



INSTALLATION INSTRUCTIONS

4" Pump Service Kit

Part No. 344-001-5

The following defined terms are used throughout this literature to bring attention to the presence of hazards of various risk levels, or to important information concerning the life of the product.

DANGER indicates presence of a hazard which *will* cause *severe* personal injury, death or substantial property damage if ignored.

CAUTION indicates presence of a hazard which *will* or *can* cause *minor* personal injury, death or substantial property damage if ignored.

WARNING indicates presence of a hazard which *can* cause *severe* personal injury, death or substantial property damage if ignored.

NOTICE indicates special instructions on installations, operation, or maintenance which are important but not related to personal injury hazards.

The 4" Pump Service Kit #344-001-5 consists of the following parts:

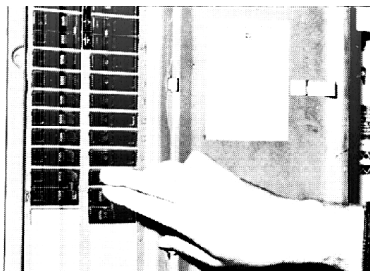
- 1-Precision Adjustable Functional Element Assembly #323-002-5
- 1-Check Valve #188-240-4
- 1-Check Valve Spring #080-125-1
- 1-Packer/Manifold Seal #076-370-1
- 1-O-Ring #076-534-1

The elastomers in the 344-001-5 Pump Service Kit are the same as those used on Red Jacket AG type (orange) pumps. This kit is used to replace seals in AG pumps and may also be used to upgrade seals of Red Jacket Standard (red) pumps. When used as an upgrade for standard pumps, this kit offers seals with improved fluid resistance for applications where fuel blends fluctuate on an on-going or seasonal basis.

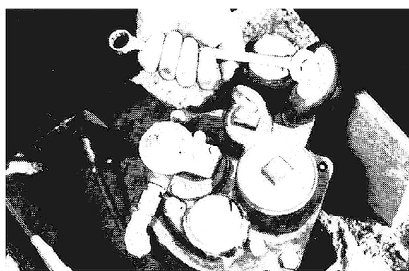
CAUTION Although these seals may be used on standard pumps, they do not allow the pump to function as an AG unit. For high alcohol level applications, an actual AG pump is required. For help determining which pump is right for your application, contact your Red Jacket Distributor or Technical Services at 1-800-777-2480.

To service a pump, replacing the above listed parts, perform the following steps:

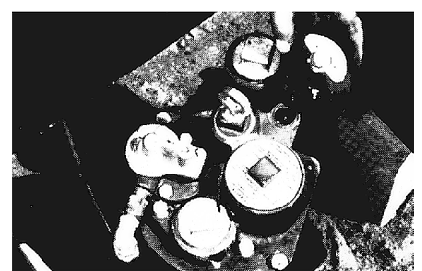
A: Disable the Pump



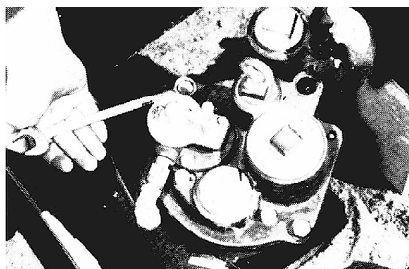
DANGER 1. ALWAYS DISCONNECT and LOCK or TAG OUT the power before beginning to service the pump. Then bleed off any residual pressure from system.



2. Backout bayonet electrical disconnect bolt.



3. Swing electrical connector aside.



4. Remove the two lockdown bolts.
IF SYPHON SYSTEM: Disconnect syphon tubing.

B. Replace the Quad Seal

1. Remove the two lockdown bolts. (If syphon system is present disconnect the syphon tubing). Carefully lift packer.

CAUTION

DO NOT damage surface above discharge port. The O-ring below the leak detector port seals on this surface.

2. Once the pump is lifted off of the manifold, remove the old quad seal from the base of the packer.
3. Clean the seating surface and the sealing surface of the 7" packer/manifold seal.
4. To install the new seal, place the top part of the seal (the top side has the retaining lip) into the base of the packer. The retaining lip is upward per Figure 1.
5. Replace the packer unit carefully so that the seal is not damaged and tighten down the two lockdown bolts.

WARNING

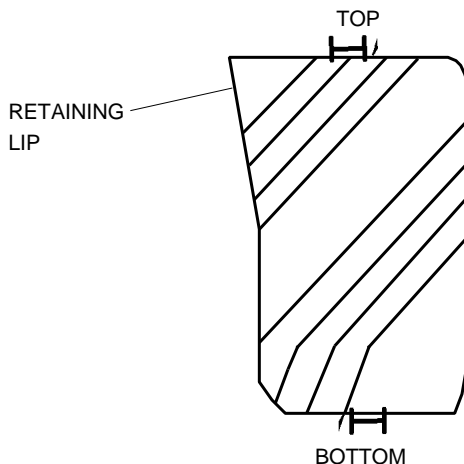
Proper replacement of the quad seal is critical for maintenance of product line pressure. An improper seal will allow the release of product inside the unit and back into the tank.

C: Replace the Check Valve, Spring and Functional Element

1. Remove the old functional element assembly by first disconnecting the syphon tubing (if syphon is installed).
2. Remove the two 3/8" cap screws.
3. Carefully lift the functional element and remove it from the packer.
4. The old check valve and spring will be resting on top of the packer. Remove these.
5. Position the new check valve and spring. The smaller end of spring fits against the check valve.
6. Carefully set the new functional element and the three new functional element o-rings into place then replace the two 3/8" cap screws.
7. If no syphon is used, make sure the vacuum port on the functional element is plugged with a 3/8" NPT plug.

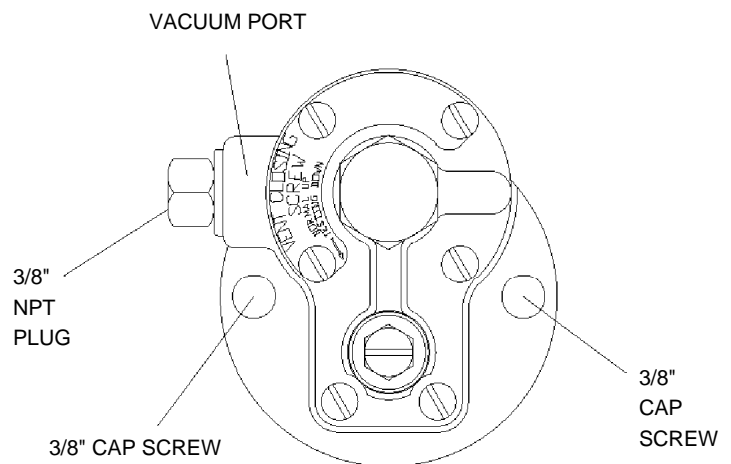
Quad Seal (profile)

FIGURE 1



Functional Element (top view)

FIGURE 2



D: Adjusting the Functional Element Relief Pressure

WARNING

Before beginning any service work, always disconnect and lock out power to the submersible pump.

The functional element #323-002-5 contained in the Pump Service Kit #344-001-5 is an adjustable model. All new functional elements are factory set at relief pressures of 11 to 13.5 psi but can be adjusted to a maximum of 30 psi by turning down the adjusting screw.

This adjustment feature allows the use of the Red Jacket pump with electronic line leak detection systems that require higher relief pressures and enhances performance of the PPM 4000 where field conditions have necessitated minor adjustments to the relief pressure.

To adjust the relief pressure:

1. Remove the brass cap (Item 6, Figure 3) by unthreading it.
2. Turn down the adjustment screw (Item 5, Figure 3). Tightening the screw clockwise will increase the pressure. When the adjusting screw is fully down, the relief pressure is approximately 30 psi. Positions in between fully up and fully down will result in relief pressures between 3 & 30 psi.

There are two methods to verify the relief pressure setting:

- a. The pressure reading can be taken from the control unit of an electronic line leak detection system if one is in operation. Observe the pressure that occurs after the pump turns off—this is the adjusted relief pressure.
- b. Pressure may be observed using a gauge attached at the impact valve or the line test port at the pump. Observe the pressure that occurs after the pump turns off—this is the adjusted relief pressure.

WARNING

When the adjustable functional element is installed, the pump/motor unit(s) must operate at a pressure of 5 PSI greater than the relief (seating) pressure that the functional element has been set to. An improper pressure setting may cause mechanical damage and will void warranty.

NOTICE

If a syphon system is being utilized, it is especially important to follow the 5 psi rule, that is, the pump must create 5 psi more than what the relief pressure has been set to.

For example:

If a relief pressure of 25 psi is desired, the pump in use must be capable of producing 30 psi minimum.

For reference: **Red Jacket Pump Operating Pressures**

	<u>gas</u>	<u>diesel</u>
1/3 HP	25	31
3/4 HP	27	34
1-1/2 HP	29	36
X3 1-1/2 HP	44	50
X5 1-1/2 HP	44	50

Adjustable Precision Functional Element
Part #323-002-5

REPLACEMENT PARTS		
1	108-574-4	Base Casting
2	017-526-1	Diaphragm
3	066-883-1	Poppet
4	072-641-1	O-Ring 41/64 x 5/64
5	076-421-3	Adjustment Screw
6	012-956-3	Cap
7	080-767-1	Spring
8	066-620-1	Plug
9	060-332-1	Seal
10	012-965-3	Top Casting
11	076-145-3	Relief Screw
12	072-526-1	O-Ring 9/16 x 3/4 x 3/32
13	072-533-1	O-Ring 2 x 2-3/16 x 3/32
14	072-535-1	O-Ring 7/16 x 5/8 x 3/32
15	026-155-1	Screw Cap
16	066-826-1	Nameplate

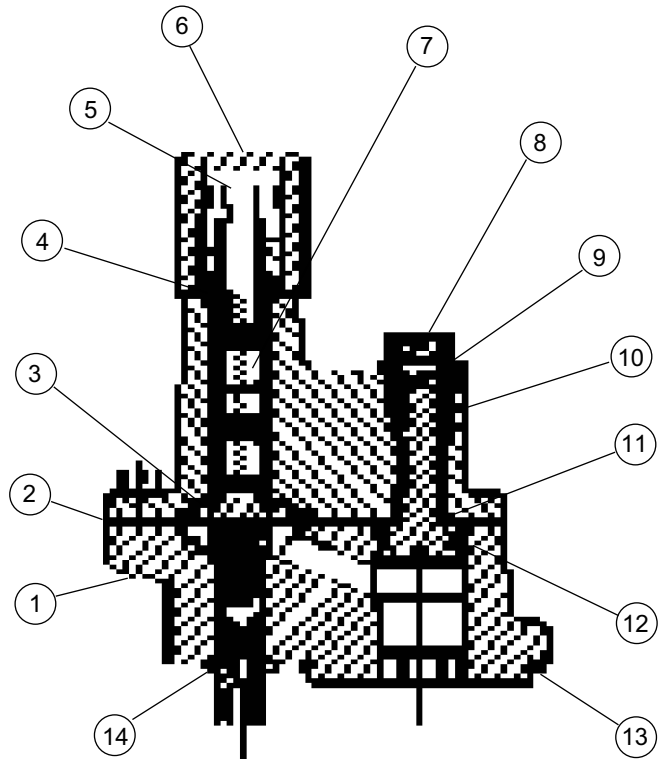


FIGURE 3



by  VEEDER-ROOT

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