



Introduction

Purpose

This manual provides instructions to install the Heater/Fan Kit (M07333K00X) for Encore® 300/The Advantage® Series [with FlexPay™ EMV® (Canada Only)]/Atlas® Diesel Exhaust Fluid (DEF) and Encore S/Encore 500/700/DEF units.

M07333K001 Kit is used to install 110/120V Fan/Heater assembly in Encore 300/The Advantage Series [with FlexPay EMV (Canada Only)] and Encore S/Encore 500/700 units.

M07333K002 Kit is used to install 220V Fan/Heater assembly in Encore 300/The Advantage Series [with FlexPay EMV (Canada Only)] and Encore S/Encore 500/700 units.

M07333K003 kit is used to replace faulty Fan/Heater assembly from Encore 300/The Advantage Series [with FlexPay EMV (Canada Only)]/Atlas DEF and Encore S/Encore 500/700/DEF units.

The Heater/Fan assembly provides up to 750 Watts of heat to the dispenser at low temperature. At low temperature, the heater turns off when the Submersible Turbine Pumps (STPs) are activated. This ensures that the maximum current draw of the dispenser remains the same.

At high temperature, the fan will turn on to circulate air. There is a Light Emitting Diode (LED) indicator for the heater and one for the fan, indicating that the controller board is trying to turn them on.

*Notes: 1) There are no replaceable parts on the assembly.
2) There are different assemblies for 115 V and 240 V units.*

This manual is intended for Gilbarco®-Authorized Service Contractors (ASCs) and Customer-Specified Contractors (CSCs). It is recommended that this kit be installed by a Gilbarco-certified ASC or CSC.

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Required Reading

Before installing the equipment, the installer must read, understand, and follow:

- This manual
- National Fire Protection Agency (NFPA 70®), The National Electric Code (NEC®)
- Applicable federal, state, and local codes and regulations
- *MDE-3804 Encore and Eclipse® Series Start-up and Service Manual - Safety Instructions*

Failure to do so may adversely affect the safe use and operation of the equipment.

Related Documents

Document Number	Title	GOLD SM Library
MDE-3804	Encore and Eclipse Series Start-up and Service Manual	<ul style="list-style-type: none"> • Encore and Eclipse • Service Manual
MDE-4535	SMART Connect™ AC Power Distribution Cable Installation	<ul style="list-style-type: none"> • SMART Connect • Encore and Eclipse

Required Parts

The following tables lists the parts included in the Heater/Fan Kits:

M07333K001 Kit, Heater/Fan Install 110V/120V

Item#	Description	Part Number	Quantity
1	Heater/Fan Assembly, 100-120 V	M07333A005	1
2	Flange Nut	M00414B005	2
3	Cable, Heater Control	M10900A001	1
4	Cable, Reg/Logic	R17995-G8	1
5	Cable, AC Distribution	M04406A006	1
6	Heater/Fan Kit (M07333K00X) Installation Guide for Encore 300/The Advantage Series [with FlexPay EMV (Canada Only)]/Atlas DEF and Encore S/Encore 500/700/DEF Units	MDE-4609	1

M07333K002 Kit, Heater/Fan Install 220V

Item#	Description	Part Number	Quantity
1	Heater/Fan Assembly, 220 V	M07333A002	1
2	Flange Nut	M00414B005	2
3	Screw Metric Flange	M00417B101	2
4	Cable, AC Distribution	M04406A006	1
5	Heater/Fan Kit (M07333K00X) Installation Guide for Encore 300/The Advantage Series [with FlexPay EMV (Canada Only)]/Atlas DEF and Encore S/Encore 500/700/DEF Units	MDE-4609	1

M07333K003 Kit, Heater/Fan with DEF/Atlas Cable

Item#	Description	Part Number	Quantity
1	Heater/Fan Assembly, 100-120 V	Q13254-05	1
2	Cable, Heater Adapter Encore DEF	M07233A008	1
3	Cable, Heater Adapter ATLAS DEF	M07233A009	1
4	Heater/Fan Kit (M07333K00X) Installation Guide for Encore 300/The Advantage Series [with FlexPay EMV (Canada Only)]/Atlas DEF and Encore S/Encore 500/700/DEF Units	MDE-4609	1

Required Tools

The following tools are required to complete the Heater/Fan Assembly installation:

- Wrench
- M10

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractors
ATC	Automatic Temperature Compensation
CSC	Customer Specified Contractors
DEF	Diesel Exhaust Fluid
EMV	Europay®, MasterCard®, and Visa®
ESD	Electrostatic Discharge
FCC	Federal Communications Commission
GOLD	Gilbarco Online Documentation
HIP	Hub Interface PCB
LED	Light Emitting Diode
NEC	National Electric Code
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
PCA	Printed Circuit Assembly
PCB	Printed Circuit Board
STP	Submersible Turbine Pump
TAC	Technical Assistance Center
TRIND®	Transmitter/Receiver In Dispenser

Important Safety Information

Notes: 1) Save this Important Safety Information section in a readily accessible location.

2) Although DEF is non-flammable, Diesel is flammable. Therefore, for DEF cabinets that are attached to Diesel dispensers, follow all the notes in this section that pertain to flammable fuels.

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining, or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task will be found. Fire, explosion, electrical shock, or pressure release could occur and cause death or serious injury, if these safe service procedures are not followed.


Preliminary Precautions


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

Emergency Total Electrical Shut-Off

The first and most important information you must know is how to stop all fuel flow to the pump/dispenser and island. Locate the switch or circuit breakers that shut off all power to all fueling equipment, dispensing devices, and Submerged Turbine Pumps (STPs).

⚠ WARNING

 The EMERGENCY STOP, ALL STOP, and PUMP STOP buttons at the cashier's station WILL NOT shut off electrical power to the pump/dispenser. This means that even if you activate these stops, fuel may continue to flow uncontrolled.

 You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an emergency and not the console's ALL STOP and PUMP STOP or similar keys.

Total Electrical Shut-Off Before Access

Any procedure that requires access to electrical components or the electronics of the 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 Gilbarco equipment.

Evacuating, Barricading, and Shutting Off

Any procedure that requires access to the pump/dispenser or STPs requires the following actions:



- An evacuation of all unauthorized persons and vehicles from the work area
- Use of safety tape, cones, or barricades at the affected unit(s)
- A total electrical shut-off of the affected unit(s)

Read the Manual

Read, understand, and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call the Gilbarco Technical Assistance Center (TAC) at 1-800-743-7501. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations

Applicable information is available in National Fire Protection Association (NFPA) 30A; Code for Motor Fuel Dispensing Facilities and Repair Garages, NFPA 70; National Electrical Code (NEC), Occupational Safety and Health Administration (OSHA) regulations and federal, state, and local codes. All these regulations 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 or affect the safe use and operation of the equipment.

Replacement Parts

Use only genuine Gilbarco replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gilbarco replacement parts could create a safety hazard and violate local regulations.

Federal Communications Commission (FCC) Warning

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol



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 hazards. Obey safety directives that follow this symbol to avoid possible injury or death.

Signal Words

These signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions below must be followed to prevent death, injury, or damage to the equipment:



DANGER: Alerts you to a hazard or unsafe practice which will result in death or serious injury.



WARNING: Alerts you to a hazard or unsafe practice that could result in death or serious injury.



CAUTION with Alert symbol: Designates a hazard or unsafe practice which may result in minor injury.

CAUTION without Alert symbol: Designates a hazard or unsafe practice which may result in property or equipment damage.

Working With Fuels and Electrical Energy Prevent Explosions and Fires

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

DEF is non-flammable. Therefore, explosion and fire safety warnings do not apply to DEF lines.

No Open Fire



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

No Sparks - No Smoking



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

Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Familiarize yourself with Cardiopulmonary Resuscitation (CPR) methods, if you work with or around high voltages. This information is available from the American Red Cross. 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 Lockout/Tagout procedures. If you are not familiar with this requirement, refer to this information in the service manual and OSHA documentation.

Working With Electricity Safely


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

Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Ensure that you clean hands after handling equipment. Do not place any equipment in the mouth.

⚠ WARNING
The pump/dispenser contains a chemical known to the State of California to cause cancer.

⚠ WARNING
The pump/dispenser contains a chemical known to the State of California to cause birth defects or other reproductive harm.

 Gilbarco Veeder-Root encourages the recycling of our products. Some products contain electronics, batteries, or other materials that may require special management practices depending on your location. Please refer to your local, state, or country regulations for these requirements.


In an Emergency

Inform Emergency Personnel

Compile the following information and inform emergency personnel:

- Location of accident (for example, address, front/back of building, and so on)
- Nature of accident (for example, possible heart attack, run over by car, burns, and so on)
- Age of victim (for example, baby, teenager, middle-age, elderly)
- Whether or not victim has received first aid (for example, stopped bleeding by pressure, and so on)
- Whether or not a victim has vomited (for example, if swallowed or inhaled something, and so on).


⚠ WARNING

 Gasoline/DEF ingested may cause unconsciousness and burns to internal organs. Do not induce vomiting. Keep airway open. Oxygen may be needed at scene. Seek medical advice immediately.


⚠ WARNING

DEF generates ammonia gas at higher temperatures. When opening enclosed panels, allow the unit to air out to avoid breathing vapors. If respiratory difficulties develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention.


⚠ WARNING

 Gasoline inhaled may cause unconsciousness and burns to lips, mouth and lungs. Keep airway open. Seek medical advice immediately.

⚠ WARNING

 Gasoline/DEF spilled in eyes may cause burns to eye tissue. Irrigate eyes with water for approximately 15 minutes. Seek medical advice immediately.

⚠ WARNING

 Gasoline/DEF spilled on skin may cause burns. Wash area thoroughly with clear water. Seek medical advice immediately.

⚠ WARNING

DEF is mildly corrosive. Avoid contact with eyes, skin, and clothing. Ensure that eyewash stations and safety showers are close to the work location. Seek medical advice/recommended treatment if DEF spills into eyes.

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

Lockout/Tagout

Lockout/Tagout covers servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel. Lockout/Tagout applies to all mechanical, hydraulic, chemical, or other energy, but does not cover electrical hazards. Subpart S of 29 CFR Part 1910 - Electrical Hazards, 29 CFR Part 1910.333 contains specific Lockout/Tagout provision for electrical hazards.

Before You Begin

CAUTION



A properly grounded Electrostatic Discharge (ESD) wrist strap must be worn while servicing any electronic devices or components. Failure to use electrostatic precautions may damage electronic components and void warranty.

To prepare the site and dispenser for the upgrade, proceed as follows:

- 1 Inform the manager.
- 2 Barricade the unit to be worked on.
- 3 Remove power to the unit at the breaker panel. Follow OSHA lockout/tagout procedures.
- 4 Read all the safety information provided in *MDE-3804 Encore and Eclipse Start-up/Service Manual*.
- 5 Isolate the two-wire connection to the unit.



WARNING

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

Installing the Heater/Fan Kit for Encore 500, 700, Encore S, and Encore 300

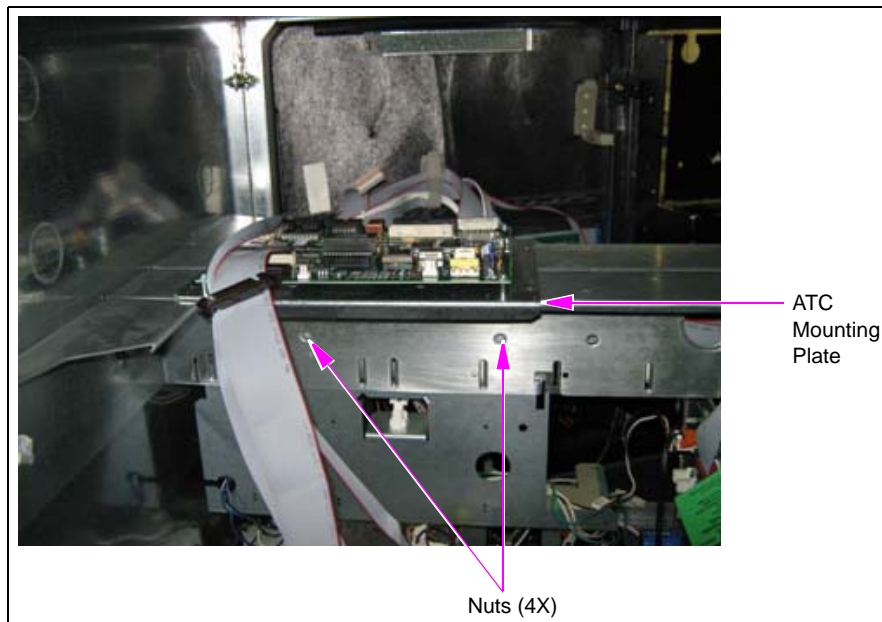
To install the Heater/Fan Kit, proceed as follows:

- 1 Remove and retain the lower panel.
- 2 Open the main door.
- 3 For Encore 500, 700, Encore S, and Encore 300 units with Automatic Temperature Compensation (ATC) or TRIND only, proceed to step 4 on [page 8](#).

For Encore 300 Units (Canada only) with ATC and TRIND

- a Remove the four nuts at the bottom of the ATC mounting plate and remove the ATC assembly.

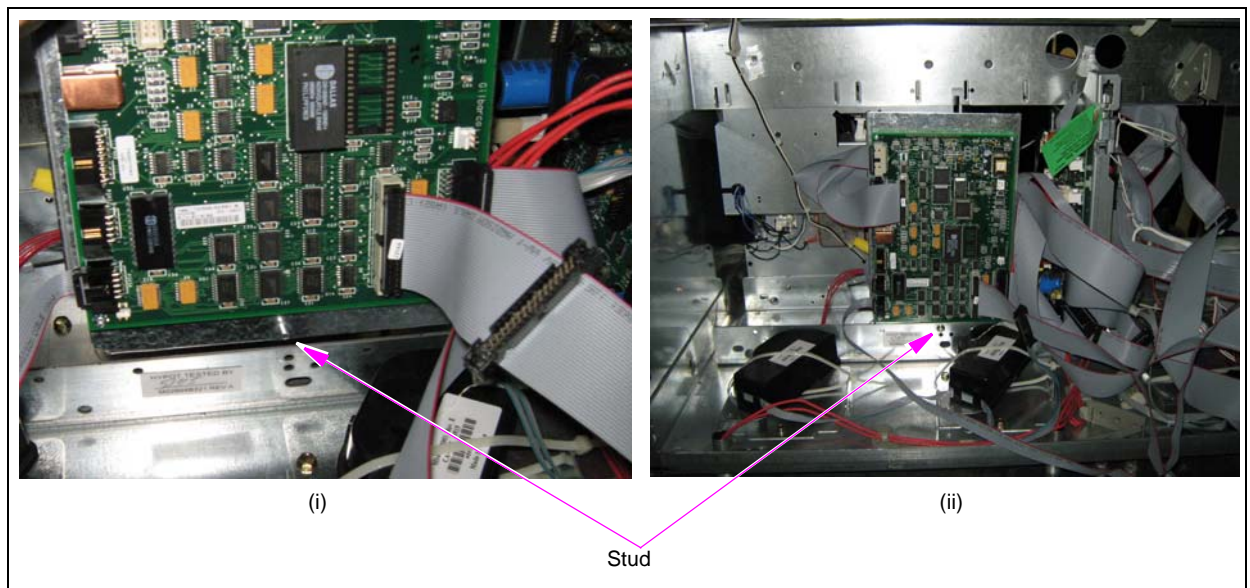
Figure 1: ATC Mounting Plate



- b Relocate the ATC Assembly to be mounted on the U-channel, using the single stud on the face of the ATC mounting plate and one of the nuts removed in step a.

Note: Some cables must be disconnected and re-routed to complete this step.

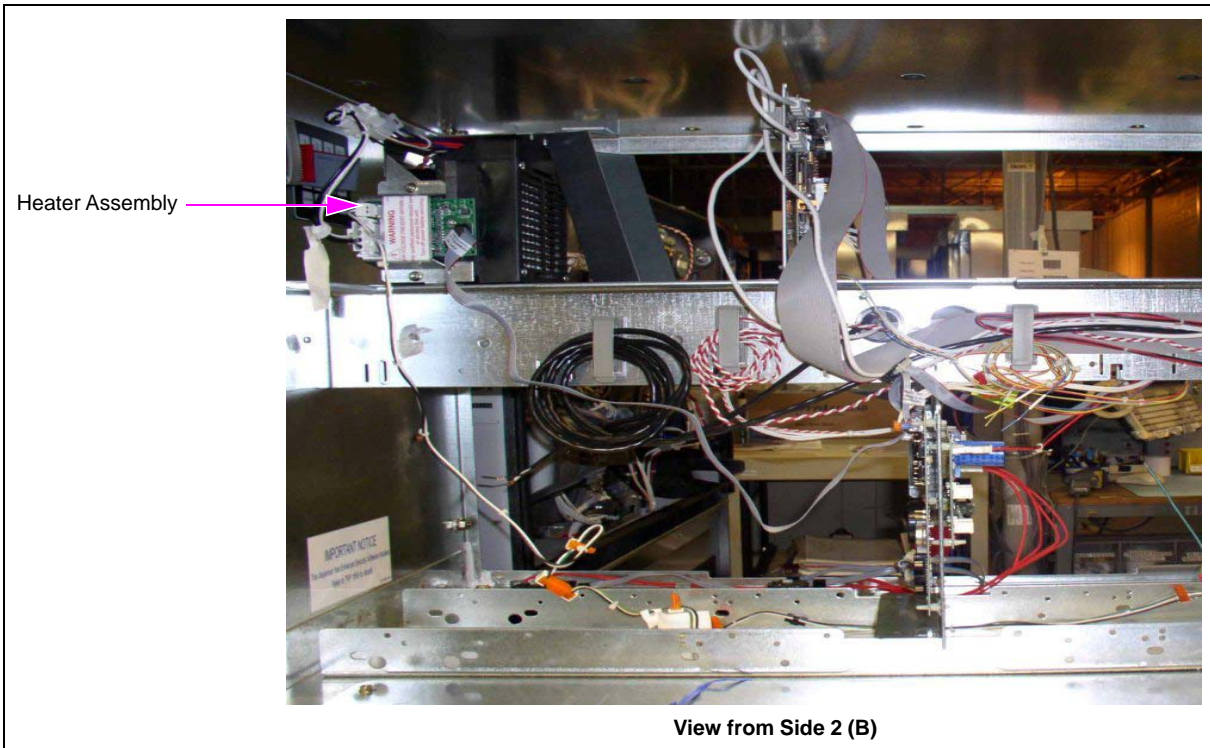
Figure 2: Location of Screw Holes



- c After completing steps a and b, proceed to step 4 on [page 8](#).

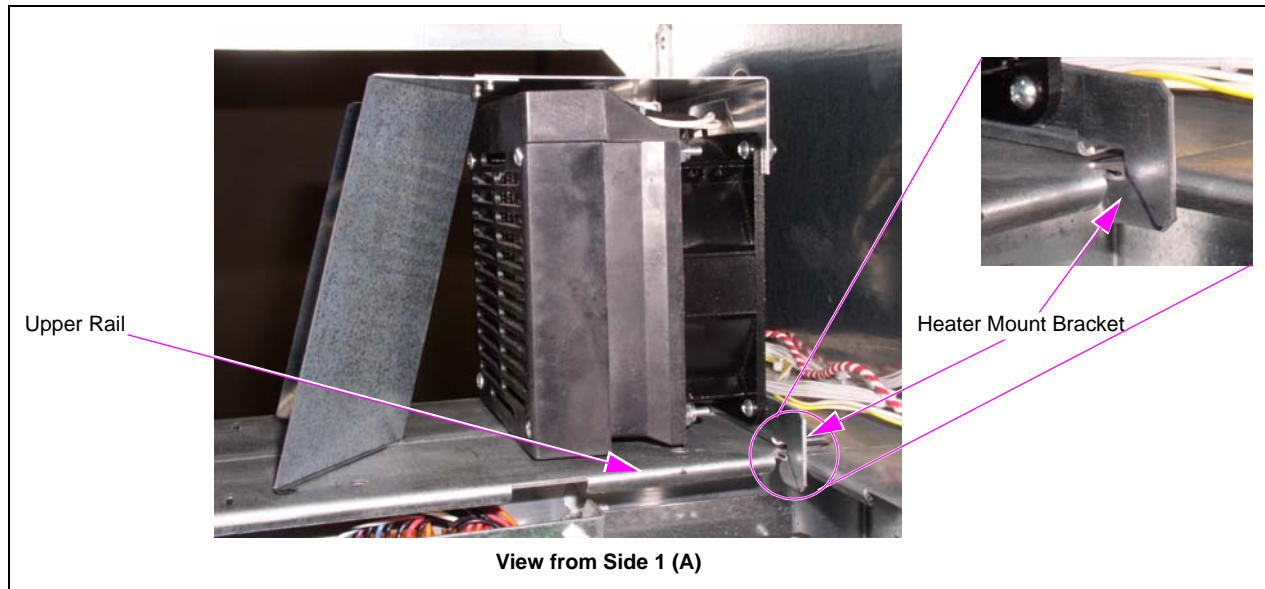
- 4 Position the heater assembly on the upper rail opposite to the main power supply.

Figure 3: Positioning Heater Assembly



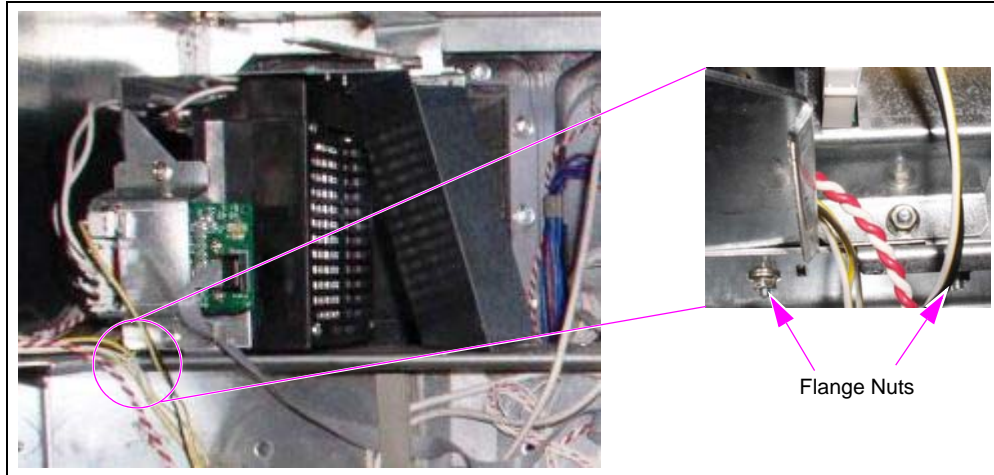
- 5 Secure one side of the heater mount bracket under the upper rail.

Figure 4: Securing Heater Mount Bracket



- Secure the other end of the heater using two flange nuts mounted on the lower side of the upper rail.

Figure 5: Securing Heater



To connect the cables in Encore 500/700 and Encore S units, proceed to [“Connecting Cables in Encore 500, 700, and Encore S Units”](#) on [page 10](#).

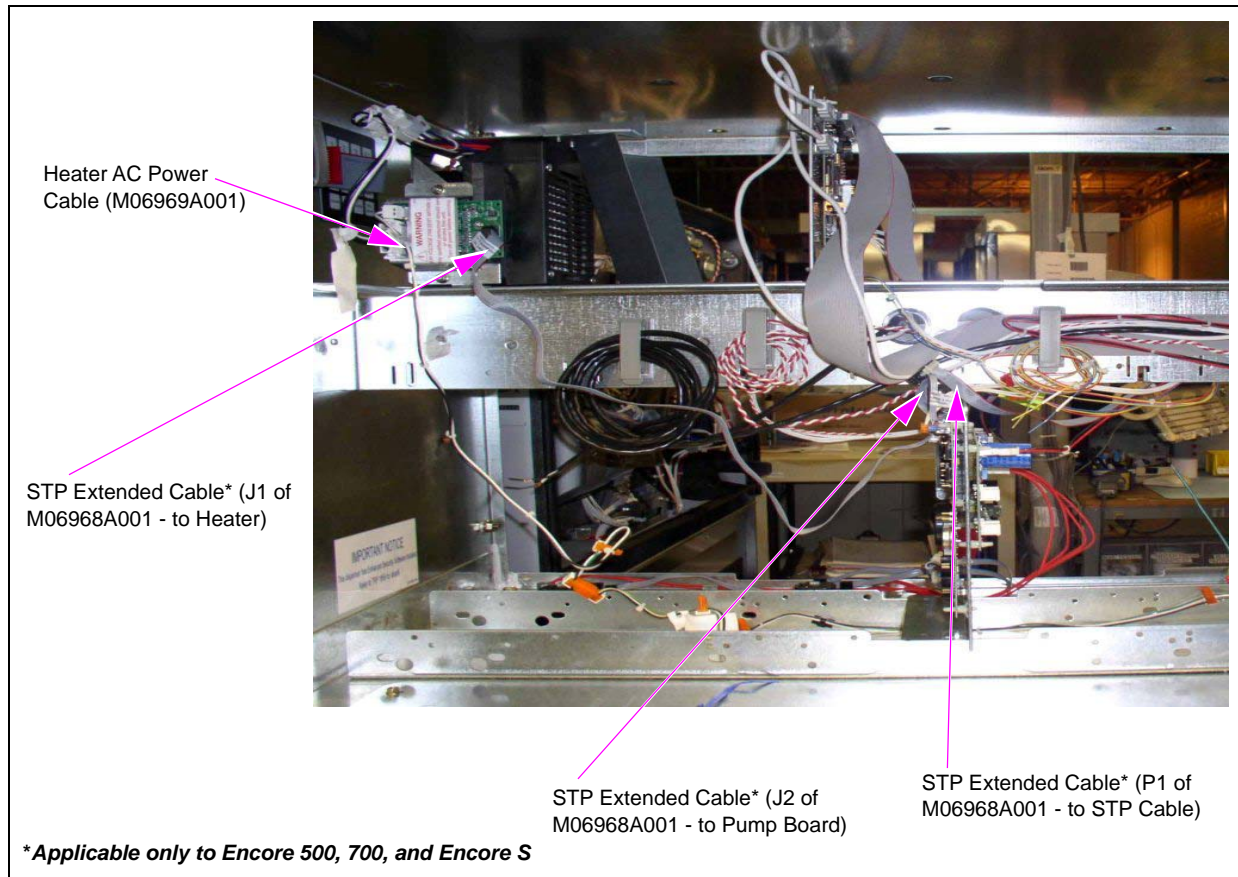
To connect the cables in Encore 300 units, proceed to [“Connecting Cables in Encore 300 and The Advantage Series Units”](#) on [page 15](#).

Connecting Cables in Encore 500, 700, and Encore S Units

To connect the cables in the Encore 500, 700, and Encore S units, proceed as follows:

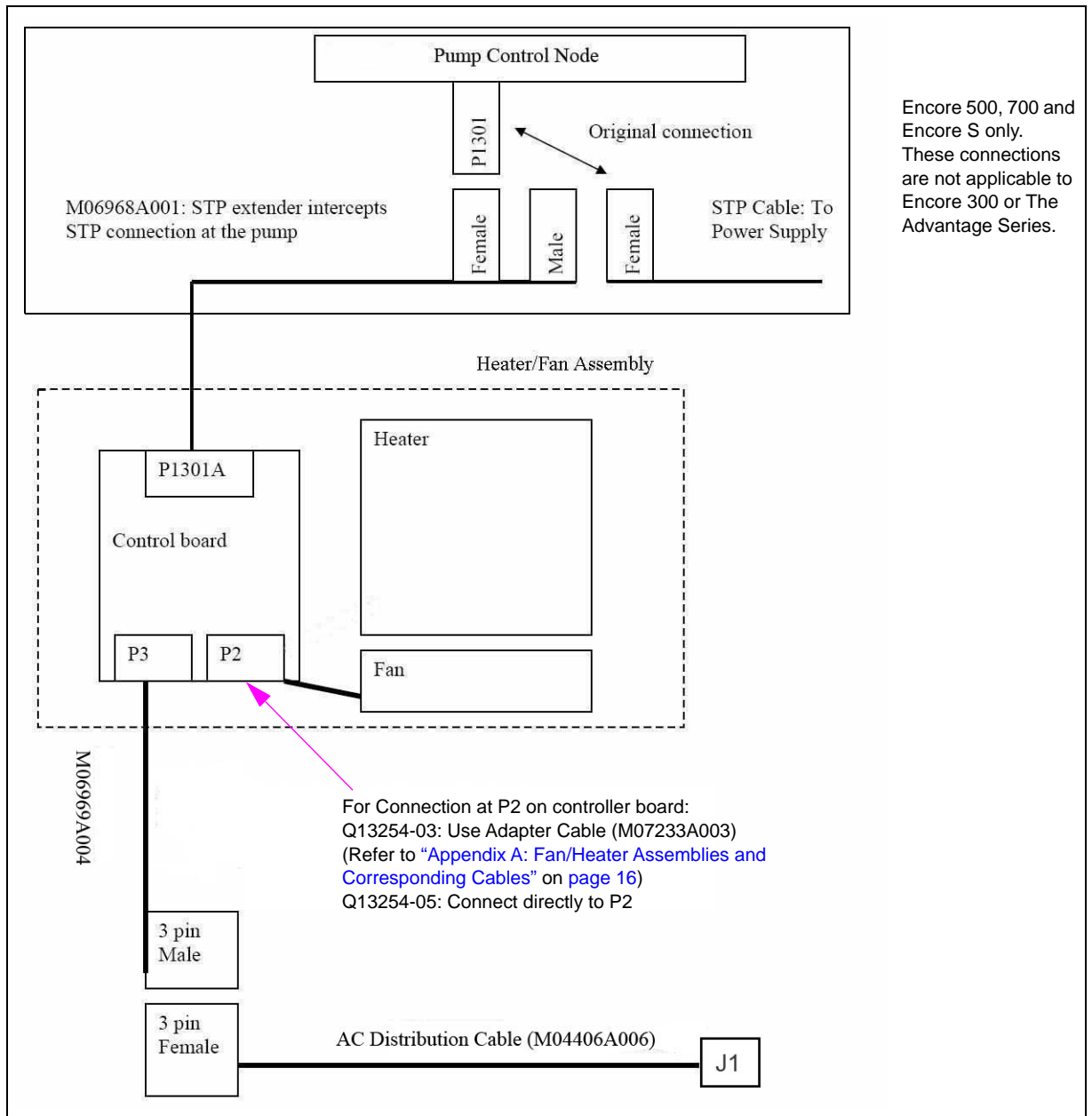
- 1 Replace the AC Distribution Cable (M04406A001) with Cable M04406A006 included in the kit.
- 2 Connect the heater AC power cable (black and white wire) to any of the available positions of the Power Distribution Cable (M04406A006). For detailed installation instructions of the AC power distribution cable, refer to *MDE-4535 SMART Connect AC Power Distribution Cable Installation*.

Figure 6: Cable Connections



- 3 Connect the cables as shown in the Cable Block Diagram (see [Figure 7](#)).

Figure 7: Cable Block Diagram



- 4 Close the main door.
- 5 Install the lower panel.

The installation of the Heater/Fan Kit for Encore 500, 700, and Encore S is complete.

Installing the Heater/Fan Assembly in The Advantage Series Units

To install the Heater/Fan assembly in The Advantage Series units, proceed as follows:

- 1 Identify the location for mounting the Heater/Fan assembly.

The heater will be mounted behind the printer on the printer shelf. As the Hub Interface PCB (HIP) assembly is mounted on one side of the dispenser, the heater will be mounted behind the printer on the opposite side of the dispenser.

- 2 Bend the sheet metal hook at the base of the heater so that it is flat with the adjacent flange.
Note: The sheet metal hook is only used for mounting in Encore 300, Encore 500, and Encore 700 dispensers.

Figure 8: Heater/Fan Assembly



IMPORTANT INFORMATION

If the unit is not equipped with TRIND, perform the procedure in [“Unit is not Equipped with TRIND”](#) on [page 13](#).

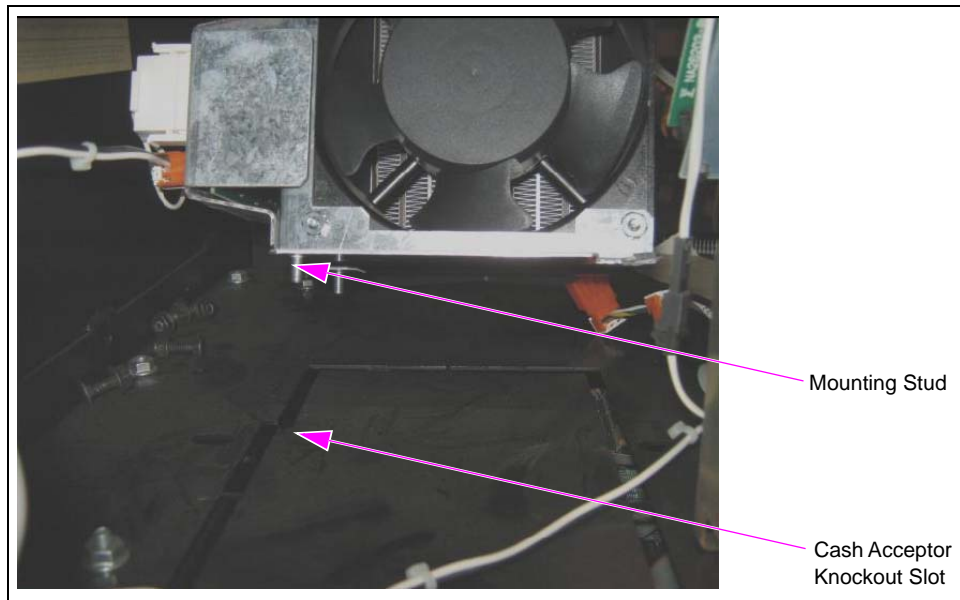
If the unit is equipped with TRIND, proceed to [“Unit is Equipped with TRIND”](#) on [page 14](#).

Unit is not Equipped with TRIND

If the unit is not equipped with TRIND, proceed as follows:

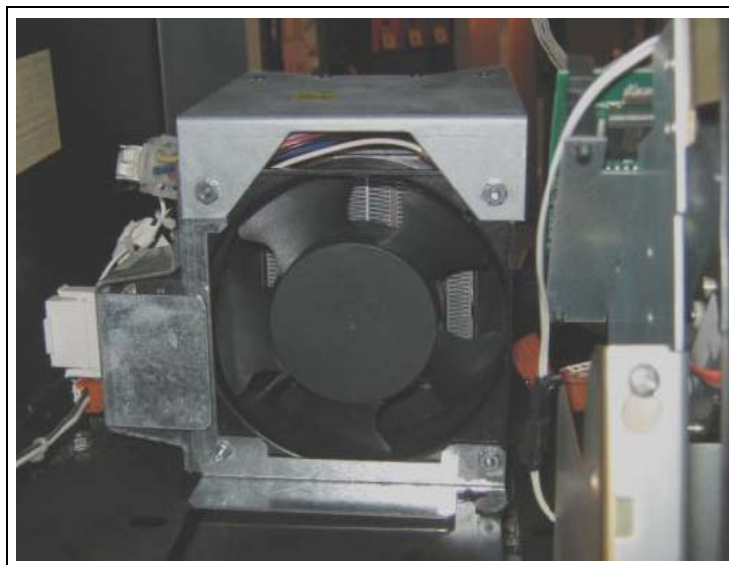
- 1 Orient the heater with the fan blades visible when looking at the front of the printer. The deflector shield will be at the back side of the dispenser. The mounting studs at the base of the heater will fall through the cash acceptor knockout slots as shown in [Figure 9](#).

Figure 9: Heater/Fan Assembly Base



- 2 Install the two nuts provided to the mounting studs that are sticking down through the printer to secure the heater.

Figure 10: Installed Heater/Fan Assembly



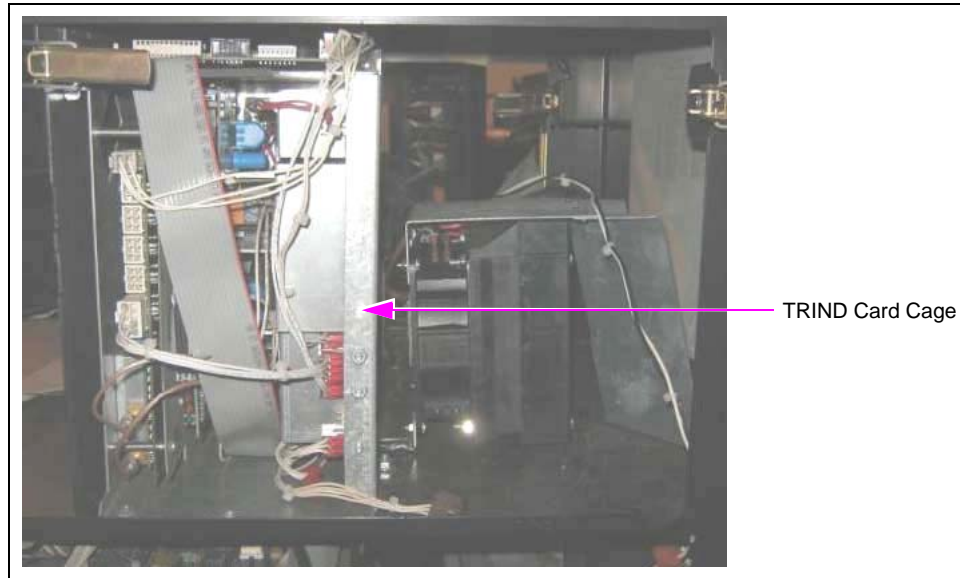
- 3 To make cable connections, proceed to [“Connecting Cables in Encore 300 and The Advantage Series Units”](#) on page 15.

Unit is Equipped with TRIND

If the unit is equipped with TRIND, proceed as follows:

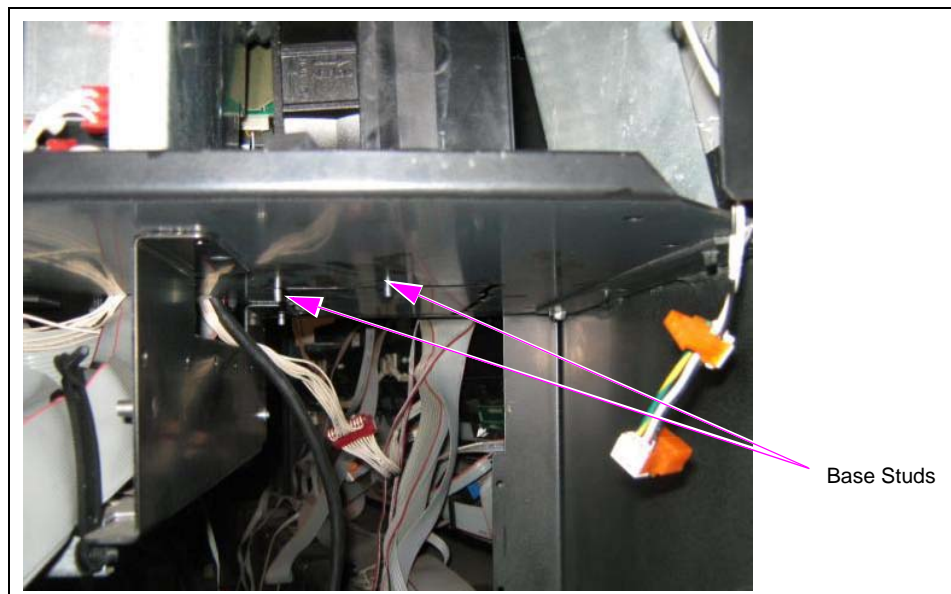
- 1 Orient the heater deflector next to the outer cabinet wall. The fan blades will be oriented next to the TRIND card cage as shown in [Figure 11](#).

Figure 11: Heater/Fan Assembly for Units Equipped with TRIND



- 2 Install the nuts provided to the heater base studs to secure the heater in place. The heater base studs will fall through the cash acceptor slots that are parallel to the rear side of the dispenser (see [Figure 12](#)).

Figure 12: Installing Heater Base Studs



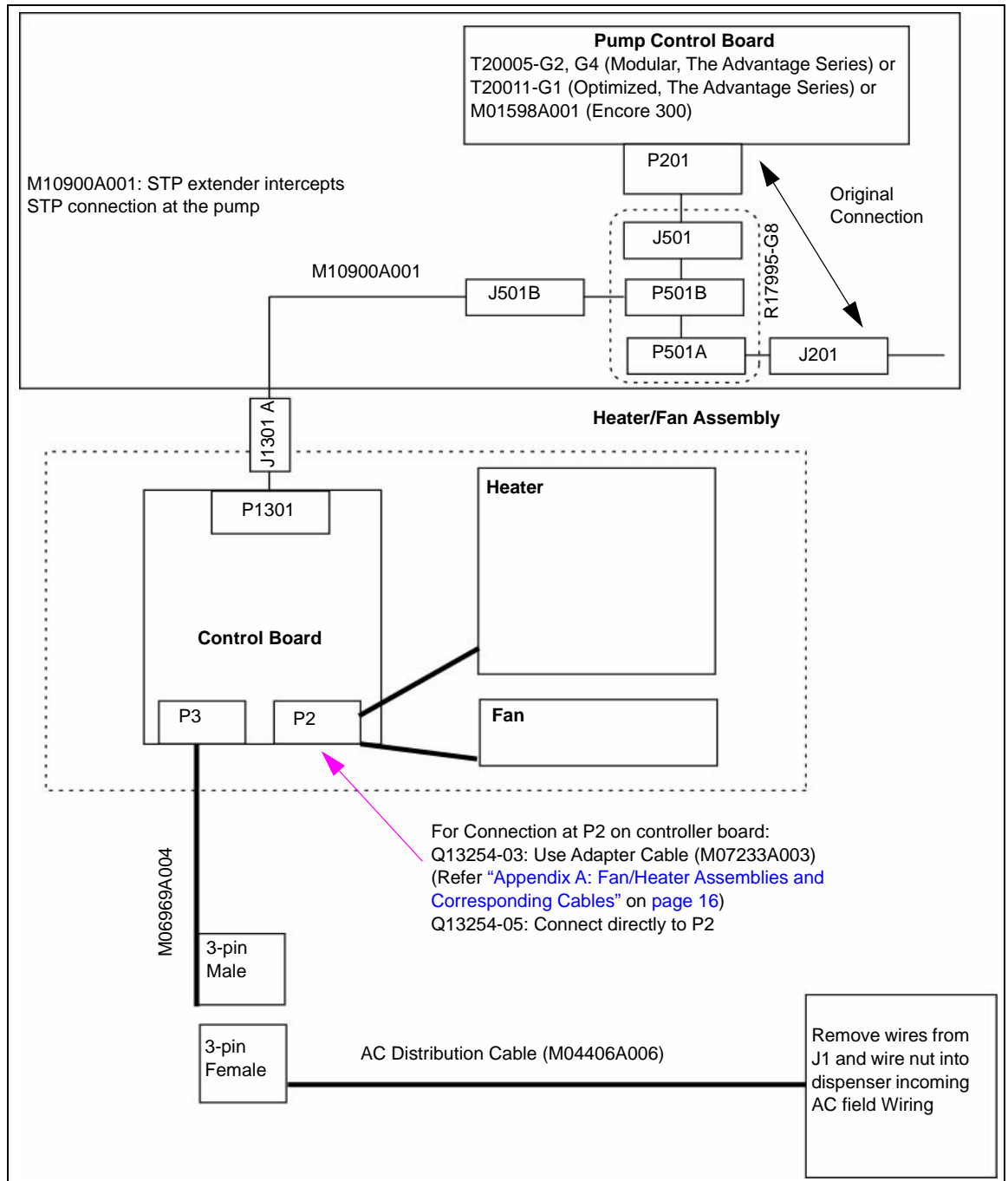
- 3 To make cable connections, proceed to “[Connecting Cables in Encore 300 and The Advantage Series Units](#)” on page 15.

Connecting Cables in Encore 300 and The Advantage Series Units

To connect the cables in Encore 300 and The Advantage Series units, proceed as follows:

- 1 Connect the cables as shown in the Cable Block Diagram (see [Figure 13](#)).

Figure 13: Cable Block Diagram for Encore 300 and The Advantage Series



- 2 Close the main door.
- 3 Install the lower panel.

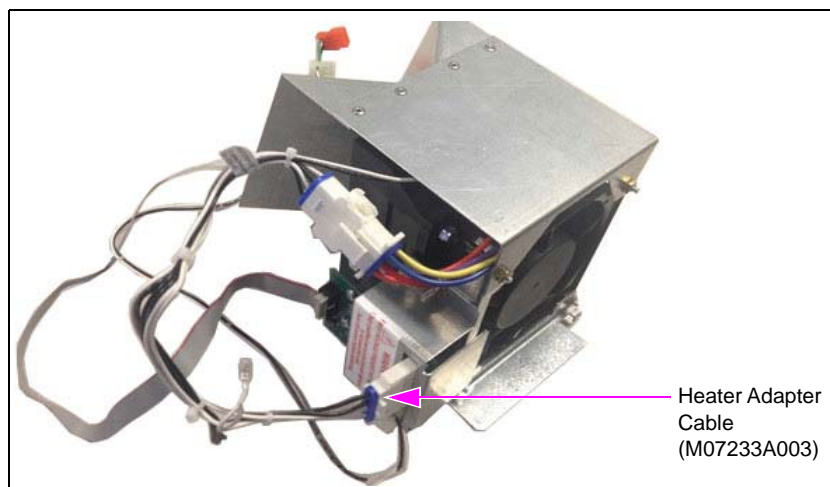
The installation of the Heater/Fan kit for Encore 300 and The Advantage Series is complete.

Appendix A: Fan/Heater Assemblies and Corresponding Cables

Assemblies in Encore 300/The Advantage Series [with FlexPay EMV (Canada Only)] and Encore S/Encore 500/700 Units

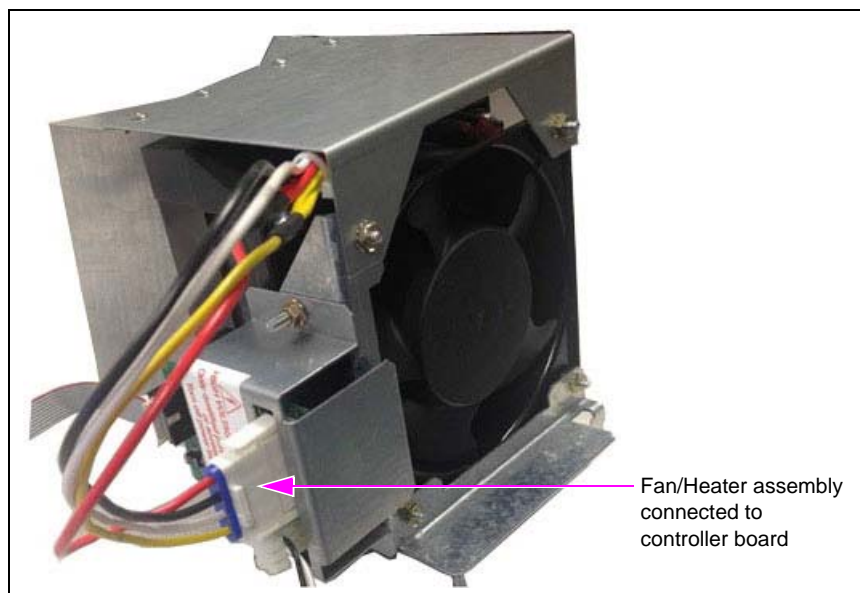
The Fan/Heater Assembly (Q13254-02/03) needs an additional Heater Adapter Cable (M07233A003) for connecting to the controller board (see Figure 14). Connector P2082 of Fan/Heater Assembly is connected to connector J2082 of the adapter cable; and FAN-H, FAN-N of the adapter cable are connected to fan terminals.

Figure 14: Connecting Adapter Cable to Controller Board



The Fan/Heater Assembly (Q13254-05) connects directly to the controller board.

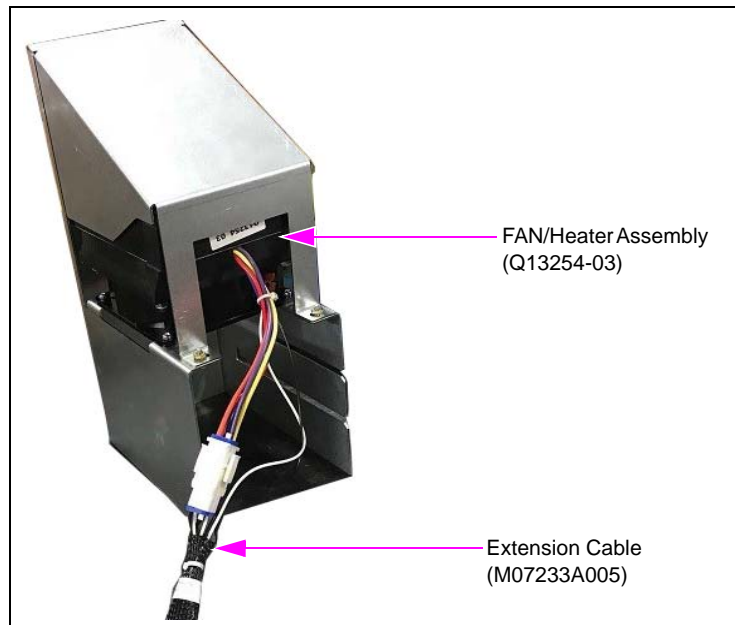
Figure 15: Connecting Fan/Heater Assembly (Q13254-05)



Assemblies in Encore DEF Units

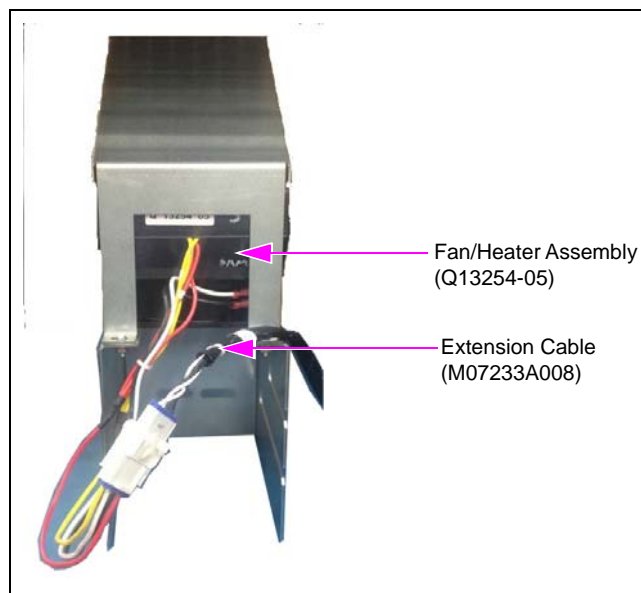
The Fan/Heater Assembly (Q13254-03) is connected to controller Printed Circuit Assembly (PCA) through Extension Cable (M07233A005). Connector P2082 of Fan/Heater Assembly is connected to connector J2082 of the extension cable; and FAN-H, FAN-N of the extension cable are connected to fan terminals.

Figure 16: Connecting Fan/Heater Assembly (Q13254-03) in Encore DEF Units



The Fan/Heater Assembly (Q13254-05) is connected to controller PCA through Extension Cable (M07233A008). Connector J2 of Fan/Heater Assembly is connected to connector P2 of the extension cable.

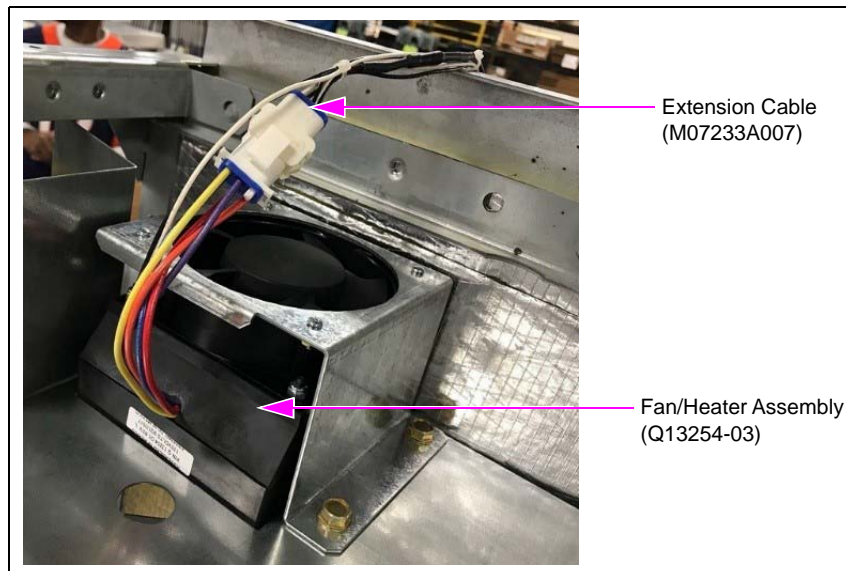
Figure 17: Connecting Fan/Heater Assembly (Q13254-05) in Encore DEF Units



Assemblies in Atlas DEF Units

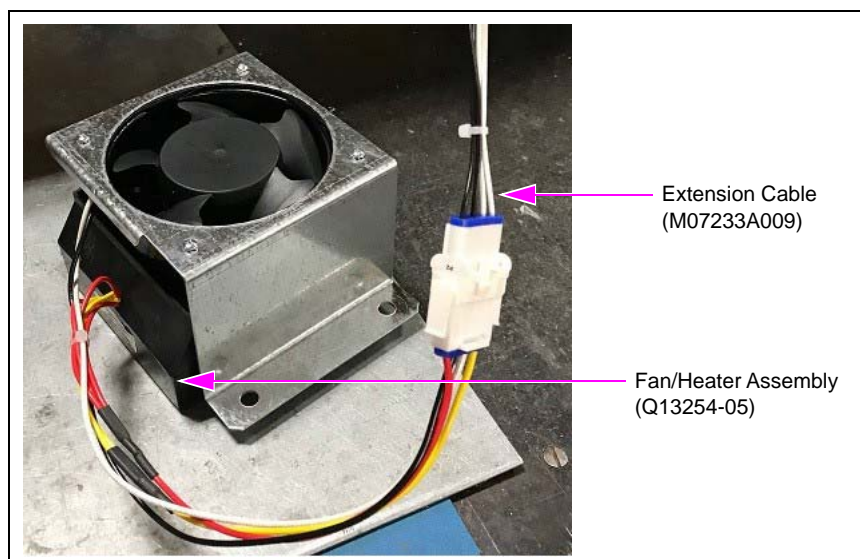
The Fan/Heater Assembly (Q13254-03) is connected to controller PCA through Extension Cable (M07233A007). Connector P2082 of Fan/Heater Assembly is connected to connector J2082 of the extension cable; and FAN-H, FAN-N of the extension cable are connected to fan terminals.

Figure 18: Connecting Fan/Heater Assembly (Q13254-03) in Atlas DEF Units



The Fan/Heater Assembly (Q13254-05) is connected to controller PCA through Extension Cable (M07233A009). Connector J2 of Fan/Heater Assembly is connected to connector P2 of the extension cable.

Figure 19: Connecting Fan/Heater Assembly (Q13254-05) in Atlas DEF Units



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