



Series 580

---

# Installation/Operation/Parts Manual

**MDE-4766**  
**(formerly C35393)**

---

## Computer Programs and Documentation

All Gasboy computer programs (including software on diskettes and within memory chips) and documentation are copyrighted by, and shall remain the property of, Gasboy. Such computer programs and documents may also contain trade secret information. The duplication, disclosure, modification, or unauthorized use of computer programs or documentation is strictly prohibited, unless otherwise licensed by Gasboy.

## 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.

## Approvals

**Gasboy, Greensboro, is an ISO 9001:2000 registered facility.**

### Underwriters Laboratories (UL):

UL File#	Products listed with UL
MH4314	All dispensers and self-contained pumping units
MH6418	Power operated Transfer Pump Models 25, 25C, 26, 27, 28, 72, 72S, 72SP, 72X, 73 and 1820
MH7404	Hand operated Transfer Pump Models 1230 Series, 1243 Series, 1520 and 1720 Series
MH10581	Key control unit, Model GKE-B Series Card reader terminals, Models 1000, 1000P Site controller, Model 2000S CFN Series Data entry terminals, Model TPK-900 Series Fuel Point Reader System

### New York City Fire Department (NYFD):

NYFD C of A #	Product
4823	9100A, 9140A, 9152A, 9153A, 9800A, 9840A, 9850A, 9852A, 9853A, 9140
4997	9822A, 9823A
5046	9100Q, 9140Q, 9152Q, 9153Q, 9800Q, 9840Q, 9852Q, 9853Q
5087	8753K, 8853K, 9153K, 9853K (restricted to diesel and non-retail gasoline sales)
5091	8752K, 9152K
5129	9122K, 9123K, 9822K, 9823K

### California Air Resources Board (CARB):

Executive Order #	Product
G-70-52-AM	Balance Vapor Recovery
G-70-150-AE	VaporVac

## National Conference of Weights and Measures (NCWM) - Certificate of Compliance (CoC):

Gasboy pumps and dispensers are evaluated by NCWM under the National Type Evaluation Program (NTEP). NCWM has issued the following CoC:

CoC#	Product	Model #	CoC#	Product	Model #	CoC#	Product	Model #
95-179	Dispenser	9100 Retail Series, 8700 Series, 9700 Series	91-019	Dispenser	9100 Commercial Series	05-002	Atlas	8700K, 8800K, 9100K, 9200K, 9800K
95-136	Dispenser	9800 Series	91-057	Controller	1000 Series FMS, 2000S-CFN Series			

## Patents

Gasboy products are manufactured or sold under one or more of the following US patents:

### Dispensers

5,257,720

### Point of Sale/Back Office Equipment

D335,673

Additional US and foreign patents pending.

## Trademarks

### Non-registered trademarks

Atlas™  
Console™  
Infinity™

### Registered trademarks

ASTRA®  
Fuel Point®  
Gasboy®  
Keytrol®  
Slimline®

Additional US and foreign trademarks pending.

Other brand or product names shown may be trademarks or registered trademarks of their respective holders.

---

# Table of Contents

---

<b>1 – Introduction</b>	<b>1</b>
Purpose . . . . .	1
Intended Users . . . . .	1
Overview . . . . .	1
Abbreviations and Acronyms . . . . .	2
Warranty . . . . .	2
<b>2 – Important Safety Information</b>	<b>3</b>
<b>3 – Installation</b>	<b>7</b>
Before You Begin . . . . .	7
Installation Precautions . . . . .	7
Foundation . . . . .	8
Suction Pump . . . . .	8
Typical Installation Layout . . . . .	9
Supply Line . . . . .	9
Dimensions . . . . .	11
Base Layout . . . . .	12
<b>4 – Wiring</b>	<b>13</b>
Wiring Precautions . . . . .	13
Grounding . . . . .	14
Circuit Breakers . . . . .	14
Pump Motor . . . . .	14
Pulsers and Pulser Wiring . . . . .	15
Conduit . . . . .	15
Wiring Diagram . . . . .	17
<b>5 – Startup and Operation</b>	<b>19</b>
Pre-startup Checklist . . . . .	19
Startup and Pump Operation . . . . .	19
Post Startup Tests . . . . .	20
Voltage . . . . .	20
Tightness . . . . .	20
Meter Calibration . . . . .	20
Strainer Cleaning . . . . .	21
Belt . . . . .	21
Reconfiguration of Pump Pulley for Hand Crank Operation . . . . .	21
<b>6 – Maintenance and Troubleshooting</b>	<b>23</b>
When Your Pump Needs Service . . . . .	23
Maintaining Trouble-free Operation . . . . .	23
Troubleshooting . . . . .	25
Pump Does Not Start . . . . .	25
Pump Hums but Does Not Start . . . . .	25

---

Pump Runs but Does Not Prime or Deliver Product . . . . .	26
Pump Delivers Product but Does Not Register . . . . .	26
Pump Delivery is Slow . . . . .	26
Pump Loses Prime . . . . .	26
Inaccurate Delivery . . . . .	27
Pump Delivers Product When not Turned On. . . . .	27
Meter Register Disassembly. . . . .	27
4860 4 - Wheel Register Service . . . . .	27

---

7 – Parts List	29
----------------	----

---

General. . . . .	29
582/583 Front View . . . . .	30
582/583 Side View . . . . .	31
582/583 Chassis. . . . .	32
582/583 Motor . . . . .	34
582/583 Pump . . . . .	36
Pumping Unit Breakdown. . . . .	37
Model M04920B003 - Pumping Unit Parts List . . . . .	38
582/583 Piping . . . . .	39
023070 Pipe Assembly . . . . .	40
023079 Pipe W/Filter Assembly . . . . .	40
582/583 Pulser . . . . .	41
Hand Crank Assembly . . . . .	42
Accessories and Field Kits . . . . .	43
External Low Flow Filter Kits. . . . .	43
External High Flow Filter Kits . . . . .	43
Replacement Elements (For both 582 and 583 Models). . . . .	43
Pulser Kit. . . . .	43
Pumping Unit Kits . . . . .	44

---

Index	Index-1
-------	---------

---

# 1 – Introduction

---

## Purpose

The Gasboy® Series 580 Installation/Operation/Parts Manual is provided to assist the installer in installing and operating the unit. This manual should be supplied to the electrician prior to the installation of conduit and wiring to ensure that the unit is installed properly. Faulty installations are the major cause of unit malfunctions. This unit must be installed and operated as described in the manual to ensure reliable operation. Ensure that you leave this manual with the pump owner when the installation is complete, as the manual contains unit operating instructions.

*Note: Customers and installers who have questions pertaining to installation should contact their Gasboy distributor.*

## Intended Users

This manual is intended for those responsible for the installation of the 580 unit, such as installers and electricians.

## Overview

The Gasboy 580 Series dispensers are heavy-duty suction pumps designed for the needs of local and state governments, industrial, commercial, and private fleet operations. Important information regarding 580 Series dispenser is provided below:

- **Dimensions:** Base 13-31/32-inch (35 cm) x 18-1/16-inch (46 cm), Height 40-1/8-inch (102 cm).
- **Construction:** All panels are galvanized steel and painted with a two-part urethane paint for rust resistance.
- **Cabinet Colors:** Painted black with red front door.
- **Motor:** Model 582 - 1/2 HP continuous duty, dual voltage/dual frequency, 115/230 VAC, 50/60 Hz  
Model 583 - 3/4 HP continuous duty, dual voltage/dual frequency, 115/230 VAC, 50/60 Hz
- **Pump:** A durable rotary vane pump with carbon blades is utilized to produce suction power. Air elimination achieved through a patented static device using a vortex effect.
- **Inlet Control Valve:** The valve is provided with the pump and is installed in the upstream of the pump strainer.
- **Register:** 4-wheel push-button reset, 7-digit master totalizer, in US gallons or liters.

- **Meter:** Nutating disk phenolic measuring chamber in aluminum die-cast housing, adjustable calibration  $\pm 0.5\%$  at full flow.
- **Display:** Single-sided
- **Dial Face:** Black with silver stripes highlighting register readings.
- **Hose:** 582 - 3/4-inch (2 cm) x 12 feet (3.6 m); 583 - 1-inch (2.5 cm) x 12 feet (3.6 m)
- **Suction Connection:** 1-1/2-inch NPT union provided.
- **Delivery Rate:** Model 582 up to 15 GPM/57 LPM. Model 583 up to 22 GPM/83 LPM. Delivery rates are maximum test rates. Actual rates will vary depending upon installation conditions, product dispensed, and added accessories.
- **Nozzle:** Must be purchased separately. Automatic nozzles available. Nozzle boot and hook are designed for use with a UL®-listed interchangeable automatic service-station-type nozzle.

Optional accessories include internal filter adapter, external filter kits, stainless steel cabinet, manual hand crank, 50 Hz version, 380 V/50 Hz motor, 1:1 or 10:1 pulser, and liter registration.

## Abbreviations and Acronyms

Term	Description
CARB	California Air Resources Board
CoC	Certificate of Compliance
FCC	Federal Communications Commission
NCWM	National Conference of Weights and Measures
NYFD	New York City Fire Department
PC	Personal Computer

## Warranty

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

## 2 – 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.

## 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.

## 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

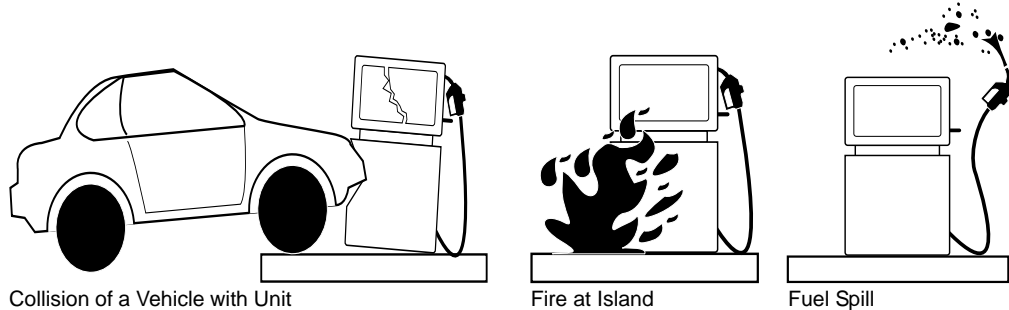
Lockout/Tagout covers servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel. Lockout/Tagout applies to all mechanical, hydraulic, chemical or other energy, 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.



## Hazards and Actions

 <b>WARNING</b>	
	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:



- 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.

*This page is intentionally left blank.*

## 3 – Installation

---

### Before You Begin

Before uncrating the pump, inspect the crate for damage. A damaged crate indicates possible internal damage to the dispenser, and the delivering carrier should be notified of possible concealed damage. It is recommended that the original shipping crate be used for any pump returns.

### Installation Precautions

All installations must conform with all building/fire codes, all Federal, State, and Local codes, National Electrical Code, (NFPA 70), NFPA 30, and Automotive and Marine Service Station Code (NFPA 30A) codes and regulations.

Plan your installation carefully. A pump cannot be expected to work satisfactorily unless the underground installation is correct. Dispensing troubles, which seem to be pump-related, are frequently traced to faulty installation. Review the following list of installation DOs and DON'Ts to avoid potential problems:

- 1 DO read the [“Important Safety Information”](#) on [page 3](#). It contains important information regarding the safe use of your dispensing equipment.
- 2 DO install an emergency power cutoff. In addition to circuit breaker requirements of NFPA 70 and NFPA 30A, a single control which simultaneously removes AC power from all site dispensing equipment is recommended. This control must be readily accessible, clearly labeled, and in accordance with all local codes.
- 3 DO have the pump installed by a competent installer/electrician familiar with all applicable local, state and national codes that may apply.
- 4 DO install breakaway coupling on discharge hose. If using a high hose retriever, install breakaway approximately 12-inches downstream of hose clamp on nozzle side of clamp.
- 5 DO NOT experiment with a pump if you are not sure that the installation is correct.
- 6 DO NOT overload sub or main breaker panels.

- 7 DO NOT install any underground piping without proper swing joints (always use shoulder nipples, never close nipples).
- 8 DO NOT cover any lines, or UL and code approved flexible pipes approved for the fuels and application, until they have been both air and liquid tested.
- 9 DO NOT back-fill the tank or supply line with cinders or ashes (back-fill with clean sand, crushed rock, or pea gravel).
- 10 DO NOT use black iron pipe or fittings for underground installations (use only new galvanized or fiberglass pipe and fittings).

*Note: Install all fiberglass pipe and fittings according to manufacturer's specifications and requirements.*

## Foundation

When constructing the pump island for the dispensing equipment, ensure that you extend the island excavation beyond the depth of the frost line. Leave open an area from the inside edge of the unit's base as shown on the specific base layout. Unless required by local regulations, do not cement the pipes and conduits into the island. The open area within the base will provide access for future servicing of the fittings and conduit assemblies. Fill in the boxed-in section with dry sand to keep condensation in the pump housing to a minimum and to help prevent fogging of the totalizer window.

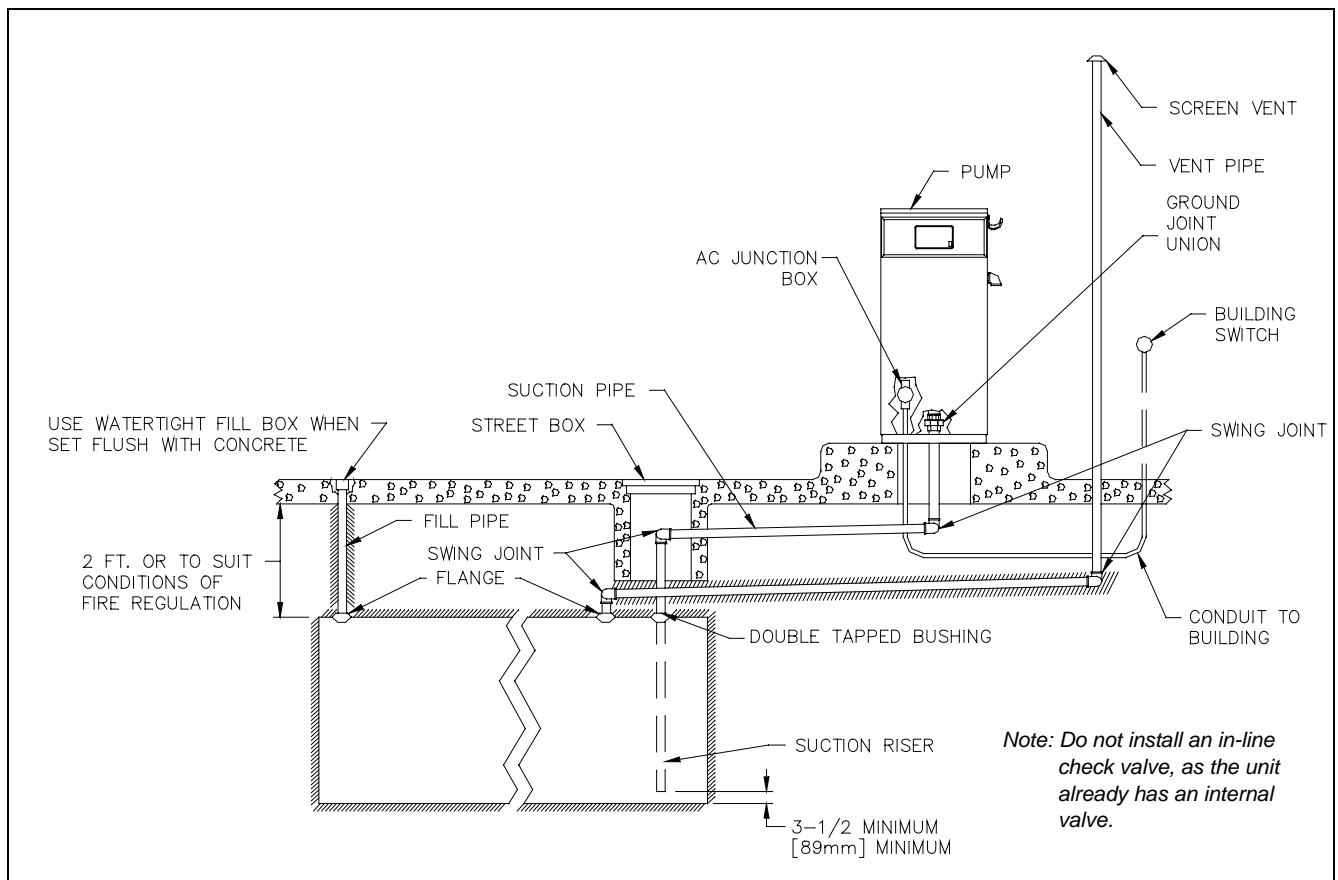
Secure the pump to the island using anchor bolts through the two mounting holes, which are indicated on each base layout. If the dispensing unit is not securely fastened to the island, supply line leaks at unions and pipe joints may occur. Use one of two types of bolts to anchor the pump to the island. Use two (2) 1/2-inch x 5-inch (13 mm x 125 mm) long machine bolts embedded in the concrete or to meet minimum UL and API requirements for universal interchangeability of pumps, use two 1/2-inch x 3-1/2-inch (13 mm x 90 mm) long lag screws with 2-inch (51 mm) long expansion shields.

## Suction Pump

If a pump is to be used with an above-ground tank, a pressure regulator valve (model 52) is required on the suction side of the pump; consult your Gasboy representative for details. The tank should be free of water and dirt. It is recommended that the tank be pressure-tested to verify it is tight.

*Note: The outlet fitting at the top of the float chamber should be connected to drain back to the storage tank. The pipe size for the return line to the storage tank should be at least 3/8-inch (9.525 mm). Ensure that this line is not kinked or reduced in diameter.*

## Typical Installation Layout



## Supply Line

The pump and the tank should be located close to each other (preferably within 50 feet) with as few changes in direction of the supply line, as possible. This reduces the possibility of unit vapor lock (gasoline only), attains the highest possible flow rate, and results in a lower installation cost. Avoid long supply lines and excessive vertical lifts. The dynamic lift for this unit is rated at 12 feet (3.66 m) for gasoline and 13 feet (3.96 m) for diesel and can vary according to conditions of the installation and fuel temperature. To increase maximum flow rate, attempt to keep the lift as small as possible.

Use new galvanized or fiberglass pipe. The riser should be 1-1/2-inches (38.1 mm) diameter.

*Note: Fiberglass pipe is to be installed according to manufacturer's specifications and requirements.*

Use a 2-inches pipe for standard flow units (excluding the riser) for runs up to 50 feet from the tank. Use 2-1/2-inches to 3-inches for longer (excluding the riser) runs up to 75 feet. High gallonage units should use larger pipes such as 3-inches (excluding the riser) for runs up to 50 feet. Use 3-1/2-inches to 4-inches (excluding the riser) for runs up to 75 feet.

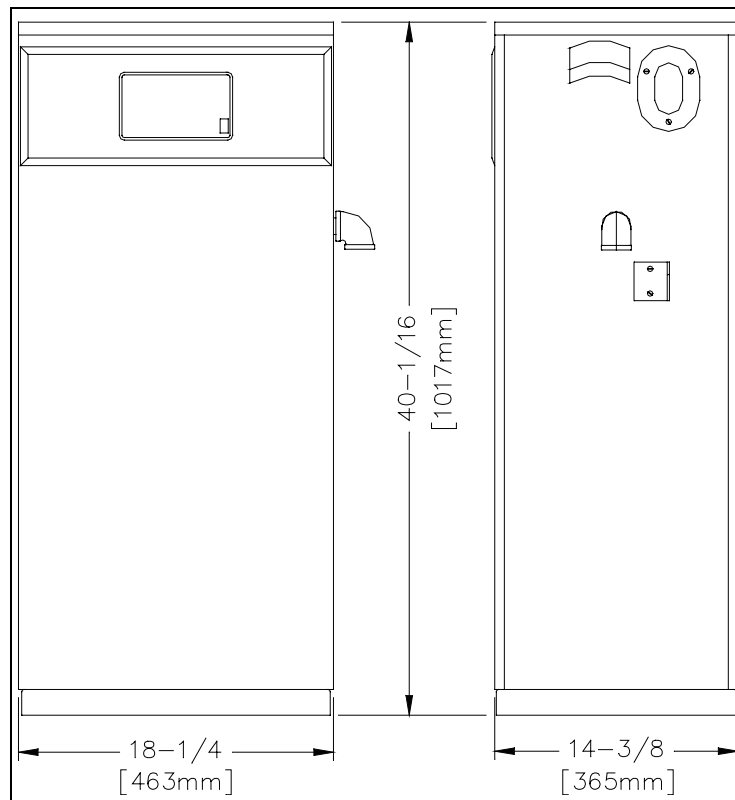
Ensure that both the pipe and the tank are clean. Foreign matter entering the pump can cause extensive damage. Obstructions in the supply line can create pump problems and reduced flow rate.

Ensure that all pipe threads are properly cut and the inside reamed to remove burrs. Use UL-listed, non hardening sealing compound suitable for the fluid being dispensed, on all joints of the fuel handling plumbing. The sealing compound must also be resistant to Gasohol (Ethanol and Methanol) when used with those fuels. Do not use Teflon Pipe Sealing Tape. Use the sealing compound on male threads only; pipe compound used on female threads can be squeezed into the supply line where it can enter the product stream and become lodged in the pump or meter. Install swing joints or approved flexible pipes under the pump and at the tank to avoid breaks in the supply line from settling or frost heave.

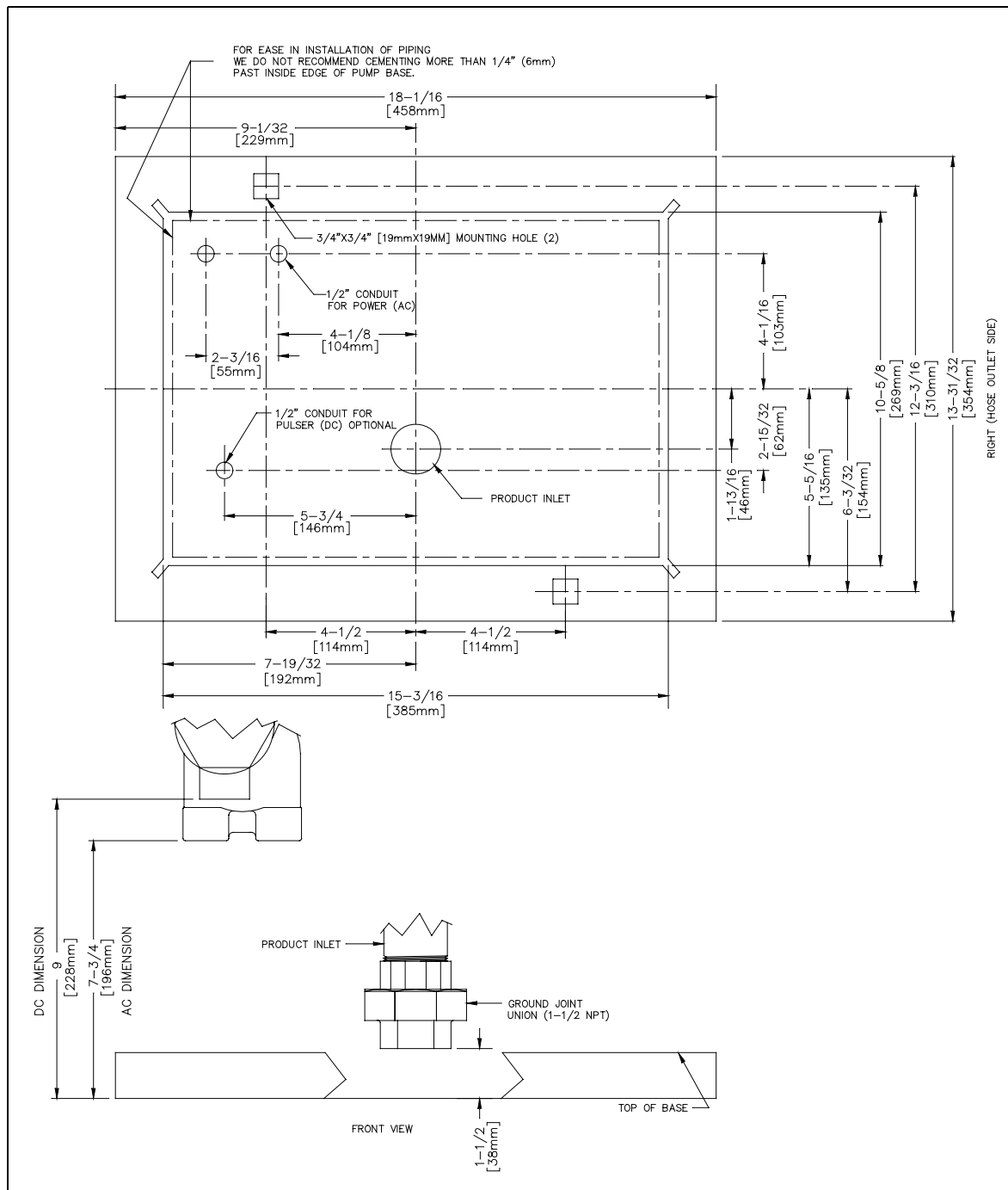
To avoid product delivery problems on suction pumps, ensure that there are no traps in the supply line. Supply lines should go straight down beneath the pump to a point 18-inches (45.7 cm) below the ground level and pitch at a rate of 1/8-inch (3.18 mm) per foot (.305 m) from there down to the storage tank. The supply line should be as short and direct as possible with swing joints at all turns. Support the horizontal run of pipe at 10 foot intervals to maintain pitch and prevent traps. Do not use wood as pipe supports. No additional check valves are required as the suction pump contains an inlet check valve.

*Note: After completion of installation, all liquid-carrying lines must be checked for leaks.*

## Dimensions



# Base Layout





## 4 – Wiring

---

### Wiring Precautions

*Note: Customers and installers having any questions pertaining to the installation should contact their Gasboy distributor.*

The quality of the electrical installation is a major factor in maintaining proper safety levels and providing trouble-free operation of your pump. To assure a quality installation, follow these rules:

- 1 All wiring must be installed to conform with all building/fire codes, all Federal, State, and Local codes, National Electrical Code, (NFPA 70), NFPA 30, and Automotive and Marine Service Station Code (NFPA 30A) codes and regulations. Canadian users must also comply with the Canadian Electrical Code.
- 2 Use only threaded, rigid, metal conduit.
- 3 Use only UL-approved insulated gasoline and oil-resistant stranded copper wiring of the proper size.
- 4 Wire connections should be tightly spliced and secured with a wire nut; close off the open end of the wire nut with electrical tape.
- 5 The line to the motor should be on a separate circuit and installed on a 20 to 30 AMP breaker depending on the motor size and/or the voltage setting.
- 6 Install an emergency power cutoff. In addition to circuit breaker requirements of NFPA 70 and NFPA 30A, a single control which simultaneously removes AC power from all site dispensing equipment is recommended. This control must be readily accessible, clearly labeled, and in accordance with all local codes.

#### **WARNING**

To reduce the risk of electrical shock when servicing, turn off and lock out all power to the pump, including the motor.

- 7 Qualified electricians who are familiar with installation of this type of equipment must perform the installation of the pump.

## Grounding

To ensure proper operation of the equipment and provide the necessary safety factors, this unit must be grounded. A ground wire (green or green with yellow stripe) must be connected between the unit's AC junction box ground lug and the main electrical service panel. One (1) earth ground connection is required per unit. The ground rod is to be a solid, corrosion-resistant conductor and must be installed on the main electrical panel in accordance with the National Electrical Code. It should be properly tied into the ground bus strip of the panel. We recommend the neutral and ground bus strips be bonded together (unless prohibited by local codes).

## Circuit Breakers

Power to the unit must be supplied from a dedicated breaker. No other equipment should be powered from this breaker. A tag on the motor identifies the maximum current draw of the motor. If two units are supplied from one breaker, that breaker must be capable of handling the load of both motors.

## Pump Motor

Pumps are shipped from the factory with motors wired according to the specifications given on the order regarding kind of current, frequency and voltage.

Very often on installation, it becomes necessary to change the original setting to suit the AC power source. To do this, locate the motor change-over plate (typically located on the shaft end of the motor) and remove the screw which secures it in place. Slide the plate so that the desired voltage, as marked on the plate, lines up with the screw hole. Reinsert the screw and secure the plate in place. 380 VAC pumps are permanently set and cannot be changed.

Many motor failures result from improper setting of the motor change-over plate. If set for 120 VAC and a 240 VAC feed is used, the motor will burn out after running only for a short time. If set for 240 VAC and a 120 VAC feed is used, the motor will run very slowly and the starting field will soon burn out.

Motor Amp Ratings				
Models	115 V/60 Hz Units	230 V/60 Hz Units	230 V/50 Hz Units	380 V/50 Hz Units
582	6.8	3.4	4.0	N/A
583	10.6	5.3	6.3	1.5

*Note: These numbers do not account for the higher level upon startup.*

## Pulsers and Pulser Wiring

A pulser is an optional device which is used when external monitoring of the dispensing unit operation is desired. The pulser transmits one electrical signal (pulse) for each predetermined amount of fuel dispensed. The signal is received by the external monitor (fuel management system) which keeps a running total of the quantity of fuel being dispensed during each transaction.

All Series 580 pulsers are operated with DC voltages. These are reed pulsers which are available as either 1:1 or 10:1 pulses per unit of measure. The pulser type should be selected according to the monitoring equipment, the application, and the regulations that must be met.

All Series 580 pulsers are mechanically driven by the register. The shaft which drives the pulser does not turn during reset.

## Conduit

Use threaded, rigid metal conduit or a rigid non-metallic conduit for applications below the Gasboy Series 580 dispensing unit, to carry electrical wires. If you use non-metallic conduit, it must be at least 2 feet underground. The last 2 feet of the underground run to the ground interface must be a rigid metal conduit or threaded steel intermediate metal conduit. Tighten all threaded conduits. When the Series 580 dispensing unit is used with a Gasboy Fuel Management System, it is recommended that AC power wires be installed in a separate conduit from the DC pulser; they should not run in any sort of common conduit or trough. However, if AC and DC power wires share conduit, pulser wiring must use the cable as specified in the Pulsers section.

When using a fuel management system other than a Gasboy system, see the manufacturer's installation manual for specific conduit requirements.

All wiring and conduit runs must also conform with the National Electrical Code (NFPA 70) and the Automotive and Marine Service Station Code (NFPA 30A). All wiring and conduit runs must conform to local codes. Canadian users must also comply with the Canadian Electrical Code.

Use the charts below as a guideline to determine the proper conduit sizes. When planning the orientation of the wiring runs, follow the applicable Gasboy wiring diagram and consider the layout of the components at the site. Long runs or a large number of bends may require you to increase conduit size over what is listed, to aid in pulling wires through the conduit.

THHN/THWN Wire Areas				
Gauge	Diameter		Area (Sq units)	
	in	mm	in	mm
18	.090	2.29	.007	4.1
16	.104	2.64	.009	5.5
14	.118	2.95	.011	6.8
12	.135	3.43	.014	9.2
10	.169	4.29	.022	14.5
8	.216	5.49	.037	23.7
6	.259	6.60	.053	34.2
4	.331	8.41	.086	55.5
3	.359	9.14	.102	65.6
2	.394	10.01	.122	78.7
1063A	.417	10.59	.137	88.4

Areas of Trade Size Conduit						
Trade Size	Int. Diameter		Area (Sq units)		Fill Area (sq units) 25% Fill	
	in	mm	in	mm	in	mm
1/2	.629	16	.303	196	.076	49
3/4	.826	21	.532	343	.133	86
1	1.063	27	.862	556	.215	139
1-1/4	1.378	35	1.50	968	.375	242
1-1/2	1.614	41	2.04	1314	.509	329
2	2.087	53	3.36	2165	.839	541

To determine conduit size needed, use the THHN/THWN Wire Areas table (left) to find the area for each wire gauge. Add up all wire areas. Use the Areas of Trade Size Conduit Table (right) to select the smallest number in the 25% fill area (based on NEC 501-1) that comes closest without exceeding the total wire area.

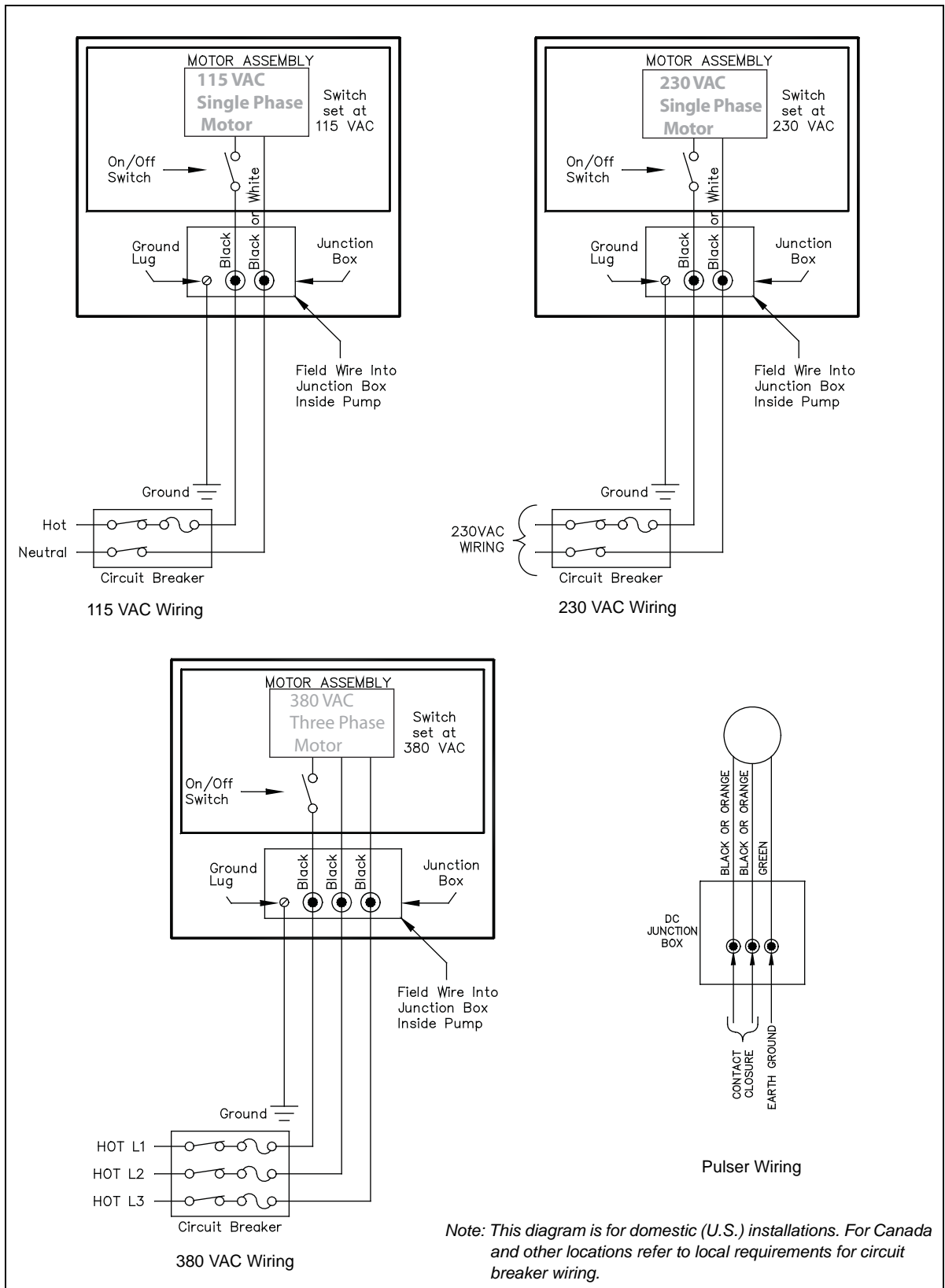
*Notes: 1) Pulling of spare wires is highly recommended should wire damage occur at a later date.*

*2) All wiring and conduit runs must conform with all building/fire codes, all Federal, State, and Local codes, National Electrical Code, (NFPA 70), NFPA 30, and Automotive and Marine Service Station Code (NFPA 30A) codes and regulations.*

*3) Some motors contain a brown wire (Switch Detect) which is capped at the factory. When used, it connects to a solenoid valve or fuel management system. Do not connect this wire without first checking the ON voltage of this line to ascertain compatibility with the equipment being connected.*

*4) All wiring must be installed according to the requirements outlined in this section.*

# Wiring Diagram



*This page is intentionally left blank.*

## 5 – Startup and Operation

---

### Pre-startup Checklist

The information below should be reviewed to help verify the proper installation of your Gasboy pump. If the installation does not meet criteria listed, as well as any Federal, State, and Local codes and requirements, correct the problem before powering on the unit.

- 1 The unit must be properly secured.
- 2 All plumbing must be complete and tight. All below ground piping must be checked for leaks. All liquid carrying lines must be checked for leaks.
- 3 When DC pulsers are used in the pump, the AC and DC wires must not share any conduits, junction boxes, or troughs.
- 4 All conduit work must be complete. All junction box covers must be secured with all fasteners. Conduit seals should not be sealed until the wiring is verified through proper operation.
- 5 The unit must be properly grounded.
- 6 Before any testing begins, remove any water in the tank through a fill opening, using a suitable pump. Do not use the Gasboy pump to remove water. Serious damage may occur.
- 7 A sufficient volume of fuel must be present in the tank to ensure that the liquid level is above the bottom of the suction pipe.

### Startup and Pump Operation

*Note: In order to provide the highest level of safety to you, your employees, and customers, it is recommended that all employees be trained regarding the location and procedure for turning off power to the entire system.*

After successfully verifying the installation against the pre-startup checklist, the unit is ready for startup. Follow the procedure listed below to perform an orderly start-up.

- 1 Turn on the circuit breaker for the pump.
- 2 Remove the nozzle from the boot.
- 3 On the right side panel, pull out the switch rod and knob assembly. This will turn on the motor and activate the pump.

- 4 Push the reset button to zero the register.
- 5 Dispense fuel. Check all plumbing for leaks at this time.
- 6 Push the switch rod and knob assembly in to shut off the pump motor. Open the nozzle. No fuel should be dispensed. The amount delivered should be displayed on the register. If an optional pulser kit is attached, it will be supplying pulses which may be recorded by an external monitoring system. Verify if the external monitoring system is reading properly.
- 7 Repeat steps 3 through 6 several times to ensure that the pump is operating satisfactorily.

## Post Startup Tests

### Voltage

The incoming voltage to the pump should be checked and any reading not within 10% of rated voltage should be corrected before testing is continued. When dealing with suction pumps, it is a good practice to note down voltage readings while the suction pump is operating on bypass (turned on but not dispensing product) and also while making a delivery. Any voltage drop in excess of 10% during either of these operating states should be considered a low voltage condition. Corrective action should be taken to ensure adequate power supply to the pump.

### Tightness

After determining that the pump is operating satisfactorily and the system is fully primed, check the pump and piping to make sure that all connections are tight.

### Meter Calibration

The 580 Series Pump is adjusted for accurate measure of the specified fuel (gasoline or diesel) within  $\pm .05$  gallons at the factory. However, since the conditions of the installation can affect pump accuracy, it is the responsibility of the installer to check the pump for accuracy and make any needed adjustments.

Choose the flow rate at which the meter will be used most often for the zero calibration point. For example, if the pump is being used with an automatic nozzle, calibrate with the nozzle set on the middle or top notch position, whichever is used most frequently.

Use a certified seraphin can to conduct the test. Fill and drain the test measure to completely wet the interior surfaces. Reset the register to zero and deliver an exact amount into the test can at the selected flow. Read the level of the liquid in the sight glass on the scale in  $\pm$  cubic inches.

The calibration adjustment screw is located on the underside of the meter just behind and to the left of the meter inlet. Using a flat-blade screwdriver, turn the adjusting screw clockwise to correct for plus cubic inches or counterclockwise for minus cubic inches in the test measure.

Count the number of full turns and fractional turns each time for reference in judging the number and direction of any additional turns required to calibrate the meter to exact zero.



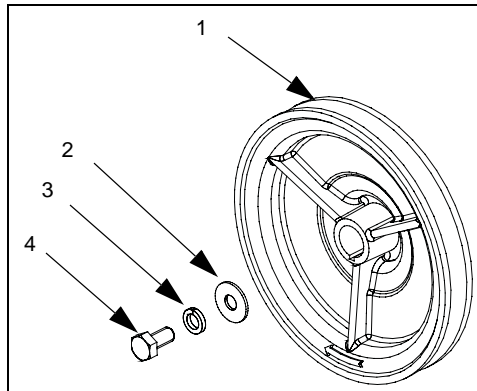
## Strainer Cleaning

Clean the strainer immediately after the pump has been installed and tested, and again after a few hundred gallons have been delivered. Thereafter, once every six months, or as required. The procedure for cleaning the strainer can be found in the Maintenance and Troubleshooting section.

## Belt

Since belts do stretch slightly during the first few minutes of operation, check the belt tension after completing the operational test. See the Maintenance and Troubleshooting section for details.

## Reconfiguration of Pump Pulley for Hand Crank Operation



Before a hand crank can be used to pump fuel, you must reconfigure the pump pulley as follows:

- 1** Unscrew and remove the screw (4), lock washer (3), washer (2), and pump pulley (1).
- 2** Flip the pump pulley (1) around so the shorter groove at the back is exposed at the front end.
- 3** Replace the pump pulley (1), washer (2), lock washer (3), and screw (4) and tighten the screw.
- 4** Engage the hand crank belt to the shorter groove.

*This page is intentionally left blank.*

## 6 – Maintenance and Troubleshooting

---

### When Your Pump Needs Service

When your pump needs service, follow these guidelines:

- Procedures requiring disassembly of portions of the pump should be performed by competent service personnel. Gasboy has a distributor network which services fuel dispensing equipment in every part of the country.
- Turn off all power to the pump to reduce the risk of electrical shock when servicing (including changing of fuel filters or strainers). Also block islands so that no vehicles can pull up to the pump when it is being worked on.
- Replace worn, rusted, or corroded parts immediately with new authorized service parts supplied by Gasboy. Replacing parts with incorrect or substandard substitutes will result in unsatisfactory pump operation. Always use new gaskets or seals when servicing or rebuilding Gasboy equipment; do not re-use old ones. Using authorized parts will ensure the continuity of the Underwriters' Label on your pump.

“[Parts List](#)” on [page 29](#) lists parts and service procedures for the 580 Series. Using part numbers when ordering will expedite your order and reduce the possibility of the wrong parts being shipped.

The remainder of this section contains troubleshooting information and assembly/disassembly procedures for various components that may need service.

### Maintaining Trouble-free Operation

- **Operate with Reasonable Care:** Like any machine, the pump or remote dispenser that is operated with reasonable care will last longer and give better service. Abuse should be avoided (such as dropping the nozzle on the ground, operating the unit with a dirty strainer, dragging the hose across the concrete island or driveway, running the pump with the nozzle closed for more than two minutes and so on). The time and care given to your pumps will be returned to you in the form of dependable service.
- **Remove Water from Tank:** After every fill-up, check your tanks for water. Water can accumulate in both underground and above ground storage tanks due to condensation or defective fill openings that are not properly protected with watertight covers. Remove any water with a sump pump to forestall serious damage to equipment. Water, sediment, and other foreign matter that accumulates in the tank can be drawn up into the pump and cause failures.
- **Clean the Dial Face:** Use a soft, clean, damp cloth as needed.

- **Filter:** If the unit is equipped with a filter, check and change it at regular intervals. A dirty filter in a pump or remote dispenser will cause a slower delivery rate. Refer to the accessories section of your parts manual to ensure that you replace the filter with one designed for your model. Always use a drip pan directly below the filter when removing the cartridge to prevent contamination of both the soil and the electrical components within the cabinet.
- **Clean the Strainer:** Clean the strainer immediately after the pump has been installed and tested, and again after a few hundred gallons have been delivered. Thereafter, once every six months, or as required. The symptoms of a dirty or clogged strainer in a pump are slow delivery, noisy operation, and pulsation.

*Note: This procedure should be performed only by an authorized Gasboy distributor or installer.*

To clean the strainer, proceed as follows:

- 1 Turn off and lock out AC power to the pump.
  - 2 Unthread the drain plug located near the bottom of the strainer (marked "Filter") cap. Ensure that you use a container of sufficient capacity to catch the fuel as it drains from the pump.
  - 3 Loosen the four bolts that hold the cap in place.
  - 4 Carefully remove this cap which holds the spring, strainer, and inlet check valve assembly in place.
  - 5 Use compressed air to blow the dirt from the strainer. Always wear protective safety goggles or glasses when using compressed air.
  - 6 Replace the inlet check valve, strainer, and spring and reinstall the strainer cap. Ensure that the O-Ring that seals the cap is installed properly before tightening the bolts.
  - 7 Reinstall the drain plug using sealing compound approved for this application.
- **Lubrication:** Lubricate the start/stop linkage. Apply one drop of oil (SAE10) at each pivot point of the start/stop linkage every six months.
  - **Adjusting the Belts (Suction Pumps Only):** With proper care, belts will give exceptionally good service. A loose belt not only cuts down dispensing speed due to slipping, but also results in excessive wear. A properly tightened belt will allow twisting the belt 180 degrees midway between the motor and the pump pulleys. Before adjusting any belt, turn off AC power to the pump/remote dispenser.  
The belt can be tightened by loosening the hex nut which holds the idler pulley and sliding the pulley to the side to obtain the correct belt tension of 6-3/4 lbs. + 3/4 (30N, +3.3N). When the adjustment is complete, remember to retighten the hex nut.
  - **Preserve the Finish of Your Pumps:** Nearly all gasoline pumps are installed outdoors where their surfaces are subjected to the action of the weather. As a result, it is necessary to give the finish a reasonable amount of care if an attractive appearance is to be maintained.

The finish on Gasboy pump housings is a high-heat baked synthetic enamel, similar to that used on automobiles. The life of this finish can be lengthened several years if, at regular intervals, the painted surfaces are thoroughly cleaned with a high grade automobile polish and then protected with a coat of paste wax. Do not use abrasive cleaners or polish. Do not use high pressure spraying equipment.

In order to retain the unmarked finish on stainless steel, occasional cleaning is required. In corrosive atmospheres, such as coastal areas, a more frequent cleaning schedule is necessary. Under ordinary conditions, washing with detergent or soap and water, followed by a clean water rinse, is sufficient. If hard water is used, the surface should be wiped dry with a soft clean cloth to prevent the formation of water spots. Marks or spots, such as grease, oily fingerprints and smudges which resist soap and detergents, will have to be removed with a stronger cleaner. (DO NOT use ordinary steel wool as iron particles may adhere to the surface and cause corrosion). Care should be taken in choosing a cleaner because any cleaning compounds or powders which contain abrasives can scratch a mill-rolled finish. Care must be exercised in their use to run in the direction of the polishing lines in the steel, never across them. After cleaning, an application of paste wax is recommended to protect the surface and prolong the interval between cleaning.

## Troubleshooting

If problems are encountered in operation of the pump, follow the procedures below in an attempt to isolate the problem.

### Pump Does Not Start

- ✓ Is the breaker at the panel turned on?
- ✓ Is there power at pump? Check at junction box. Voltage cannot be below 104 V on a 115 V pump; 204 V on a 230 V pump.
- ✓ Is motor overheated (thermal switch cutoff)? Be careful, the external motor surface could be hot enough to cause injury. Let cool and re-try.
- ! Replace motor if above checks do not solve the problem.

### Pump Hums but Does Not Start

- ✓ Is voltage adequate? Check voltage with pump on bypass with nozzle closed. Voltage cannot be below 104 V on a 115 V pump; 204 V on a 230 V pump.
- ✓ Check pump drive shaft for free operation.
- ! Replace motor if above checks do not solve the problem.

## Pump Runs but Does Not Prime or Deliver Product

- ✓ Is there fuel in the tank?
- ✓ If register is recording but no product is being dispensed, you may have a supply line air leak.
- ✓ Check for an air leak on suction side of pump. Is check valve seated properly? Reassemble and prime pump using liberal quantity of motor oil in pump cavity; if it primes, run pump full flow and snap nozzle closed; shut off motor and check for leak on suction side of pump above check valve. Any observed liquid leakage would indicate an air leak when pump is running with nozzle open and would prevent priming when pump was empty.
- ✓ Is there an air leak in the suction line below check valve. Make accuracy check using 5 gal Seraphin test can. Any clock fast error (refer to [“Inaccurate Delivery”](#) on [page 27](#)) in excess of 2-1/2% indicates an air leak in the suction line. The most common source of an air leak in the suction line is the union - check union for alignment and tightness before checking balance of suction line. If pump does not prime using oil, suction line is blocked or has a severe air leak.

## Pump Delivers Product but Does Not Register

- ✓ Is main totalizer recording? If yes, problem is in the register assembly. Check to ensure that the reset mechanism is working properly. Reset button should return fully to its original position after being pressed. The reset lever (that is activated by the reset button) should also return to its original position.
- ✓ If the main totalizer is not working, the problem could be a broken/jammed measuring chamber or a jammed pulser drive. If the unit has a pulser, check to ensure that the pulser drive operates freely. Excessive drag exerted by this assembly will lock up the register and totalizer.

## Pump Delivery is Slow

- ✓ Check for dirty strainer.
- ✓ If pump has a filter, change filter.
- ✓ Check for supply line restriction by testing the pump with a vacuum gauge. If vacuum is abnormally high, there is a restriction.

## Pump Loses Prime

- ✓ Inspect check valve poppet and seat for clean mating surfaces.
- ✓ If, after a period of non-use, a pump delivers product initially, followed by air and then full flow, there is an air leak in the suction line.
- ✓ Install pressure gauge between hose and nozzle. Operate pump at full flow. Snap nozzle closed and turn off pump. If pressure falls to zero rapidly, replace check valve and clean and inspect valve seat.

## Inaccurate Delivery

- ✓ Calibrate the meter (refer to “Wiring” on page 13).

A clock-fast error (more on the register than is delivered) in excess of 2.5% is due to air in the suction line or vaporization of gasoline in the pump. Check pump for loss of prime and suction line for air leak.

A clock-slow condition may result from: any slowing of the register or measuring chamber due to excessive friction resistance or mechanical failure; inadvertent bypassing of the measuring chamber. Check register for zero setback; check reset lever return to top of slot in meter cover after setback; check for “hang-up” of number wheels in register or gears not meshing.

## Pump Delivers Product When not Turned On

- ✓ In above ground storage tank, if fluid level is higher than pump, positive head pressure may force product through pump. Install a pressure regulating valve or a solenoid valve in the supply line to the pump.

## Meter Register Disassembly

The B size measuring chamber can be removed for cleaning by taking out four meter body screws, lifting off register assembly and removing three measuring chamber screws. After separating and cleaning top and bottom half, reassemble, making sure baffle is seated in grooves in top and bottom halves and through slot in measuring disc. Do not drop or sharply strike chamber parts while handling. Rotate disc to make sure it turns freely and replace in meter body. Do not overtighten screws. A torque of 20-25 ft-lbs is sufficient. When reassembling register to meter body, use a new O-Ring.

## 4860 4 - Wheel Register Service

*Note: Numbers in parentheses correspond to the numbers shown on the parts illustration and parts list in “Parts List” on page 29 labeled 4860 4 - Wheel Register.*

### Replacing the Bearing and Seal Assembly

To replace the bearing and shaft seal assembly, or service the gear train on back of register housing, remove housing from meter by taking out four screws.

*Note: The meter housing will be full of liquid so some means should be available to catch what drains from the case and lines.*

To remove gears, remove three retaining rings and drive key. Withdraw the drive shaft and gear, spacer, and all parts of bearing and seal assembly. Remove the nylon washer from item 26 and note its location. Remove both oilite bearings and both O-Rings from bore in register housing. Using new parts, which consist of a new nylon washer, two oilite bearings, and two O-Rings, reassembly parts in reverse order. Ensure that you lubricate both O-Rings with an O-Ring lubricant before assembling.

Reassemble gear train in following sequence: gear, key, cluster gear, retaining ring, control block, and retaining ring.

*This page is intentionally left blank.*



## 7 – Parts List

---

### General

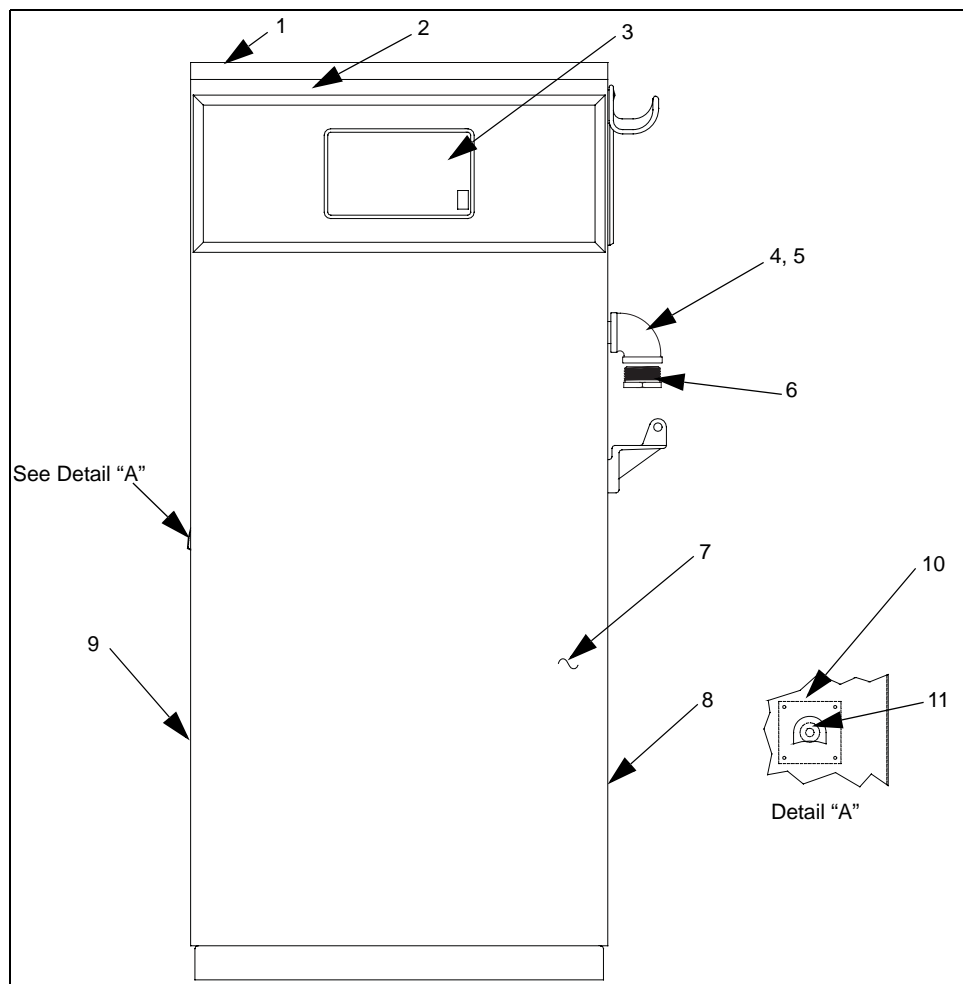
This section lists parts information for the Gasboy 580 Series pumps. Using part numbers when ordering will expedite your order and reduce the possibility of the wrong parts being shipped.

Procedures requiring disassembly of portions of the pump should be performed by competent service personnel. Do not depend upon the repair service of a general mechanic unless he is thoroughly familiar with the mechanism. Gasboy has a distributor network which services fuel dispensing and management systems in every part of the country.

#### **WARNING**

To reduce the risk of electrical shock when servicing, turn off and lock out all power to the pump. Always turn off and lock out all power to the pumps at the master panel before performing maintenance or service, including the changing of any fuel filters or strainers. Also block islands so that no vehicles can pull up to the pump while it is being worked on.

## 582/583 Front View

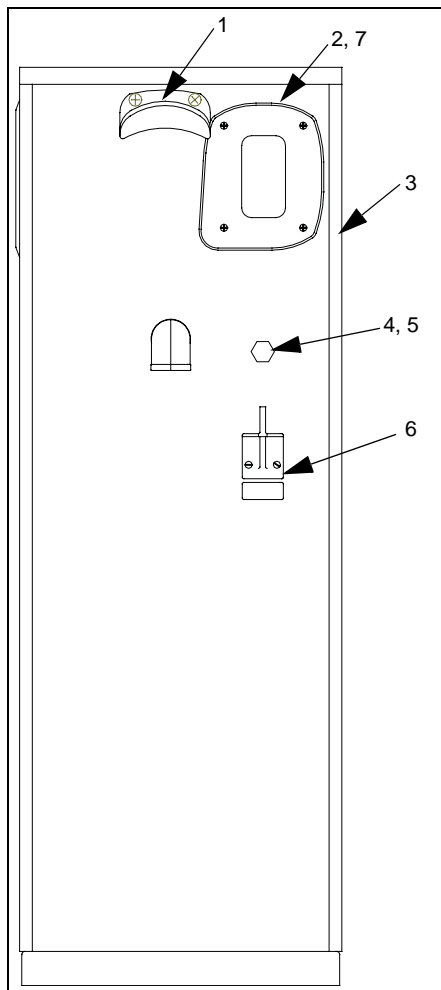


Item	Description	Part Number
1	Cover-Top Painted (See Note)	042206
	Cover-Top SS	042207
2	Bezel-580 (also specify standard Gasboy silk-screen, below)	012328
	Silk-screen, Standard	*029703
3	Dial Glass-580	028650
4	Grommet, 1-inch	028960
5	Discharge Elbow, 1-inch	024895
6	Reducer Bushing, 1 x ¾, 582 Only	017278
7	Door-Front-Painted, 580 (See Note)	024581
	Door-Front-SS, 580	024852
8	Panel-Side Right Painted (See Note)	041386
	Panel-Side Right SS	041393
9	Panel-Side Left Painted, 580 (See Note)	041385
	Panel-Side Left SS, 580	041391

Item	Description	Part Number
10	Plate	045804
11	Grommet	058021

*Note: Painted standard Gasboy colors unless otherwise specified. Refer to "Introduction" on [page 1](#) for details on standard colors.*

## 582/583 Side View

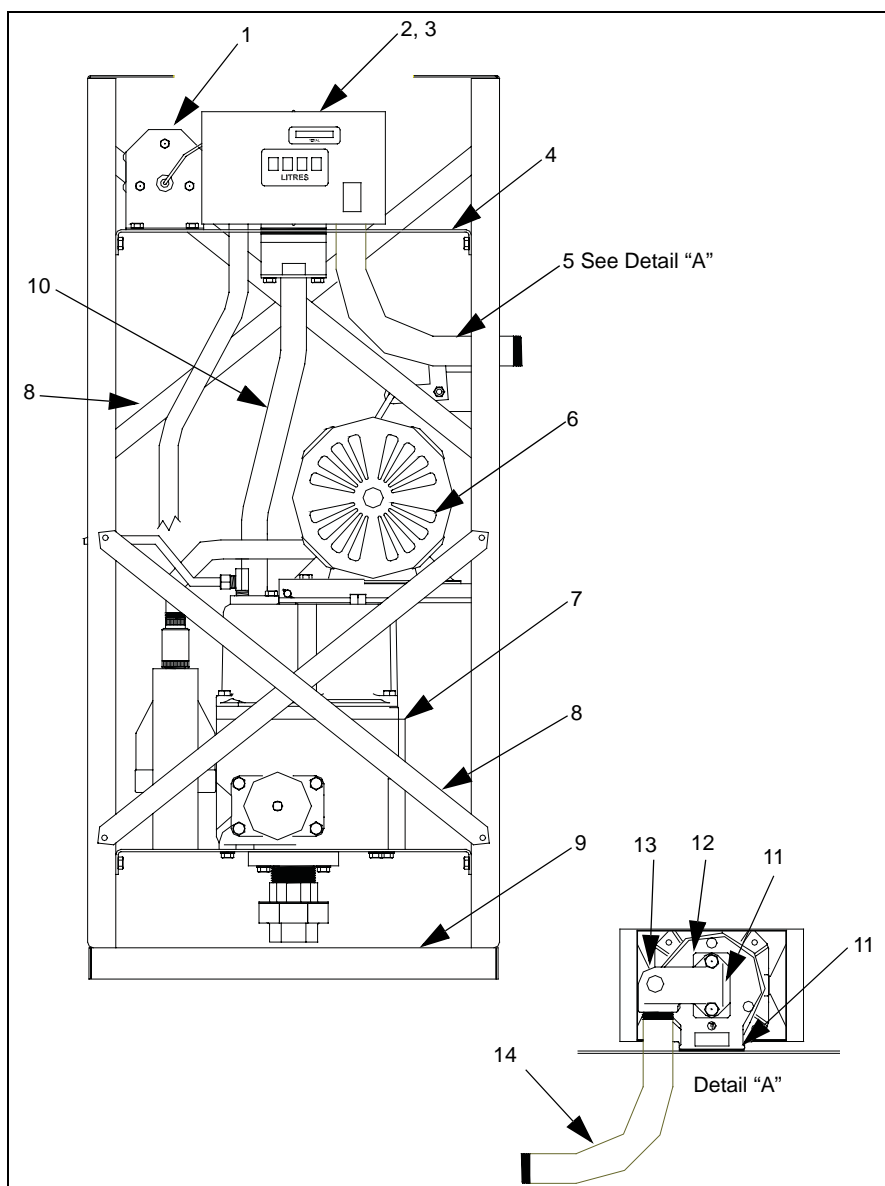


Item	Description	Part Number
1	Hook Hose	003740
2	Boot Nozzle	003338
3	Panel Rear Painted, 580 (See Note)	030847
	Panel Rear SS, 580	041394
4	Switch Rod and Knob Assembly	033007
5	Bushing, Switch Rod	017123

Item	Description	Part Number
6	Hook-Nozzle Mach.	003700
7	Gasket-Nozzle Boot	026850

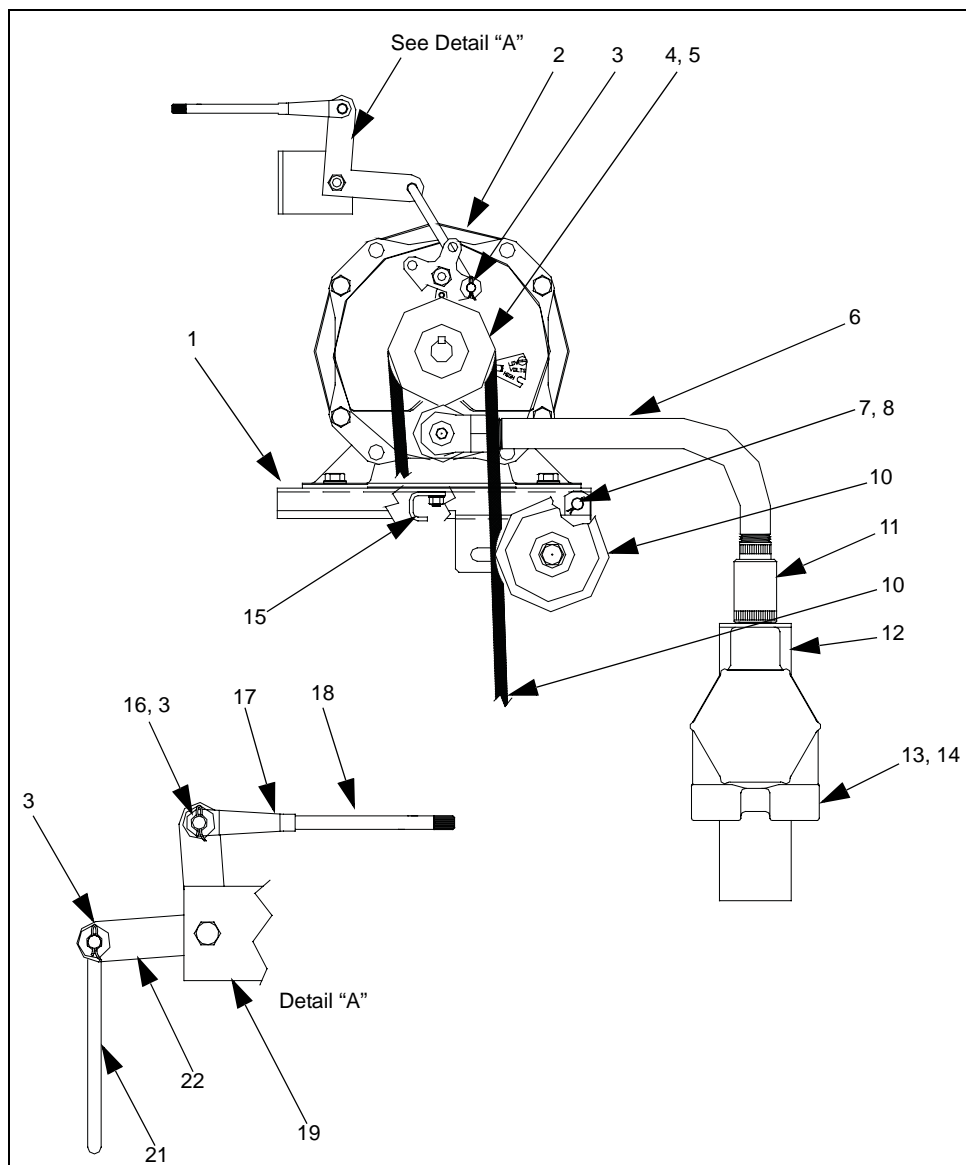
Note: Painted standard Gasboy colors unless otherwise specified. Refer to ["Introduction"](#) on [page 1](#) for details on standard colors.

## 582/583 Chassis



Item	Description	Part Number
1	Pulser Assembly, CX (See Breakdown for parts)	023062
2	Meter Register, Gallon with Pulser	036326
	Meter Register, Liter with Pulser	036327
	Meter Register, Gallons	036328
	Meter Register, Liters	036329
	Meter Register, Liters	029706
3	Dial Mask (Must specify liters {029702}, Liters {029704}, Liters {029706}, Gallons {029705}, or Gallons {029708})	035217
4	Plate	023869
5	Discharge Assembly	023088
6	Motor Assembly (See breakdown for your model)	-
7	Pump Assembly (See breakdown for your model)	023083
8	Column Brace	015797
9	Base	011902
10	Pipe Assembly (See breakdown for your model)	-
11	Gasket	027055
12	Spacer Plate, Meter Register	023077
13	Elbow Flange	003560
14	Discharge Pipe	044016

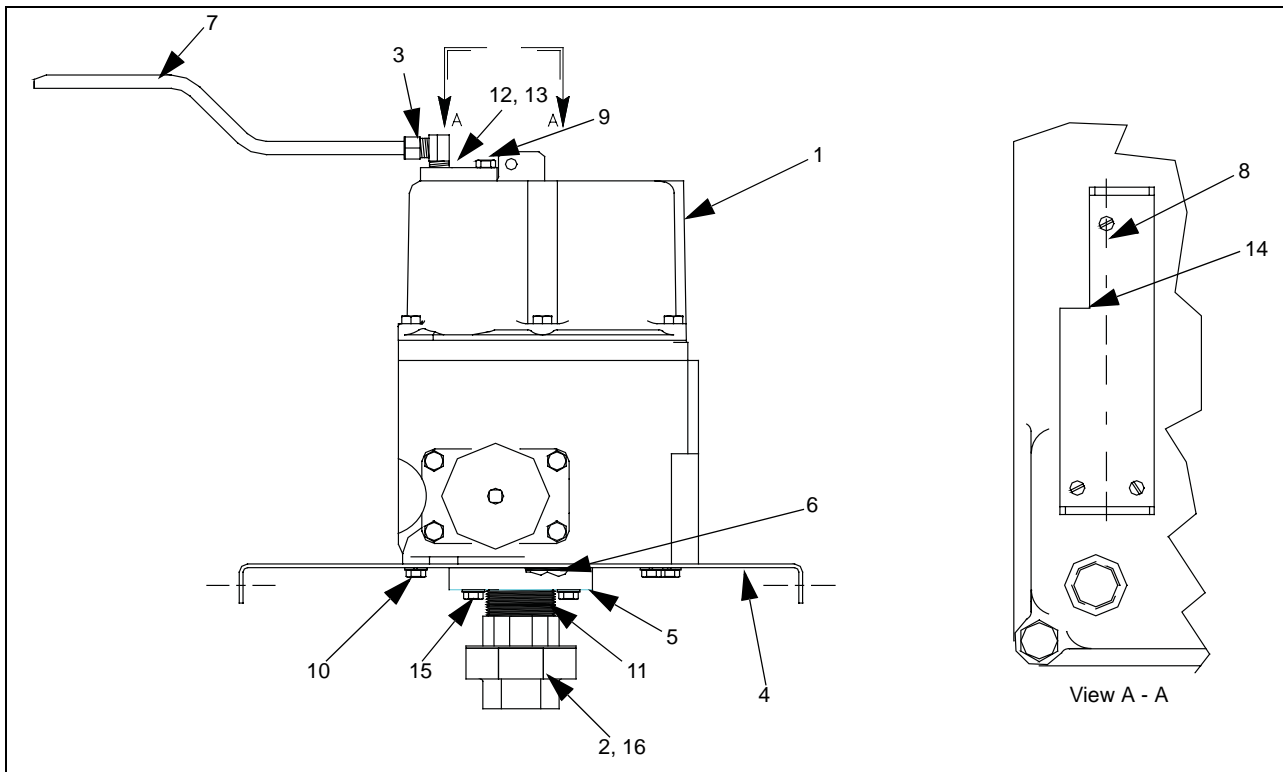
# 582/583 Motor



Item	Description	Part Number
1	Bracket-Motor Support	023072
2	Motor, Franklin, 3/4HP, DF, CW, 61FR, Model 583 only	F37609
	Motor, Franklin, 3/4HP, 61FR, Model 583, 380 V option only	F37320
	Motor, Franklin, 1/2HP, DVDF, CW, 61FR, Model 582 only	F37630
3	Cotter Pin, 1/16 x 1/2	042430
4	Pulley, 5/8 Bore, 2-3/4, 583 50 Hz	047006
	Pulley, 5/8 Bore, 2.4, 583 60 Hz	047005
	Pulley, 5/8 Bore, 1-3/4, 582 60 Hz	047203
	Pulley, 5/8 Bore, 2.0, 582 50 Hz	047204
5	Key	031315

Item	Description	Part Number
6	Conduit, Motor to J-Box	023075
7	Rod-Motor Bracket	023093
8	Cotter Pin, 3/32 x 3/4	042355
9	Pulley-Idler	047009
10	Belt, 4L400-A38, 583	012121
	Belt, Tri-Power, V-AX37, 582	012133
11	1/2-inch UNY Explosion Proof Conduit Union	066400
12	Bracket, Junction Box	023074
13	Junction Box Machining	003337
14	Junction Box Cover, Machining	003461
15	Bracket-Motor Support	015458
16	Pin-Rod End	042145
17	Rod End	050250
18	Rod-Switch Handle	051209
19	Bracket, Support	017001
20	Switch Arm	017002
21	Rod Switch	023096

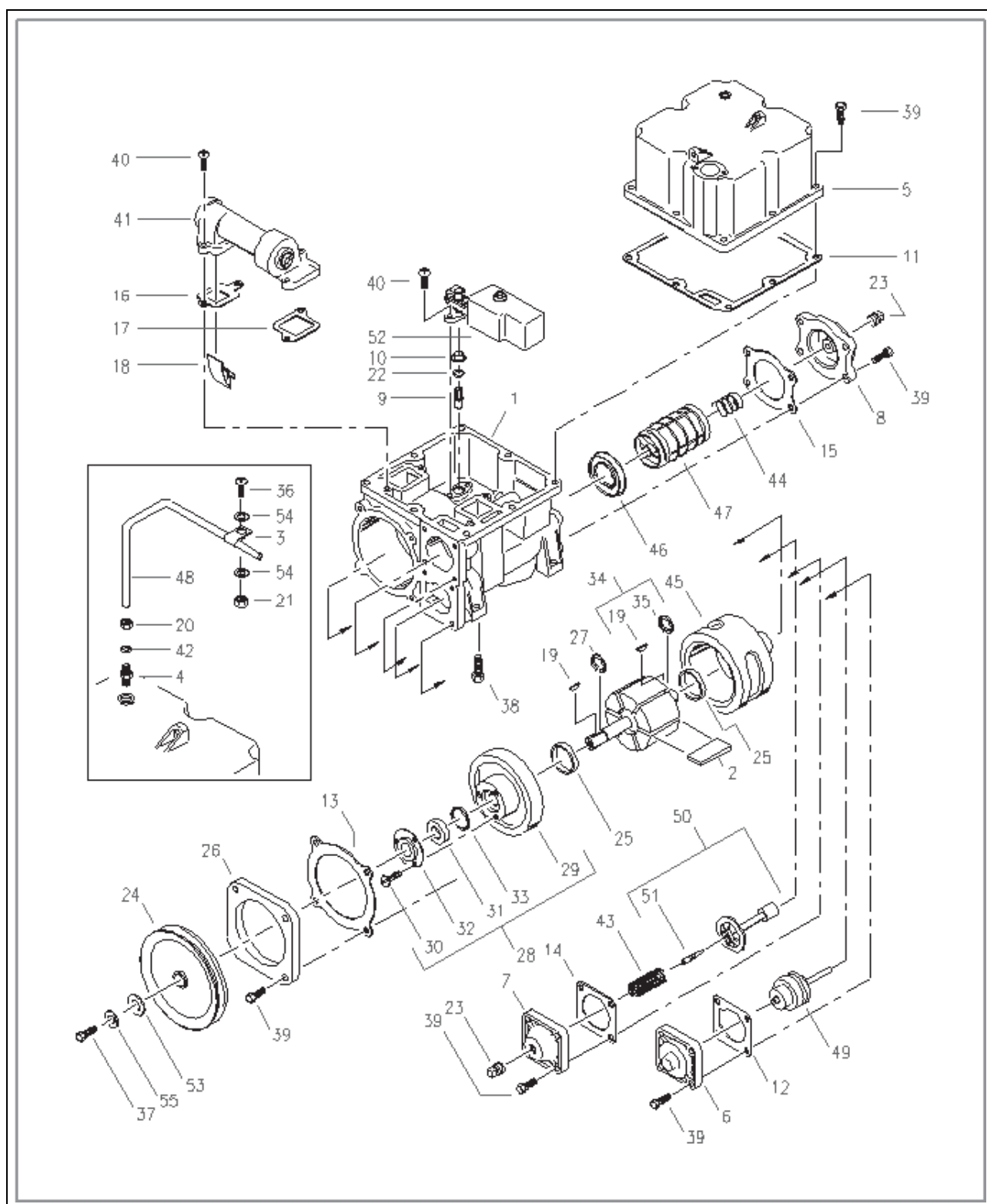
# 582/583 Pump



Item	Description	Part Number
1	Pumping Unit	M04920B003
2	Union, 1-1/2-inches	K12179
3	Fitting, E1, 3/8 Flare X 1/4 NPTM	026038
4	Pump Support Plate	023071
5	Inlet Adapter	023146
6	O-Ring, 2.237 X 0.103	Q10067-31
7	Tube Air Vent	M08687B001
8	Screw, Tap 1/4-20 X 5/8 Long	K85736-39
9	Screw, M6 X 20	M04973B001
10	Bolt, M8 X 1-25 X 20 mm	Q11106-06
11	Nipple, 1 1/2 X 1-3/4 Long	R11493-77
12	Outlet Flange	023092
13	O-Ring 1-1/8 X 1-3/8 X 1/8	Q10068-07
14	Motor Support Bracket	014565
15	Screw, M10 X 20 Long	M04973B004
16	Gasket, Seal Suction	054190



# Pumping Unit Breakdown



## Model M04920B003 - Pumping Unit Parts List

Notes: 1) Parts listed in the following table are not available for individual purchase. Repair kits may be purchased. Refer to [“Accessories and Field Kits”](#) on page 43.

2) Refer to [“Adjustable Bypass Parts Breakdown”](#) on page 39 for additional parts and graphics.

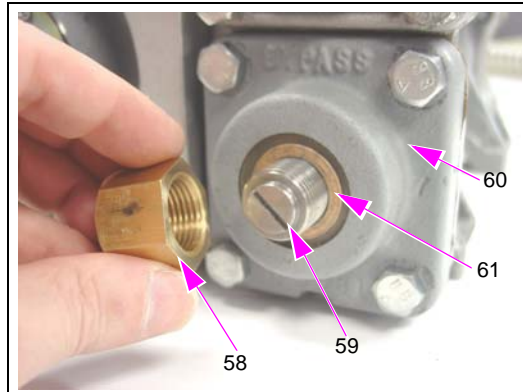
Item	Part Description	Quantity
1	Body (non-reverse float)	1
	Body (reverse float)	1
2	Blade, Rotor	6
3	Clamp (refer to note 1)	1
4	Connector, Male	1
5	Cover, Atmos. Chamber	1
6	Cover, Bypass Valve	1
7	Cover, Control Valve	1
8	Cover, Filter	1
9	Float, Non-Reversing	1
11	Gasket, Atmos. Cham. Cover	1
12	Gasket, Bypass Valve	1
13	Gasket, Clamping Ring	1
14	Gasket, Control Valve Cover	1
15	Gasket, Filter Cover	1
16	Gasket, Inlet (Separator)	1
17	Gasket, Outlet (Separator)	1
18	Insert	1
19	Key	1
20	Nut, Tube (refer to note 1)	1
21	Nut	1
22	O-ring	1
23	Plug, Pipe 1/4-inch	2
24	Pulley	1
25	Ring, Throw Out (H.D.)	2
26	Ring, Clamping	1
27	Ring, Retaining	1
28	Rotor Support Assembly	1
29	Cover, Rotor	1
30	Screw, M3.5 Flat Hd	3

Item	Part Description	Quantity
31	Seal, Lip (with plug)	1
32	Seal, Retainer	1
33	Seal, Square	1
34	Rotor and Shaft Assembly	1
19	Key	1
35	Ring, Retaining	1
36	Screw (refer to note 1)	1
37	Screw, M8 1.25x15 mm	1
38	Screw, M8 1.25x20 mm (refer to note 1)	-
39	Screw, M8 1.25x25 mm	24
40	Screw, M6 1x20 mm	6
41	Separator & Air Eliminator	1
42	Sleeve, Tube (refer to note 1)	1
43	Spring, Control Valve (H.D.)	1
44	Spring, Filter	1
45	Stator, H.D.	1
46	Stop, Filter Insert	1
47	Strainer Assembly-149 micron	1
	Strainer, 70 Micron	1
	Paper Filter (not shown)	1
48	Tube, Vent Assy- 9024 (refer to note 1)	2
	Tube, Vent Assy- 9033 & 9036	3
	Tube, Vent Assy- 9044 & 9048	4
49	Valve Assembly, Bypass	1
50	Valve Assembly, Control	1
51	Valve, Relief 30-50 psi	1
52	Valve Assembly, Float	1
53	Washer	1
54	Washer (refer to note 1)	2
55	Washer, Lock	1

### Notes:

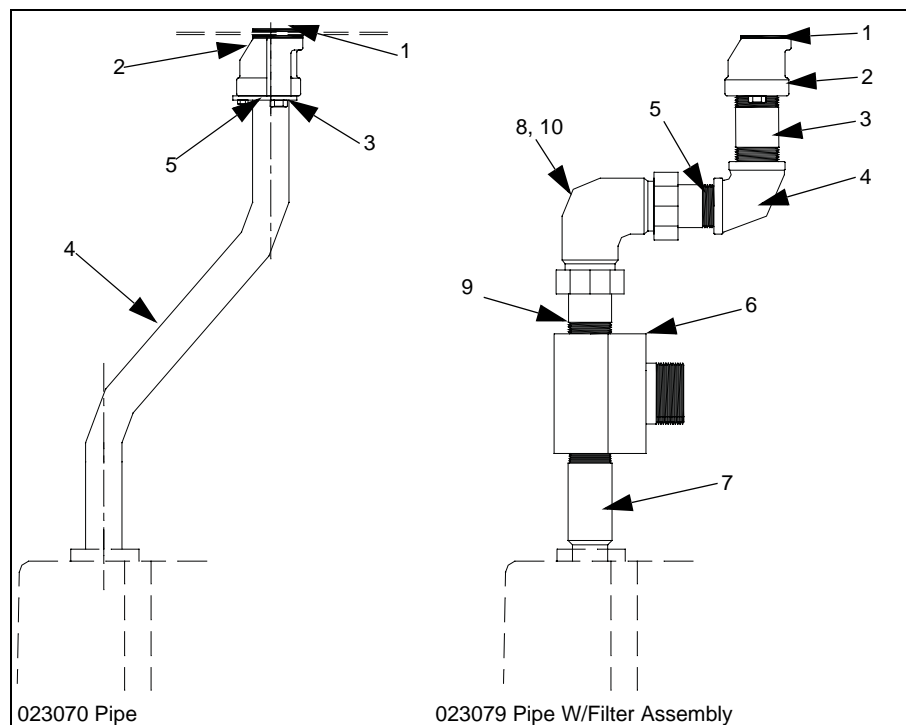
1. Not part of the pumping unit.
2. Current pumping unit use a 10-blade assembly. If you have a 6-blade rotor assembly, you can replace blades, but the replacement rotor assembly uses a 10-blade design. When you need to replace the blades, it is also recommended that you replace 6-blade rotor assemblies with a 10-blade rotor assembly for quieter operation and better performance.

### Adjustable Bypass Parts Breakdown



Item	Part Description
58	Nut
59	Screw - Adjustable
60	Cover
61	Gasket - screw

## 582/583 Piping



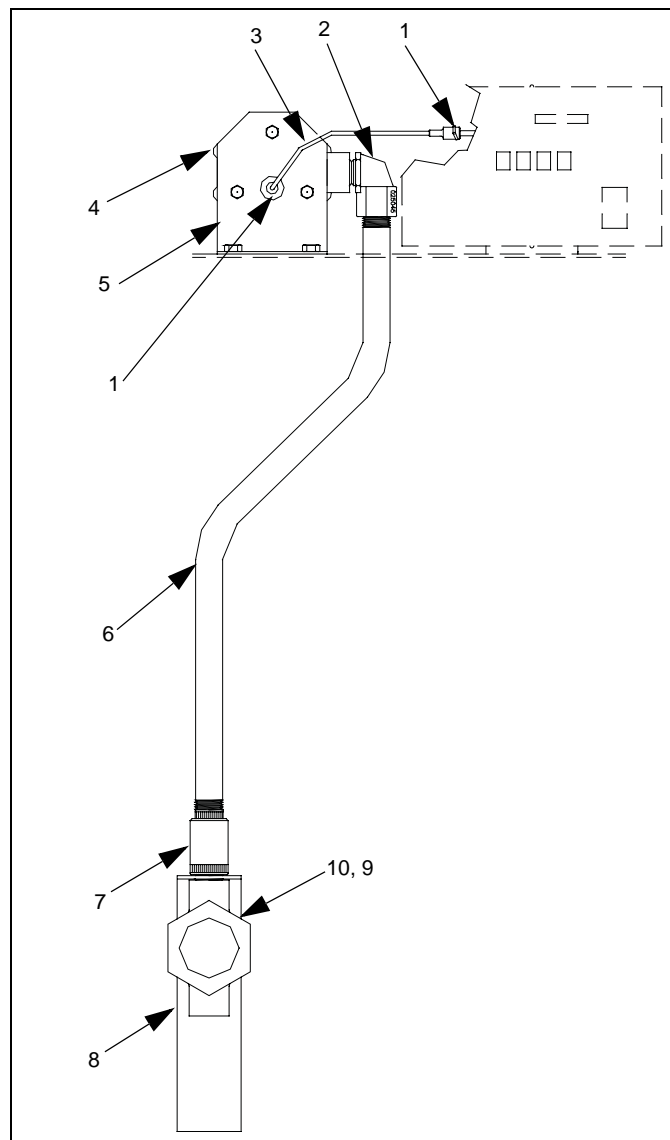
## 023070 Pipe Assembly

Item	Description	Part Number
1	Gasket-Inlet/Outlet	027055
2	Flange-Meter Inlet	015496
3	Flange Plate-Meter Inlet	015495
4	Piping-Pump Outlet	015497
5	O-Ring	023091

## 023079 Pipe W/Filter Assembly

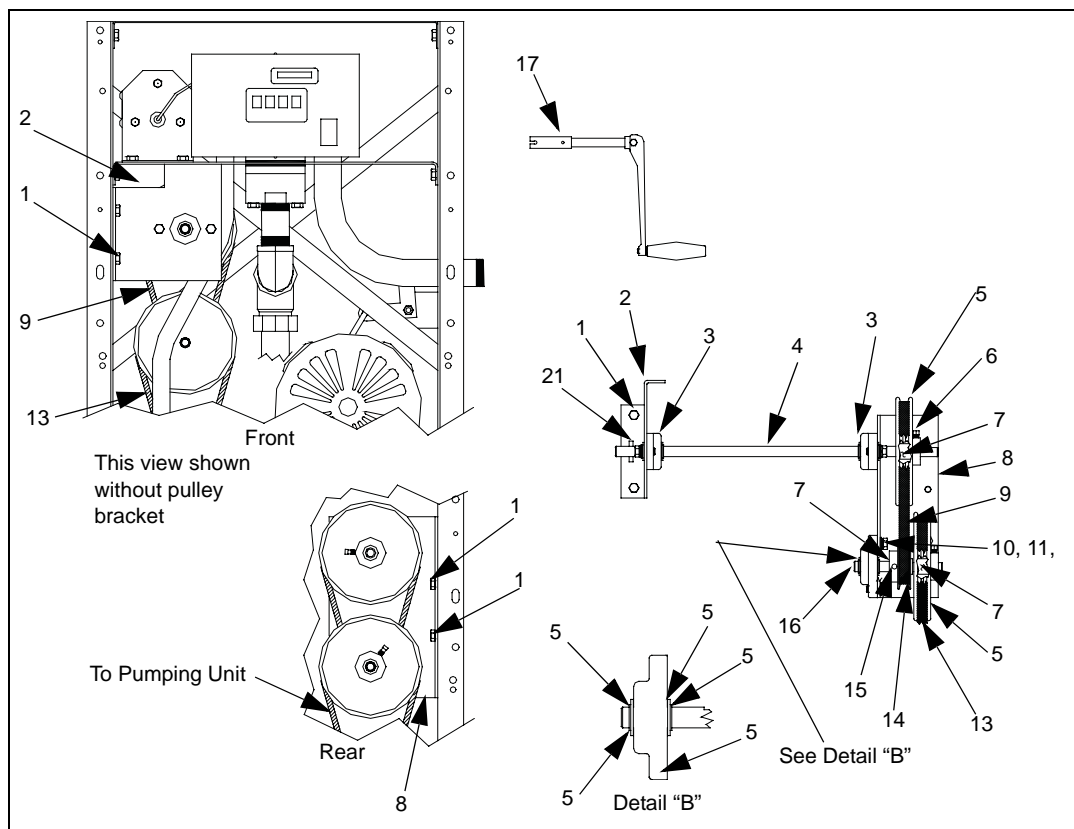
Item	Description	Part Number
1	Gasket-Inlet/Outlet	027055
2	Flange, 1-inch	003650
3	Pipe TBE, 1 x 3	044525
4	Elbow, 1-inch x 90	024895
5	Pipe TOE, 1 x 4	045235
6	Adapter, 1-inch Cimtek 400 Filter	003087
7	Coupling Nipple, 4-3/4	015498
8	Elbow, Dresser 1 x 90	024910
9	Pipe TOE, 1 x 2-1/2	045218
10	Dresser Elbow Seal, 1-inch	054207

# 582/583 Pulser



Item	Description	Part Number
1	Cotter Pin, 3/64 x 1/2	042290
2	Elbow-Conduit, 1/2 x 90 M/F	025045
3	Cable Assembly, Pulser Drive	023089
4	Pulser, 10:1, VR	021788
5	Bracket-Pulser	015919
6	Conduit, J-Box Pulser	014031
7	1/2-inch UNY Explosion Proof Conduit Union	066400
8	Bracket, Junction Box	023074
9	J-Box Machining	003340
10	J-Box Cover Machining	003515

# Hand Crank Assembly



Item	Description	Part Number
1	Screw, 5/16-18 x 1/2 Hex Washer	053910
2	Bearing-Pltd Assembly	030803
3	Housing/Bearing Assembly	030024
4	Shaft, Drive	055007
5	Pulley, 5-1/4 x 3/4-inch bore	047015
6	Screw, 1/4-20 x 5/8 Sq. Head Set Cad Case Hardened	053731
7	Bushing, Hand Crank	017130
8	Bracket, Pulley	014864
9	Belt, 4L230, A21	012166
10	Screw, 5/16-18-3/4 HHC PI	051895
11	Washer, Std. Spring Lock, 5/16	068875
12	Washer, 5/16-18 x 1/2	068080
13	Belt, 4L460-A44	012177
14	Pulley, 2-inch x 5-inch Bore	048709
15	Screw, Set 5/16-18 x 1/2	052010
16	Shaft, Drive	055005
17	Hand Crank Assembly	023139

Item	Description	Part Number
18	Washer, .505ID x .880OD, .058T	068040
19	Retaining Ring, .396 Diameter	049403
20	Pin, Roll, 3/16 x 1	043030

*Note: Refer to “[Reconfiguration of Pump Pulley for Hand Crank Operation](#)” on page 21.*

## Accessories and Field Kits

### External Low Flow Filter Kits

Typically used on Model 582. Components are not designed for use with Methanol or Methanol blends.

Kit Number	Kit Description
032115	External Standard Speed Filter Kit (includes adapter, standard speed particulate filter element and pipe fittings)
032116	External Standard Speed Hydrosorb Filter Kit (includes adapter, standard speed Hydrosorb filter element and pipe fittings)

### External High Flow Filter Kits

Typically used on Model 583. Components are not designed for use with Methanol or Methanol blends.

Kit Number	Kit Description
032754	External Single Element High Flow Kit (includes adapter, one high flow particulate filter element and pipe fittings)
032755	External Single Element High Flow Hydrosorb Kit (includes adapter, one high flow Hydrosorb filter element and pipe fittings)

### Replacement Elements (For both 582 and 583 Models)

Kit Number	Kit Description
026018	Standard (removes particulates only)
026019	Hydrosorb (removes water and particulates)

### Pulser Kit

Kit Number	Kit Description
023131	10:1 Pulser Kit

## Pumping Unit Kits

Kit Number	Kit Description
M04920K100	Bypass Valve
M04920K101	Strainer
M04920K102	Master Steel
M04920K104	Control Valve
M04920K105	Lip Seal
M04920K109	Inlet Check Valve
M04920K116	Blades
M04920K117	Pumping Element Field Rebuild
M04920K118	Pumping Element Shop Rebuild



# Index

## Numerics

003087 40	024895 30, 40	051895 42
003337 35	024910 40	052010 42
003338 31	025045 41	053731 42
003340 41	026018 43	053910 42
003461 35	026019 43	054190 36
003515 41	026038 36	054207 40
003560 33	026850 32	055005 42
003650 40	027055 33, 40	055007 42
003700 32	028650 30	058021 31
003740 31	029703 30	066400 35, 41
011902 33	029706 33	068040 43
012121 35	030024 42	068080 42
012133 35	030803 42	068875 42
012166 42	030847 31	
012177 42	031315 34	<b>A</b>
012328 30	032115 43	Alert symbol 3
014031 41	032116 43	
014565 36	032754 43	<b>B</b>
014864 42	032755 43	Barricading 3
015458 35	033007 31	
015495 40	035217 33	<b>C</b>
015496 40	036326 33	Caution warnings 3
015497 40	036327 33	
015498 40	036328 33	<b>D</b>
015797 33	036329 33	Danger warnings 3
015919 41	041385 30	
017001 35	041386 30	<b>E</b>
017002 35	041391 30	Electrical
017123 31	041393 30	Shut-off 3
017130 42	041394 31	Emergency
017278 30	042145 35	Electrical shut-off 3
021788 41	042206 30	In Case Of 5
023062 33	042207 30	Personnel (contacting) 4
023071 36	042290 41	Evacuation 3
023072 34	042355 35	Explosions
023074 35, 41	042430 34	Preventing 3
023075 35	043030 43	
023077 33	044016 33	<b>F</b>
023083 33	044525 40	F37320 34
023088 33	045218 40	F37609 34
023089 41	045235 40	F37630 34
023091 40	045804 31	Fires
023092 36	047005 34	Preventing 3
023093 35	047006 34	
023096 35	047009 35	<b>K</b>
023131 43	047015 42	K12179 36
023139 42	047203 34	K85736-39 36
023146 36	047204 34	
023869 33	048709 42	
024581 30	049403 43	
024852 30	050250 35	
	051209 35	

---

## M

M04920B003 36  
M04920K100 44  
M04920K101 44  
M04920K102 44  
M04920K104 44  
M04920K105 44  
M04920K109 44  
M04920K116 44  
M04920K117 44  
M04920K118 44  
M04973B001 36  
M04973B004 36  
M08687B001 36

## P

Personnel  
    Emergency (informing) 4

## Q

Q10067-31 36  
Q10068-07 36  
Q11106-06 36

## R

R11493-77 36

## S

Safety Information 3  
    Alert symbol 3  
    Barricading 3  
    Emergency electrical shut-off 3  
    Emergency personnel 4  
    Evacuation 3  
    NFPA regulations 3  
    Open flames 3  
    Preventing explosions and fires 3  
    Regulations 3  
    Replacement parts 3  
    Safety symbols 3  
    Shut-off 3  
    Signal words 3  
    Smoking 4  
    Sparks 4  
    Warning words 3  
    Working alone 4  
Safety symbols 3  
Shut-off 3  
    Emergency electrical 3  
Signal words  
    Safety 3

## W

Warning words 3  
Warnings 3

*UL<sup>®</sup> is a registered trademark of Underwriters Laboratories Inc.*



© 2009 GASBOY  
7300 West Friendly Avenue · Post Office Box 22087  
Greensboro, North Carolina 27420  
Phone 1-800-444-5529 · <http://www.gasboy.com> · Printed in the U.S.A.  
MDE-4766 Series 580 Installation/Operation/Parts Manual · April 2009