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# PRO35-115 & PRO35-115RD 115/230 Volt

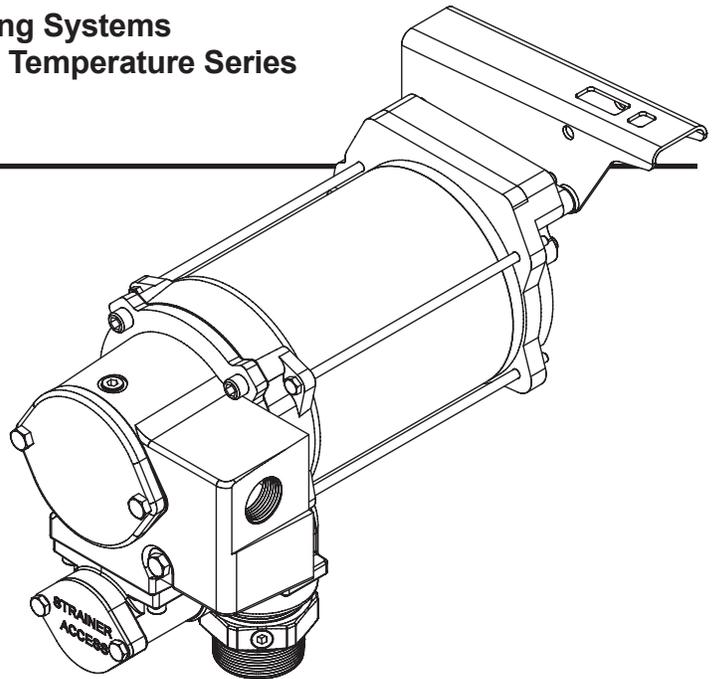
- PRO35-115AD** Automatic Diesel Nozzle
- PRO35-115MD** Manual Diesel Nozzle
- PRO35-115PO** Pump Only
- PRO35-115RD** For Remote Dispensing Systems
- PRO35-115PO/XTS** Pump Only - Extreme Temperature Series



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

Please contact Great Plains Industries 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:

**800-835-0113** or **316-686-7361**



## TABLE OF CONTENTS

General Information.....	2
Safety Instructions.....	2
Installation.....	2
Operation.....	4
Troubleshooting.....	5
Illustrated Parts Drawing.....	6
Specifications.....	7
Parts and Service.....	7
Warranty.....	See Insert

### To the owner...

Congratulations on receiving your GPRO™ Fuel Transfer Pump. We are pleased to provide you with a system designed to give you maximum reliability and efficiency.

Your fuel pump is designed, tested, and approved for use with most thin viscosity petroleum fuels. Please take all due precautions when handling these flammable liquids. Your safety is important to us.

Also, to assure the longest possible service life, it is important that you follow the operation and maintenance procedures outlined in this manual. We are proud to provide you with a quality product and dedicated support. Together with your conscientious use, we are sure that you will obtain years of safe, dependable service.



Victor Lukic, President  
Great Plains Industries, Inc.

## EXPLANATION OF ISO SAFETY SYMBOLS



This symbol indicates a general warning to the user. See additional specific warnings.



This symbol indicates electrical shock hazard. Follow proper installation and maintenance instructions in this manual.



This symbol indicates hot surface. Take care to avoid coming into contact with hot surface.



This symbol indicates automatic restart. Pump contains thermal protection which automatically shuts off motor before overheating. Pump will turn back on automatically after cooling. Turn switch OFF and wait 30 minutes to resume normal pumping. Disconnect power before any inspection or service.



Owner's manual must be read before using, inspecting, or servicing this product.



Disconnect power when product is unattended or in the case of a malfunction. Disconnect power before any inspection, servicing, or maintenance.



Smoking, open flames, fires, and open ignition sources are prohibited in the vicinity of this product.

## AVIATION FUELING

"Pump Only" models sold without a hose or nozzle are approved for ground-based refueling only. Do not use in or on aircraft. User must provide hose, suction pipe, nozzle, and accessories that meet the appropriate NFPA 407 Standard for Aircraft Fuel Servicing. Pumps have no actual or implied compliance with this standard. Please consult NFPA 407 for recommended safety requirements during ground fuel servicing of aircraft using petroleum fuels.

## GENERAL INFORMATION

Your pump is designed for use with thin viscosity petroleum fuels such as gasoline blends (up to 15% such as E15), diesel fuel blends (up to 20% such as B20) and kerosene. Additionally, "Pump Only" models (sold without a hose and nozzle) are compatible with aviation gasoline AVGAS 100LL and kerosene grade Jet A. Using the pump with other fuels can damage components and void the warranty. Use of alcohol blends above 10% (E10) and biodiesel blends above 5% (B5) have not been reviewed by UL.

### Model Components

**PRO35-115AD:** Includes pump, hose and automatic diesel nozzle.

**PRO35-115MD:** Includes pump, hose and manual diesel nozzle.

**PRO35-115PO:** Includes pump only.

**PRO35-115RD:** Includes dedicated pump only for remote dispensing systems.

**PRO35-115PO/XTS:** Includes pump only and components to assemble to unit before use.

NOTE: Suffixes MD, AD, PO and PO/XTS are for ordering purposes only. Constructions described above are covered as alternate constructions under the Part No. PRO35 UL Listing.

### How to Use This Manual

The purpose of this manual is to assist you in installing, operating and maintaining your GPRO™ pump. If you need additional assistance, contact your GPRO dealer or the Great Plains Industries Customer Service Department.

## SAFETY INSTRUCTIONS



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 AC 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 listed 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 electrically conductive and bonded to ground.

### 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.
- Never leave pump running unattended.

## 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.

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 GPRO distributor for the correct vent cap.

This pump has a built-in check valve to keep the pump primed. No additional check valve is required on suction pipes shorter than 15 ft. (4.6 m). Make sure any check valves or foot valves used are equipped with proper pressure relief valves.

Your pump is designed to mount directly to a standard 2 in. female tank fitting. For the suction pipe, a 1¼ in. 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 tank adapter. Once suction pipe is attached to tank adapter, insert suction pipe into tank and tighten tank adapter to tank fitting.

## Install Nozzle Hanger

(Not applicable to pumps with -RD suffix)

**Attention:** The nozzle hanger for your pump was removed before shipping to protect against damage.

To reinstall the nozzle hanger follow the steps below.

1. Remove the two ¼"-20 x ½" bolts and the two flat washers from the switch coverplate.
2. Place the two bolts through the nozzle cover and then place the two flat washers on the bolts. The washers are used as spacers to set the nozzle hanger away from the switch coverplate.
3. Align the bolts with the two threaded holes on the switch coverplate; thread the bolts into the holes. Torque bolts to 45-60 in/lb (Figure 1).

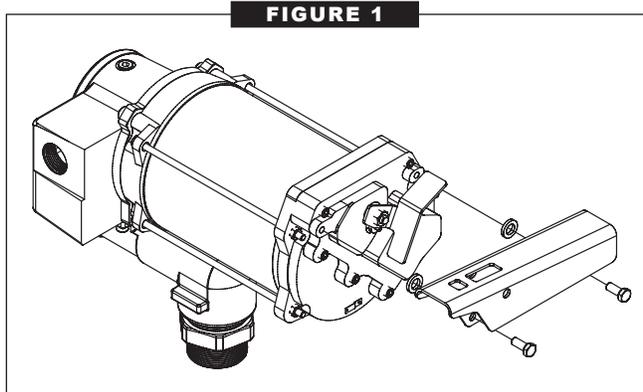


FIGURE 1

## Switch Locking Lever

**Attention:** The PRO35-115RD remote dispenser pump incorporates an external switch locking lever that locks the pump switch in the "ON" position. The pump is typically shut off using the remote dispensing device "ON-OFF" mechanism.

## Electrical Connections

### ⚠ DANGER

Pump must be installed by a licensed electrician and conform to National Fire Protection Association (NFPA) codes 30 and 70. You, as the owner, are responsible for seeing that the installation and operation of your pump complies with NFPA codes as well as any applicable state and local codes. Rigid conduit must be used to install wiring.

Failure to follow these wiring instructions may result in death or serious injury from shock, fire or explosion.

The pump must be properly grounded to avoid personal injury. Operating an ungrounded or improperly grounded pump may result in death due to electrical shock, fire or explosion.

Electrical wiring and connections must be made only by a licensed electrician in accordance with national, state and local electrical codes regarding Class I, Division 1, Group D locations. Other codes may apply.

Thread for the conduit connection at the pump electrical box is ½ in. FNPT.

A standard 15-amp breaker is recommended.

This pump is equipped with an auxiliary AC accessory lead. The third wire (red) is to be used to energize a control circuit that operates a device such as a signal light or a solenoid operated valve. Maximum amp draw on the control circuit is 1 amp. If you do not need this feature, ensure that the wire is insulated and enclosed within the electrical cavity of the pump.

### ⚠ CAUTION

Connect pump to the proper voltage source. PRO35 series pumps are designed to operate on 115 VAC, 60 HZ or 230 VAC, 60 HZ. Connection to improper voltage will damage pump. Pump is set at factory for low voltage (115-volt). For high voltage applications (230-volt) see wiring diagram located inside electrical coverplate.

## Wiring Details

1. Remove electrical coverplate (Figure 2). Install conduit and cable from switchbox to pump electrical box. Wiring must be in accordance with Class I, Division 1 requirements in the applicable national electrical code.

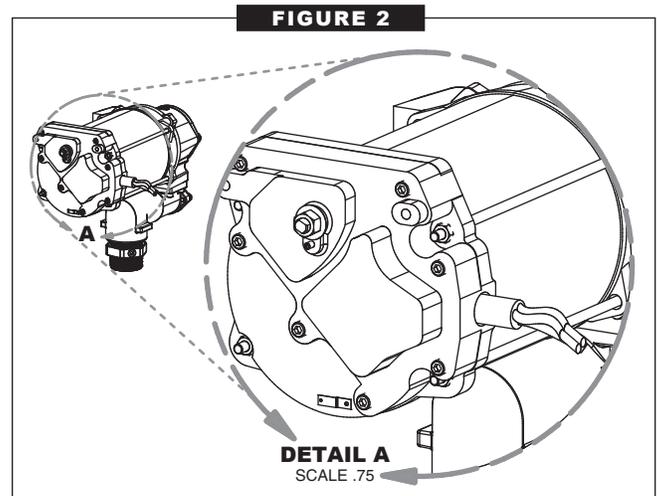


FIGURE 2

2. Attach ground wire using the green ground screw located inside the electrical box (Figure 3). Connect the power cable to the pump wiring per the wiring diagram located inside the electrical coverplate. Secure with wire nuts.

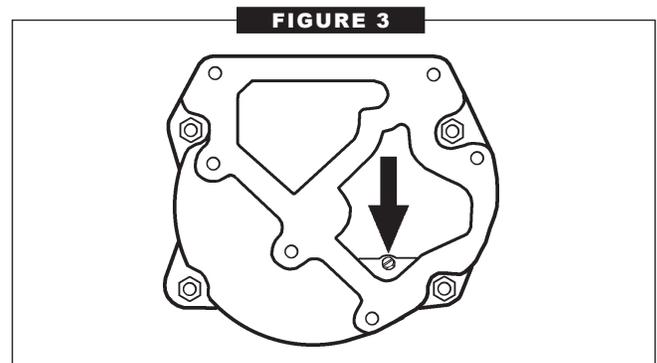


FIGURE 3

3. Position wires inside the electrical box. Replace electrical coverplate with all seven screws and tighten securely.

## 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 (for pumps with nozzle hanger):

1. Remove the nozzle from the holder. Turn the pump on by pulling the switch lever down.
2. Insert the nozzle into the receiving tank and squeeze the handle to dispense fuel.
3. After dispensing fuel, push 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.

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.

The fuel strainer and check valve assembly should be cleaned on a regular basis or if low flowrate is noticed.

If the pump becomes too hot, an internal temperature-limiting device will automatically shut the motor off and prevent operation until it cools.

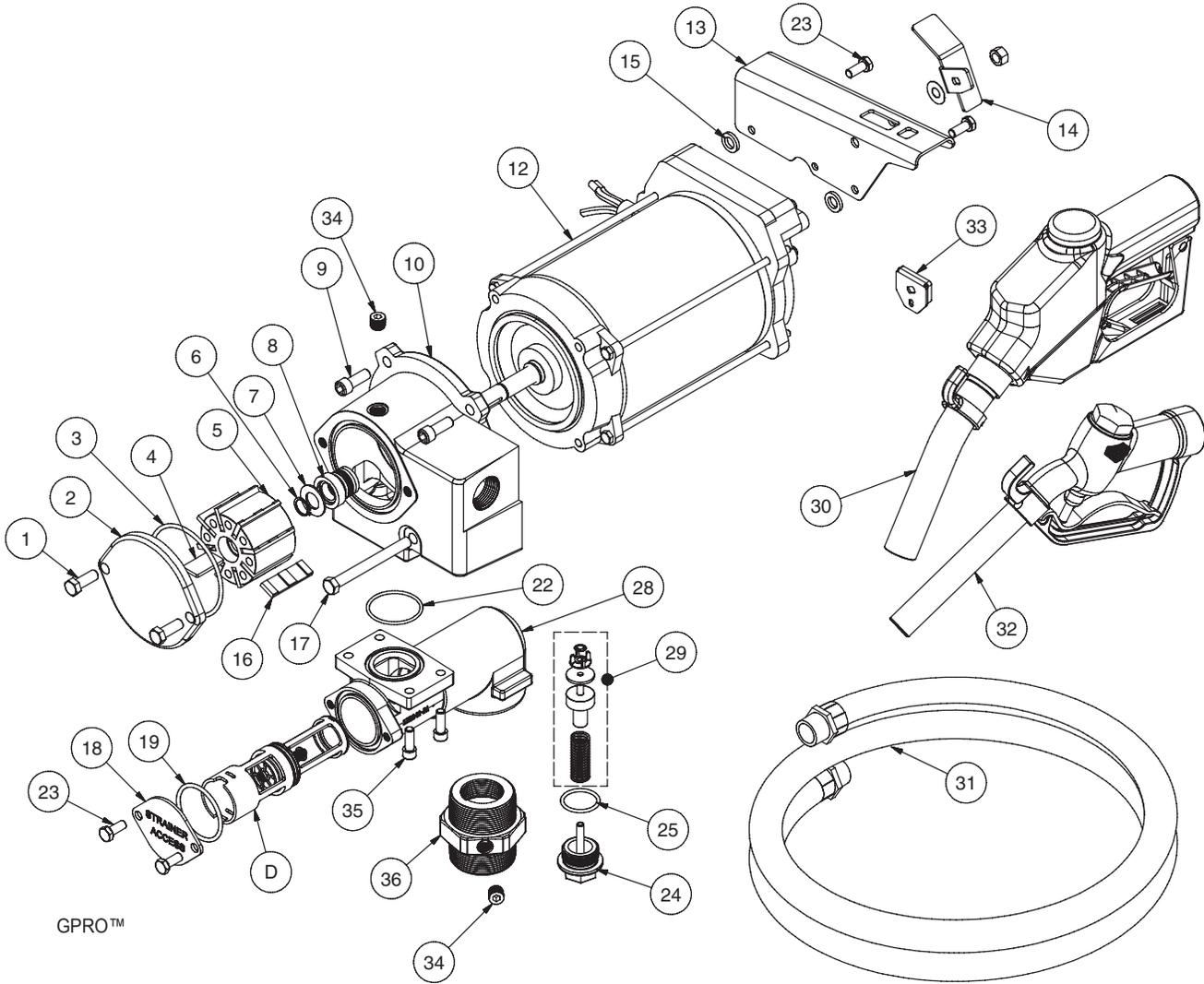
### CAUTION

Always turn the pump off if the temperature-limiting device trips. The Remote Dispenser pump (PRO35-115RD) turns off at the dispensing device. If left on, the pump will automatically reset when cool and start pumping.

## TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
A. MOTOR DOES NOT RUN	<ol style="list-style-type: none"> <li>1. No electrical power to pump</li> <li>2. Auxiliary temperature-limiting device tripped</li> <li>3. Rotor or vanes jammed</li> </ol>	<p>Check breaker, switchbox and wiring.</p> <p>Allow motor to cool. Auxiliary temperature-limiting device will automatically reset.</p> <p>Remove coverplate and check for damage or obstruction.</p>
B. MOTOR RUNS BUT DOES NOT PUMP FLUID	<ol style="list-style-type: none"> <li>1. Tank level low</li> <li>2. Clogged filter assembly</li> <li>3. Clogged or broken suction pipe</li> <li>4. Broken shaft key</li> </ol>	<p>Add fuel to tank.</p> <p>Remove and clean filter assembly.</p> <p>Remove pump and clear suction pipe, replace as needed.</p> <p>Replace shaft key. Check rotor or vanes for obstruction</p>
C. PUMP FAILS TO PRIME	<ol style="list-style-type: none"> <li>1. Air leak in system</li> <li>2. Bypass valve stuck open</li> <li>3. Check valve stuck open</li> <li>4. Rotor or vanes worn</li> </ol>	<p>Check for air leaks at all joints</p> <p>Remove bypass valve and clean or replace as needed.</p> <p>Remove check valve and clean or replace as needed.</p> <p>Check rotor and vanes for excessive wear.</p>
D. LOW FLOWRATE	<ol style="list-style-type: none"> <li>1. Low voltage</li> <li>2. Clogged filter assembly</li> <li>3. Air leak in system</li> <li>4. Bypass valve stuck open</li> <li>5. Rotor or vanes worn</li> <li>6. Outlet is blocked</li> <li>7. Clogged or broken suction pipe</li> </ol>	<p>Check incoming line voltage.</p> <p>Clean filter assembly.</p> <p>Check for air leaks at all joints.</p> <p>Remove bypass valve and clean or replace as needed.</p> <p>Check rotor and vanes for excessive wear.</p> <p>Check all accessories for blockage.</p> <p>Remove pump and clear suction pipe, replace as needed.</p>
D. MOTOR STALLS WHEN NOZZLE IS CLOSED	<ol style="list-style-type: none"> <li>1. Bypass valve stuck closed</li> <li>2. Rotor or vanes worn</li> <li>3. Low voltage</li> </ol>	<p>Remove bypass valve and clean or replace as needed.</p> <p>Check rotor and vanes for excessive wear.</p> <p>Check incoming line voltage.</p>
B. FUEL LEAKAGE	<ol style="list-style-type: none"> <li>1. Threaded joint loose</li> <li>2. Insufficient bolt torque</li> <li>3. Lost or damaged O-rings</li> <li>4. Shaft seal worn or damaged</li> </ol>	<p>Check and reseal threaded joint.</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>
D. 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> </ol>	<p>Pump only low viscosity fluids</p> <p>Clean filter assembly.</p> <p>Remove pump and clear suction pipe, replace as needed.</p>

# ILLUSTRATED PARTS DRAWING



Item No.	Part No.	Description	No. Req'd.
1	904006-38	Hex Head Screw 3/8"-16 x 1"	2
2	133032-02	Coverplate	1
3	901003-15	O-Ring (or Kit <b>C</b> )	1
4	121010-03	Shaft Key (or Kit <b>A</b> )	1
5	133041-1	Rotor	1
6	904006-33	Retaining Ring (or Kit <b>B</b> )	4
7	133027-1	Spacer Washer (or Kit <b>B</b> )	1
8	906006-53	Shaft Seal (or Kit <b>B</b> )	1
9	904006-54	Socket Head Screw 3/8"-16 x 1"	3
10	133039-05	Housing	1
11	133026-1	Slinger Washer	1
12	133521-01	Spares, Motor, 3/4 HP, 115/230 V	1
13	13312401	Nozzle Cover	1
14	13312301	Switch Lever	1
15	904006-57	Spacer Washer	2
16	133042-1	Vanes (or Kit <b>A</b> )	8

Item No.	Part No.	Description	No. Req'd.
17	904006-49	Hex Head Screw 3/8"-16 x 3-3/4"	1
18	133033-1	Base End Plate	1
19	901001-90	O-Ring (or Kit <b>C</b> )	1
22	901002-89	O-Ring (or Kit <b>C</b> )	1
23	904001-37	Hex Head Screw 5/16"-18 x 3/4"	4
24	133059-06	Poppet Plug	1
25	901002-50	O-Ring (or Kit <b>C</b> )	1
28	133141-01	Base	1
29	133505-04	Poppet Assembly Kit	1
30	906008-570	1" NPT Automatic Nozzle, UL	1
31	150100-01	Hose Assembly, 1" NPT x 1" x 18 ft.	1
32	906001-10	1" NPT Manual Nozzle	1
33	133419-02	Switch Locking Lever	1
34	90400812	Plug, 1/4" NPT	3
35	90400823	Socket Head Screw 5/16"-18 x 7/8"	4
36	133142-02	Tank Adapter, 2" NPT x 1/4" NPT	1

## Kits and Accessories

- |          |            |  |          |            |   |
|----------|------------|--|----------|------------|---|
| <b>A</b> | 133502-1   | Vane Kit – O-Ring, 2 in. vanes, shaft key                  | <b>D</b> | 504500-04  | Spares, Base Assembly, 2" Inlet                                 |
| <b>B</b> | 133503-1   | Shaft Seal Kit – Retaining ring, shaft seal, spacer washer |          | 504500-02  | Kit, Switch, PRO35-115 / PRO95-230                              |
|          | 133503-05  | Shaft Seal Kit, Extreme Temperature Series                 |          | 504500-03  | Vacuum Breaker Kit  |
|          | 133504-1   | Seal Kit   |          | 150100-502 | Fuel Hose, Extreme Temperature Series, 1" NPT x 1" x 18'        |
| <b>C</b> | 121013-503 | Check Valve Assembly Kit                                   |          | 906009-505 | Automatic Diesel Nozzle, Extreme Temperature Series, 1" NPT, UL |

## SPECIFICATIONS

The PRO35 series fuel pump is designed to safely transfer low viscosity petroleum fuels such as gasoline blends up to 15% (E15), diesel blends up to 20% (B20), kerosene, AVGAS 100LL, and Jet A. The pump is designed for permanent mounting on vented storage tanks, either in-ground or above-ground. *RAINPROOF* for outdoor use. Use of alcohol blends above 10% (E10) and biodiesel blends above 5% (B5) have not been reviewed by UL.

### Performance

Pump Rate:	Up to 35 GPM (132 LPM)
Duty Cycle:	30 minutes ON, 30 minutes OFF
Dry Prime:	15 ft. (4.6 m) maximum
Discharge Lift:	10 ft. (3 m) maximum

### Operating Temperature

-20° F to +125° F (-29° C to +52° C)

### XTS Operating Temperature

Extreme Temperature Series pumps are capable of operation down to -40° F. Any pump operation below -20° F has not been evaluated by UL.

### Bypass Pressure

25 PSI

### Electrical

Input:	Factory set at 115 VAC, 60 Hz. Optional to set at 230 VAC, 60 Hz.
Conduit:	½ in. FNPT
Current Draw:	9.8 amps at full load (at 115 VAC, 60 Hz)
Motor:	¾ HP, 1725 RPM induction type provided with an internal auxiliary temperature-limiting device

### Mechanical Connections

Bung:	2 in. MNPT
Inlet:	1 ¼ in. FNPT
Outlet:	1 in. FNPT

### Accessories

Hose:	1 in. NPT x 1 in. x 18 ft. (5.5m) Buna-N electrically conductive
Nozzle:	1 in. NPT manual or 1 in. NPT automatic diesel
Security:	Nozzle can be padlocked

Ship Weight	PRO35-115PO	67.0 lbs (30.4 kg)
	PRO35-115MD	78.0 lbs (35.4 kg)
	PRO35-115AD	80.2 lbs (36.4 kg)
	PRO35-115RD	65.1 lbs (29.5 kg)

## PARTS AND 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 Great Plains Industries Customer Service Department in Wichita, Kansas, during normal business hours.

**800-835-0113 or 316-686-7361**

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.

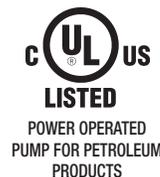
For the PRO35 series, the date code is located on the motor nameplate.

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

Please contact Great Plains Industries before returning any pump. It may be possible to diagnose the trouble and find a solution with a telephone call. Great Plains Industries 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, Great Plains Industries cannot accept pumps unless they have been drained and cleaned.



**SAVE THESE INSTRUCTIONS**

Wichita / Sydney / Mexico City

GREAT PLAINS INDUSTRIES

Great Plains Industries, Inc. / 800-835-0113 / GPI.net