

TECHNICAL BULLETIN # 47

Changing the valve cartridges in the CM124-051 Acid/Water pump

PARTS NEEDED Phillips screwdriver, 2 CM129-108 valve cartridges, and tweezers (CM251-011) or equivalent.

1. If the service is being performed on the Acid pump flush the pump with DI- water first.

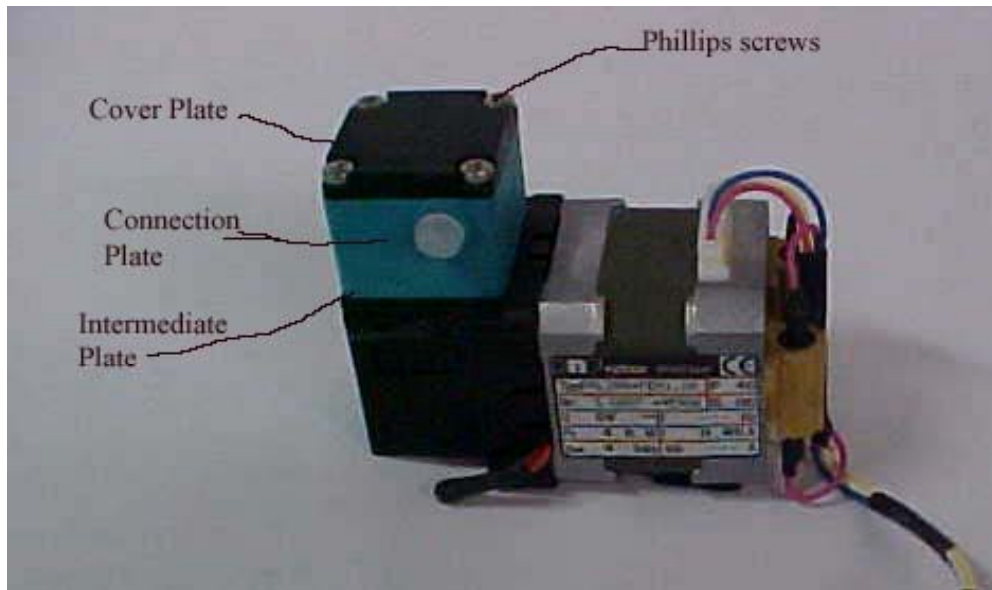


FIGURE 1- PARTS IDENTIFICATION

2. Remove power from the CM5240 by turning the unit off and unplugging the CM5240 from the main AC power.
3. Disconnect the inlet and outlet tubes from the pump
4. Remove the pump head cover plate by removing the 4 Phillips screws holding the assembly together. See figure 1. Note the orientation of the plate. It must remain the same for reinstallation.



FIGURE 2 REMOVING THE PUMP HEAD COVER PLATE

5. Remove the connection plate from the intermediate plate.

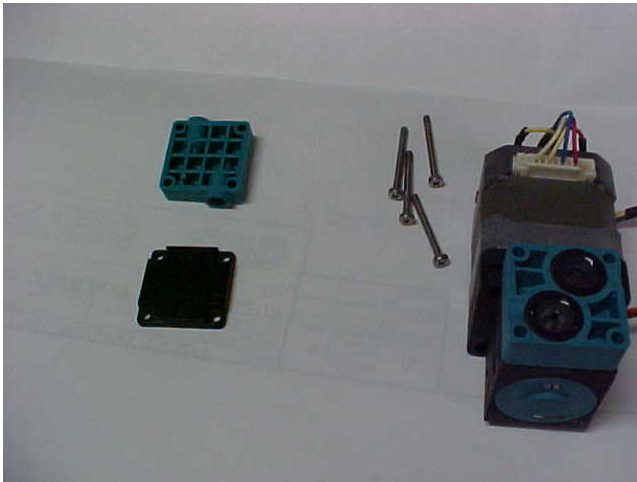


FIGURE 3- COVER PLATE AND CONNECTION PLATE REMOVED

6. Remove the old sealing rings. Next remove one of the 2 old valve cartridges. The sealing rings can be reused. The old cartridges must be discarded. Note the orientation. The new cartridge must be installed exactly as the old one was this is why it is best to do one at a time.

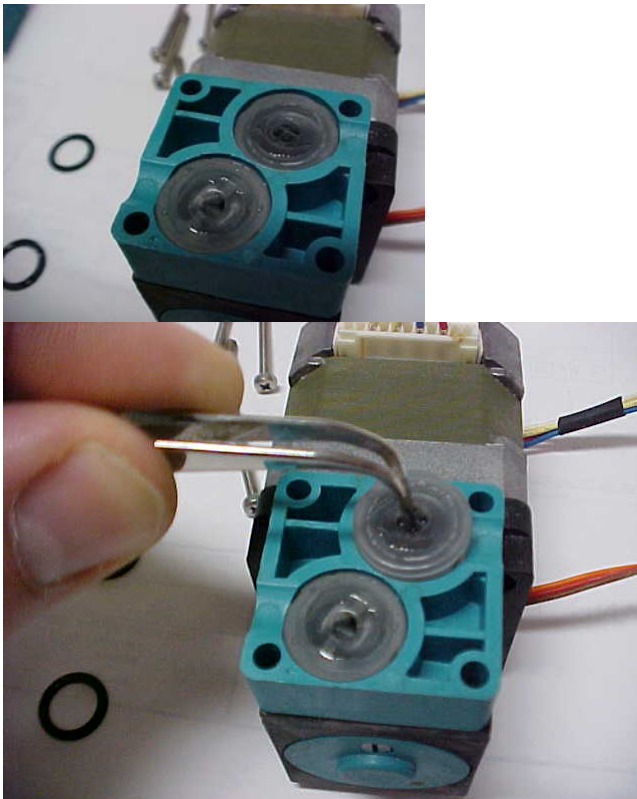


FIGURE 4 - REMOVAL OF VALVE CARTRIDGE

7. Make sure the intermediate plate is clean and dust free.

8. Place the clean, dust free sealing ring in the center of the valve recess in the intermediate plate. There should be one sealing ring in each recess. If the sealing ring has stuck to the valve cartridge, free it and place it in the valve recess.

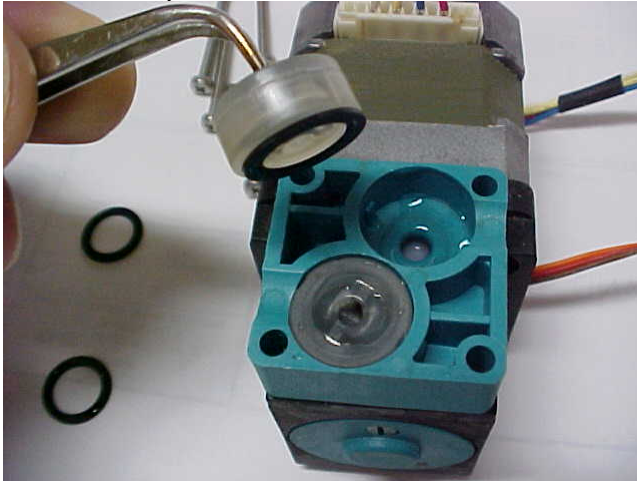


FIGURE 5- REMOVING VALVE CARTRIDGE. SEALING RING STUCK TO OLD CARTRIDGE.

9. Fit the new valve cartridge in place in the well. **IMPORTANT!** The position and orientation of the valve cartridge is indicated by the ridges on the intermediate plate and the grooves in the cartridge. The position and orientation of each cartridge in the pump is different. This is why only one new cartridge should be done at a time. The cartridge must be properly seated by rotating the cartridge in the well until it snaps into position. Proper orientation will have the cartridge slightly recessed in the well and locked into position with room for a sealing ring on top of the cartridge to still be below the top surface of the well. Note. The “cross-hatch” of one cartridge is “up” (see figure 7) on the inlet side of the pump. Triangles on the cover plate indicate flow direction.
10. Install a sealing ring on top of the new cartridge. The sealing ring should still be below the top surface of the well.

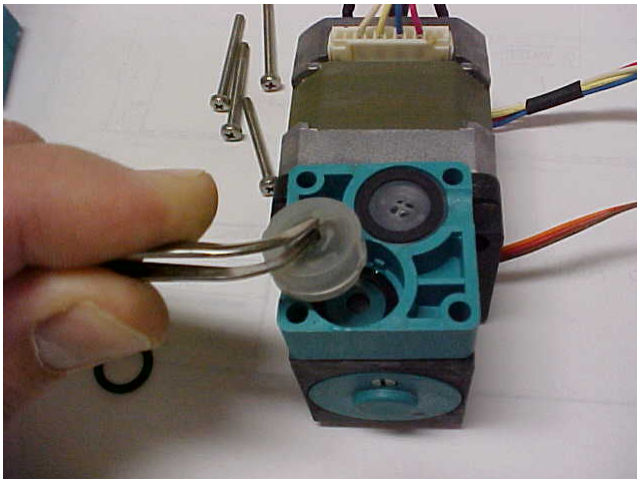


FIGURE 6 - ONE NEW CARTRIDGE INSTALLED PROPERLY WITH SEALING RING SET ON TOP. SECOND OLD CARTRIDGE BEING REMOVED FOR REPLACEMENT.

11. Repeat the procedure for the second new cartridge. Remove the old cartridge. Install the new one orientated exactly as the old one was. Place a sealing ring on top.

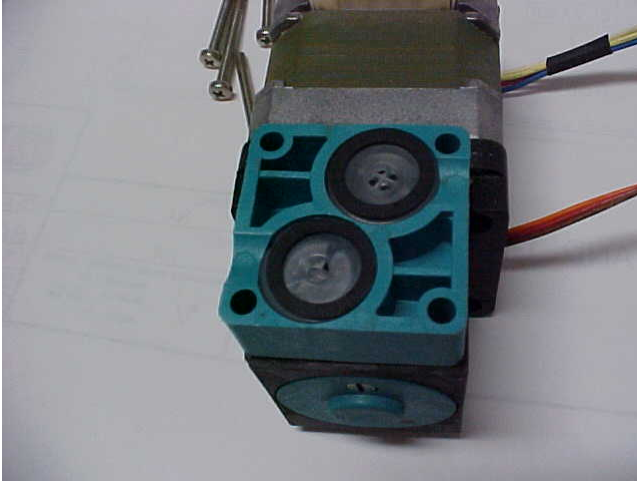


FIGURE 7- BOTH NEW CARTRIDGES PROPERLY INSTALLED AND SEALING RINGS POSITIONED ON TOP

REASSEMBLING THE PUMP

12. Check that the sealing rings are centered on the valve cartridges.
13. Lay the connection plate carefully on the intermediate place. Please note there is only one proper position. An alignment groove is found in the connection plate and the intermediate plate. These must match up. (See figure 8)

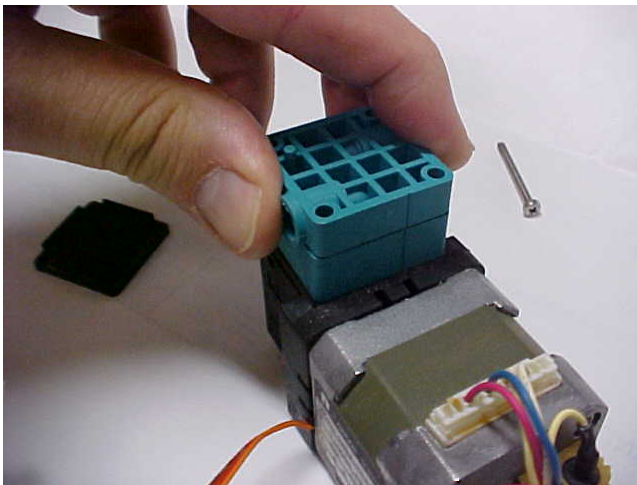


FIGURE 8 CONNECTION PLATE PROPERLY ATTACHED TO INTERMEDIATE PLATE. NOTE ALIGNMENT GROOVE OF TWO PIECES MATCHES UP.

14. Fit the cover plate so that the flow triangles line up with the connections on the connection plate and the alignment groove is aligned with the alignment groove in the connection plate.
15. Insert the 4 Phillips screws.



FIGURE 9 INSTALLATIONS OF COVER PLATE AND TIGHTENING OF SCREWS.

16. Tighten the 4 screws evenly and diagonally at alternate sides until tight. Over tightening will strip the threads in the pump head.
17. Reconnect the inlet and outlet tubing.
18. Run the pump and verify proper operation.