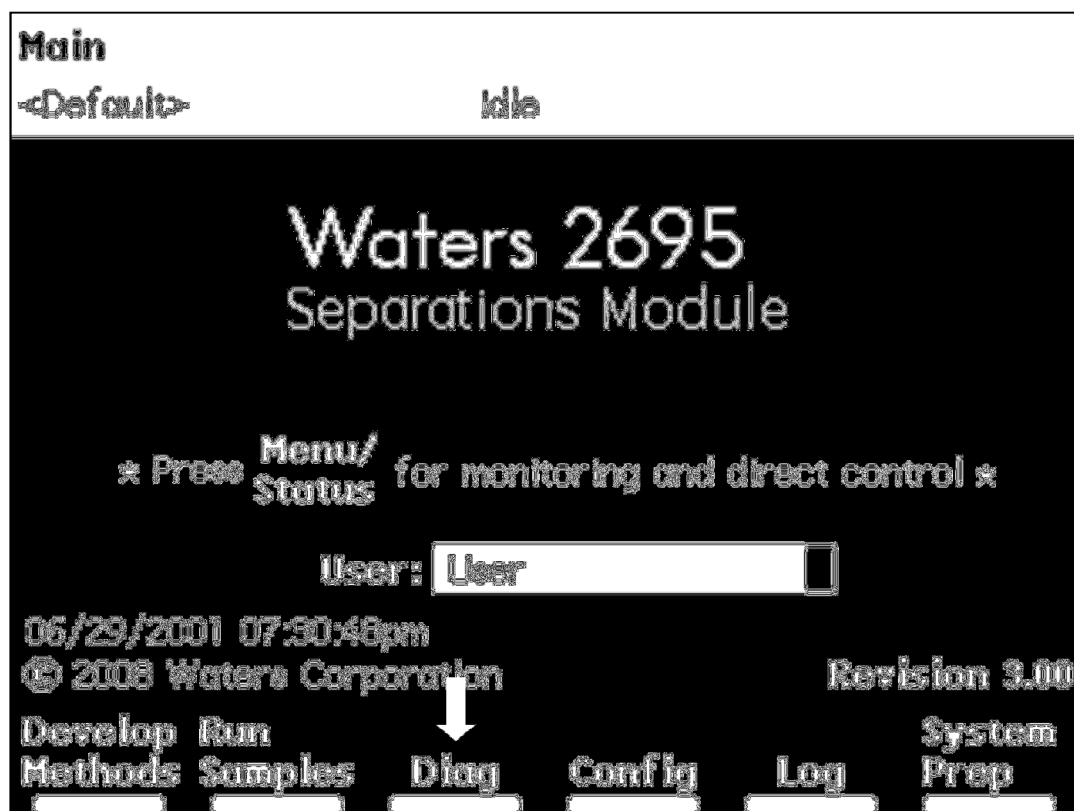




Alliance Head Rebuild

- Materials required
 - Seal removal tool (WAT039803)
 - Seal insertion tool (WAT270969)
 - Wash bottle with MeOH or IPA
 - Waste container
 - 5/16-inch wrench, open end
 - 1/2-inch wrench, open end or adjustable



- From the Main Screen
- Press **Diag**, the Diagnostics screen is displayed.

Diagnostics

<Default> Idle

Serial Number: F97SM4290M

Transducers		
System:	0	psi
Primary:	8	psi
Sample:	-1	psi

Lifetime Counters:

Eluent delivered = 21 L

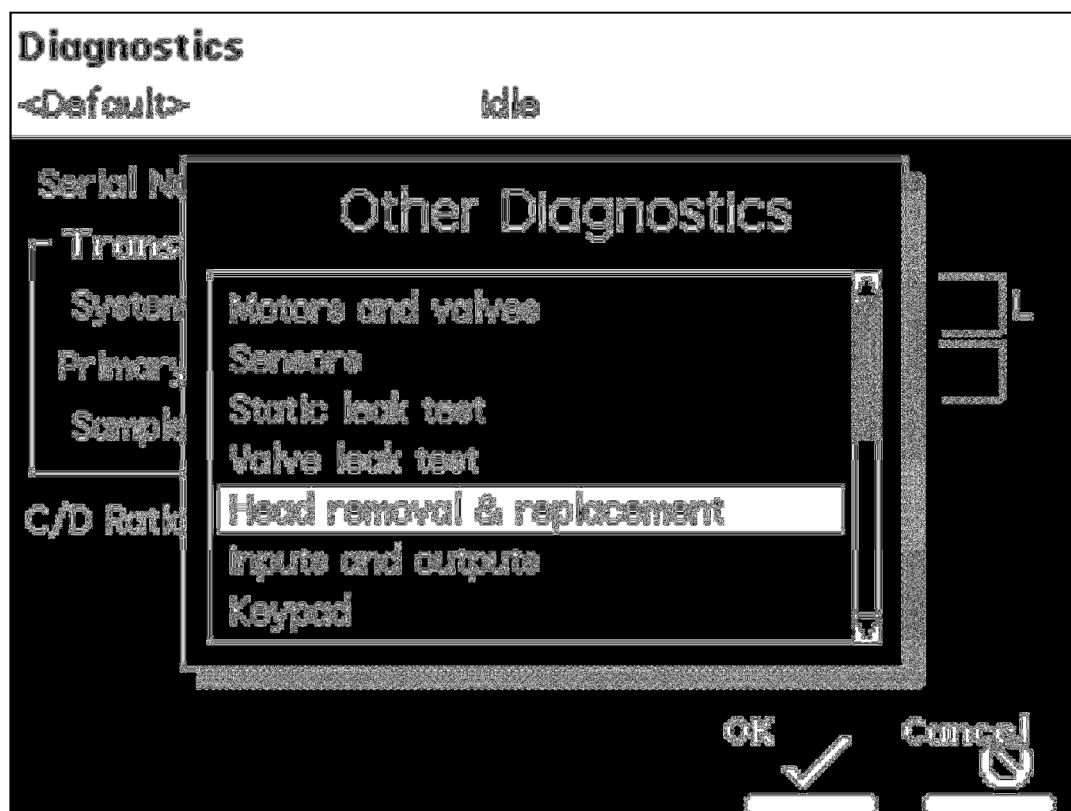
Injection count = 46

C/D Ratio: 0.00

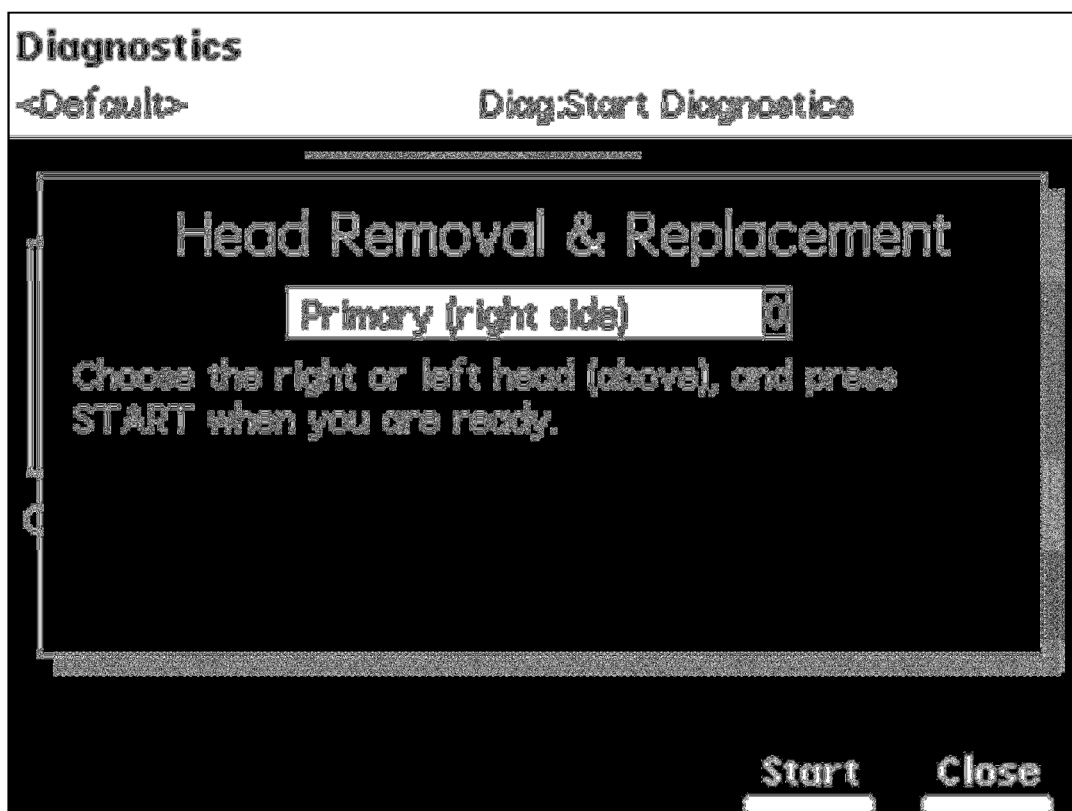
↓

Prime SealWsh	Comp Check	Prime NdWsh	Adjust Seals	Service Utilities	Other Tests
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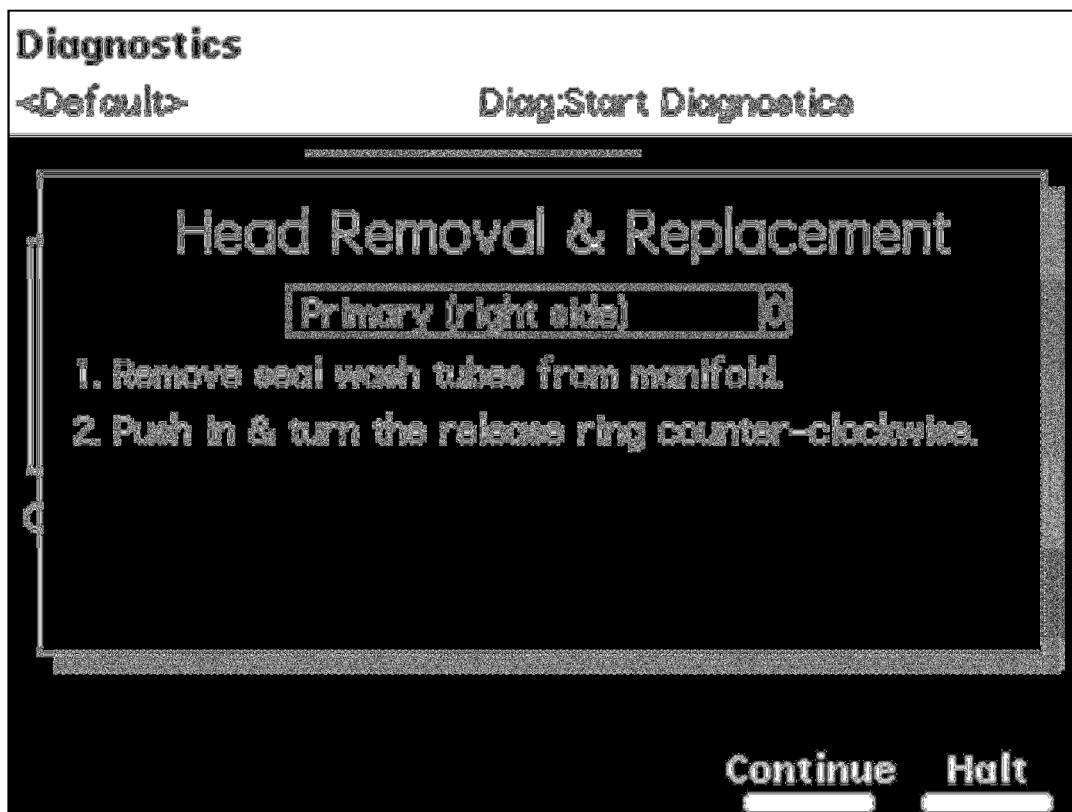
- From the Diagnostics menu screen
- Press **Other Tests**, the Other Diagnostics menu is displayed.



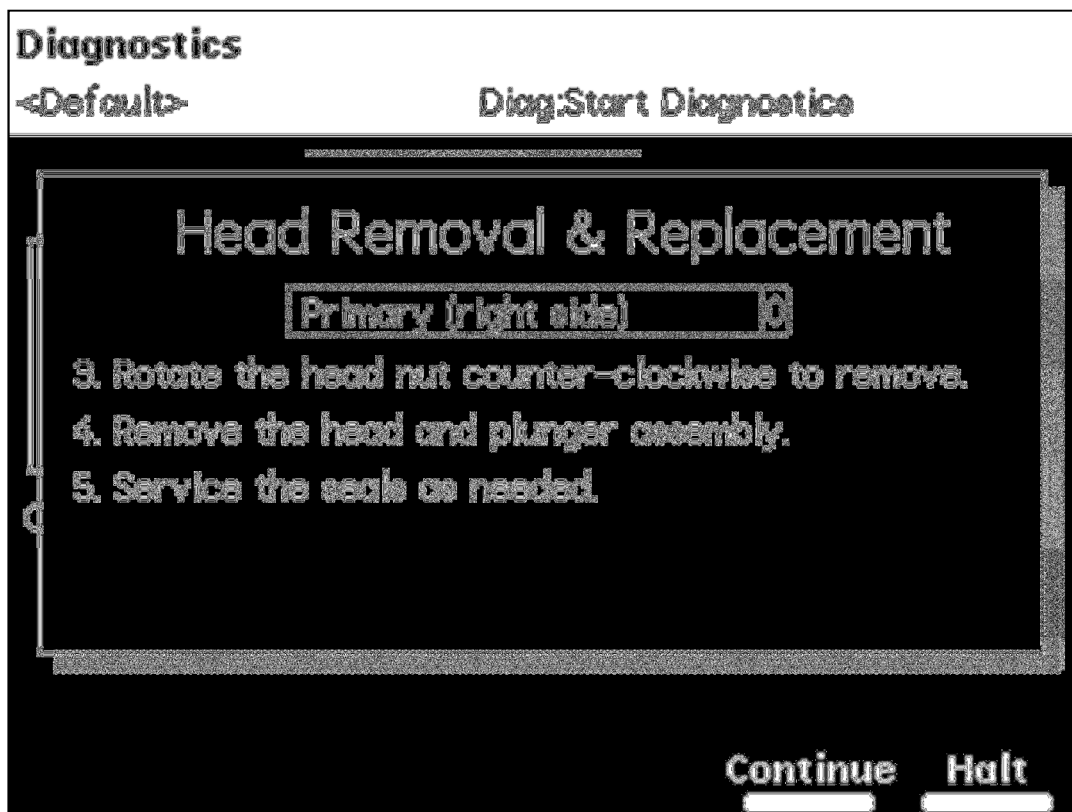
- On the Other Diagnostics menu, scroll down to
- Head removal & replacement, Press **OK** or **Enter**, the Head Removal & Replacement screen is displayed.



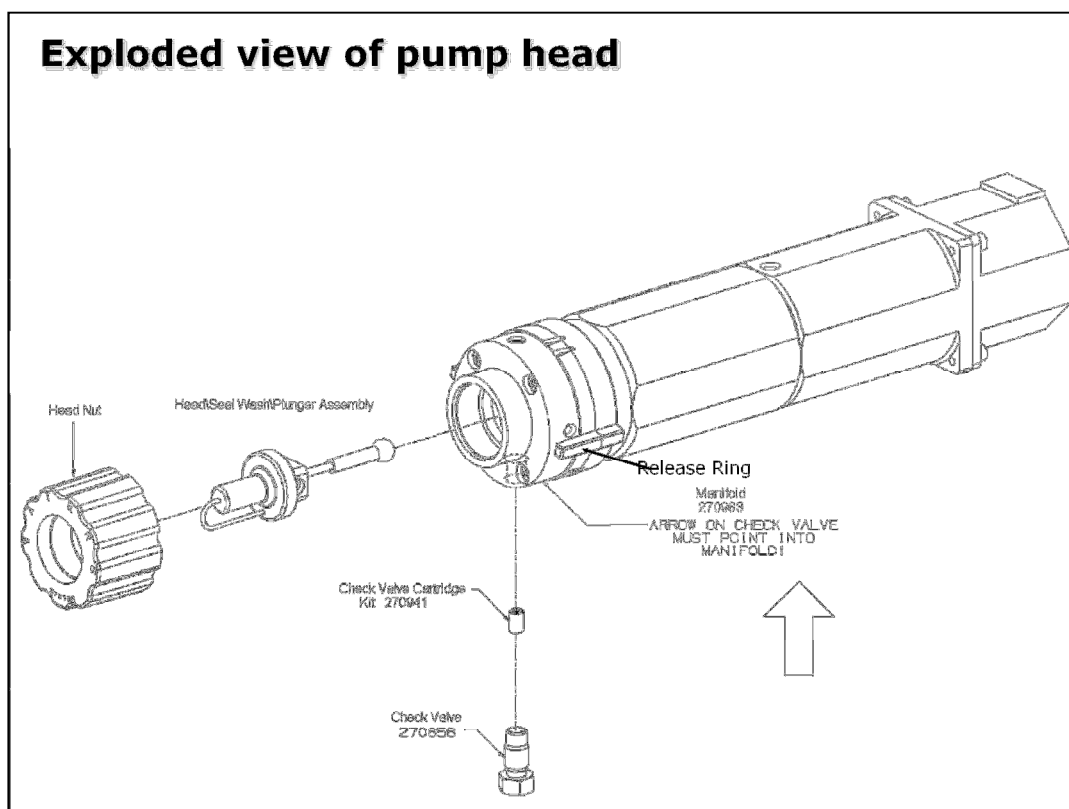
- Select the primary (right side) head
- Press **Start**.



- Page 2 of instructions
- Follow the instructions, do not get ahead of, or fall behind the instructions .
- Press **Continue**.



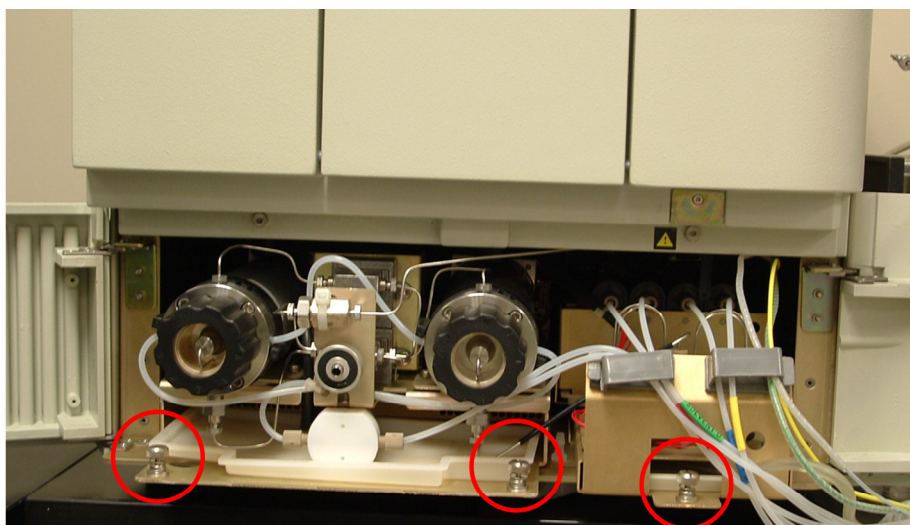
- Page 3 of instructions
- Once you have removed the head and plunger assembly from the instrument, press **Continue**.



- Remove the check valve housing from the Primary (right pump) and replace the check valve cartridge (part #:WAT270941).
- Be sure to insert the check valve cartridge with the arrow pointing up, as installed in the pump manifold.

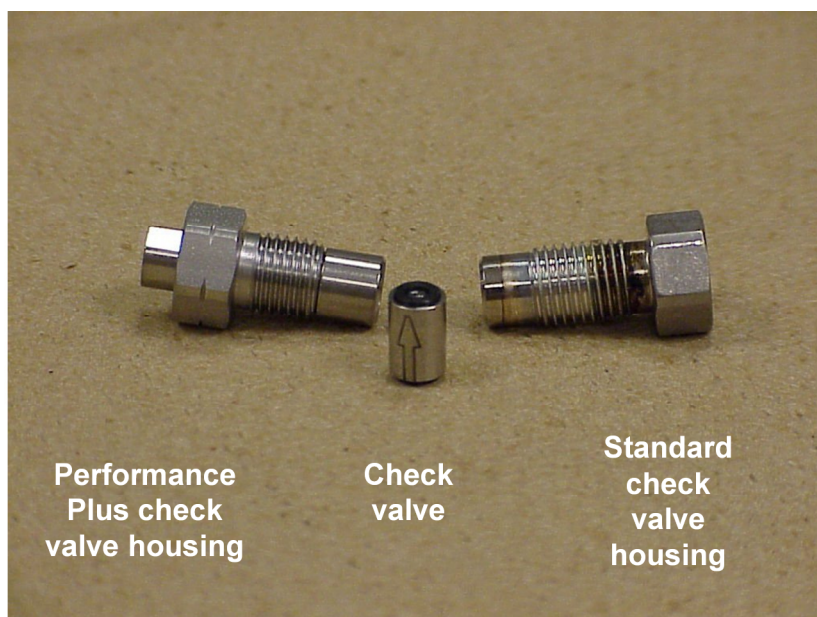
Note: The outlet (top) of the check valve has two holes.

Pull Pump Tray Forward



- Open the solvent conditioning system and the solvent delivery system doors.
- Loosen the captive retaining screws on the trays and pull the trays forward. This will make it easier to work on the heads.

PerformancePLUS Check Valve Housing

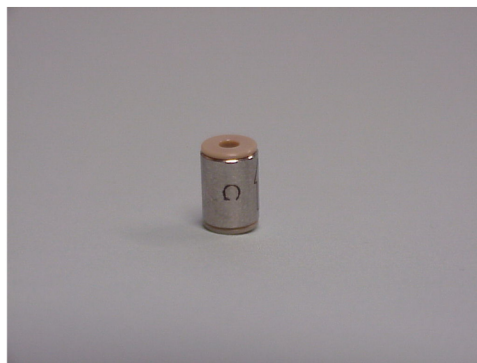


- The 2695 now comes with Performance PLUS check valve housings.

Standard & Ceramic Check Valves



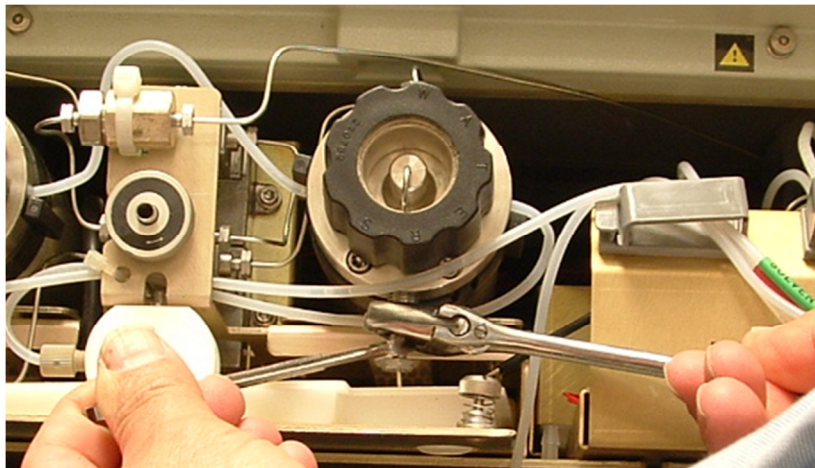
Standard Check Valve



Ceramic Check Valve

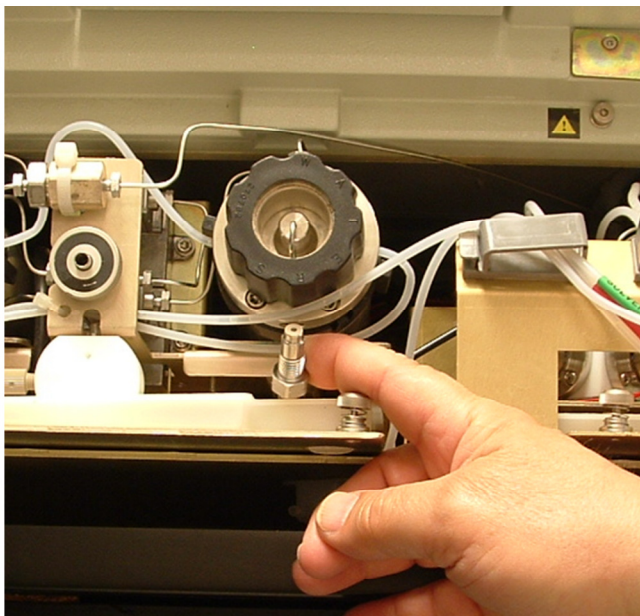
- The arrow indicates the outlet of the check valve.
- If you have problems with the check valves sticking, there is an optional ceramic check valve for those applications.
- The C identifies the ceramic check valve
- Part number 700002399 package of 2.

Loosen the Check Valve Housing



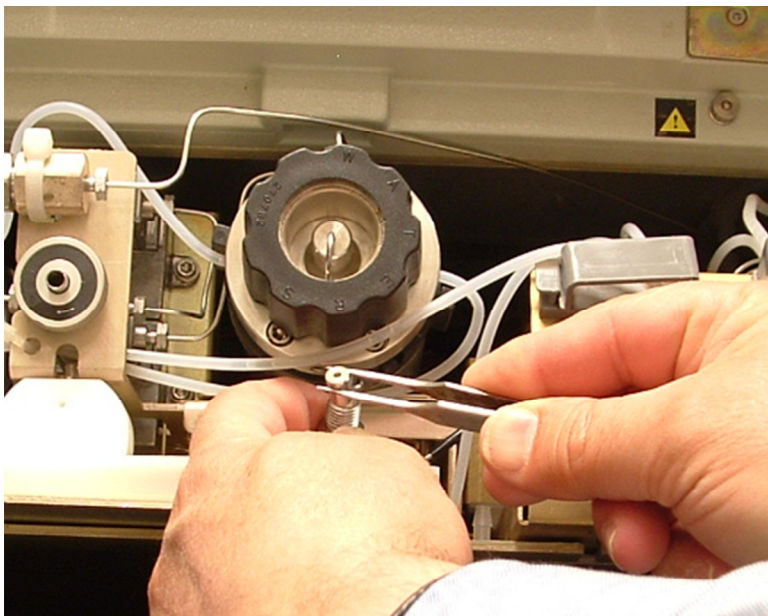
- **Standard Housings**
 - Using a ½" open end or an adjustable wrench, hold the check valve housing and loosen & remove the compression fitting.
 - Loosen the check valve housing and remove the check valve assembly.
- **Performance Plus Housings**
 - Using a ¼" open end wrench, hold onto the center of the housing.
 - Using a ½" or an adjustable wrench, loosen the housing.

Remove the Check Valve Assembly



- Pull the housing from the head and remove the check valve assembly.

Install the New Check Valve Assembly



- Install the new check valve assembly in the housing.
- Reinstall the housing back into the manifold and tighten.

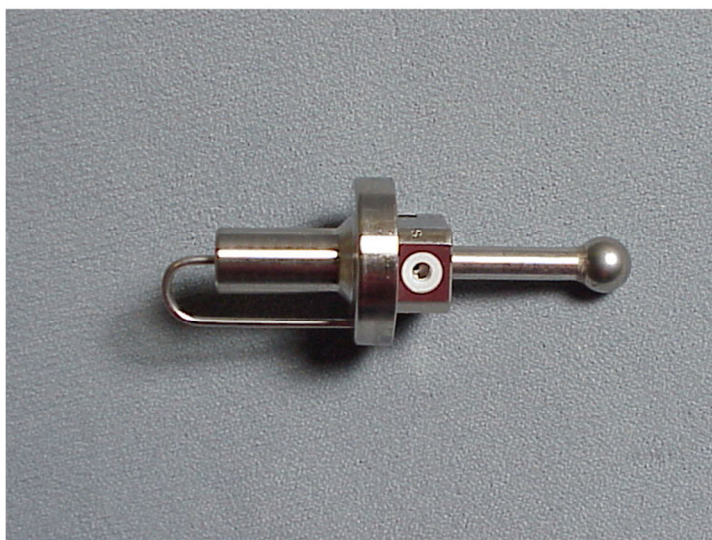
Installed Check Valves



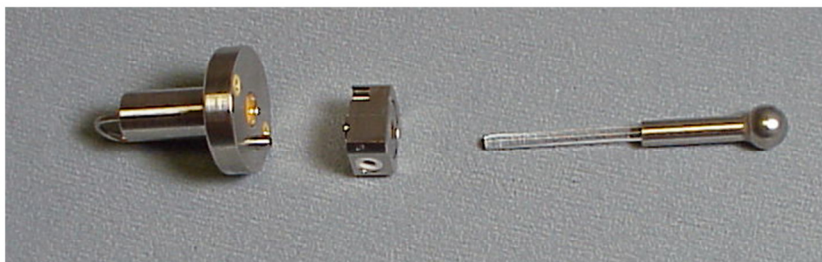
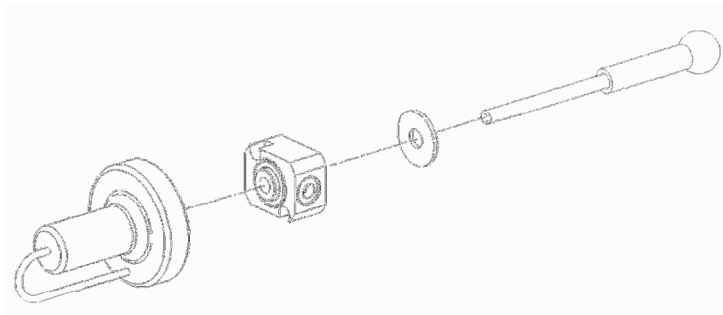
Note: *This is properly installed with the Check Valve extending out of the housing.*

- The seal surface is on the top and bottom, the extended portion does not effect the functionality.

Head, Seal Wash and Plunger



- This is how the assembly looks when it is removed from the pump.

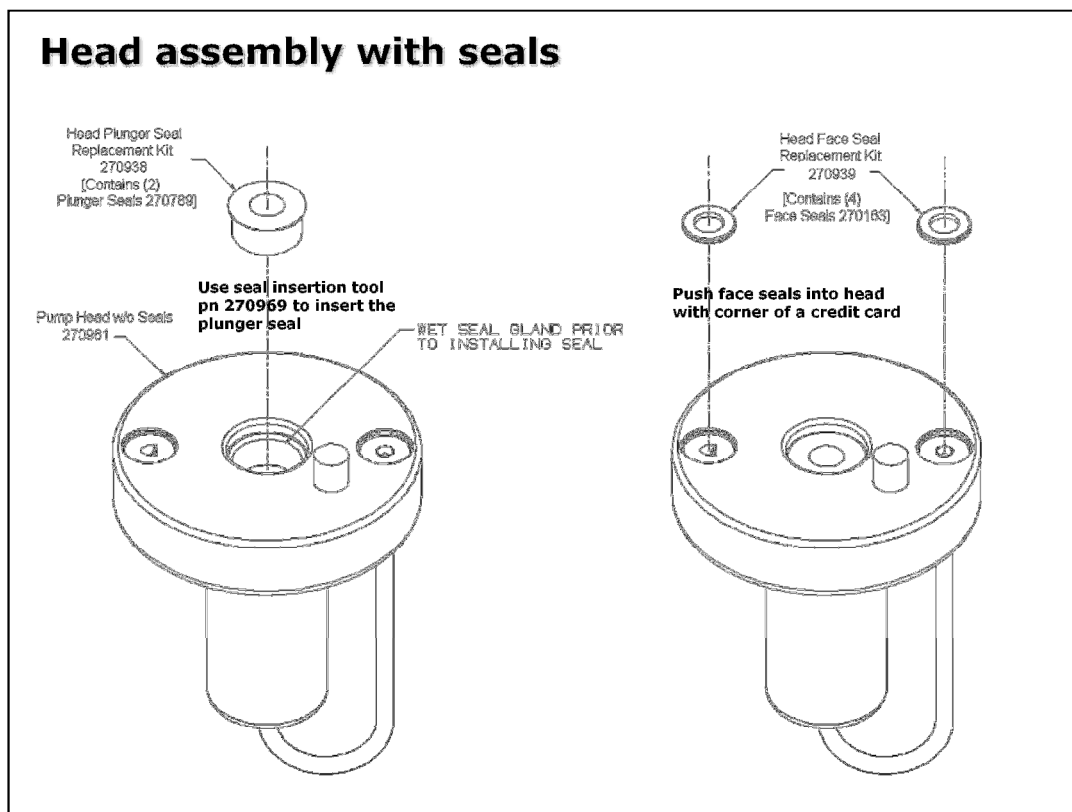
Head assy, Seal Wash, and Plunger

- Gently separate the pump head, plunger wash, and plunger assemblies.

2690/5 Plunger Assembly



- The PM kit contains two new plunger assemblies (WAT270488), one for each pump.

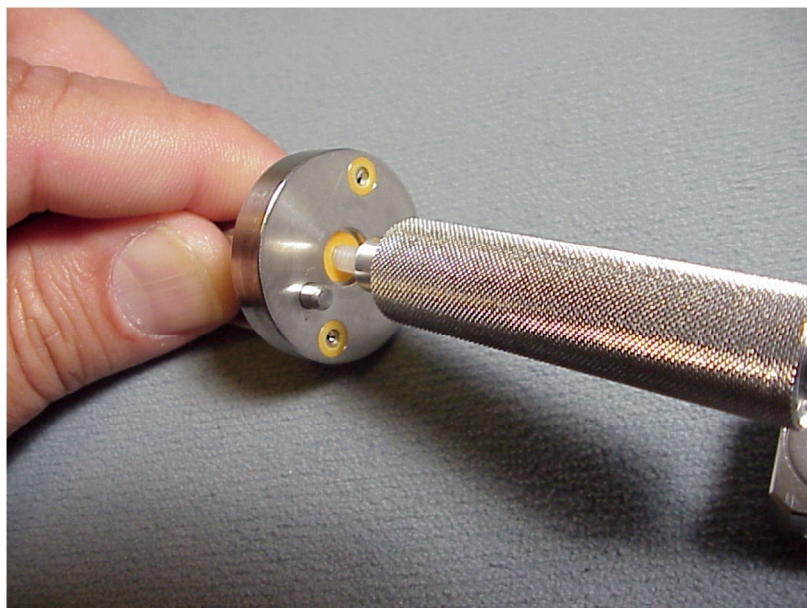


- Exploded view of the head assembly with seals.

2690/5 Head Assembly with Seals

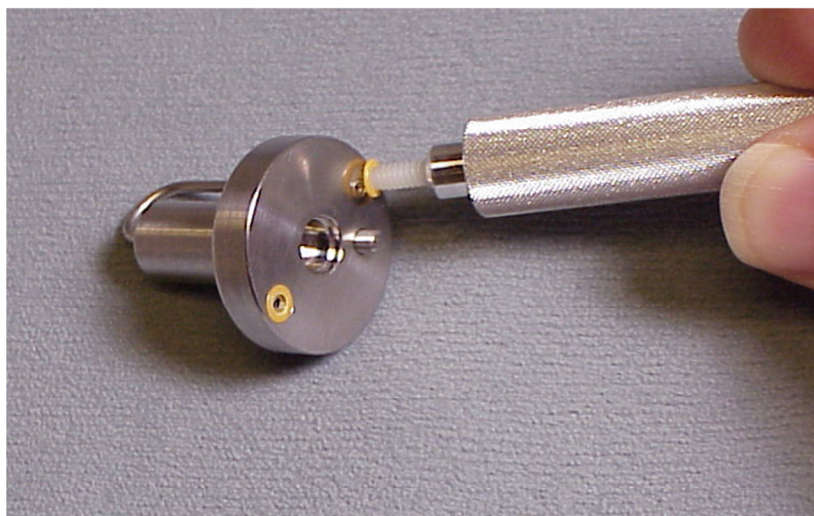


- The center seal is the plunger seal (WAT270789)
- The two seals at the edge of the head are the face seals (WAT270163).

Remove Plunger Seal

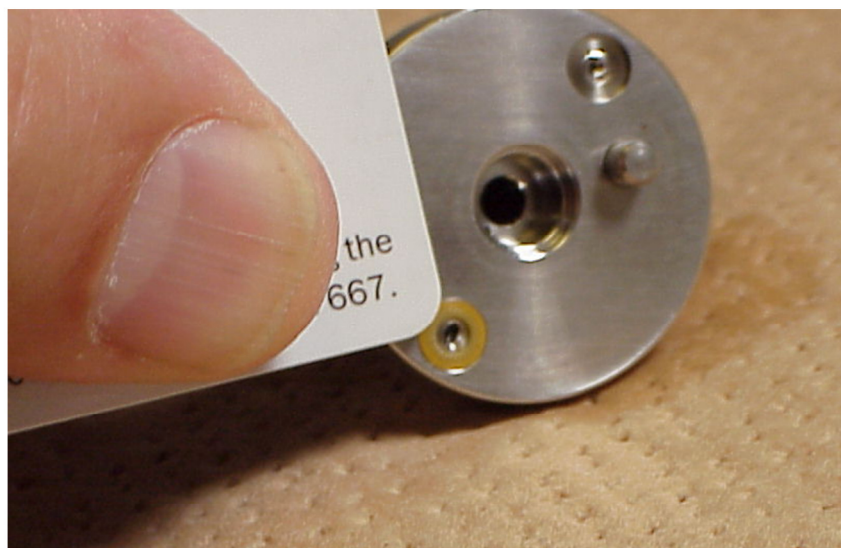
- Remove the plunger seal using the plastic end of the seal removal tool (WAT039802).

Remove Face Seals

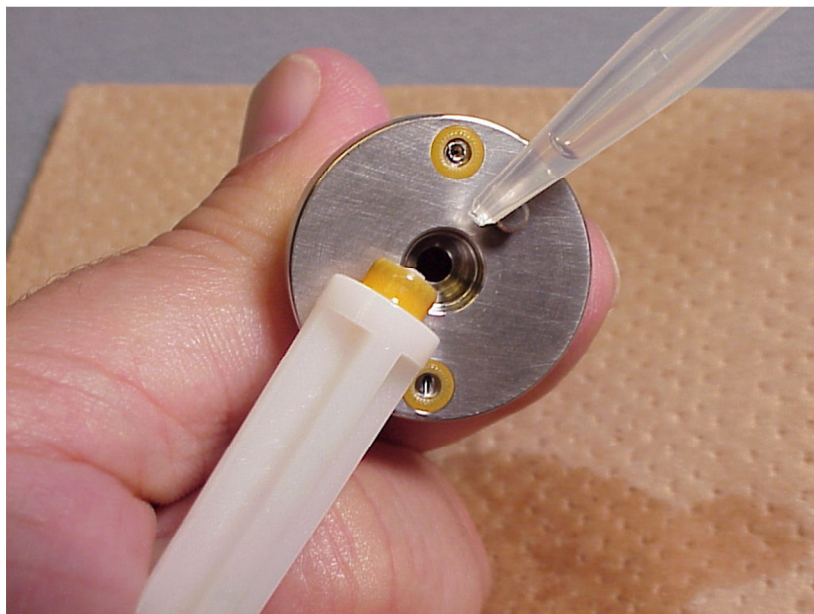


- Remove the face seals using the plastic end of the seal removal tool.

Insert New Face Seals

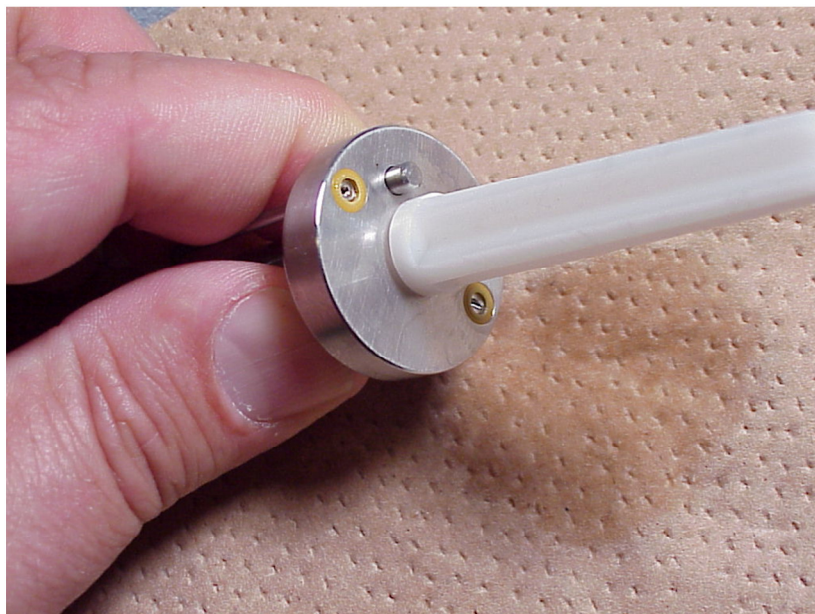


- Wet the face seals with methanol or IPA and insert the new face seals into the head. There is no orientation to the face seals.
- Use the edge of a credit card or ID badge to press the seal into the head. Be careful not to scratch or leave any particles on the seals when installing them

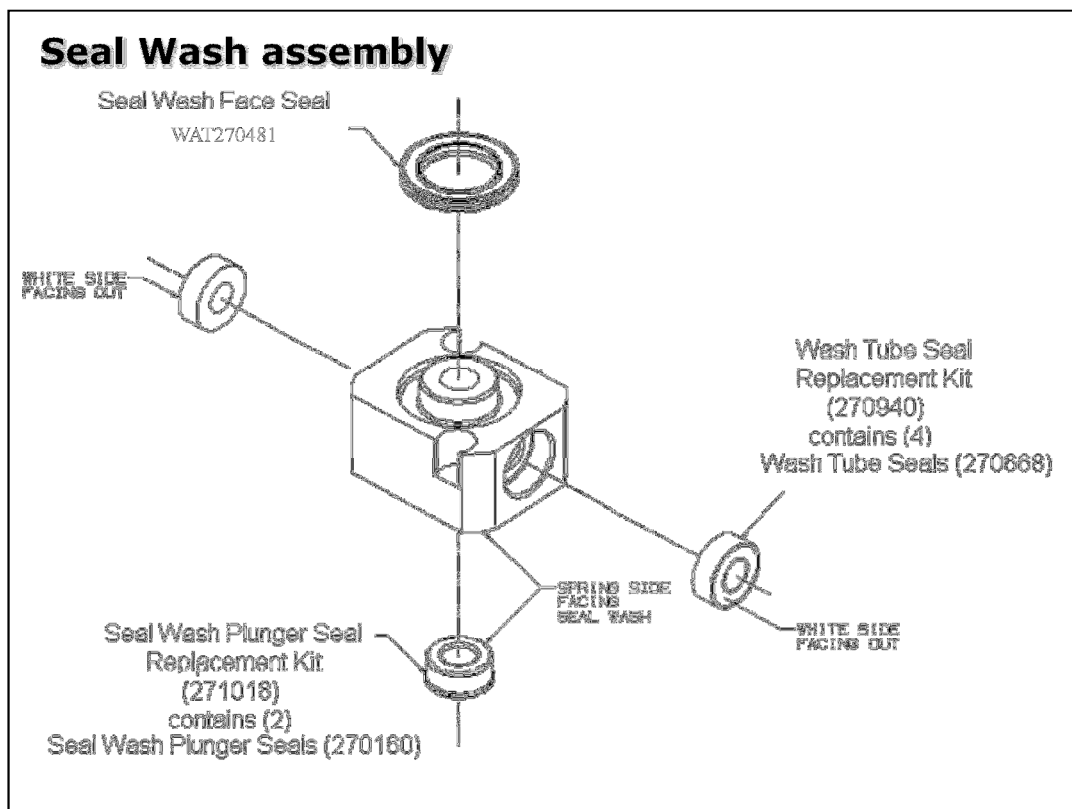
Insert New Plunger Seal

- Wet the plunger seal, head and tool with methanol or IPA and install the seal into the head.

New Seal Inserted

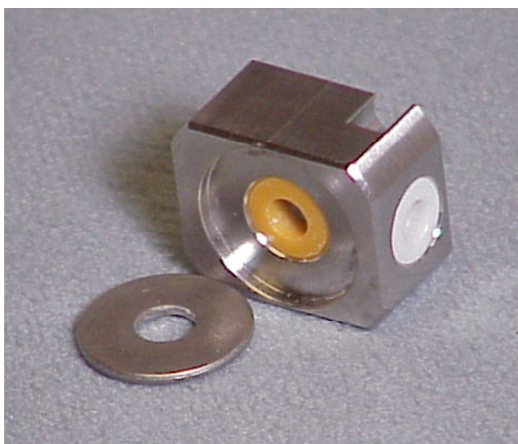


- Push the seal in until the tool is against the head.



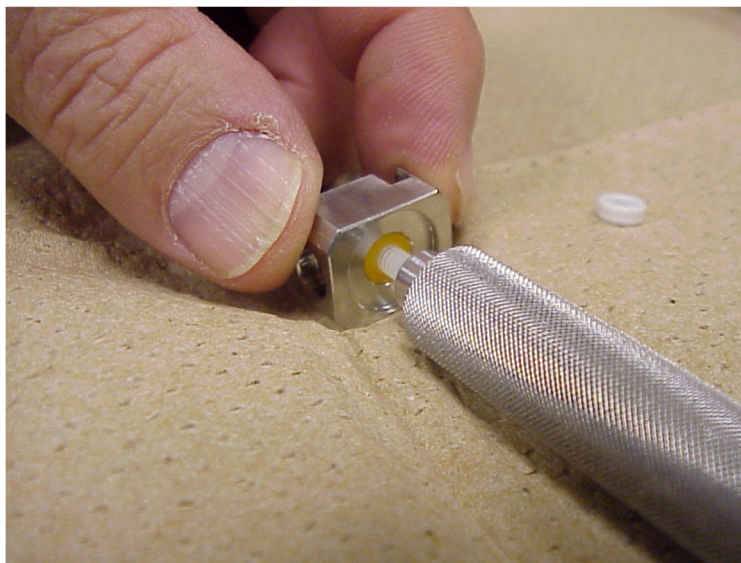
- The seal wash face seal (WAT270481) is not replaced as part of a routine performance maintenance.

Seal Wash Assembly

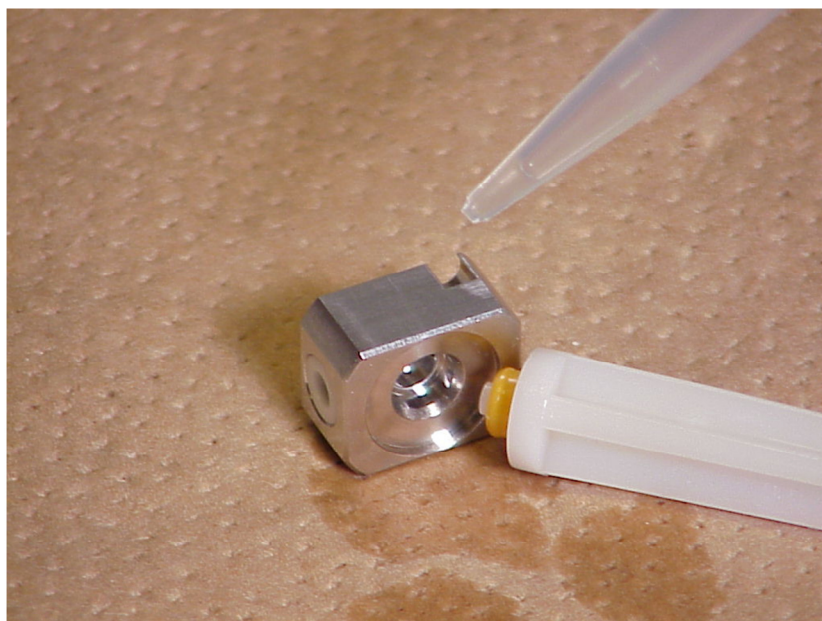


- Front (lower right) and back (upper left) views of the plunger wash assembly.
- The stainless steel plunger wash body and washer are re-used.

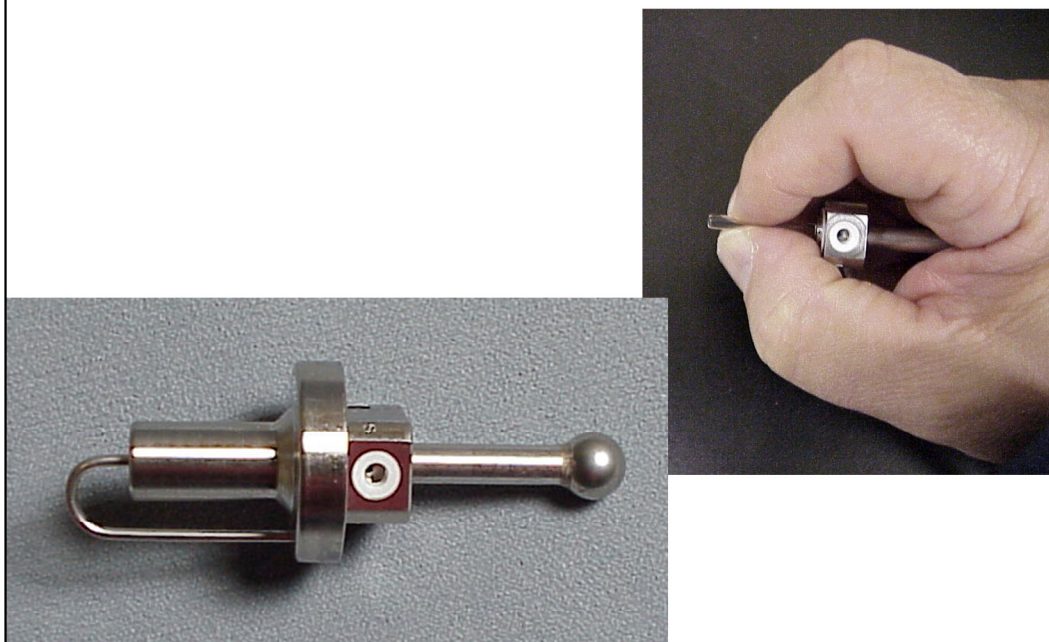
Remove Plunger Wash Seals



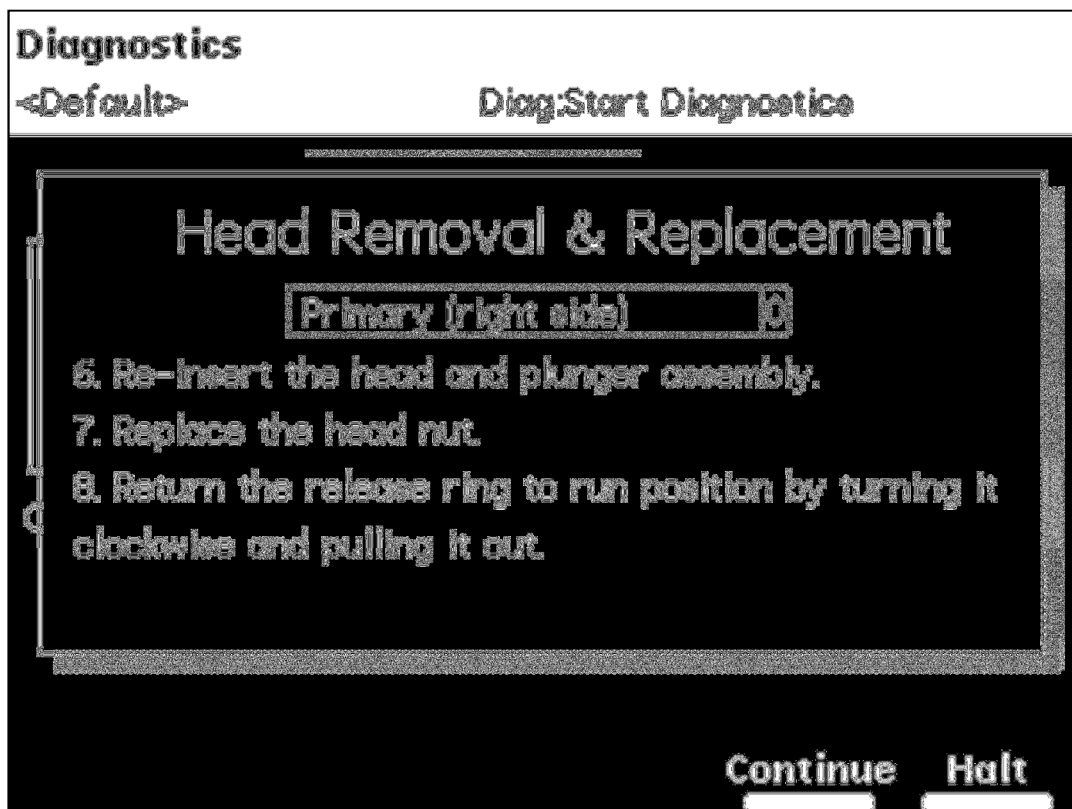
- Use the plastic end of the seal removal tool to pull the plunger wash seals from the plunger wash body.

Insert New Plunger Wash Seals

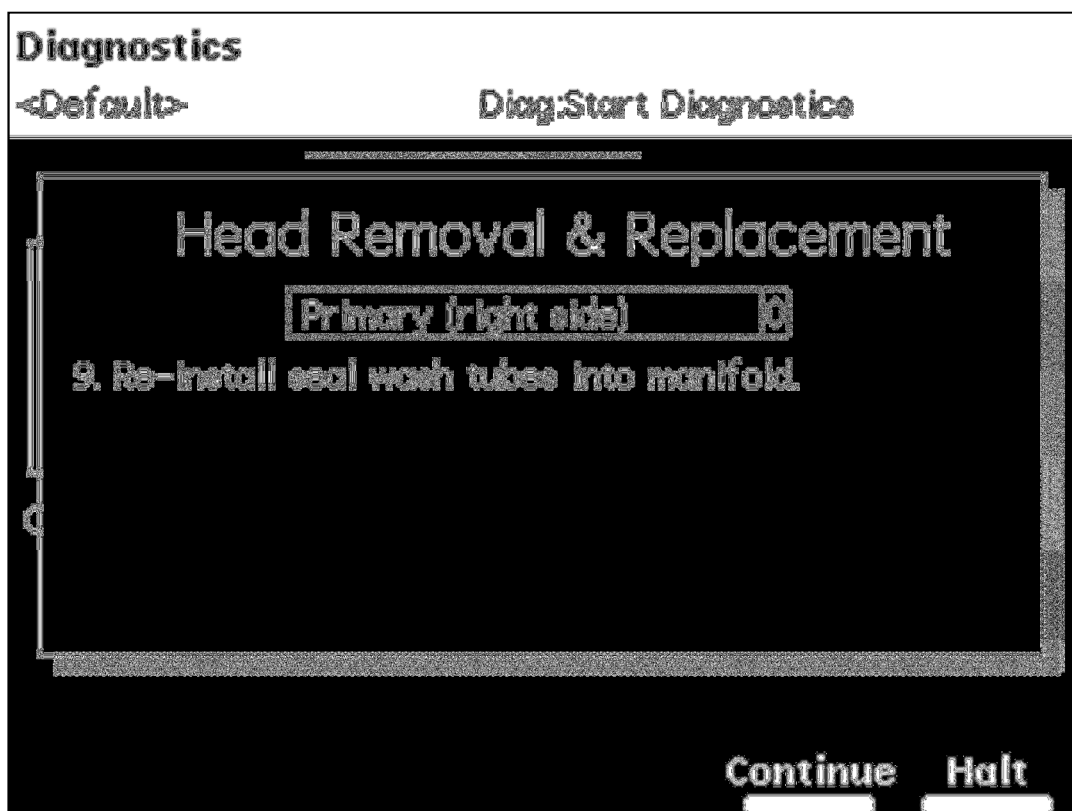
- Use a modified seal insertion tool to insert new seals in the plunger wash body.
- Wet the seals and plunger wash body with MeOH or IPA before inserting the seals.

Re-assemble Head, Seal Wash and Plunger

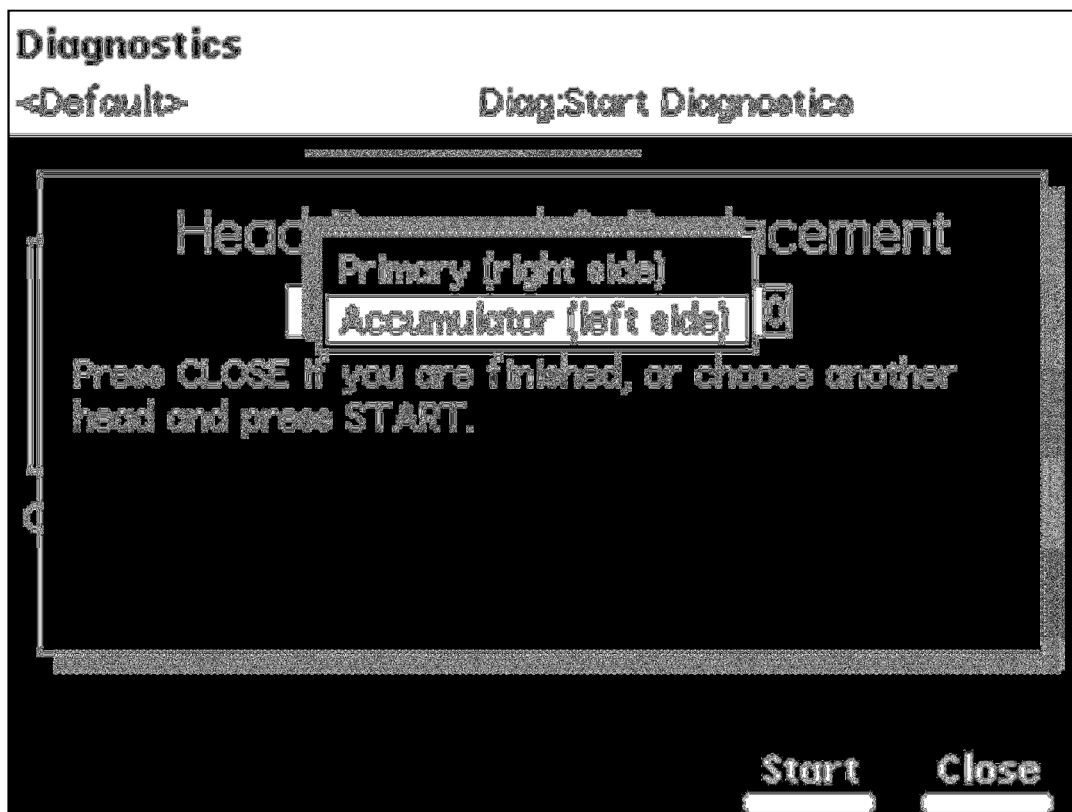
- Wet the plunger seal, plunger wash seal, and the plunger with methanol or IPA before re-assembling them.
- Hold the plunger near the end, as shown above, to help prevent breaking the plunger while installing it through the seals.



- Page 4 of instructions
- Make sure you see this page before re-inserting the head and plunger assembly into the instrument.
- Do as instructed and press Continue.



- Page 5 of instructions
- Do as instructed and press Continue.
- You will return to the first Head Removal & Replacement screen.



- Select the Accumulator (left side)
- Press **Start**.
- Repeat the steps on pages 7 through 27 to rebuild the Accumulator head.

Note: Do not get ahead or fall behind the directions on the screen.

- When you have completed rebuilding the accumulator head,
- Press **Close**, the exiting screen is displayed.



- The exiting head removal mode screen.
- When the instrument has exited the head removal mode, the Diagnostics screen will be displayed.
- A Static Leak Test or flow rate accuracy test should be performed after rebuilding the pump heads. Wet Prime the Separations Module before beginning the test.
- Before performing the Static Leak Test, run the Separations Module at 4500 PSI for 5 minutes to "energize" the seals.