

Powering Business Worldwide

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SERVICE PARTS

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Part identification

Item	Part number	Quantity	Description	Page number
1	See table 1	1	Housing	11
2	See table 2	1	Seal, shaft ■	12
3	101680-225	1	Ring, retaining, internal (Seal, shaft) ■	06
4	6021805-001	1	Bearing assembly, shaft (front)	06
5	5989757-001	1	Spring, bias	06
6	6021043-001	2	Bearing, swashplate / bearing kit 9900761-000	06
7	114995-010	2	Screw, cap, socket / bearing kit 9900761-000	06
8	See table 3	1	Swashplate	12
9	See table 4	1	Shaft, drive and key	13
10	See table 4	1	Key, driveshaft	13
11	See table 5	1	Rotating group S/A	14
12	See table 6	1	Plate valve	14
13	See table 7	1	Bearing assembly, shaft (rear)	15
14	Not Saleable	1	Ring, crush / bearing shim kit 9900776-000	06
15	96201-062	2	Slotted spring pin 1/4	06
16	6026023-001	1	Gasket (endcover/ housing) ■	06
17	See table 7	1	End cover S/A	15
18	114978-050	4	Screw, cap (housing/ endcover)	06
19	See table 9	1	Piston, control	16
20	See table 10	1	Plug, adjustable volume stop ▲	16
21	See table 11	1	Plug (top case drain port)	17
22	See table 11	1	Plug (bottom case drain port)	06
23	115046-004	1	Plug (housing)	06
24	107275-017	1	O-ring (compensator/housing) ■	06
25	107275-011	2	O-ring (secondary compensator/housing) ■	19
26	See table 12	1	Compensator kits	17
27	See table 13	4	Screw, cap (compensator mounting)	18
28	See table 14	1	Coupler	18
29	104166-155	1	O-ring (end cover to aux mount) ■ / thru drive adapter kit)	19
30	See table 15	1	Adapter, thru drive / thru drive adapter kit	19
31	See table 14	1	O-ring adapter ■ / thru drive adapter kit	19
32	See table 14	4	Bolts / Thru drive adapter kit	19
33	See table 16	1	Cold start manifold (Destroke)	19
34	107275-011	3	O-ring (Destroke)	19
35	6022841-001	1	Link, feedback	38

■ Standard seal kit: 9900758-000

▲ Adjustable maximum displacement volume stop kit: 9900772-000

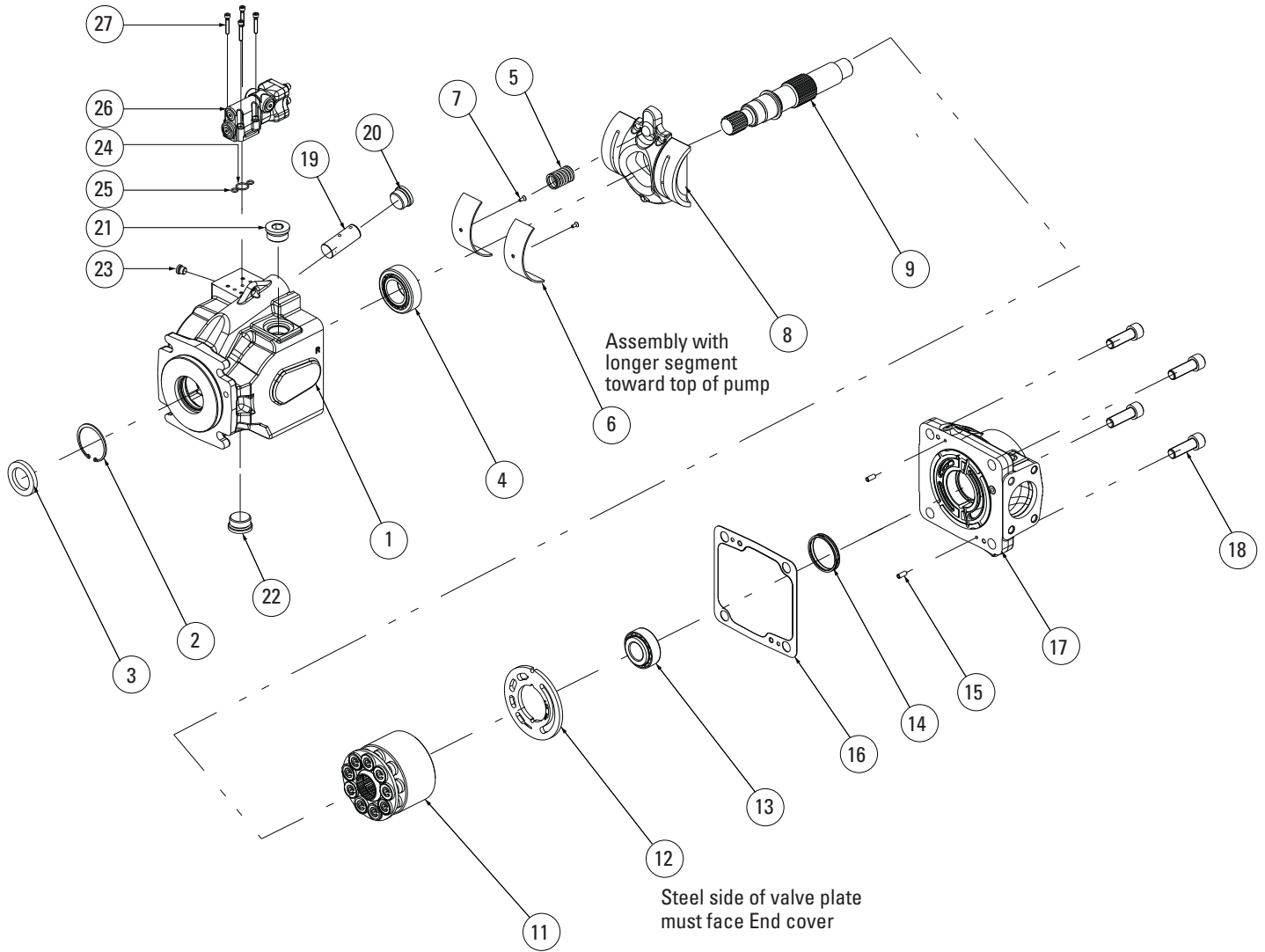
Part identification

Item	Part number	Quantity	Description	Page number
40	6024371-002	1	Feedback sensor, Non-contact	38
41	5996053-002	2	Screw, button head cap (sensor mount)	38
45	4993571-325	1	Adjustable stop screw Δ	09
46	692867	1	Lock nut Δ	09
47	115044-014	1	O-ring Δ	09
48	See table 17	1	Cover	20
49	See table 18	2	Hex head cap screw	20
50	6026587-001	1	Cover plate sealing / Cover plate kit 9900782-000	37
51	6026902-001	1	Gasket, cover plate/ cover plate kit 9900782-000	37
52	114977-020	4	Screw, cap / cover plate kit 9900782-000	37
61	6033285-001	1	Assembly/ Torque control S/A	21
62	107275-013	1	O-ring	07
63	See table 19	1	Control S/A, Electronic displacement control S/A	21
64	6040933-001	1	Spring feedback	08
65	473712	1	Screw, Hex socket	08
66	6035825-012	1	Coil, solenoid, 12V	08
67	6041646-001	1	Check valve S/A	08

■ standard seal kit: 9900758-000

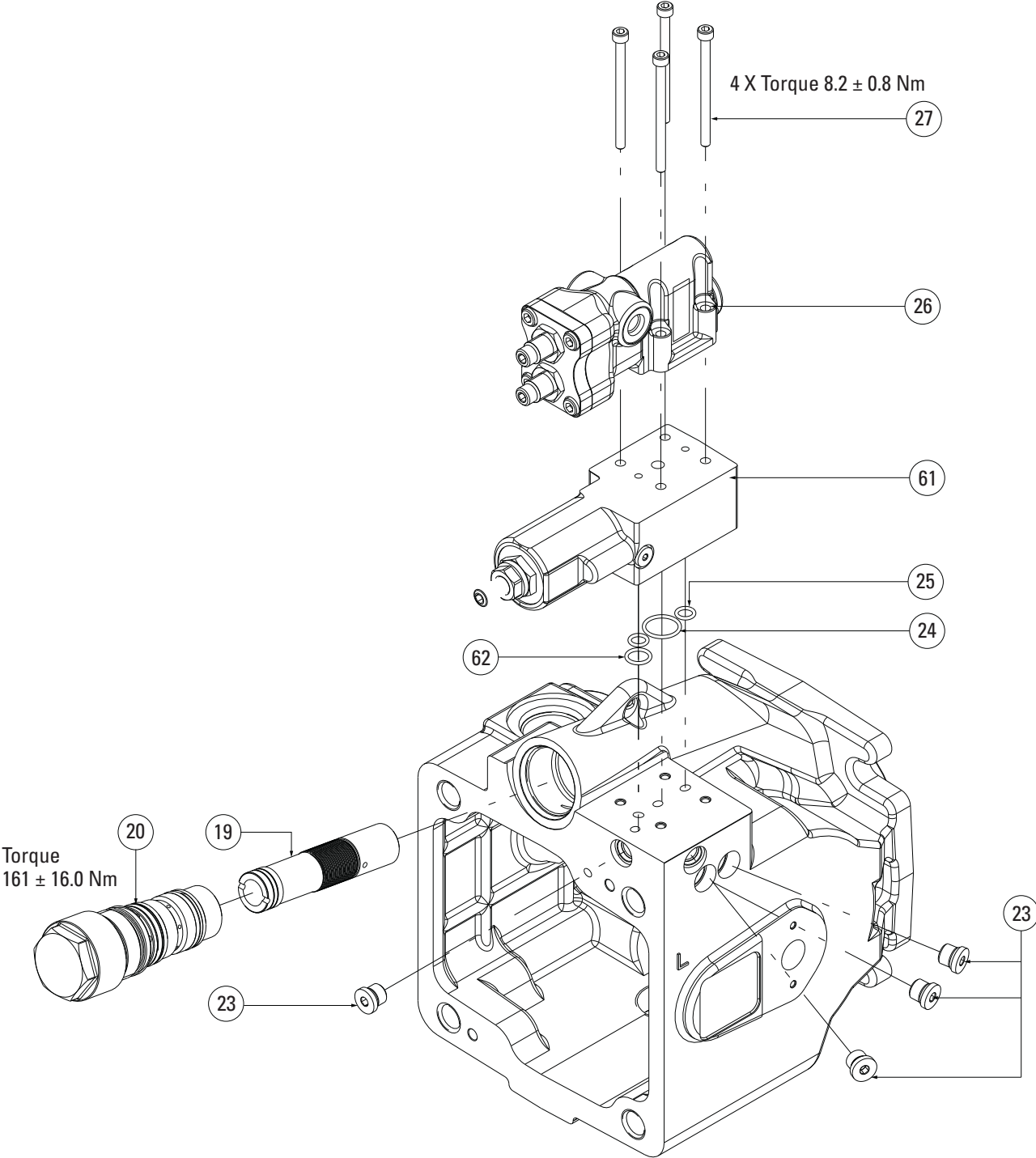
Δ adjustable maximum displacement volume stop kit: 9900772-000

Exploded assembly



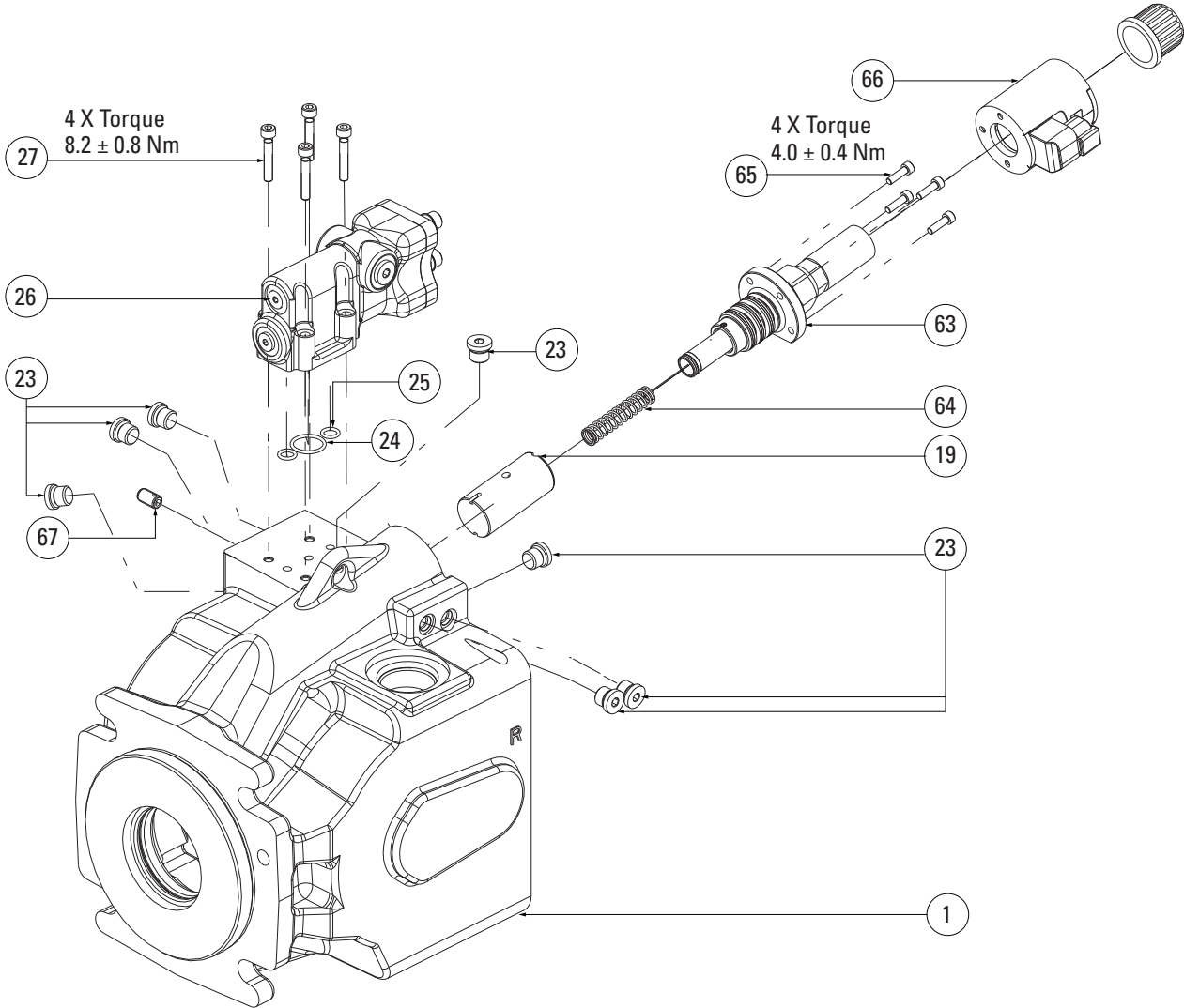
Optional assembly

Torque control option



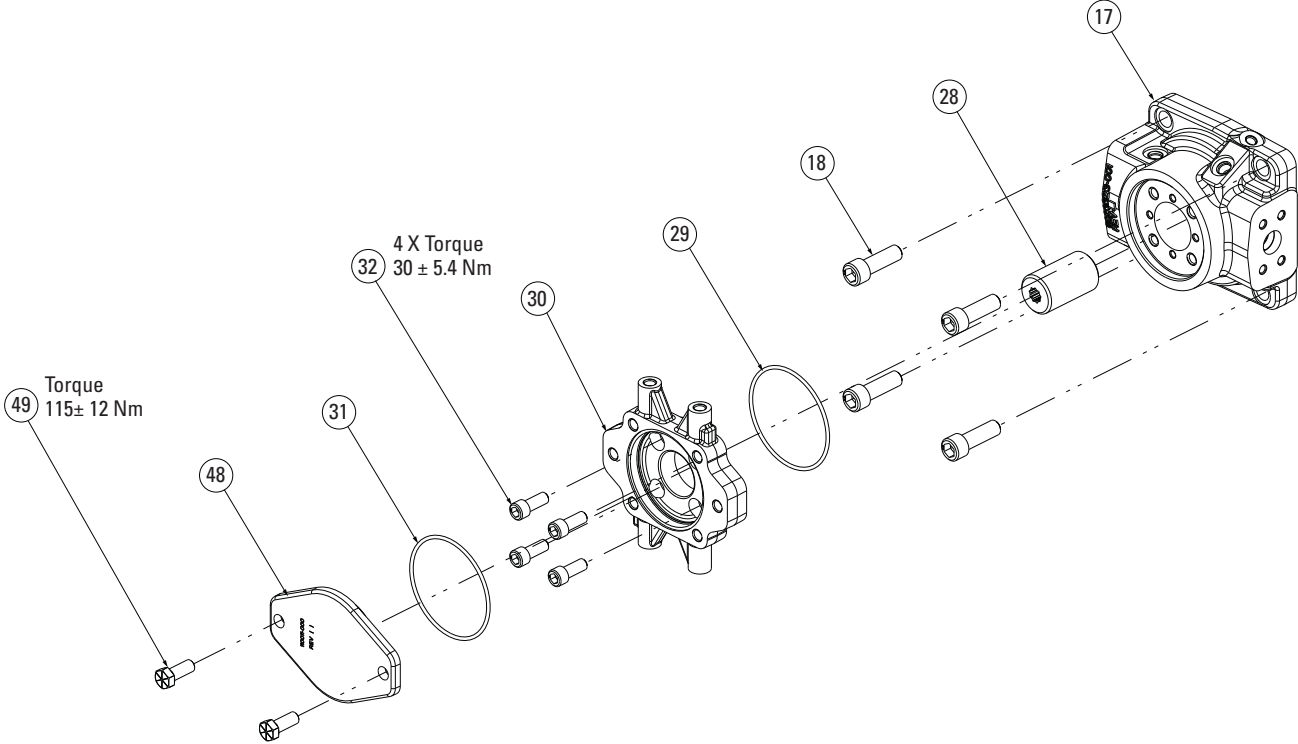
Optional assembly

Electronic displacement control option

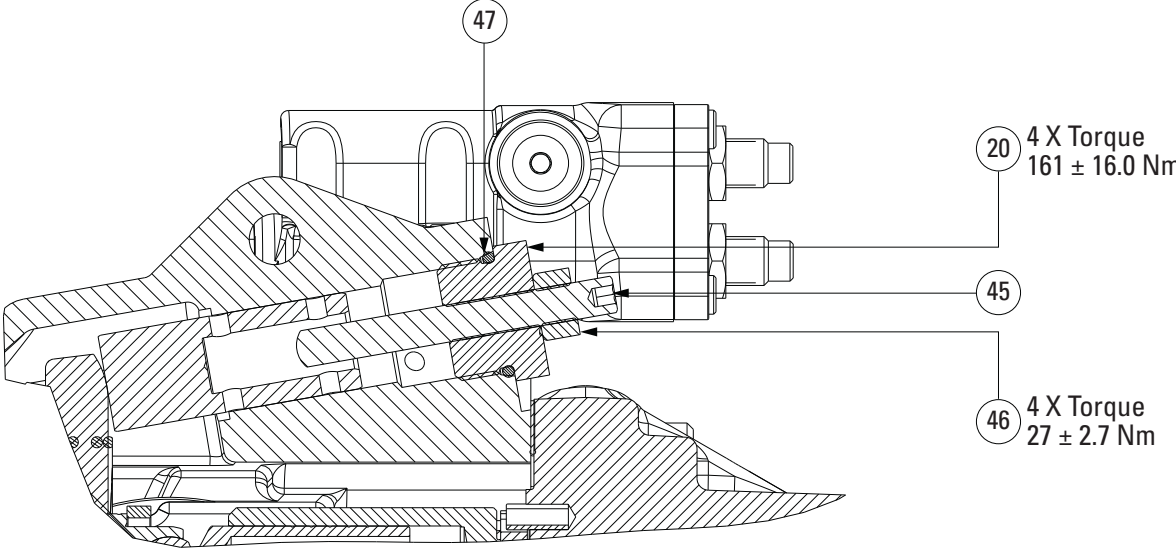


Optional assembly

Thru-drive part option

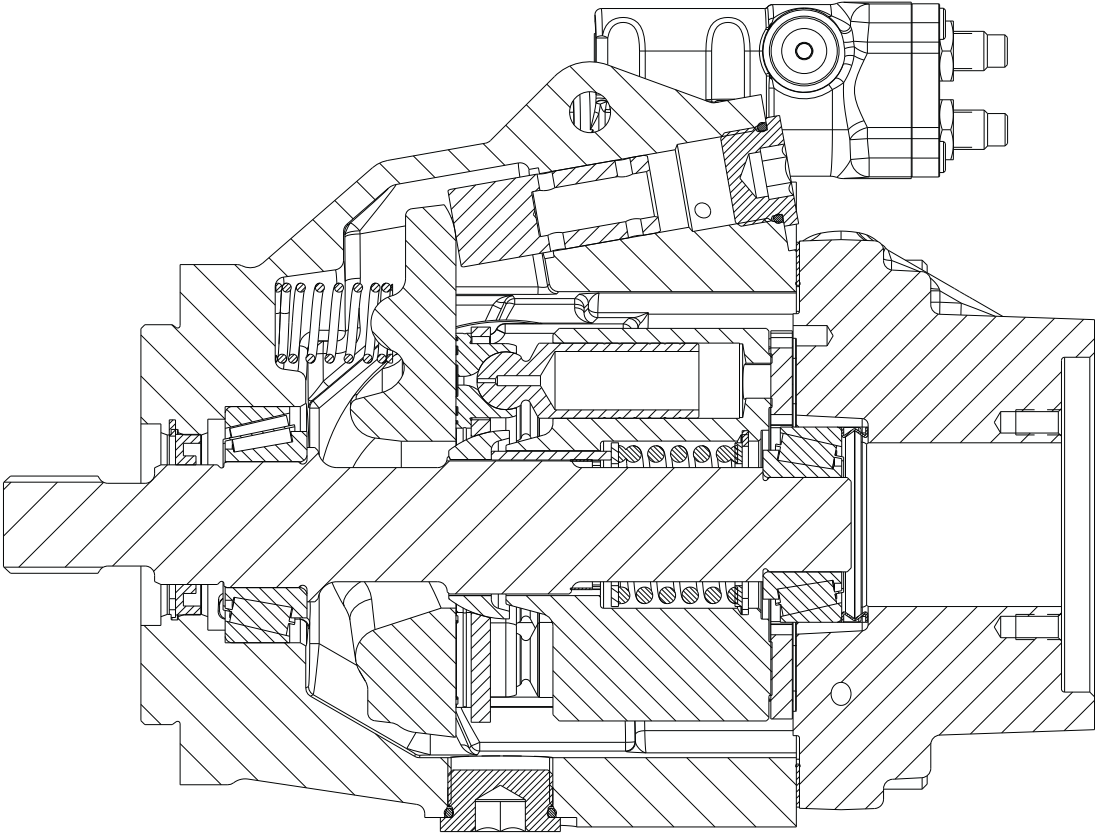


Adjustable maximum stop option



Typical cross section

Side view

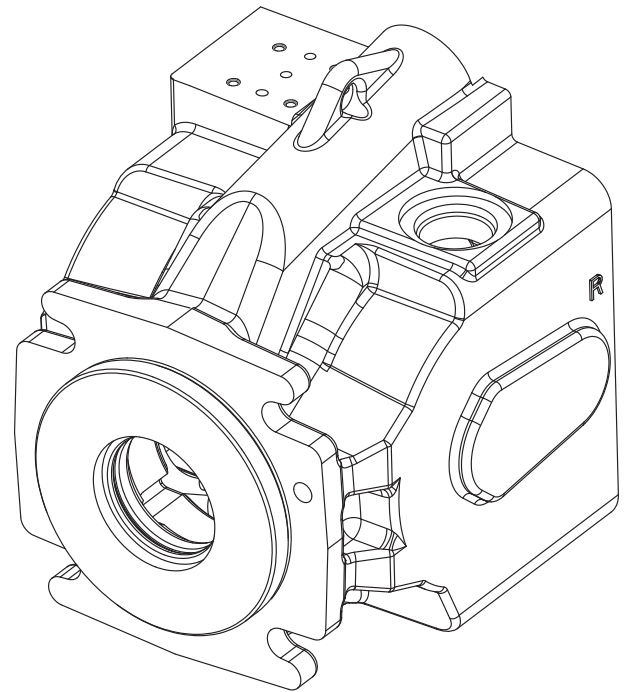


Housing – Item 1

Table 1

Table 1 - Housing (Item 1)

Code position 8,9	12	14, 15	28	29, 30	Part number	Description
05,06,07,08,10,16	1,2	AA, AB, AC, AD, AF, AW	0,1,3	AB, AE, AF, AH	6022838-001	Housing (feedback sensor)
05,06,07,08,10,16	3,4	AA, AB, AC, AD, AF, AW	0,1,3	AB, AE, AF, AH	6022838-002	Housing (feedback sensor) metric
05,06,07,08,10,16	1,2	AA, AB, AC, AD, AF, AW	0,1,3	00, AA, AD, AG, AV	6023256-001	Housing
05,06,07,08,10,16	3,4	AA, AB, AC, AD, AF, AW	0,1,3	00, AA, AD, AG, AV	6023256-002	Housing metric
05, 07	3	AJ	1,3	00	6036567-002	Housing metric
05,06,07,08,10,16	1,2	AJ, AH	0,1,3	00, AA, AD, AG, AV	6036567-001	Housing
05,06,07,08,10,16	1,2	AJ, AH	0,1,3	AB, AE, AF, AH	6023256-005	Housing (feedback sensor)
05,06,07,08,10,16	5	AA, AB, AC, AD, AF, AW	0,1,3	00, AA, AD, AG, AV	6029851-001	Housing
12	1,2	AA, AB, AC, AD, AF, AW	2	00, AA, AD, AG, AV	6030838-001	Housing
12	1,2	AA, AB, AC, AD, AF, AW	0,1,3	00, AA, AD, AG, AV	6034961-001	Housing
06	1	AT, AY	1	AB	6038823-002	Housing (feedback sensor)

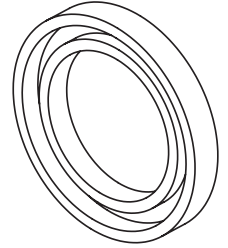


Shaft seal – Item 2

Table 2

Table 2 - Shaft seal (Item 2)

Code position 28	Part number	Description
1,2	589332	Seal, shaft, fluorocarbon
3	998643	Seal, shaft, nitrile

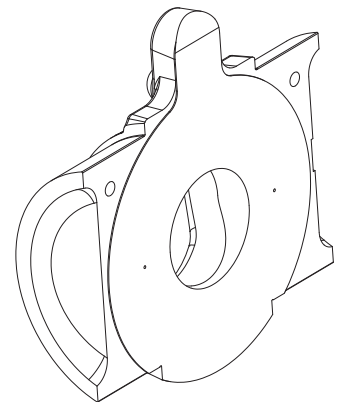


Swashplate – Item 8

Table 3

Table 3 - Swashplate (Item 8)

Code position 29, 30	Part number	Description
00,AA,AD,AG,AV	6022840-002	Swashplate
AB,AE,AF,AH	6022840-001	Swashplate (Feedback sensor)

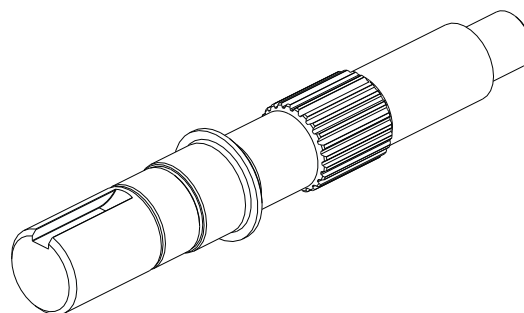
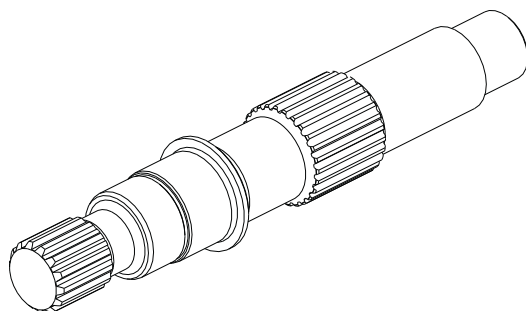


Shaft drive and key – Items 9 & 10

Table 4

Table 4 - Shaft drive and key (Items 9 & 10)

Code position 4,5,6	8,9	26,27	Key	Part	Description
074	05	00	4992730-004	6025210-001	Shaft, drive, 1.25 straight key, 56 ext
074	05	not 00	4992730-004	6025210-003	Shaft, drive, 1.25 straight key, 56 ext thru drive
074	06	00	-	6025208-001	Shaft, drive, input 14 tooth, 56 ext
074	06	not 00	-	6025208-003	Shaft, drive, input 14 tooth, 56 ext thru drive
074	07	00	4992730-005	6025211-001	Shaft, drive, 1.50 straight key, 62 ext
074	07	not 00	4992730-005	6025211-003	Shaft, drive, 1.50 straight key, 62 ext thru drive
074	08	00	-	6025209-001	Shaft, drive, input 17 tooth, 62 ext
074	08	not 00	-	6025209-003	Shaft, drive, input 17 tooth, 62 ext thru drive
098	05	00	4992730-004	4999808-001	Shaft, drive, 1.25 straight key, 56 ext
098	05	not 00	4992730-004	4999809-001	Shaft, drive, 1.25 straight key, 56 ext thru drive
098	06	00	-	6021804-001	Shaft, drive, input 14 tooth, 56 ext
098	06	not 00	-	4999303-001	Shaft, drive, input 14 tooth, 56 ext thru drive
098	07	00	4992730-005	4999810-001	Shaft, drive, 1.50 straight key, 62 ext
098	07	not 00	4992730-005	4999811-001	Shaft, drive, 1.50 straight key, 62 ext thru drive
098	08	00	-	4999806-001	Shaft, drive, input 17 tooth, 62 ext
098	08	not 00	-	4999807-001	Shaft, drive, input 17 tooth, 62 ext thru drive
098	10	not 00	14392-004	6023400-001	Shaft, drive, 1.25 tapered, str key, thru drive
098	16	00	16246-614	6036654-001	Shaft, drive, 1.25 straight key, 56 ext
098	12	not 00	-	4999303-002	Shaft, drive, input 14 tooth, thru drive
098	10	00	14392-004	6035973-001	Shaft, drive, 1.25 Tapered, str key

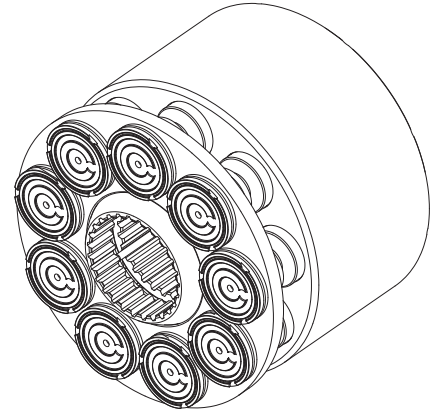


Rotating group S/A – Item 11

Table 5

Table 5 - Rotating group S/A (item 11)

Code position 4, 5, 6	29, 30	Part number	Description
074	00, AA, AB, AD, AE, AF, AG, AH, AV	6029085-001	Rotating group S/A (74cc)
098	00, AA, AB, AC, AD, AE, AF, AG, AH, AV	6021400-001	Rotating group S/A (98cc)

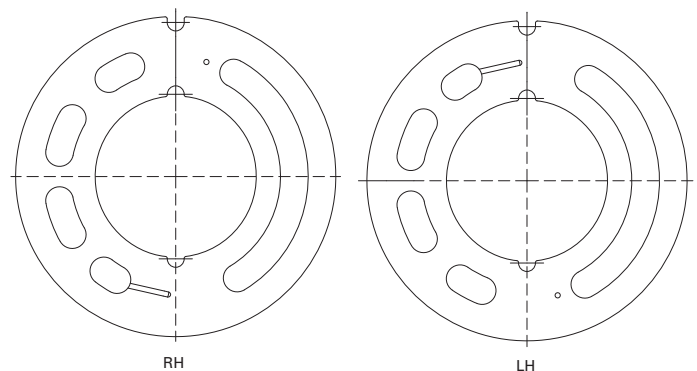


Valve plate – Item 12

Table 6

Table 6 - Valve plate (item 12)

Code position 4, 5, 6	7	Part number	Description
074	R	6029369-001	Plate, valve (RH 74 cc)
074	L	6029369-002	Plate, valve (LH 74 cc)
098	R	6024330-001	Plate, valve (RH 98 cc)
098	L	6025319-001	Plate, valve (LH 98 cc)



Bearing assembly – Item 13

Table 7

Table 7 - Bearing assembly (item 13)

Code position 4, 5, 6	Part number	Description
074	6025207-001	Bearing assembly 74 cc
098	6021946-001	Bearing assembly 98 cc

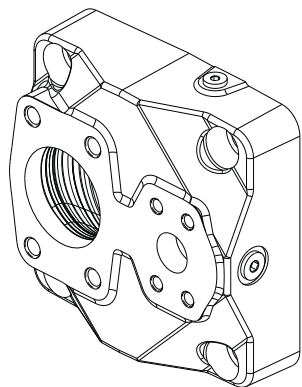
End cover S/A – Item 17

Table 8

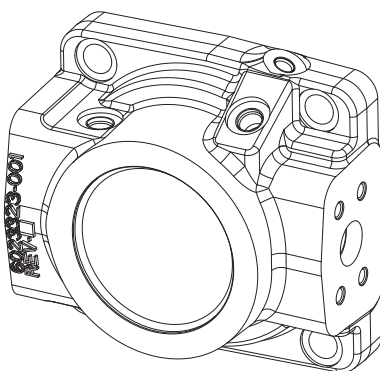
Table 8 - End cover S/A (item 17)

Code position 4, 5, 6	7	10, 11	13	26, 27	Part number	Description
074	L,R	AF	1	00	6028767-001	End cover S/A, side port 74 cc (diag ports)
074	L,R	AF	1	not 00	6030266-001	End cover S/A, thru drive 74 cc (diag ports)
074	L,R	AH	2	00	6028767-002	End cover S/A, side port 74 cc metric (diag ports)
074	L,R	AH	2	not 00	6030266-002	End cover S/A, thru drive 74 cc metric (diag ports)
074	L,R	AF	0	00	6028767-003	End cover S/A, side port 74 cc
074	L,R	AF	0	not 00	6030266-003	End cover S/A, thru drive 74 cc
074	L,R	AH	0	00	6028767-004	End cover S/A, side port 74 cc metric
074	L,R	AH	0	not 00	6030266-004	End cover S/A, thru drive 74 cc metric
074	R	AJ	1	00	6033171-001	End cover S/A, rear port 74 cc
074	R	AG	2	00	6033171-002	End cover S/A, rear port 74 cc
098	L,R	AB	1	00	6023848-001	End cover S/A, side port 98 cc (diag ports)
098	L,R	AB	1	Not 00	6023824-001	End cover S/A, thru drive 98 cc (diag ports)
098	L,R	AD	2	00	6023848-002	End cover S/A, side port 98 cc metric (diag ports)
098	L,R	AD	2	Not 00	6023824-002	End cover S/A, thru drive 98 cc metric (diag ports)
098	L,R	AB	0	00	6023848-003	End cover S/A, side port 98 cc
098	L,R	AB	0	Not 00	6023824-003	End cover S/A, thru drive 98 cc
098	L,R	AD	0	00	6023848-004	End cover S/A, side port 98 cc metric
098	L,R	AD	0	Not 00	6023824-004	End cover S/A, thru drive 98 cc metric
098	R	AE	0	00	6023848-005	End cover S/A, side port 98 cc metric
098	R	AE	0	AG	6023824-005	End cover S/A, thru drive 98 cc metric
098	L,R	AA	1	00	6028558-001	End cover S/A, rear port 98 cc
098	L,R	AC	2	00	6028558-002	End cover S/A, rear port 98 cc
098	L,R	AC	0	00	6028558-004	End cover S/A, rear port 98 cc
098	L,R	AD	0	00	6023848-004	End cover S/A, side port 98 cc metric
098	L,R	AD	0	not 00	6023824-004	End cover S/A, thru drive 98 cc metric

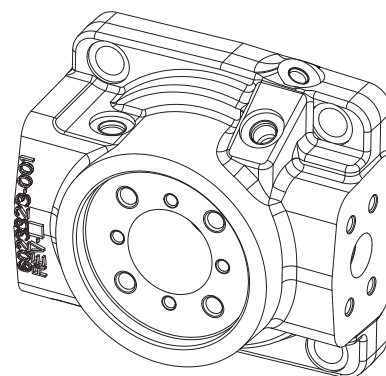
620 Series mobile piston pump end cover views



Rear ported



Side ported



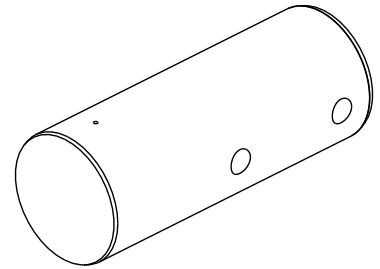
Thru drive

Control piston – Item 19

Table 9

Table 9 - Control piston (Item 19)

Code position 14, 15	29, 30	Part number	Description
AA, AB, AC, AD, AF, AW, AV	00, AA, AC, AB, AD, AG	6023317-001	Control piston
AJ, AH	00, AA, AC, AB, AD, AG	6033954-000	Control piston, Min displacement setting 0%
AJ, AH	AE	6033954-010	Control piston, Min displacement setting 10%
AJ, AH	AH, AV	6033954-012	Control piston, Min displacement setting 12%
AJ, AH	AF	6033954-020	Control piston, Min displacement setting 20%
AT, AY	AB	6039060-003	Control piston

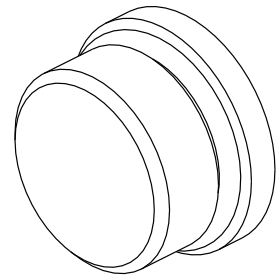


Plug, adjustable volume stop – Item 20

Table 10

Table 10 - Plug, adjustable volume stop (Item 20)

Code position 14, 15	24, 25	Part number	Description
AA, AB, AC, AD, AF, AW, AV	01	5994111-001	Plug assembly
AA, AB, AC, AD, AF, AW	05	5994111-002	Plug assembly
AA, AB, AC, AD, AF, AW	02, 03, 04	6024779-001	Plug
AJ, AH	01	6033256-001	Assembly piston cap & sleeve
AJ, AH	02, 03, 04, 06, 07	6033256-002	Assembly piston cap & sleeve



Plugs – Items 21 & 22

Table 11

Table 11 - Plugs (Item 21 & 22)

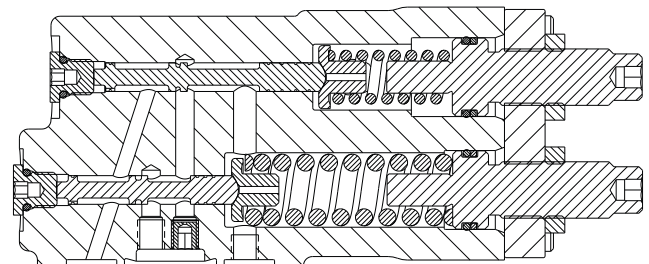
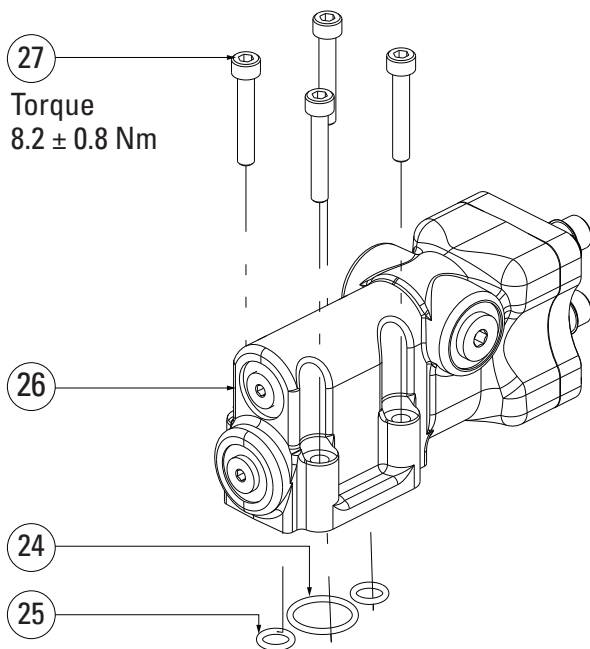
Code position 12	Part number	Description
1	115046-016	Plug 1.3125-12
2	115046-016	Plug 1.3125-12
5	115046-016	Plug 1.3125-12
3	9237-006	Plug M33 X 2.0
4	9237-006	Plug M33 X 2.0

Compensator kits – Items 24, 25 & 26

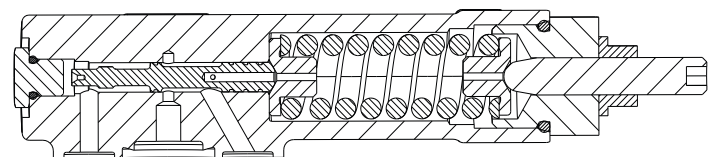
Table 12 - Factory set

Table 12 - Compensator kits (Items 24, 25, & 26)

Code position 14, 15	16,17	Pressure limit setting	18,19	Flow setting	22, 23	Kit number
AA	28	206.8-213.7 bar [3000-3100 lbf/in ²]	23	23.10-25.17 bar [335-365 lbf/in ²]	00	9901219-001
AA	32	226.5-233.4 bar [3285-3385 lbf/in ²]	16	13.79-16.55 bar [200-240 lbf/in ²]	00	9901219-002
AA	27	199.9-206.8 bar [2900-3000 lbf/in ²]	25	23.44-26.89 bar [340-390 lbf/in ²]	00	9901219-003
AA	43	275.8-282.7 bar [4000-4100 lbf/in ²]	16	13.79-16.55 bar [200-240 lbf/in ²]	00	9901219-008
AA	39	258.6-265.4 bar [3750-3850 lbf/in ²]	28	26.20-28.96 bar [380-420 lbf/in ²]	00	9901219-049
AA	15	151.7-158.6 bar [2200-2300 lbf/in ²]	34	4.50-6.90 bar [66-100 lbf/in ²]	00	9901219-063
AA	19	168.9-175.8 bar [2450-2550 lbf/in ²]	20	17.24-19.99 bar [250-290 lbf/in ²]	00	9901219-080
AA	12	137.9-144.8 bar [2000-2100 lbf/in ²]	10	9.65-12.41 bar [140-180 lbf/in ²]	00	9901219-081
AC	28	276-284 bar [4003-4119 lbf/in ²]	00	-	00	9900771-006
AC	20	196-204 bar [2843-2959 lbf/in ²]	00	-	0A	9900771-007



Pressure flow compensator



Pressure compensator only

Compensator mounting screws – Item 27

Table 13

Table 13 - Compensator mounting screws (Item 27)

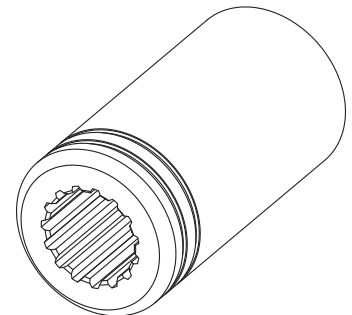
Code position 14, 15	22, 23	Part number	Description
AA, AB, AC, AD, AF, AW, AT, AY	00, 0A, 0U	114953-030	Screw, cap (compensator mounting)
AA, AB, AC, AD, AF, AW	0B, 0C, 0D	114953-065	Screw, cap (compensator mounting)
AH, AJ, AV	00, 0A, 0S, 0T, 0U, 0V	114953-070	Screw, cap (compensator mounting)

Coupler – Item 28

Table 14

Table 14 - Coupler (Item 28)

Code position 4,5,6	26, 27	Part number	Description
074	AA	6028263-001	Coupler, 9 tooth
074	AB	6028263-002	Coupler, 11 tooth
074	AC	6028263-003	Coupler, 13 tooth
074	AD	6028263-004	Coupler, 15 tooth
074	AE	6028263-005	Coupler, 14 tooth
074	AF	6028263-006	Coupler, 17 tooth
098	AA	4999426-001	Coupler, 9 tooth
098	AB	4999427-001	Coupler, 11 tooth
098	AC	6024980-001	Coupler, 13 tooth
098	AD	6024112-001	Coupler, 15 tooth
098	AE	864458	Coupler, 14 tooth
098	AF	864461	Coupler, 17 tTooth

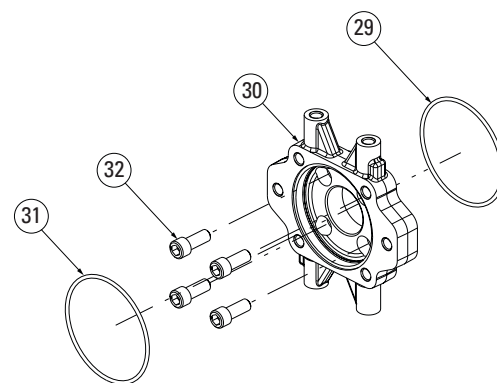


Thru drive adapter kit – Items 29, 30, 31 & 32

Table 15

Table 15 - Thru drive adapter kit (Items 29, 30, 31 & 32)

Code position 4,5,6	26, 27	Part number	Item 29	Item 30	Item31	Item32	Description
074, 098	AA, AB	9900774-002	104166-155	4999463-001	8761-152	114977-030	SAE A-pad adapter 13T (74, 98cc)
074	AD	9900774-005	104166-155	4999351-001	8761-155	114977-050	SAE B-pad adapter 15T (74 cc)
074	AE, AF	9900774-004	104166-155	4999353-001	8761-159	114977-055	SAE C-pad adapter (74 cc)
074	AC	9900774-006	104166-155	4999351-001	8761-155	114977-025	SAE adapter 13T(74 cc)
098	AC, AD	9900774-003	104166-155	4999351-001	8761-155	114977-030	SAE B-pad adapter (98 cc)
098	AE, AF	9900774-001	104166-155	4999353-001	8761-159	114977-035	SAE C-pad adapter (98 cc)

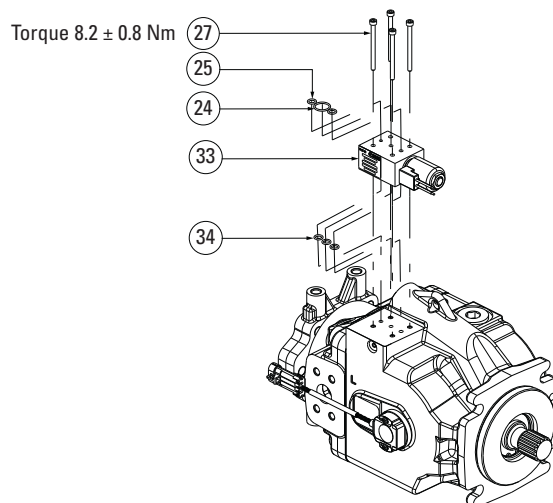


Cold start manifold (Destroke) – Item 33

Table 16

Table 16 - Cold start manifold (Destroke) (Item 33)

Code position 22, 23	Part number	Description
0B,0C	631AA00288A-009	Destroke manifold with metri-pack connector
0D	631AA00288A-003	Destroke manifold with integrated deutsch connector

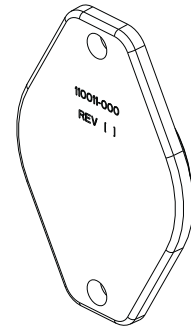


Cover – Item 48

Table 17

Table 17 - Cover (Item 48)

Code position 26, 27	29, 30	Part number	Description
AC, AD	AA	110011-000	Cover, B-pad
AA, AB	AA	70142-600	Cover, A-pad
AE	AA	4998392-001	Cover, C-pad



Hex head cap screw – Item 49

Table 18

Table 18 - Hex head cap screw (Item 49)

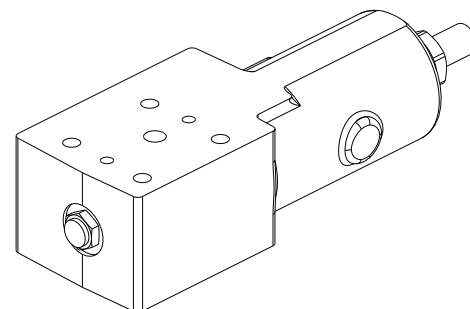
Code position 26, 27	29, 30	Part number	Description
AA, AB	AA	16136-607	Hex head cap screw
AC, AD, AE	AA	16136-812	Hex head cap screw

Torque control S/A – Item 61

Table 19

Table 19 - Torque control S/A (Item 61)

Code position 14, 15	Part number	Description
AJ, AH	6033285-001	Assembly torque control

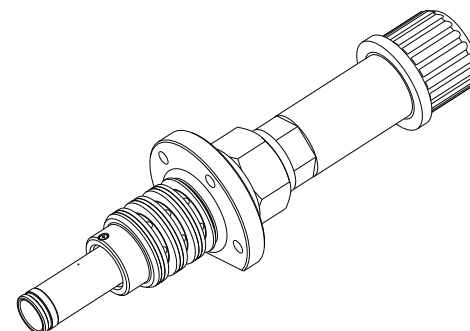


Electronic displacement control S/A – Item 63

Table 20

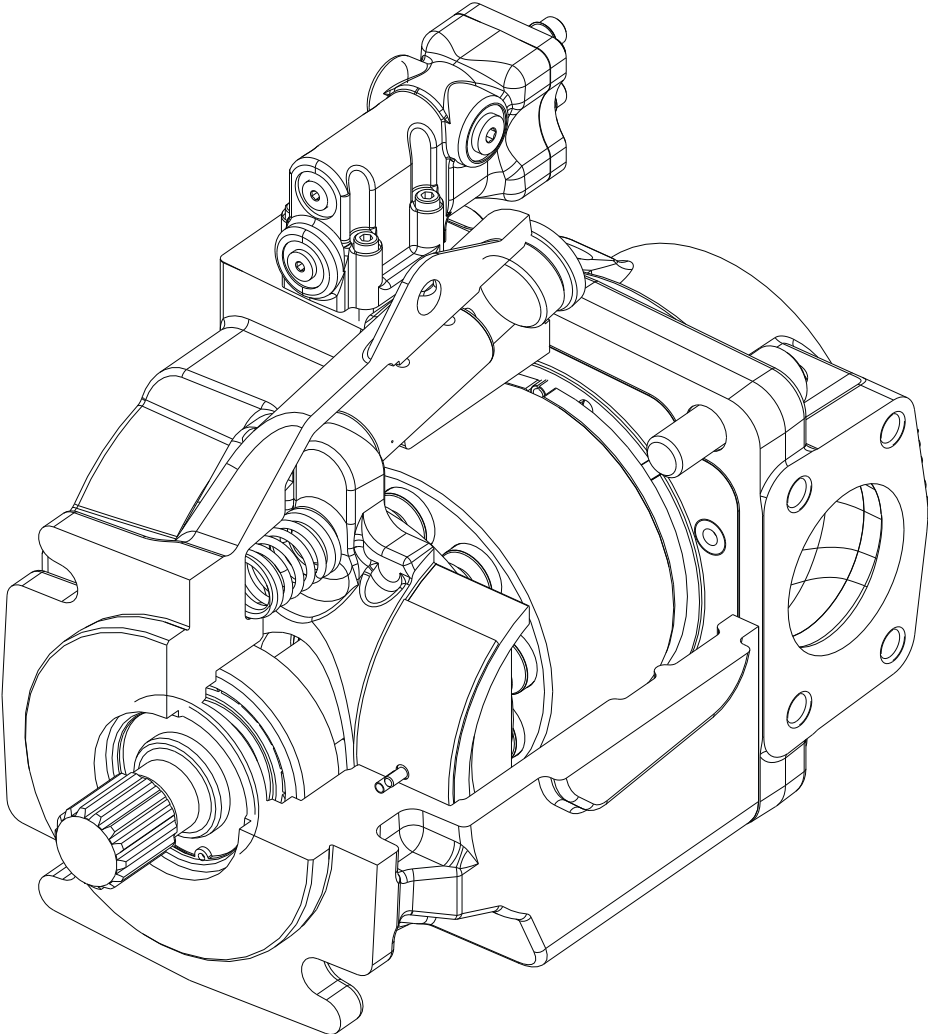
Table 20 - Electronic displacement control S/A (Item 63)

Code position 14, 15	Part number	Description
AT	6041219-003	EDC, EP type
AY	6041167-003	EDC, EPD type



620 Mobile piston pump repair

Cut section



General information

Ordering replacement parts

Replacement parts

When ordering replacement parts, give the product number, date code, Part number and quantity of parts required. This product information is found on name tag which is located on the side of the housing.

When Eaton Model 620 pressure, pressure-flow compensated piston pump is repaired, thoroughly clean pump before any repairs are attempted.

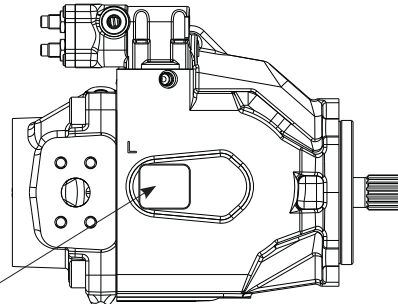
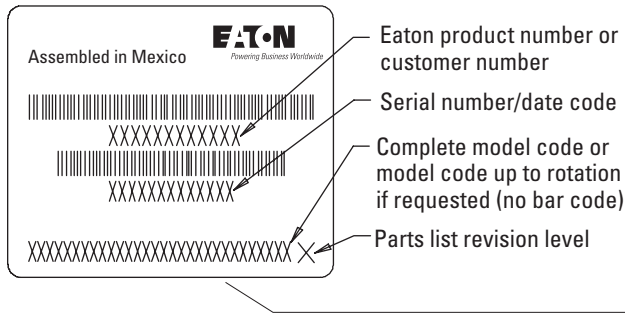
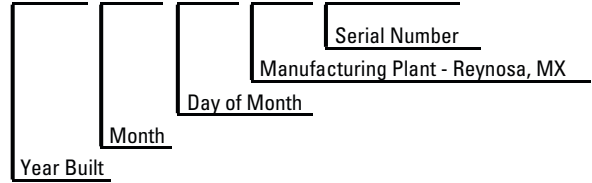
The Part number and serial number are on the tag.

Read this assembly manual thoroughly before starting work on the pump

This manual assumes appropriately trained technicians with specialized knowledge of mechanical and hydraulic component assembly and disassembly

Serial number/date code interpretation

08 02 17 RC 1010



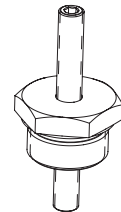
Required tools

Standard tools for disassembly

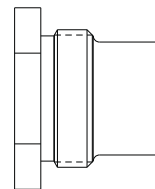
- Ball peen hammer
- Plastic tip hammer
- Flat tip screw driver
- Snap ring pliers
- Torque wrench
- Magnet stick
- 11/16" Wrench
- 1-3/8" Wrench
- 4 mm allen wrench
- 3/32" Allen wrench
- Impact driver
- Slide hammer for bearing removal
- Dial indicator and accessories
- Marker or paint pen
- Petroleum jelly
- Cleaning solvent

Special tools

- Assembly tool kit for 620 pump 9900773-000
- Swashplate locator tool kit 9900773-001



- Swashplate hold down plug 4999331-001



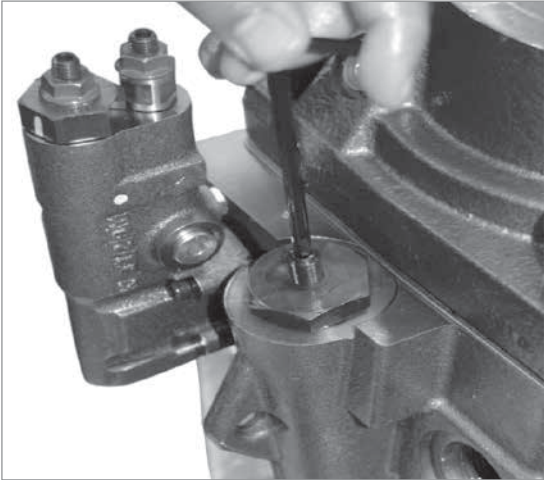
Disassembly

Before attempting to disassemble clean the pump exterior. Dispose of leakage oil and oily cloths in an environmentally responsible manner. All parts within the unit must be kept clean during the overhaul process.

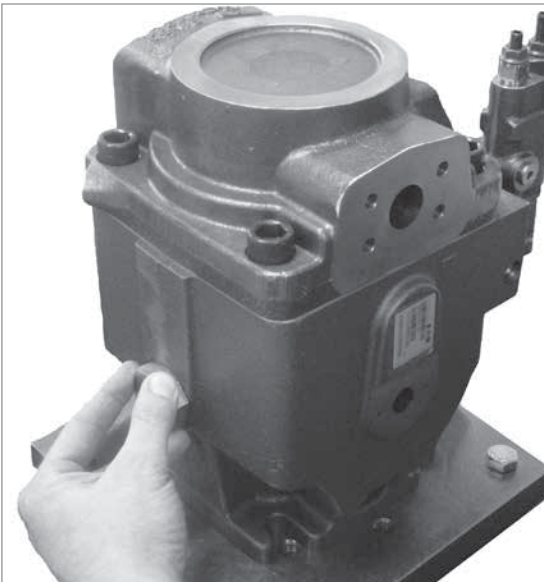
Handle each part with great care, marking as necessary to ensure proper reassembly. The close tolerance of the parts make this requirement very important. Clean all the parts that are removed from the unit with a commercial

solvent that is compatible with the system fluid. Compressed air may be used in the cleaning process. However it may be filtered to remove water and other contaminants.

1. Remove control piston plug assembly and install swashplate locator tool

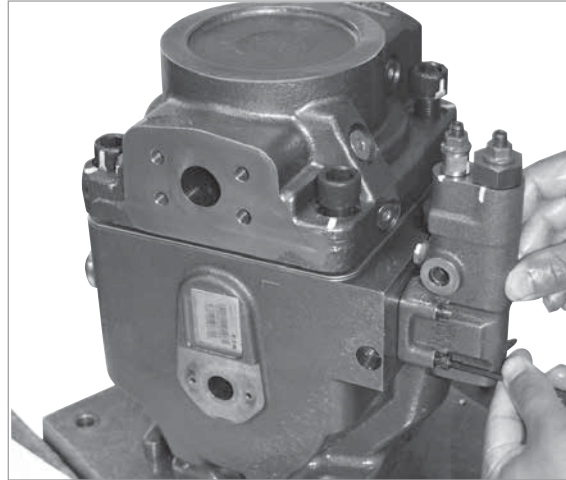


2. Install swashplate hold down plug and adjust the swashplate locator tool



Note: The swashplate locator tool and hold down plug will prevent the swashplate from moving. This step is designed to force the swashplate to a neutral position to enable easy removal of the rotating group while retaining the swashplate. With the locator tool in place, tighten the adjustment screw so that control piston is compressed.

3. Remove compensator



4. Remove end cover and cap screws

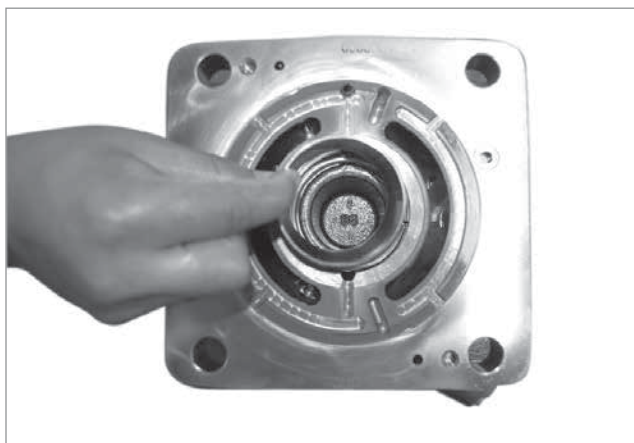


Note: The valve plate may stick to end cover. Use caution so that valve plate does not fall off. Mark the housing and end cover to ensure the correct orientation. Remove the four cap screws that hold the end cover in place.

5. Remove valveplate from end cover



6. Remove bearing race from end cover



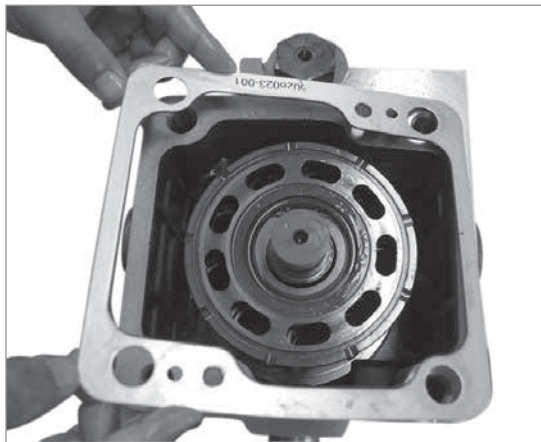
8. Remove bearing from shaft



7. Remove crush ring (if required)

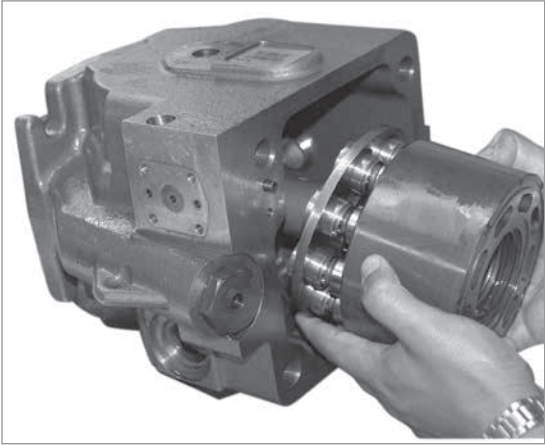


9. Remove gasket



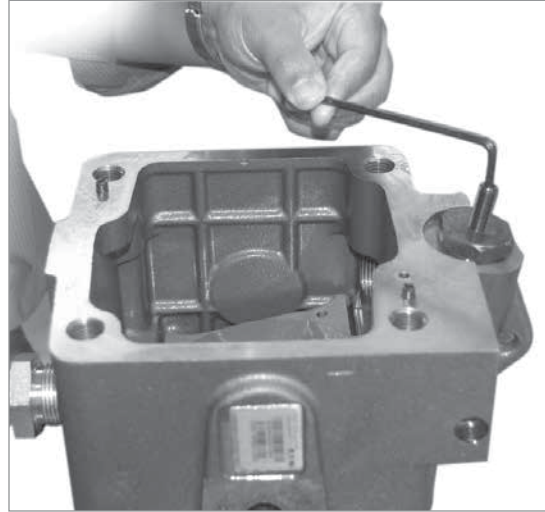
Note: The Crush Ring located under the bearing cup in the end cover does not need to be removed. The only time the crush ring needs to be removed is when the front or rear shaft tapered roller bearings, bearing cups, drive shaft, end cover or housing assembly is replaced. A shim kit is required if the crush ring is replaced.

10. Remove rotating group

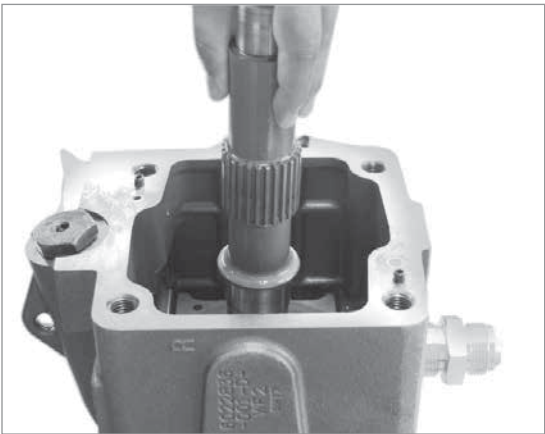


Note: Carefully remove the rotating group.

12. Remove swash locator



11. Remove shaft

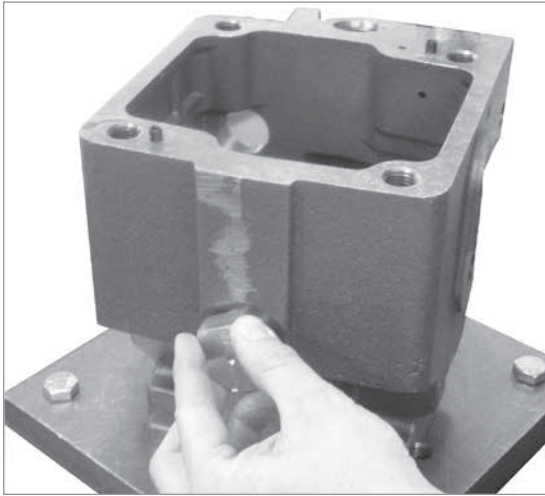


13. Remove control piston



Note: The open end of the control piston is positioned up. The control piston is allowed to rotate.

14. Remove swashplate hold down plug



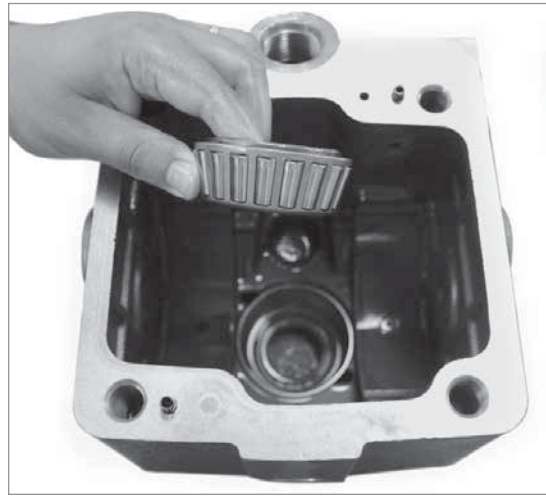
15. Remove swashplate



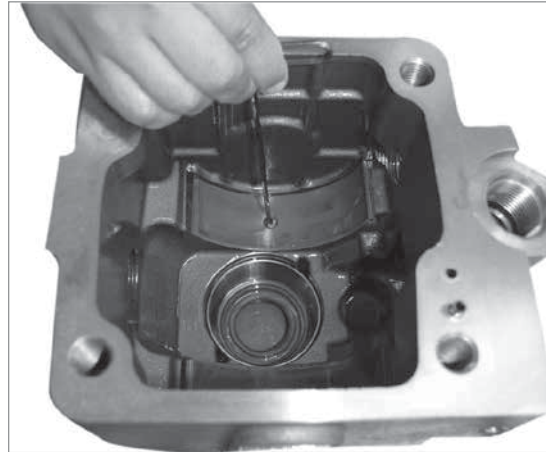
16. Remove bias spring



17. Remove bearing



18. Remove cradle bearings screws and discard

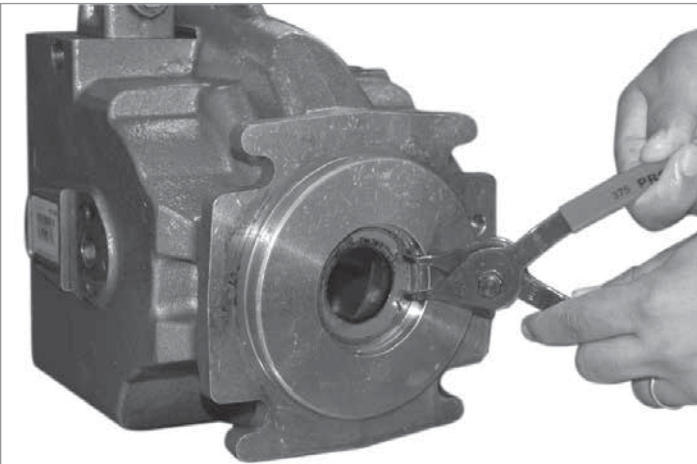


Caution: Socket head cap screws are easily damaged during repair with improper tool.

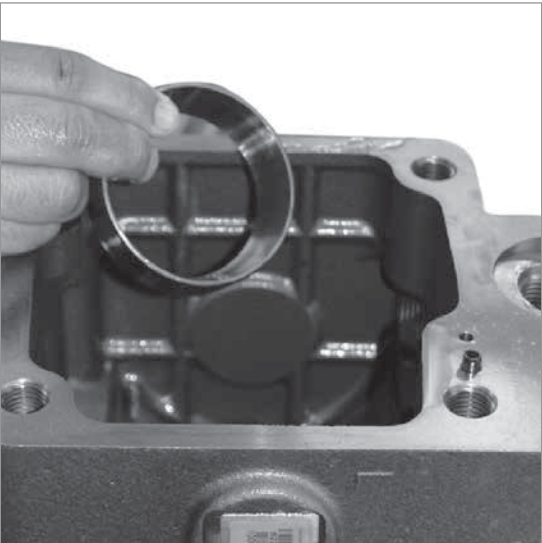
19. Remove cradle bearings



21. Remove snap ring, shaft seal and discard.



20. Remove front bearing race



Inspection, repair and part replacement

Before Inspection of parts, clean with a solvent that is compatible with system fluid.

Inspection

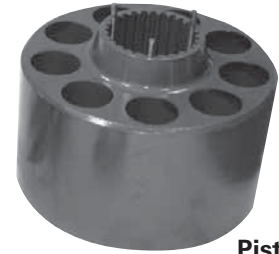
Rotating group parts

1. Inspect cylinder block face for wear, scratches and/or erosion. If cylinder block condition is questionable, replace the entire rotating group.
2. Remove the pistons, shoe retainer, and pivot from piston block. The piston block assembly does not need to be disassembled unless the internal pins or springs are damaged.
3. Check each cylinder block bore for excessive wear. Use the piston and shoe S/A for this purpose. The pistons should be a very close fit and slide in and out of the cylinder block bores. **No binding can be tolerated.** If binding occurs, clean the cylinder block and pistons. Lubricate the cylinder block bores with clean oil and try again. Even minor contamination of the fluid may cause a piston to freeze up in a cylinder bore.
4. Inspect each of the nine piston and shoe subassemblies for maximum end play of 0.08 mm between the piston and shoe.
5. Inspect shoe retainer and pivot for wear and/or scratches. If condition is questionable, replace entire rotating group.

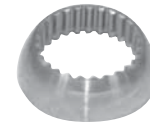
Retainer Plate



Piston



Piston Block

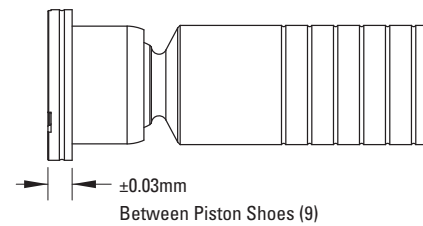


Pivot

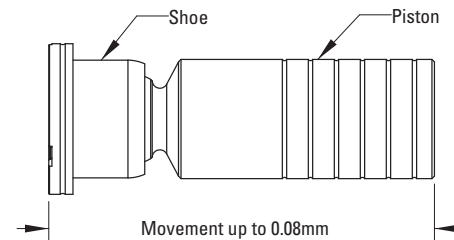
Note: Do not lap the face of cylinder block assembly

Piston S/A Tolerances

This dimension must be maintained on all nine shoes within 0.03 mm



Shoe face rides on swash plate. Shoe must swivel smoothly on ball.



Inspection, repair and part replacement

End cover and associated parts

1. Inspect end cover for erosion, cracks and burrs. Clean up minor burrs with an India stone. If erosion or cracks are found, replace the end cover.
2. Inspect roller bearing and bearing race for nicks and pitting. Make sure the roller bearing turns freely within the bearing race. If the roller bearing needs replacement, both the roller bearing and the bearing race must be replaced.
3. Inspect valve plate for erosion, excessive wear, heavy scratches and cracks. If any of the above conditions are found, replace the valve plate.
4. Inspect control piston and maximum displacement screw for burrs, scratches and cracks. If any of the above conditions are found, replace the control piston. The control piston should move freely in the bore.

Swashplate parts

1. Inspect swashplate face for wear, roughness or scoring. Check the swashplate hubs and bearing surfaces for wear and cracks. Replace if defective.
2. Inspect saddle bearing surfaces for wear, pitting, and smooth operation. Replace if necessary.

Shaft/housing parts

1. Inspect drive shaft for wear, stripped splines and burrs. Remove burrs with India stone. Inspect the contact of the area bearing and shaft seal. Replace the drive shaft if wear or scoring is greater than .0127mm T.I.R. (Total Indicator Reading)
2. Inspect drive shaft bearing for roughness, pitting of rollers and excessive end play. Replace if defective. If the bearing needs to be replaced, the bearing race also requires replacement.
3. Inspect housing mounting flange for nicks and burrs. Remove minor nicks and burrs with an India stone. Also check the housing for damaged or stripped threads. If any thread is damaged, replace the housing.
4. Check remaining pump parts for excessive wear, damaged threads, burrs, cracks and erosion. Replace any part that is in questionable condition.

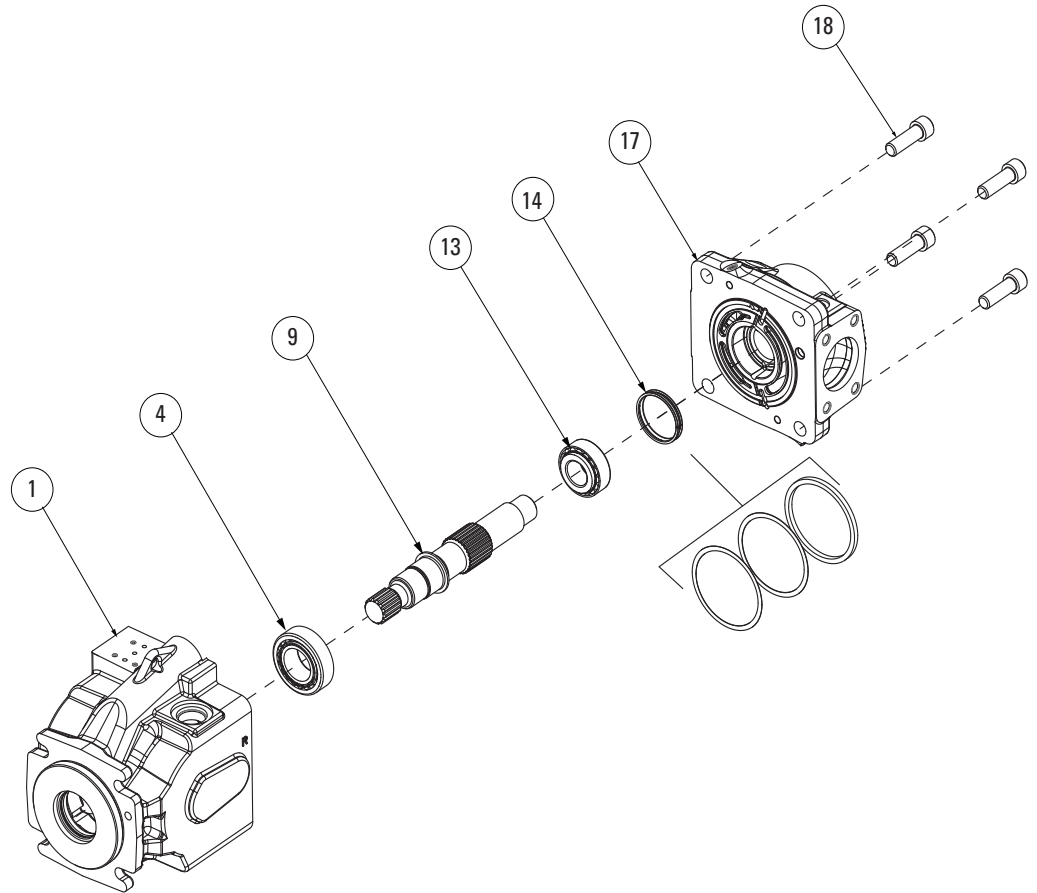
Shimming process

Kit 9900776-000

Shimming Process Installation Information

This shim kit is to replace the crush ring within the pump end cover.

If the housing, drive shaft, shaft bearings or end cover is replaced during servicing, the original can no longer be used to assure proper bearing set.



Shimming procedures

1. Measure the thickness of the existing crush ring.
2. To obtain a starting point, stack shims to a few thousandth of an inch less than the measurement of existing crush ring. Then insert shims in to the housing in the same location as the removed crush ring.
3. Assemble the housing shaft bearings, shaft and end cover. Install the end cover cap screws and torque to 384+/- 28 N.m.
4. Using a dial indicator, measure drive shaft end play. Target shaft end play range is .001" to .003" (.03 to .08 mm) clearance. Add shims to achieve proper shaft end play.

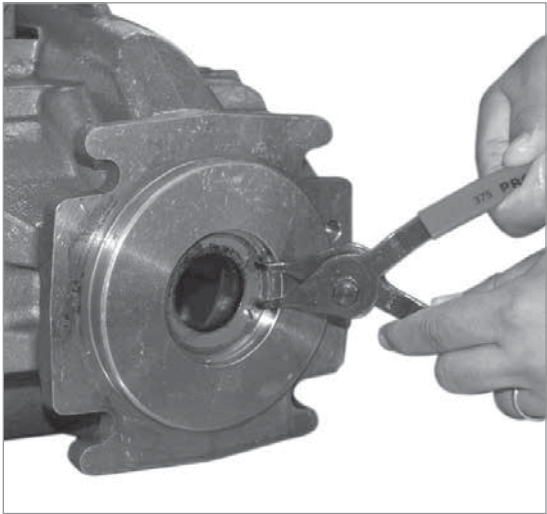
- If no movement of the shaft is observed, shims will need to be removed and steps 3 and 4 be repeated.
5. Finish the assembly of the pump.



Assembly must be conducted in a clean environment. Dispose of leakage oil and oily cloths in an environmentally responsible manner. Before assembly carefully clean all the parts and blow out holes with compressed air. Tighten all the screw plugs

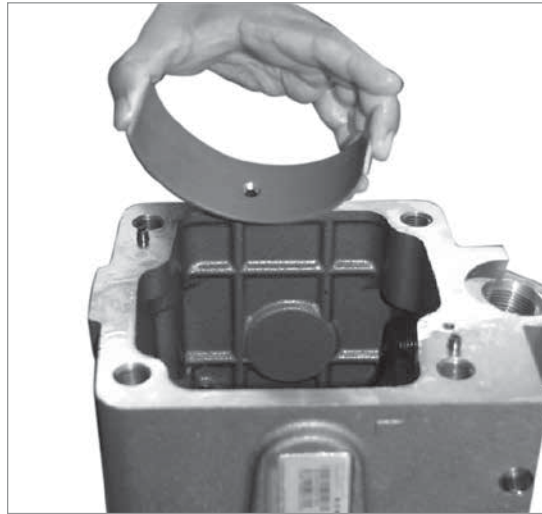
to the specified torque. Exceptions are specified in the text. Lubricate O-rings and shaft sealing rings lightly with an acid free lubricant and to hold the O-ring in place in its groove or cavity.

1. Install snap ring and shaft seal



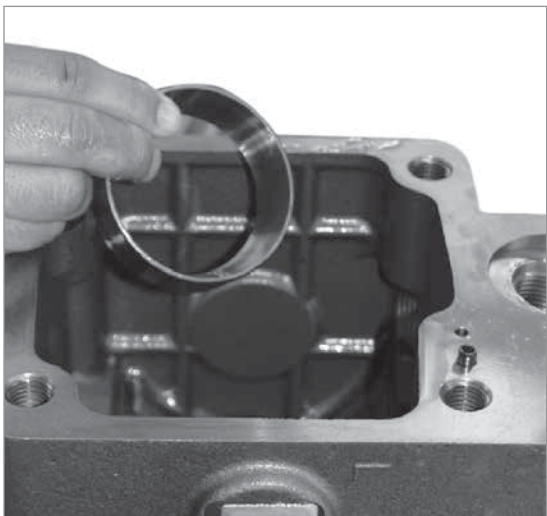
Note: Press shaft seal inside till the face of the seal exactly matches with inner surface of retaining ring groove.

3. Install cradle bearings

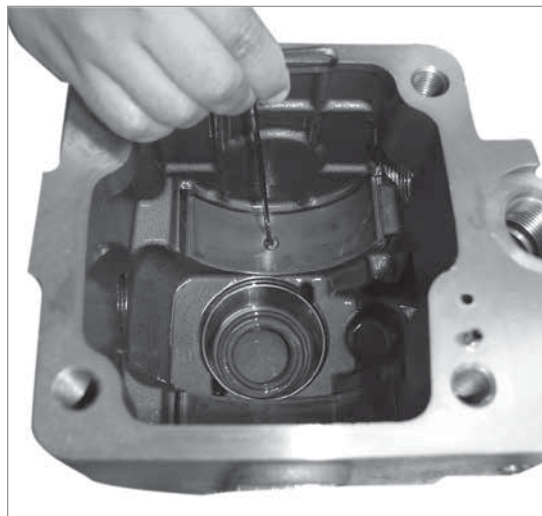


Note: The cradle bearings are asymmetrical. Install with longer side towards the top of the pump (controller side).

2. Insert the shaft bearing race

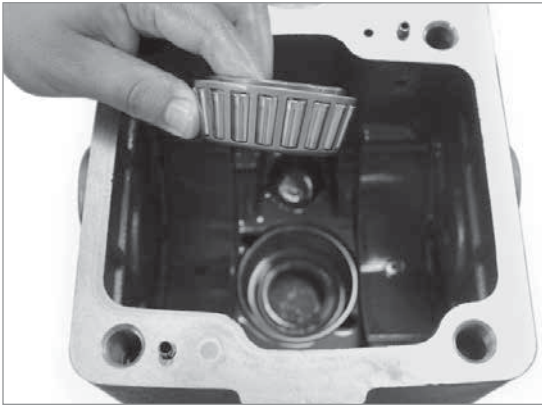


4. Install cradle bearing screws

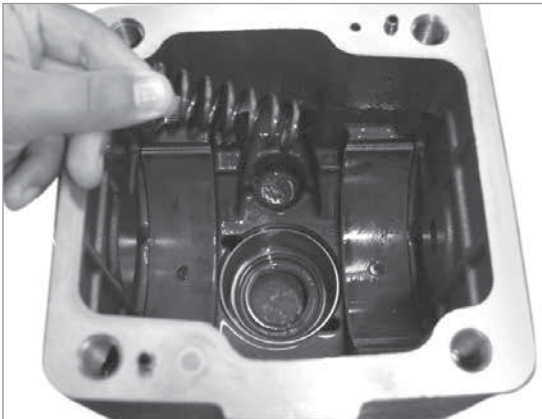


Note: The old cap screws can not be reused and must be replaced with new ones because the screws will be damaged during disassembly. The new cap screw threads will be coated with loctite.

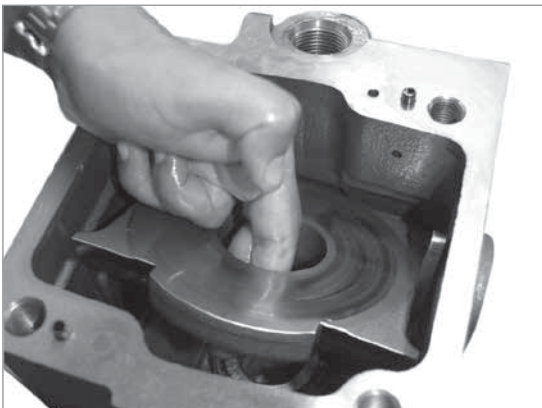
5. Install Bearing



6. Install Bias Spring

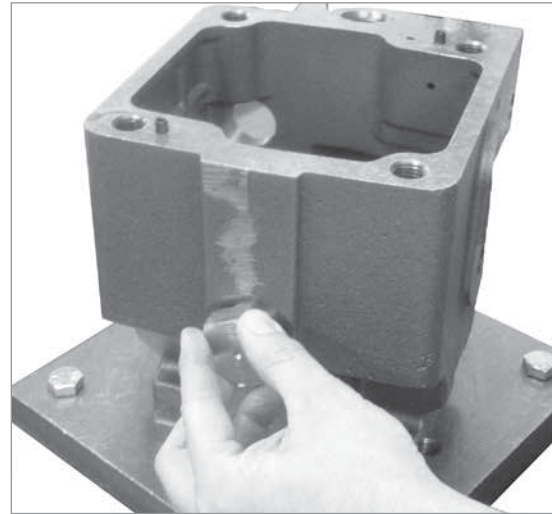


7. Install Swashplate



Note: With the Bias Spring in place, tilt the swashplate toward the spring and install the swashplate. **Ensure that Bias Spring is engaged.**

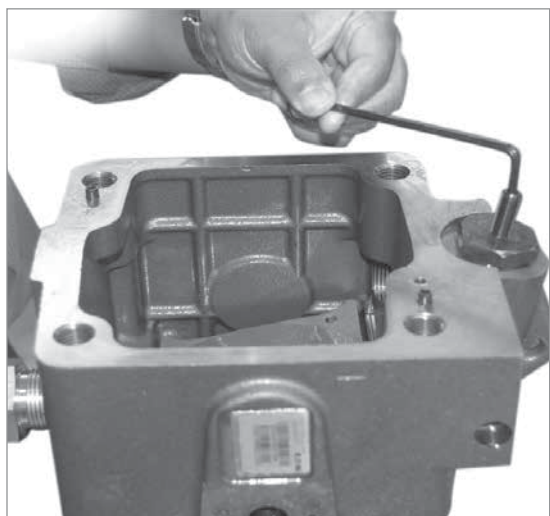
8. Install Swashplate Hold Down Plug



9. Install Control Piston

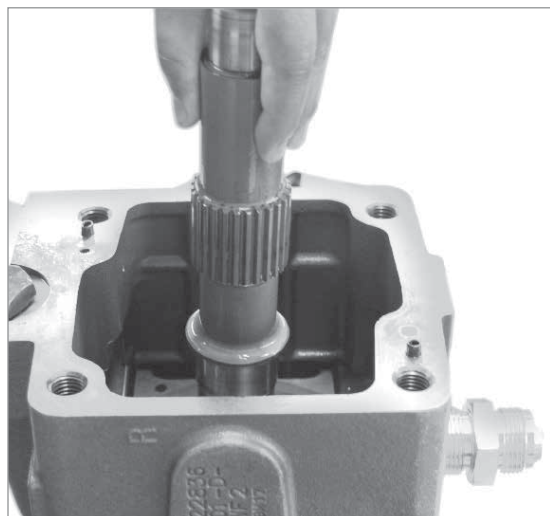


10. Install swashplate locator tool and adjust



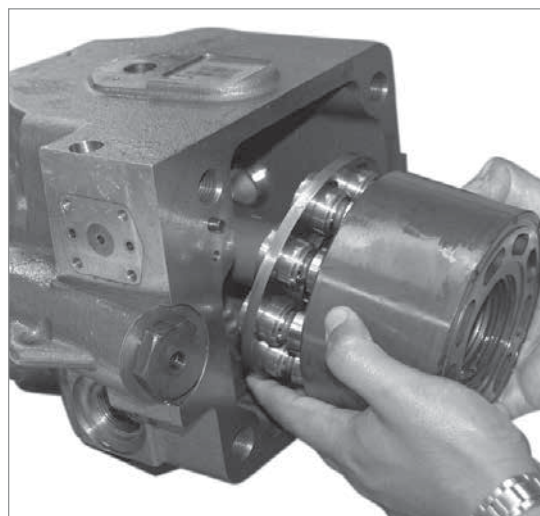
Note: Install Swashplate Locator Tool 9900773-001 and adjust the screw until the swashplate is near neutral (will look flat in housing).

11. Install shaft



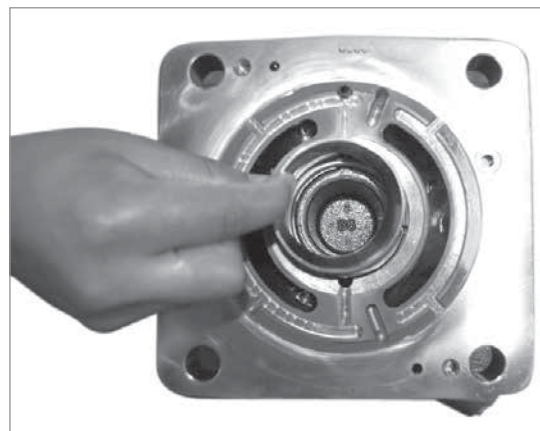
Caution: Use care while inserting shaft end through shaft seal.

12. Install the rotating group



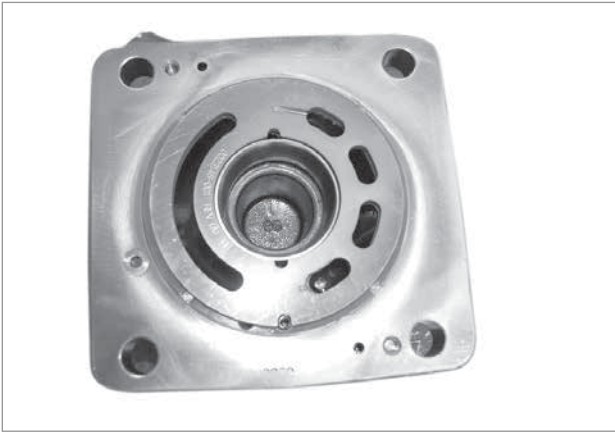
Note: Carefully install Rotating Group. Ensure shaft is engaged with bearing race while installing Rotating Group.

13. Install bearing race



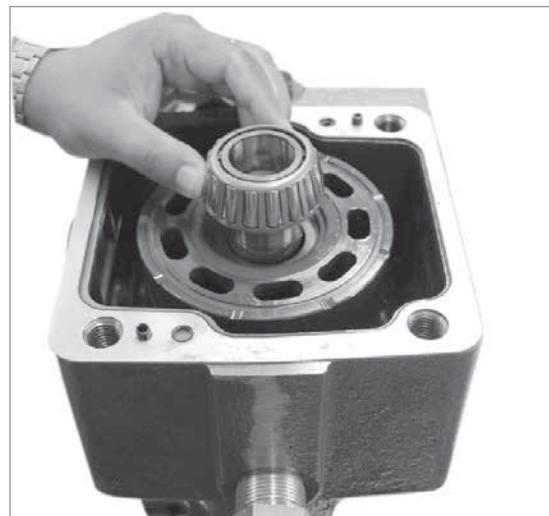
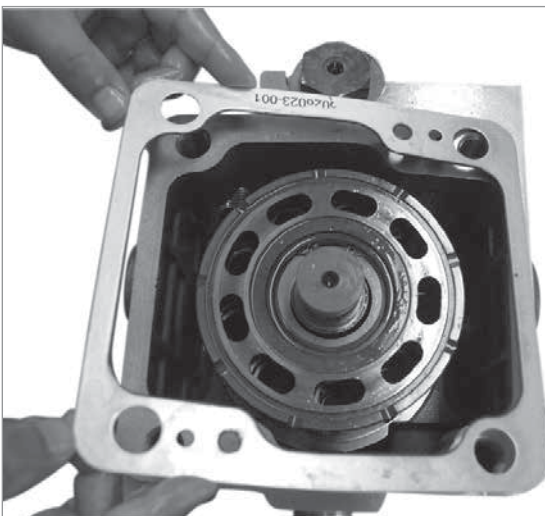
Note: Install shims, if required, and the bearing race to ensure correct number of shims are used to get the correct end play. Shim installation instructions are on page 26.

14. Install valve plate



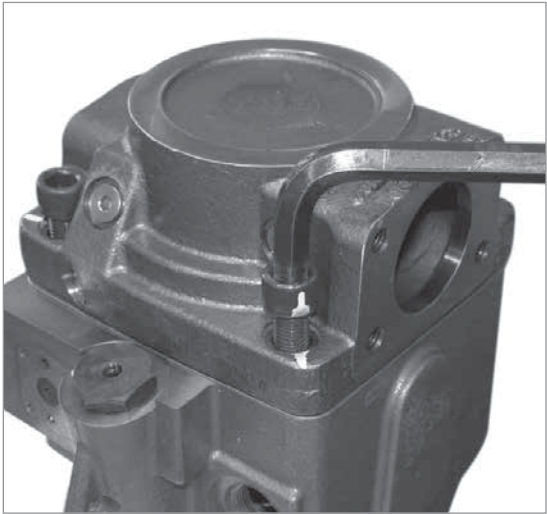
Note: Lightly coat the steel side of the valve plate with petroleum jelly for retention during assembly. Install the valveplate over the bearing race aligning the small slot on the outside of the valveplate with the dowel pin in the End Cover.

15. Install gasket and bearing



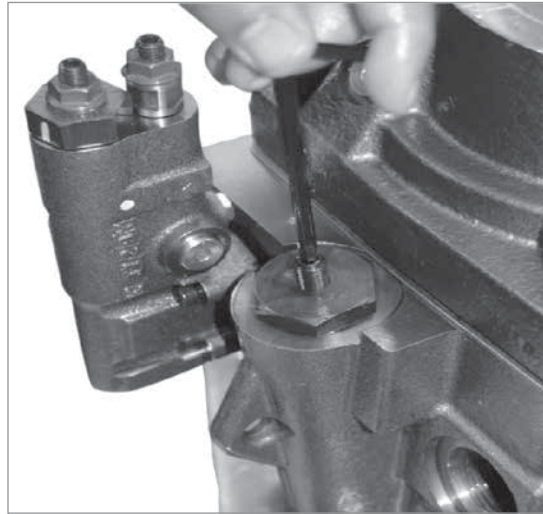
Note: After Installation of Bearing, lubricate all components with clean hydraulic oil.

16. Install end cover and cap sleeve

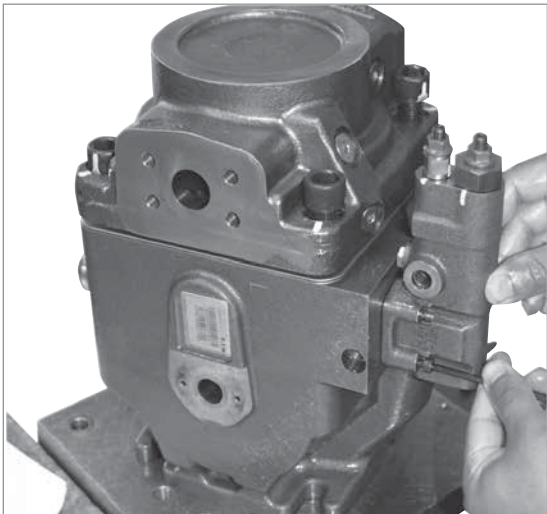


Note: Ensure correct orientation. Use caution so that valve plate does not fall off.

18. Remove swash plate locator tool and hold down plug. Install control piston plug assembly.



17. Install compensator

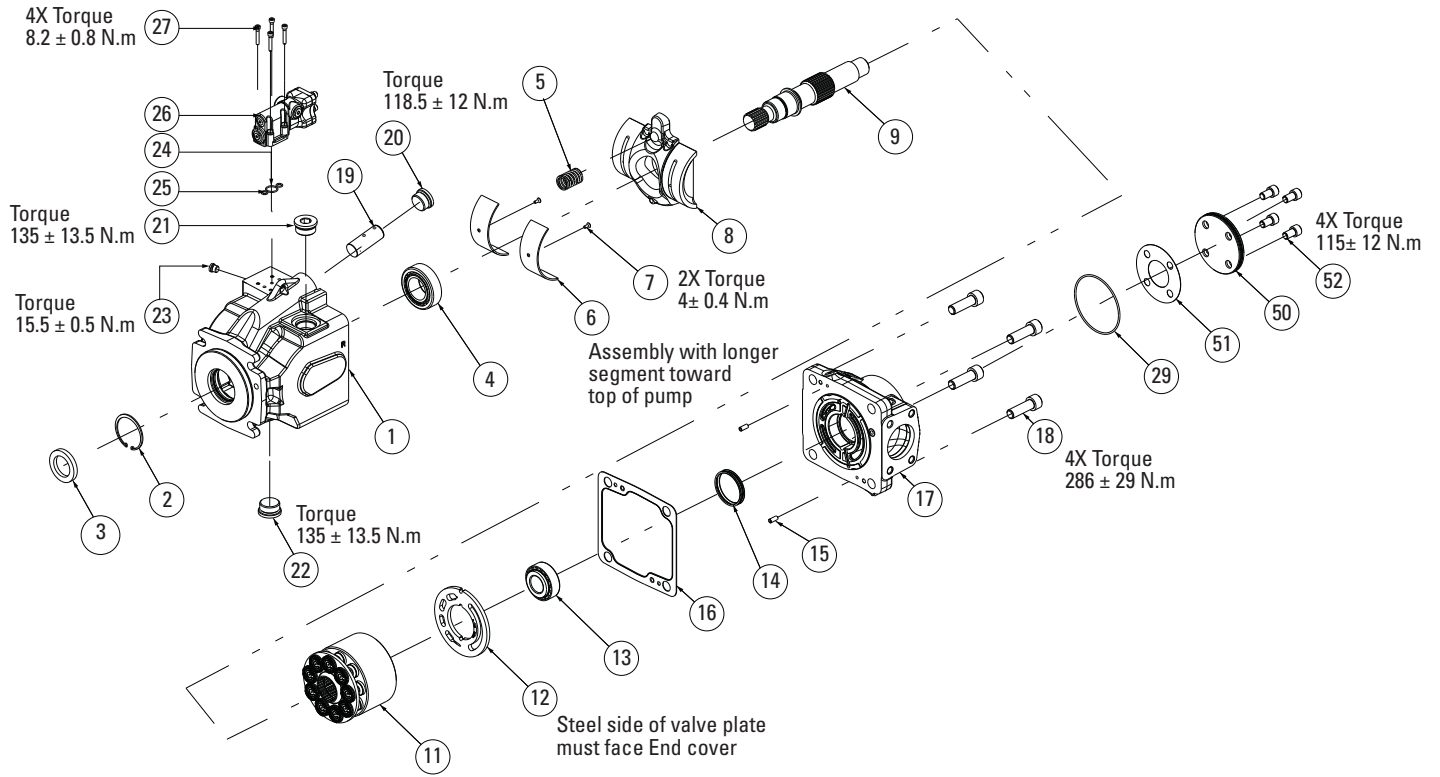


19. Testing

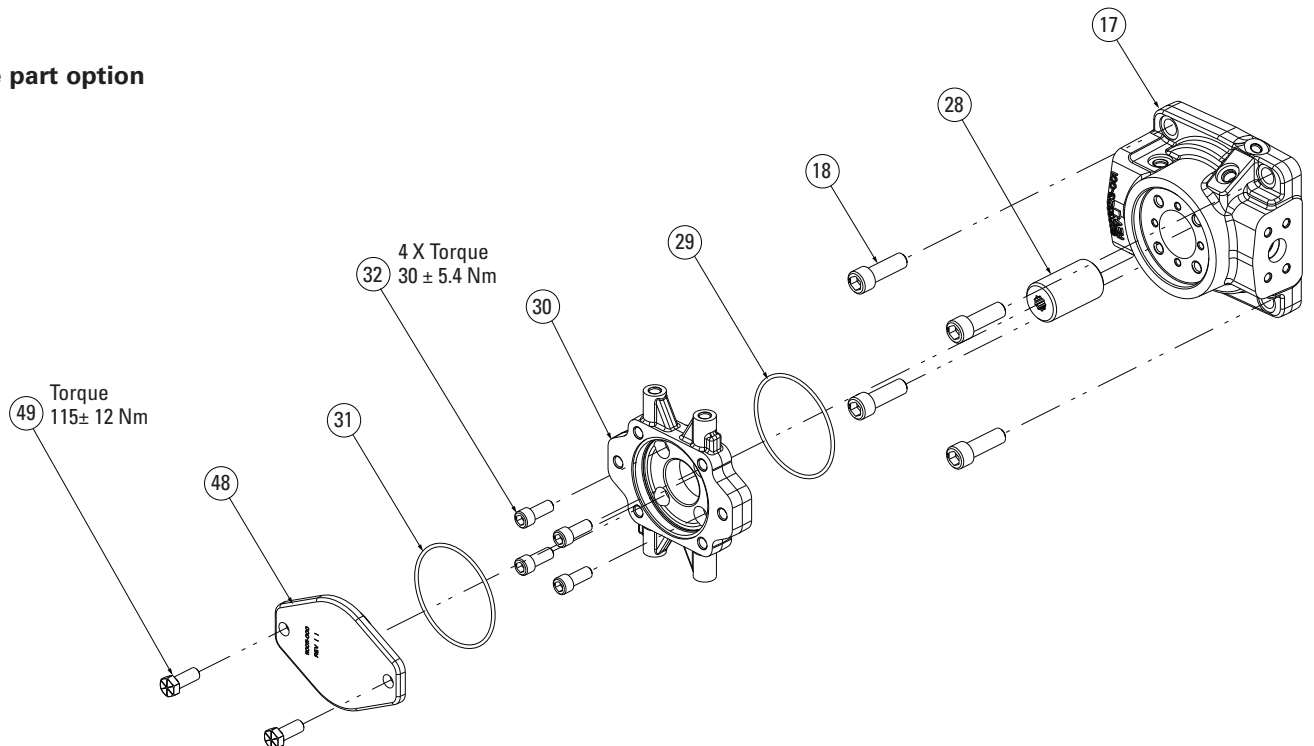
Perform functional test on pump according to Eaton test procedure. Contact your area sales manager for more information.

Assembly torque values

Instructions



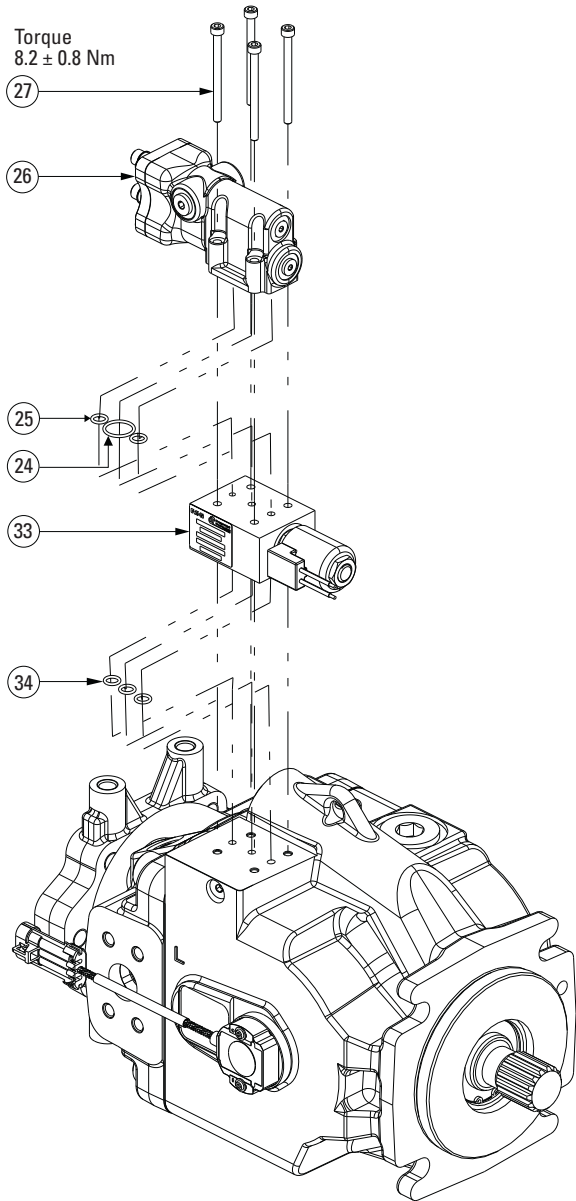
Thru-drive part option



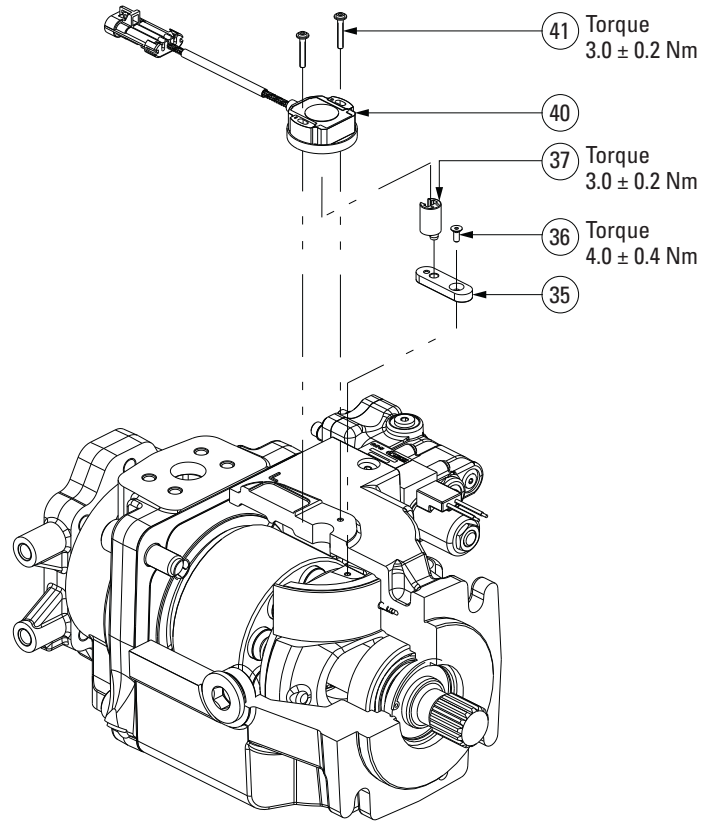
Assembly torque values

Instructions

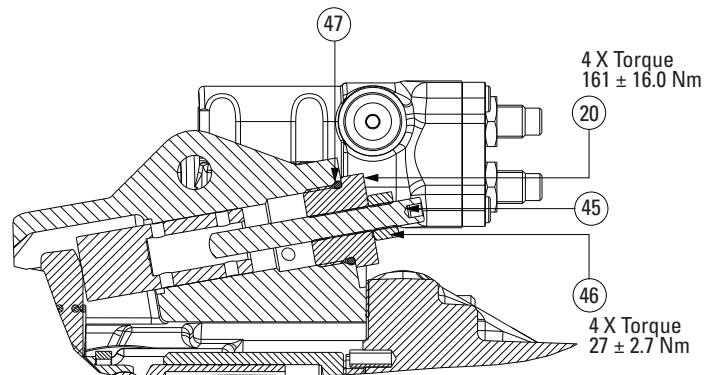
Cold start manifold (Destroke)



Feedback sensor option



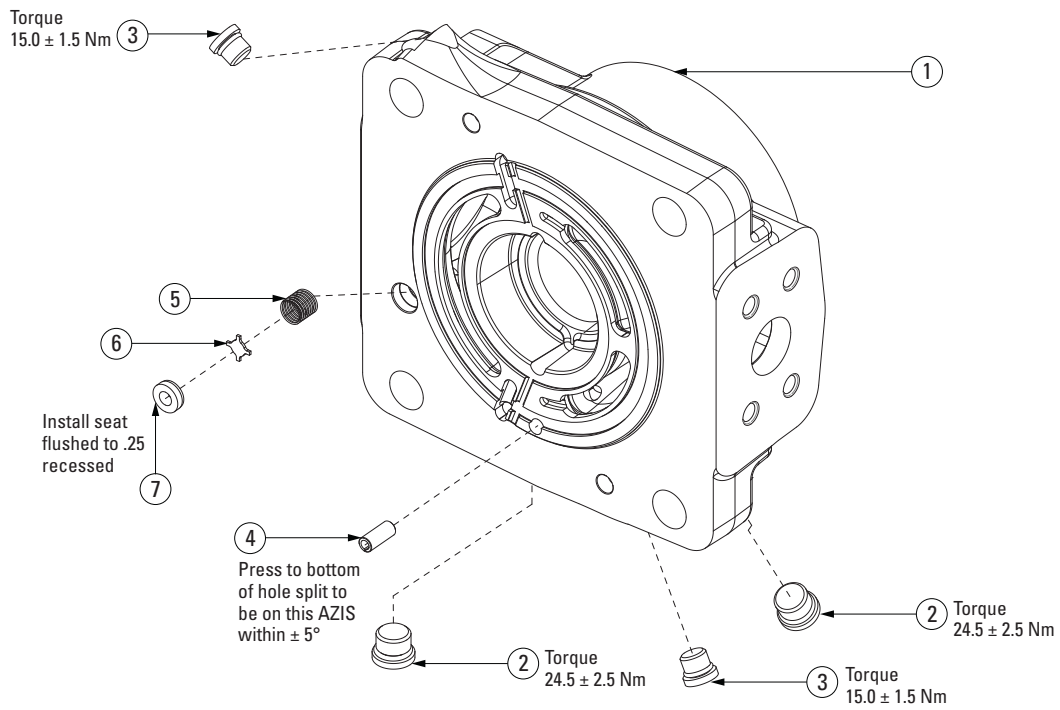
Adjustable maximum stop option



Assembly torque values

Instructions

End cover



Eaton
Hydraulics Business USA
14615 Lone Oak Road
Eden Prairie, MN 55344
USA
Tel: 952-937-9800
Fax: 952-294-7722
www.eaton.com/hydraulics

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