Introduction

Purpose

This manual provides instructions to install the following Encore® Ultra-Hi™ Satellite Preset Kits for use with Legacy® Satellites:

- M07685K300 (for E300)
- M07685K500 (for E500)

These kits are needed only when the Legacy satellite has a single 2-stage valve (one valve with 3 wires). These kits will allow the Encore Master unit, (E300 or E500) to register a pre-determined preset amount, cash or volume. These kits should not be used with Legacy satellites that have two single stage valves (two independent valves), or a satellite that only has one master valve (2 wires).

Table of Contents

Required Tools

The following tools are required for the installation of the kit.

- SAE socket set
- Wire cutter
- Screwdriver set
- Wire nut assortment

Parts List

The following table lists the parts included in this kit.

			Quantity	
Item	Part Number	Description	M07685K300	M07685K500
1	M07684A001	Relay Assembly-E300	1	0
2	M07684A002	Relay Assembly-E500	0	1
3	R19527-G1	Calibration Switch Cable	1	0
4	M05164A001	E500 Simulator Cable	0	1
5	M00417B101	Metric Screw M5 X 10	2	2

Related Documents

Document Number	Title	GOLD Library
MDE-3804	Encore and Eclipse® Series Start-up/Service Manual	Encore and Eclipse Service Manual
PT-1936	Encore Series Pump and Dispenser Illustrated Parts Manual	Encore and Eclipse Parts Manual

Important Safety Information

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 a Gilbarco Authorized Service Contractor or call the Gilbarco Support Center at 1-800-800-7498. 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 Hazard Association (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.

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.

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 to 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.

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 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


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

⚠ WARNING


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

⚠ WARNING


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

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.

Encore 300 Ultra-Hi Relay Assembly (M07684A001)

AC Wiring for Units without Factory-installed Junction Box (J-Box) and Conduits

The Encore 300 Ultra-Hi relay assembly (M07684A001) is used with Legacy satellites that have a single two-stage valve.

⚠ WARNING

Ensure that you remove all power to the Encore Ultra-Hi unit before you upgrade the equipment. If you upgrade the Encore Ultra-Hi unit while it is powered on, it could result in electrocution or a serious explosion.

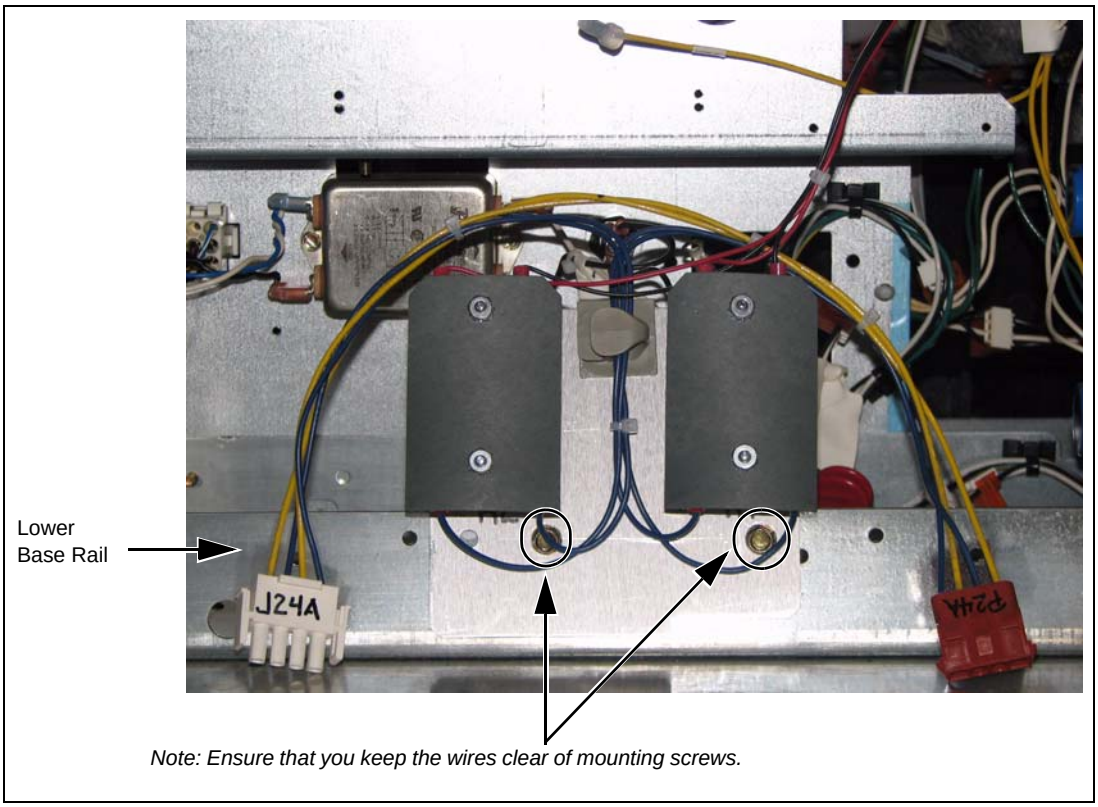
Note: All wiring for this kit will be performed on Side 1 of the Encore Master unit. It is not necessary to open the Legacy satellite.

Installing the Relay Mounting

Use the two enclosed screws to mount the relay assembly on the lower base rail as shown (see Figure 1). Mount the relays so that they do not interfere with any options or the power supply.

Note: The exact mounting holes used will depend on the power supply and options that are used.

Figure 1: Installing the Relay Mounting (Encore 300 Unit)



Note: Ensure that you keep the wires clear of mounting screws.

AC Wiring

To connect AC wires, proceed as follows:

Note: Verify if all power has been removed from the Encore Master unit before proceeding.

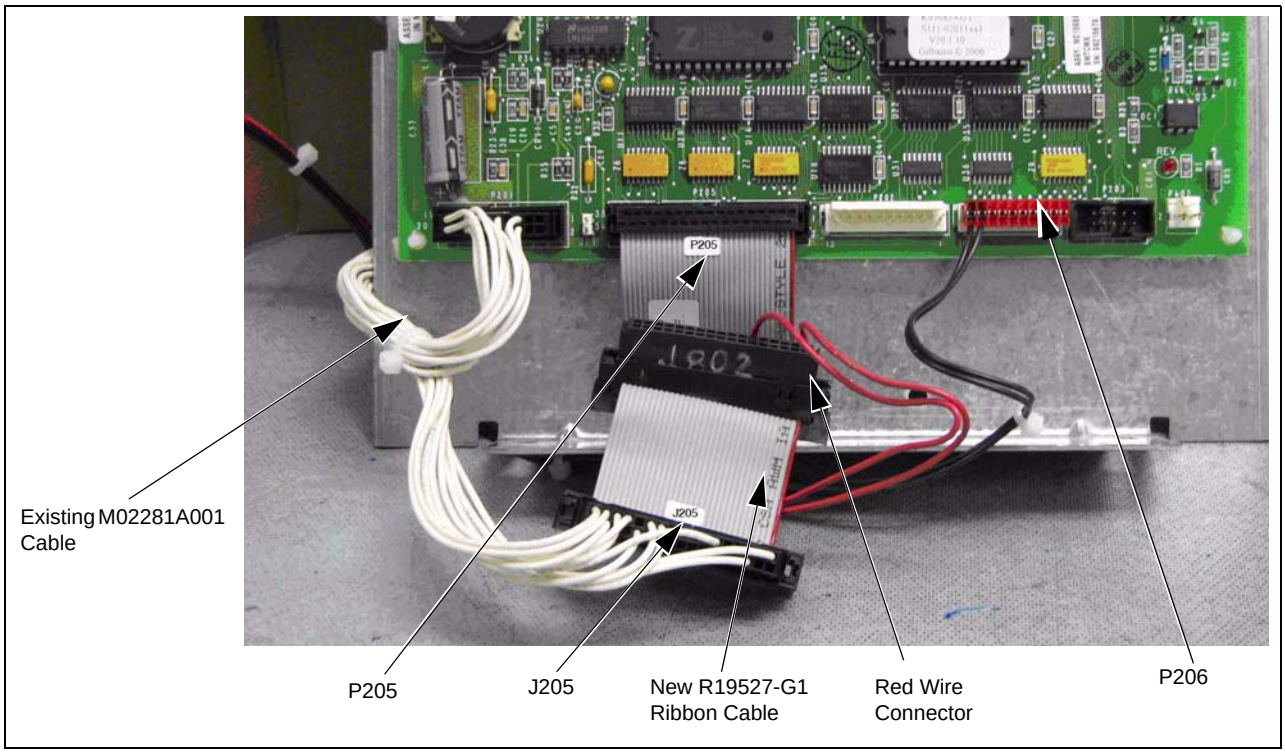
1. Unplug J24 from the P24 connector; these connectors are part of the existing M02338A001 valve cable assembly.
2. Place the new relay assembly between the two open connectors.
3. Plug the new P24A to the J24 connector and the new J24A to the P24 connector.

DC Wiring

To connect DC wires, proceed as follows:

1. Unplug the cable J205 from P205 on the pump controller board (see Figure 2).
2. Plug the new cable R19527-G1 onto the P205 connector.
3. Plug the J205 connector onto the open connector on the R19527 cable.
4. Plug the red wire cable J802 from the relay assembly to the middle connector P802 of the R19527 cable.
5. Plug J206 onto the P206 connector.

Figure 2: DC Wiring (Encore 300 Unit)



AC Wiring for Units with Factory-installed Junction Box (J-Box) and Conduits

Units with factory-installed conduits do not require the J29 and P29 connectors for this installation. You have to gain entry into the main conduit, between the crimped wire nuts and the point where it enters the potted conduit.

To wire the A-side valve, proceed as follows:

1. Trace the blue wire from position 2 of P309, past the WT-1 crimped wire nut, and cut this wire into two wires.
2. Strip the end of both wires.
3. Remove the blue wire from position 1 of P29, strip the wire and attach to the loose blue wire from P309.
4. Remove the blue wire from position 1 of J29, strip the wire and attach to the remaining loose wire going to the satellite.

If the Encore Master unit is a Dual Master, that is, it has two Legacy satellites, the B-side valve must also be wired. If the unit is a single master, no further AC wiring is needed.

To wire the B-side valve, proceed as follows:

1. Trace the blue wire from position 4 of P309, past the WT-3 crimped wire nut, and cut this wire into two wires.
2. Strip the end of both wires.
3. Remove the blue wire from position 3 of P29, strip the wire and attach to the loose blue wire from P309.
4. Remove the blue wire from position 3 of J29, strip the wire and attach to the remaining loose wire going to the satellite.

Note: The yellow wires in the relay assembly are not used.

Programming

No new programming is required. However, if the dispenser continues to experience overruns, increase the slowdown time in Command Code (CC) 10, Function Code 13. Verify if the dispenser reaches the preset goal when the satellite pump handle is both up or down.

Encore 500 Ultra-Hi Relay Assembly (M07684A002)

AC Wiring for Units without Factory-installed J-Box and Conduits

The Encore 500 Ultra-Hi relay assembly (M07684A002) is used with Legacy satellites that have a single two-stage valve.

⚠ WARNING

Ensure that you remove all power to the Encore Ultra-Hi unit before you upgrade the equipment. If you upgrade the Encore Ultra-Hi unit while it is powered on, it could result in electrocution or a serious explosion.

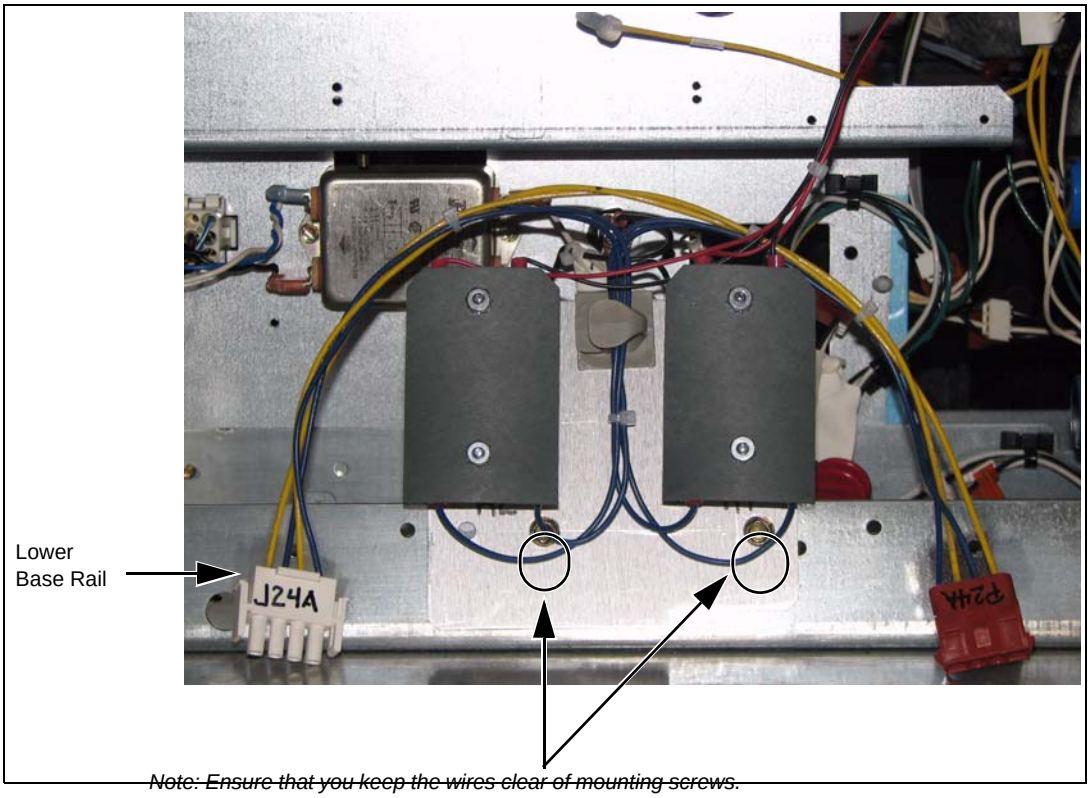
Note: All wiring for this kit will be performed on Side 1 of the Encore Master unit. It is not necessary to open the Legacy satellite.

Installing the Relay Mounting

Use the two enclosed screws to mount the relay assembly on the lower base rail as shown (see Figure 3). Mount the relays so that they do not interfere with any options or the power supply.

Note: The exact mounting holes used will depend upon the power supply and options that are used.

Figure 3: Installing the Relay Mounting (Encore 500 Unit)



AC Wiring

To connect AC wires, proceed as follows:

Note: Verify if all power has been removed from the Ultra-Hi unit before proceeding.

1 Unplug J24 from the P24 connector; these connectors are part of the existing M02338A001 valve cable assembly.

2 Place the new relay assembly between the two open connectors.

3 Plug the new P24A to the J24 connector and the new J24A to the P24 connector.

DC Wiring

To connect DC wires, proceed as follows:

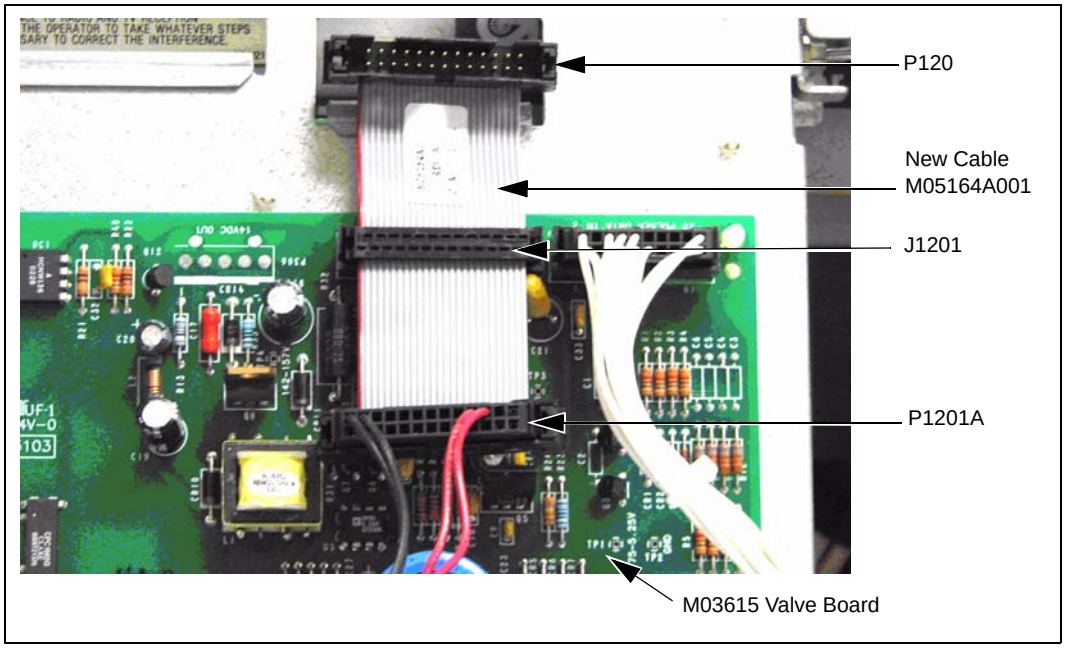
1 Remove the M00549A001 ribbon cable from the P1201 connector on the valve control board (see Figure 4).

2 Plug J1201 of the new cable onto P1201 of the valve board.

3 Plug the open end of the ribbon cable onto P120 of the new M05164A001 adaptor cable.

4 Plug the DC cable from the relay assembly to P1204 of the M05164A001 cable.

Figure 4: DC Wiring (Encore 500 Unit)



AC Wiring for Units with Factory-installed J-Box and Conduits

Units with factory-installed conduits do not require the J29 and P29 connectors for this installation. You have to gain entry into the main conduit, between the crimped wire nuts and the point where it enters the potted conduit.

To wire the A-side valve, proceed as follows:

1. Trace the blue wire from position 2 of P309, past the WT-1 crimped wire nut, and cut this wire into two wires.
2. Strip the end of both wires.
3. Remove the blue wire from position 1 of P29, strip the wire and attach to the loose blue wire from P309.
4. Remove the blue wire from position 1 of J29, strip the wire and attach to the remaining loose wire going to the satellite.

If the Encore Master unit is a Dual Master, that is, it has two Legacy satellites, the B-side valve must also be wired. If the unit is a single master, no further AC wiring is needed.

To wire the B-side valve, proceed as follows:

1. Trace the blue wire from position 4 of P309, past the WT-3 crimped wire nut, and cut this wire into two wires.
2. Strip the end of both wires.
3. Remove the blue wire from position 3 of P29, strip the wire and attach to the loose blue wire from P309.
4. Remove the blue wire from position 3 of J29, strip the wire and attach to the remaining loose wire going to the satellite.

Note: The yellow wires in the relay assembly are not used.

Programming

No new programming is required. However, if the dispenser continues to experience overruns, increase the slowdown time in CC 80. CC 80 is the programmed point at which the fast-flow valve cuts off. It can be programmed up to 9.99 gallons (or other volume unit). Verify if the dispenser reaches the preset goal, when the satellite pump handle is both up or down.

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