

180R9147

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This document covers the instructions for changing internal pump elements on the axial piston pumps APP3.0-3.5.

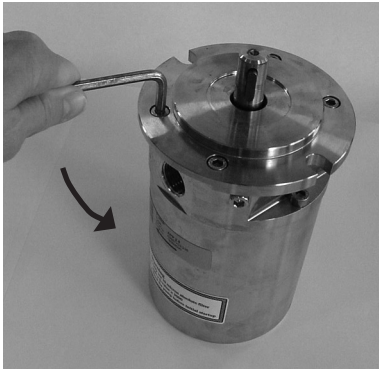
Note: It is essential that the pump is serviced in conditions of absolute cleanliness.

Tools needed:

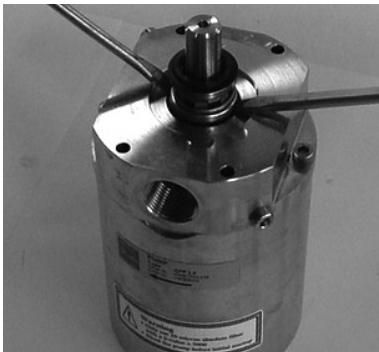
- Toolset (codeno. 180B4148)
- Shaft bush
- Press bush
- Allen key 5mm
- 2 screwdrivers

To understand the pump design better, please see exploded view on last page.

1. Unscrew the 4 mounting screws and remove seal SAE flange.
Do not yet unscrew the 2 lower screws.



2. Wet shaft and shaft seal with clean (filtered) soap-water. Gently lever shaft seal assembly free using 2 screwdrivers.



3. Unscrew the 2 lower screws.



Carefully turn the whole pump over so that the shaft is facing down. Support pump in a suitable hollow base so that the pump is not supported by the shaft.



5. Remove housing.



6. Remove pistons, retaining plate, retaining ball, spring guide and spring from cylinder barrel.



7. Remove cylinder barrel.



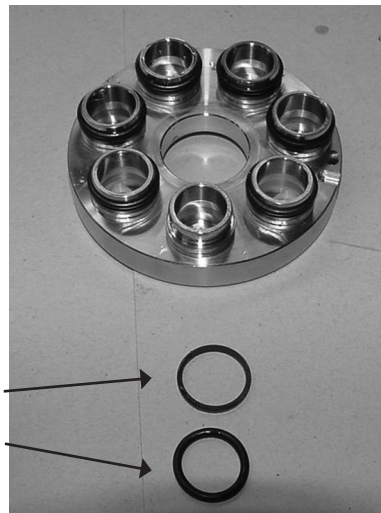
8. Remove port plate.



9. Gently lever valve plate assembly free with the aid of a screwdriver.

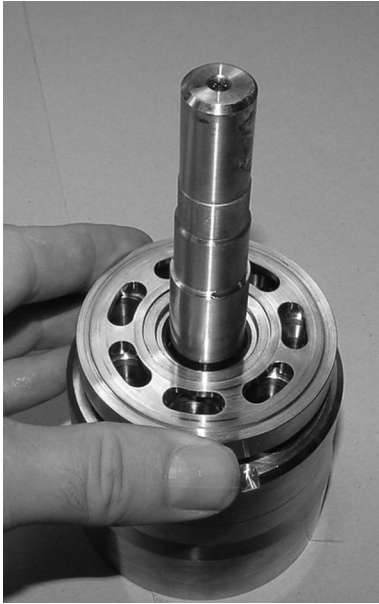


10. Replace O-rings and back-up rings on valve plate. Mount new back-up rings on the new valve plate first and then mount new O-rings.

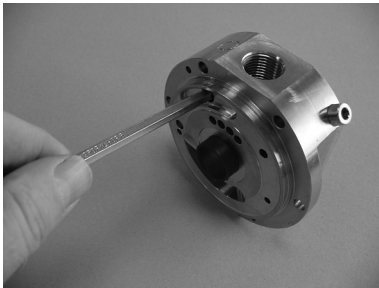


11. Wet O-rings and back-up rings with clean (filtered) soap-water.

12. Gently press, by hand, valve plate onto cylinder barrel.



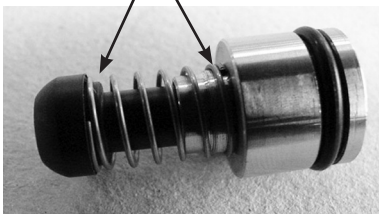
13. Gently push flushing valve out using the Allen key.



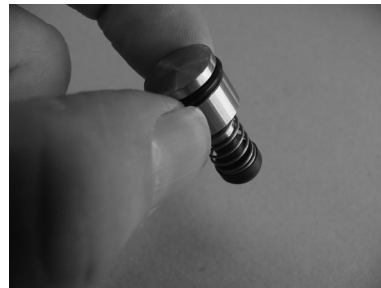
14. Remove spring from poppet and poppet guide and remove O-ring from poppet guide.



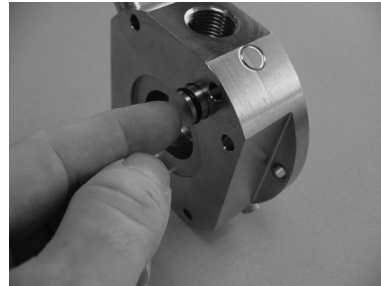
15. Press new spring onto shoulders of poppet guide and poppet so it is stuck on both collars. Then mount new O-ring on poppet guide.



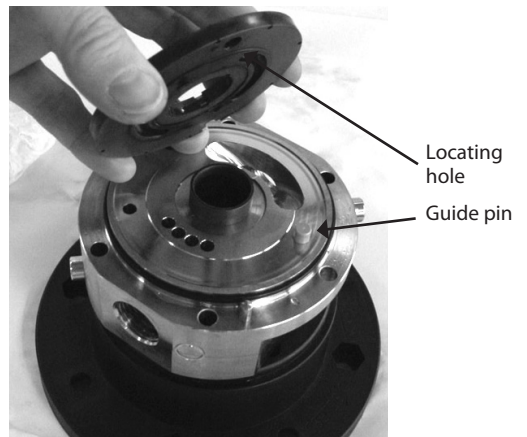
16. Turn flushing valve upside down. If not properly assembled, spring will fall off.



17. Mount flushing valve by pressing it into the hole.

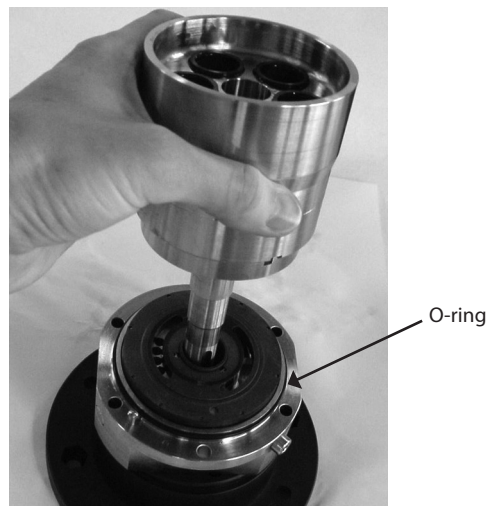


18. Position new port plate over guide pin.



IMPORTANT: Make sure that guide pin is located in the locating hole in port plate.

19. Replace O-ring on port flange and position new cylinder barrel on port plate.

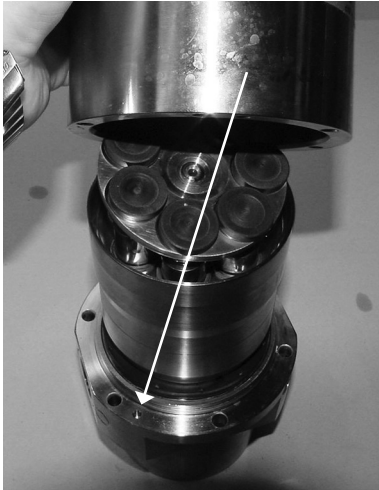


20. Position new spring, new spring guide, new retainer ball, new retainer plate and new pistons.



If swash plate needs service, please see items 27 through 31.

21. Position housing on port flange and over guide pin.



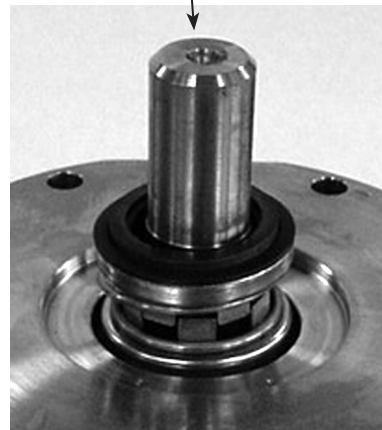
22. Hold pump together and carefully turn it over to rest on housing. To prevent seizing-up, lubricate the threads on the 2 screws and screw them into port flange and housing. Use Molykote® D paste from Dow Corning or Klüber UH1 84-201 from Klüber Lubrication. Tighten the 2 flange screws to a torque of 12 +1 Nm.



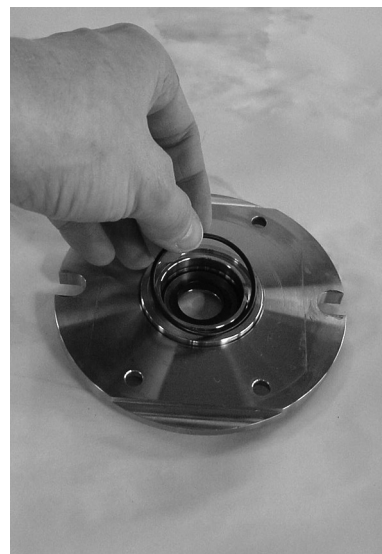
23. Mount new shaft seal following the instructions in changing "Shaft Seal - APP1.5-3.5" (180R9089).

Wet the torpedo and new shaft seal with soap. Do not use silicone grease.

Slide the shaft seal over the torpedo with the carbon seal face pointing upwards. **Be careful not to damage the carbon seal face on the shaft seal.**



24. Replace O-ring on SAE flange.



25. Lubricate the threads on the 4 screws with grease and screw them into the pump and tighten by hand. Use Molykote® D paste from Dow Corning or Klüber UH1 84-201 from Klüber lubrication.

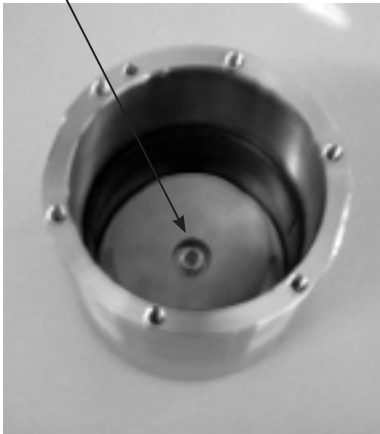


Selection of spare parts
Please find our APP part list 521B0941 on www.ro-solutions.com

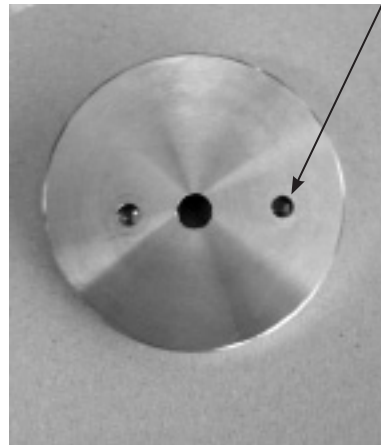
26. Tighten screws to a torque of 12 ± 3 Nm.

If swash plate needs service:

27. Unscrew centre bolt from swash plate.

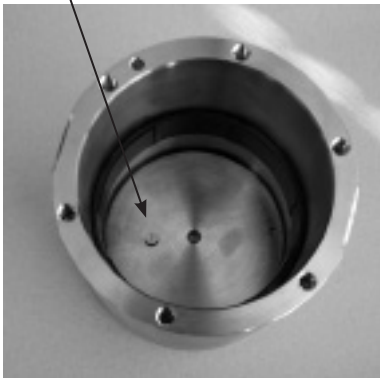


30. Carefully align swash plate over guide pin. Only one of the wholes fit

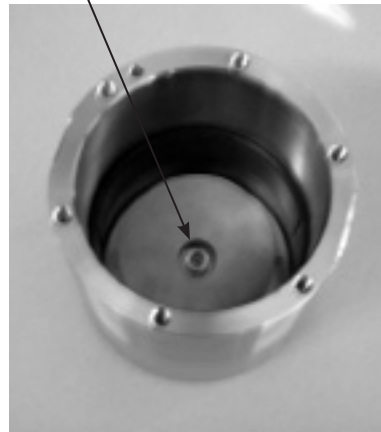


28. Carefully tilt housing and guide swash plate out.

29. Place guide pin in bottom of housing.



31. Screw centre bolt into centre of swash plate and tighten to 6 ± 1 Nm.



Exploded view

