

## PUMP INSTALLATION ON 5/8 GPM HYDRAPAKS

### BEFORE INSTALLATION

1. Read these instructions thoroughly before starting work. If you don't understand a procedure, call Reimann & Georger Corporation or its distributors for assistance.
2. Figures 1 through 4 show the assembly of all the parts for mounting the pump to the HydraPak. Each item number on the following parts list can be matched with the item numbers shown on these figures. If any parts you have ordered are missing, call Reimann & Georger Corporation or your local distributor for assistance. Return any damaged parts to the place of purchase immediately. Do NOT substitute any components.

| Item No. | Quantity | Description               |
|----------|----------|---------------------------|
| 1        | 1        | 1/2" PUMP COUPLER         |
| 2        | 1        | ADAPTER RING PUMP MOUNT   |
| 3        | 1        | 5/8 PUMP                  |
| 4        | 1        | COUPLING INSERT SPIDER    |
| 5        | 1        | 1" MOTOR COUPLER          |
| 6        | 4        | LOCK WASHER 5/16"         |
| 7        | 4        | 5/16-18 X 5 1/2 GR-5 BOLT |
| 8        | 1 OR 2   | PUMP BRACKET ACCESS COVER |
| 9        | 1        | LOW PRESSURE FITTING      |
| 10       | 1        | HIGH PRESSURE FITTING     |
| 11       | 1        | HIGH PRESSURE FITTING     |

3. Read and fully understand the operating manual for the HydraPak being used.
4. Never lift, suspend, or lower any pump by the hydraulic hoses.

### REMOVING OLD PUMP



#### **WARNING:**

**DO NOT ADJUST OR REMOVE HYDRAULIC COMPONENTS, LINES, OR FITTINGS WHILE THE HYDRAPAK IS RUNNING OR WHENEVER THE HYDRAULIC FLUID IS HOT. LIQUID UNDER HIGH PRESSURE CAN PIERCE THE SKIN, CAUSING DEATH OR SERIOUS INJURY. IN CASE OF INJURY, GET IMMEDIATE MEDICAL ATTENTION.**

**FOLLOW THE PROCEDURE IN YOUR HYDRAPAK MANUAL FOR PREVENTING ACCIDENTAL STARTUP.**

1. The work area must be dry, clean, and free of water.
2. If hydraulic fluid is to be reused, insure the storage containers have been thoroughly cleaned and dried to avoid contamination.



#### **CAUTION:**

**DO NOT RE-USE HYDRAULIC FLUID THAT IS CONTAMINATED. THIS WILL CAUSE PUMP FAILURE.**

3. If the HydraPak is equipped with a battery, disconnect it. Then raise the HydraPak and place a container under the hydraulic pump.

4. Remove the tire located on the drain side of the reservoir. Place a second clean and dry container under the drain and remove the plug.
5. Install the drain plug after draining. Use Teflon tape or hydraulic sealant on the threads. Cover the container.
6. Remove hose clamp from suction hose on pump. Note that there will be oil in the hoses and pump. Disconnect hose from pump. Properly dispose of oil collected in this container. Do **not** reuse.
7. Disconnect high pressure hoses at pump fittings.
8. Mark orientation of pump on pump bracket. Remove bolts and lock washers mounting the pump to the bracket.
9. Mark the orientation and location of the fittings on the old pump with a marker. The fittings shown may vary with different HydraPak models. Disconnect fittings from pump.
10. Disconnect spider, coupler, and pump mount adapter ring from pump.

## INSTALLING NEW PUMP

Refer to Figure 1.

1. Insure the surfaces for mounting the pump to the bracket are clean.
2. Remove the packing cap that holds the key stock in place on the pump shaft.
3. Place the pump mount adapter ring on the pump.
4. Push the pump coupling onto the pump shaft. Align keyways between pump and coupling.
5. Push the key stock into the keyway on the pump shaft to lock on the coupler. Adjust the coupler to make it flush with the end of the pump shaft.

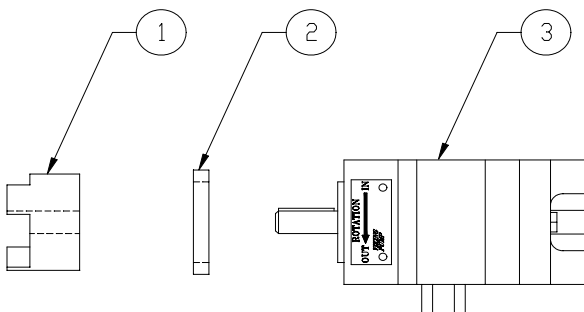


Figure 1

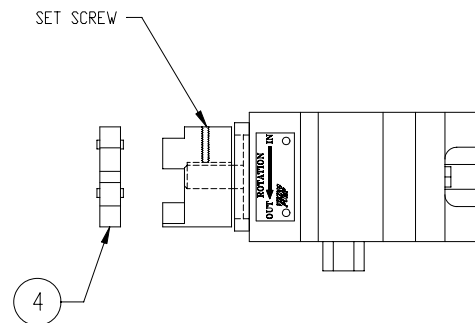


Figure 2

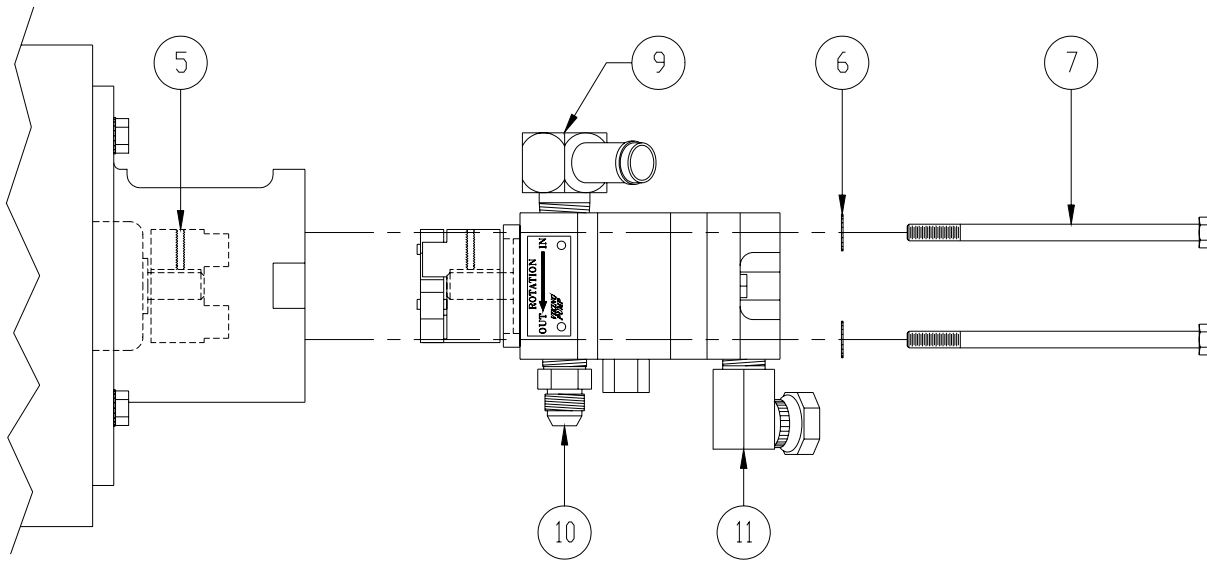
6. Add a thin coating of Loctite 242 to the set screw. Tighten the set screw in the coupling shown in Figure 2 against the key stock in the pump shaft.



### CAUTION:

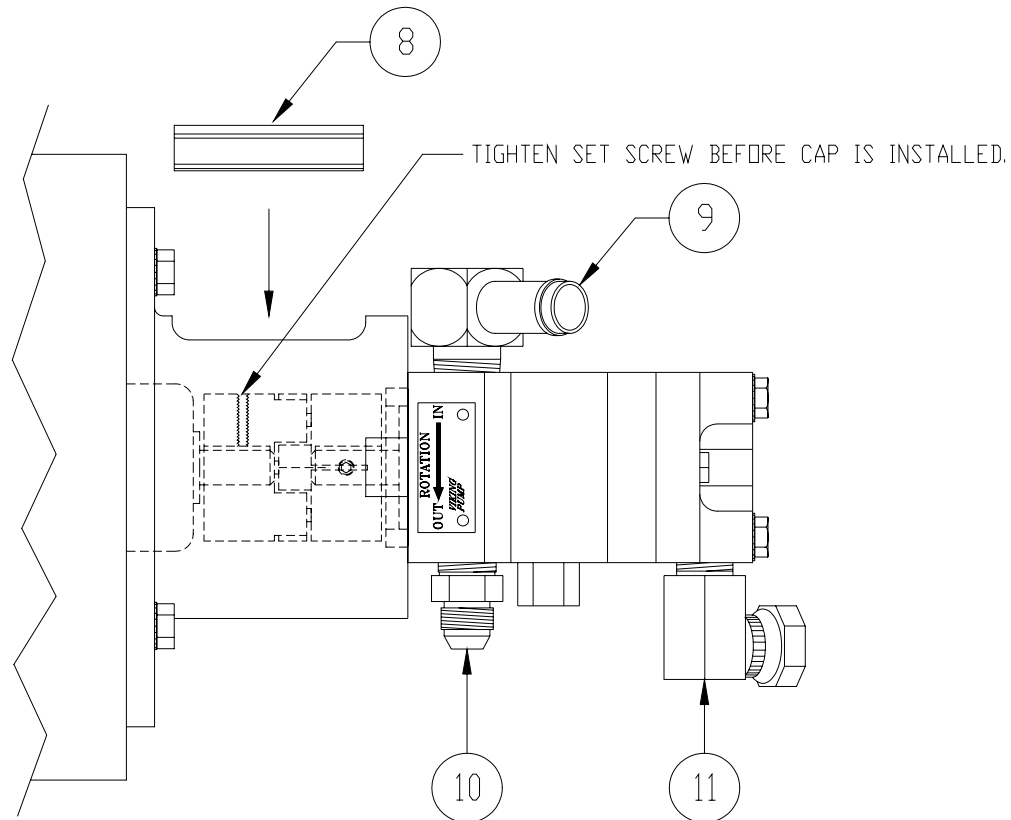
**DO NOT USE TEFLON TAPE ON ANY FASTENERS FOR ANY PART OF THE PUMP INSTALLATION. THIS CAN CAUSE EQUIPMENT DAMAGE. USE HYDRAULIC LOCTITE ONLY.**

7. Insert the spider onto the pump coupling as shown in Figure 2.
8. To install the high and low pressure fittings onto the pump, it will be necessary to secure the pump in a vice. The pump must be positioned in the vice in a sideways orientation. Do NOT put the pump into the vice lengthwise, as this can damage the pump.
9. Refer to Figure 3. Locate the side of the pump with two pressure ports. Install fittings into the new pump in the same orientation and location as the old pump. Then turn the pump over and install the low pressure fitting into the suction port on the opposite side of the pump. Apply a thin coating of hydraulic Loctite 545 to all male fitting threads. Hand tighten fittings. Then wrench tighten only 1/2 a turn to the appropriate orientation. Do NOT over tighten any fittings, as this may crack the body of the pump.



**Figure 3**

10. Loosen the set screw on the engine coupler as shown in Figure 4. The coupler must slide freely on engine shaft to set the proper clearance between the engine and pump couplers. **Improper clearance will cause pump failure.**
11. Insure the centerline of the pump coupler aligns with the centerline of the engine coupler. **If these centerlines are not aligned, equipment damage can occur.**
12. Mount the pump to the bracket as originally oriented using four 5/16-18 X 5-1/2 bolts and four 5/16" lock washers. Apply a thin coating of Loctite 242 to the bolts. Torque the bolts to a maximum of 15 ft.-lbs. **Do NOT over torque the bolts, as this will damage the pump.** Refer to Figure 3.
13. Slide the engine coupler towards the pump coupler. Insure the jaws of the coupler engage fully into the spider. Tighten set screw on engine coupler.
14. If using a gas powered HydraPak, install one access cover on the top or "12-clock" access hole of the bracket. If using an electric HydraPak, install an access cover on the access holes at the 3 and 9 o'clock positions. See Figure 4.
15. Before making any hydraulic connections, inspect all hydraulic hoses for damage as described in the HydraPak manual.



**Figure 4**

16. Connect the low pressure hose to the pump and secure with new hose clamp. Connect the high pressure hoses as originally located and tighten. Insure the hoses are not kinked or rubbing against other components.
17. Fill the HydraPak reservoir with hydraulic oil. The fluid level should be one inch from the top of tank. If replacing the oil, Reimann & Georger Corporation uses a Grade ISO VG 32 hydraulic oil.
18. Connect battery cables, if applicable.
19. Before starting the HydraPak, always consult the separate instruction manual. The HydraPak manual describes procedures that must be followed to insure the safety of all personnel and the proper performance of the equipment.

## **OPERATION**

1. Before starting the pump, check the following:
  - a. Check the alignment of the pump and engine couplings.
  - b. Insure the pump will rotate clockwise as viewed from the shaft end.
  - c. Insure the suction and discharge lines are connected and tight.
2. Start the engine or motor as described in the HydraPak instruction manual. Keep all body parts away from all moving parts of the pump.
3. Review the troubleshooting guide included with these instructions. If the pump does not deliver liquid, contact your local supplier or Reimann & Georger Corporation for assistance.

## INSPECTION AND MAINTENANCE

### General Maintenance Rules

Hydraulic fluid can become contaminated after extended periods of use, which can cause restrictions in the system. Check to see that the fluid is clean, and change at recommended intervals to extend pump's life. Refer to the respective manual for maintenance information on the HydraPak.

1. Proper maintenance of the pump and related equipment requires timely adhering to all the guidelines given in this section and in the manufacturer's instruction manual. Proper maintenance is required to maintain the system in good condition and free of defects.
2. Only authorized personnel should be allowed in the maintenance area. Authorized personnel are the trained people as defined below and their supervision.
3. Repairs must be made only by trained personnel. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding the safe operational procedures.



### **WARNING:**

**NEVER SERVICE OR ADJUST THE PUMP DURING OPERATION OR WHILE CONNECTED TO A HYDRAULIC POWER SOURCE.**

### Daily Maintenance

1. To extend maximum pump life and insure the highest pump operating efficiency, keep the system clean and free of contaminants.
2. Inspect hydraulic hoses for leaks, breaks, cracks, worn spots, bulges, chemical attack, kinks or any other damage. Never stop any detected leak with your hand or fingers. Do not put your face close to suspected leaks. Hold a piece of cardboard close to suspected leaks and then inspect the cardboard for signs of hydraulic oil. Replace a damaged hose immediately. Never repair the hose.
3. Disconnect hydraulic couplings and wipe fittings clean, especially before a connection is made. This is the single most common point of entry for foreign particles which can cause premature wear of hydraulic components in the system.
4. Before each use, insure that all broken, worn or defective parts are repaired or replaced.

## TROUBLESHOOTING

The following chart is intended to assist with troubleshooting the pump. While not all inclusive, the chart outlines the most common causes of a problem and the recommended course of action.

The troubleshooting guide for the associated HydraPak is in the manual specifically for that model.



### **CAUTION:**

**IF THE PROBLEM WITH THE PUMP IS NOT CERTAIN, ALWAYS FOLLOW THE MANUFACTURER'S WARRANTY POLICY BEFORE ANY OTHER REPAIR OR MAINTENANCE IS ATTEMPTED.**

| SYMPTOM   | CAUSE AND CORRECTIVE ACTION  |
|---|--|
| <p>Pump rotates, but does not produce proper flow and pressure.</p> | <p>Flow restriction caused by kinked or damaged hose</p> <p>Coupling between engine and pump damaged—replace the following items as required:</p> <ol style="list-style-type: none"> <li>a. Coupling spider worn out</li> <li>b. Pump or engine key sheared—inspect and replace.</li> </ol> <p>Pump not producing pressure for any of the following reasons.</p> <ol style="list-style-type: none"> <li>a. Low reservoir level--fill hydraulic reservoir to one inch from top of tank.</li> <li>b. Pump worn out—replace pump.</li> <li>c. Pump is cavitating—suction strainer plugged.</li> </ol> <p>Pump rotating in wrong direction—check motor wiring as described in the HydraPak manual. Check battery connections.</p> <p>HydraPak engine is not coming up to speed—consult your HydraPak manual.</p> <p>Suction or discharge hoses kinked or clogged—inspect hoses as described in the HydraPak manual and replace if necessary.</p> |
| <p>Pump leaks</p>   | <p>Plugged reservoir filler/breather.</p> <p>Shipping cap installed—use chrome filler/breather cap supplied.</p> <p>Shaft seal worn on pump.</p> <p>Cracked inlet/outlet fitting.</p>  |
| <p>Pump is excessively noisy.</p>                                   | <p>Pump is cavitating—increase liquid level in reservoir to one inch below top of tank.</p> <p>Pump and motor couplings not properly aligned—check alignment.</p> <p>Excessive vibration is occurring—check fastening of pump to bracket and bracket to engine block.</p>  |
| <p>Pump not producing stated flow.</p>                              | <p>Suction or discharge line kinked or clogged—correct as required.</p> <p>Air leak in suction line or along pump shaft--locate source of air leak and correct. Replace a damaged line, fitting, or hose immediately. NEVER repair the part.</p> <p>Engine or motor running too slowly—refer to operating detail in HydraPak manual.</p> <p>Problem in the HydraPak—refer to low flow troubleshooting information in the HydraPak manual.</p> <p>Pump is worn out—replace pump.</p>  |