Freedom ELECTRONICS

Installation Manual

Upgrading the Wayne Ovation 1 to EMV using Freedom Electronics Easy Pump

Rev 3.1 • 01/2023

Kit #	SW00000 Kit
Description	Easy Pump Install
Pump Model	Wayne Ovation 1

Freedom Electronics
Technical Support 800-761-9369

Parts list

Manufacturer Part #	Description	Quantity
SW00001	Ovation FIM-20 Insert	2
SW00002	Ovation Insert Bracket	2
SW00003	Ovation Insert Gasket	2
SW00004	Ovation soft keys Overlay	4
SW00005	Ovation Blanking Panel Gasket	2
SW00006	Ovation Blanking Panel	2
SW00007	Ovation Blanking Panel Overlay	2
SC00004	24V/5V Dual Power Supply	1
SC00005	Power Supply Bracket	1
SC00007	FIM-20 Power Cable	2
SC00002	FIM-20/Printer Data Cable	2
SC00021	Power Supply AC Input Cable	1
M3x0.5mmx12mm	M3 Phillips No. 1 with 0.5mm Pitch and 12mm Length (McMaster P/N: 92000A122) "PAX Screw"	8
6-20x3/8 Hex	3/8" Hex Head #6-20 Thread (McMaster P/N: 93880A146)	8
6-32x3/8	3/8" Phillips No. 2 #6-32 Thread (McMaster P/N: 90272A146)	16
SC00025	Bag of zip ties (25 pack)	1
FIM-20	Sound Payments IM-20 (sold separately)	

Tools Required

- Flat Head screwdriver
- Phillips® Screwdriver
- 5/32" Nut Driver
- 5/16" Nut Driver
- 1/4" Nut Driver
- Cutters/dykes
- Pliers
- Putty knife
- Isopropyl Alcohol

Easy Pump with Wayne Ovation 1

- We recommend completing the Forecourt install first. Then install a kit into the first dispenser and verify operations before moving onto any others.

- The site will be able to run on dual systems, the new Easy Pump and the existing DCR's. This allows one dispenser at a time to be upgraded without affecting the other dispensers.

- Dispensers with DW-12, DW-10, and Clamshell printers can be upgraded with the standard kit.

- Dispensers with Tear bar printers will require the purchase of the FE-Tear Bar Kit for proper printer operation.

- DCPT Robust printers are NOT compatible with Easy Pump.

- eReceipts are available in place of a printer, or in combination with a printer.

- Dispensers require a 5.7" QVGA panel to upgrade. Recommended part# 887818-002-XXX – colors vary.

- Non-CAT Ovation dispensers CANNOT be upgraded.

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.   WARNING – EXPLOSION HAZARD. DO NOT DISCONNECT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS FREE OF IGNITIBLE CONCENTRATIONS.

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.
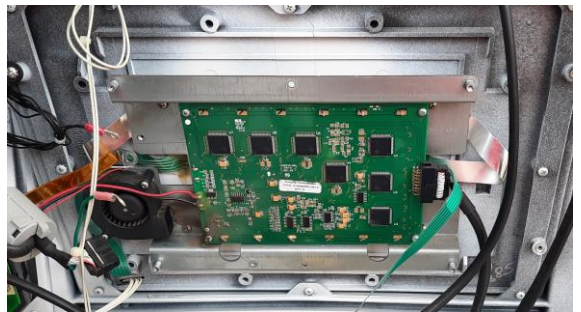
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1. **Before you begin work, read and understand the Important Safety Information.**

2. Remove power from the Ovation dispenser.

3. Disconnect all cables from the CAT/iX board and remove board.

4. Remove the QVGA bracket, display, and lens. Save the screws for step 14.

5. Clip off the softkey cables(if applicable).

6. Remove the SPM/Card Reader panel (4 screws) and associated cables.

7. Clean off old gasket using a putty knife and alcohol.

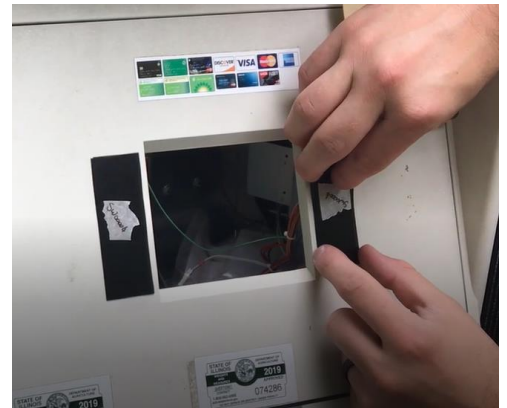8. Install the new gasket (SW00005) on the SPM/Card Reader opening.

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9. Install the Blanking Panel Overlay (SW00007) onto the Blanking Panel (SW00006).

10. Install the Blanking Panel into the SPM/Card Reader opening using (4) screws (6-20x3/8 Hex).

11. Apply (2) overlays (SW00004) to cover both softkeys(if applicable).

If the dispenser has the QVGA/TRSM Keypad panel, follow steps below:

A. Remove the TRSM Keypad.

B. Remove the SPM blanking panel from the SPM/Card Reader panel(previously removed in step 6).

C. Install the SPM blanking panel into the TRSM Keypad opening.

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12. Apply the gasket (SW00003) to the FIM-20 Insert (SW00001).

13. Install the FIM-20 Insert (SW00001) into the QVGA display opening.

14. Install the bracket (SW00002) to the backside of the FIM-20 Insert using the (4) 6-32x3/8 screws.

15. Install the FIM-20 unit into the FIM-20 Insert and secure using (4) screws (M3x0.5mmx12mm).
    • Verify the gasket is present on the FIM-20 before installing.
    • The FIM-20's will be labeled per fueling point. Make sure to install the correct FIM-20 into the correct fueling point.

Repeat steps 3-15 on the other side of dispenser.

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16. Mount power supply board (SC00004) onto power supply bracket (SC00005) using (4) screws (6-32x3/8).
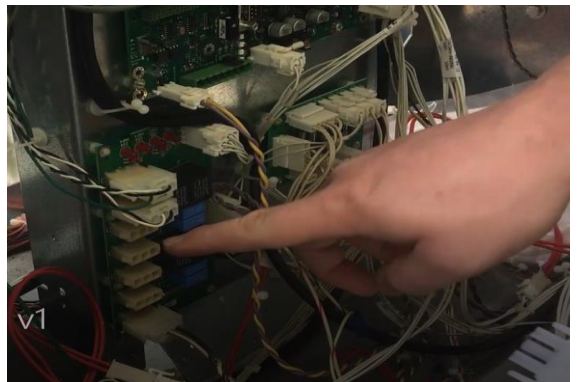

17. Remove the grounding wire from the side frame.

18. Install power supply assembly to the side frame using (4) screws (6-32x3/8) and reconnect the ground wire.

19. Connect the Power Supply AC Input Cable (SC00021) to J1 of the Power Supply Board and to an open position (J3-J10) on the Ovation iGEM Relay Board.

20. Connect the Printer.

    For *DW-10/12 or Clamshell* Printers, connect the Printer Data Cable (SC00002) to the FIM-20 and to the printer data port. Remove old printer data cable.

    Repeat on other side of the dispenser

    For *Tearbar Printers,* refer to the Tearbar Printer Kit Installation Instructions available on the Freedom Electronics website*. *Kit sold separately.*

21. Set the printer baud rates to 115200.

Clamshell Printer

Checkpoint #5: Baud Rate Setting				
Baud Rate configuration	With shunt jumpers, the baud rate can be set as described in the following table:			
	0 0	**0 1**	**1 0**	**1 1**
	O—O	O—O	O O	O O
	O—O	O O	O—O	O O
	38.4 K baud	115.2 K baud	192 K baud	230.4 K baud
	o If there is no jumper the RS 232 communication baud rate is 230 k Baud.			
Default	o The default baud rate setting for the TPSWS002 printer is 115.2 K baud (TTL Level).			
	o By applying 5V to pins 5 or 6, TTL communication will automatically be set. In this case, the baud rate will be 38,400 bauds, whatever the jumper setting.			

DW-10 and DW-12 Printers

Switch No.	Function	ON	OFF	Initial Settings
1	Auto Cut	Enabled	Disabled	ON
2	Hand shake	XON/XOFF	DTR/DSR	ON
3	Bit length	7 bits	8 bits	OFF
4	Parity check	With parity	None	OFF
5	Parity selection	Even parity	Odd parity	OFF
6	Baud rate selection	- 115200 -		ON
7				ON
8	Print density selection	Dark	Standard	OFF

22. Connect FIM-20 Power Cable (SC00007) to the FIM-20 and to either J2 USB ports of the power supply board. *Repeat on the other side of the dispenser.*

23. Secure all cables cleanly, to avoid pinching and stretching.

24. Close all dispenser doors securely.

25. Power dispenser back on.