

KENRICH PRODUCTS OWNERS MANUAL

MODEL GP-1

HEAVY DUTY GROUT PUMP



DESCRIPTION
OPERATION
MAINTENANCE
SERVICE
REPAIR PARTS

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Safety Warning

Before you begin using your Kenrich Grout Pump, carefully read and understand this owners manual. It contains important information regarding safety, operation, service and maintenance. If you should have any questions regarding the performance or operation of this product, please call (503) 281-6190 for assistance

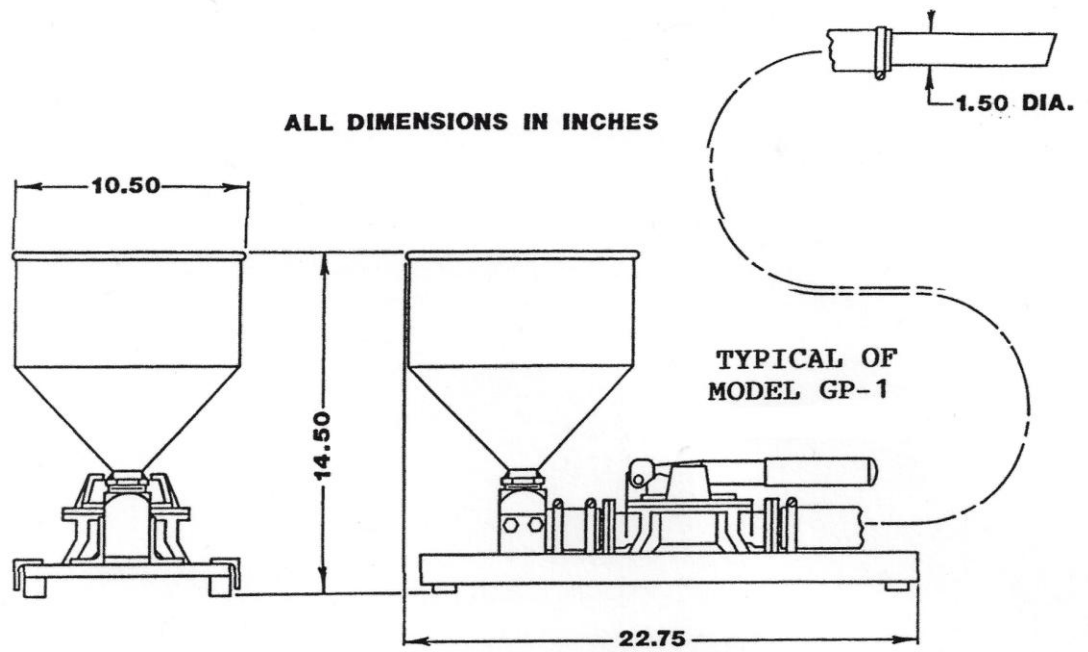
SAFETY WARNING

Before you begin using your Kenrich Grout Pump, carefully read and understand this owner's manual. It contains important information regarding safety, operation, service and maintenance. If you should have any questions regarding the performance or operation of this product, please call (503) 281- 6190 assistance.

LIMITED WARRANTY

- 1) DURATION:
Three months (90 days) from date of purchase by the original purchaser.
- 2) WHO GIVES THIS WARRANTY
(WARRANTOR): Kenrich
Products, Inc.
16327NE Cameron Blvd.
Portland, OR 97230
Tel: (503) 281-6190 Fax: (503) 281-6227
- 3) WHO RECEIVES THIS WARRANTY (PURCHASER):
The original purchaser (other than for purposes of resale) of this Kenrich product.
- 4) WHAT IS COVERED UNDER THIS WARRANTY:
Defects in material and workmanship which occur within the duration of the warranty period.
- 5) WHAT IS NOT COVERED UNDER THIS WARRANTY:
A- IMPLIED WARRANTIES:;, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow limitations on how long an implied warranty last, so the above limitations may not apply to you.
B- ANY INCIDENTAL, INDIRECT, OR CONSEQUENTIAL LOSS, DAMAGE OR EXPENSE THAT MAY RESULT FROM ANY DEFECT, FAILURE, MALFUNCTION OF A KENRICH PRODUCT.
Some states do not allow
Exclusion limitation of incidental or consequential damages so the above limitations or exclusion may not apply to you.
C- Any failure that result from an accident, purchaser's abuse, neglect or failure to operate the product in accordance with the instructions provided in the owner's manual supplied with the product.
D- Items or service that are normally required to maintain the product (i. e. diaphragms and flapper valves).
- 6) RESPONSIBILITIES OF WARRANTOR UNDER THIS WARRANTY:
Repair or replace, at Warrantor's option, products or components which have failed within the duration of the warranty period.
- 7) RESPONSIBILITIES OF PURCHASER UNDER THIS WARRANTY:
A) Deliver or ship the Kenrich product direct to Kenrich Products at address listed above. Freight cost, if any, must be borne by the purchaser.
B) Use reasonable care in the operation and maintenance of the product as described in the owner's manual.

This Limited Warranty gives you specific legal rights and you may also have other rights which vary from State to State.



GENERAL INFORMATION

The Kenrich Model GP-1 hand operated Grout Pumps are designed to pump most types of water based grouts (not epoxy type grouts). They are made of long life durable materials, have an easy to replace diaphragm and require minimal maintenance. The GP-1 pump include a clevis stabilizer which significantly extends the life of the pump diaphragm.

*Output and performance will vary depending on cycle rate, viscosity of the grout mixture and pressure conditions.

SPECIFICATIONS

Model	GP-1
Pump Type	Single Diaphragm, Self-Priming
Power Source	Hand Operated
*Output Capacity	6 gallons per minute (48 cu. ft./hr)
Output Pressure	Zero to 15 psi
HopperCapacity	.25 cubic foot (2 gallons) on GP-1
Placement Hose Size	1 ½ " ID by 60" long, Clear Vinyl
Discharge Head	10 foot Vertical Lift
Dimensions	22 ½ " x 10 " x 14 ½ " high for GP-1
Net Weight	19pounds for GP-1

Output and performance will vary on cycle rate, viscosity of grout mixture and pressure conditions

DESCRIPTION OF PRODUCT

The pumping action of the pump is achieved by moving the pump handle up and down. As the handle is raised, the diaphragm draws the grout mixture through the open intake valve into the pump. When the handle is pushed downward, this movement causes the intake valve to close while opening the exhaust valve, forcing the grout mixture from the pump into the placement hose where it is directed to the work area.

OPTIONS

1 ½ " Hose Ends	Straight, 90° and 180° Elbow, 180 J
1 ½ " Hose Lengths	10 feet, 15 feet, 20 feet, and 50 feet
Port Seal	Rubber, will fit 1 ½" Hose Ends
Hose Reducer Kits	¾" and 1" ID available
Hi-Capacity Hopper Kit	Converts GP-1 to GP-2 Specifications
Handle	Vertical Actuator and Handle

OPERATING INSTRUCTIONS

- 1) Place grout in a suitable container and mix per manufacturers recommendations. Pour mixed grout mixture into hopper. Some grouts, such as Fosroc Renderoc LA, require that the pump be primed with a cement/ water slurry.
- 2) Move the pump handle up and down to draw the grout mixture from the hopper through the pump and out the clear placement hose to the work area. CAUTION: Very minimal pump pressure is required to fill voids with grout. Never force the pump handle.
- 3) Be sure the work area is vented to allow any trapped air to escape.
- 4) Do not allow the grout to harden while inside or on the outside of the pump or related components. Clean immediately after use.
- 5) Do not use epoxy type grouts. This pump is designed to be used with water based grouts only.

CLEANING & MAINTENANCE INSTRUCTIONS

- 1) Keep all interior and exterior surfaces of your Kenrich grout pump clean.
- 2) Immediately after use, flush the inside of the pump by filling the hopper with clean water while at the same time operating the pump. Continue until the water discharged through the placement hose is clear.
- 3) Rinse off all exterior surfaces with clean water until clean.
- 4) To prevent air and/or grout leakage, periodically check all pump screws and hose clamps for tightness. Always tighten screws evenly.
- 5) When installing the hopper on the GP-1, be careful that the threads are engaged properly and tighten until "snug". Do not over tighten.



TROUBLESHOOTING GUIDE

Problem	Causes	Corrections
Pump will Not Draw Grout Into Pump	<ol style="list-style-type: none"> 1. Grout Mixture is too Thick. 2. Hole in Diaphragm. 3. Incorrect Installation of Flapper Valve(s). 	<ol style="list-style-type: none"> 1. Add Water to Grout Mixture and/or Prime the Pump with a Cement/Water Slurry 2. Replace Diaphragm 3. Check and Install Correctly
Pumps Water OK but will not Pump Grout	<ol style="list-style-type: none"> 1. Grout Mixture is too Thick 2. Aggregate size is too large 	<ol style="list-style-type: none"> 1. Add Water to Grout Mixture and/or Prime Pump with a Cement/Water Slurry. 2. Use Smaller Aggregate or Screen Out Larger Pieces
Grout Mixture Leakage	<ol style="list-style-type: none"> 1. Loose Screws that Attache Clamp Ring, Inlet and Outlet to Pump Body. 2. Hole in Diaphragm. 3. Loose Hose Clamps(s). 	<ol style="list-style-type: none"> 1. Check and Tighten Screws as Necessary 2. Replace Diaphragm. 3. Tighten Hose Clamps.

SERVICE INSTRUCTIONS

DIAPHRAGM REPLACEMENT

- 1) Note the position of the clamp ring attaching screws (item #5), then remove them. GP-1 & GP-2 models use 6 screws. Now lift off the clamp ring/handle/diaphragm assembly.
- 2) Turn the clamp ring upside down and remove the diaphragm retaining screw (item #11), lift off the button assembly (item #10), then remove and discard the diaphragm (item #9).
- 3) Install a new diaphragm onto the clevis (item #8), attach the button assembly (item#10) and install the diaphragm retaining screw (Item #11)
Note: Diaphragm retaining screw must be tight.
- 4) Place clamp ring assembly onto pump body being careful to align rib on diaphragm in groove in pump body. Install clamp ring attaching screws, attach hex nuts and tighten evenly.

DIAPHRAGM PERFORMANCE RECOMMENDATIONS

The following recommendations will provide maximum diaphragm operating life and performance:

Take the pump to where you need the grout! The ideal placement hose length is five feet long. When grouting door frames, place the pump on a table/cart/stand. You want the pump handle approximately waist high to the operator when standing for maximum efficiency and doing this usually allows the “standard” placement hose to reach the top of the door frame.

Always use the largest diameter hose that access will allow. The ideal size is 1 ½” inside diameter. **Never use a “rubber based” hose** as it creates increased friction making it very difficult to push grout through it.

If limited access requires that you must use one of our optional hose reducer kits (either ¾” or 1” inside diameter), remember that this reduction in hose size requires that the operator must cycle the pump handle at a much slower rate. **Never force the pump handle!**

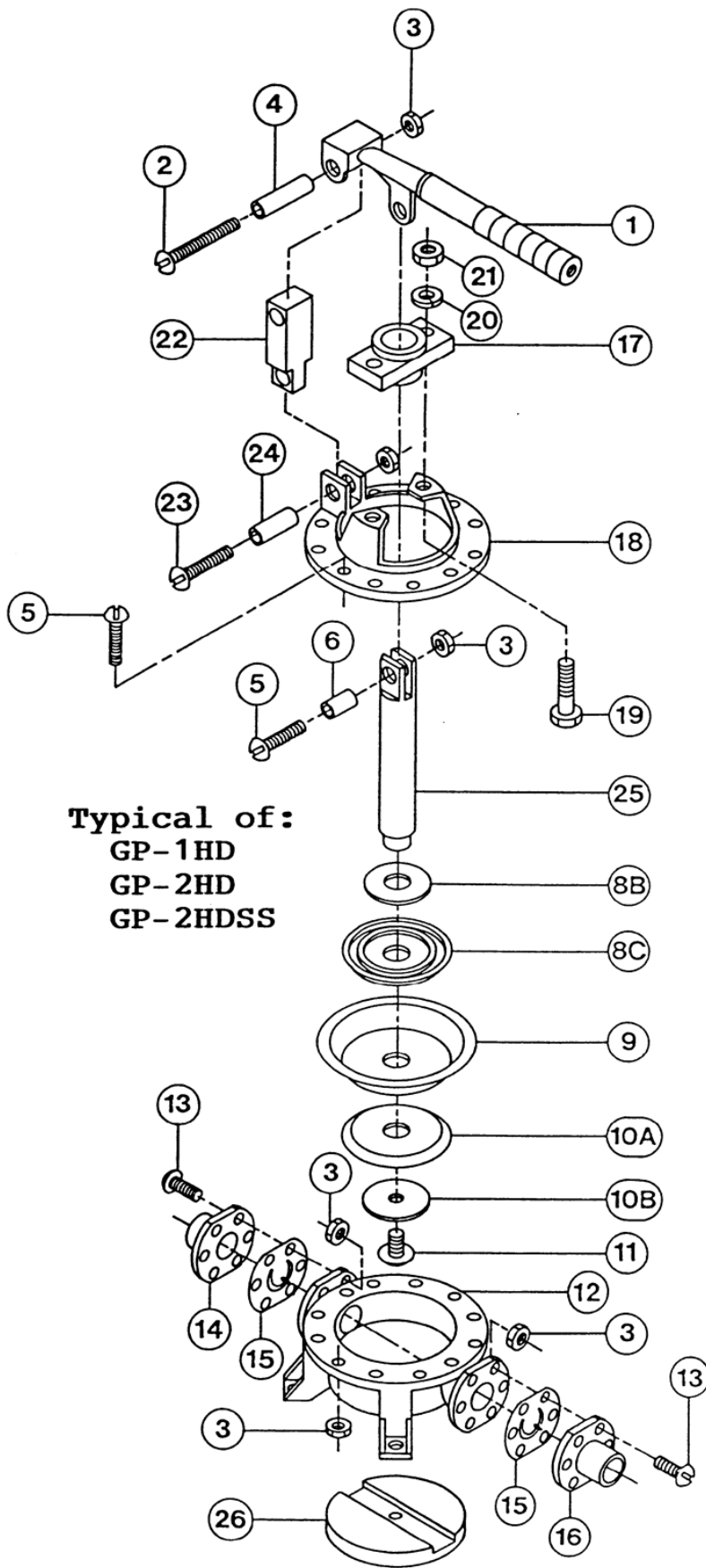
It is always recommended that a good quality pre-packaged cementitious grout be used. These products usually include additives which allow the grout to flow better.

If you are mixing your own grout from raw materials (ie sand/cement/water), extra time will be required to produce and repeat a pumpable mixture. When pumping “homemade” grout, lower quality pre-packaged grouts and/or many grout mixtures supplied by a ready mix company, **mixture must be cement rich!**

To improve pumping of these mixtures, consider purchasing a plasticizer. Another option is to add a few drops of “Joy” dishwashing liquid to your mix.

Try to avoid storing the pump for long periods in direct sunlight as the UV rays can be damaging to the diaphragm.

Following these recommendations will help produce maximum performance and will aid in reducing problems in the field.



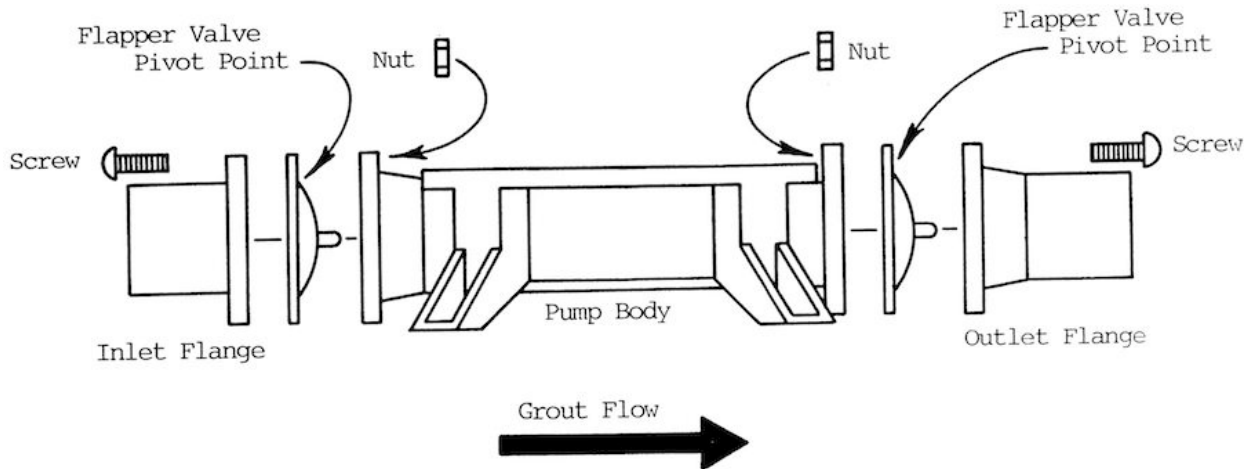
FLAPPER VALVE REPLACEMENT

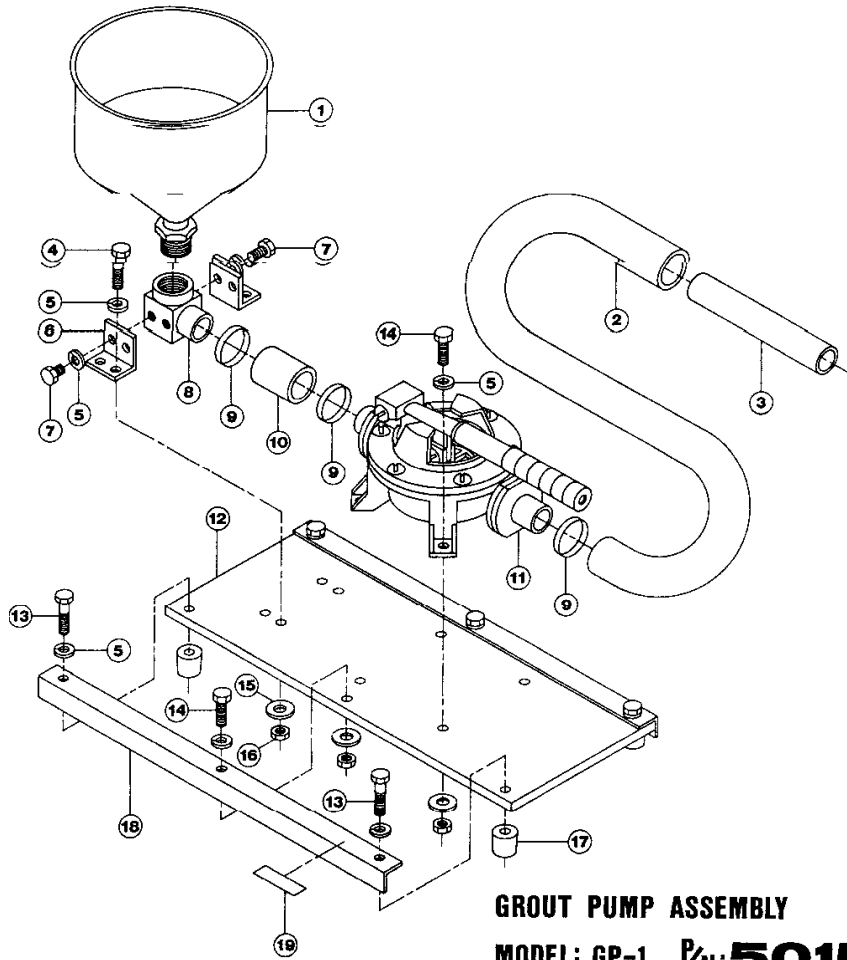
- 1) Loosen hose clamp and remove five foot long placement hose from the pump.
- 2) Loosen hose clamp (closest to pump) on the coupling hose that connects the hopper support 90° fitting to the pump.
- 3) Remove the four screws that attach the pump to the base plate, then remove the pump assembly.
- 4) Remove twelve screws (5/8 inch long) and nuts from both the inlet and outlet flanges.
- 5) Remove and discard both flapper valves.
- 6) Install new flapper valves as shown below. Finish assembly in reverse order of disassembly. Tighten flange mounting screws evenly.

Note:

When installing the flapper valve on the side of the pump, the round protrusion of the valve must face inward towards the center of the pump.

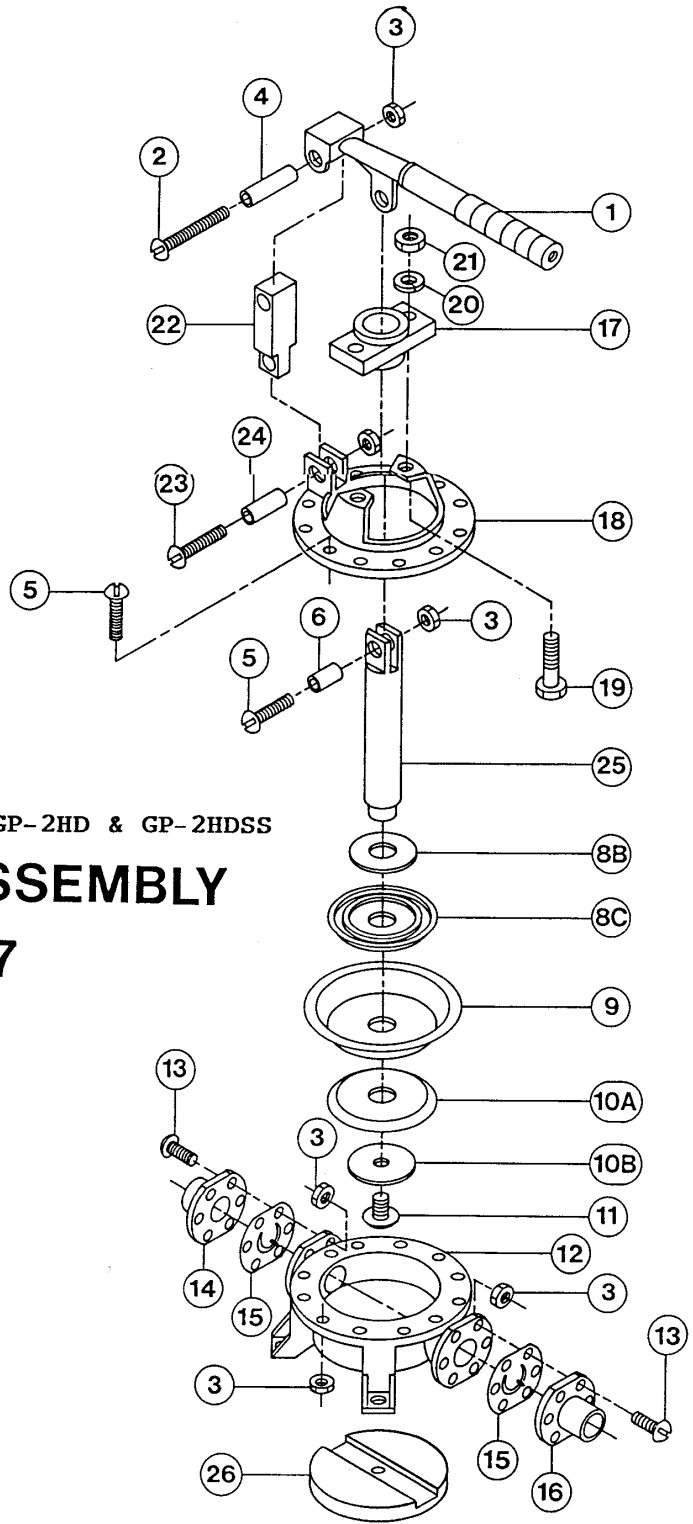
When installing the flapper valve on the side of the pump, the round protrusion of the valve must face outward away from the center of the pump.





GROUT PUMP ASSEMBLY
MODEL: GP-1 P/N: 5015

<u>ITEM</u>	<u>REQUIRED</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	1	5001	Hopper Assembly, 1/4 Cu. Ft. (GP-1 only)
2	1	5022-6000	Placement Hose
3	1	5023	Barrel
4	4	1000-0100	Capscrew
5	18	1380	Lockwasher
6	2	5018	Mounting Bracket
7	4	1000-0050	Capscrew
8	1	5017	Adapter Fitting, square
9	4	2178	Hose Clamp
10	1	5022-0250	Connector Hose
11	1	5019	Pump Assembly, complete
12	1	5016	Base Plate
13	4	1000-0125	Capscrew
14	6	1000-0100	Capscrew
15	10	1350	Flatwasher
16	10	1200	Hex Nut
17	4	5025	Rubber Foot
18	2	5024	Stiffener
19	1	5014	Decal, Kenrich



Used on models: GP-1HD, GP-2HD & GP-2HDSS

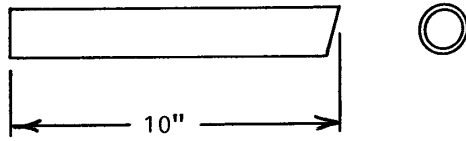
HD PUMP ASSEMBLY

P/N: 5147

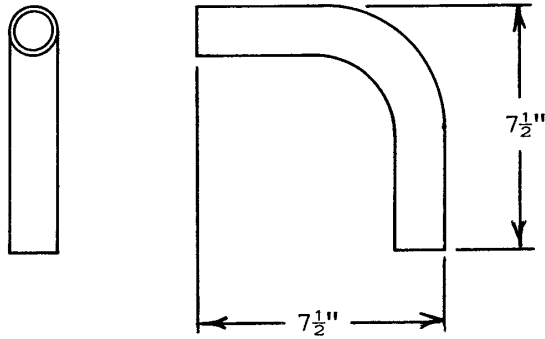
Pump Assembly List #5147			
ITEM	REQUIRED	PART NUMBER	DESCRIPTION
1	1	5019-1	Horizontal Handle Assembly
2	1	1498-0175	Machine screw, 1 3/4" lg
3	25	1453	Machine Hex Nut
4	1	5019-4	Pivot Bushing, long
5	11	1498-0075	Machine screw, 3/4" lg
6	1	5019-4	Long Pivot Bushing
8B	1	5019-22	Reinforcement Washer, 1/2" hole
8C	1	5019-21	Button
9	1	5019-9HD	Diaphragm
10A	1	5019-21	Button
10B	1	5019-29	Reinforcement Washer, small hole
11	1	1050-0050	Truss Head Screw
12	1	5019-12	Pump Body
13	12	1498-0062	Machine screw, 1 5/8" lg
14	1	5019-14	Inlet Flange
15	2	5019-15	Flapper valve
16	1	5019-16	Outlet Flange
17	1	5149	Bearing/Support Bar Assembly
18	1	5152	Clamp Ring
19	2	1000-0100	Cap screw, 1"lg
20	2	1380	Lock washer
21	2	1200	Hex Nut
22	1	5153	Extension Link
23	1	1498-0125	Machine screw, 1 1/4" lg
24	1	5019-32	Pivot Bushing, medium
25	1	5154	Clevis
26	1	5157	Spacer Disk
Not Shown	1	5019-20	Repair Kit (1 diaphragm & 2 flapper valve
Not Shown	1	5019-33	Screw Bushing Kit (includes all screws/nuts above)

1 1/2" HOSE ENDS & SEAL INSTALLATION

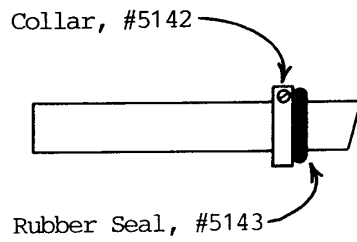
Straight, #5023



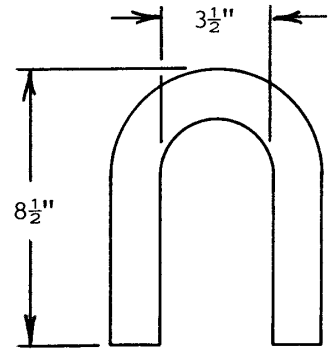
90° Elbow, #5139



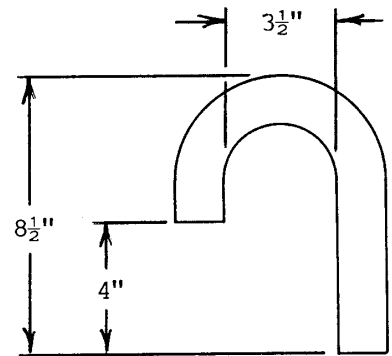
Seal Installation



180° Elbow, #5140

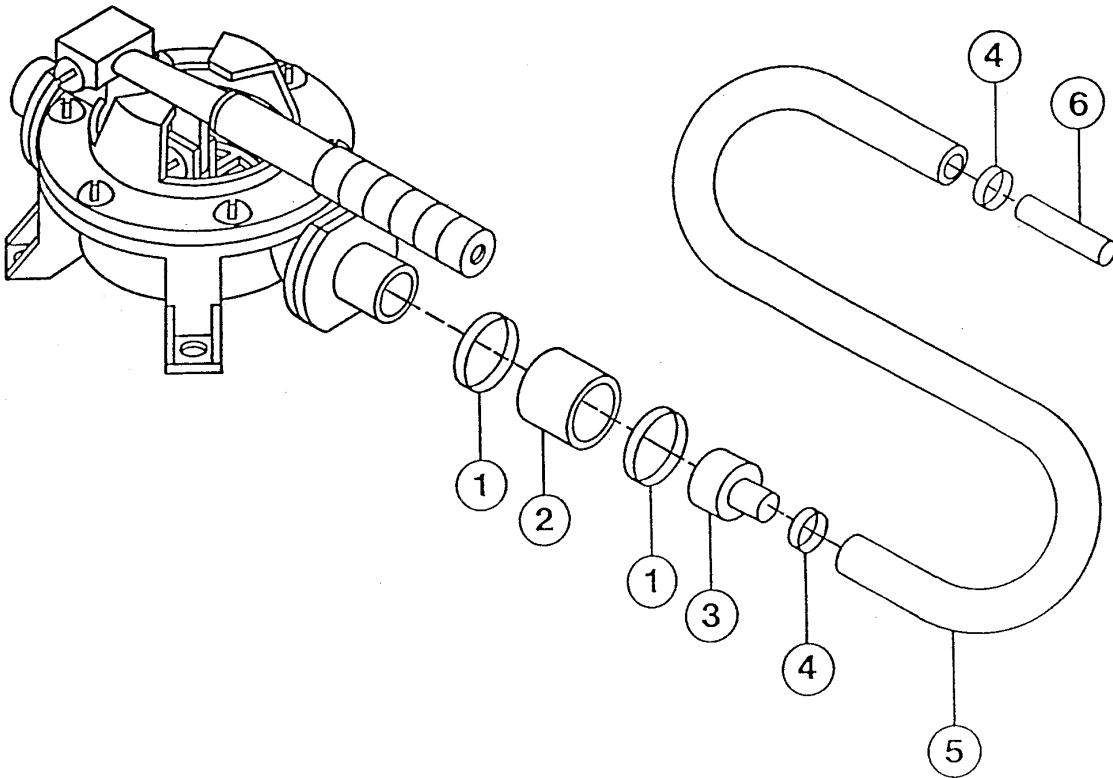


180° Elbow, Short Leg, #5141



HOSE REDUCER KITS

Item/Description	3/4" Hose Kit	1" Hose Kit	Splice Sleeve Kit
Complete Kit	5034	5083	5084
1 Hose Clamp	2178	2178	2178
2 Sleeve	5022-0250	5022-0250	5022-0250
3 Adapter	5081	5076	5076
4 Hose Clamp	2174	2175	2175
5 Placement Hose	5079-6000	5078-6000	5078-6000
6 Nozzle	5130	5131	5077



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