



HYDRAULIC HAMMER

RAMMER 4099E

STD

HD

4099EA0487-UP

TABLE OF CONTENTS

1. Housing unit STD	4
2. Housing unit HD	6
3. Accumulator	8
4. Main valve	9
5. Ramvalve	10
6. Pressure control valve	11
7. Idle selector	12
8. Stroke selector valve	13
9. Tie rods	14
10. Body parts	15
11. Front head	17
12. Lower tool bushing	18
13. Tool	19
14. Seal set	20
15. Service kit 1	22
16. Service kit 2A STD	23
17. Service kit 2B HD	24
18. Greasing block for manual greasing	25
19. Greasing device kit	26
20. Greasing device	28
21. Service kit for greasing device RG540 series	30
22. RD3, surface mounted	32
23. Tool box R2	33
24. Coupling set	34
25. Coupling set	35
26. Coupling set	36
27. Coupling set	37

GENUINE RAMMER SPARE PARTS

Rammer genuine spare parts are designed and manufactured by using the latest technological knowledge and engineering skills. Rammer spare parts are made of the best available materials with the most advanced manufacturing techniques.

It is important that you use only genuine Rammer spare parts, to ensure easy operation, maintenance and repair of the product. Please note that eventual warranty claims will be handled only if you have used genuine Rammer parts in your Rammer.

LOCATION OF THE SERIAL NUMBER

It's important to make correct reference to the serial number of the product when ordering spare parts. Identification of serial number is the only proper means of maintaining and identifying parts for a specific product. The location of equipment serial number is pointed in "Operation and maintenance" manual.

SPARE PART ORDERS

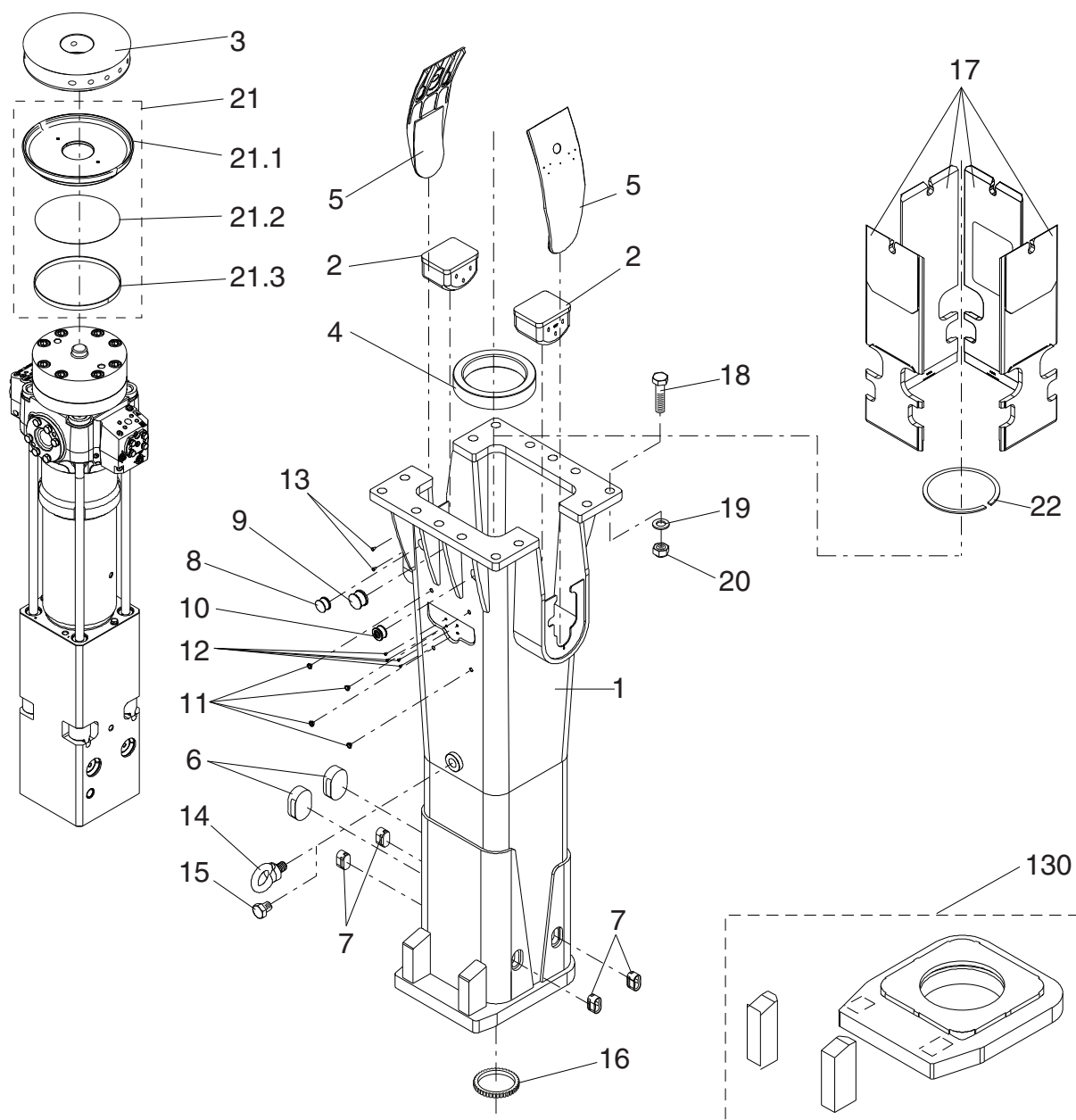
Quick spare part deliveries are secured by exact orders.

Required information:

- Name of customer and contact person
 - Order number (when available)
 - Delivery address
 - Mode of delivery (air mail etc.)
 - Required delivery date
 - Invoicing address
 - Model and serial number of the product
 - Name, number and required amount of spare parts
-

PARTS

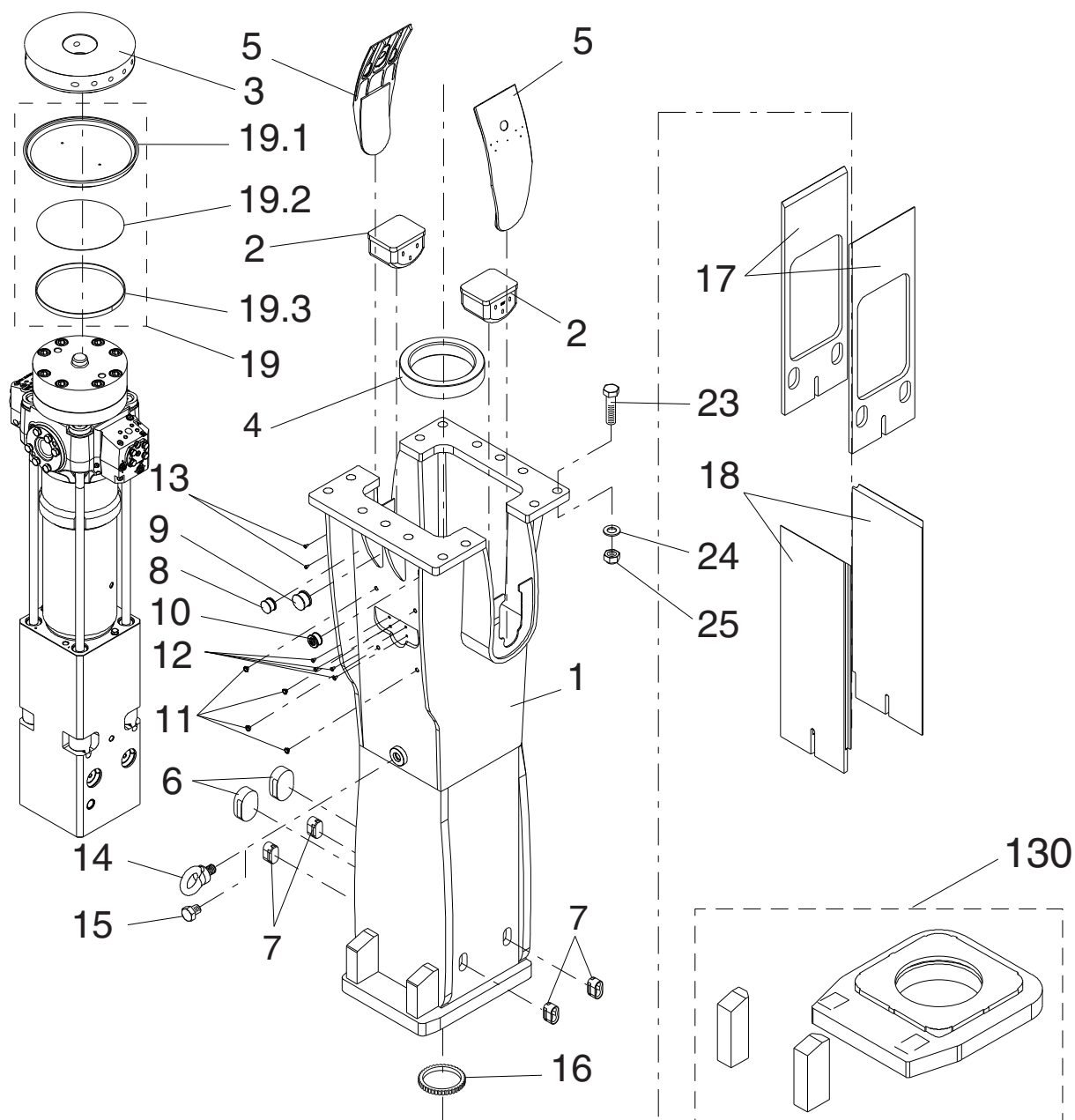
1. HOUSING UNIT STD



R061652

Item	Description	Part no.	Specification	Note	Qty
1	Housing	183915			1
2	Pad	104068			2
3	Buffer	172579			1
4	Seal	176703			1
5	Shield plate	105780			2
6	Plug	160576			2
7	Plug	176708			4
8	Plug	400491			1
9	Plug	101723			2
10	Plug	158147			1
11	Plug	953291			4
12	Rubber plug	953332			4
13	Rubber plug	953292			2
14	Lifting eye	901464	M36 DIN 580		1
15	Hex. screw	901465	M36x40-8.8 ISO 4017		1
16	Tool seal	176222			1
17	Wear plate	182428			4
18	Hex. screw	90520	M36x140-8.8 ISO 4014		14
19	Washer	90521	37 ISO 7416		14
20	Lock nut	90519	M36-8 DIN 985		14
21	Buffer plate (incl. parts 21.1-21.3)	178838			1
21.1	Plate	178839			1
21.2	Shield plate	175832			1
21.3	Casing	175831			1
22	Spring ring	182429			1
130	Wear parts	181226			1
200	Label set (incl. part 200.1)	178056			1
200.1	Safety label set	169400	English		1

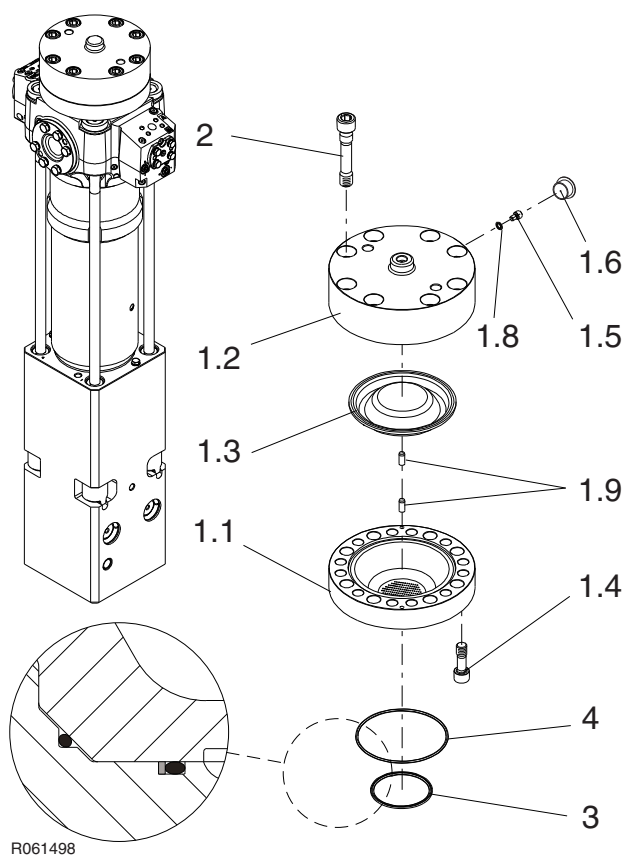
2. HOUSING UNIT HD



R061650

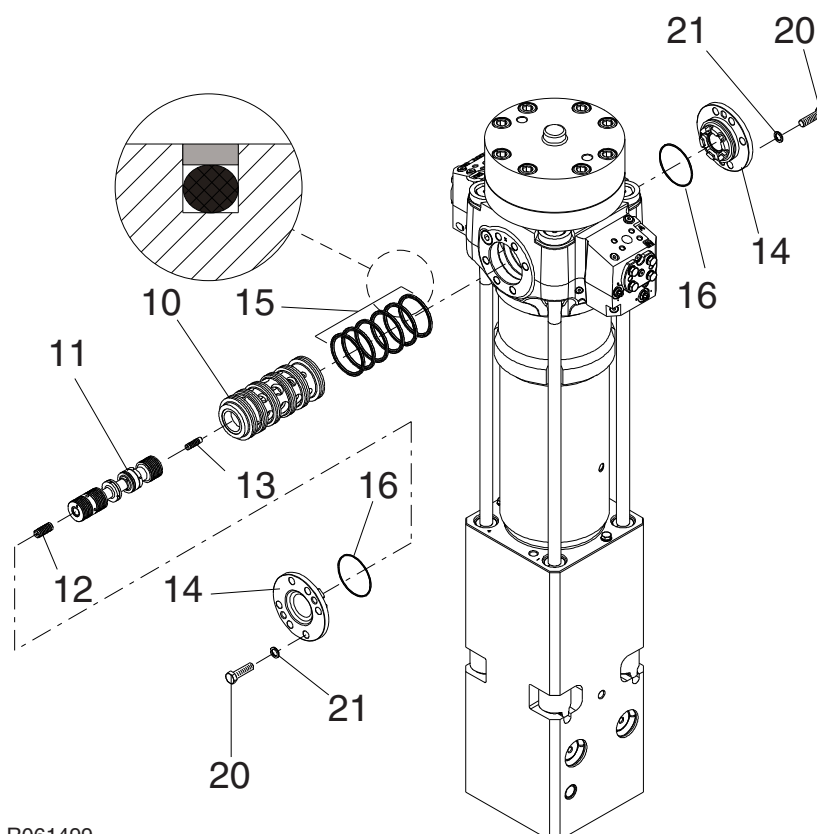
Item	Description	Part no.	Specification	Note	Qty
1	Housing	181694			1
2	Pad	104068			2
3	Buffer	172579			1
4	Seal	176703			1
5	Shield plate	105780			2
6	Plug	160576			2
7	Plug	176708			1
8	Plug	400491			1
9	Plug	101723			2
10	Plug	158147			1
11	Plug	953291			4
12	Rubber plug	953332			4
13	Rubber plug	953292			2
14	Lifting eye	901464	M36 DIN 580		1
15	Hex. screw	901465	M36x40-8.8 ISO 4017		1
16	Tool seal	176222			1
17	Wear plate	176952			2
18	Wear plate	176954			2
19	Buffer plate (incl. parts 19.1-19.3)	178838			1
19.1	Plate	178839			1
19.2	Shield plate	175832			1
19.3	Casing	175831			1
23	Hex. screw	90520	M36x140-8.8 ISO 4014		14
24	Washer	90521	37 ISO 7416		14
25	Lock nut	90519	M36-8 DIN 985		14
130	Wear parts	181227			1
200	Label set (incl. part 200.1)	178056			1
200.1	Safety label set	169400	English		1

3. ACCUMULATOR



Item	Description	Part no.	Specification	Note	Qty
1	Accumulator (incl. parts 1.1-1.9)	176658			1
1.1	Accumulator bottom	160018			1
1.2	Accumulator cover	176659			1
1.3	Membrane	172307			1
1.4	Accumulator screw	40528			12
1.5	Filling plug	40368			1
1.6	Shield plug	954323			1
1.8	Usit-ring	90056	8-13.9-1	*	1
1.9	Parallel pin	90304	10m6x24 ISO 8734		2
2	Accumulator screw	300711			8
3	Seal	40536		*	1
4	O-ring	90076	D229	*	1
	*) Are included in seal set				

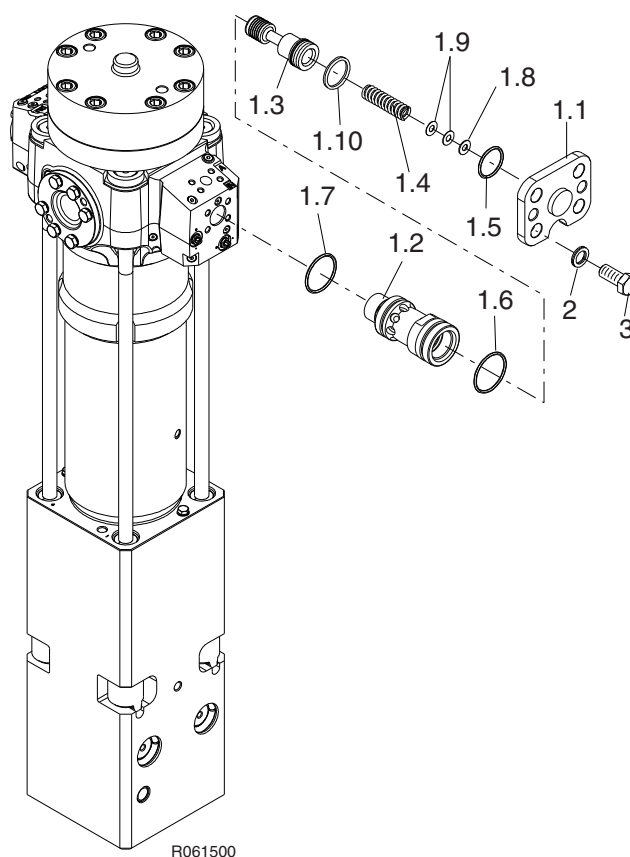
4. MAIN VALVE



R061499

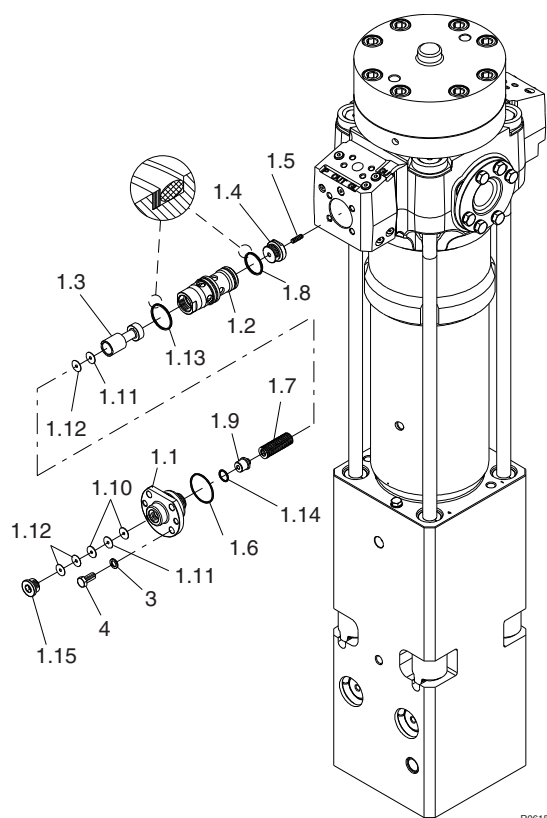
Item	Description	Part no.	Specification	Note	Qty
1	Main valve (incl. parts 10-16)	169987			1
10	Main valve bushing	169988			1
11	Main spool	169989			1
12	Spool	110986			1
13	Spool	110781			1
14	Cover	169990			2
15	Seal	902644	D125	*	6
16	O-ring	90032	D120	*	2
20	Hex. screw	900036	M20x70-10.9 ISO 4014		12
21	Lock washer	91010	M20 NORD-LOCK		12
	*) Are included in seal set				

5. RAMVALVE



Item	Description	Part no.	Specification	Note	Qty
1	Ramvalve (incl. parts 1.1-1.10)	171029			1
1.1	Cover	172149			1
1.2	Valve housing	172204			1
1.3	Spool	171031			1
1.4	Spring	954342			1
1.5	O-ring	90017	D34	*	1
1.6	O-ring	90031	D46	*	1
1.7	O-ring	90007	D44	*	1
1.8	Shim plate	954349	S=1		X
1.9	Shim plate	954348	S=0.5		X
1.10	Seal	954341	D34	*	1
2	Lock washer	90597	M16 NORD-LOCK		4
3	Hex. screw	90517	M16x35-8.8 ISO 4017		4
	*) Are included in seal set				

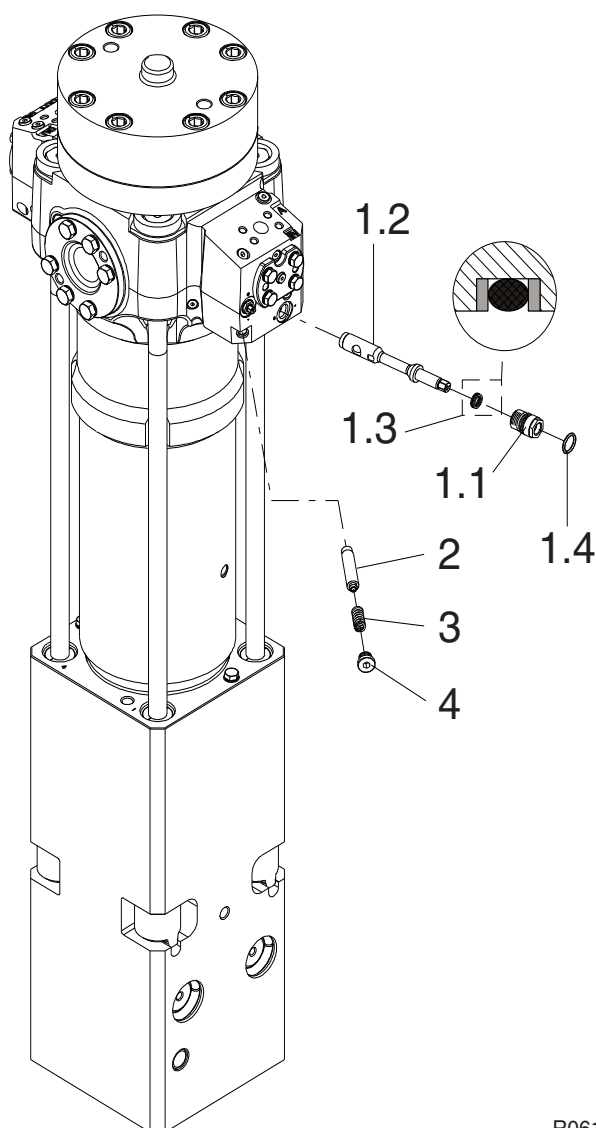
6. PRESSURE CONTROL VALVE



R061501

Item	Description	Part no.	Specification	Note	Qty
1	Pressure control valve (incl. parts 1.1-1.15)	161980			1
1.1	Cover	161974			1
1.2	Valve housing	161982			1
1.3	Spool	161975			1
1.4	Guide	161976			1
1.5	Spool	400582			1
1.6	O-ring	90030	D75	*	1
1.7	Spring	90118			1
1.8	Seal	41374	D55	*	1
1.9	Spring guide	161973			1
1.10	Shim plate	174183	S=0.75		X
1.11	Shim plate	42363	S=1		X
1.12	Shim plate	42362	S=0.5		X
1.13	Seal	40533	D65	*	1
1.14	O-ring	90015	D26	*	1
1.15	Plug	161981			1
3	Lock washer	90597	M16 NORD-LOCK		4
4	Hex. screw	90517	M16x35-8.8 ISO 4017		4
	*) Are included in seal set				

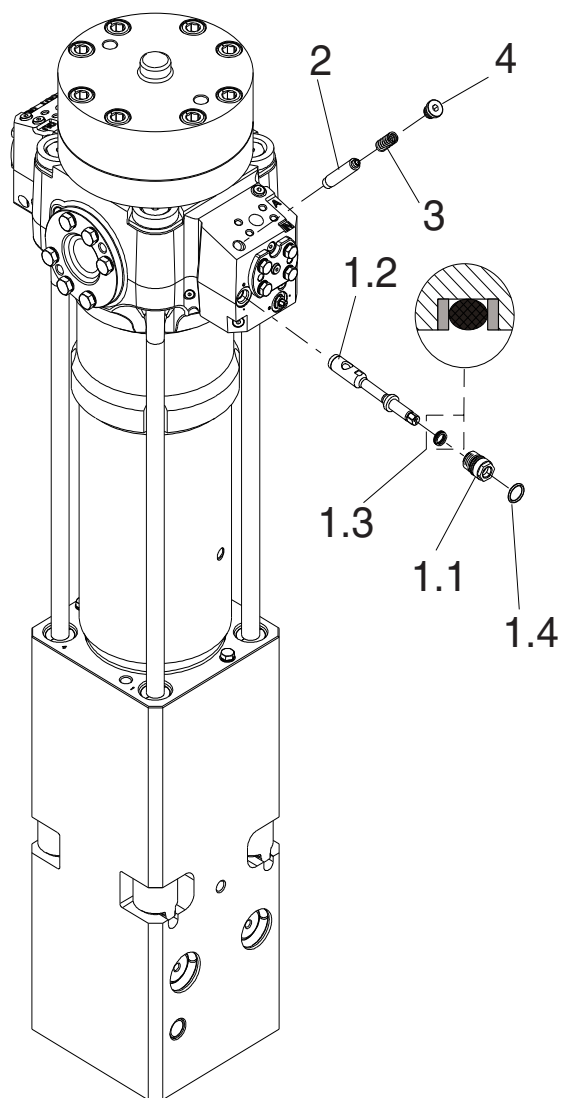
7. IDLE SELECTOR



R061502

Item	Description	Part no.	Specification	Note	Qty
1	Valve (incl. parts 1.1-1.4)	163445			1
1.1	Cover	156729			1
1.2	Spool	163446			1
1.3	Seal	112835	D13	*	1
1.4	O-ring	90001	D20	*	1
2	Pin	161414			1
3	Spring	951797	Danly 9-1006-11		1
4	Flange plug	90444	BSP 3/8		1
	*) Are included in seal set				

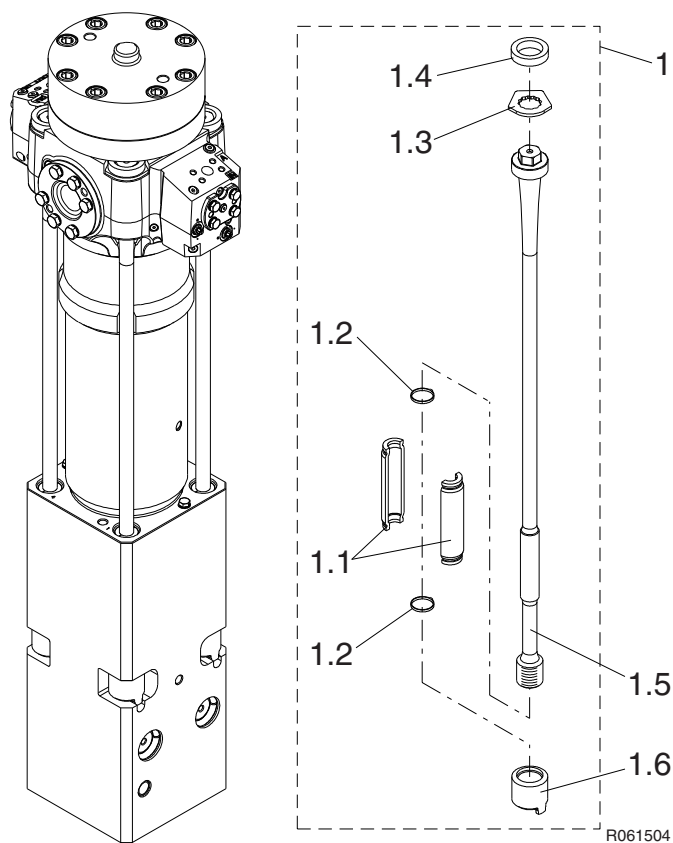
8. STROKE SELECTOR VALVE



R061503

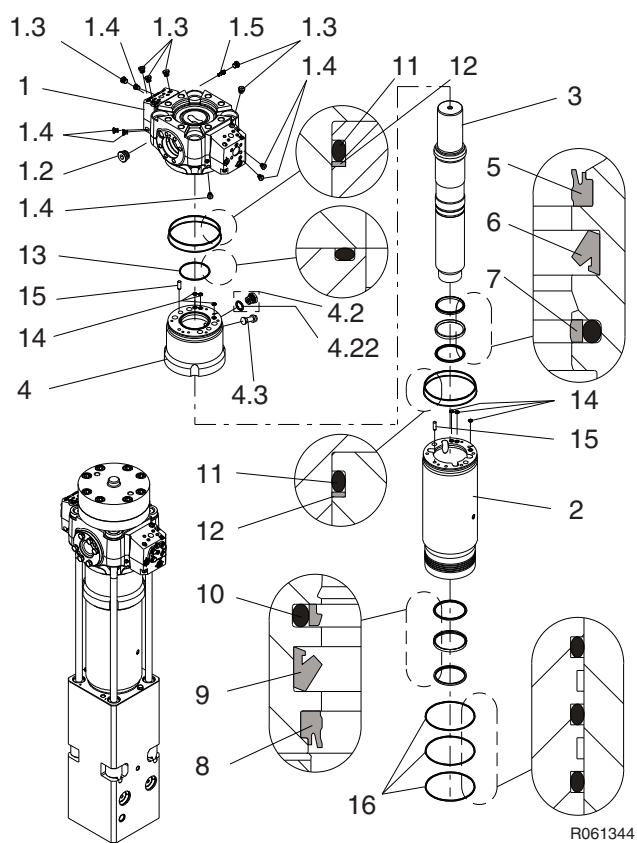
Item	Description	Part no.	Specification	Note	Qty
1	Valve (incl. parts 1.1-1.4)	163445			1
1.1	Cover	156729			1
1.2	Spool	163446			1
1.3	Seal	112835	D13	*	1
1.4	O-ring	90001	D20	*	1
2	Pin	161414			1
3	Spring	951797	Danly 9-1006-11		1
4	Flange plug	90444	BSP 3/8		1
	*) Are included in seal set				

9. TIE RODS



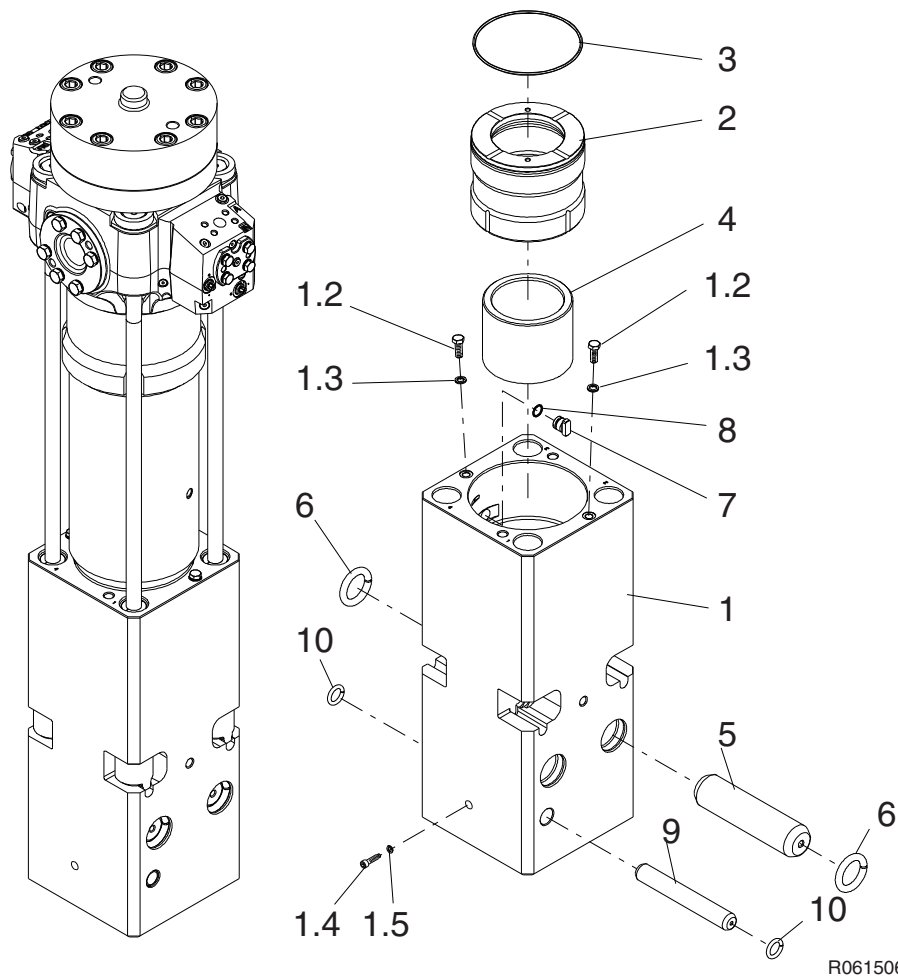
Item	Description	Part no.	Specification	Note	Qty
1	Tie rod (incl. parts 1.1-1.6)	163002			4
1.1	Vibration dampening element	155555			2
1.2	Cable tie	952009			2
1.3	Lock plate	101449			1
1.4	Rubber ring	40586			1
1.5	Tie rod	N/A			1
1.6	Tie rod nut	N/A			1

10. BODY PARTS



Item	Description	Part no.	Specification	Note	Qty
1	Valve body (incl. parts 1.2-1.5)	162999			1
1.2	Flange plug	90410	R1		1
1.3	Flange plug	90444	R3/8		6
1.4	Flange plug	90403	R1/4		6
1.5	Nozzle	159795			1
2	Cylinder	160002			1
3	Piston	160003			1
4	Seal carrier (incl. parts 4.2-4.3)	163000			1
4.2	Breather (incl. part 4.22)	101700			1
4.22	O-ring	901173	D27	*	1
4.3	Plug	173557			1
5	Wiper	952371	D142	*	1
6	Seal	955498		*	1
7	Seal	111871		*	1
8	Wiper	952370	D160	*	1
9	Seal	903066		*	1
10	Seal	952372		*	1
11	O-ring	910015	D269	*	2
12	Supporting ring	953266	D280	*	2
13	O-ring	94102	D154	*	1
14	O-ring	901124	D17	*	6
15	Parallel pin	90317	16m6x50 ISO 8734		2
16	O-ring	90034	D259	*	3
	*) Are included in seal set				

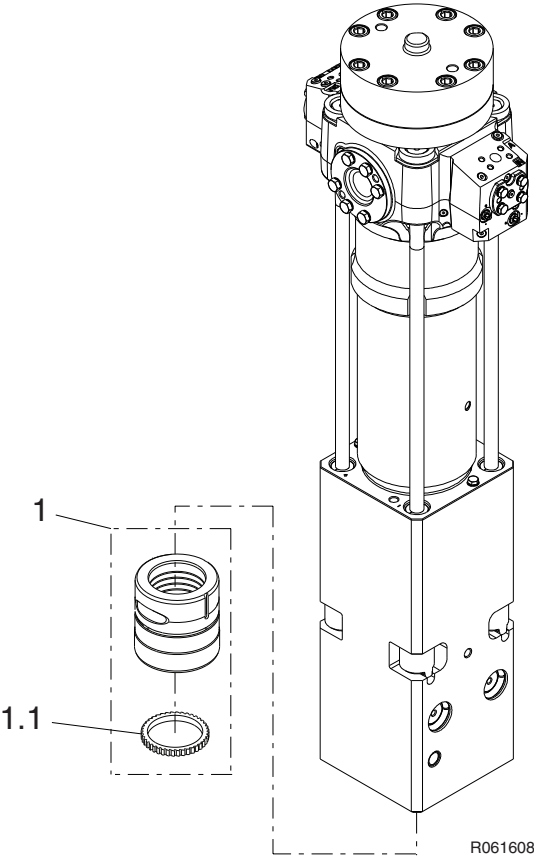
11. FRONT HEAD



R061506

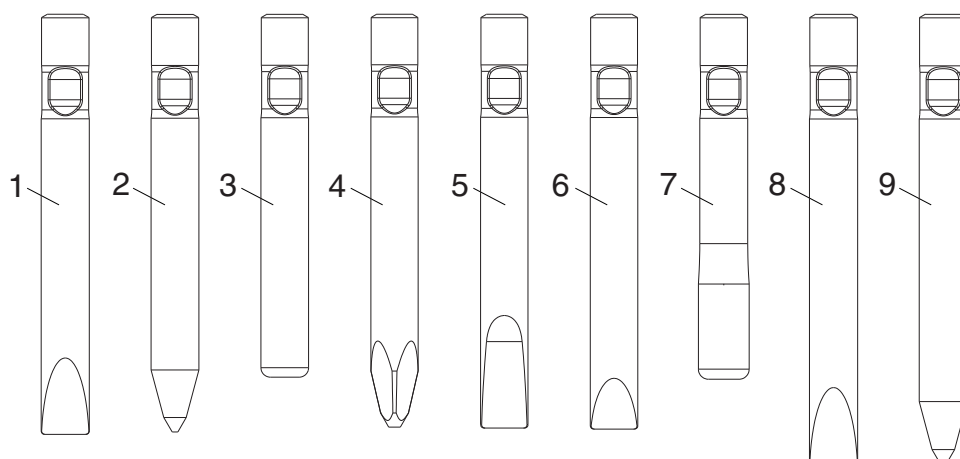
Item	Description	Part no.	Specification	Note	Qty
1	Front head (incl. parts 1.2-1.5)	176660			1
1.2	Hex. screw	900051	M16x40-12.9 ISO 4017		2
1.3	Lock washer	90597	M16 NORD-LOCK		2
1.4	Hex. socket screw	176516	M10		1
1.5	Lock washer	91037	M10 NORD-LOCK		1
2	Thrust ring	160010			1
3	O-ring	90003	D239	*	1
4	Upper tool bushing	160009			1
5	Tool retaining pin	160020			2
6	Ring	160482			4
7	Wedge	40110			1
8	O-ring	90000	D24	*	1
9	Retaining pin	173682			1
10	Rubber ring	173686		*	2
	*) Are included in seal set				

12. LOWER TOOL BUSHING



Item	Description	Part no.	Specification	Note	Qty
1	Lower tool bushing (incl. part 1.1)	178417			1
1.1	Tool seal	176222			1

13. TOOL

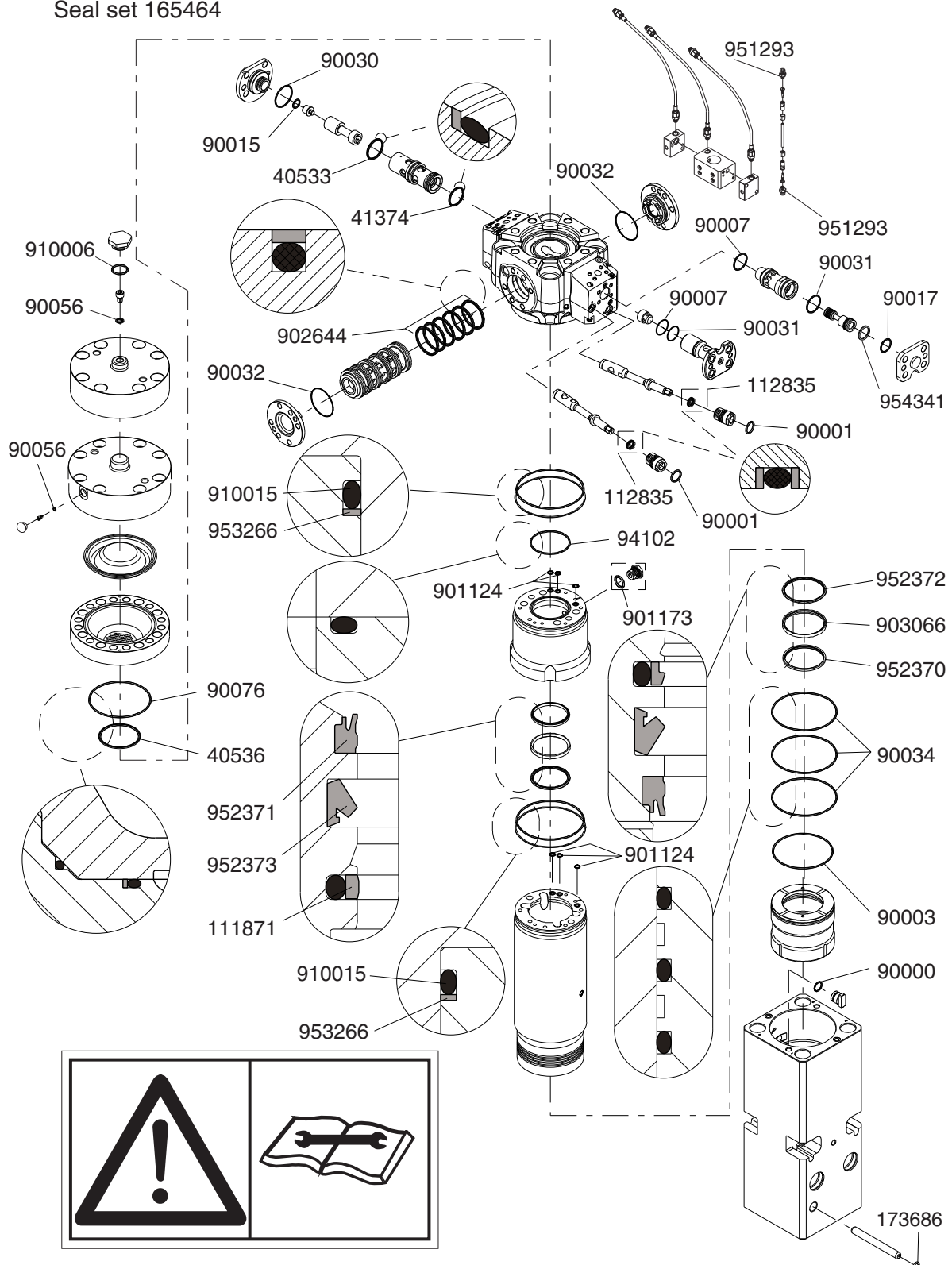


R061508

Item	Description	Part no.	Specification	Note	Qty
1	Chisel	991	L = 1450 mm, W = 226 kg, D = 166 mm		1
2	Moil point	993	L = 1450 mm, W = 217 kg, D = 166 mm		1
3	Blunt	994	L = 1265 mm, W = 208 kg, D = 166 mm		1
4	Pyramid	993K3	L = 1450 mm, W = 226 kg, D = 166 mm		1
5	Hard Rock Chisel	991A2	L = 1450 mm, W = 216 kg, D = 166 mm		1
6	Limestone Chisel	991F3	L = 1450 mm, W = 234 kg, D = 166 mm		1
7	Super Blunt	994T2	L = 1265 mm, W = 218 kg, D = 174 mm		1
8	Long chisel	992	L = 1550 mm, W = 242 kg, D = 166 mm		1
9	Long moil point	998	L = 1550 mm, W = 238 kg, D = 166 mm		1

14. SEAL SET

Seal set 165464

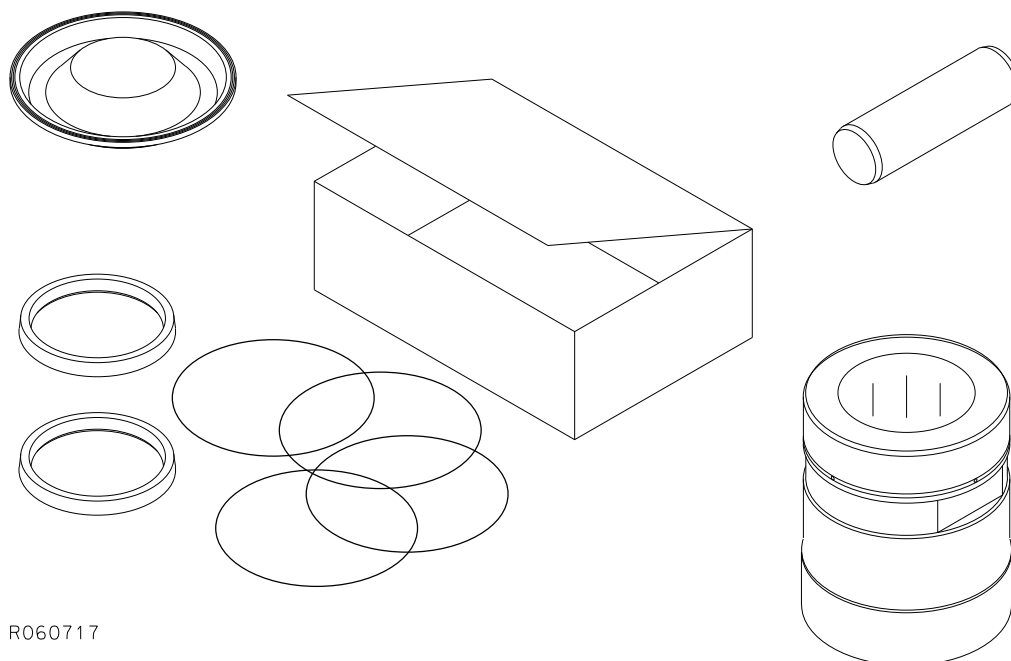


This summary only indicates the position of the seals. It must NOT be used as assembly instruction. Read the service manual. Notice! Assembly must be performed by qualified service personnel only.

R061509

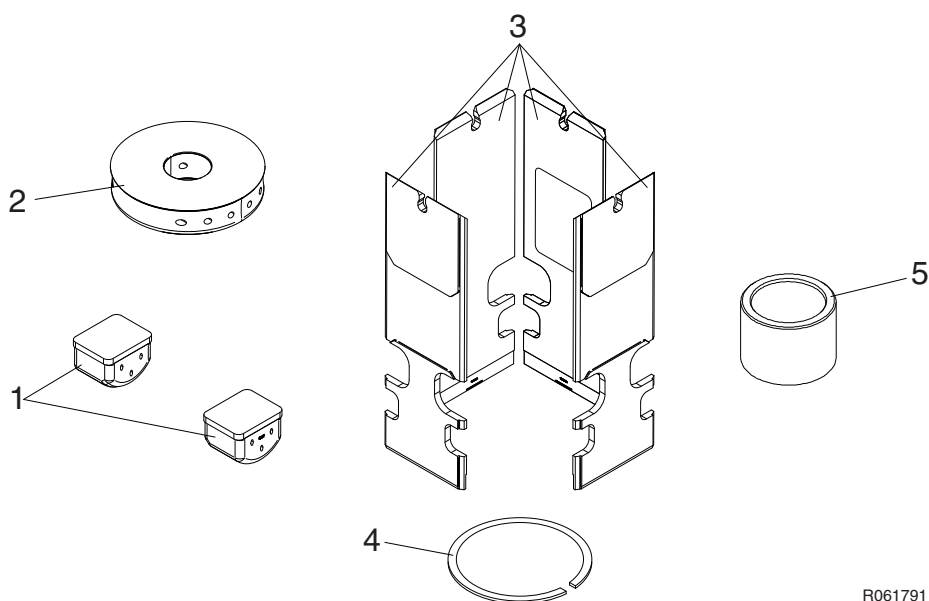
Item	Description	Part no.	Specification	Note	Qty
Kit	Seal set (incl. parts 1-32)	165464			1
1	O-ring	90031	D46		1
2	O-ring	90007	D44		1
3	O-ring	951293	D9		6
4	Seal	902644	D125		6
5	O-ring	90032	D120		2
6	Seal	112835	D13		2
7	O-ring	90001	D20		2
8	O-ring	90030	D75		1
9	Seal	41374	D55		1
10	Seal	40533	D65		1
11	O-ring	90015	D26		1
12	O-ring	910006	D23		1
13	Usit-ring	90056	8-13.9-1		1
14	Seal	40536			1
15	O-ring	90076	D229		1
16	O-ring	901173	D27		1
17	Wiper	952371	D142		1
18	Seal	955498			1
19	Seal	111871			1
20	Wiper	952370	D160		1
21	Seal	903066			1
22	Seal	952372			1
23	O-ring	910015	D269		2
24	Supporting ring	953266	D280		2
25	O-ring	94102	D154		1
26	O-ring	901124	D17		6
27	O-ring	90003	D239		1
28	O-ring	90000	D24		1
29	O-ring	90034	D259		3
30	O-ring	90017	D34		1
31	Seal	954341	D34		1
32	Rubber ring	173686			2
	The seals for greasing device are not included in this seal set. They are included in the service kit for greasing device.				

15. SERVICE KIT 1



Item	Description	Part no.	Specification	Note	Qty
Kit	Service kit (incl. parts 1 - 4)	K14099E			1
1	Membrane	172307			1
2	Tool retaining pin	160020			2
3	Lower tool bushing	178417			1
4	Seal set	165464			1

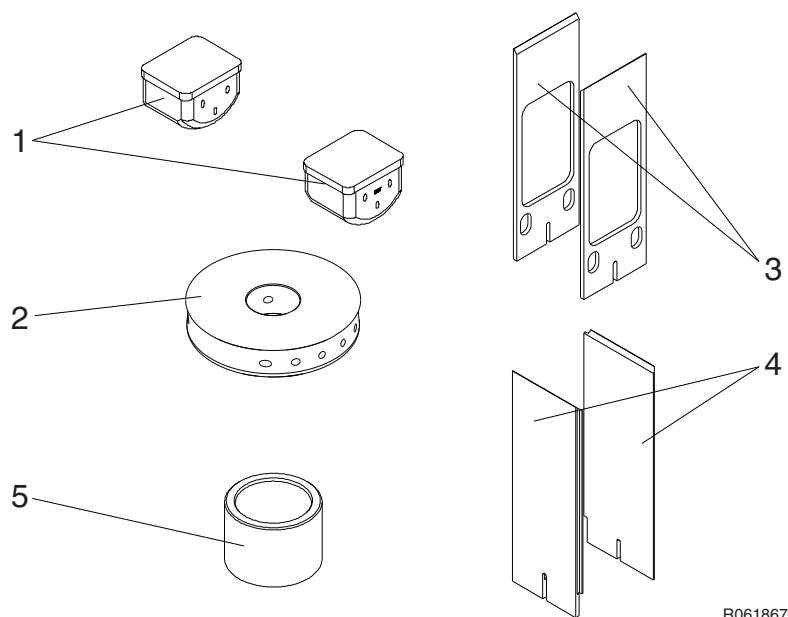
16. SERVICE KIT 2A STD



R061791

Item	Description	Part no.	Specification	Note	Qty
Kit	Service kit (incl. parts 1 - 5)	183875			1
1	Pad	104068			2
2	Buffer	172579			1
3	Wear plate	182428			4
4	Spring ring	182429			1
5	Upper tool bushing	160009			1

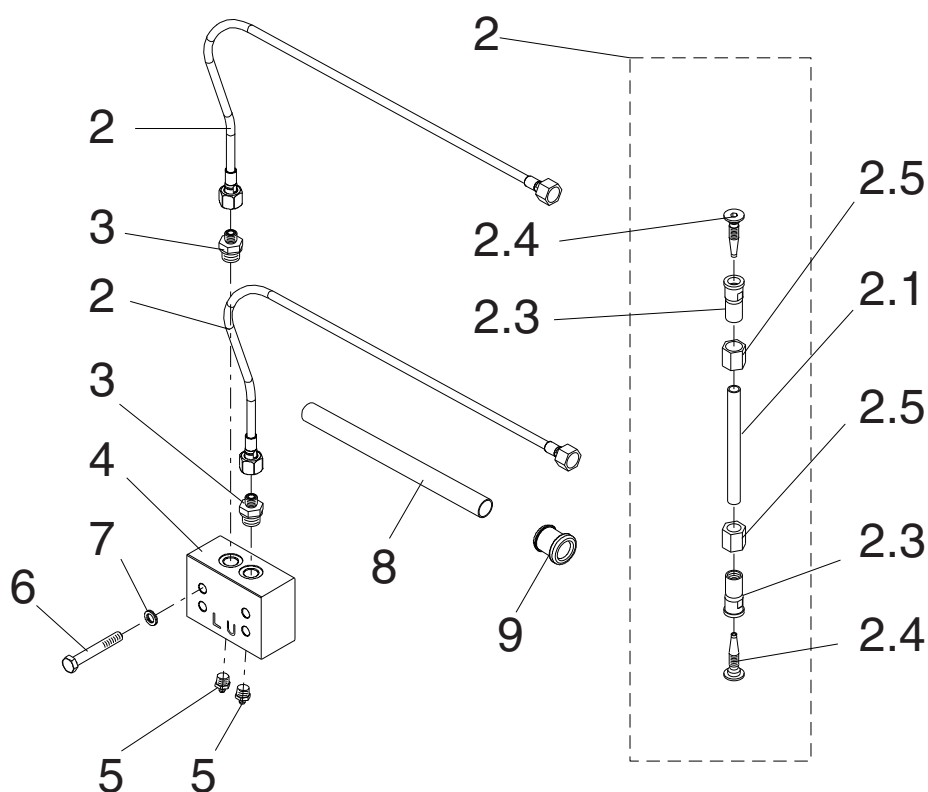
17. SERVICE KIT 2B HD



R061867

Item	Description	Part no.	Specification	Note	Qty
Kit	Service kit (incl. parts 1 - 5)	183876			1
1	Pad	104068			2
2	Buffer	172579			1
3	Wear plate	176952			2
4	Wear plate	176954			2
5	Upper tool bushing	160009			1

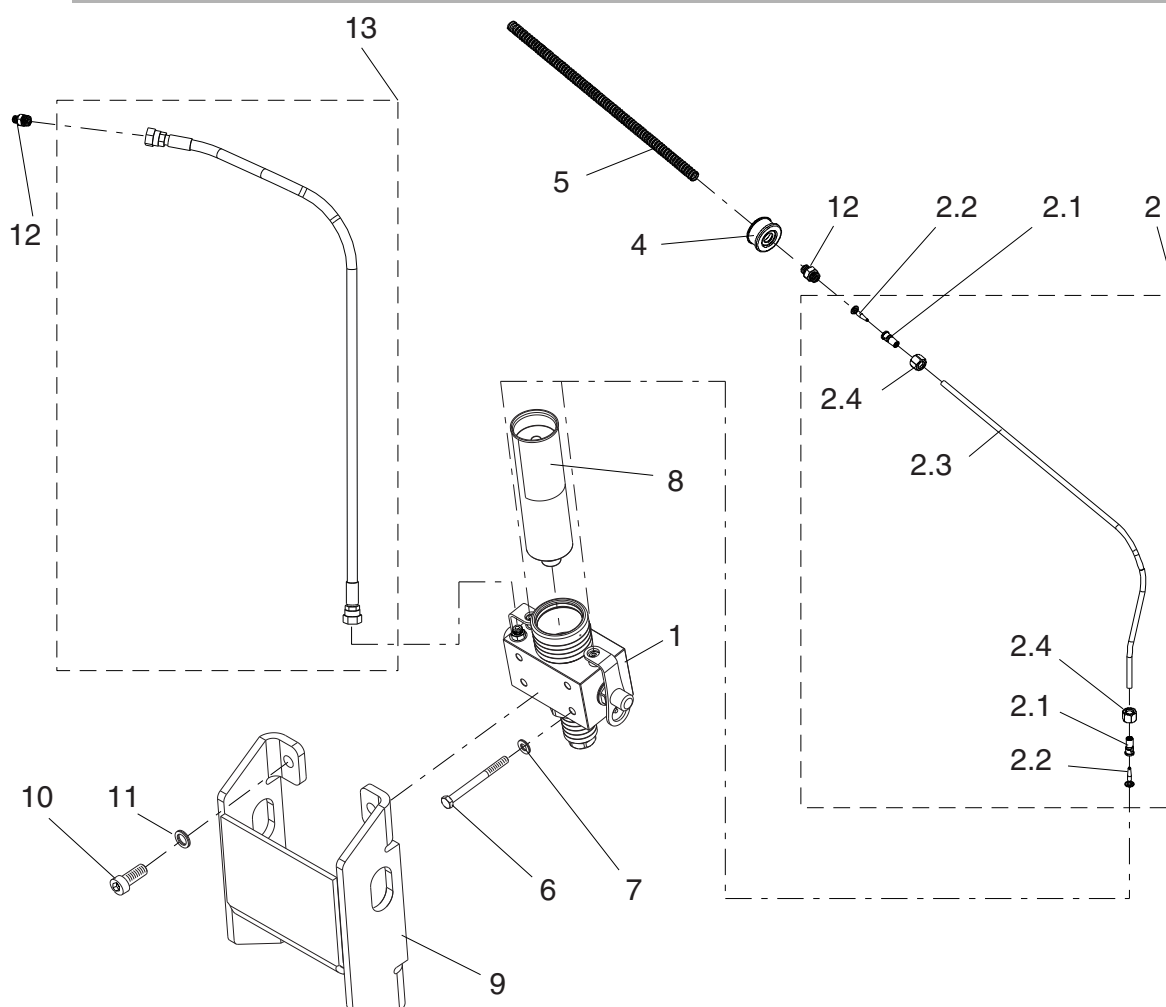
18. GREASING BLOCK FOR MANUAL GREASING



R061510

Item	Description	Part no.	Specification	Note	Qty
Kit	Greasing block for manual greasing (incl. parts 3-7)	168833			1
2	Hose assembly (incl. parts 2.1-2.5)	168842			2
2.1	Hose	953927			1
2.3	Sleeve	153035			2
2.4	Insert	153036			2
2.5	Nut	951296			2
3	Connector	951294	BSPP 1/4		2
4	Body	168824			1
6	Hex. screw	901542	M10x70-8.8 ISO 4014		4
5	Grease nipple	90200	R1/4		2
7	Lock washer	953503	M10 NL10sp NORD-LOCK		4
8	Shield	952093			1
9	Rubber bushing	158147			1

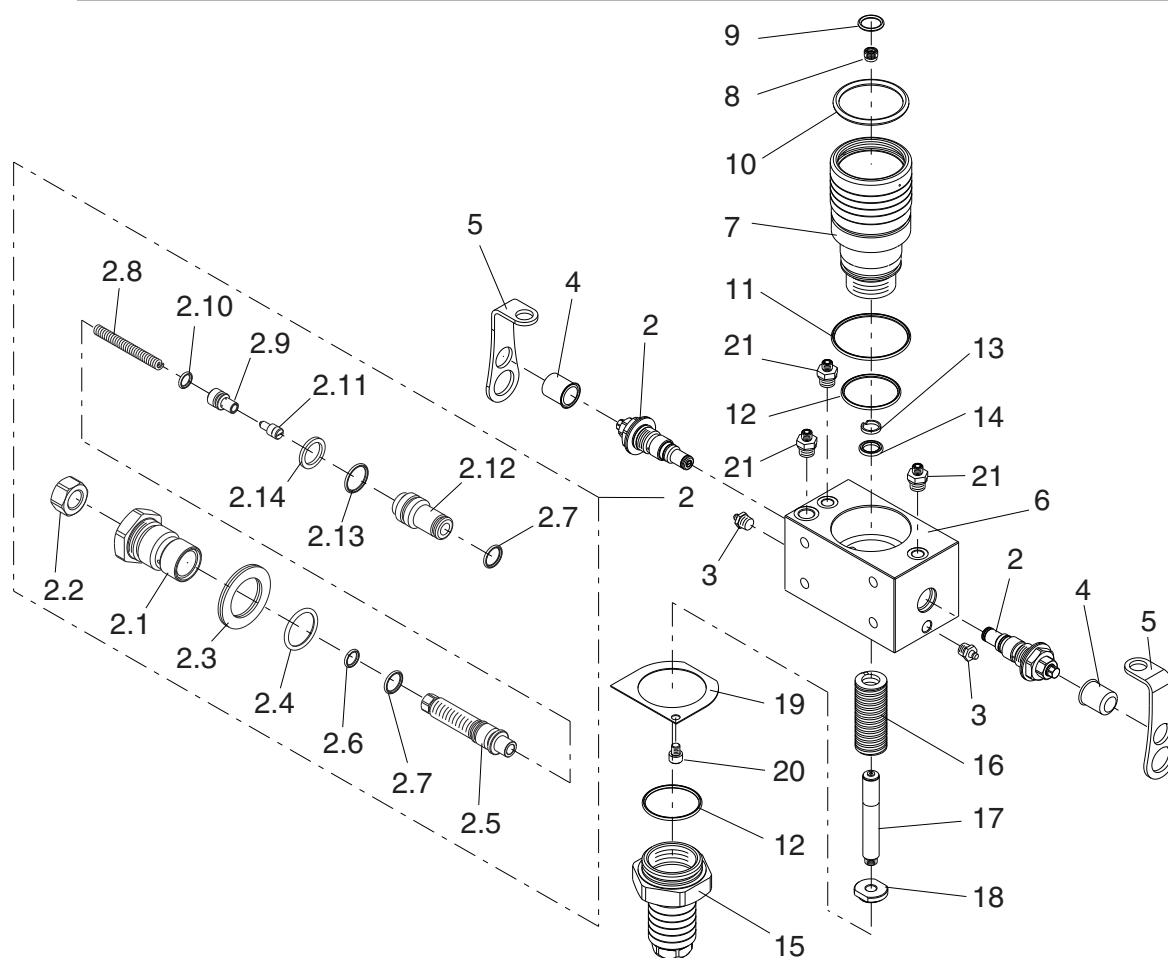
19. GREASING DEVICE KIT



R061511

Item	Description	Part no.	Specification	Note	Qty
kit	Greasing device kit (incl. parts 1-13)	K60099			1
1	Greasing device RG542	953345			1
2	Hose assembly (incl. parts 2.1-2.4)	168842			2
2.1	Sleeve	153035			2
2.2	Insert	153036			2
2.3	Hose	953927			1
2.4	Nut	951296			2
4	Rubber bushing	158147			1
5	Shield	952093			1
6	Hex. screw	953794	M10x110-8.8 ISO 4014		4
7	Lock washer	953503	M10 NL10sp NORD-LOCK		4
8	Grease cartridge	951370	Special tool grease, Greasing device cartridge. Greasing device cartridges are also sold in boxes of 24.		1
9	Shield	168032			1
10	Hex. socket screw	902895	M16x35-8.8 ISO 4762		4
11	Lock washer	90597	M16 NORD-LOCK		4
12	Connector	951295	BSPP 3/8		3
13	Hose assembly	954819			1

20. GREASING DEVICE

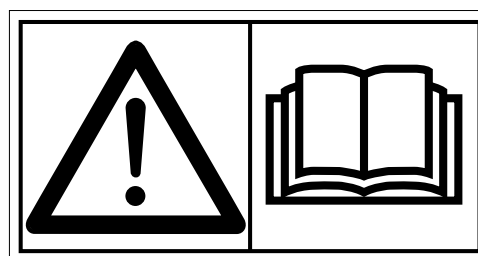
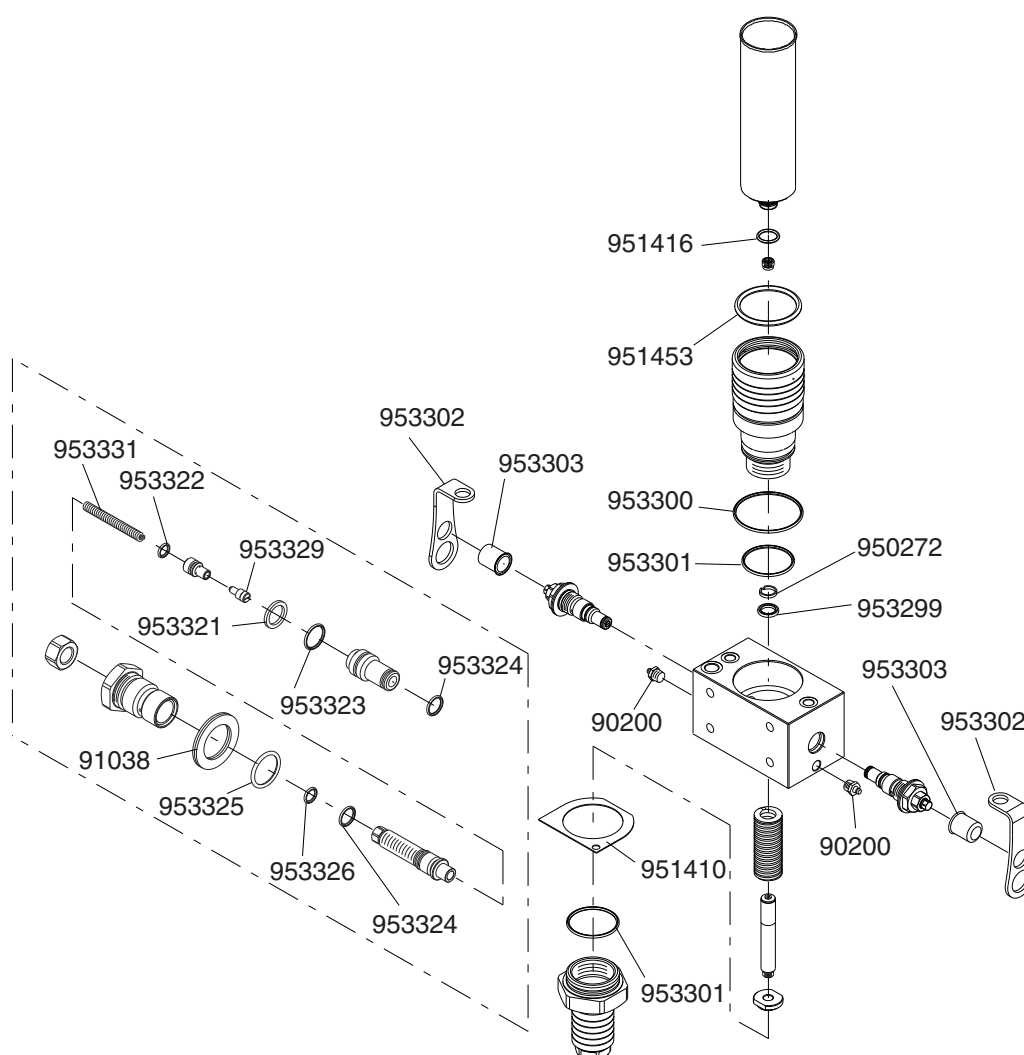


R061512

Item	Description	Part no.	Specification	Note	Qty
1	Greasing device RG542 (incl. parts 2-20)	953345			1
2	Doser (incl. parts 2.1-2.14)	173573			2
2.1	Plug	173574			1
2.2	Nut	953330	M12x1 DIN 934		1
2.3	Lock washer	91038	M24 NORD-LOCK	*	2
2.4	O-ring	953325	D21	*	2
2.5	Adjusting screw	953317			1
2.6	O-ring	953326	D8	*	2
2.7	O-ring	953324	D11	*	4
2.8	Spring	953331		*	2
2.9	Piston	173576			1
2.10	O-ring	953322	D7	*	2
2.11	Piston	953329		*	2
2.12	Body	173575			1
2.13	O-ring	953323	D15	*	2
2.14	Shim plate	953321		*	2
3	Grease nipple	90200	BSP 1/4	*	2
4	Plug	953303		*	2
5	Locking plate	953302		*	2
6	Body	953335			1
7	Cartridge holder	953334			1
8	Check valve	951767			1
9	O-ring	951416	D19	*	1
10	O-ring	951453	D62	*	1
11	O-ring	953300	D71	*	1
12	O-ring	953301	D52	*	2
13	Guide ring	950272		*	1
14	Seal	953299		*	1
15	Spring housing	953308			1
16	Spring	950257			1
17	Piston	953307			1
18	Nut	953306			1
19	Lock plate	951410		*	1
20	Hex. socket screw	951421	M8x10-8.8 ISO 4762		1
21	Connector	951294	BSPP 1/4		3
kit	Seal set for greasing device	953385			1
	*) Are included in seal set for greasing device				

21. SERVICE KIT FOR GREASING DEVICE RG540 SERIES

Service kit 953385

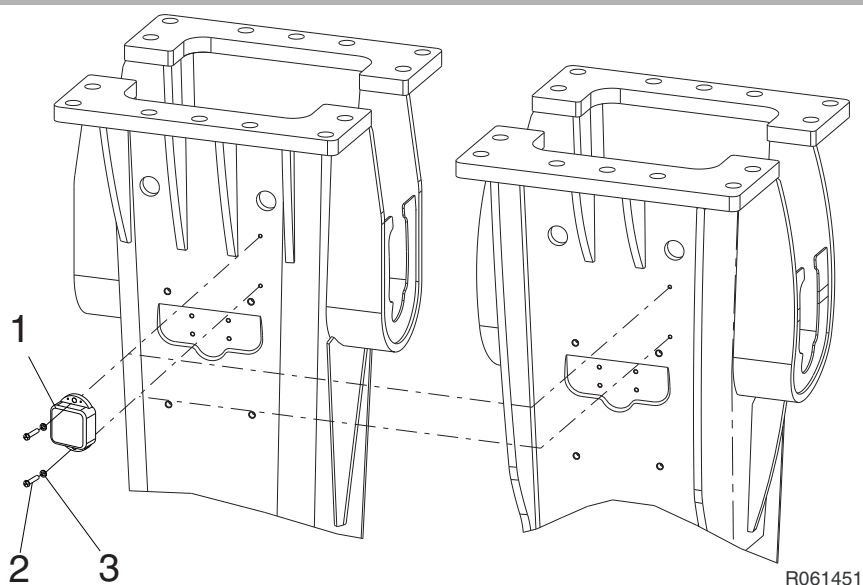


This summary only indicates the position of the seals. It must NOT be used as assembly instruction. Read the manual.

R061096

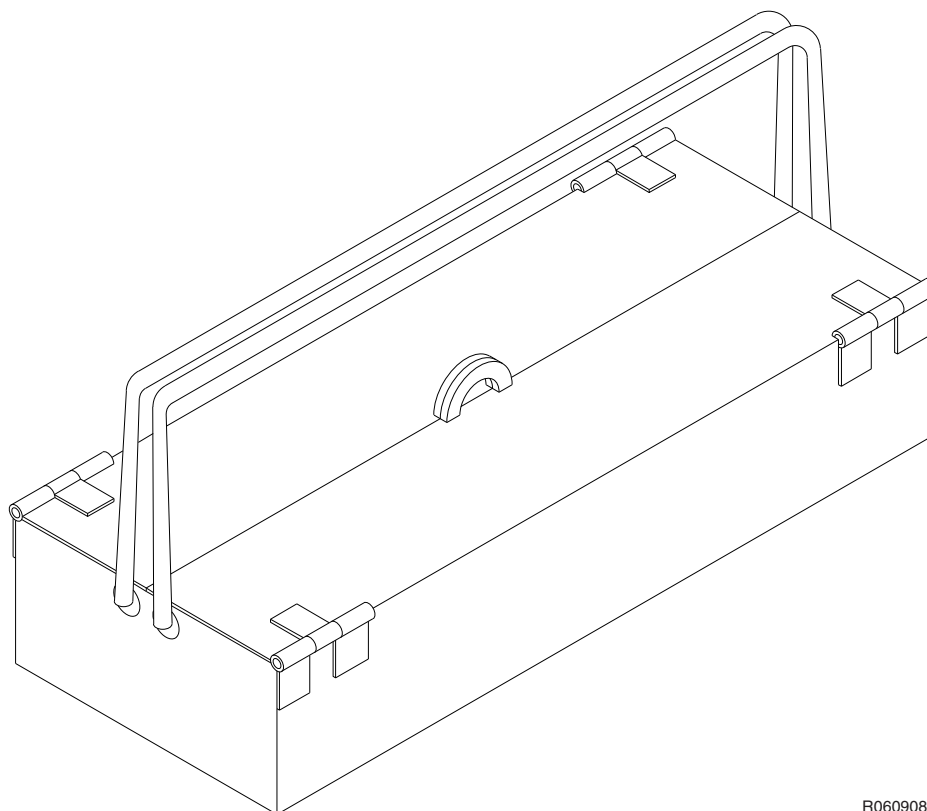
Item	Description	Part no.	Specification	Note	Qty
Kit	Service kit for greasing device (incl. parts 1-19)	953385			1
1	Lock plate	951410		a	1
2	Plug	953303		a	2
3	Guide ring	950272		a	1
4	Seal	953299		a	1
5	O-ring	953300	D71	a	1
6	O-ring	951453	D62	a	1
7	O-ring	953301	D52	a	2
8	O-ring	951416	D19	a	1
9	O-ring	953326	D8	a	2
10	O-ring	953325	D21	a	2
11	O-ring	953324	D11	a	4
12	O-ring	953323	D15	a	2
13	O-ring	953322	D7	a	2
14	Shim plate	953321		a	2
15	Spring	953331		a	2
16	Piston	953329		a	2
17	Lock washer	91038	M24 NORD-LOCK	a	2
18	Grease nipple	90200	R1/4		2
19	Locking plate	953302			2
	Service kit for greasing device is not included in the hammers seal set.				
	^a Not sold separately				

22. RD3, SURFACE MOUNTED



Item	Description	Part no.	Specification	Note	Qty
Kit	RD3 kit (incl. parts 1-3)	RD3-FACE			1
1	RD3 remote monitoring device	177284	Surface mounted	a	1
2	One-way-drive screw	955168	M8x30		2
3	Washer	903209	8-140 HV ISO 7089		2
	^a Not sold separately				

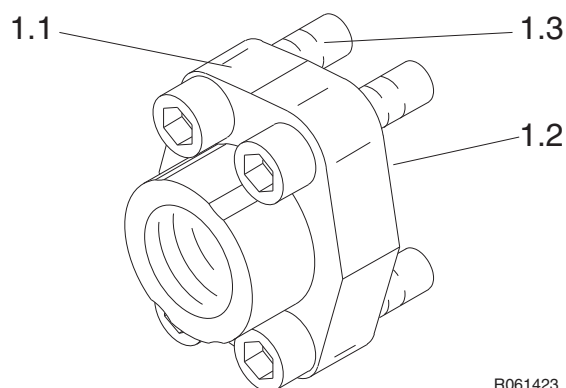
23. TOOL BOX R2



R060908

Item	Description	Part no.	Specification	Note	Qty
Kit	Tool box R2 (incl. parts 1-11)	173748			1
1	Tool box	N/A			1
2	Grease gun	90202			1
3	Tool grease	902045			1
4	Grease cartridge	951370			1
5	Puller	150020			1
6	Combination spanner	N/A	12		1
7	Screwdriver	N/A	6x150		1
8	Flange plug	90444	R3/8		3
9	Flange plug	90403	R1/4		1
10	Grease nipple	953767	R3/8		2
11	Safety glasses	N/A			1

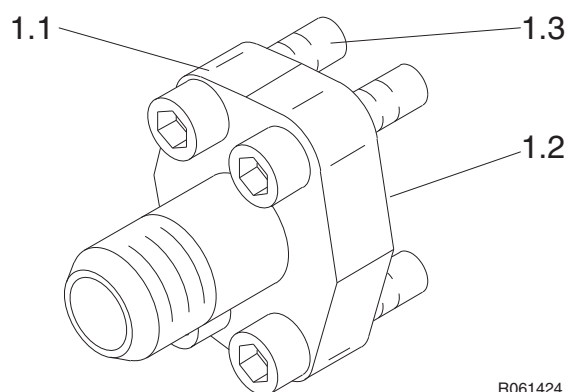
24. COUPLING SET



R061423

Item	Description	Part no.	Specification	Note	Qty
1	Coupling set (incl. parts 1.1-1.3)	400587			1
1.1	Flange	90531	SAE 1 1/4 6000 psi - BSP 1 1/4 FEMALE		2
1.2	O-ring	90009			2
1.3	Hexagon socket screw	90593	M14x45-8.8 ISO 4762		8

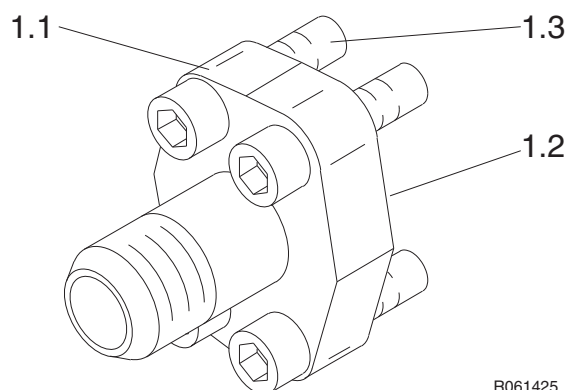
25. COUPLING SET



R061424

Item	Description	Part no.	Specification	Note	Qty
1	Coupling set (incl. parts 1.1-1.3)	400599			1
1.1	Flange	915069	SAE 1 1/4 6000 psi - JIC 20, 1 5/8-12 MALE		2
1.2	O-ring	90009			2
1.3	Hexagon socket screw	90593	M14x45-8.8 ISO 4762		8

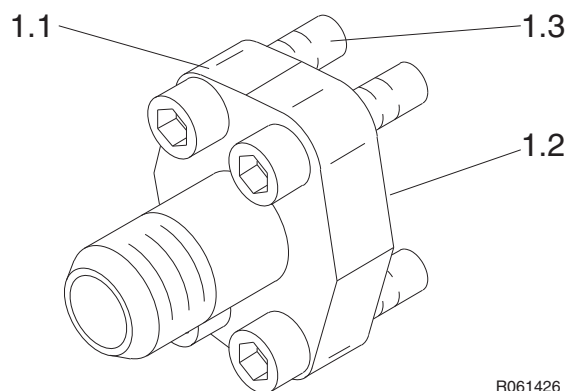
26. COUPLING SET



R061425

Item	Description	Part no.	Specification	Note	Qty
1	Coupling set (incl. parts 1.1-1.3)	400591			1
1.1	Flange	915055	SAE 1 1/4 6000 psi - JIS 30° BSP 1 1/4 MALE		2
1.2	O-ring	90009			2
1.3	Hexagon socket screw	90593	M14x45-8.8 ISO 4762		8

27. COUPLING SET



R061426

Item	Description	Part no.	Specification	Note	Qty
1	Coupling set (incl. parts 1.1-1.3)	400590			1
1.1	Flange	915071	SAE 1 1/4 6000 psi - M52x2 MALE		2
1.2	O-ring	90009			2
1.3	Hexagon socket screw	90593	M14x45-8.8 ISO 4762		8



Sandvik Mining and Construction Oy, Breakers Lahti
Taivalkatu 8, P.O. Box 165, FI-15101 Lahti, Finland
Phone Int. +358 205 44 151, Telefax Int. +358 205 44 150
www.rammer.com