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GREAT PLAINS INDUSTRIES, INC.

"A Great Plains Ventures Subsidiary"

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PA-120H and PA-200H 115-volt Plastic Utility Pump

Owner's Manual

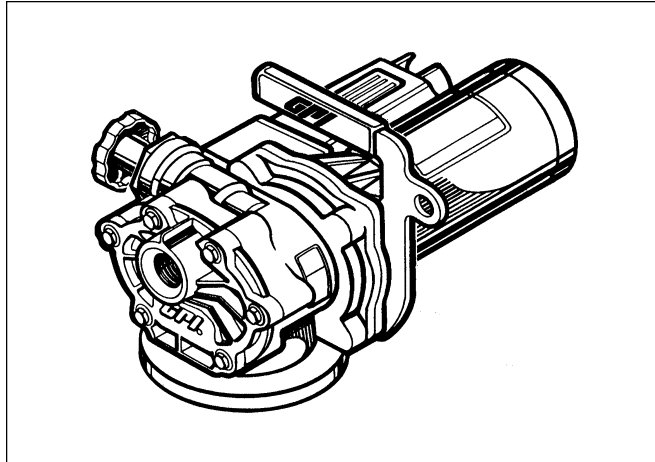


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GENERAL INFORMATION

Purpose of this Manual

This manual will assist you in operating and maintaining your pump. It provides information which will help you achieve years of dependable performance and trouble-free operation.

Using fluids, other than those for which the pump was designed, could lead to serious personal injury and void the warranty.

Before operating your pump, read this manual thoroughly. If you have problems with your pump in the future, please refer to the Maintenance and Troubleshooting Sections.

For assistance, contact your dealer or the GPI Customer Service Department.

To protect against overload, this pump is equipped with a thermal protector, which resets automatically, and a circuit

breaker, which resets manually. If your pump stops unexpectedly, please reference further information about the thermal protector and circuit breaker in the Operations or Troubleshooting Sections.

How to Use this Manual

Specific part names and numbers are given in the Illustrated Parts List at the end of this manual.



This symbol is used throughout this manual to call your attention to safety messages.

Warnings alert you to the potential for personal injury.

Cautions call attention to practices or procedures which may damage your equipment.

Notes give you information that can improve efficiency of operations.

It is your responsibility to:

- make sure all operators have access to adequate instructions about safe operating and maintenance procedures.
- know and follow all safety precautions specified by your chemical manufacturer.
- know proper safety guidelines for providing electrical power to your pump.

Read Me!

For your safety, review these warnings and cautions before operating your pump.

1. The system is approved for herbicides, pesticides, and other agricultural chemicals **only**. Do not use with gasoline, diesel, other flammable fluids, or micro-encapsulated chemicals.
2. When handling chemicals, always wear protective clothing such as goggles, gloves, and respirators, as instructed by the chemical manufacturer.
3. This pump is designed for use with GFCI protected, 115-volt power. Do not attempt installation or operation with 12-volt, 24-volt, or 230-volt power sources. Use only three-pronged, grounded connectors. Do not use two-prong adapters. Inspect power cords regularly and replace if signs of wear are evident.
4. Serious electrical shock can result from operating electrical equipment on wet ground.
5. To avoid personal injury, use a ground fault circuit interrupter (GFCI) approved by Underwriters Laboratories Standard 943 with this pump.

- Do not exceed standard duty cycle for non-viscous chemicals of 30 minutes ON and 30 minutes OFF. Allow the pump to cool for 30 minutes.
- Some chemical may spill from the pump during pump removal. Follow chemical label directions for cleanup and disposal.
- To avoid chemical exposure, follow chemical manufacturer's instructions for the disposal of contaminated water.
- Do not run the pump more than necessary without flow. "Dry running" can cause overheating and pump damage.
- To avoid personal injury, turn the pump off and disconnect from power before repair or service.
- For your protection, thoroughly flush the pump before cleaning or repair.

When you receive your pump, examine it for visible damage. If any items are damaged or missing, please contact your distributor.

INSTALLATION

For proper installation, your pump requires a hose, nozzle, suction pipe, and tank bung or nipple. Kits are available from the factory and are listed as accessories on the Illustrated Parts List.

Used pumps must be flushed and cleaned before installation as outlined in the Maintenance Section.

To prevent leaks, seal all connecting threads with 3 to 4 turns of Teflon® tape during installation.

Before installing the pump, install the suction pipe and bung adapter or tank nipple on the tank. Tighten the suction pipe into the bottom of the bung adapter or tank nipple until only three threads are visible.

Install with 4-inch Inlet

- Place the Teflon® gasket above the EPDM gasket. Center both between the bung adapter flange and threads.
- Tighten the bung adapter onto the tank, making sure the EPDM gasket stays centered. Torque to 50 ft. lbs. using a bung adapter wrench and a torque wrench.
- Make sure the bung adapter and pump inlet O-rings are well-seated.
- Place the pump on the bung adapter and press down firmly to seat the pump.
- Hold the pump in place and tighten the spin collar. Make sure the spin collar is not cross-threaded. (Figure 1)



Figure 1

- Torque the spin collar to 50 ft. lbs. Do not overtighten.

Install with 2-inch Union Ring

- Tighten the bung adapter onto the tank with a pipe wrench.
- Center the Teflon® gasket on the bung adapter.
- Position the pump on the bung adapter and gasket. (Figure 2)



Figure 2

- Hold the pump in place and tighten the union ring securely. Do not overtighten. Make sure the union ring is not cross-threaded. (Figure 3)



Figure 3

Install with 2-inch Dry Break Inlet

- Tighten the tank nipple into the tank.
- Center the pump inlet over the tank nipple and press down firmly. When the yellow collar snaps into place the pump is firmly seated.

Install Hose and Nozzle

If installing accessories such as meters or filters, do so before installing the hose and nozzle. Follow the manufacturer's instructions.

CAUTION: Make sure any hose and nozzle used are compatible with the chemical pumped.

After sealing threads, hand-tighten the hose into the outlet until snug. Hand-tighten the nozzle to the hose.

OPERATIONS

Using fluids other than those for which the pump was designed could lead to serious personal injury and void the warranty.

!!! WARNING !!!

The pump is approved for herbicides, pesticides, and other agricultural chemicals only. Do not use with gasoline, diesel, other flammable fluids, or micro-encapsulated chemicals.

!!! WARNING !!!

When handling chemicals, always wear protective clothing such as goggles, gloves, and respirators, as instructed by the chemical manufacturer.

If the pump was used last year, follow Beginning of Season procedures in the Maintenance Section.

Clean any spills from the system exterior as they occur, following chemical manufacturer's instructions.

Electrical Connections

This pump is designed for use with GFCI protected, 115-volt power. Do not attempt to install or operate the pump with 12-volt, 24-volt, or 230-volt power.

Use only three-pronged, grounded connectors. Do not use two-prong connectors or adapters. Inspect power cords regularly and replace if signs of wear are evident.

To avoid personal injury, use a ground fault circuit interrupter (GFCI) approved by Underwriters Laboratories Standard 943 with this pump. If your electrical service already has GFCI outlets, you are protected. If not, a portable GFCI is available through electrical equipment distributors or from GPI. Contact your distributor or GPI Customer Service for more information.

Serious electrical shock can result from operating electrical equipment on wet ground.

Before Each Use

Keep pump exterior clean to help identify leaks. Before each use, inspect for leaks around seals or connections. If found, refer to the Troubleshooting Section.

Check for leaks under the pump housing. A small drain hole relieves any chemical which bypasses the motor shaft seal. (Figure 4) If **any** leakage is found here, replace the motor shaft seal using instructions in the Repair Section.

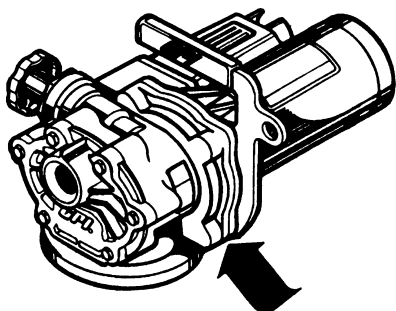


Figure 4

Make sure hoses are in good condition and connections are tight.

Make sure the work area is dry.

!!! WARNING !!!

Serious electrical shock can result from operating electrical equipment on wet ground.

Make sure the pump is connected to GFCI protected, 115-volt power. Use only three-prong, grounded connectors. Inspect the power cord regularly and replace if signs of wear are evident.

For best results, immediately before use, purge the system of air.

NOTE: The pump must be kept free of air to make sure chemical does not dry inside the pump. If drying occurs, clean before further use.

Follow these steps to purge the system of air.

1. Make grounded connection to GFCI protected, 115-volt power.
2. Place the nozzle in the fill hole of the tank. (Figure 5) Turn the pump on.



Figure 5

3. Open the nozzle and pump at full flow until the system is full of chemical.
4. Close the nozzle and turn the pump off.

Recirculation

When using chemicals that tend to separate, you must recirculate to mix before dispensing.

Only automatic bypass is provided on pumps with 2-inch inlets. If your pump only has an automatic bypass, disregard references to manual bypass and recirculation.

NOTE: Both automatic and manual bypass poppets will open automatically if internal pump pressure builds up.

If your pump has a manual bypass, recirculate chemicals as follows:

1. Make grounded connection to GFCI protected, 115-volt power.
2. Make sure the nozzle is closed.

- Pull out the bypass knob and turn 1/4 turn counterclockwise so it rises about 1/2 inch (1cm). (Figure 6)

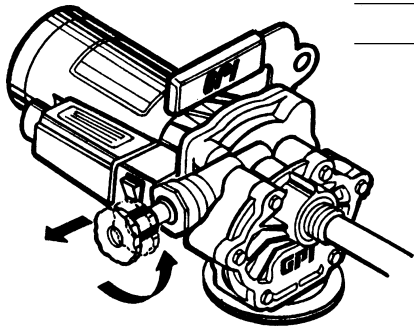


Figure 6

- Turn the pump on to recirculate. Follow the chemical manufacturer's recommendation for proper recirculation time. When chemical is mixed, turn the pump off.
- Before dispensing, close the bypass poppet by turning clockwise and pushing in.

Dispense Chemical

The PA-120H pump is intended for use with thin chemicals and the PA-200H for medium/thick chemicals only. Some chemicals may become too thick to pump if outside temperature is less than 50° F (10° C).

- Make grounded connections to GFCI protected, 115-volt power and turn pump on.
- Insert the nozzle into the receiving tank.
- Open the nozzle. Always dispense at full flow.

CAUTION: Do not exceed the standard duty cycle of 30 minutes ON and 30 minutes OFF. Allow the pump to cool for 30 minutes. The colder or thicker the chemical, the shorter the duty cycle should be.

- Dispense the desired amount.
- Close the nozzle and turn the pump off.

Thermal Protector

This pump's motor contains an automatic thermal protector. Excessive motor heat can trip the protector. It resets automatically after the motor has cooled approximately 30 minutes.

Circuit Breaker

The magnetic circuit breaker trips automatically when the motor draws more than 3 amps. This feature provides added protection against motor damage and must be reset manually.

When the circuit breaker trips, turn the power off and disconnect from power before attempting any repairs. Inspect the pump thoroughly and clean or repair it as necessary.

CAUTION: Make sure the pump switch is in the off position before restoring power.

Reset the circuit breaker after repairs are complete. To reset, press in on the circuit breaker reset button at the end of the cover assembly.

MAINTENANCE

Proper cleaning and maintenance is vital to prolong pump life and promote trouble-free operation.

NOTE: Failure to follow recommended cleaning and storage procedures increases the chance of pump failure and may void the warranty.

Remove Pump from Tank

!!! WARNING !!!

Some chemical may spill from the pump during removal. Follow chemical label directions for cleanup and disposal.

- Disconnect pump from power.
- Loosen the union ring or spin collar, as necessary, to release the inlet fitting. With the dry break inlet, pull the yellow collar up until the pump is released from the tank nipple.
- Lift the pump from the tank. (Figure 7) The gasket may stick inside the inlet fitting.



Figure 7

- Place the nozzle in the tank.
- Carefully make grounded connection to GFCI protected, 115-volt power and turn it on. Open the nozzle to remove chemicals from the system. Turn pump off and disconnect from power.
- Remove the suction pipe, as necessary.
- Clean chemical from bung adapter or tank nipple and tank. Cover the bung adapter or tank nipple.
- If the pump will not be used for more than two weeks, flush to prevent drying of chemicals in the pump.

Flush Pump

When the pump will not be used for more than two weeks, it must be flushed to prevent internal drying of chemicals.

It is strongly recommended, for protection from personal injury, that a simple flush tank be created. Use a container with a tight fitting lid with a minimum volume of 5 gallons (19 litres). Cut two holes in the lid of this container; one which is approximately 1 inch (2.5cm) larger than the largest diameter of the pump inlet fitting and a second hole slightly larger than the nozzle tip. Fill the container with water. Secure the lid tightly on the top of the container.

Both the 4-inch and dry break inlets seal automatically when removed from the tank. To flush properly, the inlet must be open. One way to keep these inlets open is to temporarily install the tank bung or nipple onto the inlet. Simply remove the bung or nipple from the tank, unscrew the suction pipe, and screw or snap it onto the inlet. (Figure 8)



Figure 8

Another option for the 4-inch inlet is to carefully insert a small wooden dowel into the 4-inch inlet to hold it open. (Figure 9)



Figure 9

1. Disconnect from power. Remove the pump from the tank and drain using the instructions above.
2. As necessary, open the inlet based upon the information above.
3. Carefully make grounded connection to GFCI protected, 115-volt power.
4. Place the pump inlet and nozzle through the holes in the top of the flush tank. (Figure 10)



Figure 10

5. Open the nozzle and turn the pump on. Circulate water through the pump for 10 to 15 minutes. Open and close the nozzle several times to flush the bypass poppet.
6. Lift the pump from the water. Allow the pump to run briefly until only air passes through the system. Turn the pump off.

CAUTION: Do not run the pump any longer than necessary without flow. "Dry running" can cause overheating and pump damage.

7. Drain the hose and nozzle. Wipe entire system with a clean wet cloth.

!!! WARNING !!!

To avoid chemical exposure, follow chemical manufacturer's instructions for the disposal of contaminated water.

Clean Pump

If chemicals dry inside pump, remove the residue before further use.

1. Disconnect from power, remove the pump from the tank, and flush.
2. Disassemble the pump as outlined in the Repair Section.
3. Thoroughly clean dried chemical from the interior of the pump. Take care not to scratch parts.

NOTE: Do not disassemble the manual bypass poppet assembly or the inlet fitting.

4. Wash the bypass poppet in warm soapy water. Rotate the spring and plug on the manual bypass poppet to make sure they move freely. (Figure 11)



Figure 11

5. Assemble the pump.

End of Season

If the system will not be used for an extended time, flush and clean, as necessary. Follow the steps below to prepare for storage.

In the procedure below, a flush tank is required and the pump inlet must be held open. Please reference the information on these topics above in the Flush Pump instructions. This procedure requires 100% antifreeze in the flush tank instead of water.

1. Disconnect from power. Remove the pump from the tank and drain.
2. As necessary, open the inlet based upon the information in the Flush Pump procedures above.
3. Connect a short length of petroleum compatible flushing hose to the pump outlet.

- Place the pump inlet and hose end in the flush tank filled with 100% antifreeze. (Figure 12)



Figure 12

- Carefully make grounded connections to GFCI protected, 115-volt power. Turn the pump on. Circulate antifreeze through the pump for 1 to 2 minutes. Restrict flow briefly several times to allow antifreeze to enter the bypass poppet.
- Lift the pump from the antifreeze. Allow the pump to run **briefly** until only air passes through the system. (Figure 13) Turn the pump off and disconnect power.



Figure 13

CAUTION: Do not run the pump any longer than necessary without flow. “Dry running” can cause overheating and pump damage.

- Drain and remove the hose.
- Wipe pump and power cord with a clean cloth.
- Store in a dry location.

Beginning of Season

Check the following before first using the pump or at the beginning of each season.

- Drain antifreeze and flush the pump.
- Install the pump on the tank.
- Complete the steps given in Before Each Use procedures.

REPAIR

!!! WARNING !!!

When handling chemicals, always wear protective clothing such as goggles, gloves, and respirators, as instructed by the chemical manufacturer.

!!! WARNING !!!

For your protection, flush the system before disassembling.

During repair, carefully inspect all parts for wear or damage and replace, as necessary. Check O-rings and seals for breakage, wear, and signs of deterioration, such as swelling. Before installing, coat O-rings, seals, and drive components with high temperature lithium grease.

Clean or Replace Strainer

- Disconnect pump from power and flush.
- Remove the coverplate and O-ring from the housing. (Figure 14)



Figure 14

- Remove the strainer.
- Clean or replace the strainer. Install again.
- Install the coverplate and O-ring. Torque screws to 25 to 35 in. lbs.

Clean or Replace Inlet Fitting

NOTE: Do not disassemble the inlet fitting.

- Disconnect pump from power and flush.
- Remove the inlet fitting from the pump housing. (Figures 15 and 16)

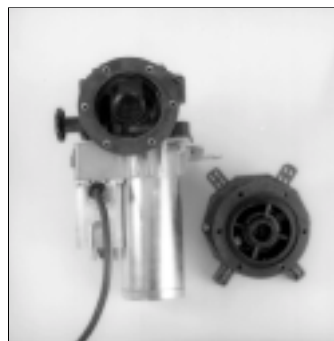


Figure 15

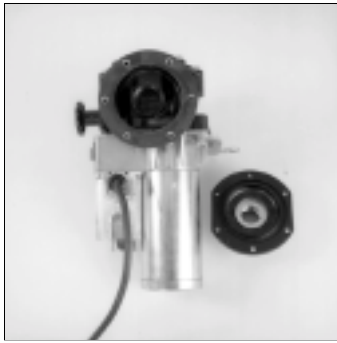


Figure 16

NOTE: Ensure proper seating of the O-ring between the inlet fitting and the housing.

3. Clean or replace the inlet fitting. Install again. Torque screws to 45 to 50 in. lbs.

Convert an Inlet Fitting

Inlet fittings may be converted from one size to another by using the replacement instructions above. Simply remove one inlet and install another.

Clean or Replace Bypass Poppet

1. Disconnect pump from power and flush.
2. Remove the bypass poppet plug. (Figure 17)

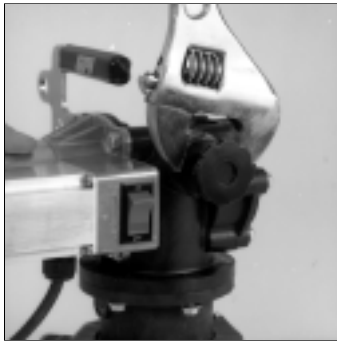


Figure 17

3. Remove the bypass poppet. Gently rock it back and forth as necessary to remove.
4. Wipe the cavity clean and wash the bypass poppet in warm soapy water.

NOTE: Do not disassemble the manual bypass poppet assembly. Rotate the spring and plug on the assembly to make sure they move freely.

5. Examine all components and replace as necessary.
6. To replace the poppet O-ring, carefully remove the O-ring using a small screwdriver or similar tool. Coat the new O-ring with grease and seat on the poppet head.
7. Assemble by placing the bypass poppet assembly in the cavity. Tighten the plug firmly.

Replace Motor

1. Disconnect pump from power and flush.
2. Remove the four screws holding the motor and handle to the housing.

3. Lift the motor from the housing and drive shaft. (Figure 18)

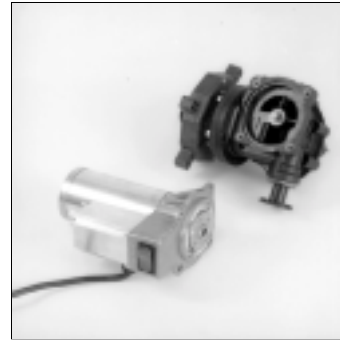


Figure 18

4. As appropriate for your pump either remove the motor shaft adapter from the drive shaft or remove the screws on the planetary gear module and slip it from the drive shaft. (Figure 19)



Figure 19

5. Assemble by reversing the steps above. Make sure the motor is properly seated against the motor adapter seal. Torque the four screws to 75 to 100 in. lbs.

Replace Switch

1. Disconnect pump from power and flush.
2. Remove the cover assembly on the side of the motor. (Figure 20)



Figure 20

3. Press in on the sides of the switch. Push the switch from the switch box.

NOTE: Before disconnecting wires, note their positions on the switch. Connect to the new switch in the same positions.

4. Disconnect the terminal wires from the back of the old switch. (Figure 21)



Figure 21

5. Install the new switch by reversing steps above. Carefully position wires in switch box before replacing cover.
6. Install cover assembly and tighten screws until snug. Do not overtighten.

Replace the Drive Shaft or Motor Shaft Seal

Follow these steps to remove the drive shaft and motor shaft seal.

1. Disconnect pump from power and flush.
2. Remove the motor as described above.
3. Carefully slide the drive shaft from the motor and the housing. Note the position of the motor shaft washer.
4. Carefully pry the motor shaft seal from the housing with a flat-bladed screwdriver.

NOTE: While removing the motor shaft seal, note carefully the orientation and which side of the seal faces the motor. The new seal must be installed with the same orientation.

5. Inspect the drive shaft, motor shaft washer, motor shaft seal, and bearings for wear. Replace, as necessary.

Follow these steps to install the drive shaft and motor shaft seal.

1. Press the new motor shaft seal into the housing with the same orientation as the old seal.
2. Position the motor shaft washer on the seal. Slide the notched end of the drive shaft into place in the housing.
3. As appropriate for your pump, align the drive shaft with the motor adapter or the planetary gear module. When properly aligned, the drive shaft will slip into place with the motor against the housing.
4. During assembly, make sure the motor is properly seated against the motor adapter seal and the housing.
5. Replace the screws fastening the motor and handle to the housing. Use the two longer screws to secure the handle. Torque to 75 to 100 in. lbs.

Replace Gears, Wearplates, or Drive Key

NOTE: If your pump does not contain wearplates, ignore wearplate instructions below.

Follow these steps to remove the gears, wearplates, and drive key.

1. Disconnect pump from power and flush thoroughly.

2. Remove the coverplate and O-ring from the housing.
3. As appropriate for your pump, remove the drive key, wearplates, and gears from the housing. (Figure 22)



Figure 22

4. Inspect gears, wearplates, and key for wear or damage. Replace, as necessary. Clean cavity.

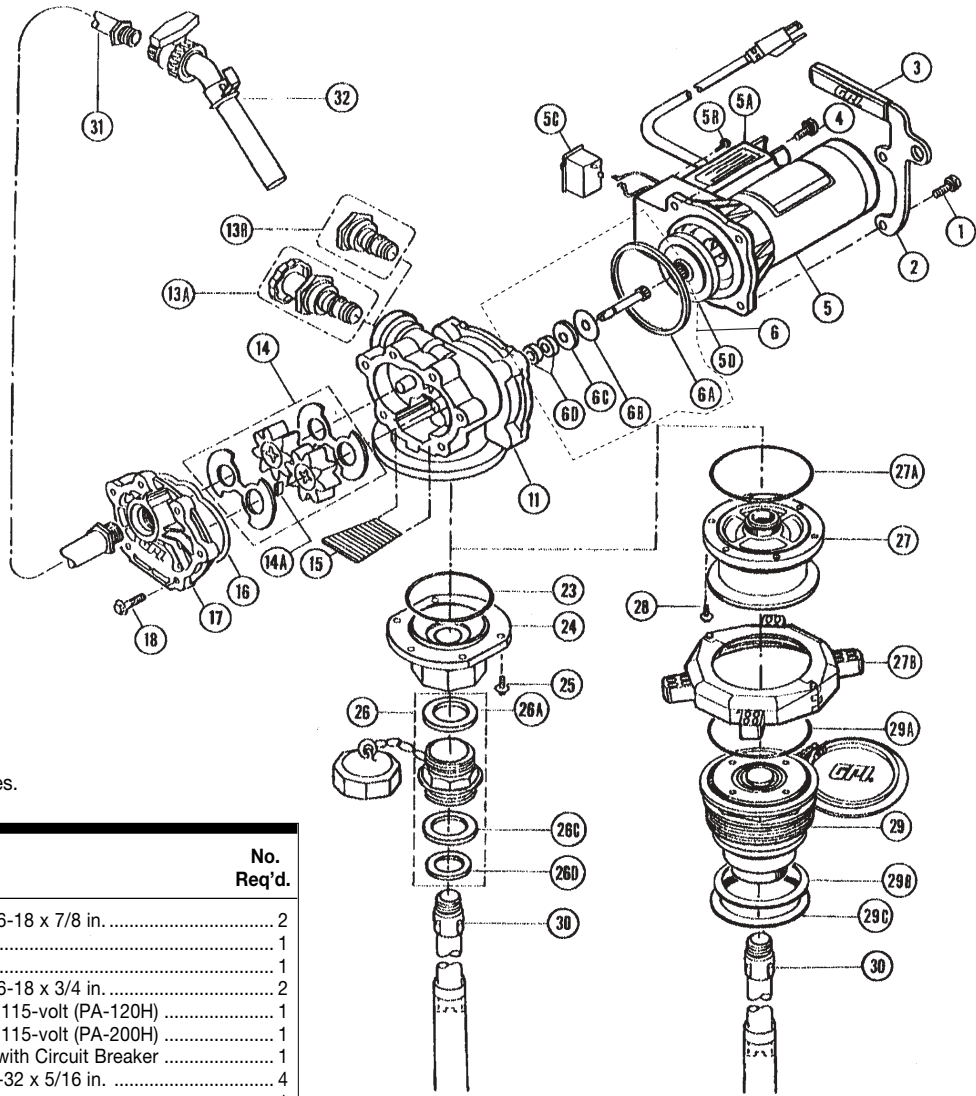
Follow the steps below to install gears, wearplates and drive key.

1. Position a wearplate in the housing with the rounded edge of the wearplate facing the gears.
2. Place a gear over the drive shaft.
3. Align the slotted drive shaft end with the gear.
4. Place the other gear in the housing. Turn the gears to make sure they do not bind. Carefully place the key in the slot.
5. Position the other wearplate with the rounded edge facing the gears. Make sure it is flush with the housing.
6. Replace the O-ring and coverplate. Torque screws to 25 to 35 in. lbs.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
A. MOTOR DOES NOT RUN	<ol style="list-style-type: none"> 1. Circuit breaker tripped 2. Switch defective 3. Motor burned out 4. Thermal protector tripped 5. GFCI tripped 	<p>Manually reset circuit breaker located in cover assembly. See Operations Section.</p> <p>Remove cover assembly and inspect switch. Replace, if necessary.</p> <p>Remove motor and test by making grounded connection to GFCI protected 115-volt power. Replace, if necessary.</p> <p>Turn switch off. Allow motor to cool. Protector resets automatically after approximately 30 minutes. See Operations Section.</p> <p>Manually reset GFCI. If motor does not run, disconnect power and check for wet or damaged pump or power cord. Correct problem before resuming operation. Operate pump only in dry locations.</p>
B. MOTOR RUNS BUT DOES NOT PUMP CHEMICAL	<ol style="list-style-type: none"> 1. System air leak 2. Drive key broken 3. Strainer clogged 4. Gear coverplate O-ring worn 5. Bypass poppet stuck open 6. Manual bypass poppet in open position 7. Suction pipe clogged, damaged or missing 8. Gear drive shaft broken 9. 4-inch bung adapter spring clogged 10. Gear wear 	<p>Make sure all fittings and connections are tight. Inspect suction pipe, bung adapter or tank nipple, and pump inlet seals for leaks or damage.</p> <p>Replace key.</p> <p>Remove coverplate. Clean strainer. Install again.</p> <p>Remove coverplate. Inspect O-ring and replace if worn or damaged.</p> <p>Remove poppet and clean. Install again.</p> <p>Close poppet. Turn clockwise and push in.</p> <p>Remove pump and bung adapter or tank nipple. Inspect suction pipe and clean or replace, as necessary.</p> <p>Remove coverplate, wearplates (as appropriate), gears, and motor. Remove and inspect drive shaft. Replace, if necessary.</p> <p>Remove pump and bung adapter. Clean spring and install again.</p> <p>Remove the coverplate and inspect wearplates (as appropriate), gears, and drive key. Gears must turn freely with the drive key removed. Replace any worn or damaged parts.</p>
C. LOW FLOW RATE	<ol style="list-style-type: none"> 1. Low voltage 2. Strainer partially clogged 3. Suction pipe clogged or damaged 4. Bypass poppet stuck open 5. Gear wear 6. Discharge hose too long 7. Extension cord too long 8. Chemical too thick for pump 	<p>Check for adequate power supply voltage.</p> <p>Remove coverplate. Clean strainer. Install again.</p> <p>Remove pump from tank. Inspect suction pipe and clean or replace, as necessary.</p> <p>Remove poppet and clean. Install again.</p> <p>Remove the coverplate and inspect wearplates (as appropriate), gears, and drive key. Gears must turn freely with the drive key removed. Replace any worn or damaged parts.</p> <p>Long hoses reduce flow rate. Shorten hose.</p> <p>Long cords reduce voltage at pump. Reduce cord length or use larger gauge cord.</p> <p>Use only chemical viscosity appropriate for pump. See Specifications Section. Allow chemical to warm if operating at low temperatures.</p>
D. RAPID OVERHEATING OF MOTOR	<ol style="list-style-type: none"> 1. Duty cycle too long 2. Chemical too thick for pump 3. Strainer clogged 4. Thermal protector tripped 	<p>Do not exceed the standard duty cycle of 30 minutes ON and 30 minutes OFF. Allow the pump to cool for 30 minutes.</p> <p>Use only chemical viscosity appropriate for pump. See Specifications Section. Allow chemical to warm if operating at low temperatures.</p> <p>Remove coverplate. Clean strainer. Install again.</p> <p>Turn switch off. Allow motor to cool. Protector resets automatically after approximately 30 minutes. See Operations Section.</p>

ILLUSTRATED PARTS LIST



NOTE: Bung, hose, suction pipe, and nozzle are common accessories.

Item No.	Part No.	Description	No. Req'd.
1	904003-92	Sems Screw, 5/16-18 x 7/8 in.	2
2	118021-1	Handle	1
3	118023-1	Handle Grip	1
4	904002-24	Sems Screw, 5/16-18 x 3/4 in.	2
5	119006-1	Motor Assembly, 115-volt (PA-120H)	1
	119006-2	Motor Assembly, 115-volt (PA-200H)	1
5A	119107-1	Cover Assembly with Circuit Breaker	1
5B	904001-99	Pan HD Screw, 8-32 x 5/16 in.	4
5C	902002-91	Rocker Switch	1
5D	906001-67	Planetary Gear Module (PA-200H)	1
	904003-50	Sems Screw, 8-32 x 11/16 in. (PA-200H) not shown ..	4
	118016-1	Shaft Adapter (PA-120H) not shown	1
6	118505-1	Drive Shaft Kit	1
6A	901001-91	Motor Adapter Seal or (Kit A)	1
6B	904003-70	Motor Shaft Washer or (Kit A)	1
6C	110078-8	Motor Shaft Seal or (Kit A)	1
6D	118020-1	Bearing or (Kit A)	2
11	118006-1	Pump Housing	1
13A	118508-1	Bypass Poppet Assembly Kit, 4-inch	1
13B	118508-2	Bypass Poppet Assembly Kit, 2-inch	1
14	118501-1	Gear Kit (PA-120H)	1
	118502-1	Gear Kit (PA-200H)	1
14A	110913-2	Key Kit	1
15	110063-2	Inlet Strainer	1
16	118017-1	Coverplate O-Ring	1
17	118007-1	Coverplate	1
18	904003-49	Sems Screw, 1/4-20 x 1 in.	6
23	901002-38	Inlet O-Ring	1
24	115018-5	Lower Cover Assembly, 2-inch Union Ring	1
25	904003-91	Sems Screw, 1/4-20 x 3/4 in.	6

Item No.	Part No.	Description	No. Req'd.
26	115090-5	Bung Adapter Assembly, 2-inch Union Ring	1
26A	114029-2	EPDM Gasket	1
26C	115085-1	Teflon® Gasket	1
26D	115084-1	EPDM Gasket	1
27	118100-1	Inlet Module Assembly, 4-inch	1
27A	901002-38	Inlet O-Ring	1
27B	115542-3	Spin Collar Kit with Knobs	1
28	904003-91	Sems Screw, 1/4-20 x 3/4 in.	6
29	115500-4	Bung Adapter Assembly, 4-inch	1
29A	901002-11	O-Ring	1
29B	115547-1	Teflon® Gasket	1
29C	115509-2	EPDM Gasket	1
30	110100-2	Adjustable Suction Pipe	1
31	110189-2	EPDM Hose, 1 in. x 12 ft.	1
32	110107-2	Discharge Nozzle	1

Kits and Accessories

- 118503-1 Overhaul Kit (P-120H) includes a coverplate O-Ring, motor shaft seal, motor adapter seal, inlet O-Ring, camplug O-Ring, bypass poppet O-Ring, plunger O-Ring, key and two gears.
- 118504-1 Overhaul Kit (P-200H).
- A** 118505-1 Drive Shaft Kit includes two bearings, motor shaft seal, motor shaft washer, drive shaft assembly and motor adapter seal.
- 118506-1 Seal Kit includes the coverplate O-Ring, motor shaft seal, motor adapter seal, inlet O-Ring, camplug O-Ring, poppet O-Ring and plunger O-Ring.
- 118509-1 4-inch Inlet Fitting Kit to convert 2-inch pump to 4-inch.
- 118509-3 2-inch Union Ring Inlet Fitting Kit to convert 4-inch pump to 2-inch.
- 111502-2 Herbicide Kit includes 1 in. x 12 ft. hose, ball valve nozzle and adjustable suction pipe.

PA-120H SPECIFICATIONS

Applications

Fluids: Thin (0 to 50 centipoise viscosity) chemicals.
Operating Environment: Outdoor, operating temperature range of -20° to $+120^{\circ}$ F (-30° to $+50^{\circ}$ C). Designed for mounting on above ground storage tanks.

Pump Housing

Lightweight, durable, molded plastic housing for chemical corrosion resistance. Convenient union ring, spin collar, or dry break coupler for easy installation.

Performance

Pump Rate: Up to 12 GPM (45 LPM). Rate will vary with viscosity and temperature.
Duty Cycle: 30 minutes ON, 30 minutes OFF. Duty cycle will vary with viscosity and temperature.

Electrical Specifications

Input: 115-volt AC, grounded, GFCI protected
Cord: 18 gauge, 3 wire, grounded plug equipped with circuit breaker.

Mechanical Connections

Bung: 2 or 4 inch
Nipple: 2 inch
Inlet: 1 inch
Outlet: 1 inch

Recommended Accessories

Standard EPDM 1 in. x 12 ft. (3.7m) discharge hose.
Standard 1 in. ball valve nozzle.

PA-200H SPECIFICATIONS

Applications

Fluids: Medium/thick (10 to 450 centipoise viscosity) chemicals.
Operating Environment: Outdoor, operating temperature range of -20° to $+120^{\circ}$ F (-30° to $+50^{\circ}$ C). Designed for mounting on above ground storage tanks.

Pump Housing

Lightweight, durable, molded plastic housing for chemical corrosion resistance. Convenient union ring, spin collar, or dry break coupler for easy installation.

Performance

Pump Rate: Up to 8 GPM (30 LPM). Rate will vary with viscosity and temperature.
Duty Cycle: 30 minutes ON, 30 minutes OFF. Duty cycle will vary with viscosity and temperature.

Electrical Specifications

Input: 115-volt AC, grounded, GFCI protected
Cord: 18 gauge, 3 wire, grounded plug equipped with circuit breaker.

Mechanical Connections

Bung: 2 or 4 inch
Nipple: 2 inch
Inlet: 1 inch
Outlet: 1 inch

Recommended Accessories

Standard EPDM 1 in. x 12 ft. (3.7m) discharge hose.
Standard 1 in. ball valve nozzle.

SERVICE

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:

- The model number of your pump
- The serial number or manufacturing date code of your pump
- Parts descriptions and numbers

Part information can be obtained from the Illustrated Parts List.

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

Please contact GPI before returning any parts. It may be possible to diagnose the trouble and identify needed parts in a telephone call or letter. GPI can also inform you of any special requirements you will need to follow for transportation and handling of chemical equipment.

NOTE: Do not return pumps without specific authority from the Customer Service Department. Due to strict regulations governing transportation, handling, and disposal of chemicals, pumps will not be accepted for rework unless they are completely free of chemical.

Limited Warranty Policy

Great Plains Industries, Inc. 5252 E. 36th 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 1-800-835-0113. Or by mail at:

Great Plains Industries, Inc.
5252 E. 36th 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).



5252 East 36th Street North
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TEL: 316-686-7361
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GREAT PLAINS INDUSTRIES, INC.

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