



Introduction

Purpose

This manual provides information to install the replacement motors in Atlas® units, along with the requisite belts and pulleys. While installing the new motor, pumping unit pressures also need to be set to ensure problem-free operation.

M06699K001 and M06699K002 should be used with GPU (M04920B003). M06699K003 and M06699K004 should be used with GPU+ (M09593A102). The different GPU models require different belt and pulley sizes to operate correctly.

Atlas Motor Kits

Kit No.	Description
M06699K001	Atlas Motor Kit, 1 HP, 60HZ, 1PH (M04920 GPU)
M06699K002	Atlas Motor Kit, 1 HP, 50HZ, 1PH (M04920 GPU)
M06699K003	Atlas Motor Kit, 1HP, 60Hz, 1PH (M09593 GPU+)
M06699K004	Atlas Motor Kit, 1HP, 50Hz, 1PH (M09593 GPU+)

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Required Reading

Before installing 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

- Voltmeter with clamp on Amp probe
- General Mechanics tools

Parts List

Atlas Motor Parts List for M06699K001

Part Number	Description	Quantity per Kit
M13377B102	Motor 1 HP, 1 Ph	1
R06711-52	V-Belt 4L290	1
R18900-27	Pulley A Belt, 2.50 PD	1

Atlas Motor Parts List for M06699K002

Part Number	Description	Quantity per Kit
M13377B102	Motor 1 HP, 1 Ph	1
R06711-52	V Belt 4L290	1
R18900-32	Pulley A Belt, 3.00 PD	1

Atlas Motor Parts List for M06699K003

Part Number	Description	Quantity per Kit
M13377B102	Motor 1 HP, 1 Ph	1
R06711-38	V Belt 4L310	1
R18900-34	Pulley A Belt 3.20 Pd	1
R18900-30	Pulley A Belt 2.80 Pd	1

*Note: 1) R18900-34 is for normal operation of GPU+.
2) R18900-30 is for noise reduction purposes.*

Atlas Motor Parts List for M06699K004

Part Number	Description	Quantity per Kit
M13377B102	Motor 1 HP, 1 Ph	1
R06711-38	V Belt 4L310	1
R06711-39	V Belt 4L320	1
R18900-34	Pulley A Belt 3.20 Pd	1
R18900-30	Pulley A Belt 3.70 Pd	1

*Note: 1) R18900-41 and R06711-39 are for normal operations of GPU+.
2) R18900-34 and R06711-38 are for noise reduction purposes.*

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractor
DEF	Diesel Exhaust Fluid
NEC®	National Electrical Code
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
STP	Submersible Turbine Pump

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 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 Support 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 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 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.

DEF is non-flammable. Therefore, explosion and fire safety warnings do not apply to DEF fluid 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

In the event of inclement weather, including snow, ice, or flooding that makes driving conditions dangerous, please avoid servicing units. Always use available door stops to secure upper doors against unwanted/unexpected movement, especially during high winds. If necessary, reschedule service to avoid damage to the equipment. Weather may change unexpectedly; be aware of local weather conditions. During service, if conditions develop making service unsafe, close the unit(s) and proceed to a safe location.

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.

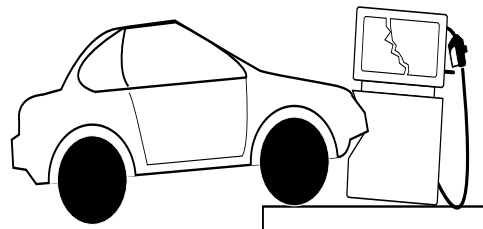
Lockout/Tagout

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. DEF is non-flammable. However it can create a slip hazard. Clean up spills promptly.

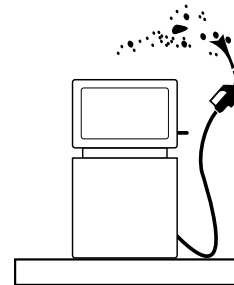
The following actions are recommended regarding these hazards:



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.

Installing New Atlas Motor Kits

Preparing for Installation

To prepare the Motor kits for installation, proceed as follows:

- 1 Request permission from the manager/owner to cutoff power from the unit and then shut down the power using normal procedures. Perform the lockout/tagout safety procedures.
- 2 Ensure that you have the proper kit for the model unit to be retrofitted.
- 3 Follow all the applicable safety rules and procedures.

Installing the New Atlas Motor

To remove the old motor and install the new Atlas motor, proceed as follows:

Removing the Old Motor

- 1 Disconnect the motor wires in the junction box. Mark the wires in junction box so that you can reinstall the new motor correctly.
- 2 Remove the belt.
- 3 Disconnect the motor conduit at the expansion union (see [Figure 1](#)).
- 4 Remove the two shoulder bolts at the bottom of the motor deck plate.
- 5 Remove the washers, cupped washers, and rubber mounts and retain all the hardware parts for reuse (see [Figure 2](#) on [page 8](#)).
- 6 Place something underneath the motor to prevent it from dropping suddenly, remove the two flanged screws from the top of the motor deck plate, and retain the hardware.
- 7 Remove the motor from the unit.
- 8 Remove the motor from the motor deck plate and retain the hardware.

Figure 1: Old Atlas Motor

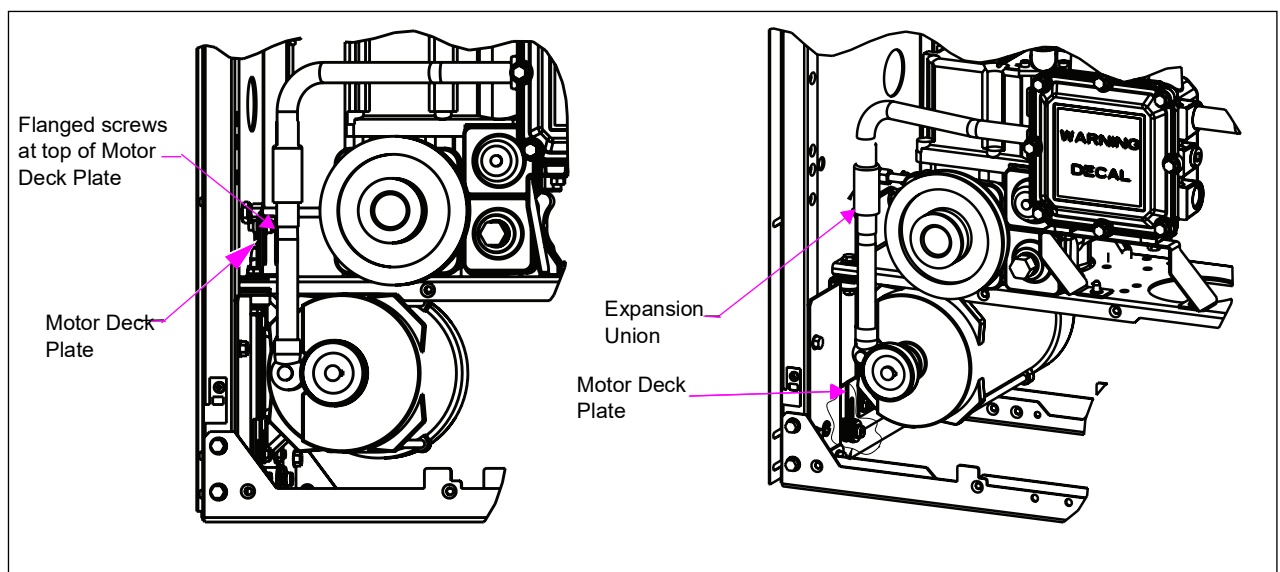
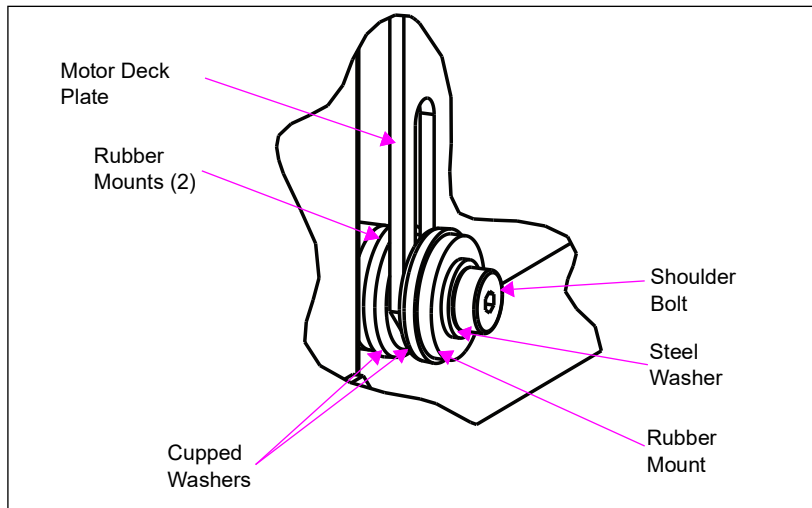


Figure 2: Motor Installation Mount

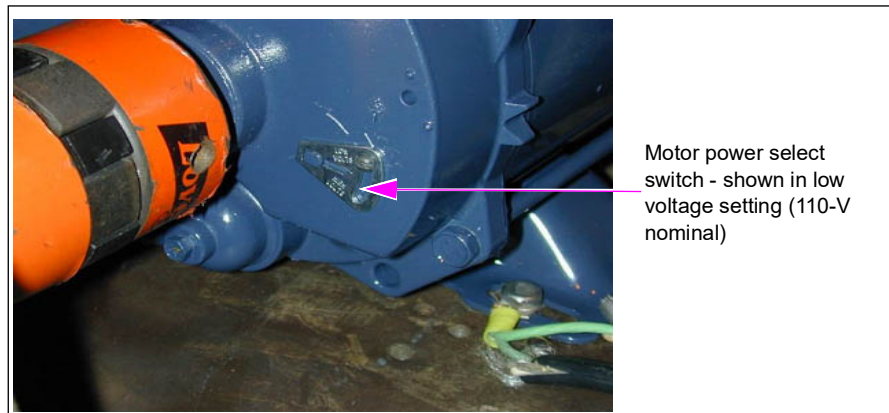


Installing the New Motor

- 1 Attach the new motor to the motor deck plate and tighten the four nuts.
- 2 Transfer the motor conduit from the old motor to the new.
- 3 Insert the motor and deck plate assembly into the unit.
- 4 Thread the motor wiring through the conduits into the junction box.
- 5 Insert the two flanged screws through the slots in the top of the deck plate through the clinch-nuts on the pump mounting plate flange.
- 6 Replace the rubber mounts, cupped washers and washers, and the shoulder bolts in the slots on the bottom of the deck plate and thread the shoulder bolts into the clinch-nuts in the bottom frame plate.
- 7 Connect the expansion union and tighten the conduit.
- 8 Attach the new motor pulley to the motor shaft, align it with the pump pulley and tighten.
Note: The larger pulley is for normal GPU+ operation and should be installed here.
- 9 Using a proper tool such as a crow bar, lift the motor up and place the new belt onto the pulleys.
Note: The longer belt is for normal GPU+ operation and should be installed here. For 60Hz units, the belt is the same.
- 10 Using a proper tool such as a crow bar, push the motor down enough to adjust the tension on the belt to 45 lbs. If tension gauge is unavailable, adjust the tension until there is about 1/2 inch of play midway between the pulleys.
Note: Do not increase the tension above 45 lbs. This may result in shorter pump and motor life.

- 11 Tighten the two screws on the top of the deck plate.
- 12 Tighten the two shoulder bolts on the bottom of the deck plate.
- 13 Check the belt alignment and tension. Readjust, if necessary.
- 14 Connect the motor wires in the junction box.
- 15 Ensure that the voltage on the motor is set correctly by checking the motor power select switch in front of the motor. Adjust, if necessary.

Figure 3: Atlas Pump - Motor Select Switch



Verifying Performance

- 1 Verify completion of the reassembly.
- 2 Connect the amp probe to a power leg of the motor.
- 3 Operate the unit and record the initial readings.

Parameter	Reading
Full Flow Amperage	
Bypass Amperage	
Bypass Voltage	

Note: 1) To maximize the flow rate, the pumping unit Bypass Valve spring preload will need to be adjusted. The maximum allowable load on the new motor is 5.5 amps at 220-volts (nominal) and 11 amps at 110-volts nominal.

2) If there is excessive noise produced by the GPU+ or excessive load on the motor, the motor pulley and belt should be replaced with the smaller variants provided in the kit. For 60Hz units, the belt is the same.

Optimizing the Adjustment on the Bypass Spring Preload

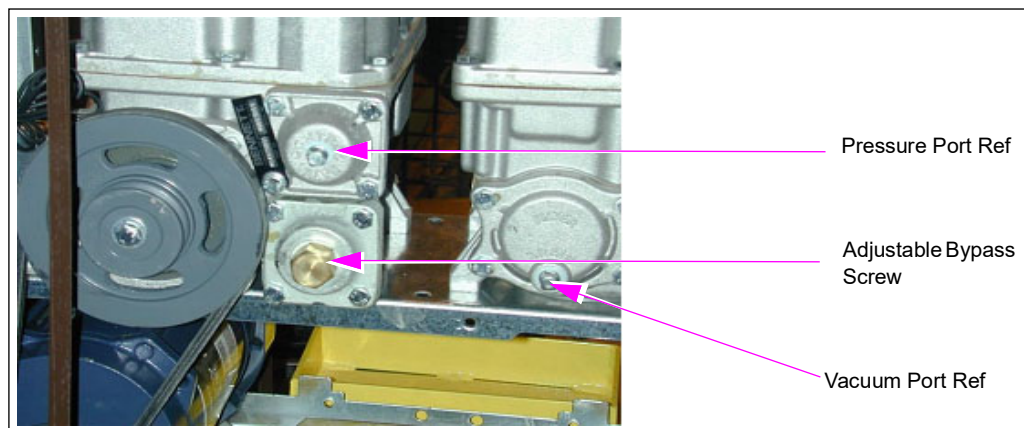
If the amperage from the initial test is low and the flow rate needs increasing, follow the procedure to adjust the bypass preload. Do not increase the preload if the amperage is at the maximum.

Note: Before making adjustments, ensure that the motor has been switched off.

To optimize the adjustment on the bypass spring preload, proceed as follows:

- 1 Remove the adjustment cap on the pumping unit. Refer to [Figure 4](#), which shows adjustment cap removed.

Figure 4: Atlas Pump - Pressure Pump and Bypass Screw



- 2 If the amperage from the initial test is low, turn the adjustment screw clockwise and increase the preload (and thus the flowrate and motor load).
Note: If the initial bypass voltage is below 205-volts for a 220-volt system, or below 100 volts on a 110-volt system, the wiring is insufficient to handle full motor loads. In this case, the maximum amperage needs to be set to a maximum of 4.9 amps on a 220-volt system and 9.5 amps on a 110-volt system.
- 3 Check the amperage at full flow and at bypass (both must be checked to verify proper loading on the motor).
- 4 Adjust the screw to obtain just below the maximum amperage setting (4.9 amps on a 220-volt system and 9.5 amps on a 110-volt system).
- 5 Replace the adjustment screw cap. Disconnect the amp probe, replace the junction box cover and button-up the unit.

Completing Installation

Inform the manager/owner that power will be restored to the unit and then restore power using normal procedures. Remove the lockout/tagout and return to normal operation.

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Phone 1-800-444-5529 · <http://www.gasboy.com> · Printed in the U.S.A.

MDE-4541B Atlas® Motor Kit (M06699KXXX) Installation Instructions · September 2023