

## Introduction

### Purpose

This manual provides instructions to install the Ultra-Hi™ Lock Box Kit (M09094K001) on Legacy® units and Kit (M09094K003) on Encore® units.

The Ultra-Hi Lock Box Kit is designed to help secure the pulser on the liquid controls Ultra-Hi meter for Encore and Legacy units.

*Notes: 1) One Ultra-Hi Lock Box Kit will secure only one meter. Dual master units will require two kits.*

*2) The lock is not included in the kit. The lock must be obtained separately. For lock details, see [Note](#) in “[Parts List](#)” on [page 2](#).*

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### Required Tools

Following tools are required for installing the Ultra-Hi Lock Box Kit:

- 1/2-inch and 3/8-inch Socket
- Extensions for Socket (including Swivel)
- Ratchet
- 1/2-inch Wrench

## Parts List

### M09094K001 Kit

Following table lists the parts included in the M09094K001 Kit for Legacy:

Item	Description	Part Number	Quantity
1	Assembly, Base Bracket	M09093A001	1
2	Base, Security	M09094B001	1
3	Assembly, Cover Weldment	M09095A001	1
4	Spacer, Note Acceptor	M01385B004	2
5	Washer	K14056	2
6	Screw, Thread Forming Hexagonal Washer Head, 1/4-20 X 1.00	K85736-53	2
7	Screw, Thread Forming Hexagonal Washer Head, 1/4-20 X 0.62	K85736-39	1
8	Nut, Hexagonal, with External Lockwasher, 5/16-18	Q12068-06	4

### IMPORTANT INFORMATION

This kit was designed for Legacy units manufactured in 1993 or later. This kit may work on older Highline™ units, or there may be parts that need to be moved for the kit to fit.

### M09094K003 Kit

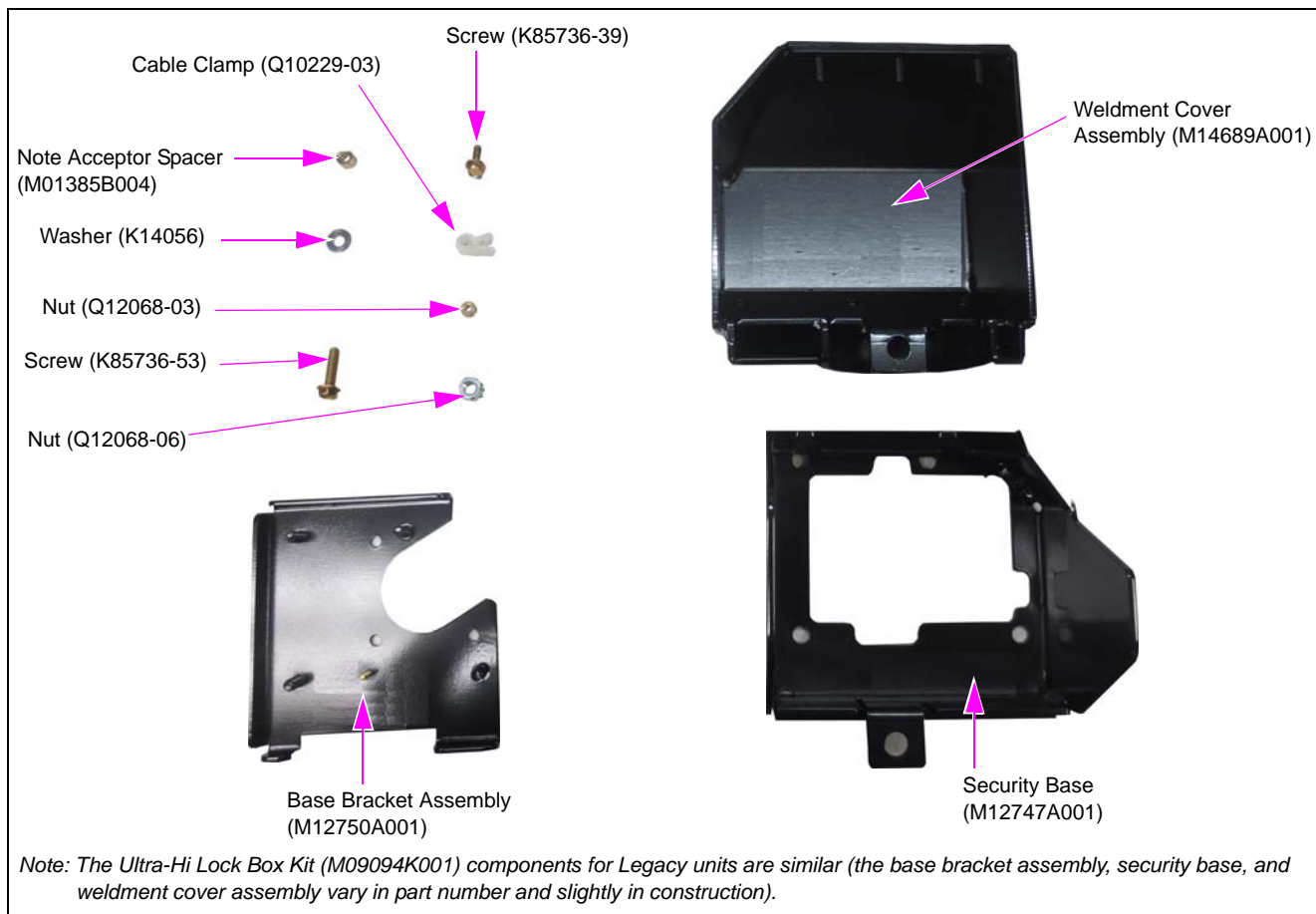
Following table lists the parts included in the M09094K003 Kit for Encore Ultra-Hi unit:

Item	Description	Part Number	Quantity
1	Assembly, Base Bracket	M12750A001	1
2	Base, Security	M12747A001	1
3	Assembly, Shield Weldment	M14689A001	1
4	Spacer, Note Acceptor	M01385B004	2
5	Washer	K14056	2
6	Screw, Thread Forming Hexagonal Washer Head, 1/4-20 X 1.00	K85736-53	2
7	Screw, Thread Forming Hexagonal Washer Head, 1/4-20 X 0.62	K85736-39	1
8	Nut, Hexagonal, with External Lockwasher, 5/16-18	Q12068-06	4
9	Cable-tie	Q10178-03	1
10	Cable Clamp	Q10229-03	1
11	Nut, Hexagonal, with External Lockwasher, 8-32	Q12068-03	1

*Note: Lock is not included in these kits. These kits are designed to use a Master Lock Series 6270, shackle-less round solid steel lock.*

The assembly M12812A002 contains the Base Bracket (M12750A001), Security Base (M12747A001), and the Weldment Cover (M14689A001).

Figure 1: Ultra-Hi Lock Box Kit (M09094K003) Components for Encore



## Related Documents

Document Number	Title	GOLD <sup>SM</sup> Library
MDE-2531	Gilbarco® Pump and Dispenser Start-up and Service	Service Manual
MDE-3804	Encore and Eclipse® Start-up and Service Manual	<ul style="list-style-type: none"> <li>Encore and Eclipse</li> <li>Service Manual</li> </ul>

## Abbreviations and Acronyms

Term	Description
ESD	Electrostatic Discharge
GOLD	Gilbarco Online Documentation
J-box	Junction Box
OSHA	Occupational Safety and Health Administration

# 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 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 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.

## 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.

**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

Before you begin, read and understand all safety information found in *MDE-3804 Encore and Eclipse Start-up and Service Manual* or *MDE-2531 Gilbarco Pump and Dispenser Start-up and Service*.

### 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.

- 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.



### WARNING

Failure to turn off the unit during 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 kit installation.

- 4 Match the parts received in the kit with [“Parts List”](#) on [page 2](#).

## Installing M09094K001 Kit in Legacy Unit

To install the Ultra-Hi Lock Box Kit (M09094K001) in Legacy unit, proceed as follows:

- 1 Remove the lower doors from both sides of the unit.
- 2 Install the Base Bracket Assembly (M09093A001).

To install the base bracket assembly, proceed as follows:

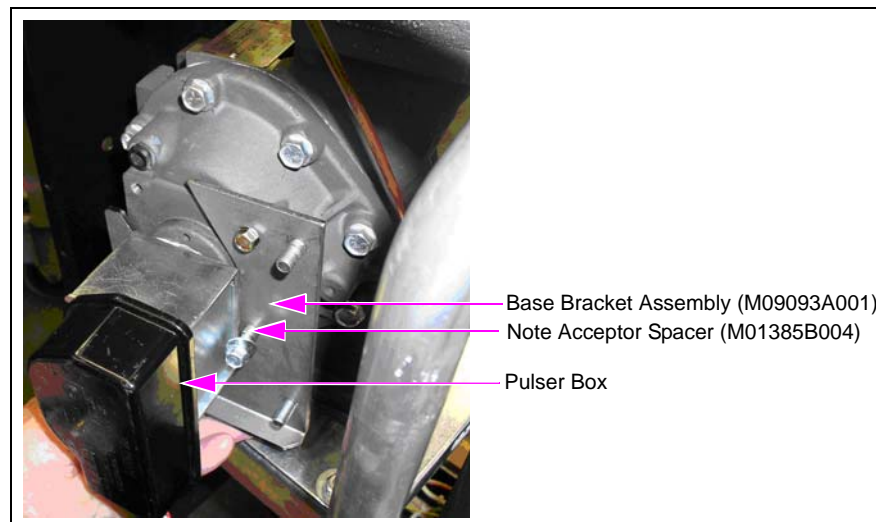
- a Install the shorter K85736-39 Screw in the top right position.
- b Install the two longer K85736-53 Screws, two K14056 Washers, and Note Acceptor Spacers (M01385B004) in the holes to the right and left of the pulser box.

*Notes: 1) Ensure that the screw, washer, and note acceptor spacer are installed in the order mentioned.*

*2) Ensure that the flat side of the note acceptor spacer is oriented against the pulser box.*

- c Leave the three screws loose to make the installation of the security base easier in step b on page 7 (see Figure 2).

**Figure 2: Installing Base Bracket Assembly**



- 3 Install the Security Base (M09094B001) and pulser wiring.

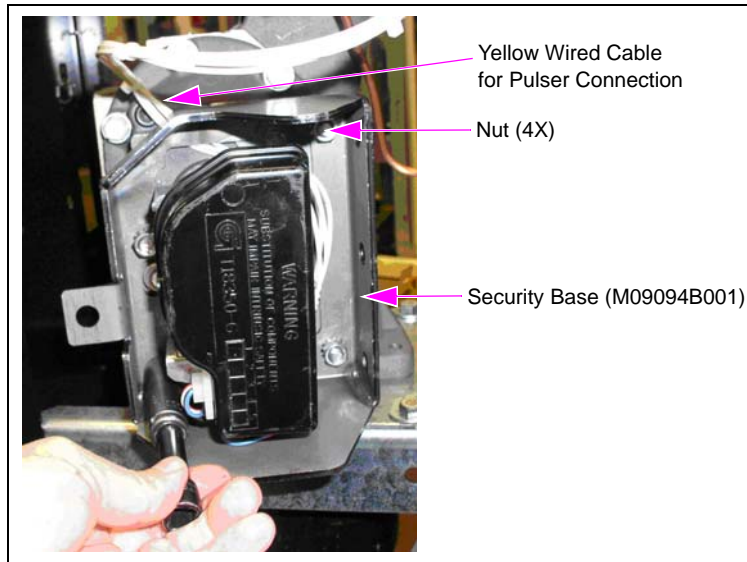
To install the security base and pulser wiring, proceed as follows:

- a Unplug the pulser connections.
- b Place the security base over the pulser and into position on the base bracket assembly.
- c Connect the pulser connector and wiring through the open back of the security base as shown in Figure 3 on page 8.
- d Connect the yellow wire connecting the pulser through the base bracket assembly and the security base.
- e Ensure the four studs on the base bracket assembly fit through the four holes in the security base.

- f Loosely install the four Q12068-06 Nuts on the studs and completely tighten the three screws holding the base bracket to the meter. Ensure that no wiring is pinched.
- g Fully tighten the four Q12068-06 Nuts securing the security base. Ensure that no wires are pinched.

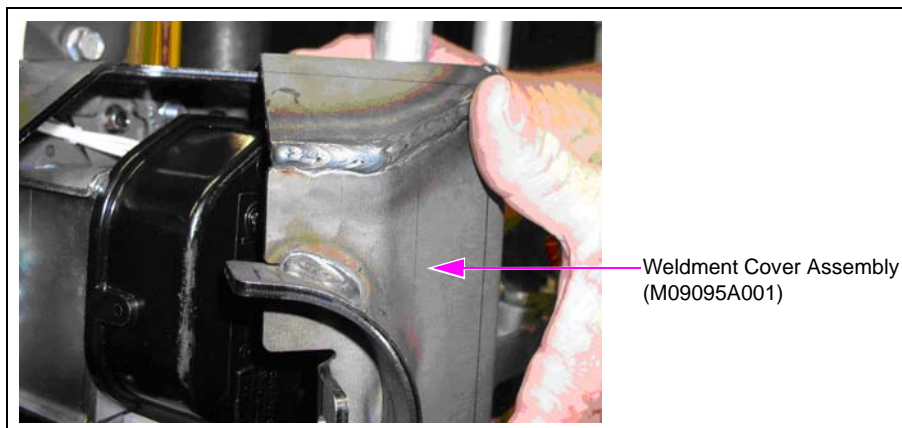
*Note: Cut one or two cable-ties on the pulser wiring, if necessary.*

**Figure 3: Installing Security Base and Pulser Wiring**



- 4 Position the three studs on the Weldment Cover Assembly (M09095A001) into the three slots on the security base and rotate the weldment cover assembly into the closed position (see [Figure 4](#)).

**Figure 4: Installing Weldment Cover Assembly**





- 5 Install the lock (purchased separately) on the pulser box.

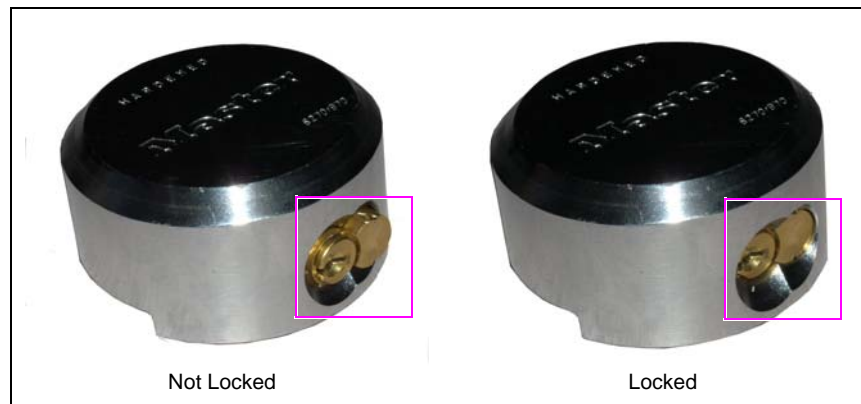
*Notes: 1) The way the lock works might not be familiar. Practice locking and unlocking before installing the lock to get familiar with how it works.*

*2) Make note of the closed and locked position.*

*3) For some configurations, reaching the key to the lock from the other side of the dispenser may be easier.*

*4) Ensure that the lock is fully engaged before removing the key.*

**Figure 5: Lock Positions**



- 6 Reinstall the lower doors.

- 7 Restore power to the unit.

Installing the Ultra-Hi Lock Box Kit on a Legacy unit is now complete.

## Installing M09094K003 Kit in Encore Ultra-Hi Unit

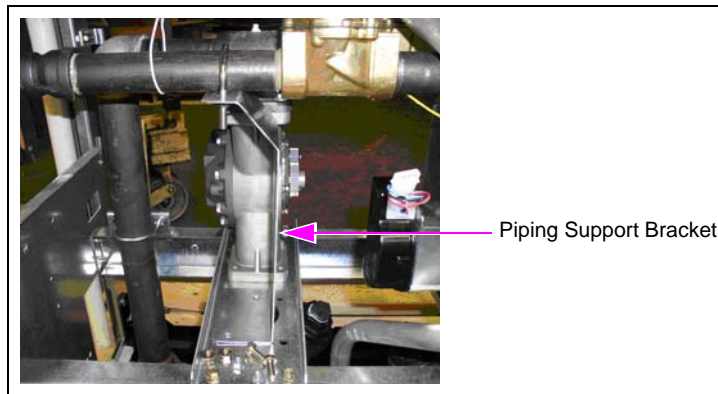
To install the Ultra-Hi Lock Box Kit (M09094K003) in Encore Ultra-Hi unit, proceed as follows:

- 1 Remove the lower doors from both sides of the unit.
- 2 Access the pulser.

*Note: There are three hydraulics configurations. The configurations give different degrees of access to the pulser but the installation procedure is same.*

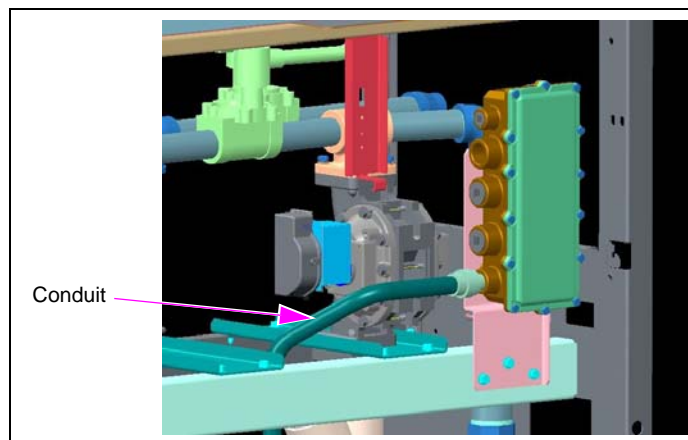
- a **Original Configuration:** To access the pulser, remove the piping support bracket (see [Figure 6](#)).

**Figure 6: Removing Piping Support Bracket - Original Configuration**



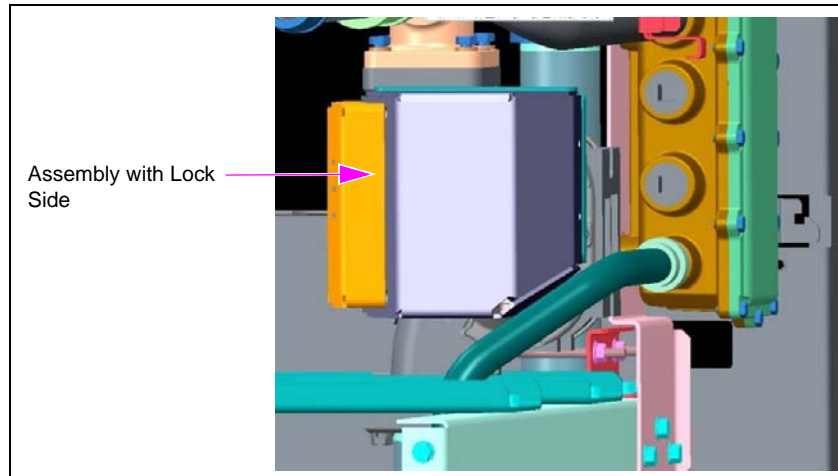
The original configuration may have a Junction Box (J-box) and conduit that runs very close where the pulser lock box needs to be located (see [Figure 7](#)).

**Figure 7: Conduit Interference with Pulser Cover Lock Box**



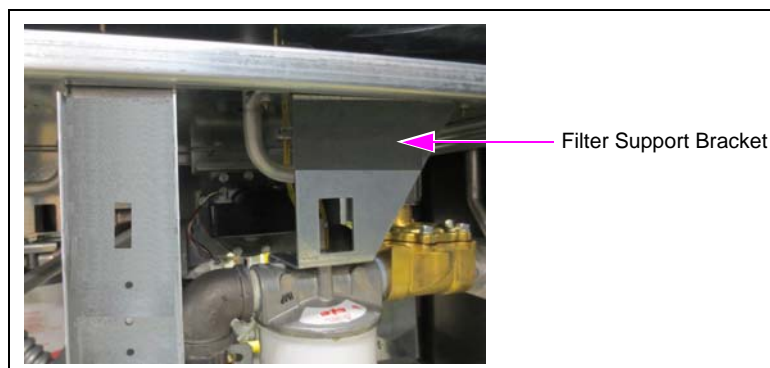
The conduit is so close to the lock box location that before the top cover is put in place, the conduit will have to be loosened and tightened back each time the cover is put on or taken off. Lock box will also have to be assembled so the lock side is pointing away from the installer (see [Figure 8](#)).

**Figure 8: Assembly with Lock Side**



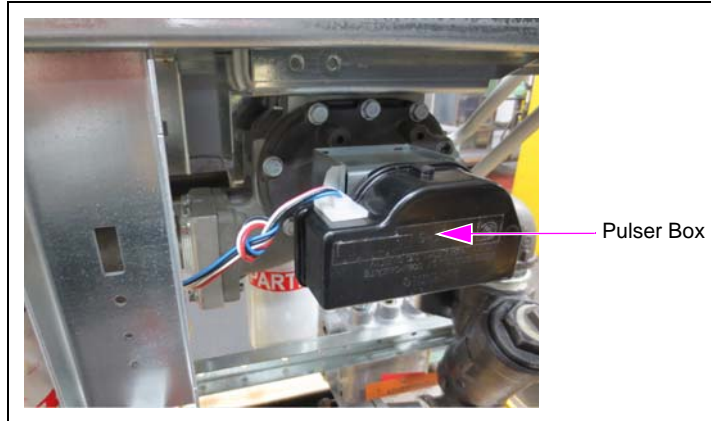
- b Revision A Configuration:** To access the pulser, remove the filter support bracket.  
*Note: The pulser faces inward and access is from the other side of the dispenser (see [Figure 9](#)).*

**Figure 9: Removing Filter Support Bracket - Revision A Configuration**



- c Revision B Configuration:** The pulser faces directly outward, so the kit installation is easier (see [Figure 10](#)).

**Figure 10: Revision B Configuration**



- 3** Install the Base Bracket Assembly (M12750A001) to the meter.

For revision A hydraulics configuration, the screws used are self tapping. Tap each hole as described before proceeding with installing the base bracket assembly:

- a** Place the K85736-XX Screw in the hole and rotate slightly by hand to hold.
- b** Using 3/8-inch socket with a swivel adapter, rotate the K85736-Screw clockwise producing several threads.
- c** Remove the K85736-XX Screw to get the hole partially tapped.

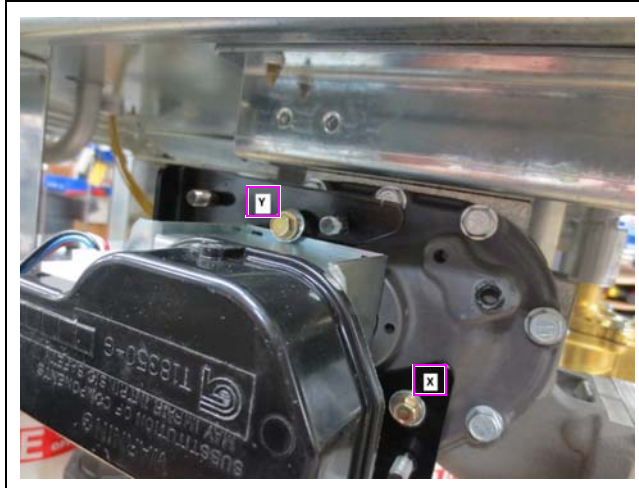
To install the base bracket assembly, proceed as follows:

- a** Install the shorter K85736-39 Screw in the position marked X as shown in [Figure 11](#) and [Figure 12](#) on [page 13](#).
- b** Install the two longer K85736-53 Screws, two K14056 Washers, and Note Acceptor Spacer (M01385B004) in both positions marked Y as shown in [Figure 11](#) and [Figure 12](#) on [page 13](#).

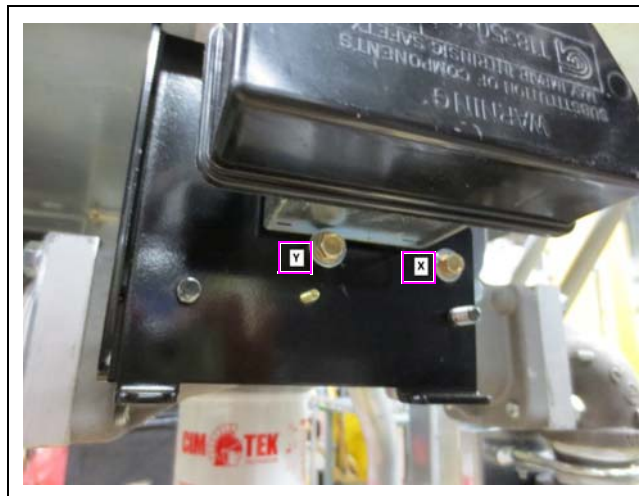
*Note: Ensure that the screw, washer, and note acceptor spacer are installed in the order mentioned.*

- c Leave the three screws loose to make the installation of the security base easier in step b (see [Figure 13](#) on [page 14](#)).

**Figure 11: Installing Base Plate - Upper View**



**Figure 12: Installing Base Plate - Lower View**



**4 Install Security Base (M12747A001) and pulser wiring.**

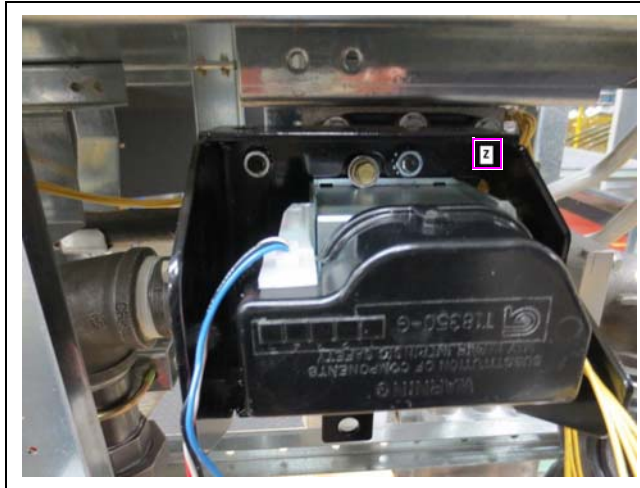
To install security base and pulser wiring, proceed as follows:

- a Unplug the pulser connections. Keep track of the yellow wires that are labeled A.
- b Place the security base over the pulser and into position on the base bracket assembly.
- c Connect the pulser connector and wiring through the open back of the security base as shown in [Figure 13](#) on [page 14](#).
- d At the location marked Z, connect the yellow wire connecting the pulser through the base bracket assembly and the security base (see [Figure 13](#) on [page 14](#)).
- e Ensure the four studs on the base bracket assembly fit through the four holes in the security base.

- f Loosely install the four Q12068-06 Nuts on the studs and completely tighten the three screws holding the base bracket to the meter.
- g Ensure that no wiring is pinched.
- h Fully tighten the four Q12068-06 Nuts securing the security base. Ensure that no wires are pinched.

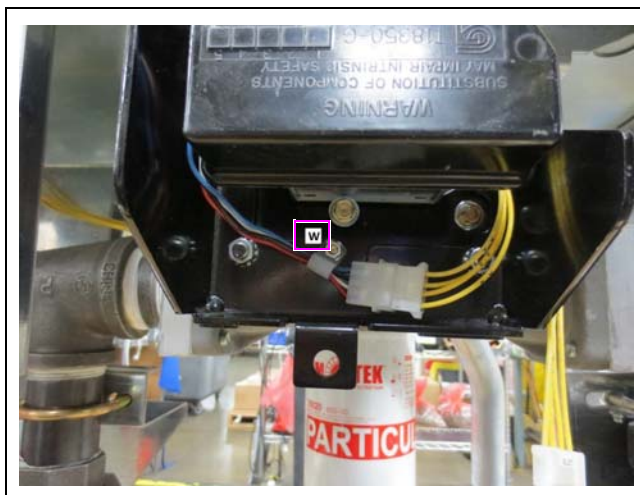
*Note: Cut one or two cable ties on the pulser wiring, if necessary.*

**Figure 13: Installing Security Base and Pulser Wiring**



- 5 Using the Cable Clamp (Q10229-03), Q12068-03 Nut, and stud on the base bracket assembly, secure the pulser cable as shown at location W in Figure 14. This helps prevent the possibility of getting the pulser connector outside of box.

**Figure 14: Securing Pulser Connector Inside Box**



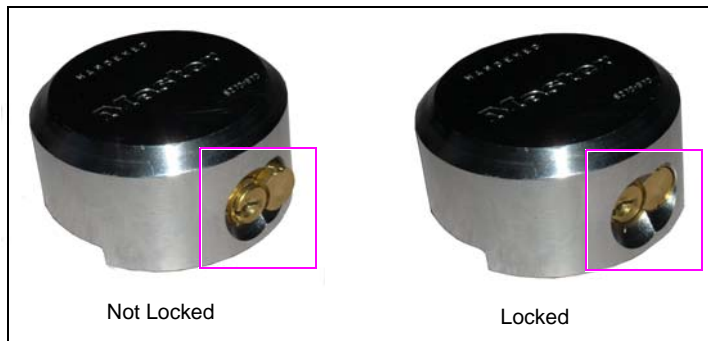
- 6 Position the three studs on the Weldment Cover Assembly (M14689A001) into the three slots on the security base and rotate the weldment cover assembly into the closed position (see [Figure 15](#)).

**Figure 15: Installed Weldment Cover Assembly**



- 7 Install the lock (purchased separately) on the pulser box.  
*Notes: 1) The way the lock works might not be familiar. Practice locking and unlocking before installing the lock to get familiar with how it works.*  
*2) Make note of the closed and locked position.*  
*3) For some configurations, reaching the key to the lock from the other side of the dispenser may be easier.*  
*4) Ensure that the lock is fully engaged before removing the key.*

**Figure 16: Lock Positions**



- 8 Reinstall brackets that may have been removed (in step 1 on [page 10](#)) to gain easier access while installing the kit.
- 9 Reinstall the lower doors.
- 10 Restore power to the unit.

Installing the Ultra-Hi Lock Box Kit in an Encore Ultra-Hi unit is now complete.

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