



Introduction

The M13377B102 electric motor is a direct replacement for single-phase motors in 9100, 9800, 8700, and 8800 Atlas® K model units in the field.

Intended Users

This manual is intended for Gilbarco®-trained and certified Authorized Service Contractors (ASCs).

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Required Tools

The following tools are needed to install the direct replacement for single-phase motors:

- Wrench and Socket Set
- Channel Locks
- Phillips® Screwdriver

Parts List

The following table lists the parts that comprise M17274K001:

Item	Description	Part Number	Quantity
1	Single Phase Motor for Atlas	M13377B102	1
2	Atlas Electric Motor Replacement	MDE-5500	1

Additional Spare Parts List

The following table lists the additional spare parts:

Item	Description	Part Number
1	Conduit, Motor 1, 1-Phase	M05038B001
2	Conduit, Motor 2, 1-Phase	M05039B001
3	Belt, Adjustable	M07022B002
4	V-Belt	R06711-52
5	Pulley	R18900-27

Related Documents

Document Number	Title	GOLD SM Library
MDE-4334	Atlas Start-Up and Service Manual	Atlas

Abbreviations and Acronym

Term	Description
ASC	Authorized Service Contractor
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 Diesel Exhaust Fluid (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 Gasboy Technical Support 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 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.

Important Safety Information

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.

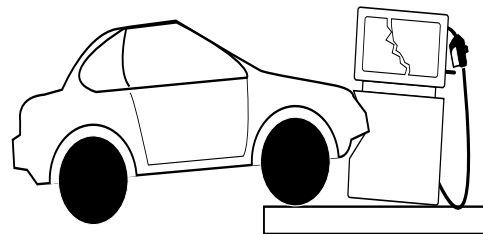
Lockout/Tagout

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.

Hazards and Actions

 WARNING	
	Spilled fuels, accidents involving pumps/dispensers, or uncontrolled fuel flow create a serious hazard.
	Fire or explosion may result, causing serious injury or death. Follow established emergency procedures.

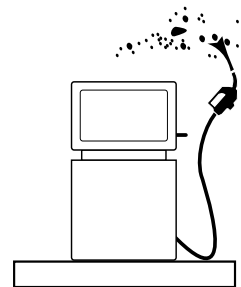
The following actions are recommended regarding these hazards:



Collision of a Vehicle with Unit



Fire at Island



Fuel Spill

- Do not go near a fuel spill or allow anyone else in the area.
- Use station EMERGENCY CUTOFF immediately. Turn off all system circuit breakers to the island(s).
- Do not use console E-STOP, ALL STOP and PUMP STOP to shut off power. These keys do not remove AC power and do not always stop product flow.
- Take precautions to avoid igniting fuel. Do not allow starting of vehicles in the area. Do not allow open flames, smoking or power tools in the area.
- Do not expose yourself to hazardous conditions such as fire, spilled fuel or exposed wiring.
- Call emergency numbers.

Before You Begin

Before you begin, read and understand all safety information found in *MDE-4334 Atlas Start-Up and Service Manual*.

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 installation, 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 Match the parts received in the kits with [Parts List](#) on [page 1](#).



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.

IMPORTANT INFORMATION

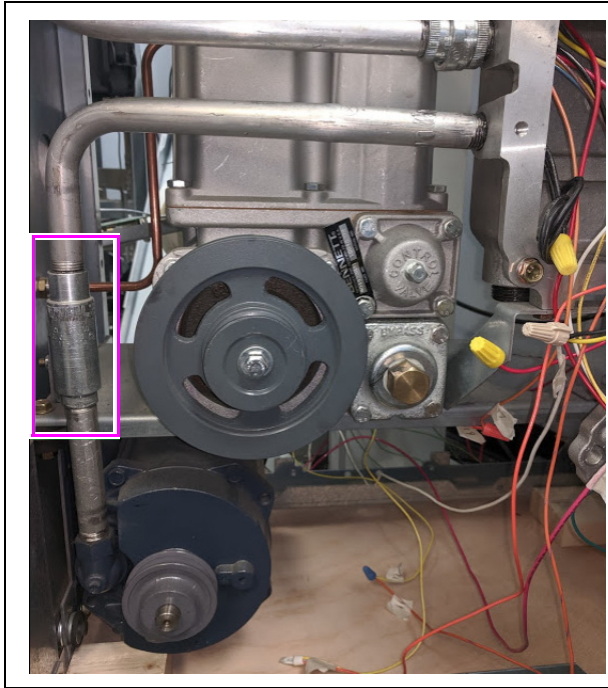
Following minor hydraulic service that introduces air into the DEF hydraulics, such as removing the nozzle or inlet pipe, a minimum of 10 gallons must be purged from the DEF hose. Failure to do so may cause error codes such as 20, 5050, 5047 or 5049 to occur.

Replacing the Single-Phase Motor

To replace the single-phase motor, proceed as follows:

- 1 Remove the lower panels of the Atlas pumping unit.
- 2 Loosen the slip joint on the conduit from the electric motor to the Junction Box (J-box).

Figure 1: Loosening the Slip Joint



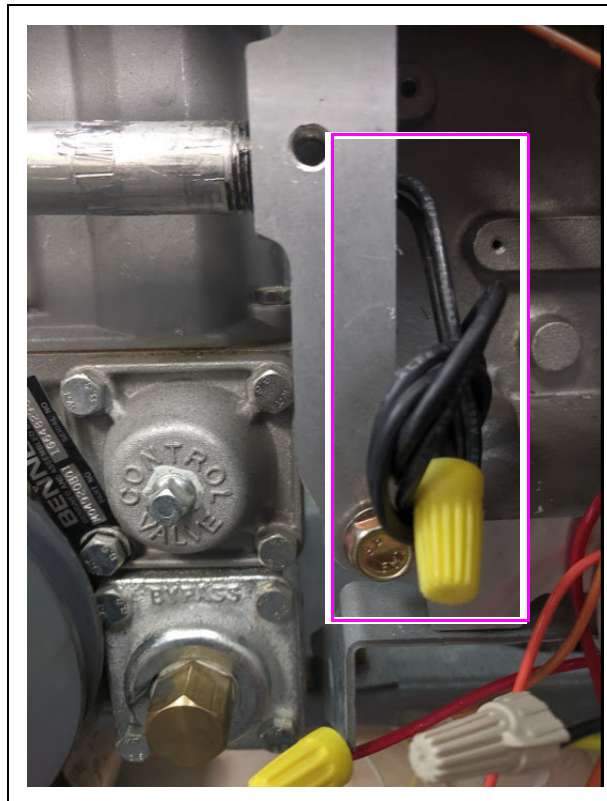
- 3 Locate the black motor wires in the J-box. Pull the wires through the conduit towards the motor and out of the conduit.

Note: Leave the lower conduit connected to the motor. The conduit to the J-box can remain.

IMPORTANT NOTE

Use caution while loosening, tightening, or adjusting the conduit to not break off the threads in the motor or J-box.

Figure 2: Pulling the Wires



- 4 Loosen the four bolts on the belt adjustment panel using a 1/2-inch socket and 5/32-inch hex socket (see [Figure 3](#) and [Figure 4](#)).

Figure 3: Loosening the Bolts - 1

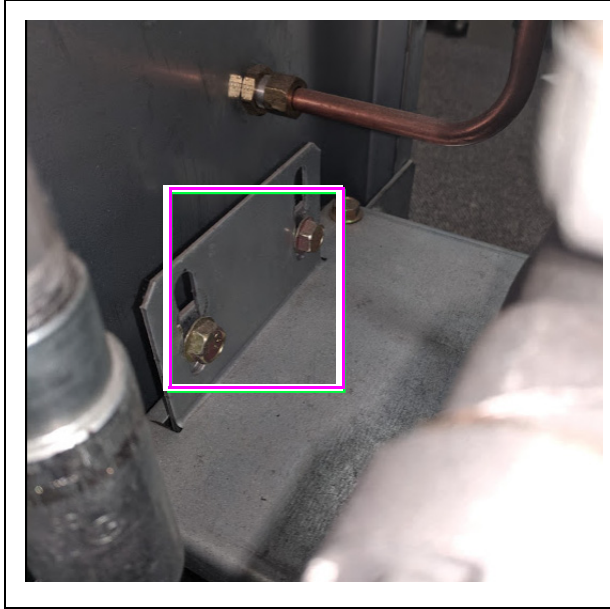
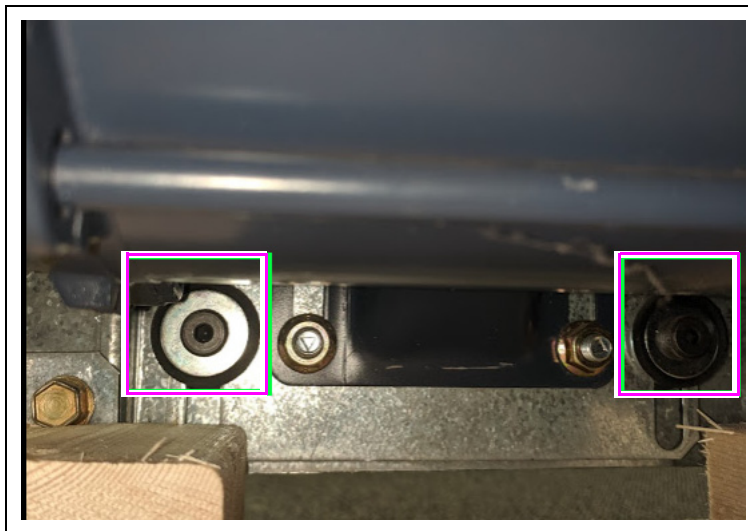


Figure 4: Loosening the Bolts - 2

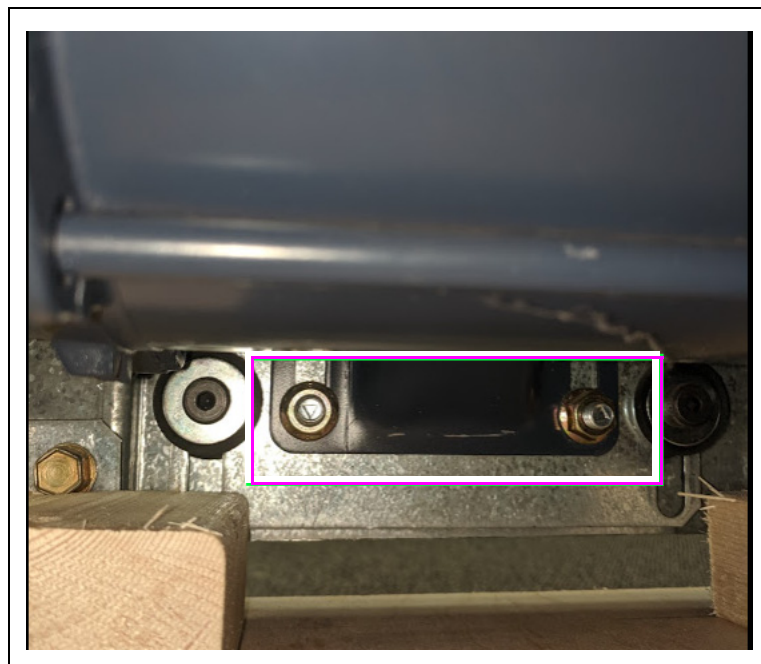


- 5 Remove the belt from the motor and pumping unit.
- 6 Remove the four nuts holding the motor to the belt adjustment plate located above and below the electric motor (see [Figure 5](#) and [Figure 6](#)).

Figure 5: Removing the Nuts - 1



Figure 6: Removing the Nuts - 2



- 7 Carefully remove the electric motor from the pumping unit.
- 8 Verify that the high-low switch on the M13377B102 electric motor is set to “LOW” for 120 VAC applications, and is set to “HIGH” for 220 VAC applications. Loosening the Phillips head screw is required to slide the switch to the appropriate setting.

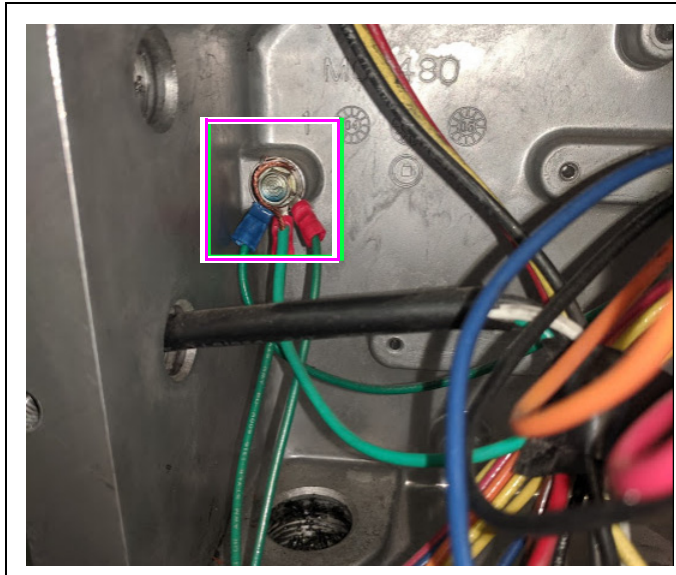
Figure 7: High-Low Switch



- 9 Remove the lower conduit from the motor at this time and install on the new motor. If reusing the existing pulley, install on the motor at this time. If using a new pulley (R18900-27), install on the motor at this time.
- 10 Install the new motor using the same nuts and bolts that were holding the old motor to the belt adjustment plate.
- 11 Pull the wires from the electric motor through the conduit into the J-box.
- 12 The green wire can be connected to the other earth ground connections in the J-box (see [Figure 8](#) and [Figure 9](#)). Verify that the wire nut can accommodate the additional wire as shown in [Figure 8](#) or add an eyelet in case of [Figure 9](#).
Note: The new motor comes with an additional green earth ground wire.

Figure 8: Connecting an Additional Earth Ground Wire



Figure 9: Using an Eyelet to Connect the Earth Ground Wire

Note: After the new motor is installed, if using the old belt, install at this time by moving the belt adjustment plate up or down, and tighten to reduce slippage, but avoid over-tightening. A new belt (R06711-52) is recommended if the old belt is worn. If working with a 9820 or 9120 Atlas model, use the M07022B002 belt. For all other Atlas units, use R06711-52.

Replacing the single-phase motor is now complete.

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Phone (336) 547-5000 • <http://www.gilbarco.com> • Printed in the U.S.A.
MDE-5500A Single-Phase Motor for Atlas® Replacement Kit (M17274K001) Instructions • January 2020