



Introduction

Purpose

This document provides installation instructions for the Card System Interface and Electro-mechanical Totalizer Kits for Atlas™ Commercial Electronic Units:

- M06382K003 for RS-485 with Electro-mechanical Totalizers and DC Conduit (New Bezel with Totalizer opening may be required).
- M06382K004 for Dual Units with Electro-mechanical Totalizers with Pulse-out (Commercial Electronic Units Only).

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.

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Required Tools

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

- Open-end Wrench Set
- Flat-tip Screwdriver
- Cross-tip Screwdriver

Related Documents

Document Number	Title	GOLD Library
MDE-4255	Gasboy Warranty Policy Statement for USA and Canada	<ul style="list-style-type: none">• Gasboy Policy Documents• Domestic Warranty & Owner's Manuals

Parts List

M06382K003 for RS-485 with Electro-mechanical Totalizers and DC Conduit (Commercial Electronic Units Only)

Note: New Bezel with Totalizer opening may be required.

Item	Description	Part Number	Quantity
1	PCA, RS-485 Interface	M06725A001	1
2	Totalizer, Electro-mechanical	M00455A002	2
3	Screw, Thread Forming Metric	M00417B224	4
4	Cable Tie	Q10178-05	2
5	Assembly, Pulse-out Conduit and Cable	M05189A002	1
6	Washer, Conduit Seal	N23760-04	2
7	Faced Unilet Reducer	K49827	1
8	Union, Conduit	Q10016-04	1
9	Bracket, J-Box DC Shield	M05235B001	1
10	Screw, Thread Forming Metric	M00417B113	1
11	Card System Interface and Electro-mechanical Totalizer Retrofit Kits for Atlas Electro-mechanical and Commercial Electronic Units Installation Instructions	MDE-4511	1

M06382K004 for Dual Units with Electro-mechanical Totalizers with Pulse-out (Commercial Electronic Units Only)

Item	Description	Part Number	Quantity
1	PCA, Atlas 9800 Pulse-out Totalizer	M06587A001	1
2	Totalizer, Electro-mechanical	M00455A002	2
3	Screw, Metric, M4 X 8	M00417B224	4
4	Cable Tie	Q10178-05	2
5	Assembly, Pulse-out Conduit and Cable	M05189A002	1
6	Washer, Conduit Seal	N23760-04	2
7	Faced Unilet Reducer	K49827	1
8	Union, Conduit	Q10016-04	1
9	Bracket, J-Box DC Shield	M05235B001	1
10	Screw, Metric, M4 X 8	M00417B113	1
11	Card System Interface and Electro-mechanical Totalizer Retrofit Kits for Atlas Electro-mechanical and Commercial Electronic Units Installation Instructions	MDE-4511	1

M06301K009 for Dual Units with Electro-mechanical Totalizers with Pulse-out (Retail Electronic Units Only)

Item	Description	Part Number	Quantity
1	Totalizer, Electro-mechanical	M00455A004	2
2	Cable Tie	Q10178-05	2
3	Cable, Totalizer	M05586A001	1
4	Decal Arrow	N23140-01	2
5	Card System Interface and Electro-mechanical Totalizer Retrofit Kits for Atlas Electro-mechanical and Commercial Electronic Units Installation Instructions	MDE-4511	1

M06301K010 for Dual Units with Electro-mechanical Totalizers without Pulse-out (Retail Electronic Units Only)

Item	Description	Part Number	Quantity
1	Totalizer, Electro-mechanical	M00455A003	2
2	Cable Tie	Q10178-05	2
3	Cable, Totalizer	M04889A001	1
4	Decal Arrow	N23140-01	2
5	Card System Interface and Electro-mechanical Totalizer Retrofit Kits for Atlas Electro-mechanical and Commercial Electronic Units Installation Instructions	MDE-4511	1

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractor
CPU	Central Processing Unit
DC	Direct Current
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Hazard Association
PCA	Printed Circuit Assembly

Warranty

For information on warranty, refer to MDE-4255 Gasboy Warranty Policy Statement for USA and Canada. If you have any warranty-related questions, contact Gasboy's Warranty Department at its Greensboro location.

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 Gasboy 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 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

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 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 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 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.

Installation

Preparing for Installation

Before you begin, obtain permission from the manager/owner to remove power from the unit and then remove power using normal procedures. Follow the OSHA lockout/tagout safety procedures.

Ensure that you have the proper kit for the dispenser to be retrofitted.

- 1 Unlock and remove the doors from both sides of the unit using the proper key for the unit. Place the doors in a safe place to prevent damage or scratches.
- 2 Remove the two screws securing the dial enclosure assembly and remove the assembly using a cross-tip screwdriver.
Note: Retain the screws for replacing assembly after installation.
- 3 Remove the two screws (located above the display) at Side 1 of the unit and pull the display cover forward using a cross-tip screwdriver. The cover will pivot down in a horizontal position allowing access to the electronics section of the unit.
Note: Retain the screws for replacing the assembly after installation.

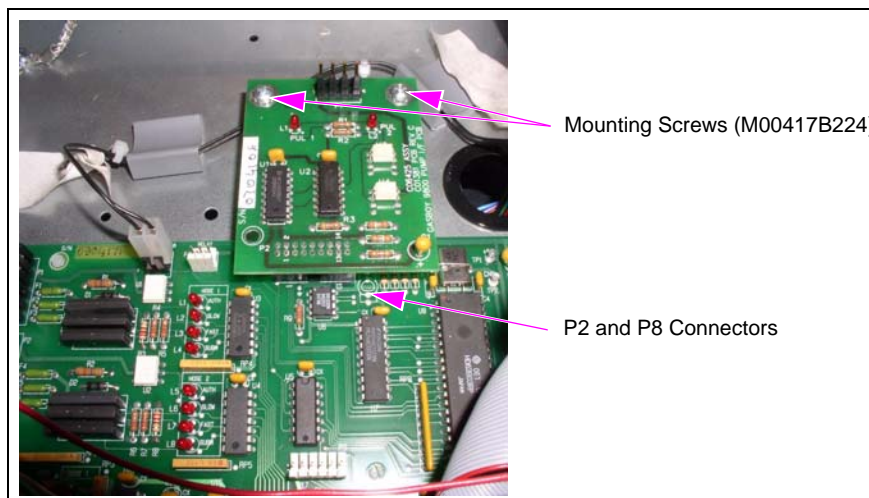
Installing the Pulse-out/RS-485 Board (Commercial Unit Only)

To install the Pulse-out/RS-485 Board, proceed as follows:

- 1 Locate the correct board for your application in the kit. The board type in your kit is determined as follows:
 - M06382K003 kit has the RS-485 Board (M06725A001) (New Bezel with Totalizer opening may be required).
 - M06382K004 kit has the Pulse-out Board (M06587A001).
Note: For description of kits, refer to “Introduction” on page 1.
- 2 Connect the new board P2 Connector to P8 Connector of the Main Central Processing Unit (CPU) Board (see [Figure 1](#) on [page 7](#)).

- 3 Align the two holes in the corners of the Printed Circuit Assembly (PCA) with the two standoffs (already mounted to the shelf) and secure the board with two screws (M00417B224).

Figure 1: Mounting the Pulse-out/RS-485 Board (Commercial Unit Only)



Installing the Electro-mechanical Totalizer

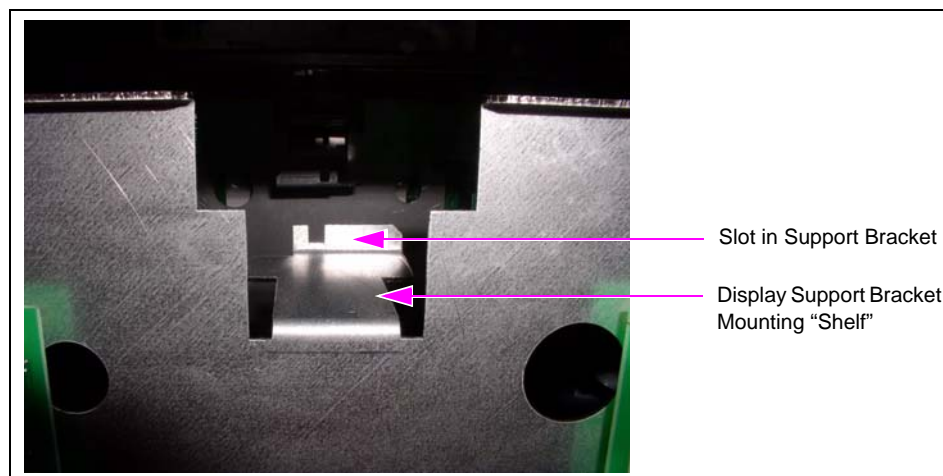
To install the electro-mechanical totalizer in a commercial or a retail unit and to connect the cables, proceed as follows:

- 1 On the back of the bezel face at the opening for the totalizer, remove the two nuts securing the plastic glass plate (with the black tedlar decal) using the appropriate wrench and remove the plate.
Note: Retain the nuts for remounting.
- 2 If installing totalizer on a commercial unit, remove the black tedlar decal from the plastic glass plate. Remount and secure the plate with the two nuts removed in step 1.
- 3 Locate the Totalizer (M00455A002) in the kit and install on the display support bracket in position as shown in [Figure 2](#) on [page 8](#). Position the screw in the totalizer in the slot in the support bracket (as a locator for the totalizer).
- 4 Secure the totalizer to the support bracket with the Cable Tie (Q10178-05).
- 5 If working with a dual unit, repeat steps 1 through 3 for the other side of the unit.
- 6 If connecting cables on a commercial unit (for block diagram, see [Figure 5](#) on [page 11](#)):
 - a Connect the Side A (J-Box side) totalizer cable to the totalizer A (P802 Connector) on the Pulse-out/RS-485 board.
 - b Connect the Side B totalizer cable to the totalizer B (P803 Connector) on the Pulse-out/RS-485 board.
 - c Locate the existing cable (M05108A001) connected to P2 on Power Supply and connect J804 Connector to P804 on totalizer.

- 7 If connecting cables on a retail unit with Pulse-out (for block diagram, see [Figure 6](#) on [page 11](#)):
 - a Locate the cable (M05586A001) in the kit.
 - b Connect P1501 Connector to the totalizer on Side A of the unit.
 - c Connect P1504 Connector to the totalizer on Side B of the unit.
 - d Connect J202 Connector to P202 on Pump Controller PCA (T20011-G1).
 - e Locate the existing cable (M05108A001) connected to P2 on the power supply and connect J804 Connector to P804 on the totalizer.

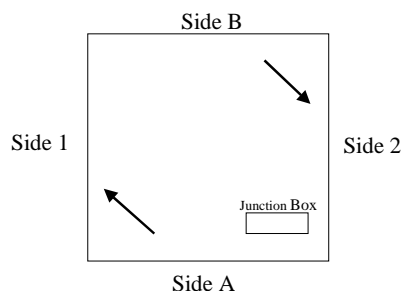
- 8 If connecting cables on a retail unit without Pulse-out (for block diagram, see [Figure 7](#) on [page 12](#)):
 - a Locate the cable (M04889A001) in the kit.
 - b Connect J922A Connector to the totalizer on Side A of the unit.
 - c Connect J922B Connector to the totalizer on Side B of the unit.
 - d Connect J406 Connector to PP406 on Pump Interface PCA (T18994-G1).
 - e Locate the existing cable (M05108A001) connected to P2 on the power supply and connect J804 Connector to P804 on the totalizer.

Figure 2: Mounting Position for the Electro-mechanical Totalizer



Adding Decals (Dual Units Only)

Decals must be added to designate which totalizer is associated with which hose on the unit. The totalizer on the Side A of the unit is associated with the hose on Side 1 of the unit and the totalizer on the Side B of the unit is associated with the hose on Side 2 of the unit. The following figure indicates the side locations:



On both sides of the unit, place a N23140-01 decal (arrow), which is part of the kit, on the bezel face to the left of the totalizer opening. Orient the arrow pointing to the left (away from the totalizer opening). On Side A of the unit the arrow is pointing toward Side 1. On Side B of the unit, the arrow is pointing toward Side 2.

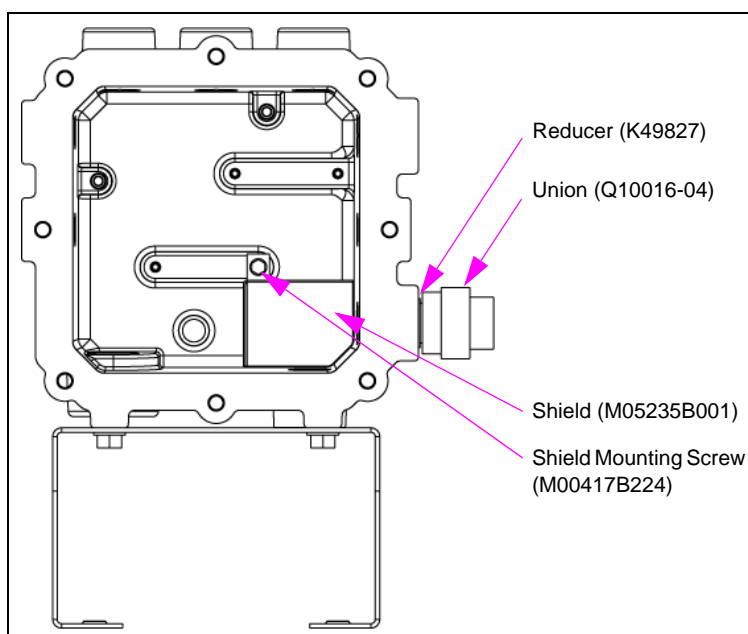
Installing the DC Conduit (Commercial Unit Only)

Note: If you already have a DC conduit installed and the harness does not match the harness provided with this kit, then remove the DC conduit and install the DC conduit supplied with this kit.

To install the DC conduit, proceed as follows:

- 1 Remove the cover mounting screws and the cover at the junction box.
Note: Retain screws for remounting the cover.
- 2 Insert and tighten the Reducer (K49827) in the opening (location of the opening is shown in [Figure 3](#)).
Note: As a reminder, the conduit threads engage a minimum of five threads.

Figure 3: Junction Box Connections



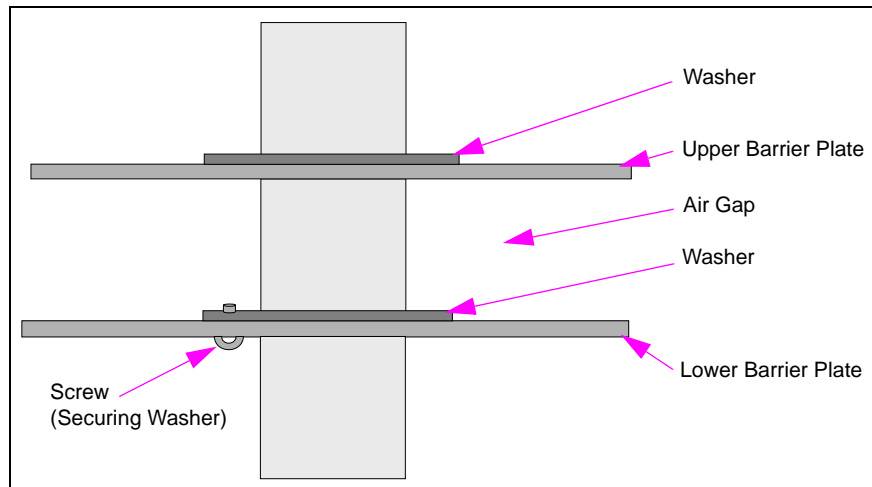
- 3 Insert the Conduit Union (Q10016-04) in the reducer installed in step 2.

Note: When performing steps 4 through 8 on [page 10](#), ensure that you hold the conduit in place when mounting washers until it is connected to the union at the junction box.

- 4 Route the straight end of the conduit through the lower barrier plate. For conduit and washer placement for steps 4 through 6, see [Figure 4](#) on [page 10](#).
- 5 Place a washer on the conduit (in the air gap).
- 6 Continue routing the conduit through the upper barrier plate.

- 7 Place a washer on the conduit on the top of the upper barrier plate.

Figure 4: Routing Conduit Through Barrier Plates



- 8 At the lower end of the conduit, connect to the union mounted in the junction box. Ensure that the Cable Assembly (M05189A002) cables are properly routed into the junction box.
- 9 Secure the washer to the lower barrier plate using a screw (M00417B224). Place the screw from the under side of the lower barrier plate (see [Figure 4](#)). Hold the washer securely in place against the barrier plate when mounting and tightening the screw.
Note: There are two screw holes in the washer. However, use only one screw to secure. Place the screw in the hole behind the conduit (looking from the Side A of the unit-side with the junction box).
- 10 At the upper end of the conduit, connect the cable (M05189A001) connector to P1 on the Pulse-out/RS-485 PCA (see [Figure 5](#) on [page 11](#)).
- 11 Place the shield (M05235B001) in the junction box and secure with the screw (M00417B113) (see [Figure 3](#) on [page 9](#)).
- 12 Connect the four wires at the junction box.
- 13 Remount the junction box cover and secure with screws that were removed in step [1](#) on [page 9](#).

Completing the Installation

- 1 After the installation is complete, proceed as follows:
 - a Remount the dial enclosure assemblies using the screws removed in step [2](#) on [page 6](#).
 - b Remount the doors on both sides of the unit.
 - c Secure doors with the keylocks.
- 2 Inform the manager/owner that the unit can be returned back to service.

Figure 5: M05193 K-pump Partial Block Diagram (Showing CPU and Pulse-out PCA) (Commercial Electronic Units Only)

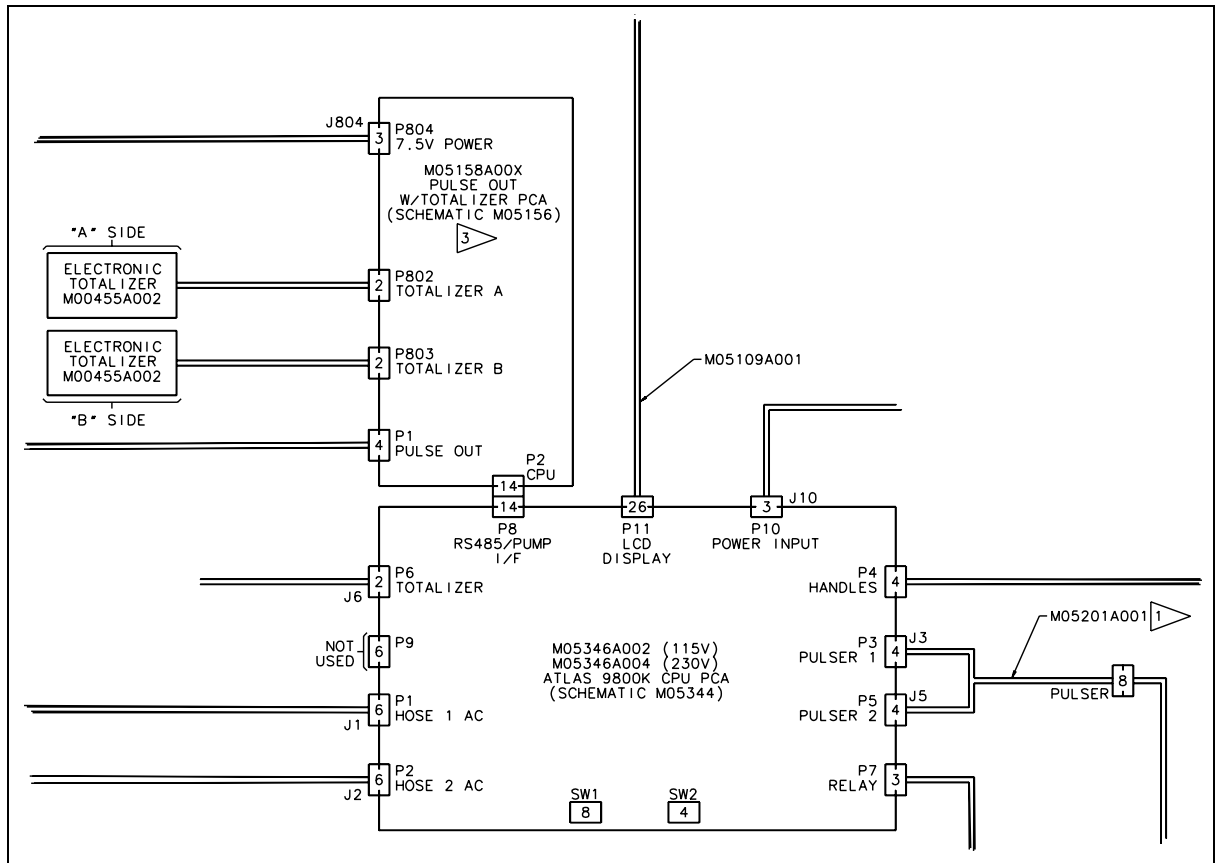


Figure 6: M04228 K-pump Partial Block Diagram (With Pulse-out) (Retail Units Only)

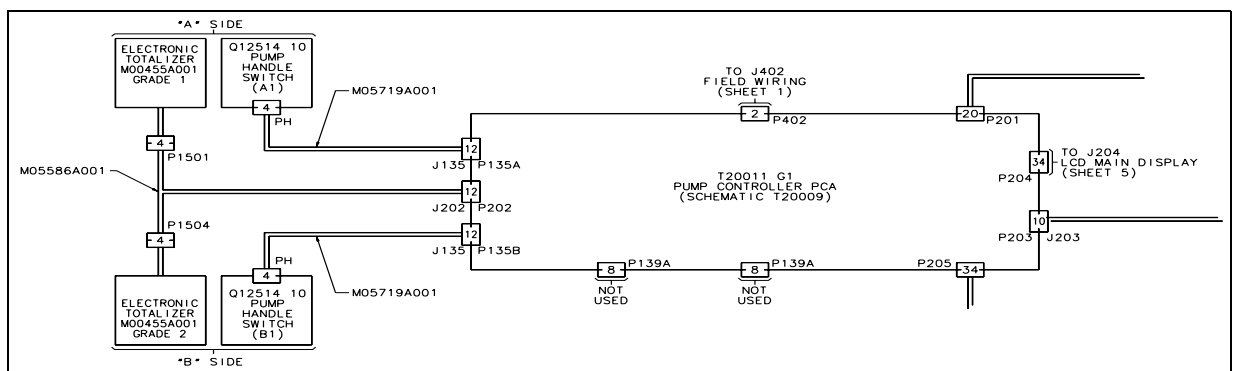
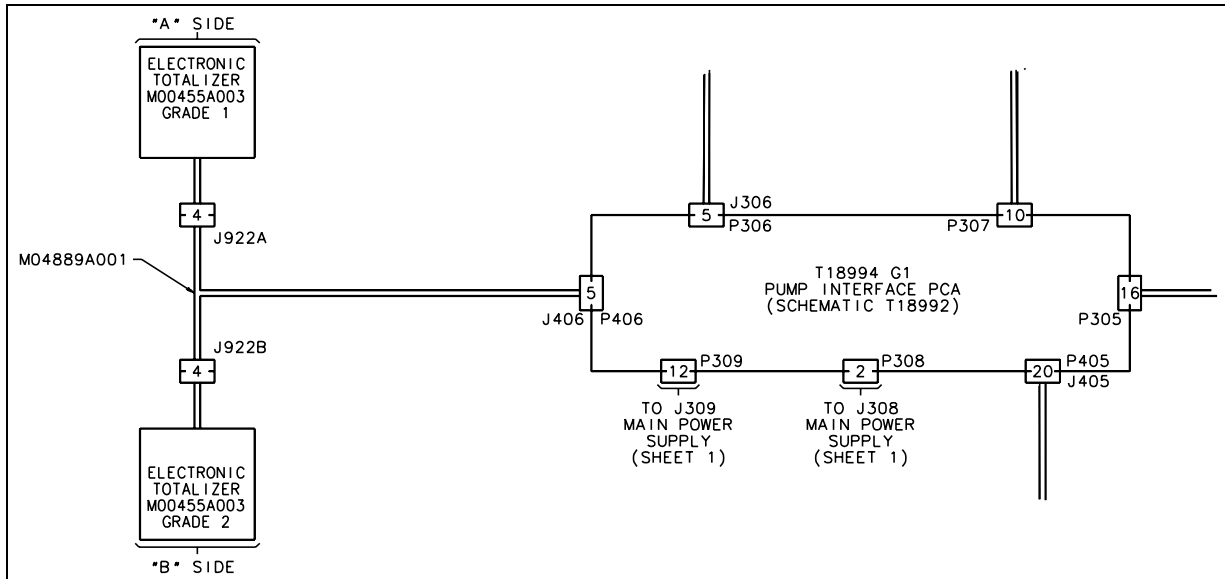


Figure 7: M04885 K-pump Partial Block Diagram (Without Pulse-out) (Retail Units Only)



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