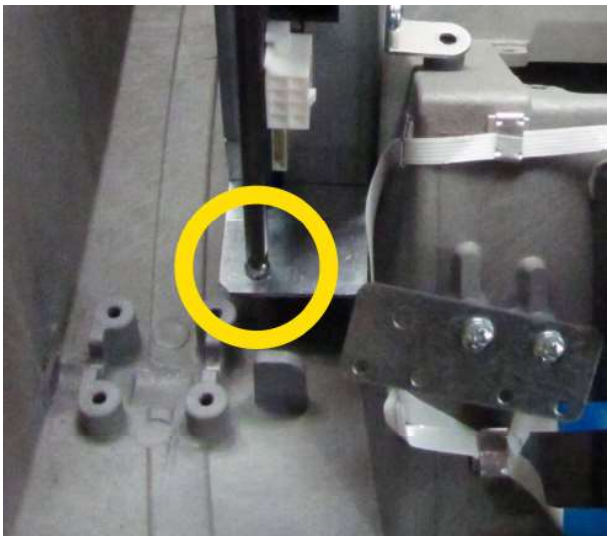
7.1—Unplug All cables from both ends of the mainboard.





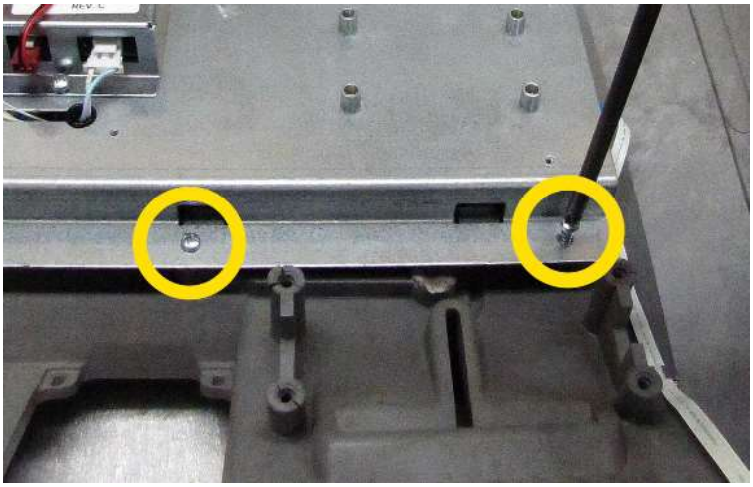
7.2—Remove and save the 3 screws, **YELLOW** circles, attaching the mainboard assembly housing. Remove mainboard assembly housing and set aside for later re-install.





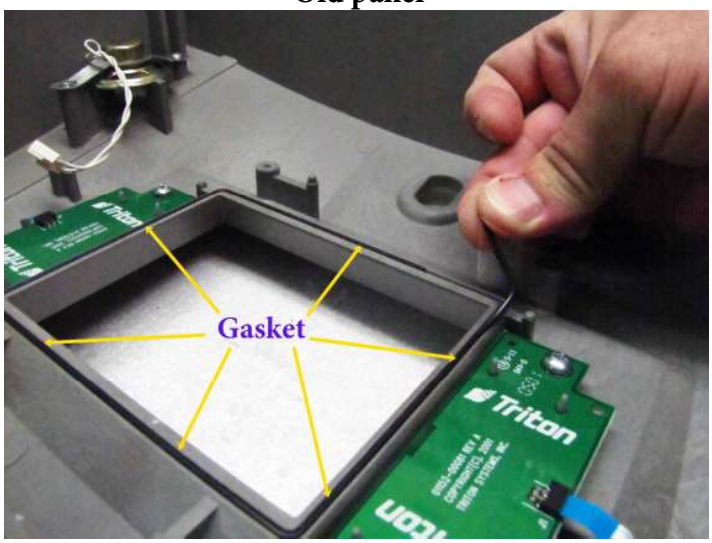
8.0 REMOVE LCD ASSEMBLY

8.1— Remove the 3 screws holding the display assembly in place, YELLOW circles. Hold the display glass while lifting the display. Set the display aside for later re-install.

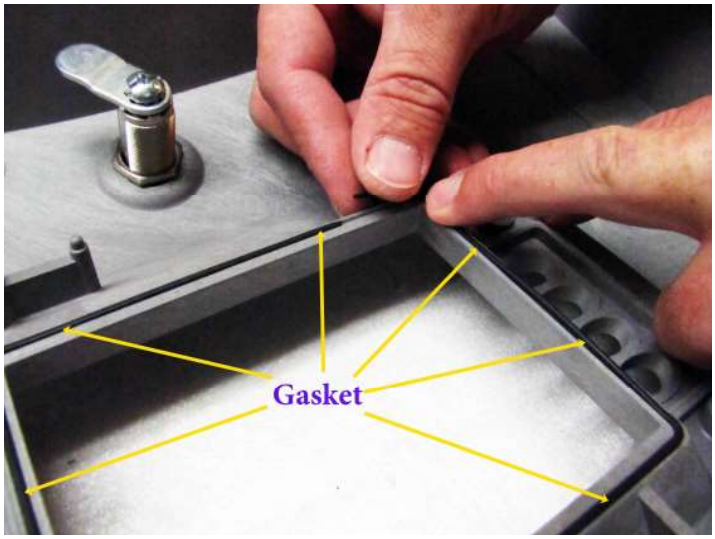


8.2—Remove the display gasket from the old control panel, YELLOW arrows and re-install it onto the new panel.

Old panel



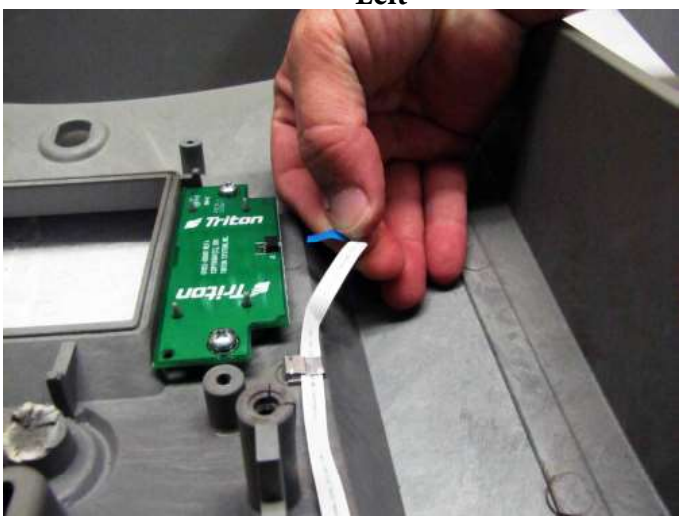
New Panel



9.0 SWAP LEFT AND RIGHT SCREEN KEYS

9.1—Unplug the left and right screen key cables. Note the orientation of the blue tab. Set the cables aside for later re-installation. The flat screen key cable included in the kit may be used for the left side if the old flat cable is too short.

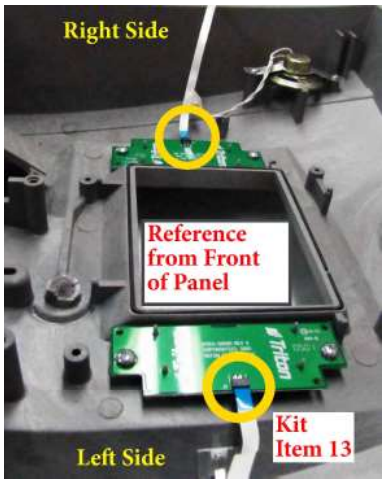
Left

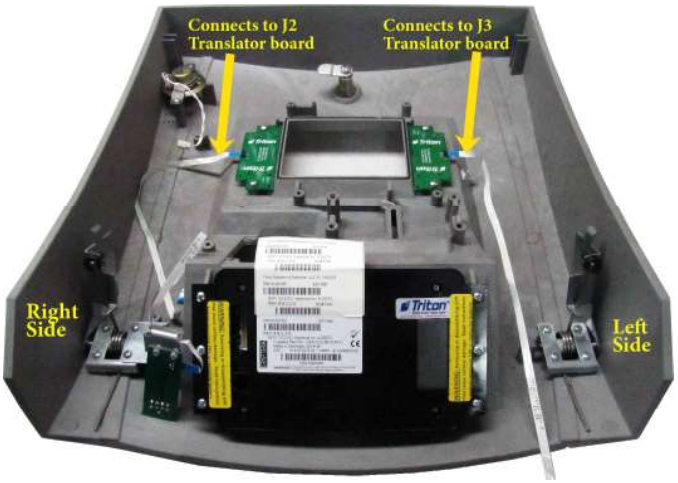


Right

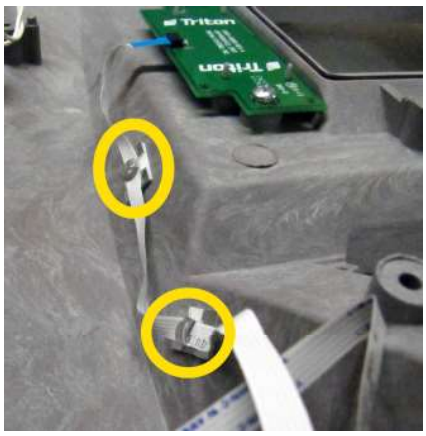
9.2—Remove the 2 screws securing the left screen key assembly and install onto the new control panel. Repeat this process for the right screen keyboard.

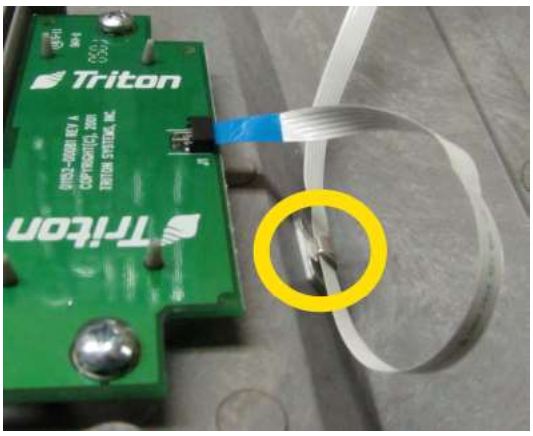
9.3—Install the flat screen key cables, **blue side up**. Obtain kit **Item 12,** if needed, from kit and plug cable, **blue side up**, into the left screen keyboard connector, YELLOW circles, and install the right screen key cable from old panel into the right screen keyboard connector **blue side up**.





9.4—Partially route the flat cables under the clips, YELLOW circles, on the new control panel as shown. Close the clips by folding down on the tabs, YELLOW circles.

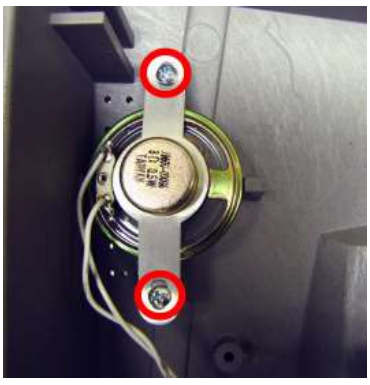




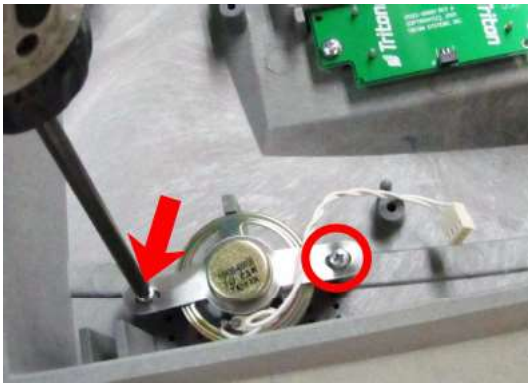
10.0 SWAP SPEAKER

10.1—Remove the 2 screws, RED circles, from the speaker bracket in the old panel. Move speaker and bracket to new panel and secure with same screws removed from old panel, RED arrow and circle.

Old Panel



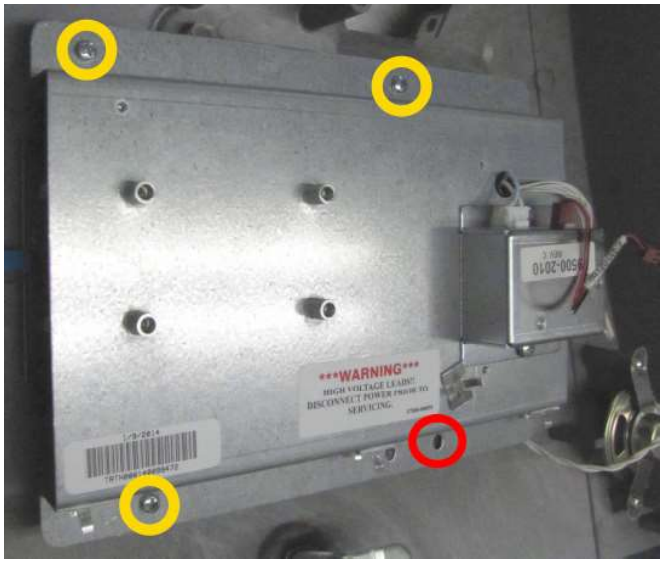
New Panel



11.0 INSTALL LCD ASSEMBLY

11.1—Peel and stick four clips, kit **Item 9**, onto the LCD bracket in locations, YELLOW circles, shown below.

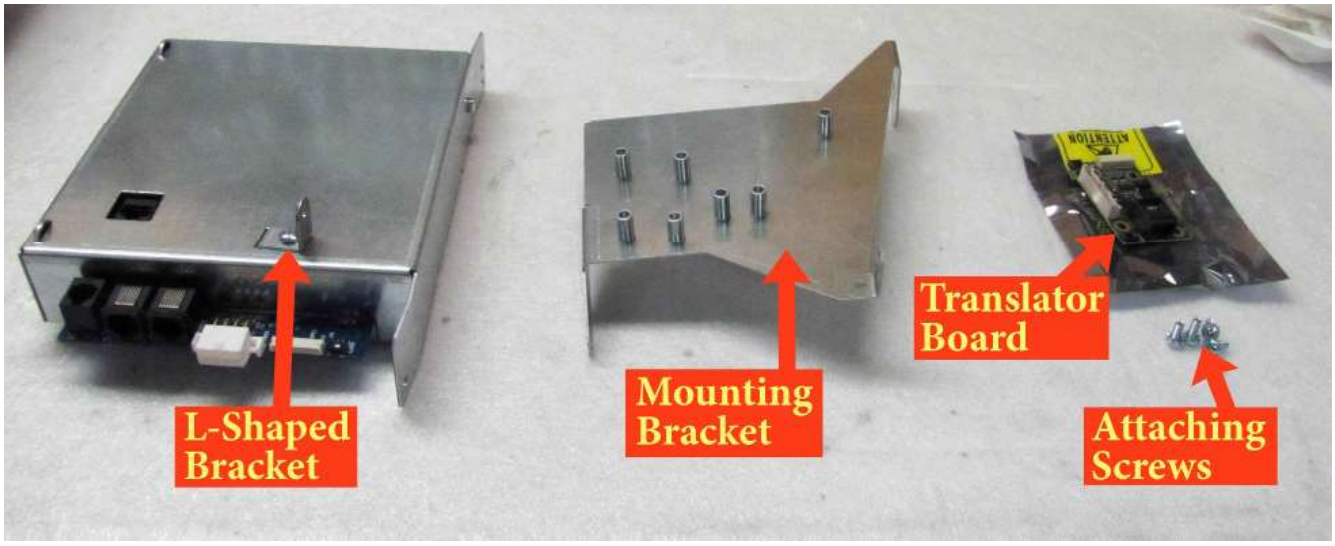
11.2—Align the LCD bracket onto the control panel opening. Use 4 screws removed from old panel, step 8.1. Secure the bracket using 3 screws, YELLOW circles shown below. Leave one screw out, **RED** circle, for the attachment of the ground wire lug in step 18.3.



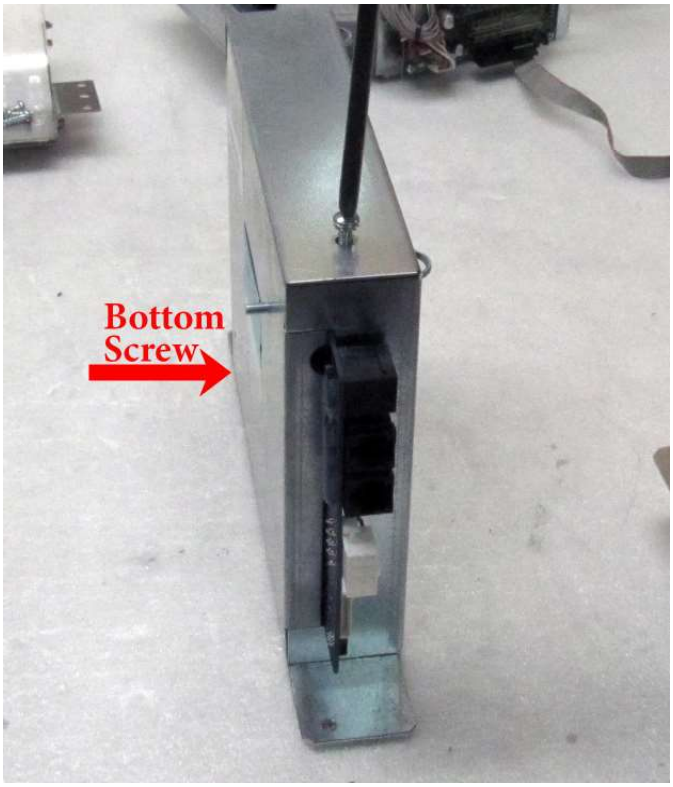
11.3—Continue routing the left-side flat screen key cable through the clips, YELLOW circles, and close the 2 side tabs as pictured below.

12.0 CHANGE EPROM IN MAINBOARD

12.1—Remove and discard the small L-shaped bracket from the mainboard housing, but keep the screw. Locate the new T10 translator mounting bracket, kit **Item 3**, T10 translator board, kit **Item 1**, and four mounting screws, kit **Item 6**.



12.2—Remove the two screws from the mainboard housing and remove the cover.



CAUTION:
Observe proper Electrostatic Discharge (ESD) protection when handling electronic devices.

12.3—Remove the old EPROM, **YELLOW** rectangle with the PLCC extraction tool.



CAUTION:
Observe proper Electrostatic Discharge (ESD) protection when handling electronic devices.

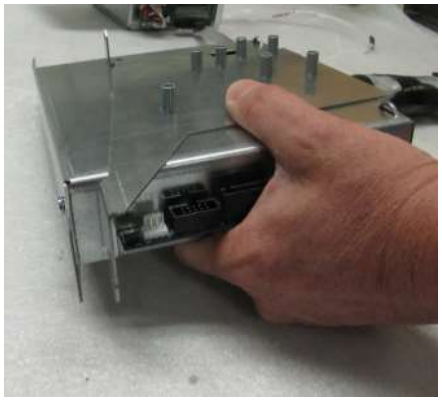
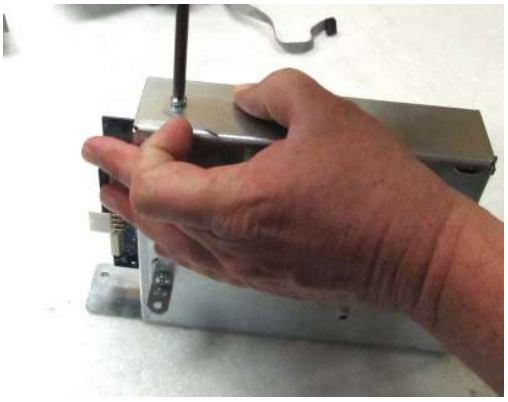
12.4—Install the new EPROM Version KD02.00, kit Item 5, into the PLCC socket on the mainboard. Ensure that the flat corner of the EPROM chip is located in the flat corner of the socket when inserted.

12.5—Close the mainboard housing and secure it with a screw on the bottom side only. The top screw will be installed when the new bracket is installed.

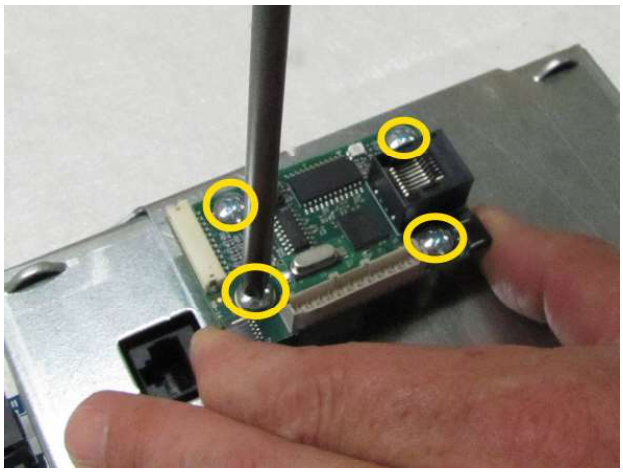
CAUTION:
Observe proper Electrostatic Discharge (ESD) protection when handling electronic devices.

13.0 INSTALL T10 TRANSLATOR BOARD

13.1—*Left Image*, position the T10 translator mounting bracket, kit **Item** 3 on the mainboard housing with the two screws removed previously. *Center Image*, the screw on top is a flat-head hex screw that can be installed with a 1/4 nut-driver or a flat-head screwdriver. *Right Image*, the other screw, from step 12.1, is a Phillips-pan-head screw with a captive tooth washer.

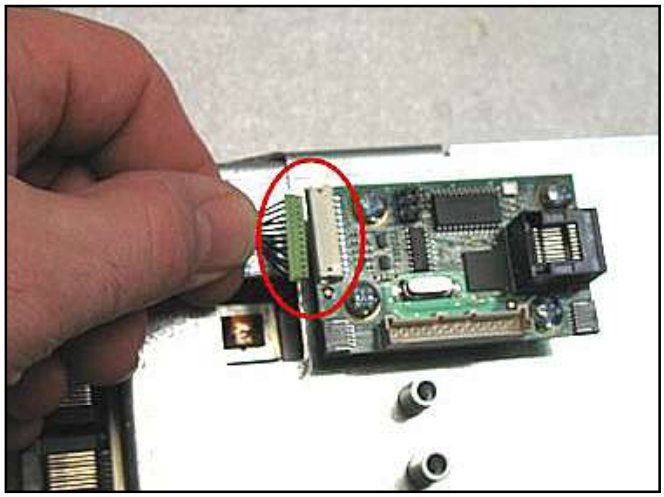

13.2—Place the T10 translator board, kit **Item 1**, on the standoffs as shown in *Left Image*. Obtain four screws, kit **Item 6**, to secure the board to the standoffs, YELLOW circles, *Right Image*.

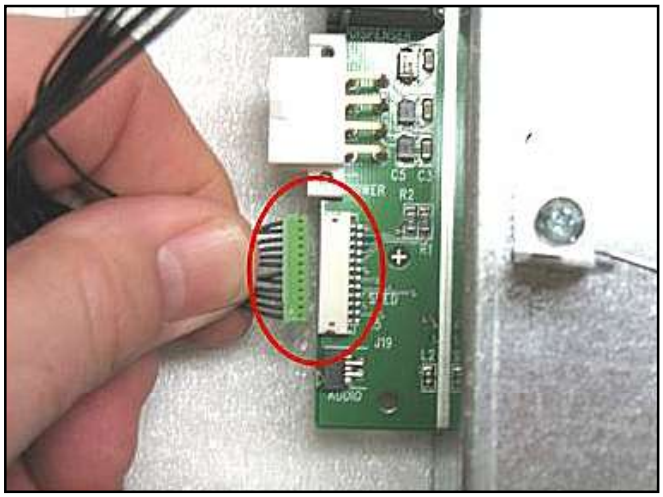
CAUTION:
Observe proper Electrostatic Discharge (ESD) protection when handling electronic devices.

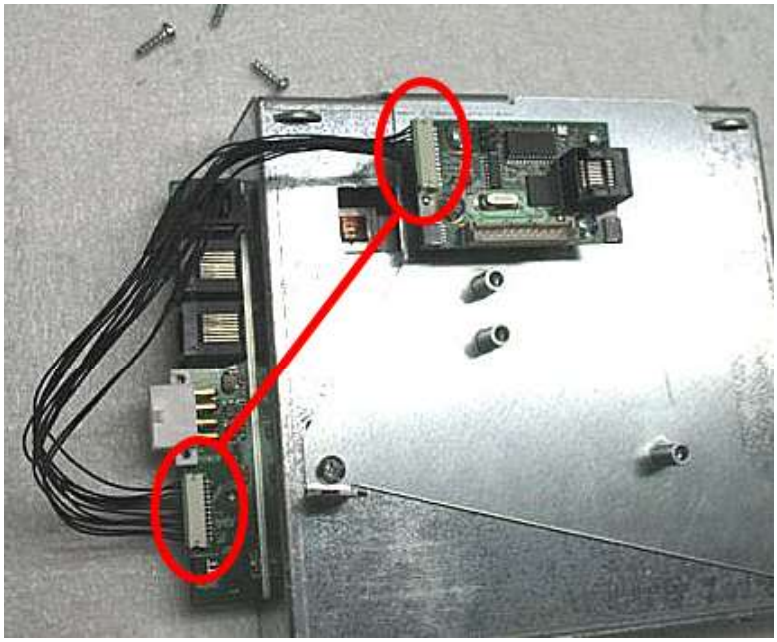
13.3—Plug the SPED communications cable from the old control panel into the T10 Translator Board and Mainboard, **RED** circles. Note: this was connected to the keypad.

Translator Board



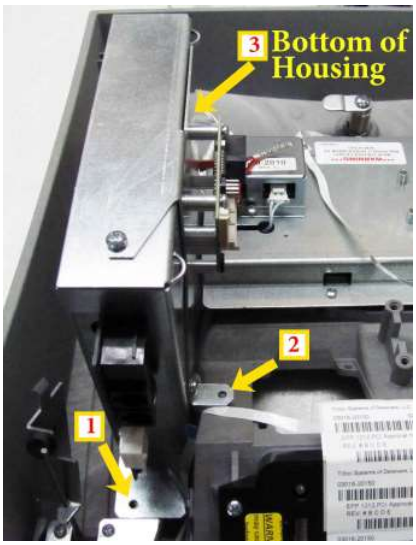
Mainboard





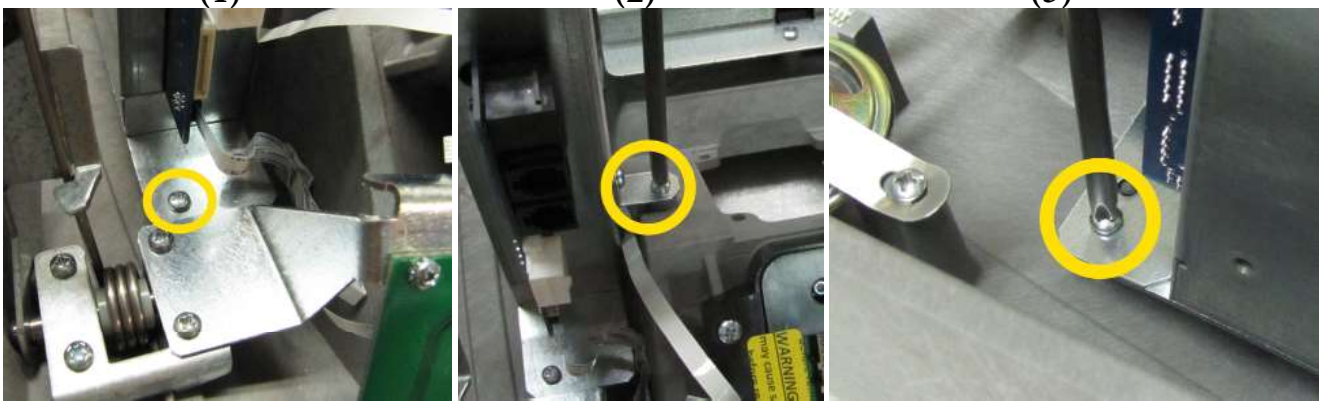
14.0 INSTALL MAINBOARD HOUSING

14.1—Place the mainboard housing onto the new control panel. Ensure proper routing of the screen key and headphone cables (if applicable) under mainboard housing. Numbers match the numbers in step 14.2.



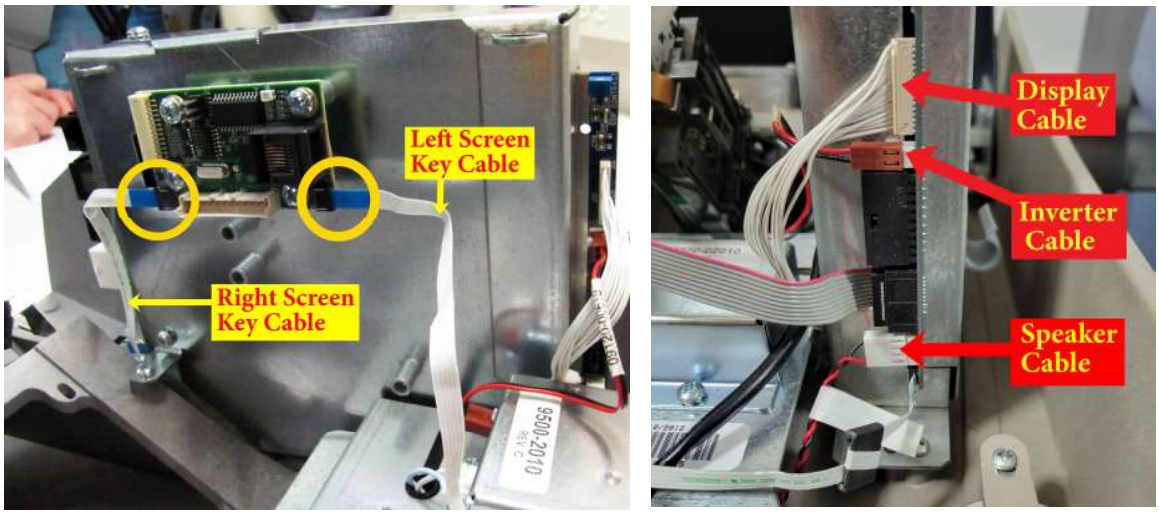
14.2—Secure the mainboard housing with 3 screws, YELLOW circles. Numbers match numbers on above image.

(1) **(2)** **(3)**



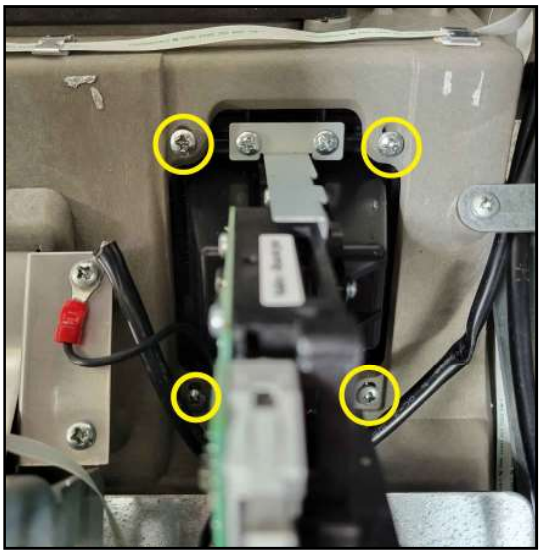
14.3—*Left Image*, plug the screen key cables, YELLOW circles, into the T10 translator board. Note that the blue tab on the cable should be facing away from the mainboard.

14.4—*Right Image*, plug the display cable, inverter cable and the speaker cable into the mainboard.



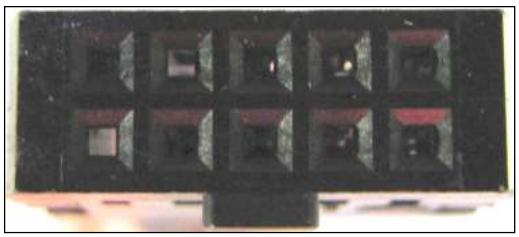
15.0 INSTALL CARD READER

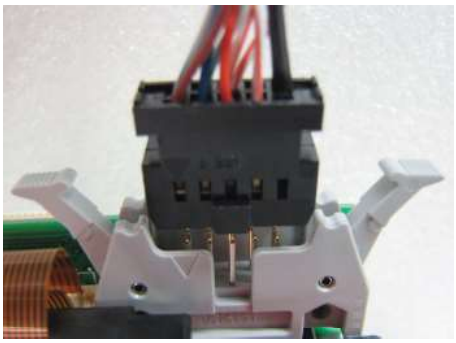
15.1—Place the card reader into the front of the new control panel, in the correct orientation (see image below for reference). Secure the card reader in place using 4 screws, YELLOW circles, removed from card reader in step 6.2. You will need a long shaft Phillips screwdriver for these screws.

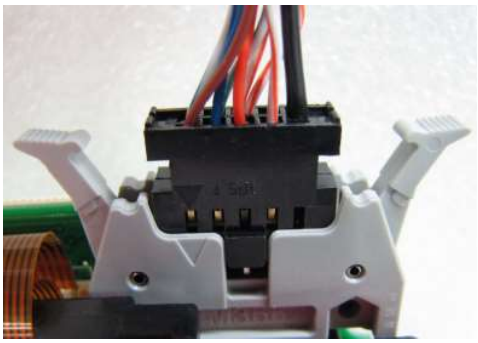


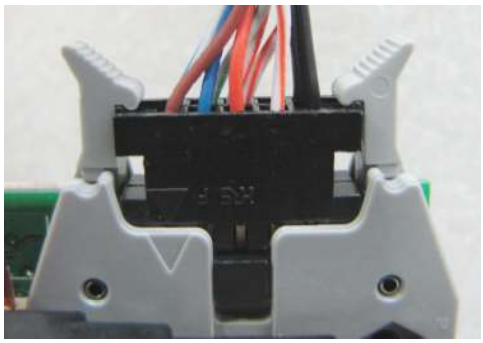
Rest of Page Blank

15.2—Obtain the card reader cable. Examine the cable end and the cable port on the card reader. Ensuring the locking tabs are out, plug the cable into the card reader lining up the tab on the cable with the notch in the port. The left and right locking tabs will close as the cable is inserted into the port. Ensure the tabs click into the locking position.

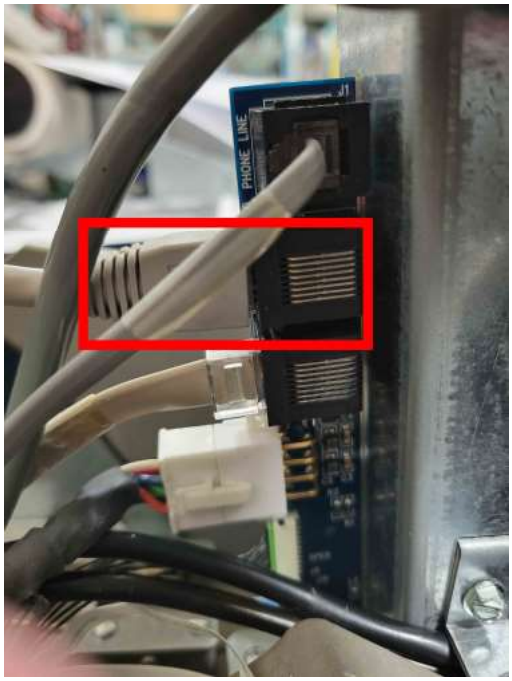








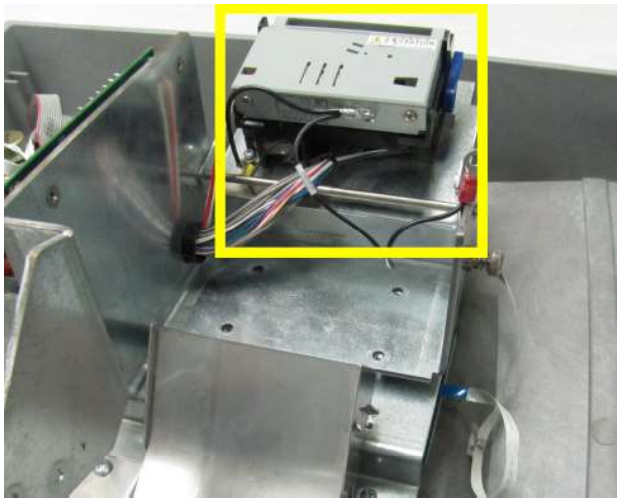
15.3—Plug the card reader cable into port J2, **RED** rectangle, in the back of the Mainboard.

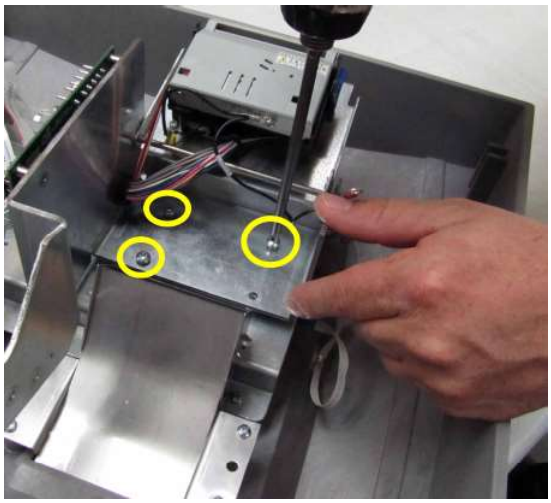


16.0 INSTALL PRINTER ASSEMBLY

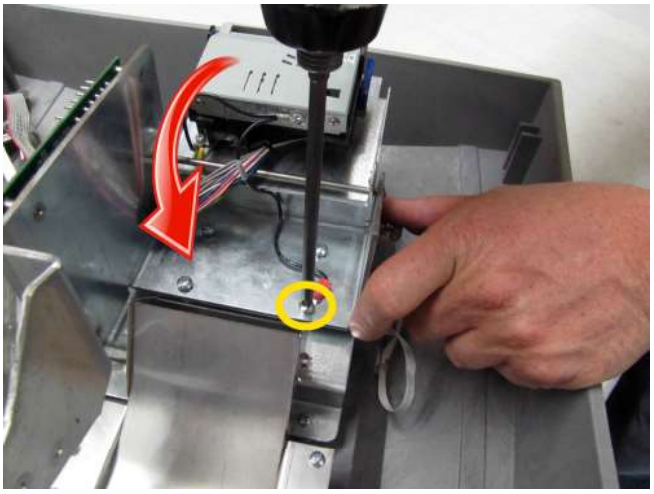
16.1—Secure the paper chute in place with 4 screws removed in step 5.5, YELLOW circle.

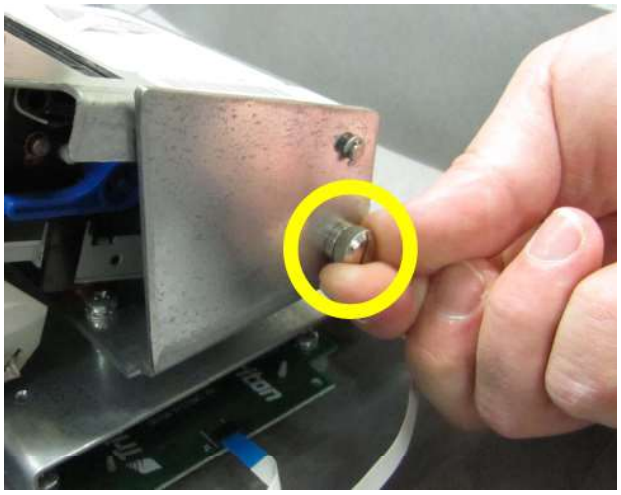
16.2—Secure the printer, YELLOW square, in place with 3 machine screws, YELLOW circles. The forth screw will be used to mount the ground wire as well.



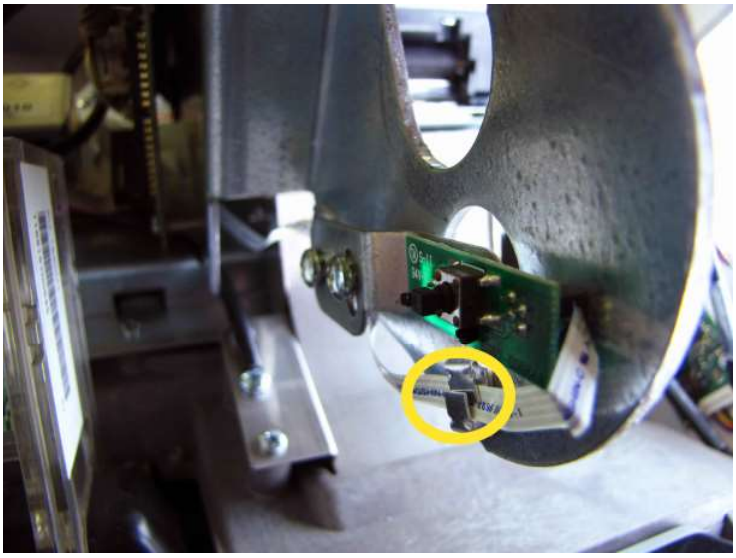


16.3—*Left Image*, place the ground wire lug over the 4th opening and secure with a screw. Fold the printer head down, **RED** arrow. *Right Image*, secure printer head by tightening the thumb-screw, YELLOW circle.

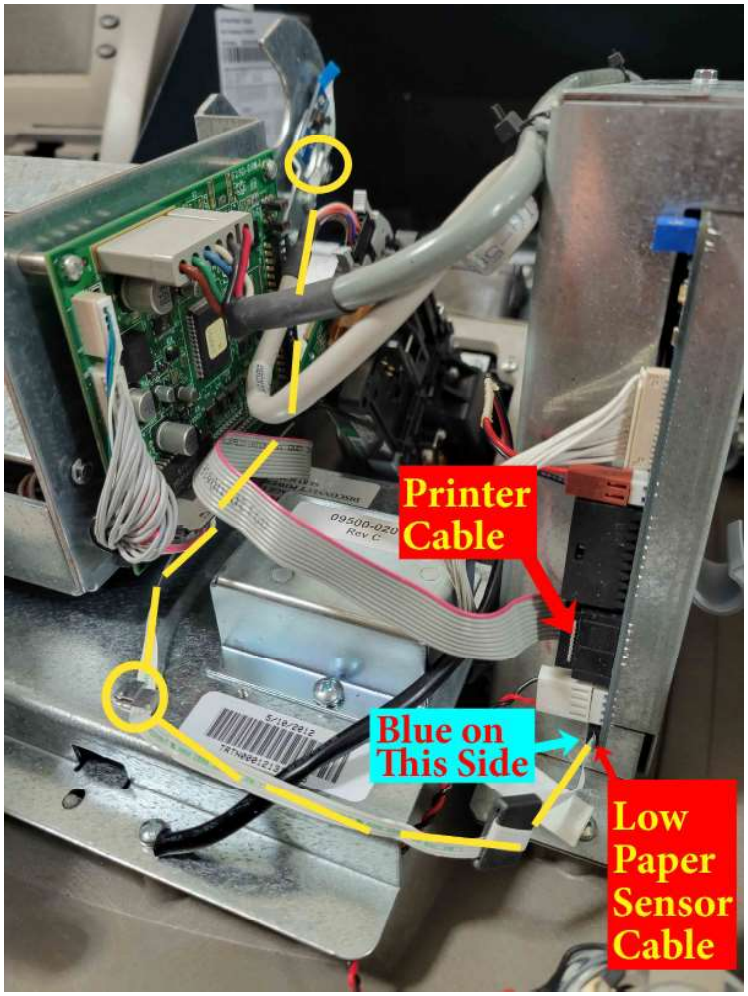




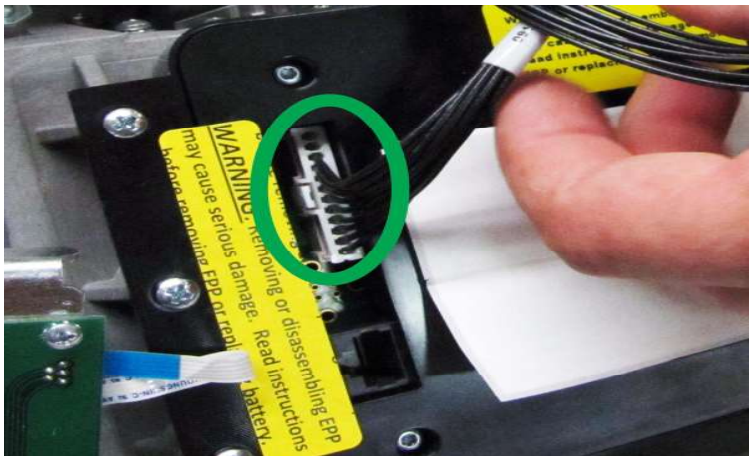
16.4—Route the low paper sensor cable under the sensor board and through the clip, YELLOW circle. Close the clip to secure the cable.

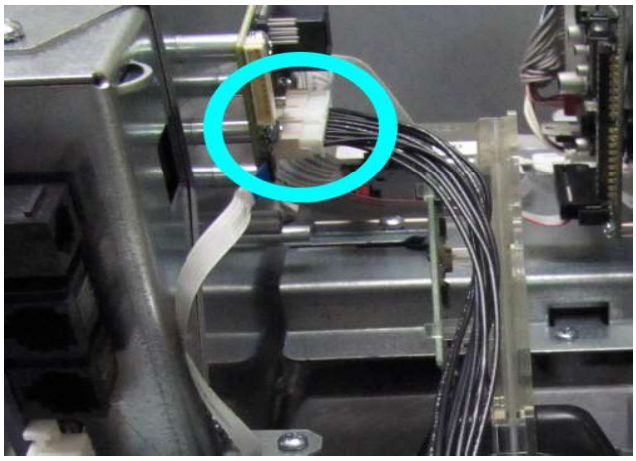


16.5—Route the low paper sensor flat cable under the sensor board, YELLOW dashes and through the metal clips, YELLOW circles. Close the clips to secure the cable. Plug Low Paper Sensor flat cable, **blue side faces in**, and the Printer cable into the mainboard.

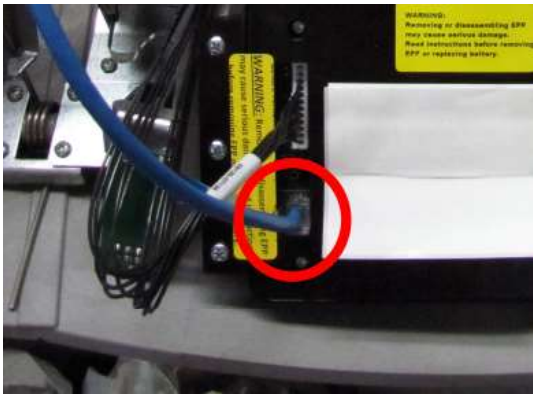


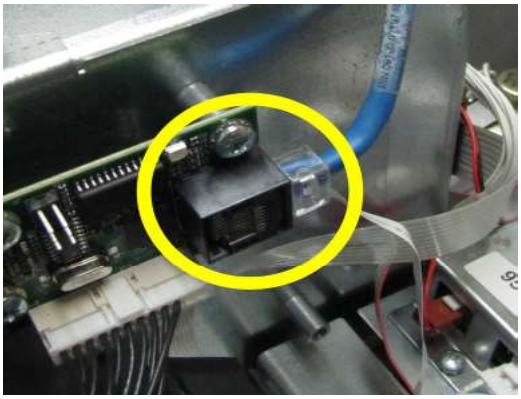
16.6—Plug T10 screen key cable, **GREEN** circle, kit **Item 11**, for the T10 EPP, *Left Image*, into the EPP connector, and the T10 translator board connector, **BLUE** circle *Right Image*.





16.7—Plug T10 EPP communications cable, RJ45-RJ45 **RED** circles, kit **Item 10**, into the EPP and the T10 translator board connector, **YELLOW** circles.

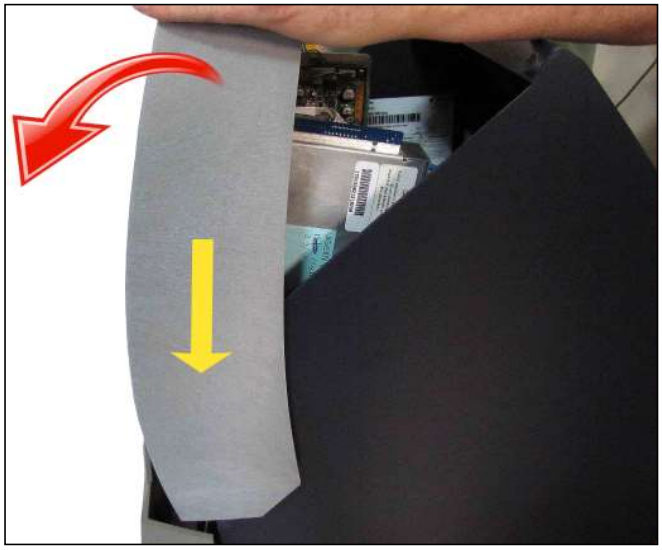




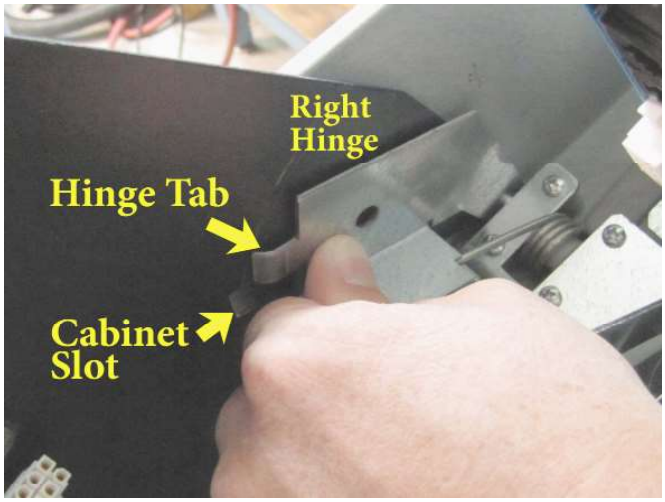
17.0 INSTALL NEW CONTROL PANEL

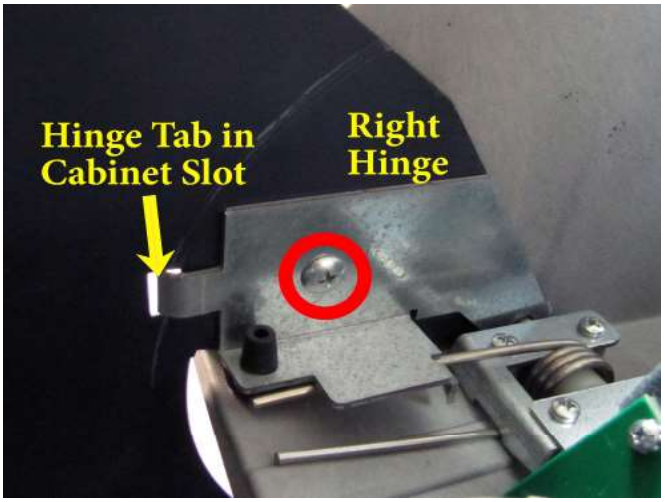
WARNING:
The hinge retainer spring is under tension when the control panel is in the open position, and can easily snap back before the screw is installed.

17.1—*Left Image*, set the new control panel into the notches at front of cabinet and lean panel fully open. *Right Image*, note the locations of the hinge tab, **RED** circles, and cabinet rectangle slot,**GREEN** squares.



Press right hinge down and hook tab into cabinet rectangle, *Left Image*. While holding the hinge, insert one screw and tighten, **RED** circle, to hold bracket to cabinet, *Right Image*.



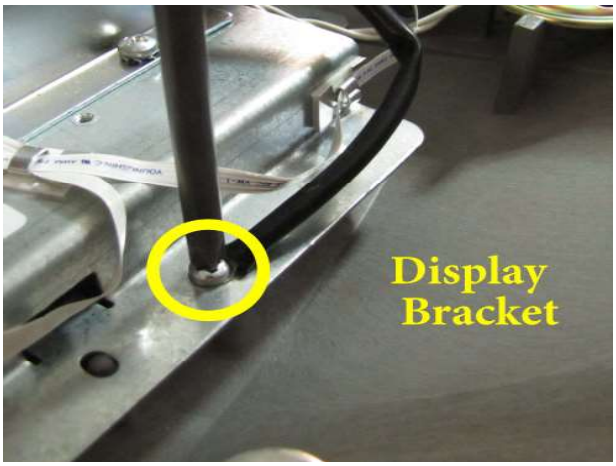


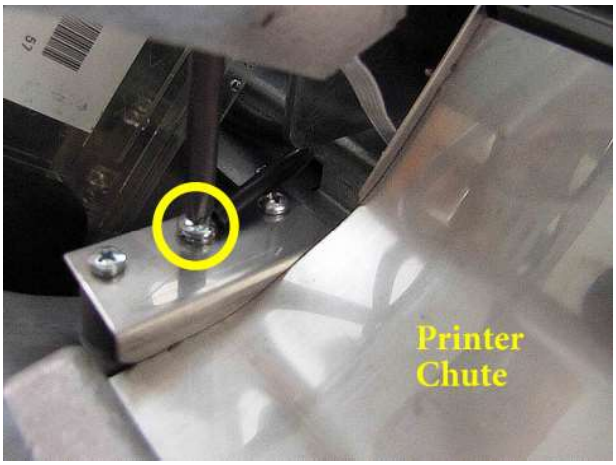
17.2—Repeat step 17.1, starting with second sentence for the Left Hinge.

18.0 INSTALL GROUNDS AND OTHER CABLES

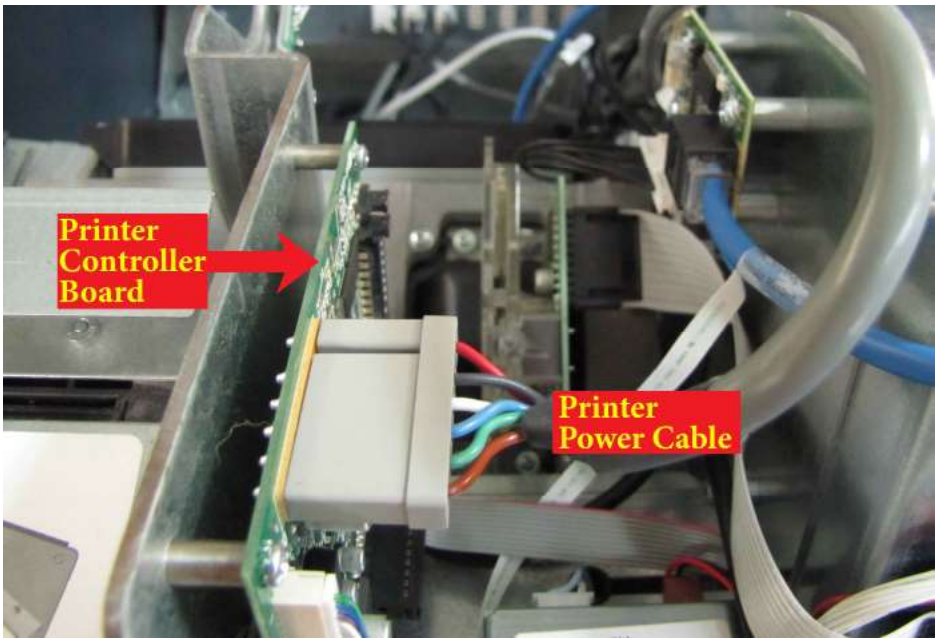
Improper grounding may cause damage to ATM components

18.1—*Left Image*, use the screws from step 1.2 to secure the ground wire lug from the power supply to the display bracket. *Right Image*, secure the ground wires from the card reader and control panel to the printer chute.

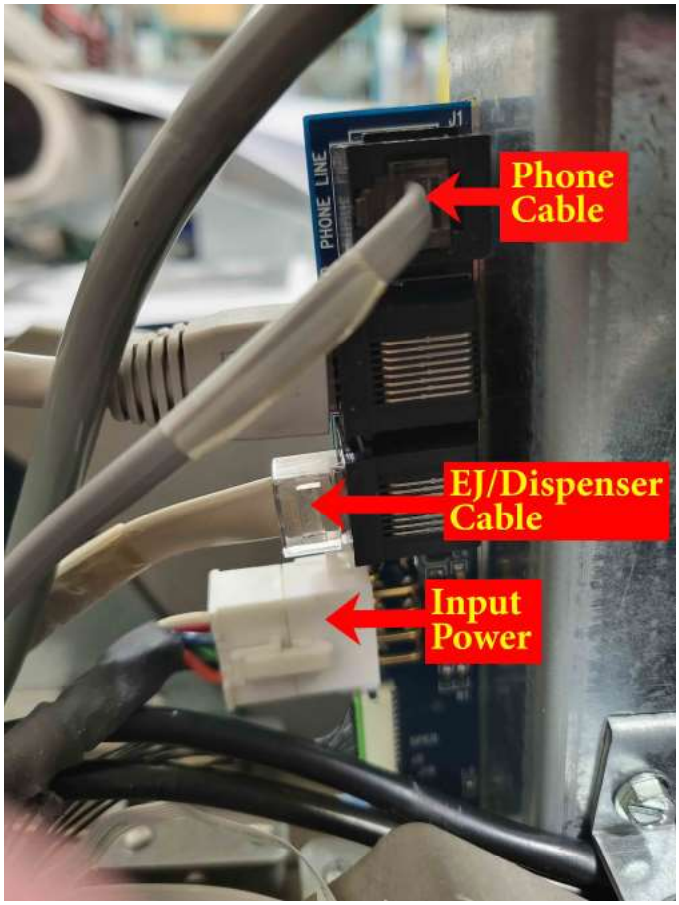




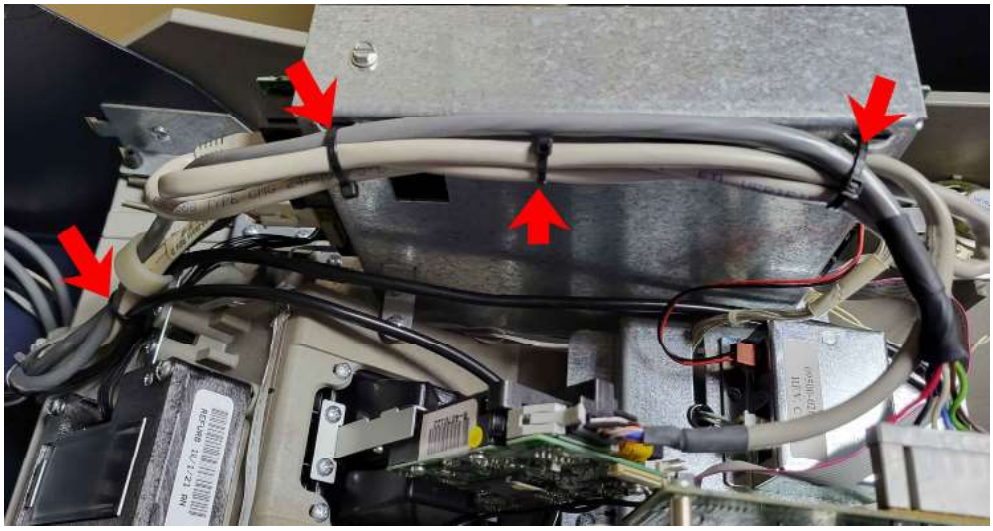
18.2—Plug the printer power cable into the printer controller board.



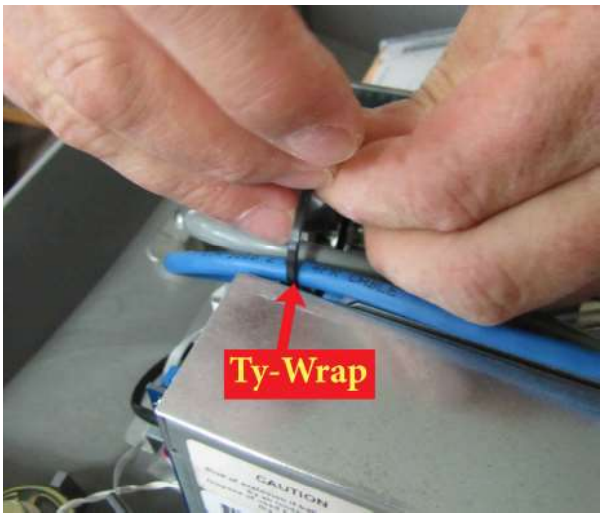
18.3— Plug the Input Power cable into the Mainboard. Plug EJ/Dispenser Cable and Phone Cable into the mainboard.

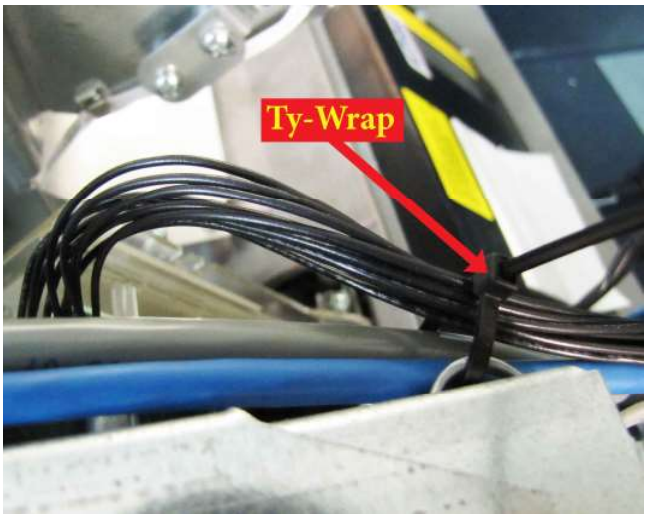


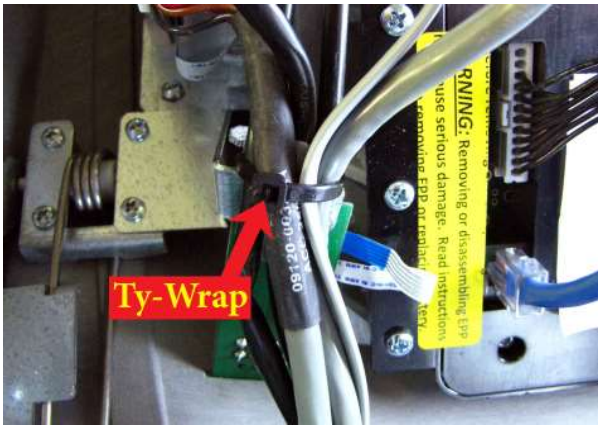
18.6—Secure all cables in place with 6” Ty-Wraps, **RED** arrows.



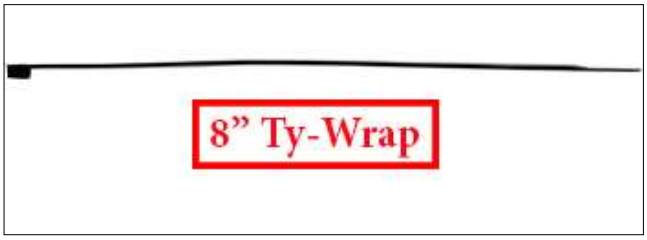
Close-up view using 6” Ty-Wraps.





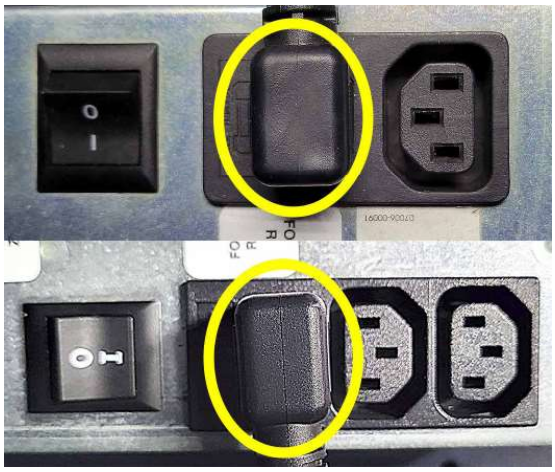


Secure cables to the headphone mounting bracket with 8” Ty-Wrap and secure cable two inches further down the cable, as shown below, with a 6” Ty-Wrap.



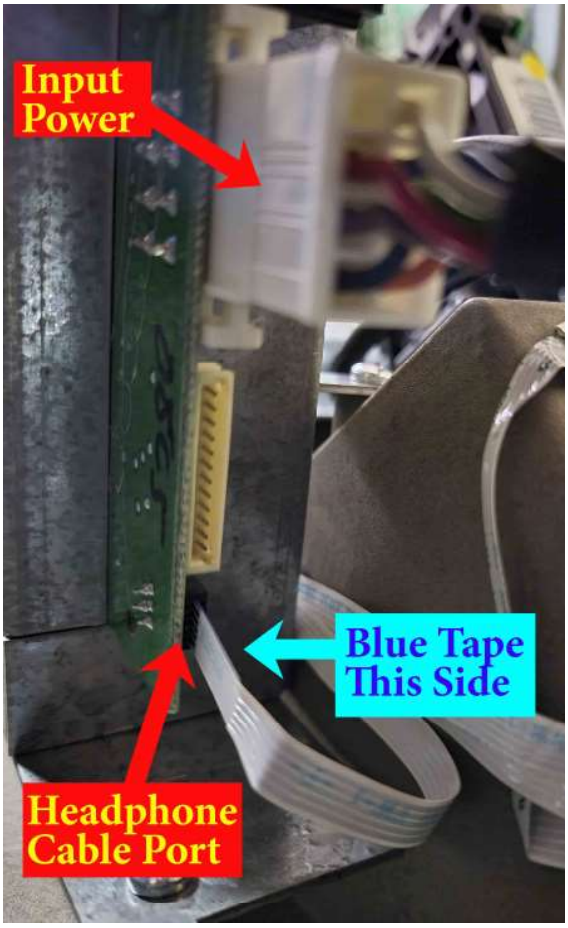
18.7—Clip excess tie from Ty-Wraps after the cables are secured. Ensure that the cables are neatly routed and not pinched.

18.8—*Left Image*, replace the paper roll, **YELLOW** circles. *Right Image,* plug external AC power cord, **YELLOW** circles into socket next to the fuse. Press ON(I) on the switch to power unit up.



19.0 INSTALL HEADPHONE CABLE (IF SPEECH IS INSTALLED)

19.1—Plug the flat headphone cable into the mainboard. Note the position of the blue tab for proper installation.



20.0 SOFTWARE UPGRADE

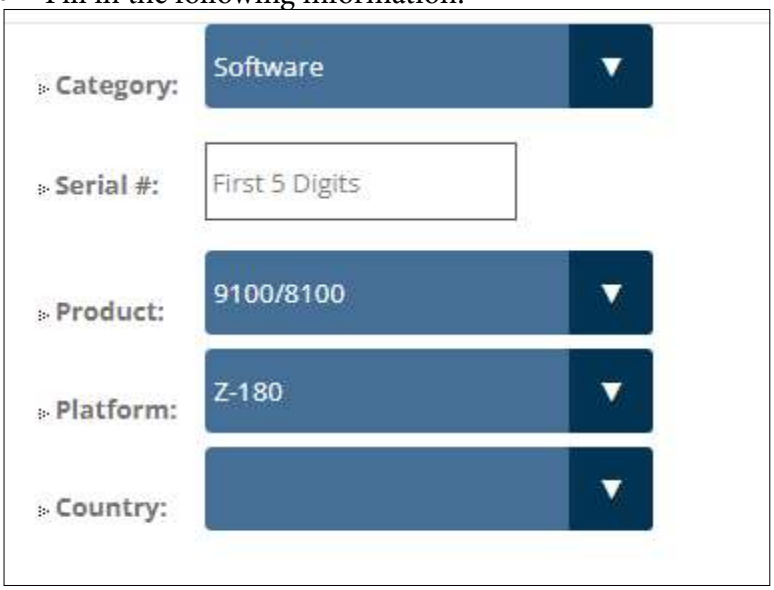
20.1—SOFTWARE LOAD REQUIREMENTS:

User supplied Parts:

- DB9-RJ45 Software Download Cable Part# 09800-00010
- TriComm 2.1.24 User Manual or 7.4F software release notes.
- Laptop/PC with serial port connection. If no serial port exits, a USB Serial Port Adapter is required. Triton Part# 01260-00019.
- Any USB to Serial Port Adapter may work if drivers are installed.

Download Instructions:

- Navigate to triton.com.
- Login.
- Navigator to the software download page.
- Fill in the following information.



- Download the latest software and release notes.
    - Release notes will have software loading instructions.

20.2—SOFTWARE LOAD STEPS

Follow the instructions in the TriComm 2.1.22 User Manual or the 7.4f Software Release Notes. Load the software in the following order. MUST perform steps in exact order.

1. 7.5 Software
    - 7.5 Load file (color or mono)
    -
    -

Plug-ins:
EMVK0100.B91
EMVA1104.B91
AVSM0200.B91

Contact Triton's Tech Support at {1 (800) 259-6672} for questions.