

Service guide

PAH pumps

PAH 20-32

Disassembling and assembling



Service guide | Disassembling and assembling PAH 20-25-32

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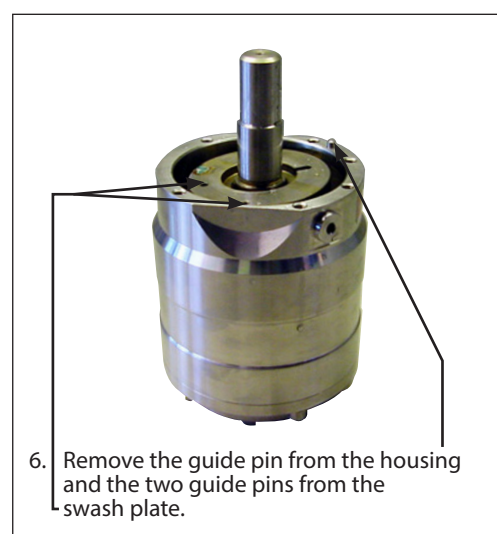
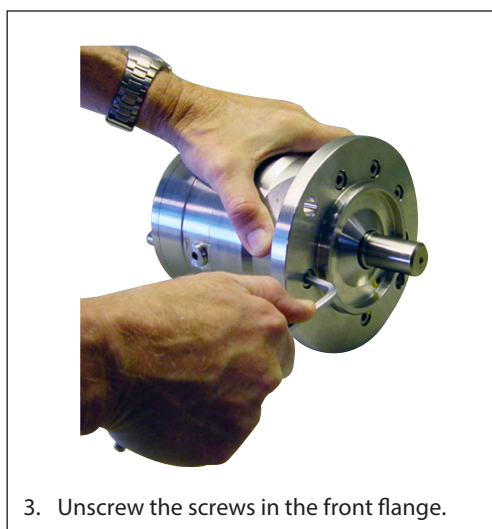
Introduction

NOTE: If the pump is disassembled within the warranty period, the pump is no longer covered by the warranty.

This document covers the instructions for disassembling and assembling the axial piston pumps **PAH 20-25-32**



1. Disassembling the pump

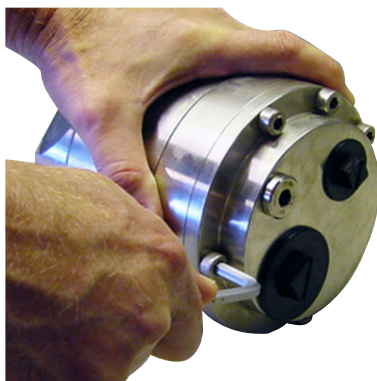




7. Remove the swash plate using the front screw.



8. Remove the cylinder barrel from the housing.



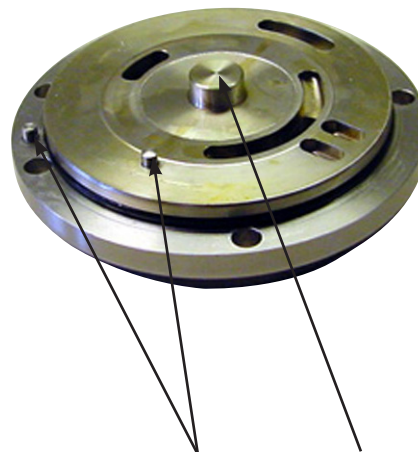
9. Unscrew the six screws in the end cover.



10. Separate the housing and the end cover.



11. Remove the valve plate from the end cover.



12. Remove the guide pins and the guide.



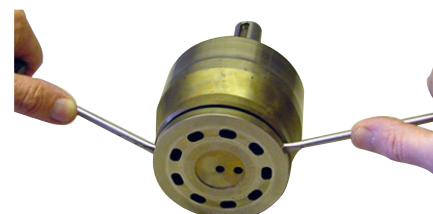
13 Remove the pistons.



14. Remove the retaining plate.



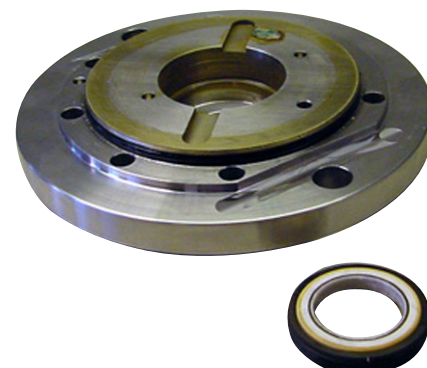
15.Remove the retaining ball.



16. Remove the the thrust plate using two screwdrivers.



17. Remove the ceramic ring from the front flange.



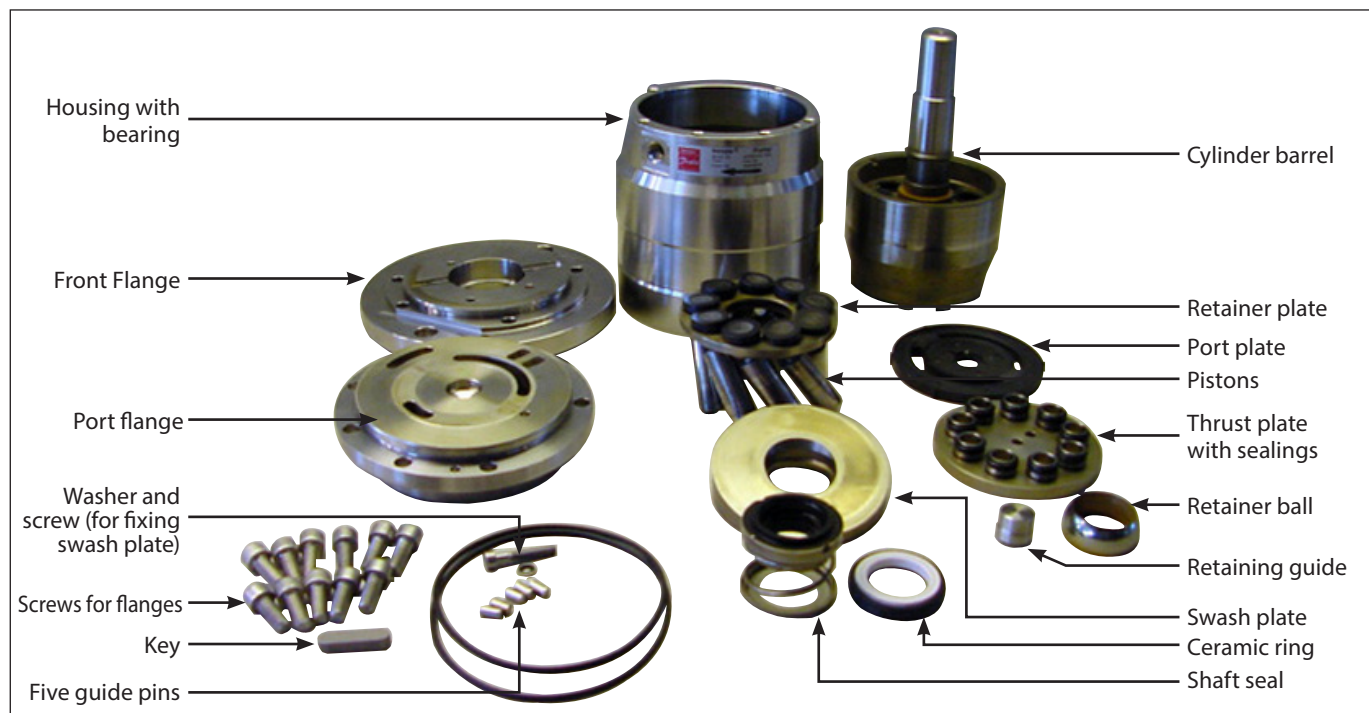
18. The ceramic ring removed from the front flange.

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19. Wash all parts and replace all seals (inclusive shaft seal).

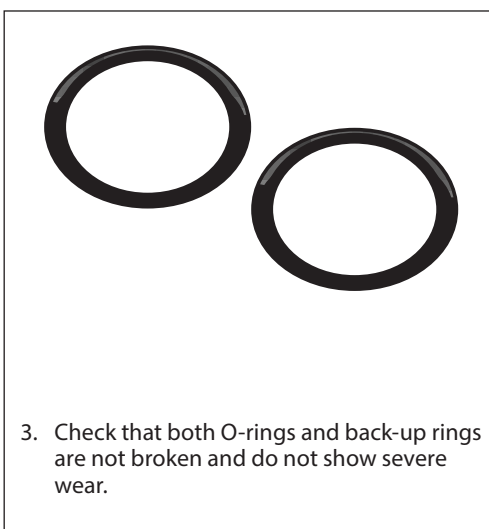
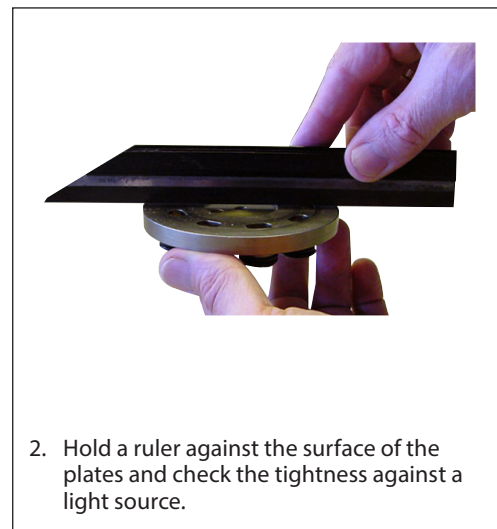
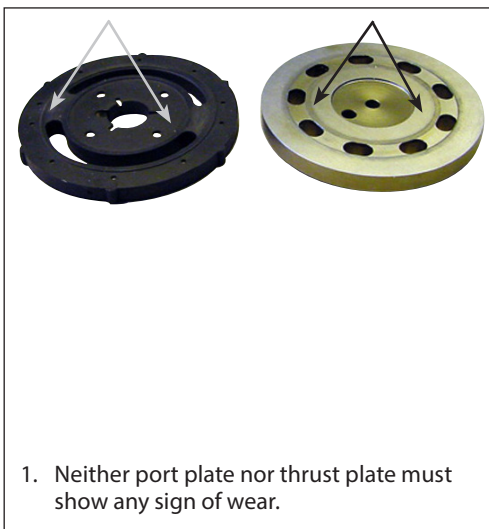
20. Inspect all parts carefully (see "Inspection") and replace any worn parts.

21. If the pump has failed, the reason for the failure must be found and fixed before the repaired pump is re-installed.

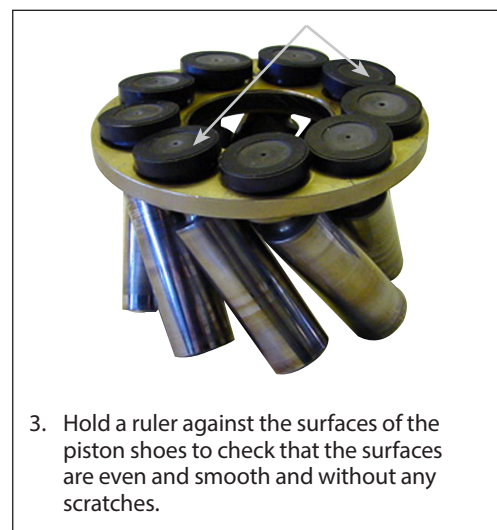


2. Inspection

2.1. Port plate and thrust plate

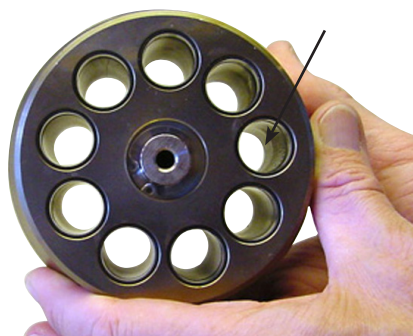


2.2. Pistons



4. It is acceptable that the (black) treated surfaces of the pistons are partly worn.

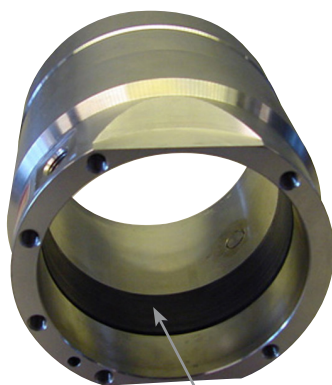
2.3. Cylinder barrel



1. Check the outer bearing surface for large wear grooves (not critical).

2. Check that the bushings are free from seizure and large scratches.
3. Ensure that the pistons can move freely in the bushings.

2.4. Housing



2. Check the bearing (the black part) for large wear grooves (not critical).

2.5. Swash plate



1. Check that the surface of the swash plate is smooth and without any large scratches (depth more than 0.1 mm).

3. Assembling

WARNING:

Do not use silicone when assembling the pump. Do not reuse disassembled O-rings; they might be damaged. Always use new O-rings.

Important:

It is essential that the pump is serviced in conditions of absolute cleanliness. All parts must be absolute clean before mounting.

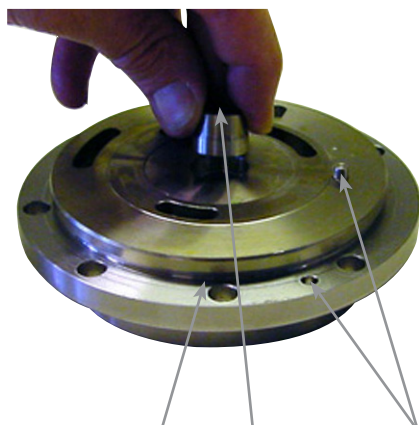


1. Lubrication:

- To prevent seizing-up, lubricate all threads with PTFE lubrication type.
- O-rings inside pump may be lubricated only with clean filtered water.
- O-rings for port flange, mounting flange and flushing valve must be lubricated.
- It is important to lubricate ALL parts to be assembled with clean filtered water (Especially all PEEK parts).



2. Parts and tools required for assembly. Check that all parts are OK. Replace all seals.



3. Mount the O-ring, the guide and the guide pins on the port flange.



Guide pin

4. Mount the valve plate in its right position using the pin as guide.



5. Mount the housing using the pin as guide.



6. Mount the thrust plate with sealings on the cylinder barrel.



7. Press the thrust plate into the cylinder barrel using a table or the like as support.



8. Mount the cylinder barrel in the housing.



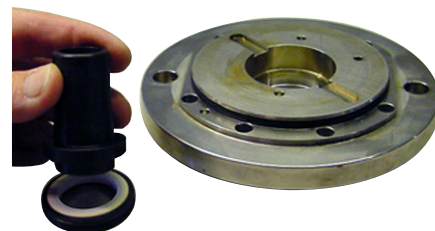
9. Slide the retaining ball (smallest diameter pointing upwards) down the shaft.



10. Mount the retaining plate (smallest centre diameter pointing upwards).



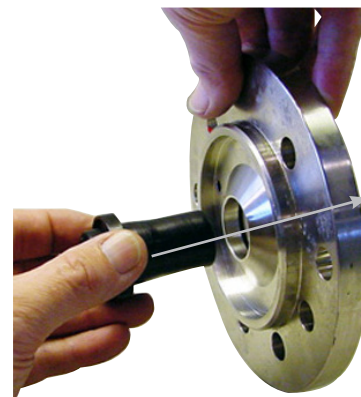
11. Mount the pistons.



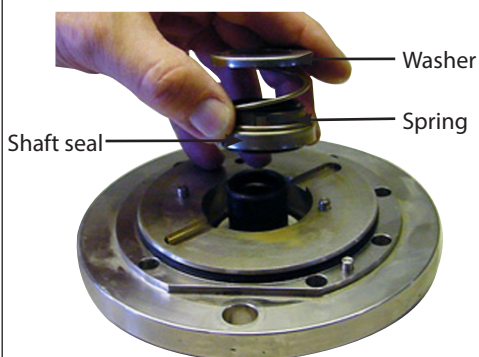
12. Mount the ceramic ring on the tool.



13. Mount the ceramic ring by pressing the tool as far down in the front flange as possible.



14. Push the tool through the front flange.



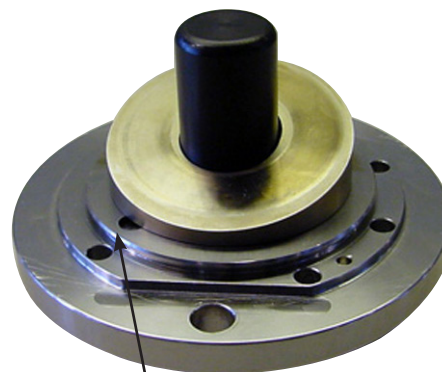
15. Mount the shaft seal (carbon surface pointing downwards), the spring, and the washer (edge pointing downwards) by sliding them over the tool.



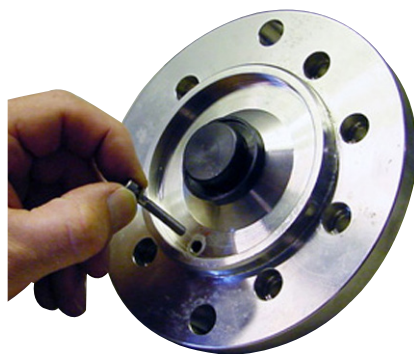
16. Mount the swash plate on the front flange using the pins as guide.



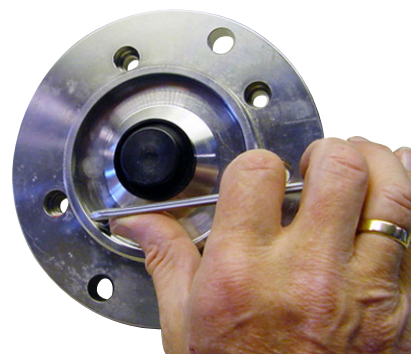
17. Press the swash plate against the flange and screw the tools together.



18. Mount the O-ring on the front flange.



19. Mount the washer and the screw in the front flange to fix the swash plate.



20. Tighten the screw to a torque of 5 Nm and remove the tool.



21. Mount the tool over the shaft.



Guide pin

22. Mount the front flange on the housing using the pin as guide.
23. Remove the tool.



24. Mount the screws in the front flange.



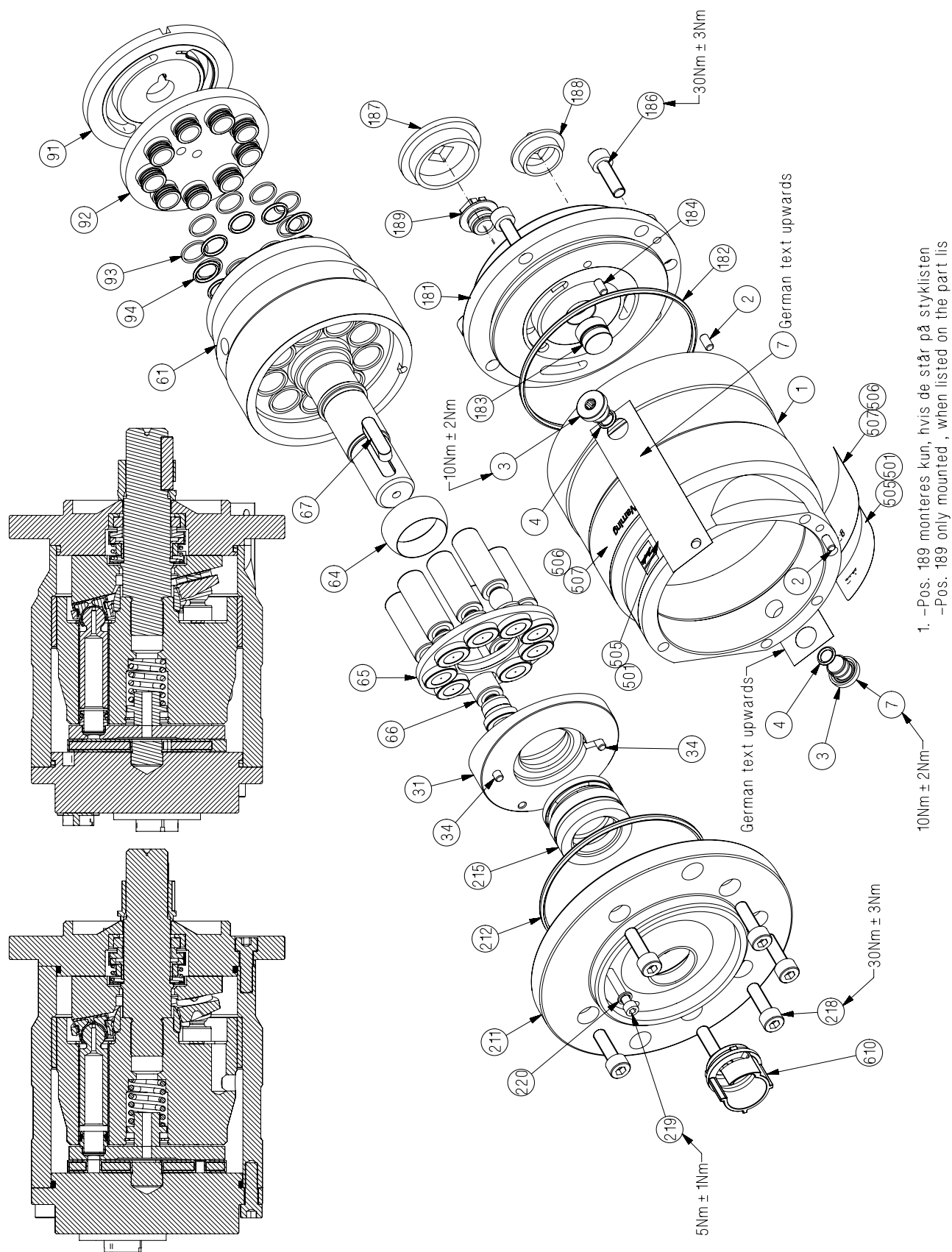
25. Tighten the screws to a torque of 30 Nm and mount the parallel key on the shaft.

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4. Service kit list for PAH 20-25-32

Pos.	Qty.	Unit	Designation	Material	180B4115 - Screw & seal kit	180B4116 - Valve plate kit	180B4119 - Piston kit (Standard pump)	180B4117 - Piston kit (Tech. Water pump)	180B4120 - Cylinder Barrel (Standard pump)	180B4118 - Cylinder Barrel (Tech. water pump)	180B4128 - Cylinder Barrel CCW (Standard pump)	180B4494 - Swash plate kit PAH 20	180B4007 - Swash plate kit PAH 25	180B4008 - Swash plate kit PAH 32	180Z0236 - Tool set
-	1	Pcs.	Shaft bush, torpedo	-											X
-	1	Pcs.	Press tool for 28 mm shaft	-											X
-	1	Pcs.	Mounting screw	-											X
1	1	Pcs.	Housing PAH	AISI 304											
2	2	Pcs.	Pin	AISI 304	X										
3	2	Pcs.	Plug	AISI 304											
4	2	Pcs.	O-ring	NBR	X										
31	1	Pcs.	Swash plate	Stainless steel (1.4057)								X	X	X	
34	2	Pcs.	Pin	AISI 304	X										
61	1	Pcs.	Cylinder barrel	AISI 304					X	X	X				
64	1	Pcs.	Retainer ball	Stainless steel (1.4057)			X	X							
65	1	Pcs.	Retainer plate	Stainless steel (1.4057)			X	X							
66	9	Pcs.	Piston	Stainless steel (1.4057)			X	X							
67	1	Pcs.	Key	AISI 304	X										
91	1	Pcs.	Port plate	AISI 304 / PEEK		X									
92	1	Pcs.	Valve plate	Stainless steel (1.4057)		X									
93	9	Pcs.	Back-up ring	PTFE	X	X									
94	9	Pcs.	O-ring	NBR	X	X									
181	1	Pcs.	Port flange	AISI 304											
182	1	Pcs.	O-ring	NBR	X										
183	1	Pcs.	Guide pin	AISI 304		X									
184	1	Pcs.	Pin	AISI 304	X										
186	6	Pcs.	Screw	AISI 304	X										
187	1	Pcs.	Threaded plug	Polymer											
188	1	Pcs.	Threaded plug	Polymer											
211	1	Pcs.	Mounting flange	AISI 304											
212	1	Pcs.	O-ring	NBR	X										
215	1	Pcs.	Shaft seal	AISI 304/NBR	X										
218	6	Pcs.	Screw	AISI 304	X										
219	1	Pcs.	Screw	AISI 304	X										
220	1	Pcs.	Usit ring	AISI 304/NBR	X										
-	1	Pcs.	Service instruction (180R9168)		X	X	X	X	X	X	X	X	X	X	X

5. Exploded view
PAH 20-25-32



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