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**GREAT PLAINS INDUSTRIES, INC.**

"A Great Plains Ventures Subsidiary"

www.gpi.net

1-800-835-0113

# HP-100C Dual-Flo® Piston Hand Pump

## Owner's Manual

### GENERAL INFORMATION

The GPI HP-100C Dual-Flo® Piston Hand Pump is designed to manually pump herbicides and chemical products compatible with aluminum, fluoroelastmer and EPDM. The user has the flexibility of operating the pump at two flowrates. A setting of 1/2-gallon provides faster high-capacity flow. A 1/4-gallon setting allows for easier pumping of fluids.

#### Read Me!

Observe standard precautions when handling herbicides and chemical products. Fluids to be pumped must be compatible with pump component materials.

#### Damage Inspection

Upon receipt of your pump system, carefully inspect visible components for any damage that may have occurred during shipping. Note that the pump includes a suction pipe, discharge hose, and nozzle. If any parts are damaged or missing, please contact your distributor.



### INSTALLATION

Use the following procedures to install the HP-100C Piston Hand Pump on a tank with a 2-inch bung.

#### Install Suction Pipe

1. Remove the two protective plugs from the pump inlet and outlet ports.
2. Wrap the threaded end of the suction pipe with 3 to 4 turns of Teflon® tape.
3. Insert the suction screen into the inlet cover.
4. Place the spacer in the inlet cover to secure the inlet screen.
5. Install the suction pipe into the inlet cover and tighten firmly with a pipe wrench.

#### Install Pump on Tank

1. Before installing the pump, clean the tank interior of all dirt and foreign material.
2. Lubricate the threads of the inlet cover with Teflon® tape or a thread-sealing compound approved for use with herbicides and chemical products.
3. Extend the adjustable suction pipe to its full length and carefully insert it into tank opening. The suction pipe will adjust to the length needed and rest on the bottom of tank.

NOTE: The suction pipe supplied has a variable length of 22 to 40 inches. If additional length is needed, order the 15-inch Suction Pipe Extension Kit.

4. Thread the inlet fitting of the pump onto the tank and turn the pump to tighten snugly.

NOTE: To prevent the buildup of pressure and possible herbicide or chemical leakage through the nozzle, make sure the tank is vented.

#### Install Hose and Nozzle Assembly

Apply 3 to 4 wraps of Teflon® tape to the threaded end of the hose and hand-tighten into the outlet cover until snug.

#### Install Handle

The HP-100C Piston Hand Pump gives the operator a choice of two flow settings:

- 1/4 gallon setting has low resistance and pumps 1/4 gallon per stroke cycle.
- 1/2 gallon setting has higher resistance and pumps 1/2 gallon per stroke cycle.

Volume per stroke is determined by connecting the piston shaft to the appropriate handle setting as outlined below. Clevis pins may be installed from either side of handle.

1. Slide the handle grip onto the pump handle.
2. To install the links on the pump, insert a long clevis pin through the link ends and the pump's link holes. Secure with a small cotter pin. (Figure 1)

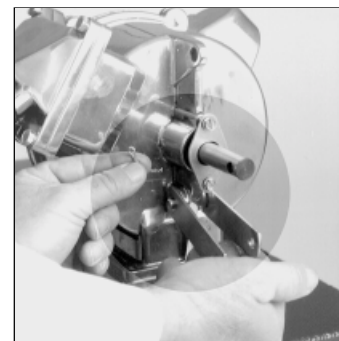
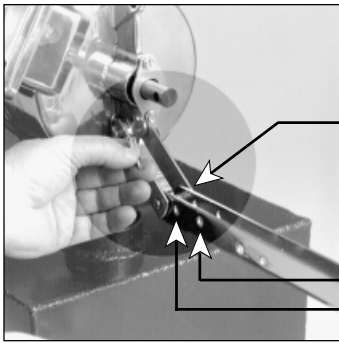


Figure 1

3. Attach the free ends of the links to the bottom, outer surfaces of the handle. Insert a long clevis pin through the holes on both links and the lowest hole on the handle. Secure with a small cotter pin. (Figure 2)
4. Insert a screwdriver in the piston shaft of the pump and pull the piston out. Install the shaft on the handle at either piston hole by placing a short clevis pin through the handle and the piston shaft end and securing with the hitch clip pin.

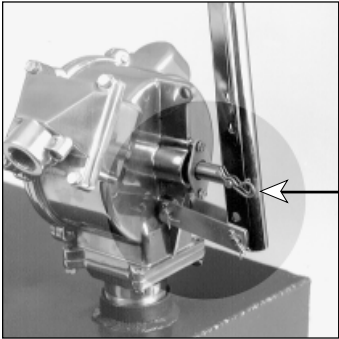
NOTE: Select the upper piston hole on the handle for the 1/2-gallon setting (Figure 3) or the lower piston hole for the 1/4-gallon setting. Flow settings can be changed at any time by repositioning the piston shaft on the handle.



**Attach links to first hole**

**Use for 1/2 gallon setting**  
**Use for 1/4 gallon setting**

Figure 2



**1/2 gallon setting shown here**

Figure 3

NOTE: Lock the handle to the pump by pushing the handle against the pump and inserting a padlock through either of the top holes in the handle and through the pump's lock hole. (Figure 4)

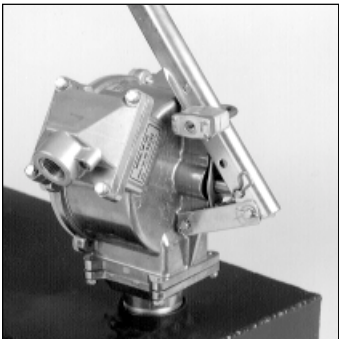


Figure 4

## OPERATION & MAINTENANCE

### To Dispense Fluid

1. Remove the nozzle from its holder and insert into the container.
2. Choose a handle setting for the desired flowrate:
  - 1/4-gal. setting for low-volume, low-resistance pumping
  - 1/2-gal. setting for high-volume, high-resistance pumping
3. To operate pump, manually move the handle in a push/pull motion. (Figure 5)
4. After dispensing the desired amount of fluid, drain the hose and nozzle. Place the nozzle in its holder and return the handle to its upright storage position.

During daily use, the GPI HP-100C Piston Hand Pump is essentially maintenance free. However, the pump should be inspected periodically for signs of leakage. If leaks are present, make appropriate repairs. Refer to the Troubleshooting section.

Proper cleaning is essential to the service life of any product used with herbicides or chemicals. Use clean water or cleaning agent recommended by the chemical manufacturer to flush the pump thoroughly after each use. Make sure the cleaning agent is compatible with Aluminum, Fluoroelastmer and EPDM. Do not allow deposits to dry, this can cause pump damage.

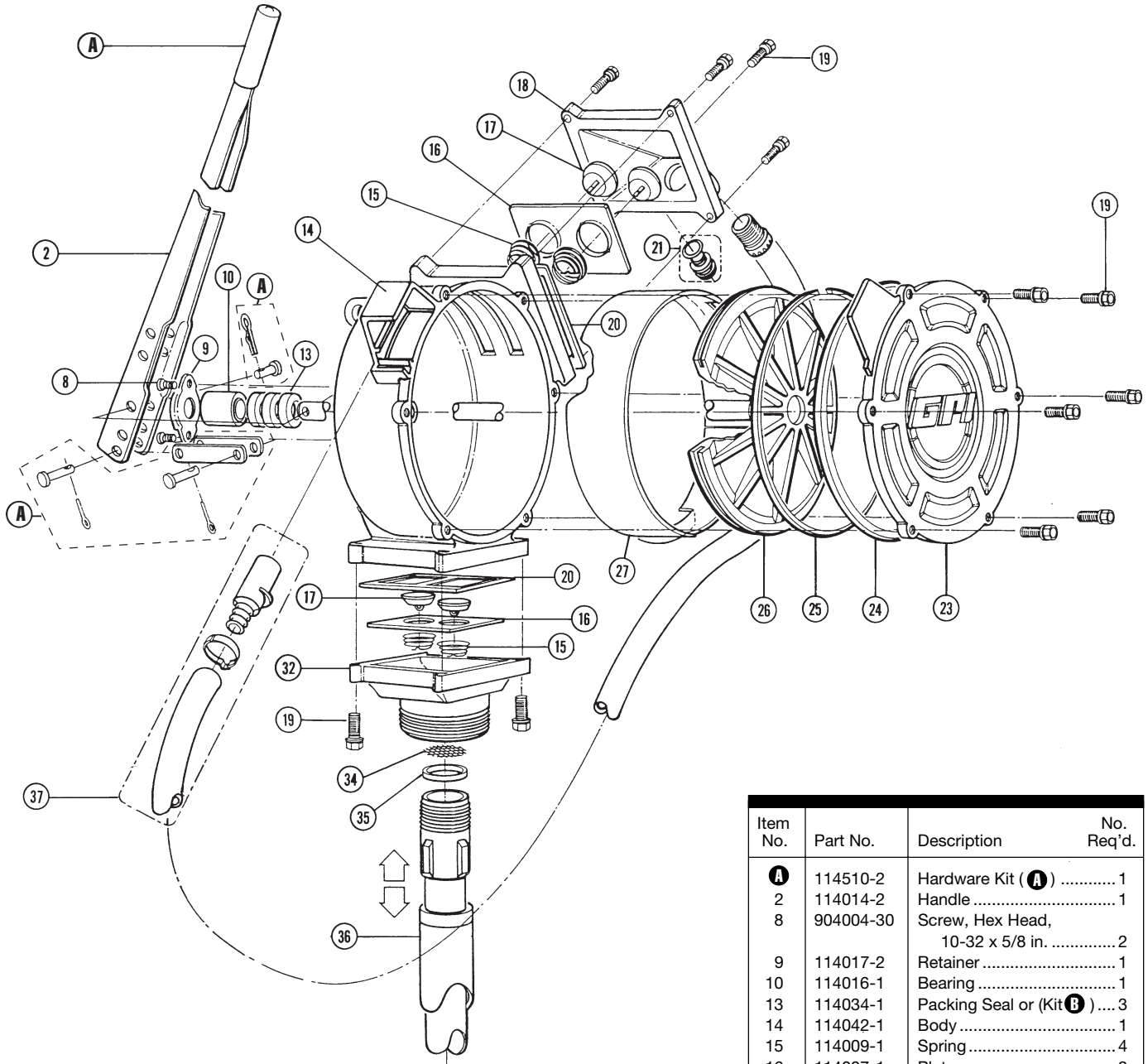
### !!! CAUTION !!!

Proper care and operation are essential for the safe transfer of chemical products. Goggles, appropriate protective gloves and any other protection, as recommended by the chemical manufacturer for handling herbicides or chemical, should be observed when transferring these fluids or servicing the pump.

## TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
A. FLUID LEAKS AROUND SHAFT SEAL	<ol style="list-style-type: none"> <li>1. Packing seals settled</li> <li>2. Seals worn</li> </ol>	<p>Tighten two screws on the retainer and torque to approximately 20 lb. in. (or hand tighten then another half turn until leak stops)</p> <p>Remove the two screws on the retainer and remove the retainer and bearing. Remove all three seals and replace.</p>
B. FLUID LEAKS AT ANTI-SIPHON VALVE	<ol style="list-style-type: none"> <li>1. Anti-siphon valve or O-ring damaged</li> </ol>	<p>Replace vent plug assembly. Remove the black cap. Remove old vent plug assembly by turning counterclockwise. Install new vent plug assembly. Replace cap.</p>
C. LOW FLOWRATE	<ol style="list-style-type: none"> <li>1. Inlet screen clogged</li> <li>2. Suction pipe leak</li> <li>3. Piston ring or liner worn</li> <li>4. Piston cracked</li> </ol>	<p>Remove the pump from the tank. Remove the suction pipe, spacer, and inlet screen from the bottom of the pump. Clean the inlet screen and assemble. Place the pump on the tank using installation instructions.</p> <p>Remove the pump from the tank. Inspect the spacer and suction pipe to ensure they are not worn or damaged. Replace as necessary and install the suction pipe and pump again using installation instructions.</p> <p>Remove the piston cover and inspect the piston ring and liner. Scoring and severe scuffing on the liner indicates wear. If necessary, install an Overhaul Kit.</p> <p>Remove the piston cover and inspect the piston. Install an Overhaul Kit, if necessary.</p>
D. PUMP SEIZED	<ol style="list-style-type: none"> <li>1. Debris in piston or liner</li> </ol>	<p>Disassemble and clean the piston and liner. Check for debris lodged in the piston ring or behind the liner. Small dimples in the liner indicate dirt, debris or welding slag contaminants in the tank. Replace the piston ring and liner. If appropriate, flush the tank of all contaminants.</p>

# ILLUSTRATED PARTS DRAWING



## Kits and Accessories

- A** 114510-2 Hardware Kit includes handle grip, links, pins, and screen.
- B** 114506-2 Overhaul Kit includes piston ring, three seals, packing seals, and liner.
- C** 114509-1 Inlet Cover Kit includes inlet cover, spacer, and screen.
- 115527-2 Suction Pipe Extension, 15 inches.

Item No.	Part No.	Description	No. Req'd.
<b>A</b>	114510-2	Hardware Kit ( <b>A</b> ) .....	1
2	114014-2	Handle .....	1
8	904004-30	Screw, Hex Head, 10-32 x 5/8 in. ....	2
9	114017-2	Retainer .....	1
10	114016-1	Bearing .....	1
13	114034-1	Packing Seal or (Kit <b>B</b> ) ....	3
14	114042-1	Body .....	1
15	114009-1	Spring .....	4
16	114007-1	Plate .....	2
17	114008-1	Valve .....	4
18	114500-5	Outlet Cover, 3/4 in. ....	1
19	904002-23	Screw, Sems, 1/4-20 x 3/4 in. ....	14
20	114027-1	Seal or (Kit <b>B</b> ) .....	2
21	123028-1	Vent Plug Assembly .....	1
	906003-4	Cap .....	1
23	114041-1	Piston Cover .....	1
24	901001-79	Cover Seal or (Kit <b>B</b> ) .....	1
25	906005-58	Piston Ring or (Kit <b>B</b> ) .....	1
26	114021-1	Piston Assembly .....	1
27	114011-1	Liner or (Kit <b>B</b> ) .....	1
32	114509-1	Inlet Cover Kit ( <b>C</b> ) .....	1
34	114037-1	Inlet Screen or (Kit <b>B</b> ) .....	1
35	114038-1	Spacer or (Kit <b>C</b> ) .....	1
36	110100-1	Adjustable Suction Pipe, 22-40 in. ....	1
37	114504-4	Hose & Nozzle Assy Kit ....	1

## SPECIFICATIONS

The HP-100C DUAL-FLO® Piston Hand Pump is compatible with a wide variety of herbicide and chemical products and fits any container with a 2-inch NPT bung.

<b>Construction</b>	Lightweight, die-cast aluminum housing. Stainless steel piston shaft and liner. Fluoroelastomer seals. Built-in air valve to prevent leakage at the nozzle.
<b>Pumping Capacity</b>	1/2 gallon (1.9 litres) per stroke cycle.
<b>Pumping Settings</b>	1/2 gallon setting for high volume, high resistance. 1/4 gallon setting for low volume, low resistance.
<b>Inlet</b>	Standard 1-inch NPT pipe.
<b>Outlet</b>	Standard 3/4-inch NPT pipe.
<b>Shipping Weight</b>	14 lbs.
<b>Hose and Nozzle</b>	3/4 inch x 8 foot EPDM hose. Thermo-plastic unleaded nozzle. Built-in nozzle holder.
<b>Suction Pipe</b>	Plastic, adjustable 22 to 40 inches.

## PARTS AND SERVICE

For warranty consideration, parts or other service information, please contact your local distributor or the GPI Customer Service Department in Wichita, Kansas, during normal business hours.

**1-800-835-0113**

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

- The model number of your pump.
- The manufacturing date of your pump.
- Part descriptions and numbers.

Part descriptions and numbers can be obtained from the Illustrated Parts Drawing.

For warranty service, 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.

### !!! WARNING !!!

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

### 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 1 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:

- the product has been altered or modified outside the warrantor's duly appointed representative;
- 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).



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