

**RAP R40: Hand Pump Head Seal Replacement**  
**HP/Head-Seal**  
05-05-11

# **Shafer Hand Pump Head Seal Replacement**

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## Shafer Hand Pump

The purpose of this procedure is to guide the installation of the head seals in a Shafer Hand Pump.

This procedure is to be used in conjunction with the following Maintenance and Service Manual. See Bill of Materials pg. 2 and pg. 3.

Shafer Manual Hand Pump Maintenance and Service	Bulletin MHP-01102001
<a href="http://www.shafervalve.com">www.shafervalve.com</a> Downloads-Controls-Manual Hand Pump Maintenance and Service	

In the following procedure numbers in ( ) correspond to components labeled in Figure 1 Page 3 of this bulletin. Information in [ ] is descriptive.

**WARNING: 1. Turn power gas off.**



**2. Bleed down the power storage tank if applicable.**

**3. The pressure gage on the poppet control block must read zero.**

1. Pull both Palm Buttons (40) out to automatic position.
2. Press Relief Knob (50) and ensure the pump ram is fully down.
3. Remove "X" Washer (57) from one end of Clevis Pin (63) and remove Clevis Pin (63) from the Pump Head (2). (In all cases lay removed parts aside on a clean surface to be reassembled later.)
4. Remove "X" Washer (57) from one end of Clevis Pin 24 at the top of the pump Top Ram (7).
5. Remove the clevis assembly and lay aside.
6. Remove the four Hex Head Cap Screws (29) loosening the Pump Head (2) from Valve Body (1).
7. Before removing the Pump Head (2), clean the portion of the Top Ram (7) that extends out of the Pump Head (2). Ensure all debris and paint have been removed from this surface.
8. Carefully slide the Pump Head (2) over the Top Ram (7) to remove. Ensure the Pump Head remains in alignment and does not cock causing the Top Ram to move. The Top Ram must stay in the Valve Body (1) during this procedure.
9. Place the Pump Head (2) in a vice with hex on the Packing Gland (3) facing up.
10. Using a socket wrench on the hex, carefully remove the Packing Gland (3) from the Pump Head (2).
11. Remove the Upper Ram Parker Poly Pak Rod Seal (75), Ram Wiper (28) and Pump Head O-ring (26) from the Pump Head (2).
12. Clean and inspect the Pump Head to ensure that new seals will not be damaged during assembly.
13. Lubricate [with clean system fluid] the new Ram Wiper (28) and install in the Pump Head (2) with the lip extending up toward the top of the Pump Head (2).

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14. Lubricate the new Parker PolyPak<sup>®</sup> Rod Seal (75) [with clean system fluid] and install in the Pump Head (2), with the exposed o-ring side of the seal down toward the valve body side of the Pump Head (2).
15. Leaving the threads dry, put a drop of red Loctite<sup>®</sup> on them and install the Packing Gland (3) in the Pump Head (2) using a socket wrench.
16. Lubricate the new Pump Head O-ring (26) [with clean system fluid] and install on the Pump Head (2).
17. Lubricate the Top Ram (7) [with grease or clean system fluid] and carefully slide the Pump Head (2) back down over the Top Ram (7) and into position. Use extreme care not to damage seals as they pass over the end of the Top Ram and enter into the Valve Body.
18. Replace the four Hex Head Cap Screws (29) lubricate the threads with Never Seize and tighten to standard torque chart requirements for a lubricated bolt.
19. Position the Clevis assembly and insert Clevis Pin (24). Lock in place with "X" Washer (57). Replace Clevis Pin (63) and lock in place with "X" Washer (57).
20. The Shafer Hand Pump is now ready to be put back in service.
21. Turn power gas on.

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

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Please visit our website for up to date product data. [www.shafervalve.com](http://www.shafervalve.com)

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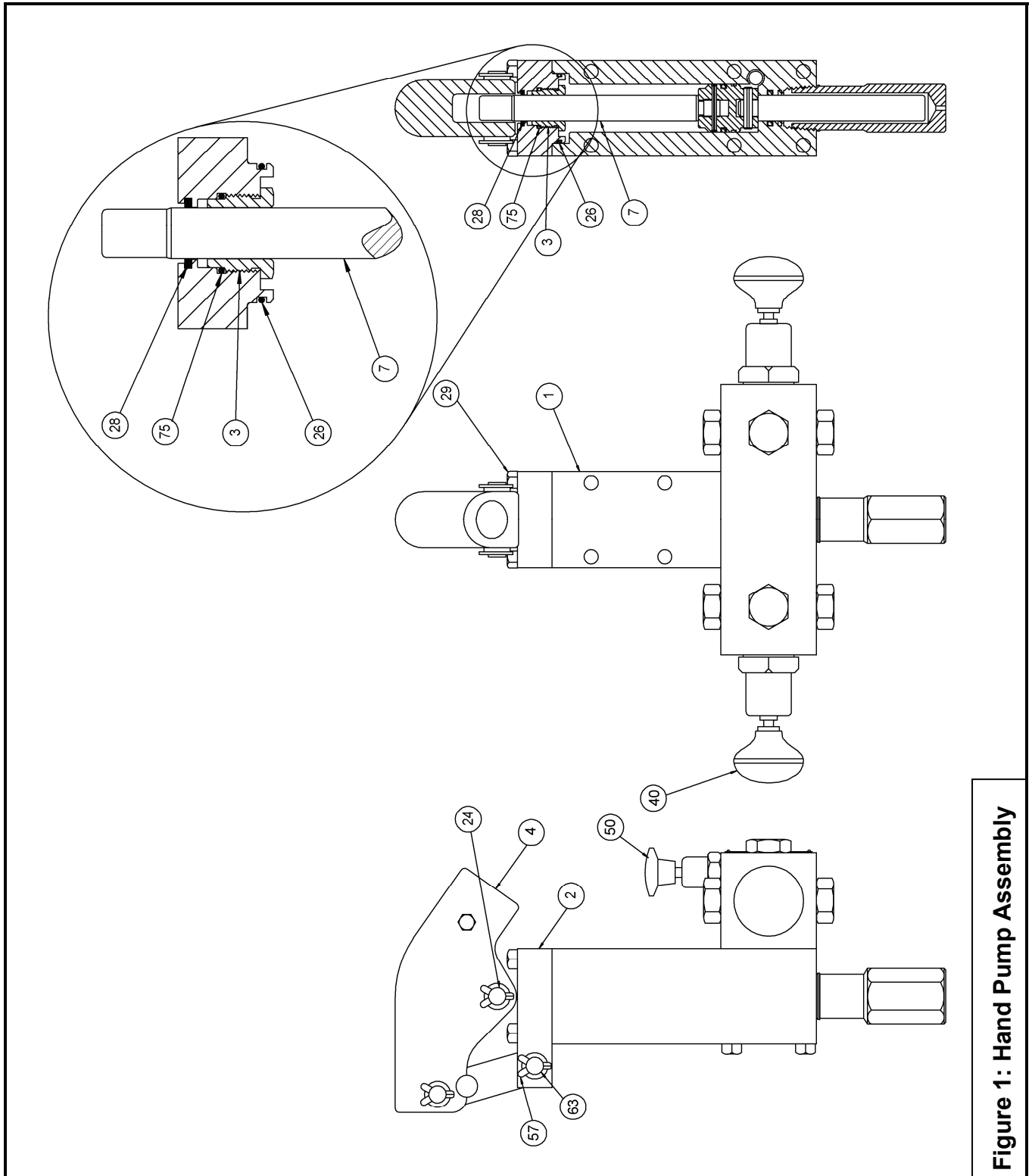


Figure 1: Hand Pump Assembly