

MOD R20: Installation Procedure

HP/GAS/INST

05-03-11

Shafer Hand Pump

Installation Procedure on a Rotary Vane Actuator with a System using Power Gas

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The purpose of this procedure is to guide the installation of a Shafer Hand Pump to an existing Rotary Vane Actuator.

This procedure is to be used in conjunction with the following Maintenance and Service Manual.

Manual Shafer Hand Pump Maintenance and Service	Bulletin MHP-01102001

WARNING: 1. Turn power gas off (bleed down the power storage tank if applicable).



2. Drain oil out of the gas hydraulic tanks.

1. Remove tubing from the bottom of the gas hydraulic tanks to hand pump.
2. Remove tubing from hand pump to actuator.
3. Remove the old hand pump.
4. If the old hand pump was tubed to the side of the actuator, as shown in Figure 1, remove the plugs in the upper head, directly above the side ports. Clean the threads of the plugs, apply an appropriate pipe sealant and plug the side ports.

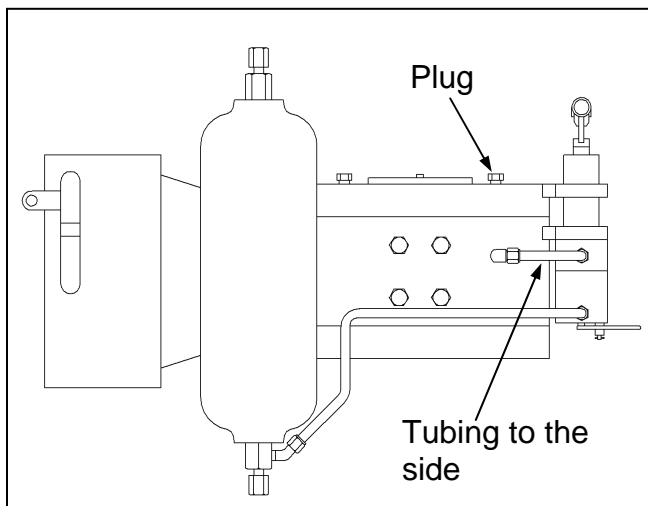


Figure 1: Old Hand Pump Assembly

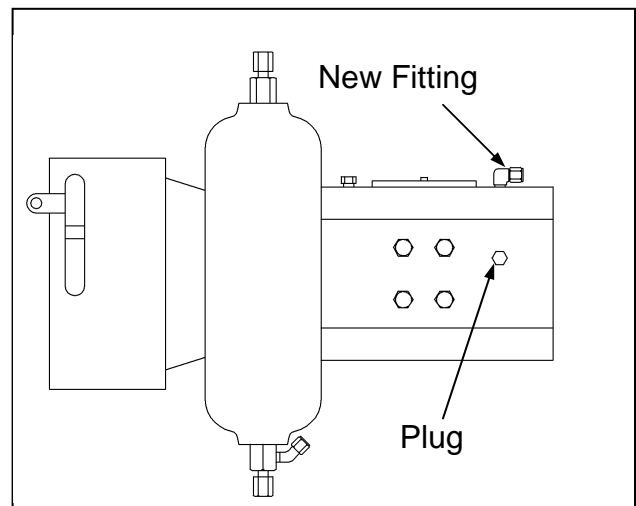


Figure 2: Old Hand Pump Removed

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5. Install the new universal hand pump mounting bracket using the mounting holes for the old hand pump. (See Figure 3)

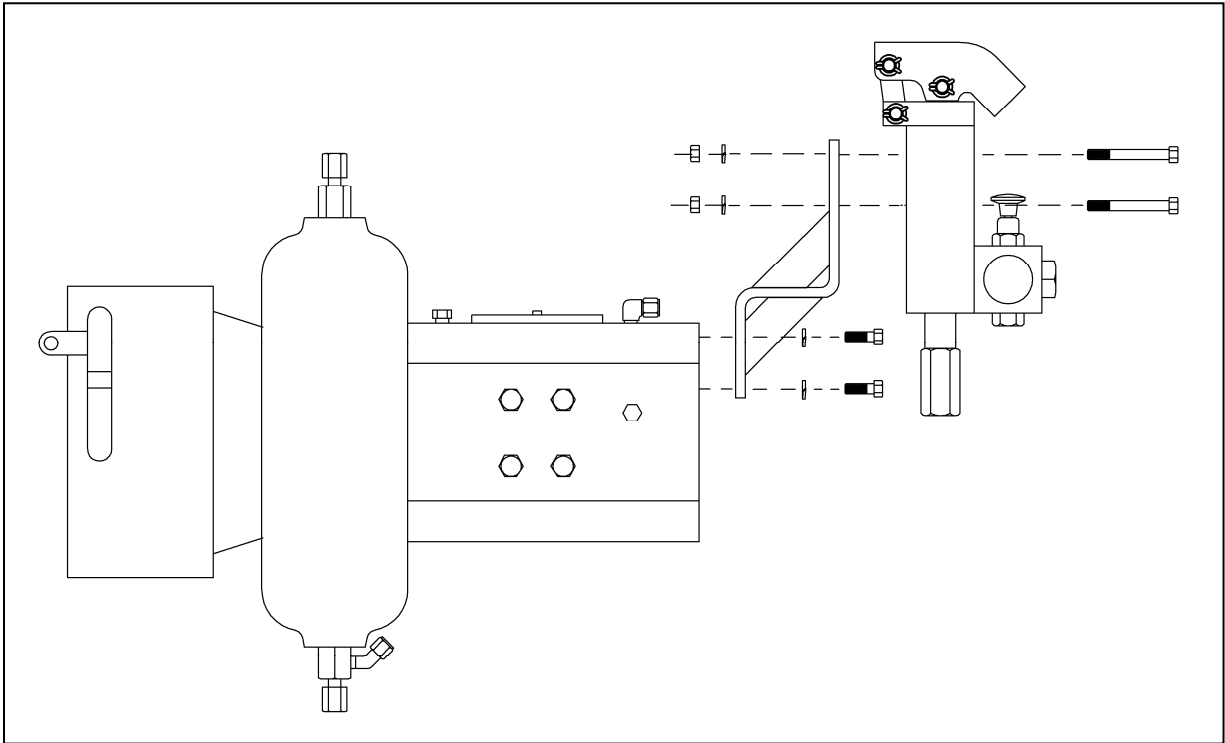


Figure 3: Installation of new hand pump

6. Install the new hand pump. (See Figure 3)
7. Install new Swagelok[®] fittings in the hand pump, actuator upper head and tanks. Apply an appropriate pipe sealant to the threads.
8. Run tubing from the bottom of the gas hydraulic tanks to the suction ports located at the bottom of the hand pump. Right tank (CLOSE) to the right suction port and the left tank (OPEN) to the left suction port (as you are facing the new hand pump).
9. Run tubing from the discharge ports located on top of the hand pump. The right side of the pump runs to the port on the right in the upper head of the actuator (as you are facing the new hand pump). The left side of the pump runs to the port on the left in the upper head of the actuator. Make sure you are using the ports in the upper head closest to hand pump, not the ones on the far side. See Figure 2
10. Fill both of the gas hydraulic tanks to required operating level.

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11. Use the hand pump to close or open the actuator to purge the actuator and hydraulic lines. To manually stroke the actuator, either open or closed, select the appropriate knob on the selector valve located on the hand pump. This knob is selected by pressing inward toward the pump center.
Note: The pump has a label designating which knob is open and close.
12. Using the supplied pump handle, raise the hand pump clevis, which will draw hydraulic fluid into the pump. Pull the handle downward to discharge hydraulic fluid into the actuator. Repeat this process until the actuator reaches its end of stroke.
13. When the pumping cycle is completed, depress the manual relief valve located top center of the selector valve on the pump and pull the pump ram back into the pump body.
14. The automatic features of the control circuit can now be used.
15. The hand pump will automatically shift to neutral when either the OPEN tank or the CLOSE tank is pressurized during an automatic cycle of the control circuit.
16. Turn power gas on.
17. Stroke the actuator in both directions using power gas pressure.
18. Leave the actuator in the desired position.

If any further information is required, please feel free to contact:

Emerson Process Management Valve Automation Inc.

2500 Park Avenue West

Mansfield, Ohio 44906

Phone: (419) 529-4311

Fax (419) 529-3688

Please visit our website for up to date product data. www.shafervalve.com

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