

## SAVE THESE INSTRUCTIONS



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**GREAT PLAINS INDUSTRIES, INC.**

"A Great Plains Ventures Subsidiary"

www.gpi.net

1-800-835-0113

## Use this manual with: Heavy Duty Fuel Pumps

### M-3025 12-Volt DC & M-3425 24-Volt DC

MODELS: M-3025-AL (Automatic Nozzle)  
M-3025-ML (Manual Nozzle)  
M-3425-AL (Automatic Nozzle)  
M-3425-ML (Manual Nozzle)

## Contractor Special Fuel Pumps

### M-3025CS 12-Volt DC & M-3425CS 24-Volt DC

MODELS: M-3025CS-A (Automatic Nozzle)  
M-3025CS-PO  
M-3425CS-A (Automatic Nozzle)  
M-3425CS-PO

# STOP

**DO NOT RETURN  
THIS PRODUCT  
TO THE STORE!**

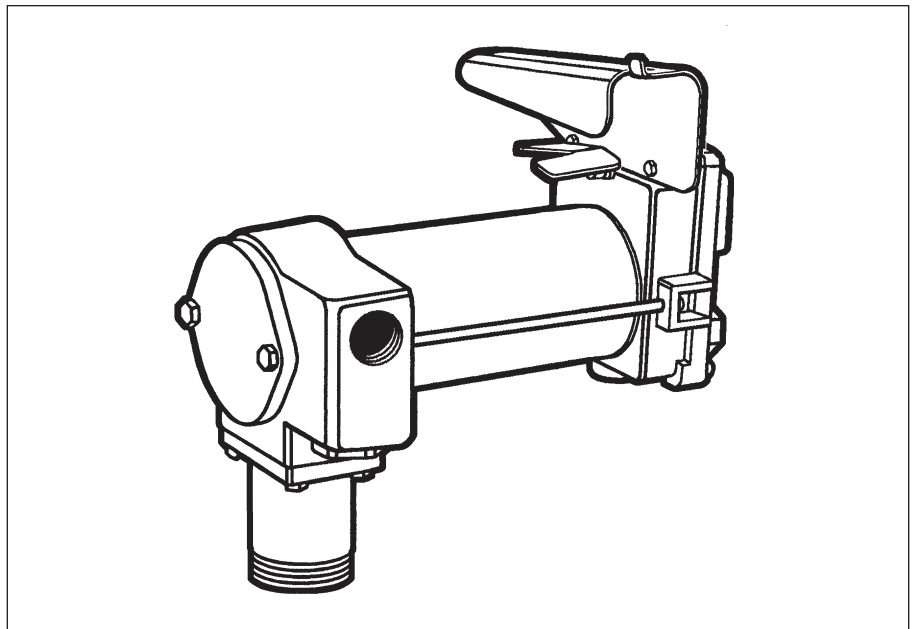
Please contact GPI before returning any product. If you are missing parts or experience problems with your installation, our Customer Support Department will be happy to assist you.

GPI Customer Support  
800-835-0113 or  
316-686-7361



## WARNING

This product shall not be used for pumping fuel or other liquids into aircraft.



## SAFETY INFORMATION

The purpose of this manual is to assist you in installing, operating and maintaining your GPI pump. If you need additional assistance, contact your GPI dealer or the GPI Customer Service Department. Call GPI before returning this product to the store.



The following safety alert symbols are used in this manual. Obey all safety messages that follow this symbol to avoid possible injury or death.

## ! DANGER

**DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

## ! WARNING

**WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

## ! CAUTION

**CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

## CAUTION

**CAUTION** used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

There are inherent dangers wherever flammable fuel and electrical sources are in close proximity.

Static electricity as a source of sparking is always a concern and requires extreme care in the installation and operation of your entire fuel transfer system.

Additional components such as meters, automatic nozzles and filters must be approved for use with fuel transfer systems. The flow of fuel through a hose and nozzle can generate static

electrical charges and dangerous sparking can result in fire or explosion. Hoses and nozzles must be statically-grounded.

**It is your responsibility to:**

- Know and follow applicable national, state and local safety codes pertaining to installing and operating electrical equipment for use with flammable liquids.
- Know and follow all safety precautions when handling petroleum fuels.
- Ensure that all equipment operators have access to adequate instructions concerning safe operating and maintenance procedures.

**INSTALLATION**

**Mechanical Connections**

**⚠ WARNING**

Coverplates protect the operator from moving parts. Never operate the pump without coverplates in place. Never apply electric power to the pump without coverplates in place. Always disconnect power before repairing or servicing.

Your pump is designed for use **only** with thin viscosity petroleum fuels such as gasoline (up to 15% alcohol blends such as E-15), diesel fuel (up to 20% biodiesel blends such as B20) and kerosene. **Do not** use this pump for dispensing any fluids other than those for which it was designed. Using the pump with other fuels can damage components and void the warranty.

All threaded fuel connections must be sealed with thread tape or a pipe thread sealing compound approved for use with petroleum fuels.

Your pump must be mounted on a vented tank. If the tank is not vented, contact your GPI distributor for the correct vent cap.

Make sure any check valves or foot valves used are equipped with proper pressure relief valves.

This pump has a filter assembly in the base to protect the pump from damage due to fuel contamination.

Your pump is designed to mount directly to a standard 2-inch female tank fitting. For the suction pipe, a 1-inch galvanized steel pipe cut to length and threaded on one end may be used. Suction pipe should extend to within 3 inches of tank bottom. Apply thread tape to the suction pipe thread and securely tighten the suction pipe to the pump inlet port.

**Electrical Connections**

Connect wiring or cable to the pump following this wire color code:

Pump	Wiring
Positive	White or Red
Negative	Black
Ground	Green

If polarity (positive and negative) of wiring is reversed, the motor will run backwards. Rotation should be clockwise from the pump end.

We recommend a separate ground wire be connected from the supply tank to the chassis of the vehicle being filled with fuel.

Wiring size must be adequate to handle motor load, (see motor nameplate for full load amp (FLA) rating). Use 10 gage wire size minimum for lengths of less than 15 feet.

Thread for the conduit connection at the pump electrical box is 3/4-inch female NPT.

**⚠ CAUTION**

Connect pump to the proper voltage source. M-3025 series pumps are designed to operate on 12-volts DC and M-3425 series pumps are designed to operate on 24-volts DC. Connection to improper voltage will damage pump.

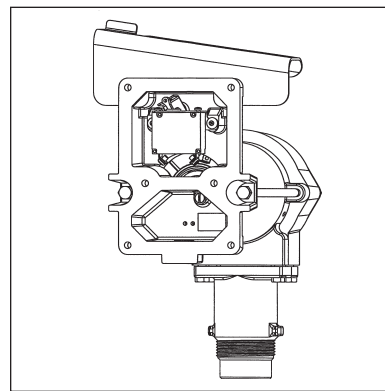


Figure 1

**⚠ WARNING**

Always disconnect motor from power supply before servicing.

**⚠ CAUTION**

To prevent ignition of hazardous atmospheres, disconnect from supply current before opening. Keep tightly closed when circuits are live.

**Wiring Details**

1. Remove six socket head screws that attach the electrical coverplate (Figure 1). Use a 3/16 in. hex wrench.
2. Slide the strain relief grip over the end of the power cord. The threaded end of the strain relief grip must face the power cord end.
3. Insert the power cord into the power cord inlet located at the bottom of the pump. Attach ground wire using green ground screw located inside the electrical box (Figure 2).

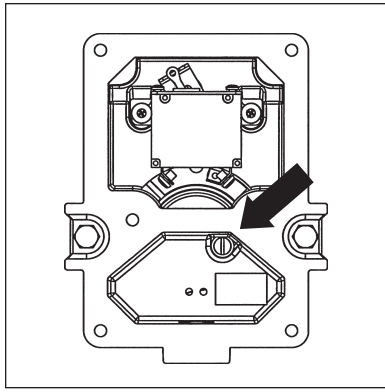


Figure 2

4. Using wire nuts, connect the black wire to the black wire in the electrical cavity. Connect the white wires in the same manner.
5. Position wires inside the electrical cavity. Insert the strain relief into the bottom of pump and tighten. Tighten strain relief grip securely.
6. Replace electrical coverplate with all six (6) screws and tighten securely.

NOTE: The M-3025 motor is UL Listed as an Electric Motor for use in Hazardous Locations, Class I, Group D.

## OPERATION

### **⚠ DANGER**

To prevent physical injury, observe precautions against fire or explosion when dispensing fuel. Do not operate the system in the presence of any source of ignition including running or hot engines, lighted cigarettes, or gas or electric heaters.

### **⚠ WARNING**

Observe precautions against electrical shock when operating the system. Serious or fatal shock can result from operating electrical equipment in damp or wet locations.

### **⚠ CAUTION**

Avoid prolonged skin contact with petroleum fuels. Use protective goggles, gloves, and aprons in case of splashing or spills. Change saturated clothing and wash skin promptly with soap and water.

#### To dispense fuel:

1. Remove the nozzle from the holder. Turn the pump on by pushing down on the front end of the switch lever.
2. Insert the nozzle into the receiving tank and squeeze the handle to dispense fuel.

3. After dispensing fuel, pull the front end of the switch lever up to turn the pump off and return the nozzle to the holder. The nozzle may be locked in place to prevent unauthorized use by installing a padlock (not provided) through the hole in the top of the nozzle cover.



The pump contains an automatic bypass valve to prevent pressure buildup when the pump is on but the nozzle is closed. Do not leave the pump on for more than 10 minutes with the nozzle closed.

Never leave the pump running without fluid. Dry running can damage the pump components.

The pump has a duty cycle of 30 minutes ON and 30 minutes OFF. Do not overheat. Allow the motor to cool the same length of time it was in operation.

Clean the fuel strainer and check the bypass poppet assembly on a regular basis or if low flowrate is noticed.

The pump is equipped with a motor protective device that also serves as the ON/OFF switch.

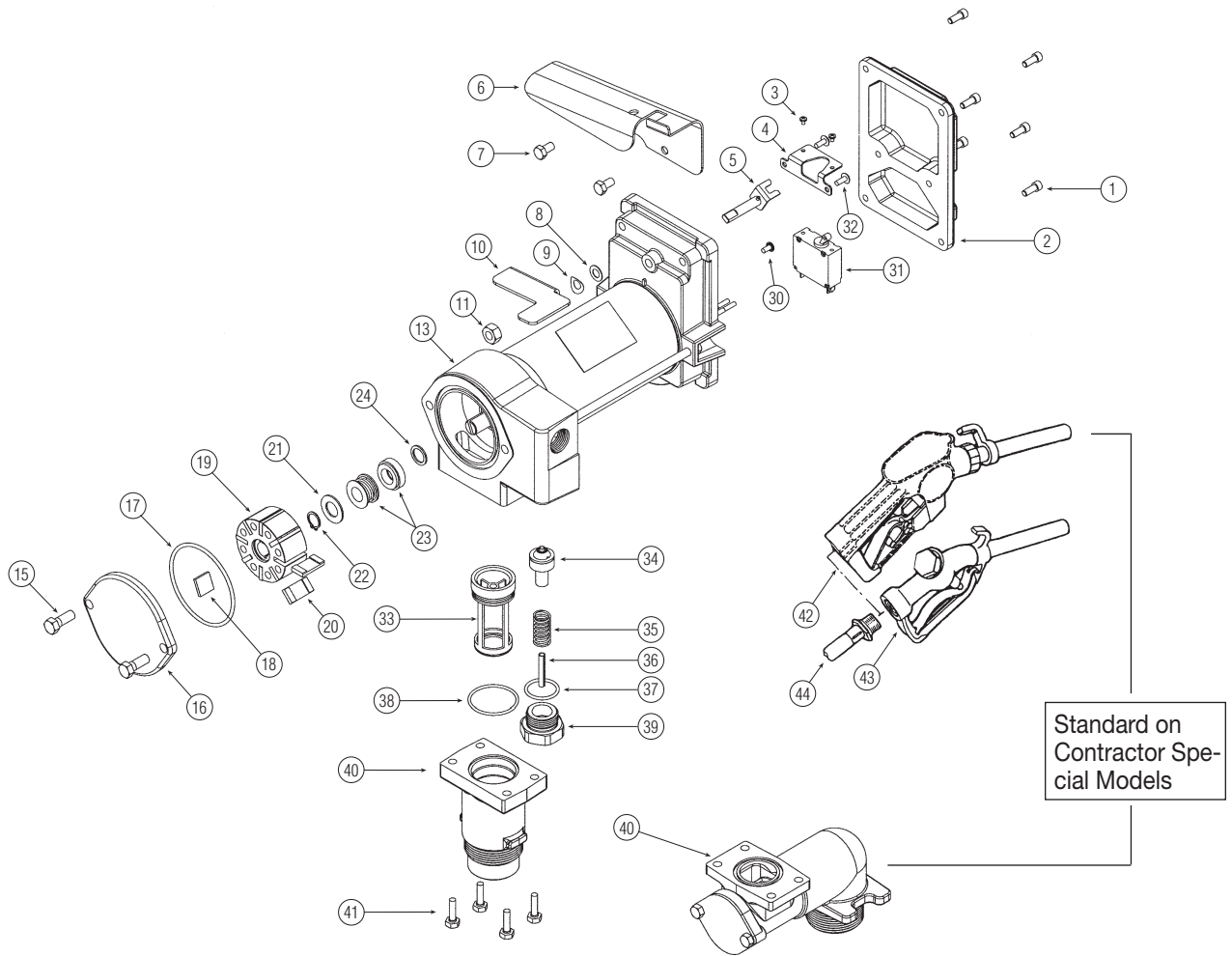
NOTE: The motor protective device is not intended to provide branch circuit protection.

1. If motor is overloaded, the protective device trips and opens the circuit. This feature protects the motor from damage and must be reset manually.
2. To reset, turn the switch lever off and then back on.
3. If the protective device trips again quickly, turn the power off at the source before attempting to troubleshoot the problem. Follow instructions as described in the troubleshooting section of this manual.
4. Make sure the switch lever is off before restoring power.
5. Turn the switch lever on and restart.

## TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
A. MOTOR DOES NOT RUN	<ol style="list-style-type: none"> <li>1. Wiring problem</li> <li>2. Rotor or vanes jammed</li> </ol>	<p>Confirm all connections are tight and correct voltage is getting to the pump.</p> <p>Remove coverplate to expose rotor. Remove any obstructions. Check for excessive vane and slot wear. If damaged, replace.</p>
B. MOTOR RUNS, BUT NO FLOW	<ol style="list-style-type: none"> <li>1. Tank level low</li> <li>2. Clogged filter assembly</li> <li>3. Suction line problem</li> <li>4. Broken motor shaft key</li> <li>5. Bypass poppet stuck open</li> <li>6. Motor running backwards</li> </ol>	<p>Add fuel to tank.</p> <p>Remove and clean filter assembly or replace.</p> <p>Remove suction pipe and remove any obstructions.</p> <p>Replace shaft key in end of shaft. Check slot and vane for excessive wear. Remove any obstructions.</p> <p>Remove bypass poppet and clean. If damaged, replace.</p> <p>Check wiring to confirm correct polarity.</p>
C. PUMP FAILS TO PRIME	<ol style="list-style-type: none"> <li>1. Air leak in system</li> <li>2. Bypass poppet stuck open</li> <li>3. Vanes worn or sticking</li> <li>4. Motor runs backwards</li> </ol>	<p>Check for air leaks at all joints. Reseal and tighten.</p> <p>Remove bypass poppet and clean. If damaged, replace.</p> <p>Check slots and vanes for excessive wear or damage. If damaged, replace.</p> <p>Check wiring to confirm correct polarity.</p>
D. LOW FLOWRATE	<ol style="list-style-type: none"> <li>1. Low voltage</li> <li>2. Wiring problem</li> <li>3. Clogged filter assembly</li> <li>4. Air leak in system</li> <li>5. Bypass poppet stuck open</li> <li>6. Vanes worn or sticking</li> <li>7. Outlet is blocked</li> <li>8. Clogged or broken suction pipe</li> <li>9. Fuel level low</li> <li>10. Using off-the-shelf automatic nozzle</li> <li>11. Hose damaged</li> </ol>	<p>Check battery voltage. Confirm voltage is correct.</p> <p>Confirm correct polarity and all connections are tight. Confirm wire size is correct and not too small.</p> <p>Remove and clean filter assembly or replace.</p> <p>Check for air leaks at all joints. Reseal and tighten.</p> <p>Remove bypass poppet and clean. If damaged, replace.</p> <p>Remove any obstructions. Check rotor slots and vanes for excessive wear. Replace if damaged.</p> <p>Check all accessories for blockage. Remove any obstructions.</p> <p>Remove pump and clear suction pipe, replace as needed.</p> <p>Fill tank.</p> <p>Factory-supplied automatic nozzle is recommended.</p> <p>Replace hose.</p>
E. MOTOR STALLS WHEN NOZZLE IS CLOSED	<ol style="list-style-type: none"> <li>1. Bypass poppet stuck closed</li> <li>2. Rotor or vanes worn</li> <li>3. Low voltage</li> <li>4. Motor defective</li> </ol>	<p>Remove bypass poppet and clean or replace as needed.</p> <p>Check rotor and vanes for excessive wear. Replace as needed.</p> <p>Check incoming battery voltage and tighten wiring connections.</p> <p>UL Listing requires specific treatment for motor replacement, contact factory.</p>
F. FUEL LEAKAGE	<ol style="list-style-type: none"> <li>1. Threaded joints loose</li> <li>2. Insufficient bolt torque</li> <li>3. Lost or damaged O-rings</li> <li>4. Shaft seal worn or damaged</li> <li>5. Hose damaged</li> </ol>	<p>Check and reseal threaded joints.</p> <p>Retighten bolts.</p> <p>Check O-rings for damage. Replace as needed.</p> <p>Fuel leaking from drain hole indicates shaft seal needs to be replaced.</p> <p>Replace hose.</p>
G. MOTOR OVERHEATS	<ol style="list-style-type: none"> <li>1. Pumping high viscosity fluids</li> <li>2. Clogged filter assembly</li> <li>3. Clogged or broken suction pipe</li> <li>4. Duty cycle too long</li> <li>5. Motor failure</li> <li>6. Bypass poppet clogged</li> </ol>	<p>Pump only low viscosity fluids.</p> <p>Clean filter assembly.</p> <p>Remove pump and clear suction pipe, replace as needed.</p> <p>Duty cycle is 30 minutes ON and 30 minutes OFF.</p> <p>Ball bearings damaged. UL Listing requires specific treatment for motor replacement, contact factory.</p> <p>Remove bypass poppet and clean.</p>

# ILLUSTRATED PARTS DRAWING



Item No.	Part No.	Description	No. Req'd.
1	904006-60	Screw - 1/4"-20 x 5/8" .....	6
2	133076-02	Conduit Box Cover .....	1
3	904005-56	Screw - #6-32 x 3/16" .....	2
4	133078-1	Switch Mounting Bracket .....	1
5	133086-1	Switch Actuator Assembly .....	1
6	133082-1	Nozzle Cover .....	1
7	904004-59	Screw - 5/16"-18 x 9/16" .....	2
8	904006-16	Flat Washer .....	1
9	904006-63	Spring Washer .....	1
10	133081-1	Switch Lever .....	1
11	904006-62	Lock Nut - 3/8"-16 .....	1
13	133508-01	Spare Motor, 12 VDC * .....	1
	133508-02	Spare Motor, 24 VDC * .....	1
15	904006-38	Screw - 3/8"-16 x 1" .....	2
16	133032-02	Coverplate .....	1
17	901003-15	O-Ring .....	1
18	121010-1	Motor Shaft Key .....	1
19	133022-1	Rotor .....	1
20	133020-1	Vane - Carbon .....	8
21	133027-1	Spacer Washer .....	1
22	904006-33	Retaining Ring .....	1
23	906004-77	Shaft Seal .....	1

Item No.	Part No.	Description	No. Req'd.
24	133026-1	Slinger Washer .....	1
30	904006-70	Ground Screw - #10-32 x 3/8" .....	1
31	902006-55	Switch/Motor Protector for 12 VDC motor .....	1
	902006-60	Switch/Motor Protector for 24 VDC motor .....	1
32	904002-25	Screw - #10-32 x 1/2" .....	2
33	133102-1	Filter Assembly .....	1
34	133505-01	Poppet Assembly Kit .....	1
35	133182-01	Poppet Spring .....	1
36	906004-50	Spring Pin .....	1
37	901002-50	O-Ring .....	1
38	901002-89	O-Ring .....	1
39	133059-02	By-pass Plug .....	1
40	133099-02	Inlet Base .....	1
	133052-01	Optional Spare Base Assembly .....	1
41	904004-37	Screw Hex Head 5/16"-18 x 1" .....	4
42	906005-1	Automatic Nozzle - Diesel .....	1
43	906001-10	Manual Nozzle - Leaded .....	1
44	110188-1	Hose Assembly - Fuel, 1 in. x 12 ft. ....	1
	133262-05	Hose Assembly, 1 in. x 20 ft. ....	1
	133093-1	Cord Assembly, 10/3 x 15 ft. (not shown) .....	1
	902005-91	Strain Relief (not shown) .....	1

## Kits and Accessories

133501-1	Vane Kit	133509-02	Brush Kit (16 bar) *
133503-1	Shaft Seal Kit		
133504-1	Seal Kit		

\* To retain Underwriters Laboratory (UL) Listing, any motor repair or service must be completed by a repair shop authorized by UL or returned to the factory. If the motor is removed from the pump, serviced, or repaired by an unauthorized repair center, the pump should indicate loss of UL Listing by removal or defacing of appropriate labels.

## SPECIFICATIONS

The M-3025 12-Volt DC and M-3425 24-Volt DC series fuel pumps are designed to safely transfer low viscosity petroleum fuels such as gasoline, kerosene and diesel fuel. The pumps are designed for permanent mounting on vented storage tanks, either in-ground or above-ground.

### Performance

Pump Rate: Up to 25 GPM (94 LPM)  
Duty Cycle: 30 minutes ON, 30 minutes OFF  
Dry Prime: 15 ft. (4.6m) maximum  
Discharge Lift: 10 ft. (3m) maximum

### Electrical

Input: 12 vdc 24 vdc  
Full Load Current Draw: 35 amps 20 amps  
Conduit: 3/4 inch female NPT  
Motor: 4/10 HP, 2000 rpm, permanent magnet type motor

### Mechanical Connections

Bung: 2 inch male NPT  
Inlet: 1 inch female NPT  
Outlet: 1 inch female NPT

### Accessories

Hose: 1 in. x 12 ft. (3.7m) Buna-N statically grounded  
Nozzle: 1 in. manual or 1 in. automatic  
Security: Nozzle can be padlocked

### Ship Weight

M-3025/M-3425-ML: 57 pounds (26 kg)  
M-3025/M-3425-AL: 60 pounds (27 kg)  
M-3025/M-3425-PO: 51 pounds (23 kg)  
M-3025CS-A/M-3425CS-A: 71 pounds (32 kg)  
M-3025CS-PO/M-3425CS-PO: 57 pounds (26 kg)

## SERVICE

In order to preserve the UL Listing for pump safety, return the entire pump to the factory for repair or replacement. For products serviced outside the factory, the UL nameplates must be defaced to indicate that the equipment may no longer meet the requirements for UL Listing. This does not apply to products serviced outside the factory under the UL program for Rebuilt Motors for Use in Hazardous Locations.

For warranty consideration, parts, or other service information, please contact your local distributor. If you need further assistance, contact the GPI Customer Service Department in Wichita, Kansas, during normal business hours. A toll free number is provided for your convenience.

**1-800-835-0113**

To obtain prompt, efficient service, always be prepared with the following information:

1. The model number of your pump.
2. The manufacturing date code of your pump.

For the M-3025 and M-3425 series pumps, the date code is located on the motor nameplate.

For warranty work, always be prepared with your original sales slip or other evidence of purchase date.

Please contact GPI before returning any pump. It may be possible to diagnose the trouble and find a solution with a telephone call. GPI can also inform you of any special requirements you will need to follow for shipping.

### **⚠ CAUTION**

**Do not return the pump without authority from the Customer Service Department. Due to strict government regulations, GPI cannot accept pumps unless they have been drained and cleaned.**

**SAVE THESE INSTRUCTIONS**



## Limited Warranty Policy

Great Plains Industries, Inc. 5252 E. 36<sup>th</sup> Street North, Wichita, KS USA 67220-3205, hereby provides a limited warranty against defects in material and workmanship on all products manufactured by Great Plains Industries, Inc. This product includes a 2 year warranty. Manufacturer's sole obligation under the foregoing warranties will be limited to either, at Manufacturer's option, replacing or repairing defective Goods (subject to limitations hereinafter provided) or refunding the purchase price for such Goods theretofore paid by the Buyer, and Buyer's exclusive remedy for breach of any such warranties will be enforcement of such obligations of Manufacturer. The warranty shall extend to the purchaser of this product and to any person to whom such product is transferred during the warranty period.

The warranty period shall begin on the date of manufacture or on the date of purchase with an original sales receipt. This warranty shall not apply if:

- A. the product has been altered or modified outside the warrantor's duly appointed representative;
- B. the product has been subjected to neglect, misuse, abuse or damage or has been installed or operated other than in accordance with the manufacturer's operating instructions.

To make a claim against this warranty, contact the GPI Customer Service Department at 316-686-7361 or 800-835-0113. Or by mail at:

Great Plains Industries, Inc.  
5252 E. 36<sup>th</sup> St. North  
Wichita, KS, USA 67220-3205

The company shall, notify the customer to either send the product, transportation prepaid, to the company at its office in Wichita, Kansas, or to a duly authorized service center. The company shall perform all obligations imposed on it by the terms of this warranty within 60 days of receipt of the defective product.

GREAT PLAINS INDUSTRIES, INC., EXCLUDES LIABILITY UNDER THIS WARRANTY FOR DIRECT, INDIRECT, INCIDENTAL AND CONSEQUENTIAL DAMAGES INCURRED IN THE USE OR LOSS OF USE OF THE PRODUCT WARRANTED HEREUNDER.

The company herewith expressly disclaims any warranty of merchantability or fitness for any particular purpose other than for which it was designed.

This warranty gives you specific rights and you may also have other rights which vary from U.S. state to U.S. state.

Note: In compliance with MAGNUSON MOSS CONSUMER WARRANTY ACT – Part 702 (governs the resale availability of the warranty terms).



M-3025 and M-3425 Motor for  
Hazardous Locations

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