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ENGINEERING
TOMORROW

Danfoss

Service guide

PAHT / PAHT G pumps

PAHT 20-32 / PAHT G 20-32
Disassembling and assembling



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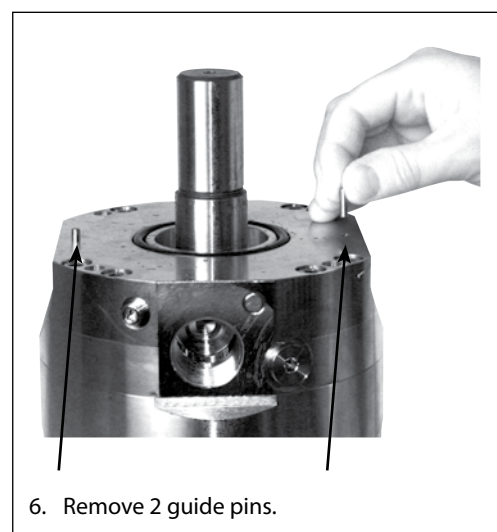
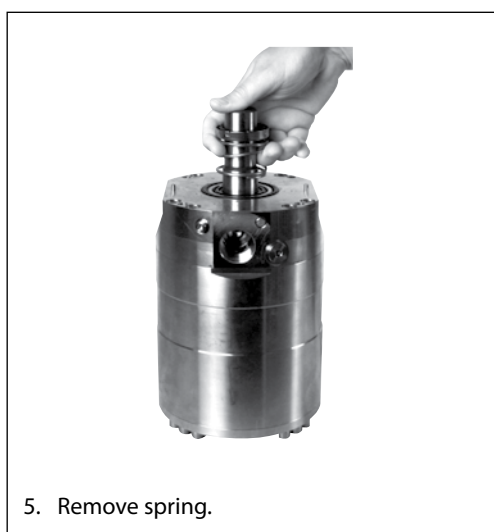
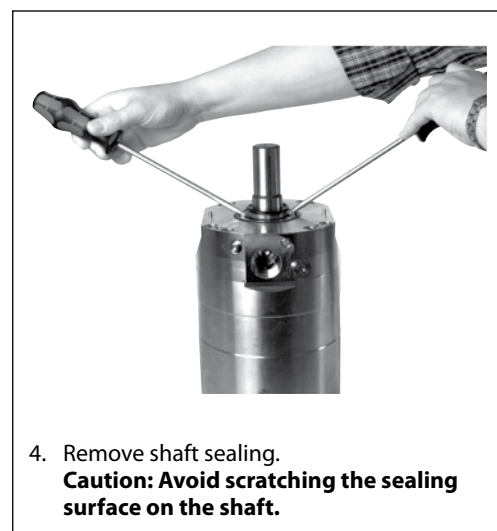
Introduction

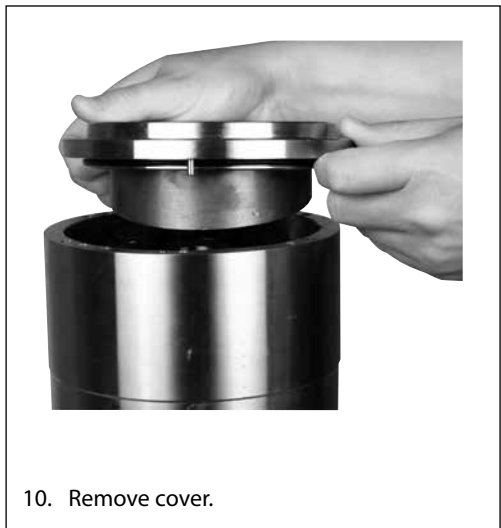
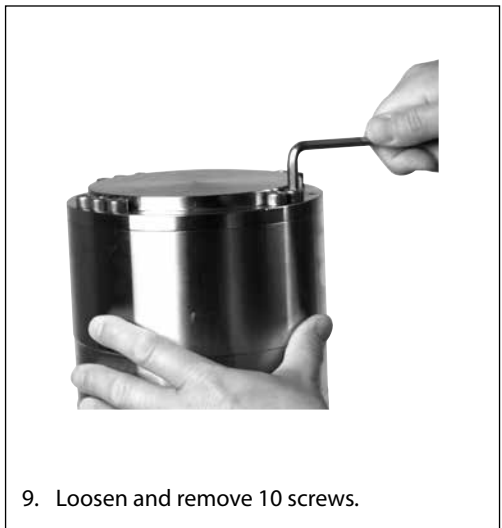
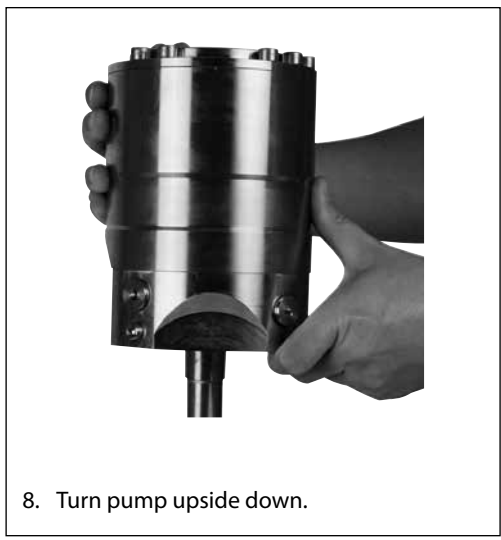
NOTE: If the pump is disassembled within the warranty period, the pump is no longer covered by the warranty.

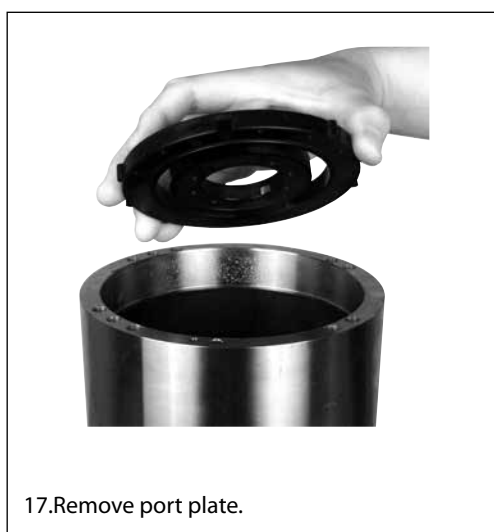
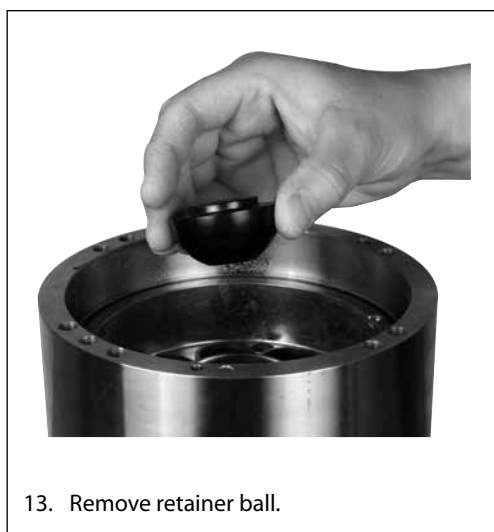
This document covers the instructions for disassembling and assembling the axial piston pumps PAHT / PAHT G 20-32.



1. Disassembling the pump









19. Turn pump upside down. Loosen and remove 4 screws.



20. Remove port flange.



21. Remove 1 guide pin.



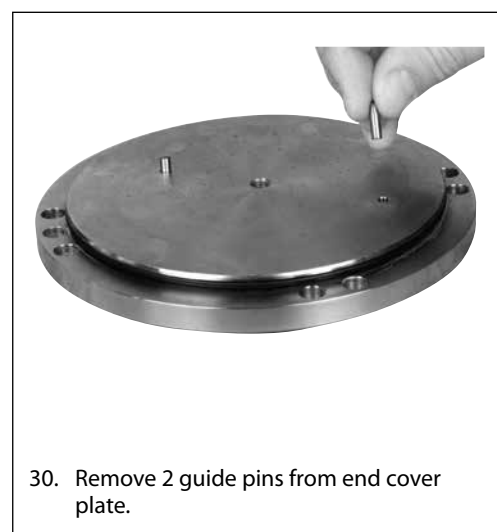
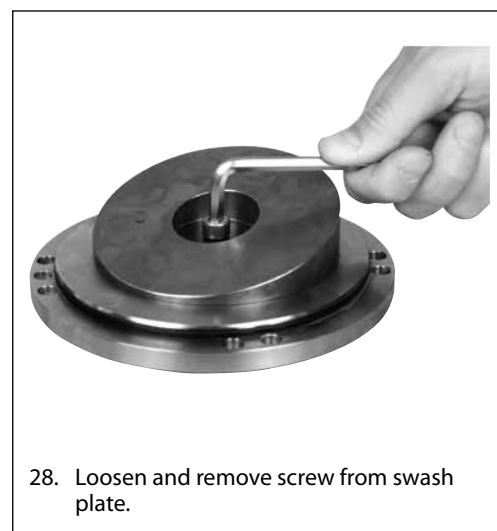
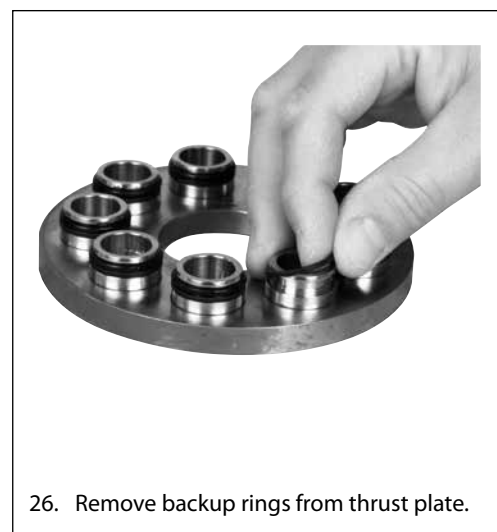
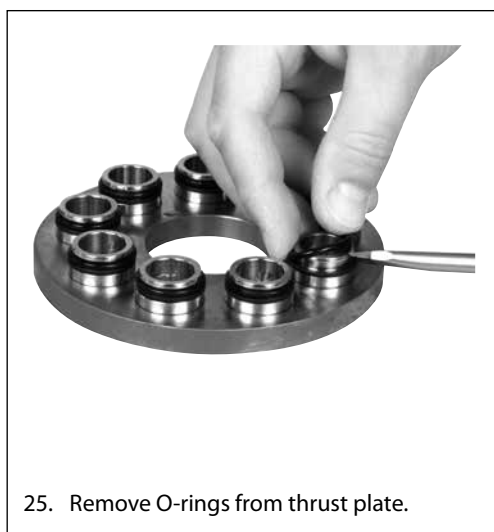
22. Remove O-ring from port flange.

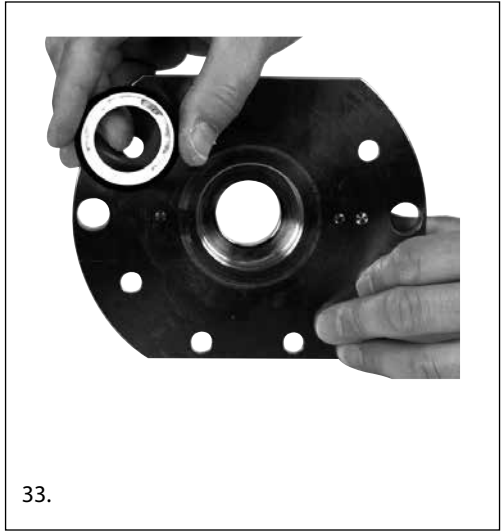
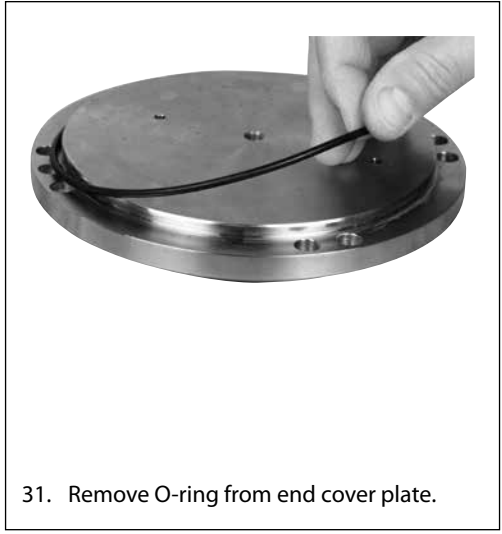


23. Loosen thrust plate from cylinder barrel.



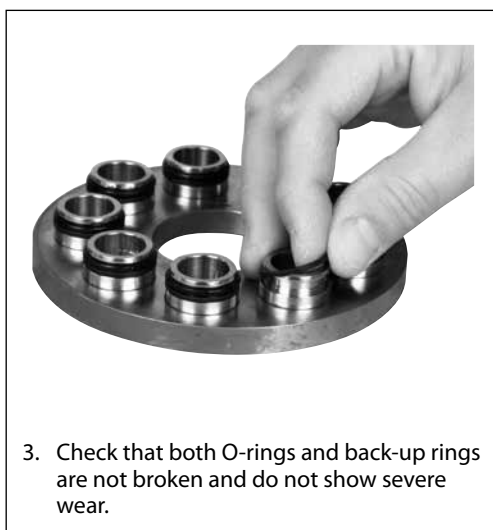
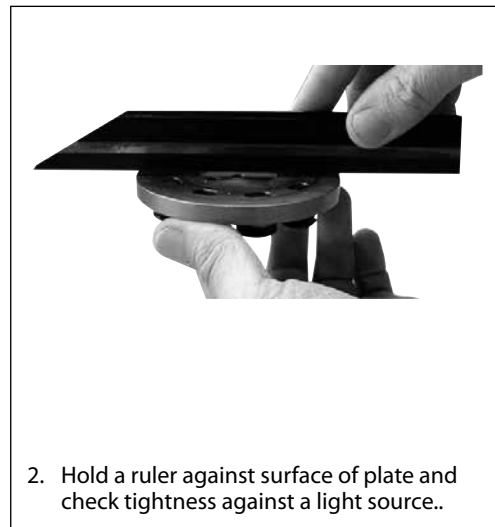
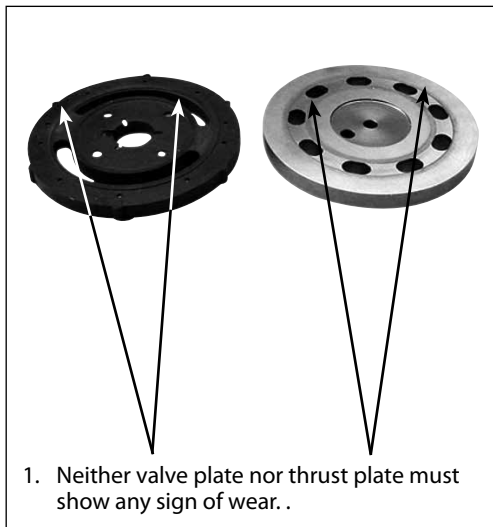
24. Remove thrust plate.





2. Inspection


2.1. Valve and thrust plate:



2.2. Swash plate:

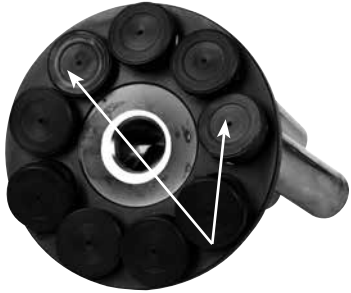


2.3. Pistons:



A digital caliper is shown measuring a piston pin. The display shows 4.30 mm. An arrow points from the text below to the measurement point on the pin.

1. Play in ball and socket joint must not exceed 0.1 mm.
2. Thickness of piston shoes must be at least 4.1 mm.



A top-down view of a piston assembly with several shoes. Two white arrows point to the surfaces of the shoes, indicating inspection points.

3. Hold a ruler against surfaces of piston shoes to check that the surfaces are even and smooth and without any scratches. It is acceptable that the (black) treated surfaces of the pistons are partly worn..



A hand is shown inserting a piston pin into the cylinder barrel to check the fit.

4. Check bushes in cylinderbarrel for wear and scratches.



An internal view of the main bearing housing, showing the main bearing and surrounding components.

5. Check main bearing for wear and scratches.

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.



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).



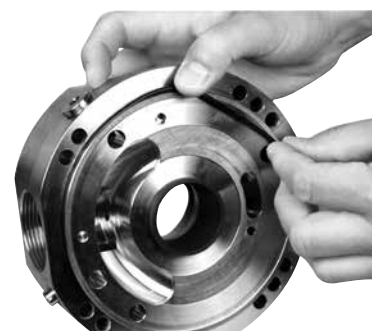
1. Tools required for assembly of the pump.



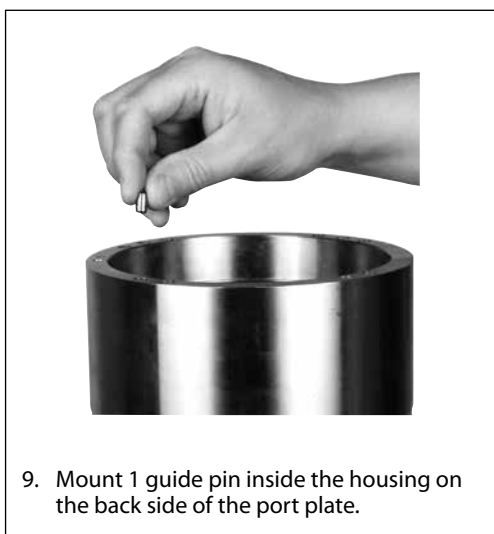
2. Parts needed for assembly of the pump.

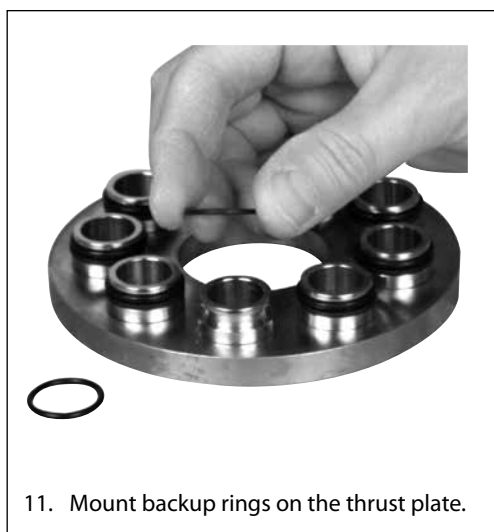


3. Mount 1 guide pin in housing.

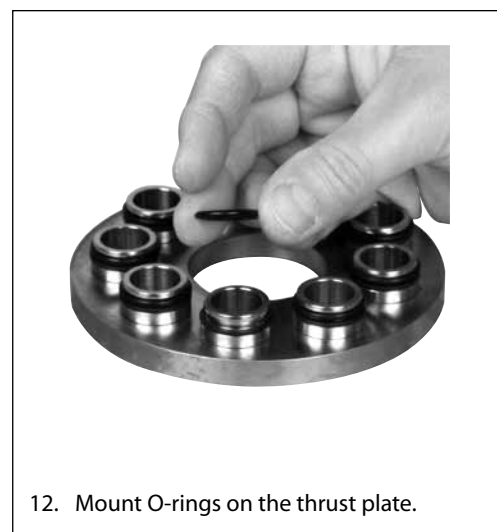


4. Mount O-ring in port plate.

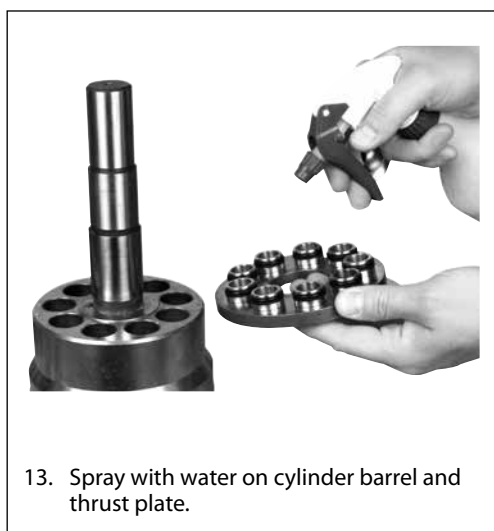




11. Mount backup rings on the thrust plate.



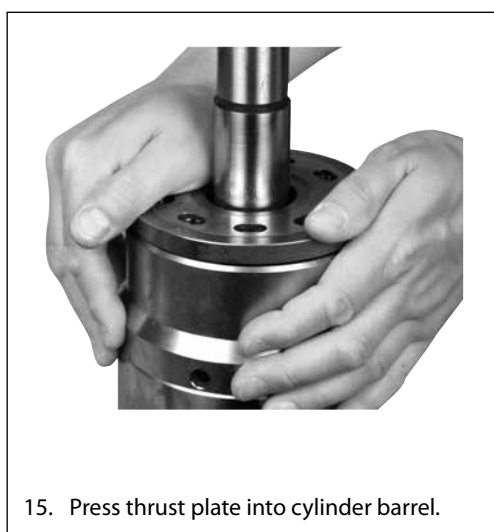
12. Mount O-rings on the thrust plate.



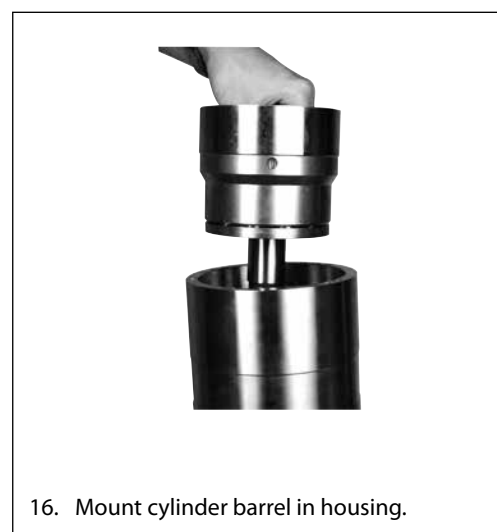
13. Spray with water on cylinder barrel and thrust plate.



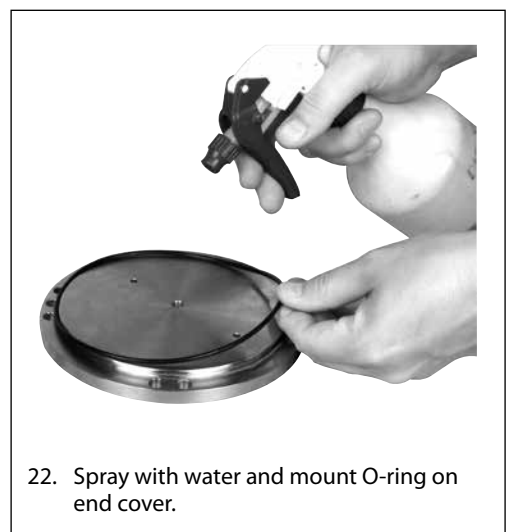
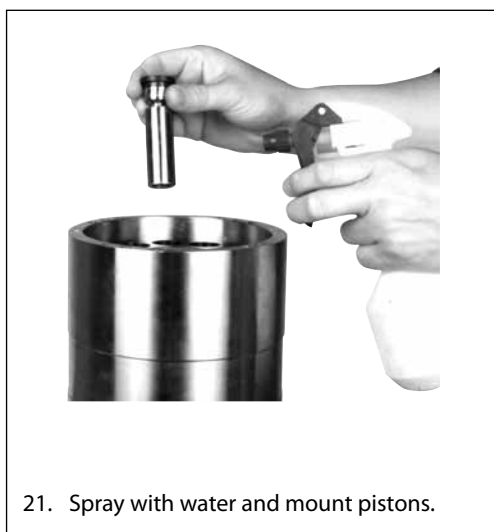
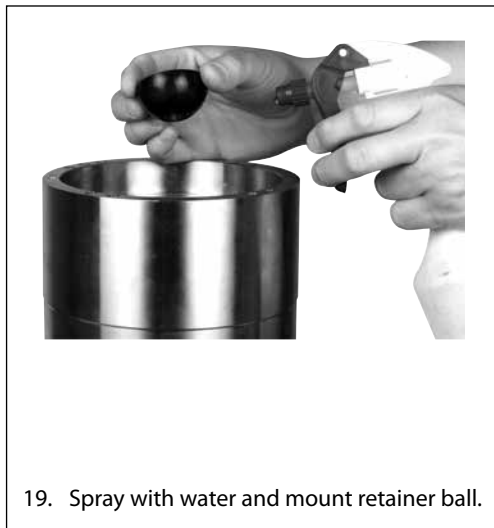
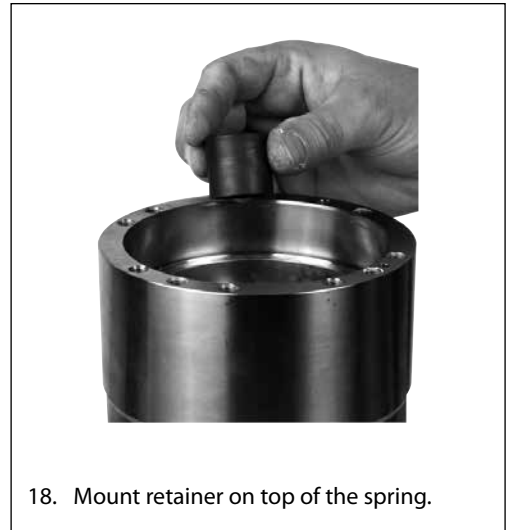
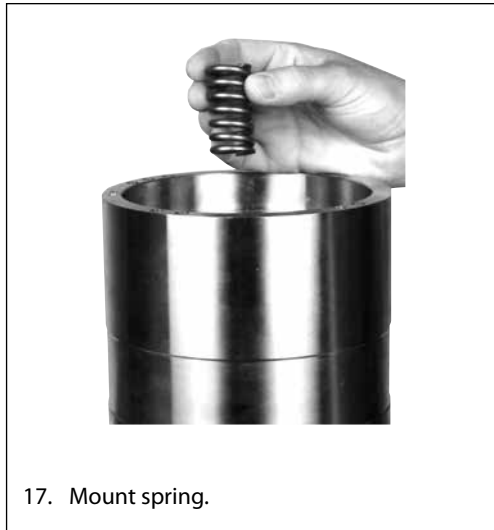
14. Mount thrust plate on cylinder barrel.

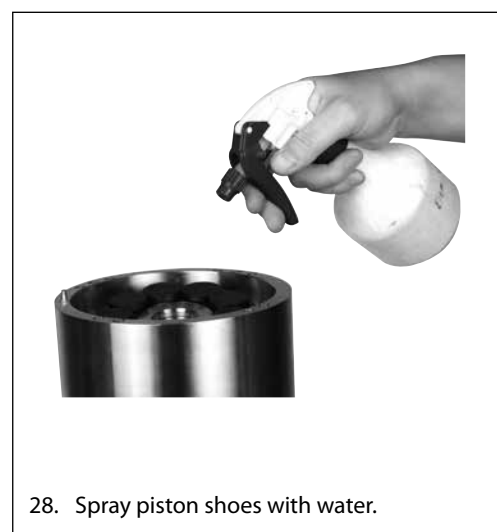
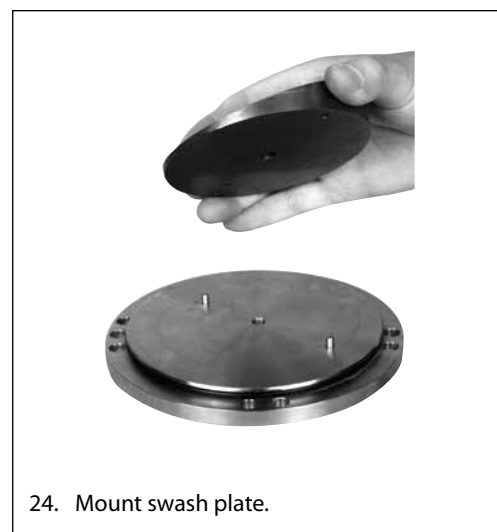
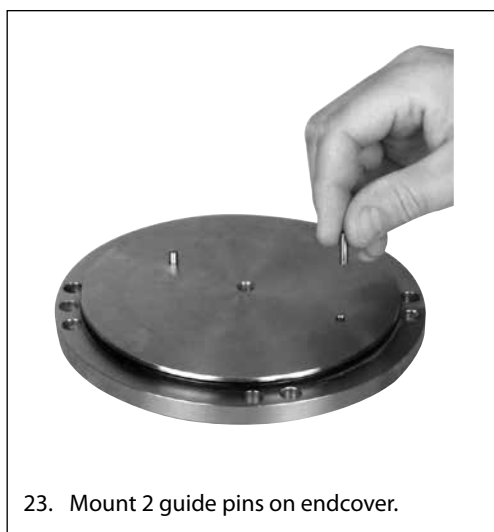


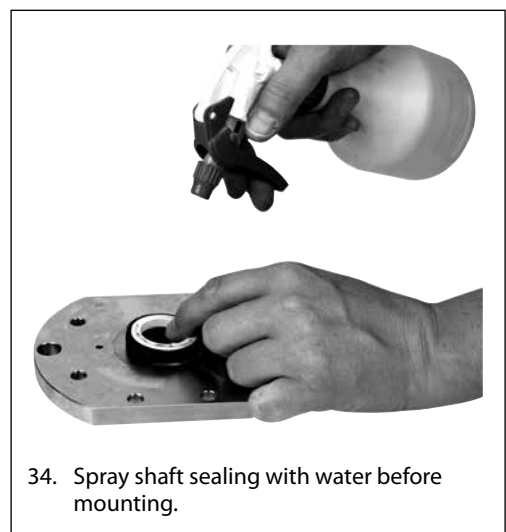
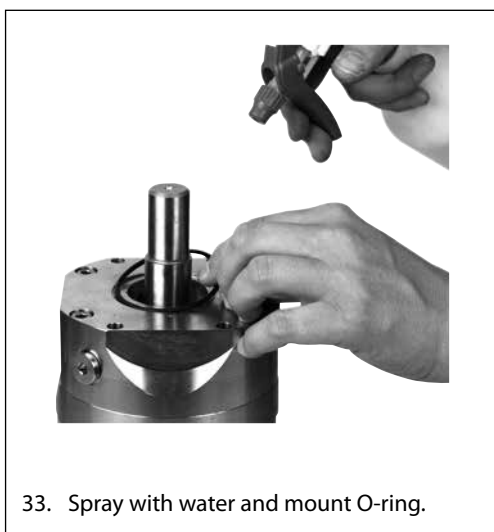
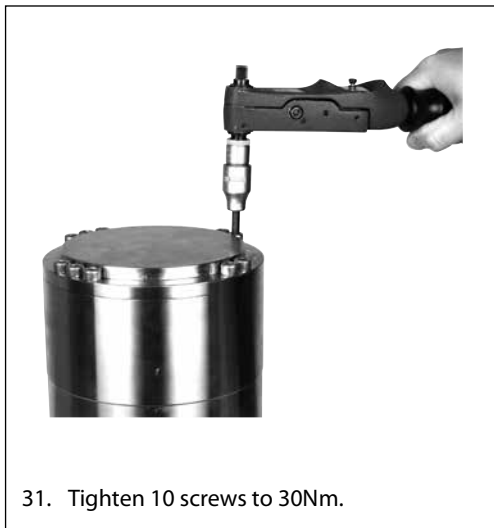
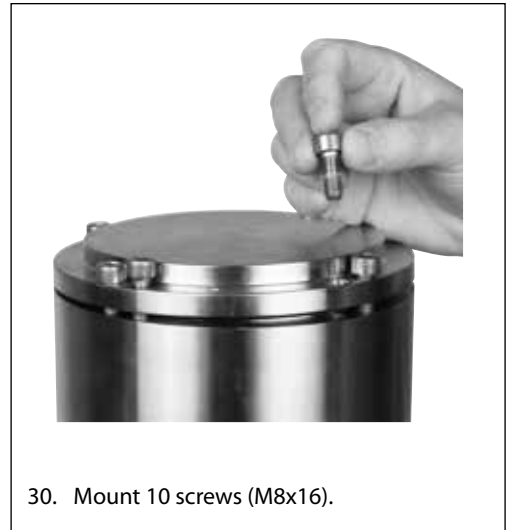
15. Press thrust plate into cylinder barrel.



16. Mount cylinder barrel in housing.









35. Use tool and press shaft sealing into place.



36. Mount metal ring.



37. Mount spring.



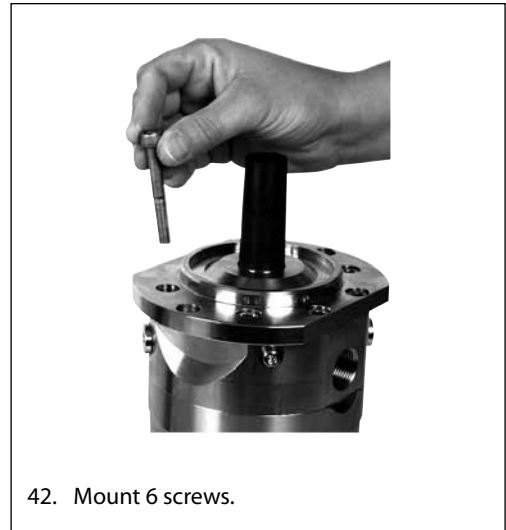
38. Mount special tool on shaft.



39. Spray with water.



40. Mount sealing (smallest diameter pointing down).



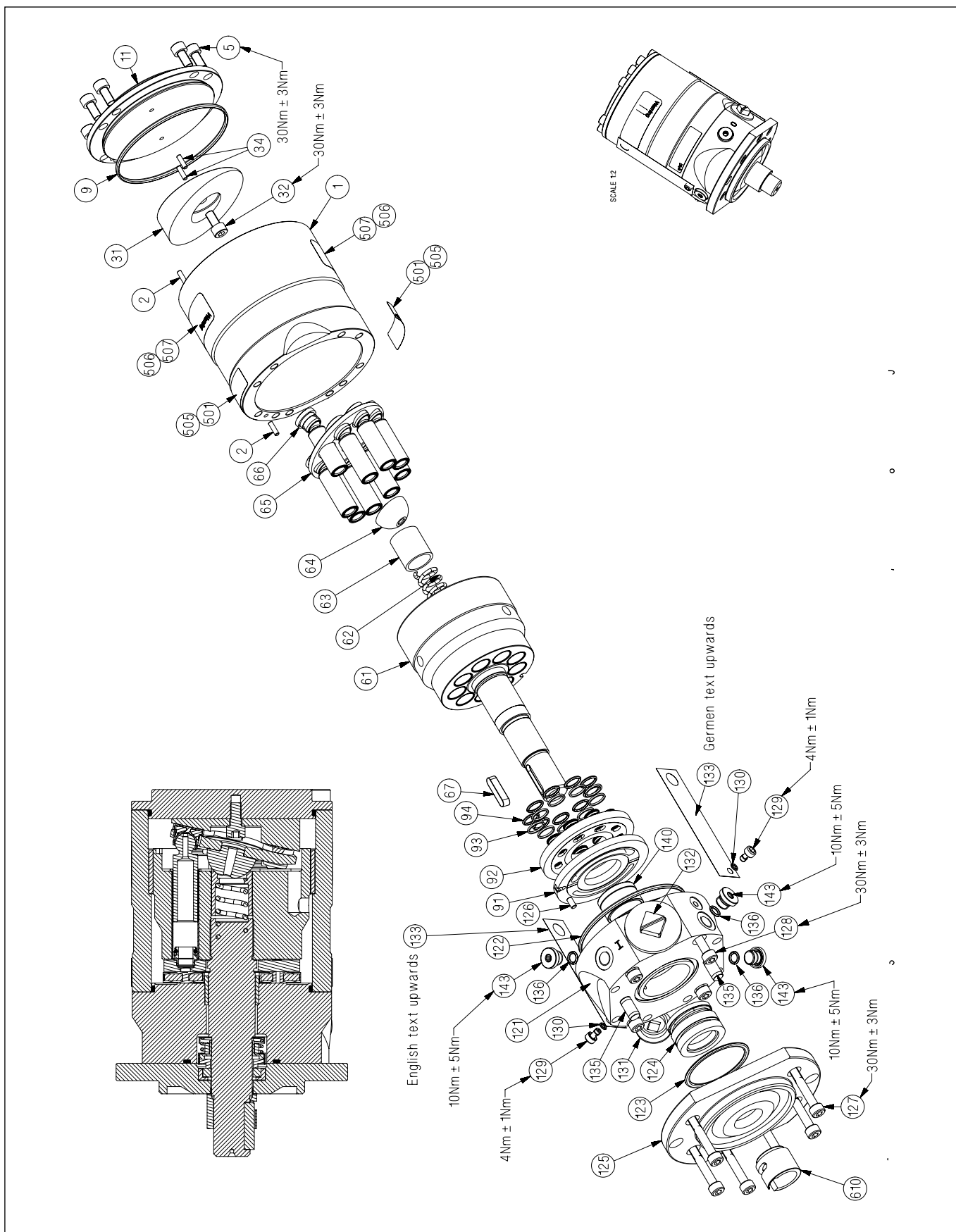
Finished.



Service guide | Disassembling and assembling PAHT / PAHT G 20-32
4. Spare parts list for PAHT 20-32

Pos.	Qty.	Designation	Material	180B4055 - Seal set (PAHT 20-32)	180B4054 - Cylinder barrel set (PAHT 20-32)	180B4052 - Valve plate set (PAHT 20-32)	180B4053 - Piston set (PAHT 20-32)	180B4251 - Swash plate set (PAHT 20)	180B4254 - Swash plate set (PAHT 25)	180B4257 - Swash plate set (PAHT 32)
1	1	Housing	AISI 316							
2	2	Pin Ø4 x 14	AISI 304	x						
5	10	Screw M8 x 16	AISI 304	x						
9	1	O-ring Ø102 x 3	NBR	x						
11	1	End cover CW	AISI 316							
31	1	Swash plate	AISI 431					x	x	x
32	1	Screw Ø8 x 16	AISI 304					x	x	x
34	2	Pin Ø4 x 14	AISI 304					x	x	x
61	1	Cylinder barrel	AISI 431		x					
62	1	Spring	AISI 304				x			
63	1	Retainer	PEEK				x			
64	1	Retainer ball	AISI 304				x			
65	1	Retainer plate	1.4301				x			
66	9	Piston	AISI 431 / PEEK				x			
67	1	Key 8 x 7 x 32	AISI 316Ti	x						
91	1	Port plate	AISI 304 / PEEK			x				
92	1	Valve plate	AISI 431			x				
93	9	Back up ring	PTFE			x				
94	9	O-ring Ø13 x 2	NBR			x				
121	1	Port flange	AISI 316							
122	1	O-ring Ø102 x 3	NBR	x						
123	1	O-ring Ø59,5 x 3	NBR	x						
124	1	Shaft sealing	AISI 304 / NBR	x						
125	1	End cover	AISI 316							
126	1	Pin Ø5 x 10	AISI 304			x				
127	6	Screw M8 x 60	AISI 304	x						
128	4	Screw M8 x 50	AISI 304	x						
	1	Service instruction		x	x	x	x	x	x	x

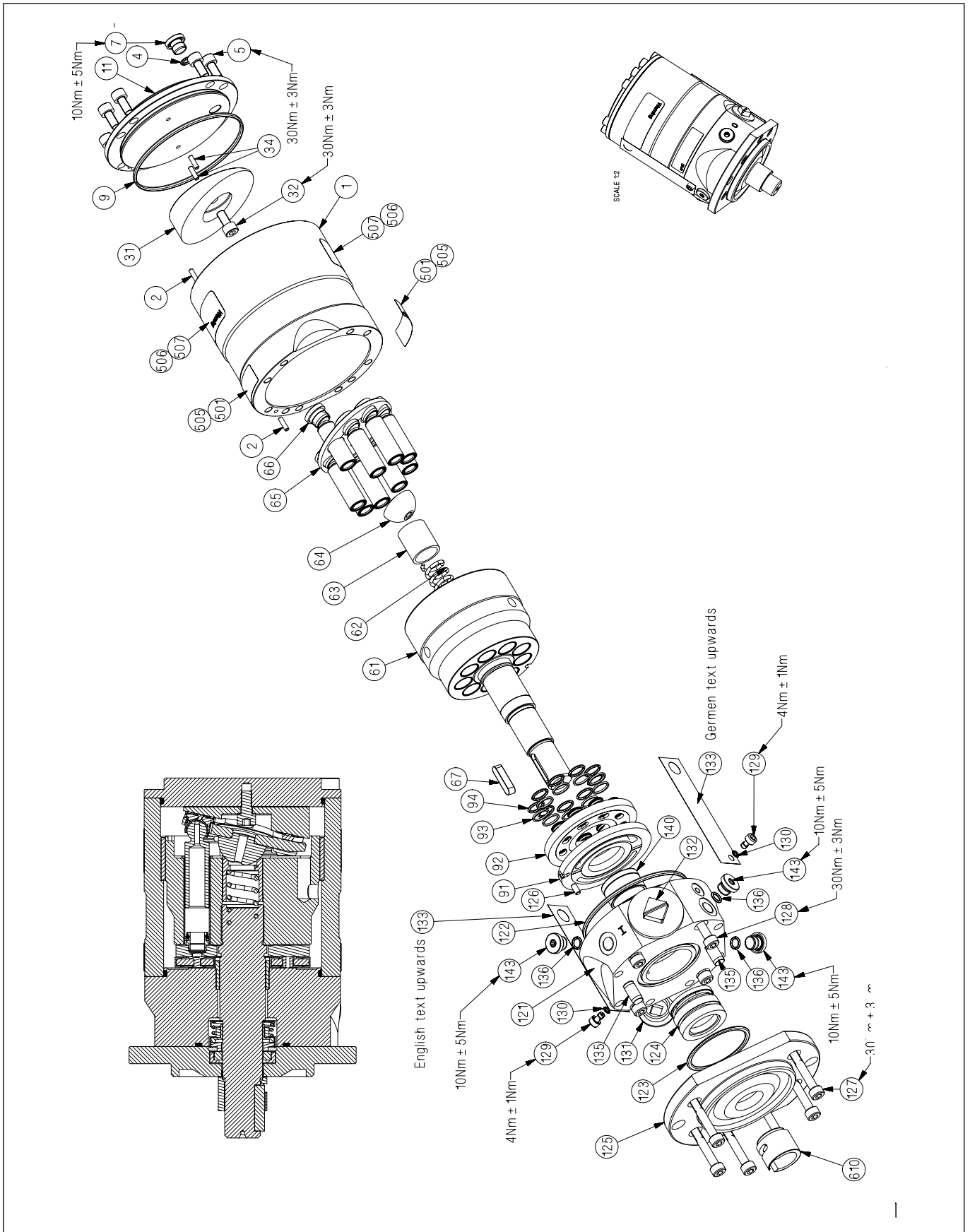
5. Exploded view
PAHT 20-32



Service guide | Disassembling and assembling PAHT / PAHT G 20-32
6. Spare parts list for PAHT G 20-32

Pos.	Qty.	Designation	Material	180B4333 - Seal set (PAHT G 20-32)	180B4335 - Cylinder barrel set (PAHT G 20-32)	180B4337 - Valve plate set (PAHT G 20-32)	180B4336 - Piston set (PAHT G 20-32)	180B4323 - Swash plate set (PAHT G 20)	180B4324 - Swash plate set (PAHT G 25)	180B4325 - Swash plate set (PAHT G 32)
1	1	Housing	AISI 316							
2	2	Pin Ø4 x 14	AISI 304	x						
5	10	Screw M8 x 16	AISI 304	x						
9	1	O-ring Ø102 x 3	NBR	x						
11	1	End cover CW	AISI 316							
31	1	Swash plate	AISI 431					x	x	x
32	1	Screw Ø8 x 16	AISI 304					x	x	x
34	2	Pin Ø4 x 14	AISI 304					x	x	x
61	1	Cylinder barrel	AISI 431		x					
62	1	Spring	AISI 304				x			
63	1	Retainer	PEEK				x			
64	1	Retainer ball	AISI 304				x			
65	1	Retainer plate	1.4301				x			
66	9	Piston	AISI 431 / PEEK				x			
67	1	Key 8 x 7 x 32	AISI 316Ti	x						
91	1	Port plate	AISI 304 / PEEK			x				
92	1	Valve plate	AISI 431			x				
93	9	Back up ring	PTFE			x				
94	9	O-ring Ø13 x 2	NBR			x				
121	1	Port flange	AISI 316							
122	1	O-ring Ø102 x 3	NBR	x						
123	1	O-ring Ø59,5 x 3	NBR	x						
124	1	Shaft sealing	AISI 304 / NBR	x						
125	1	End cover	AISI 316							
126	1	Pin Ø5 x 10	AISI 304			x				
127	6	Screw M8 x 60	AISI 304	x						
128	4	Screw M8 x 50	AISI 304	x						
	1	Service instruction		x	x	x	x	x	x	x

7. Exploded view
PAHT G 20-32



8. Tool sets

Qty.	Designation	180Z0236 - Tool set (PAH / PAHT / PAHT G 20-32)
1	Shaft bush, toppedo	x
1	Press tool 1	x
1	Press tool 2	x