MAKING MODERN LIVING POSSIBLE

Instruction

Changing pistons
APP 11-13 and APP 16-22

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Contents

This document covers the instructions for changing the pistons on the axial piston pumps APP 11-13 and APP 16-22.

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

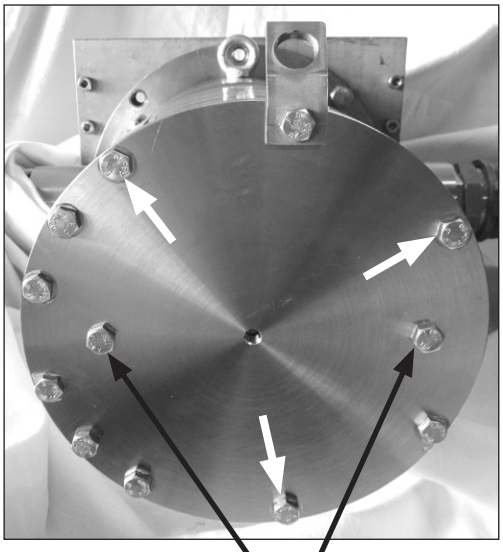
Tools needed are:
- 13 mm combination wrench
- 6 mm allen key

Service kit see parts list 521D0941.

1. Disassembling

1. Disconnect the pump from the system, or close all connection pipes (water supply). Bleed water from the pump.

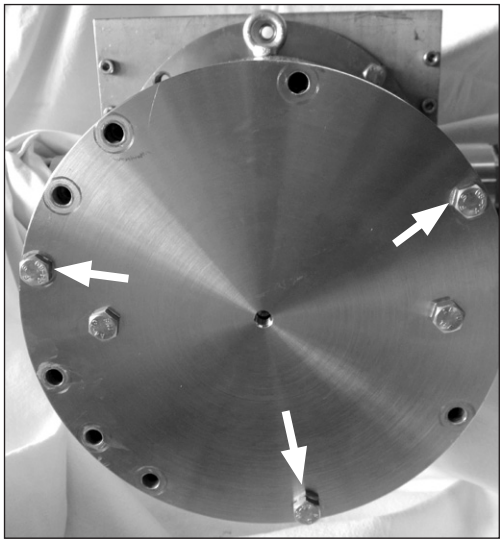
2. Loosen all screws on the pump except the 3 screws as shown in the picture below, using the 13 mm combination wrench.



WARNING:
Never unscrew the 2 screws marked with coloured sealer.

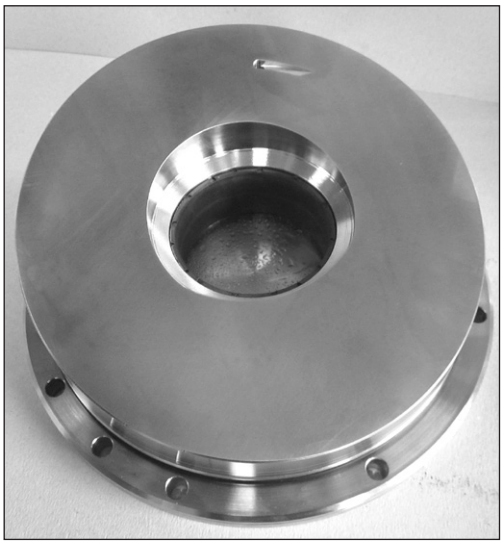
3. Unscrew the remaining 3 screws using the combination wrench and turn each screw a couple of rounds at the time, to ensure the swash plate is loosened as straight backwards as possible.

Note: There is nothing to hold the swash plate!

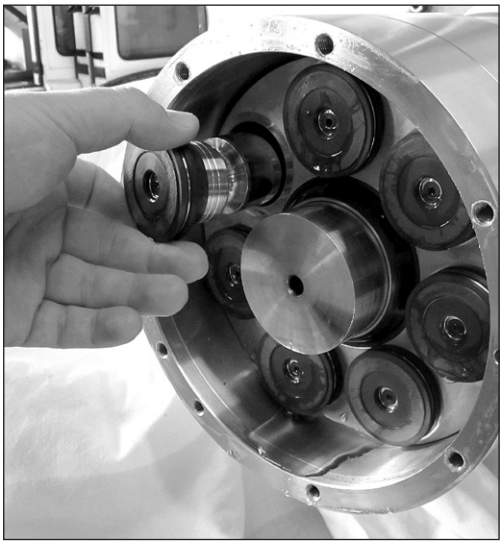


4. Remove the flange/swash plate carefully.

5. Place the swash plate upside down to avoid scratches on the surface.



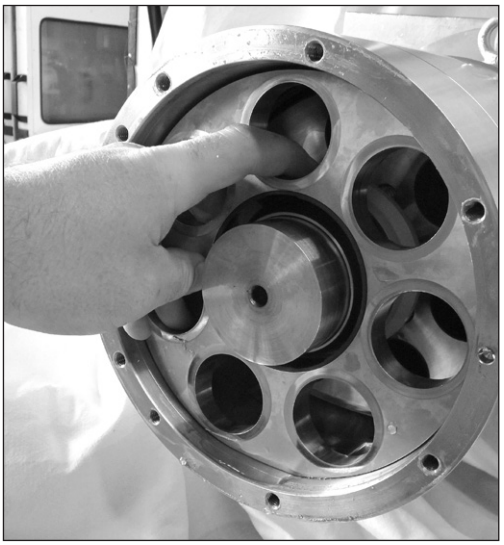
6. Carefully remove the pistons one by one.



7. It is recommended to place the pistons upside down on an even clean base/ surface.

   Warning: Ensure that the piston shoes and piston surfaces are not damaged or scratched during removal.

8. Remove the retainer plate.



9. Inspect the piston bushings in the cylinder barrel for scratches or other damages. Small scratches are accepted if there are no hard particles in the bushings.

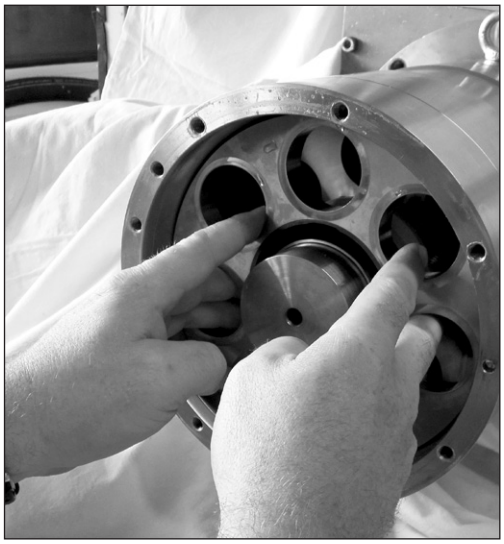
10. If any worn pistons are found, all pistons must be replaced. See page 7.

2. Assembling

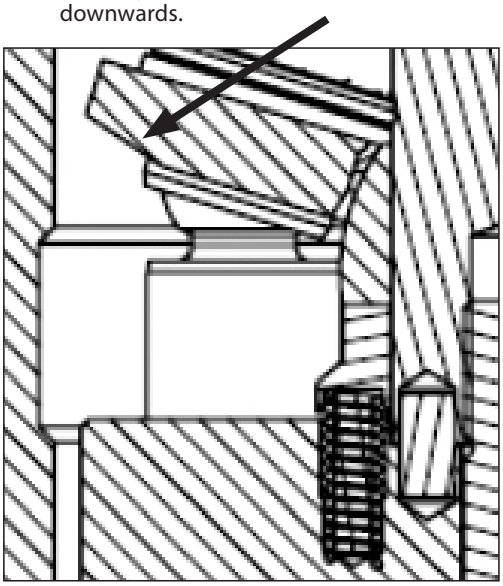
Important: It is essential that the pump is serviced in conditions of absolute cleanliness.

All parts must be absolute clean before mounting.

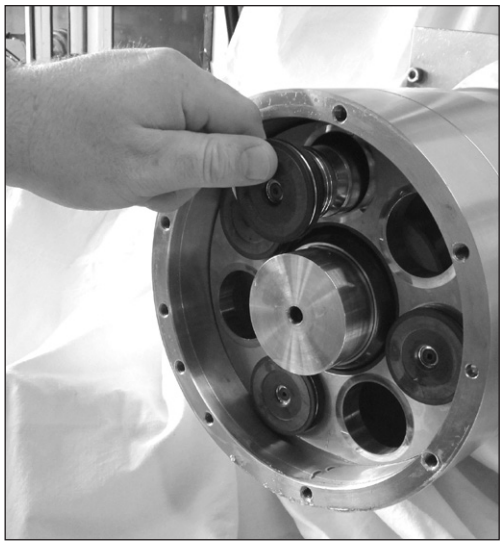
1. Carefully push the retainer plate in place.



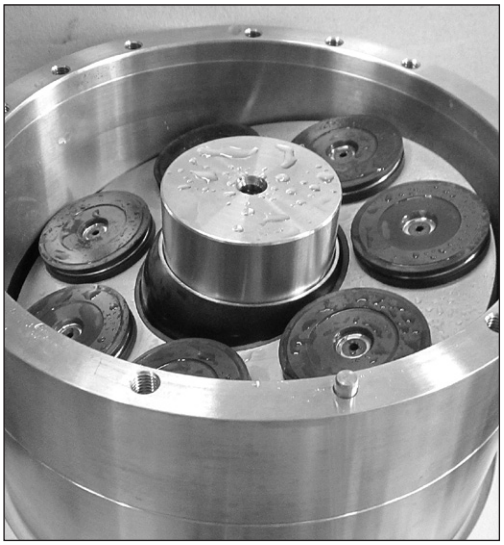
2. Ensure that the retainer plate is oriented correctly with its slant surfaces pointing downwards.



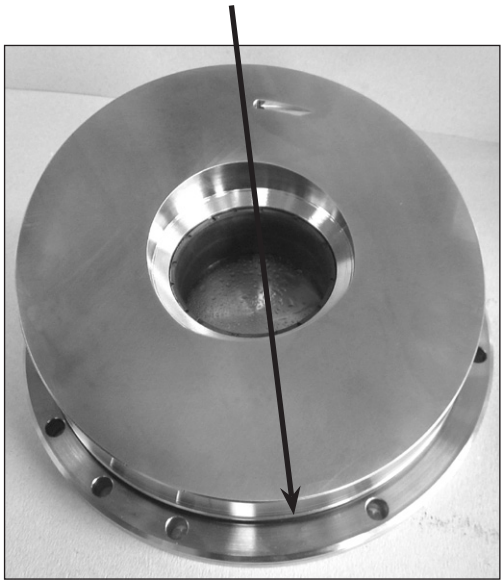
3. Insert all the pistons randomly.



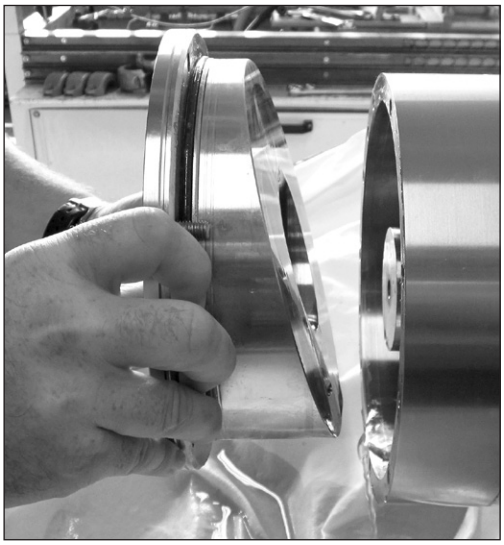
Note: Tilt the retainer plate for easy insert of the swash plate. Place pin in the housing.



4. Replace the O-ring on the mounting flange.

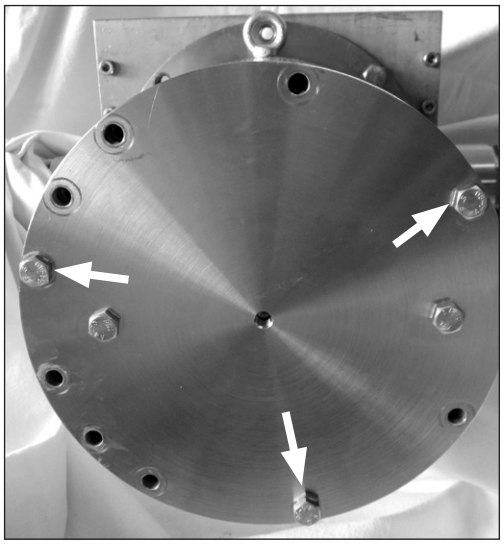


5. Carefully insert the swash plate into the housing.

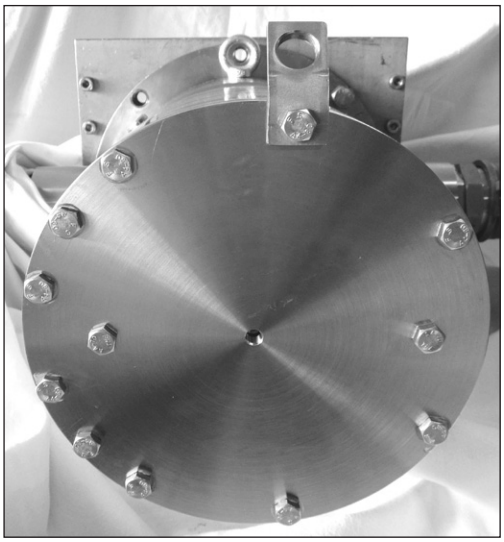


6. Mount the 3 screws as shown below. Turn each screw a couple of rounds at the time, to ensure the swash plate is pulled as straight forward as possible.

Note : Be careful not to squeeze/damage the O-ring.

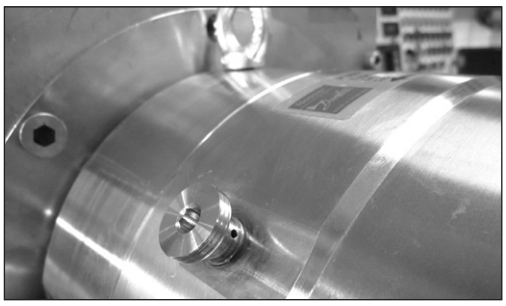


7. Insert the remaining screws and cross tighten them to a torque of 30 Nm +/- 3 Nm.



8. Connect the pump to the rest of the system.

9. Bleed the pump.



10. Follow the start-up procedure, see instruction 180R9223.

3. When should the pistons be replaced?

This section provides guides on how to determine whether the pistons of APP 11-13 and 16-22 are worn and should be replaced.

Note: If the pistons break down, the pump will suffer a disastrous breakdown.

In case of doubt – the pistons must be replaced. If any worn pistons are found, all pistons must be replaced.

The pictures below are meant as guideline for evaluating the wear of the sliding surface.

1. No wear or cavitation of the piston shoe. New inspection is required within 4,000 hours.

2. Cavitation of the piston shoes. New inspection is required within 2,000 hours.

3. Cavitation of the piston shoes. All pistons must be replaced within the next 1,000 hours.

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