



## Installation Manual

Replacing the Wayne Ovation 2<sup>®</sup> DW-14 and Zebra printer using the Freedom Electronics FE-24 Printer.

Rev 2 • 3/2022

Kit #	FE-24 NEW
Description	FE-24 Printer Install
Model	Ovation 2 Dispenser

This kit will upgrade printers on Ovation 2 dispensers only.  
The Ovation 1 dispensers are currently not supported.

## Parts list

Manufacturer Part #	Description	Quantity per Kit
FW00001_FE-24	FE-24 PCB	1
FC00004	Extended Data Input Cable	1
FC00005	Extended Power Input Cable	1
FC00009	FE-24 Printer Data Cable	1
FC00010	FE-24 Printer Power Cable	1
FC00017	Paper low sensor extension cable	1
FC00018	Paper low loopback cable	1
FE-24	FE-24 Printer	1

## Tools Required

- Phillips Screwdriver
- Allen Wrench
- Cutters/Dykes
- Zip Ties

## Important Safety Information

### Know Your Environment

Working at a fueling station can present many dangers. It is a potentially dangerous environment of electricity, flammable fuels, vapors, and interaction with the general public. Only trained and knowledgeable individuals should perform service on the equipment. It is important to your safety and the safety of others to follow proper procedures.

### Emergency Shut Off (ESO)

Know how to turn OFF power to all the fueling equipment by locating the ESO switch and circuit breakers. You must know how to shut off all fuel flow and electricity in an emergency.

### Follow the Regulations

Information is available at Occupational Safety and Hazard Association (OSHA), National Fire Protection Association (NFPA) 30A; Code for Motor Fuel Dispensing Facilities and Repair Garages, NFPA 70; National Electrical Code (NEC), as well as other national, state and local entities. All applicable codes must be followed to maintain safe installation, service, use and operation of the equipment.

### LOTO (Lockout/Tagout)

Always make sure ALL power to the dispenser is turned OFF before servicing the dispenser. Follow OSHA Standard 29 CFR 1910.147 The Control of Hazardous Energy (Lockout/Tagout).

### No Sparks - No Smoking

Sparks from power tools, burning cigarettes, static electricity, vehicles and other sources can ignite fuels and their vapors. Ensure that you use safe and established practices while working with electrical devices and equipment.

### Wear Proper PPE

Check with your company, customers and the job/site specifics to determine what types of personal protective equipment are appropriate. Always wear the proper PPE to prevent injuries and save lives.

### Barricade Your Work Area

One of the dangers of working at an active retail fueling station is the potential impact of customers and the general public. It is important to properly establish your work area by barricading, to reduce the potential of vehicles or customers from entering the work area. The use of barricades is both for the protection of workers and protection of the general public/customers.

### Read the Manual(s)

Knowledge of all related manufacturer procedures, manuals and documents is important. Follow the Recommended Practices of The American Petroleum Institute (API). Understand the specific procedures before starting work. If you do not understand a procedure, call Freedom Electronics at 770-792-8888.

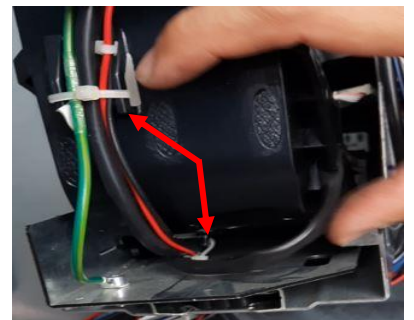
### Notify Site

On arrival identify yourself to the site manager and inform them of the work you will be performing.



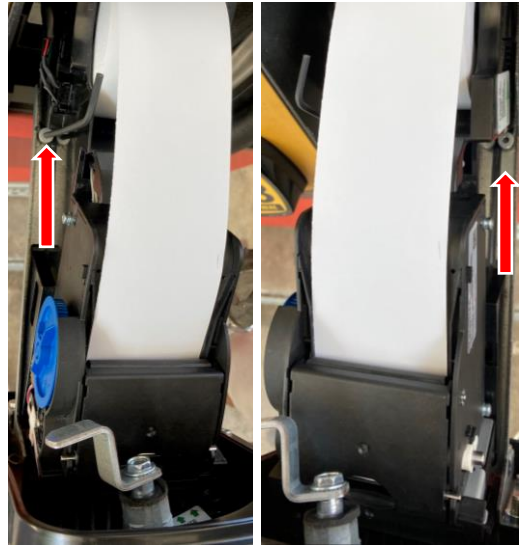
# FE-24 Printer

1. Before you begin work, read and understand the Important Safety Information above.
2. Open the dispenser door by unscrewing the two locks on the door.
3. Remove power to the Ovation 2 dispenser.
4. Use the latch on the side of the printer bracket to slide the printer/bracket back.
5. Disconnect the printer power, data and low paper sensor(if applicable) from the printer.
6. Remove the DW-14 or Zebra printer by sliding it to the right.
7. Carefully snip the zip tie in the back and under the printer paper bucket to free the cables.

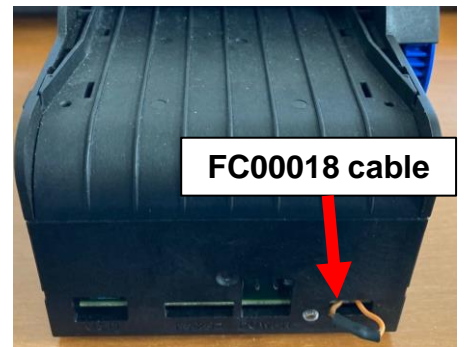


8. Pull out the data and power cables leaving the paper low sensor cable(if applicable).

- It may be necessary to remove the printer bracket from the rail to remove existing cables and install new cables, This can be done by removing the (2) allen screws.



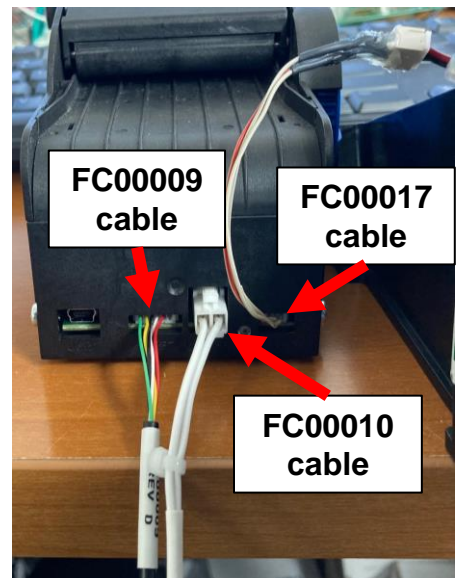
9. If there is a working paper low sensor and you will be using it with the FE-24 printer, unplug the FC00018 paper low cable from the FE-24 printer. If not, leave the FC00018 cable plugged in and continue to step 11.



10. Plug one end of the FC00017 paper low extension cable into the existing paper low sensor cable.

11. Feed the FC00009, FC00010, and FC00017(if using) cables through the printer bracket just like the original cables were.

12. Plug the FC00009, FC00010, and FC00017(if using) cables into the FE-24 printer. A small screwdriver may be needed to firmly secure the connections in place.



13. Mount the FE-24 printer onto the printer bracket the same way the DW-14/Zebra printer was mounted. Feed the slack in the cables through as needed.

- Reinstall the printer bracket if removed in step 8.

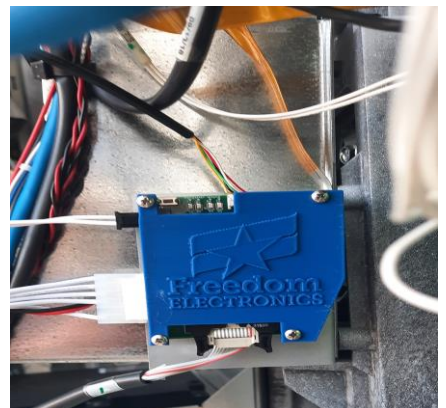
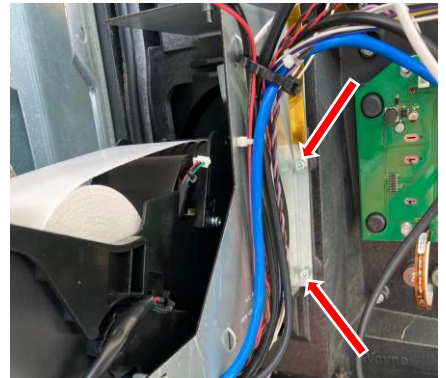
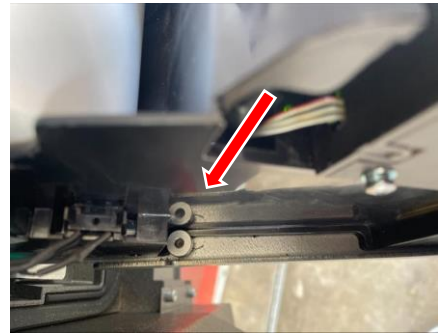
14. Slide the printer/bracket forward towards the front of the dispenser.

- Make sure that the printer is flush against the printer door and pressed up against the (2) allen screws.

**\*Failing to do so will result in printer jams.**

15. Loosen, but don't remove, the two Allen screws of the printer bracket mounts. Located between the printer and the Unit Price Display board.

16. Mount the FE-24 PCB(FW00001\_FE24) by sliding it into place using the two allen screws and tighten the screws.



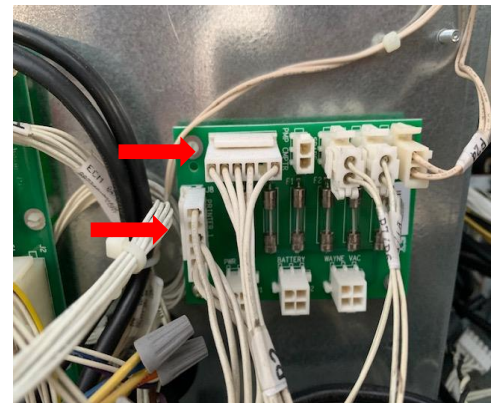
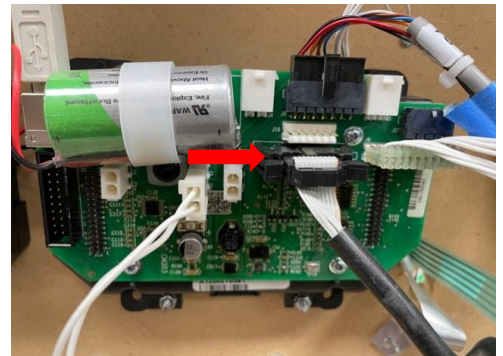
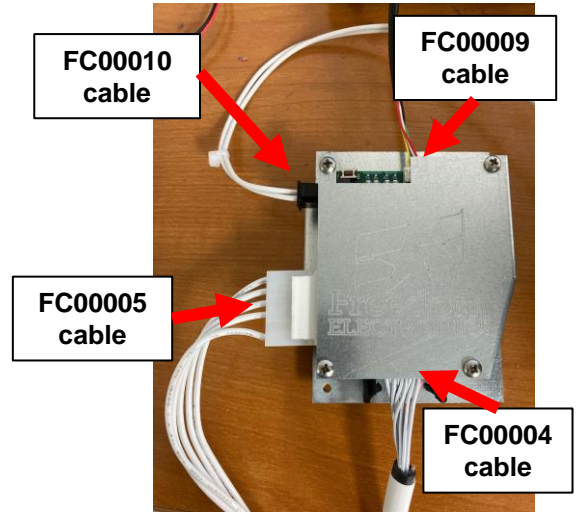
17. Plug the FC00009 and FC00010 printer cables into the FE-24 PCB.
18. DW-14: Using the existing printer data cable, plug the disconnected end into the FE-24 PCB. The other end should still be connected to the SPM.

Zebra: Using the provided FC00004 cable, plug one end to the FE-24 PCB and the other end into the SPM. The USB data cable will no longer be used.

19. Plug one end of the FC00005 power cable to the FE-24 PCB and the other end to the Wayne dispenser distribution board. Remove the existing printer power cable.

20. Secure all cables cleanly inside the dispenser using zip ties and existing cable clips. Allow enough slack that the cables will not hang up when the printer door is opened. Slide the printer door open and closed to make sure that there are no obstructions. If there are, make necessary adjustments.

21. Power the dispenser back on.



## 22. Program printer communication:

- DW-14 replacement – no programming is required.
- Zebra replacement - Go into the iX configurations while the dispenser is booting up and set the printer to work as if it is a DW-14. Select NO for Zebra. Make sure to leave the other settings the same.

## 23. Load paper by inserting it into the printer. The printer should auto-feed the paper.

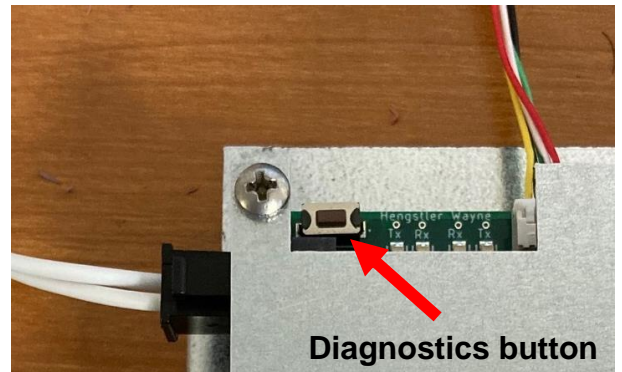
## 24. Press the diagnostics button on the FE-24 PCB to print out a Freedom Electronics diagnostic report page.

## 25. Run a printer test from the dispenser diagnostics.

## 25. Run a test transaction to verify proper operations.

## 26. Close and secure the dispenser and printer door.

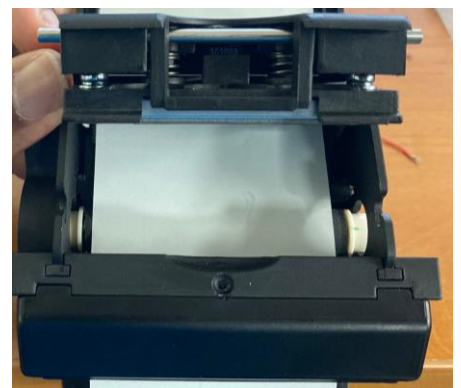
## 27. Check with clerk inside to make sure there are no printer errors on the POS system.





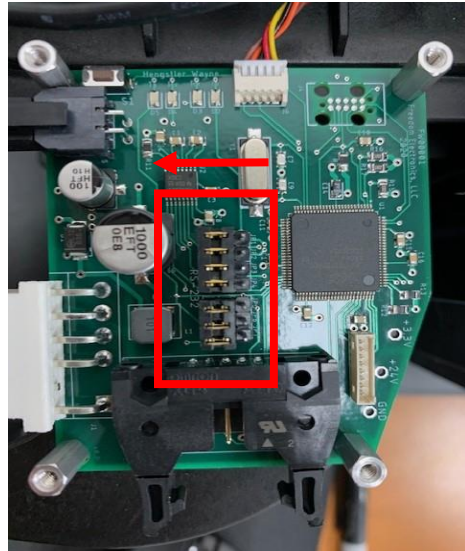
## Instructions to clear paper jams

1. Open the printer door.
2. Slide the printer bracket back by pressing the latch on the side of the bracket.
3. Use the dial on the side of the printer to manually unload the paper.
4. Push the rod on the top of the printer back to access the top of the printer.
5. Clear out any paper that is jammed in the printhead.
6. Close the printer jam door after the jam is cleared.
7. Slide the printer bracket forward, flush with the printer door.
8. Reload paper and test.



## Jumper Settings for FE-24 printer

- Wayne Ovation 2 dispenser with SPM:
  - JP1-JP4 at RS232 position
  - JP5-JP7 at RS232 position



## LED Indicators

- Slow: LED is “on” for one second and “off” for one second.
- Medium: LED is “on” for 100 ms and “off” for 100 ms.
- Flicker (F): LED is “on” for 50 ms and “off” for 50 ms.
- 0: “Off” for 1 second.
- 1: “On” for 1 second.

Green LED	Red LED	Meaning
Slow	Off	Paper is loaded. Normal operation. Printer ready.
Medium	Off	Out of paper
Flicker	On	Data upload in progress (fonts, images, firmware, not normal data communication). Do NOT disconnect or power the printer off!
F 0 F	On	Printhead raised, printer stalled or over voltage
F 010 F	On	Paper error
F 01010 F	On	Cutter error
Off	On	Boot failure
Flicker	Flicker	Initialization error
On	On	System “hung” during initialization