

## Introduction

This manual provides installation instructions for the following Gasboy Pulser Kits:

Kit number	Kit Description
032796	Pulser Kit X:1 EQ 25 GAS
033088	Pulser Kit X:1 EQ 25 LTR GAS
033140	Pulser Kit X:1 EQ 25 LTR DSL
033148	Pulser Kit X:1 EQ 25 DSL

## Required Reading

Before installing a kit, the installer must read, understand, and follow:

- This manual
- NFPA 30A, The Automotive and Marine Service Station Code
- NFPA 70, The National Electric Code
- Applicable federal, state and local codes and regulations

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

*Note: This kit must be installed by a Gasboy Authorized Service Contractor (ASC) to ensure warranty.*

## Required Tools

The following tools are needed to install the Pulser Kits:

- Standard Wrench Set
- Flat tip screwdriver
- Cross tip screwdriver
- Punches (to remove and install pins)

## Parts Lists

### 032796 - Pulser Kit X:1 EQ 25 Gas

Part Number	Description	Quantity
037219	25 Gas Pulser Register Meter	1
M06028A001	Pulser Module Model 25	1
M05613B001	Gasket	1
M05617B001	Gasket	1

### 033088 - Pulser Kit X:1 EQ 25 Liter Gas

Part Number	Description	Quantity
037217	25 Liter Gas Pulser Register Meter	1
M06028A001	Pulser Module Model 25	1
M05613B001	Gasket	1
M05617B001	Gasket	1

### 033140 - Pulser Kit X:1 EQ 25 Liter Diesel

Part Number	Description	Quantity
038926	25 Liter Dsl Pulser Register Meter	1
M06028A001	Pulser Module Model 25	1
M05613B001	Gasket	1
M05617B001	Gasket	1

### 033148 - Pulser Kit X:1 EQ 25 Diesel

Part Number	Description	Quantity
038947	25 Dsl Pulser Register Meter	1
M06028A001	Pulser Module Model 25	1
M05613B001	Gasket	1
M05617B001	Gasket	1

# 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 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 only these cashier station "stops."

## Total Electrical Shut-Off Before Access

Any procedure requiring access to electrical components or the electronics of the dispenser requires total electrical shut-off of that unit. Know the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gasboy equipment.

## Evacuation, Barricading and Shut-Off

Any procedures requiring accessing the pump/dispenser or STPs requires the following three actions:



- An evacuation of all unauthorized persons and vehicles using safety tape, cones or barricades to the effected units
- A total electrical shut-off of that unit

## 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 Gasboy Authorized Service Contractor or call the Gasboy Service Center at 1-800-444-5529. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

## Follow the Regulations

There is applicable information in NFPA 30A; *Automotive and Marine Service Code*, NFPA 70; *National Electrical Code (NEC)*, OSHA regulations and federal, state, and local codes which 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 Gasboy replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gasboy 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 that follow must be followed to prevent death, injury or damage to the equipment

**DANGER** - This signal word is used to alert you to a hazard to unsafe practice which will result in death or serious injury

**WARNING** - This alerts you to a hazard or unsafe practice that could result in death or serious injury.

**CAUTION** with Alert symbol - This signal word designates a hazard or unsafe practice which may result in minor injury.

**CAUTION** without Alert symbol - When used by itself, CAUTION 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 become explosive if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause explosive vapors in the vicinity of dispenser or island.

## Important Safety Information



### No Open Flames

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 fuels and their vapors. After getting 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. Be familiar with Cardiopulmonary Resuscitation (CPR) methods if you are working 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 tag out and lock out procedures. If you are not familiar with this requirement, refer to information in the service manual and OSHA documentation.

### Working With Electricity Safely

Be sure to use safe and established practices in working with electrical devices. Poorly wired devices may cause a fire, explosion or electrical shock. Be sure grounding connections are properly made. Make sure that sealing devices and compounds are in place. Be sure not to pinch wires when replacing covers. Follow OSHA Lock-Out and Tag-Out 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. Be sure to clean hands after handling equipment. Do not place any equipment in mouth.

#### WARNING

This area contains a chemical known to the State of California to cause cancer.

#### WARNING

This area contains a chemical known to the State of California to cause birth defects or other reproductive harm.

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

### Informing Emergency Personnel

Compile the following information for 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. Reference Subpart S of 29 CFR Part 1910 - Electrical Hazards, 29 CFR Part 1910.333 contains specific Lockout/Tagout provision for electrical hazards.

# Installing the X:1 EQ 25 XXX Pulser Kit

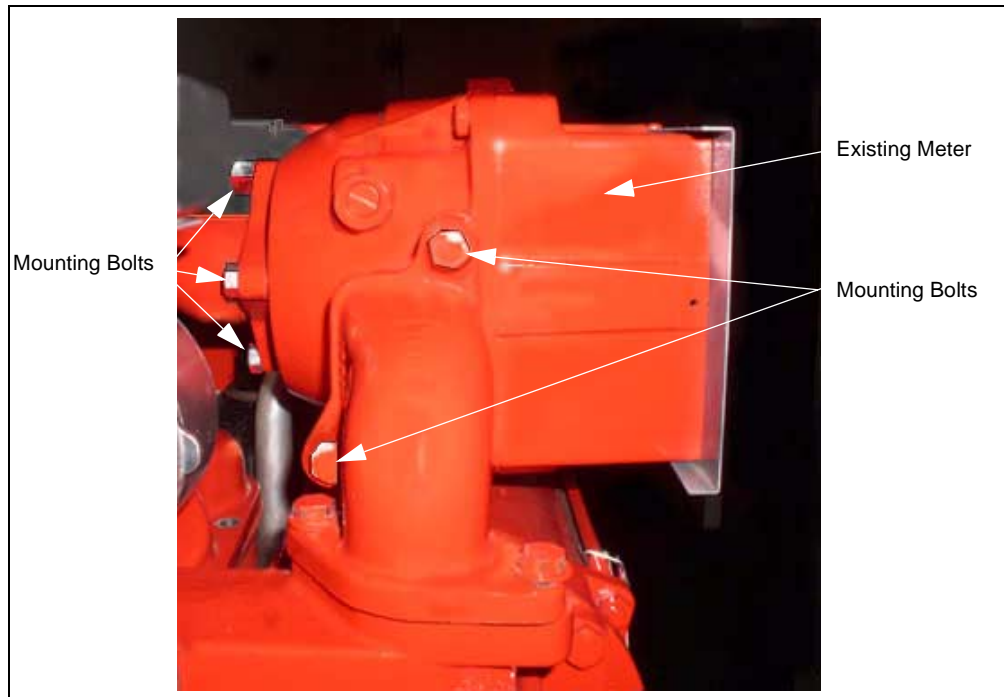
## Preparation

- 1 Request permission from the manager/owner to remove power from the unit and then remove power using normal procedures. Observe the lockout/tagout safety procedures.
- 2 Make sure you have the proper kit for the model dispenser to be retrofitted.
- 3 Be prepared to follow all applicable safety rules and procedures.
- 4 Using the proper tools, remove the covers from the unit. Place covers in a safe place to prevent damage or scratches. Save the mounting hardware for reuse later.

## Replacing the Pulser Meter

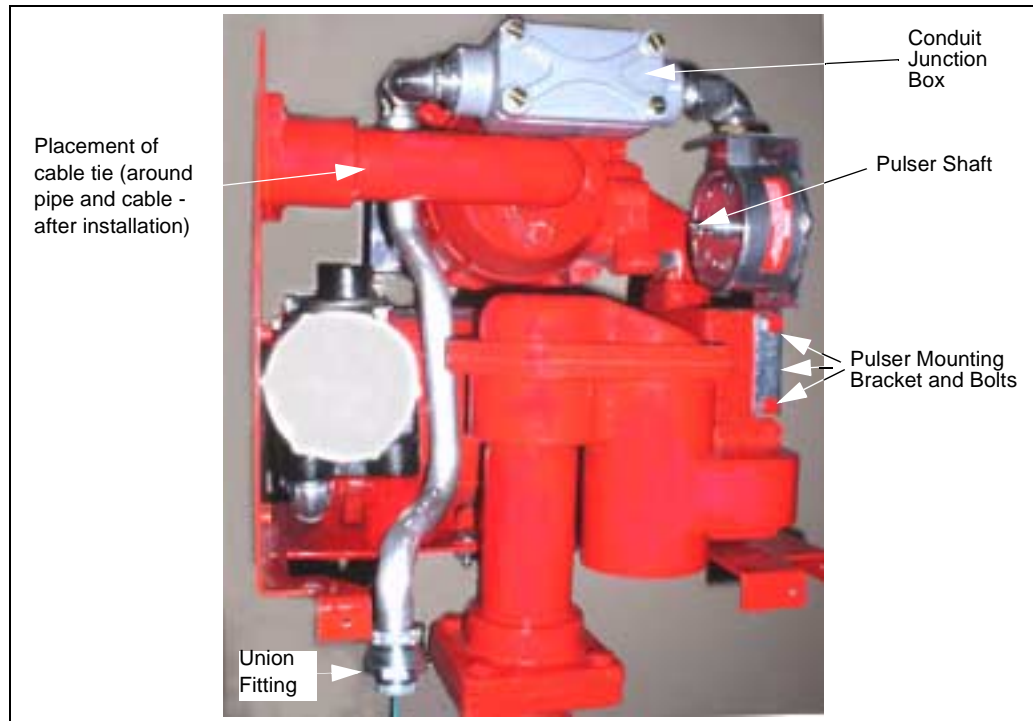
- 1 Using the proper wrench, remove the five mounting bolts (See Figure 1) securing the existing meter in place and remove the meter.
- 2 Be sure all the existing gasket is removed and the surfaces are clean.
- 3 In the kit, locate the new meter, the M05617B001 gasket, and the M05613B001 gasket.
- 4 Position the two gaskets and the meter in place (where the existing meter was removed in step 1) and loosely secure with the five mounting bolts removed from the existing meter.
- 5 When meter is seated properly in place, tighten the mounting bolts securely.

**Figure 1: Meter Mounting (Left Side View)**



## Installing the Pulser Module

- 1 In the kit, locate the M06028A001 Pulser Module.
- 2 At the end of the pulser module conduit (Figure 2), remove the union fitting. Keep fitting for remounting later.
- 3 Position the pulser module on the unit as shown in Figure 2.
- 4 Secure the pulser module in place by removing the two bolts indicated in Figure 2, align the mounting bracket holes with the bolt holes, and remount the two bolts.
- 5 Remount the union fitting on the conduit.
- 6 Locate the pulser cable, two spiral pins, and cable tie (part of the pulser meter assembly).
- 7 Place the coupling on one end of the cable on the pulser shaft (Figure 2) and secure by placing one spiral pin in the hole in the cable coupling and through the hole in the shaft. Allow the pin to extend equally on both sides of the coupling.
- 8 Place the coupling on the other end of the cable on the shaft on the pulser meter. Secure in the same manner as the first end.
- 9 Place the cable tie around the cable and around the pipe (extending from the meter to the hose fitting). The position for placement is indicated in Figure 2.

**Figure 2: Placement of M06028A001 Pulser Module (Back View)**

- 10 Using a flat-tip screwdriver, remove the conduit junction box cover (Figure 2).
- 11 Feed the field pulser wires up through the pulser module conduit and into the conduit junction box.  
*Note: The field pulser wires extending up are field-installed wires.*
- 12 Connect the wires from the pulser (already in the junction box) to the wires just fed in (in Step 11). If possible, connect matching colors for easier future servicing. Secure with wire nuts.
- 13 Remount the junction box cover and secure with screws.
- 14 Connect the pulser module conduit to the existing conduit and secure with the union fitting.

## Testing/Checking Operation

- 1 Restore power to the unit.
- 2 Connect a voltmeter to the signal wires in the control system.
- 3 Set the voltmeter to read Ohms.
- 4 Slowly dispense fuel and observe that the needle deflects upscale for each 1/10 gallon fuel.

## Completing Installation

- 1 After determining that the pulsers are functioning properly, remount the covers removed at the beginning of the installation.
- 2 Inform the manager/owner that the unit can be returned back to service.

