

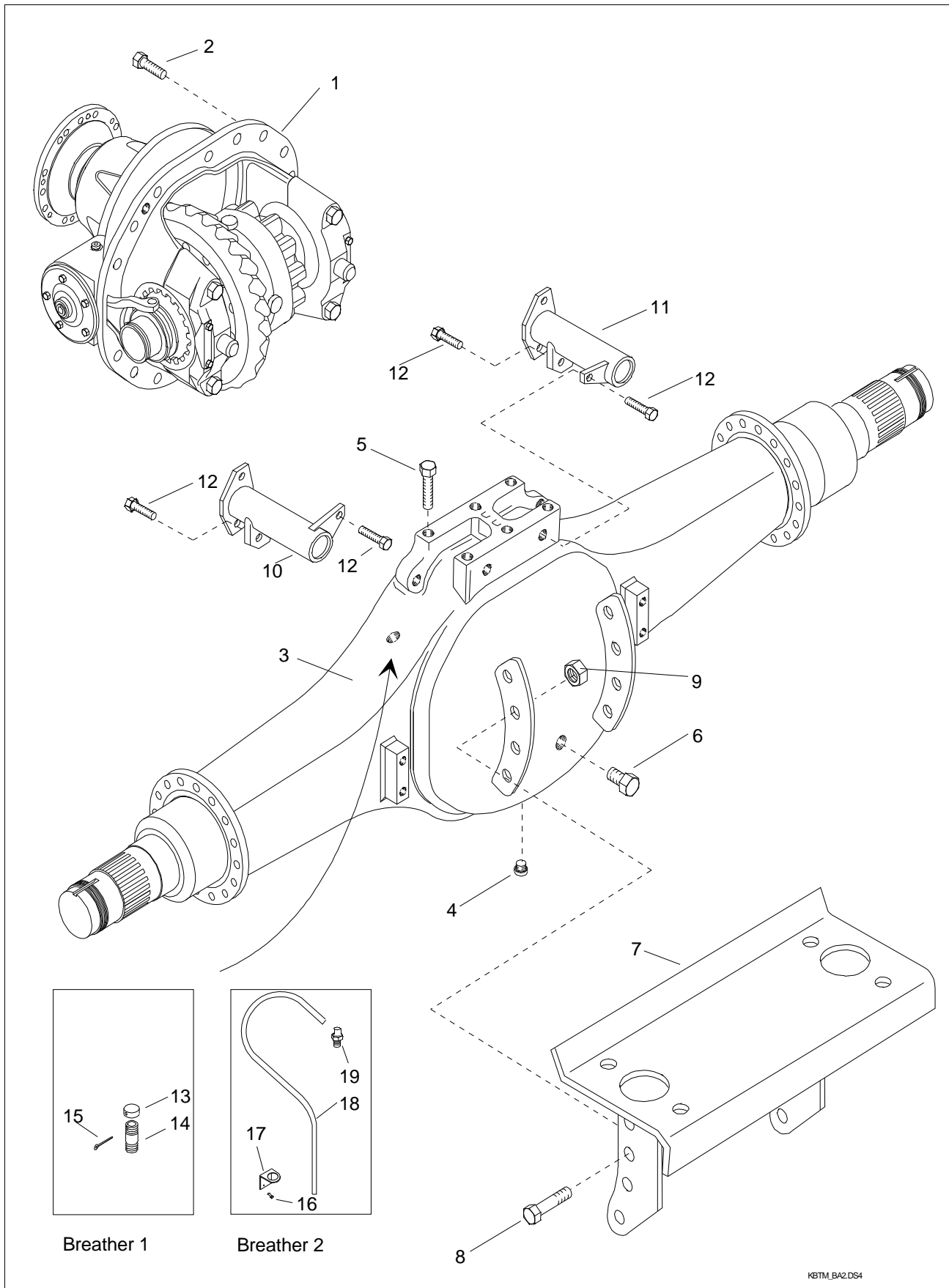
# **SISU AXLES**

## **SPARE PARTS BOOK**

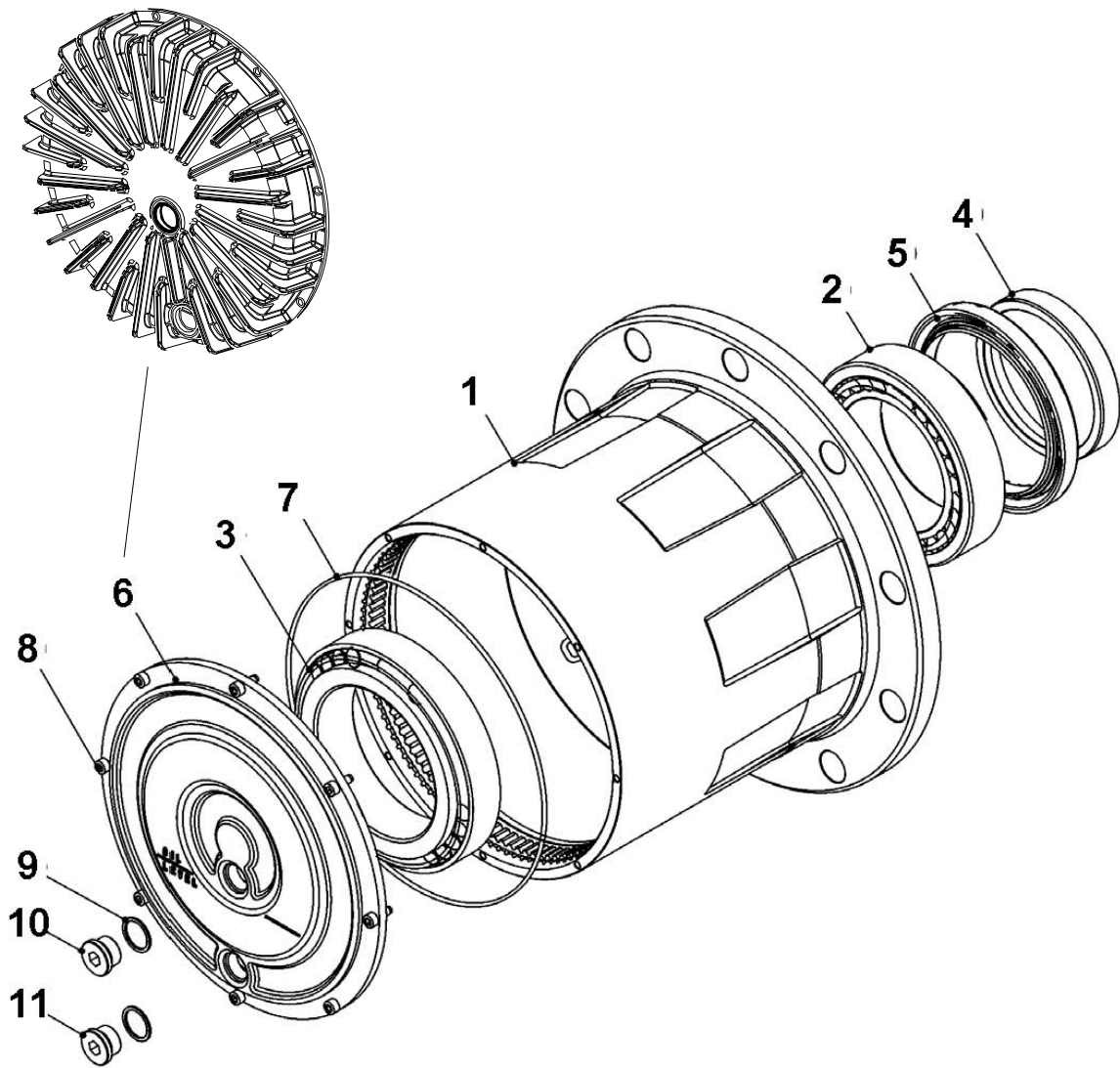
### **Rear Tandem Axle FRDP-13/16-S**

**Since No. 144393 (11/2004)  
Book No. 292 (5/2009)**

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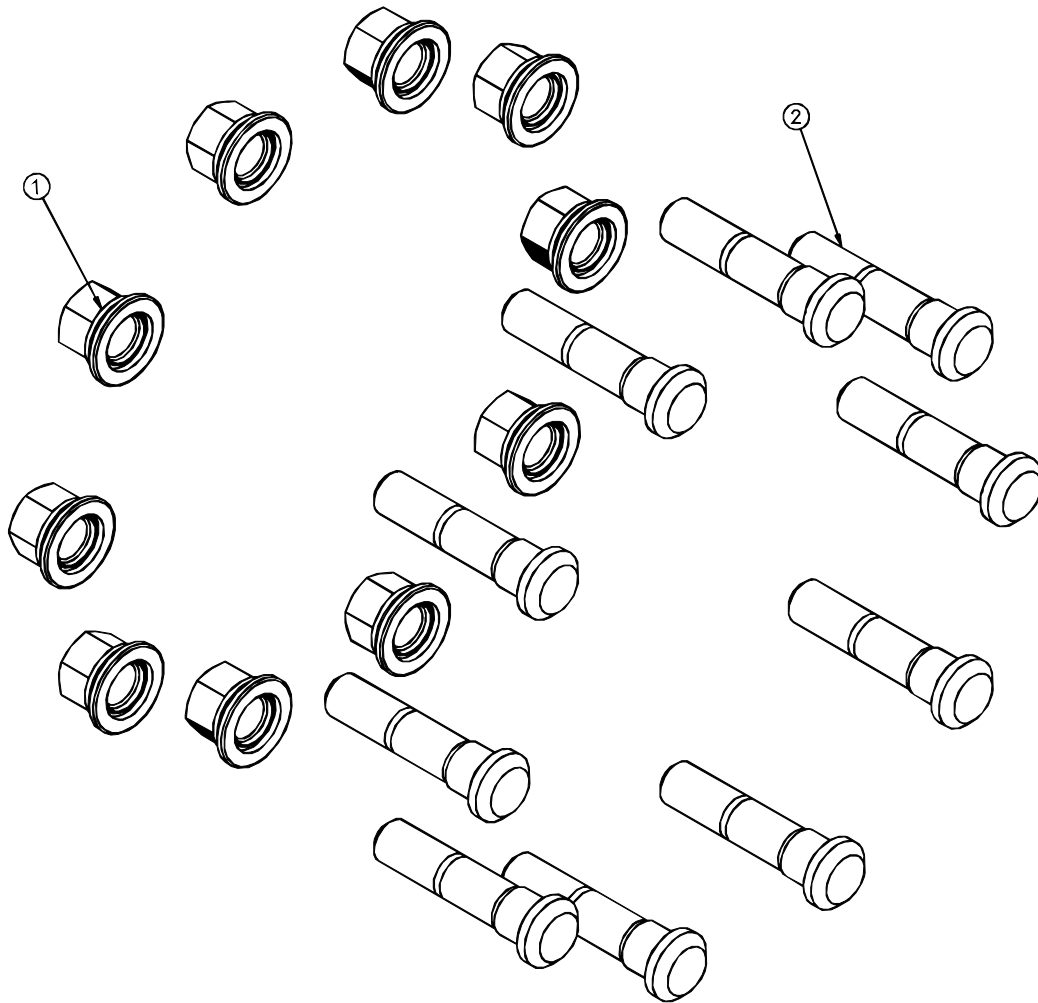


Item	Qty.	Order no.	Description	Note
1	1	<b>543-204-3111</b>	Diff. Carrier Assembly	FR 4.65/4.11, HS1700/1800 flange
1	1	<b>543-204-3116</b>	Diff. Carrier Assembly	FR 4.65/4.11, Yoke 1710 flange
1	1	<b>543-204-3139</b>	Diff. Carrier Assembly	FR 4.29/3.79, HS1700/1800 flange
1	1	<b>543-204-3219</b>	Diff. Carrier Assembly	FR 7.01/6.20, HS1700/1800 flange
1	1	<b>543-204-3221</b>	Diff. Carrier Assembly	FR 5.56/4.92, HS1700/1800 flange
1	1	<b>543-204-3224</b>	Diff. Carrier Assembly	FR 6.36, Yoke 1710 flange
1	1	<b>543-204-3229</b>	Diff. Carrier Assembly	FR 6.36/5.63, HS1700/1800 flange
1	1	<b>543-204-3251</b>	Diff. Carrier Assembly	FR 8.79/7.77, HS1700/1800 flange
1	1	<b>543-204-3281</b>	Diff. Carrier Assembly	FR=10.55/9.32, HS1700/1800 flange
2	16	<b>90303-16407</b>	Hex Screw	M16x40, 10.9
3	NLA	<b>543-117-0710</b>	Axle Housing	Track 1880, 13 ton, superseded by 543-117-2110
3	NLA	<b>543-117-0810</b>	Axle Housing	Track 2040, 16 ton, superseded by 543-117-1510
3	NLA	<b>543-117-0910</b>	Axle Housing	Track 1880 mm, 16 ton, superseded by 543-117-2110
3	1	<b>543-117-1010</b>	Axle Housing	Track 1800, 16 ton
3	NLA	<b>543-117-1110</b>	Axle Housing	2040, 16 ton, R650, superseded by 543-117-3810
3	1	<b>543-117-1510</b>	Axle Housing	16 ton, Track 2040, 18 mm
3	1	<b>543-117-2110</b>	Axle Housing	16 ton, Track 1880, 18 mm
3	NLA	<b>543-117-2210</b>	Axle Housing	1880, 16 ton, R650, supeseded by 543-117-3710
3	NLA	<b>543-117-2610</b>	Axle Housing	16 ton, 2040, R850, supeseded by 543-117-3910
3	1	<b>543-117-3710</b>	Axle Housing	16 ton, Track 1880, R650, 18 mm
3	1	<b>543-117-3810</b>	Axle Housing	16 ton, Track 2040, R650, 18 mm
3	1	<b>543-117-3910</b>	Axle Housing	16 ton, Track 2040, R850, 18 mm
3	1	<b>543-117-4310</b>	Axle Housing	16 ton, Track 1800, R650, 18 mm
3		<b>N1</b>	Note	Bulletin P16003 for compatibility of axle housings
4	1	<b>90873-22109</b>	Oil plug	M22x1.5 - DIN908, Allen head, magnetic
4	1	<b>91201-22150</b>	Seal ring	D22/27x1.5 Cu
5	6	<b>90303-18503</b>	Hex Screw	M18x2,5x50
6	1	<b>90875-16243</b>	Plug	1/2"NPTF
7	1	<b>546-721-7400</b>	Chamber bracket	86 deg. for 165 mm slack adjuster
8	6	<b>90303-14307</b>	Hex Screw	M14x30
9	6	<b>90550-14227</b>	Nut	M14 self locking
10	1	<b>546-721-6910</b>	Chamber bracket	LH, 13 deg. for 165 mm slack adjuster
11	1	<b>546-721-6900</b>	Chamber bracket	RH, 13 deg. for 165 mm slack adjuster
12	4	<b>90303-16407</b>	Hex Screw	M16x40, 10.9
12	4	<b>90705-17033</b>	washer	D17/30x3
13	1	<b>179-842-0000</b>	Breather Cover	
14	1	<b>179-841-1000</b>	Breather pipe	
15	1	<b>90621-32253</b>	Split pin	3.2x25



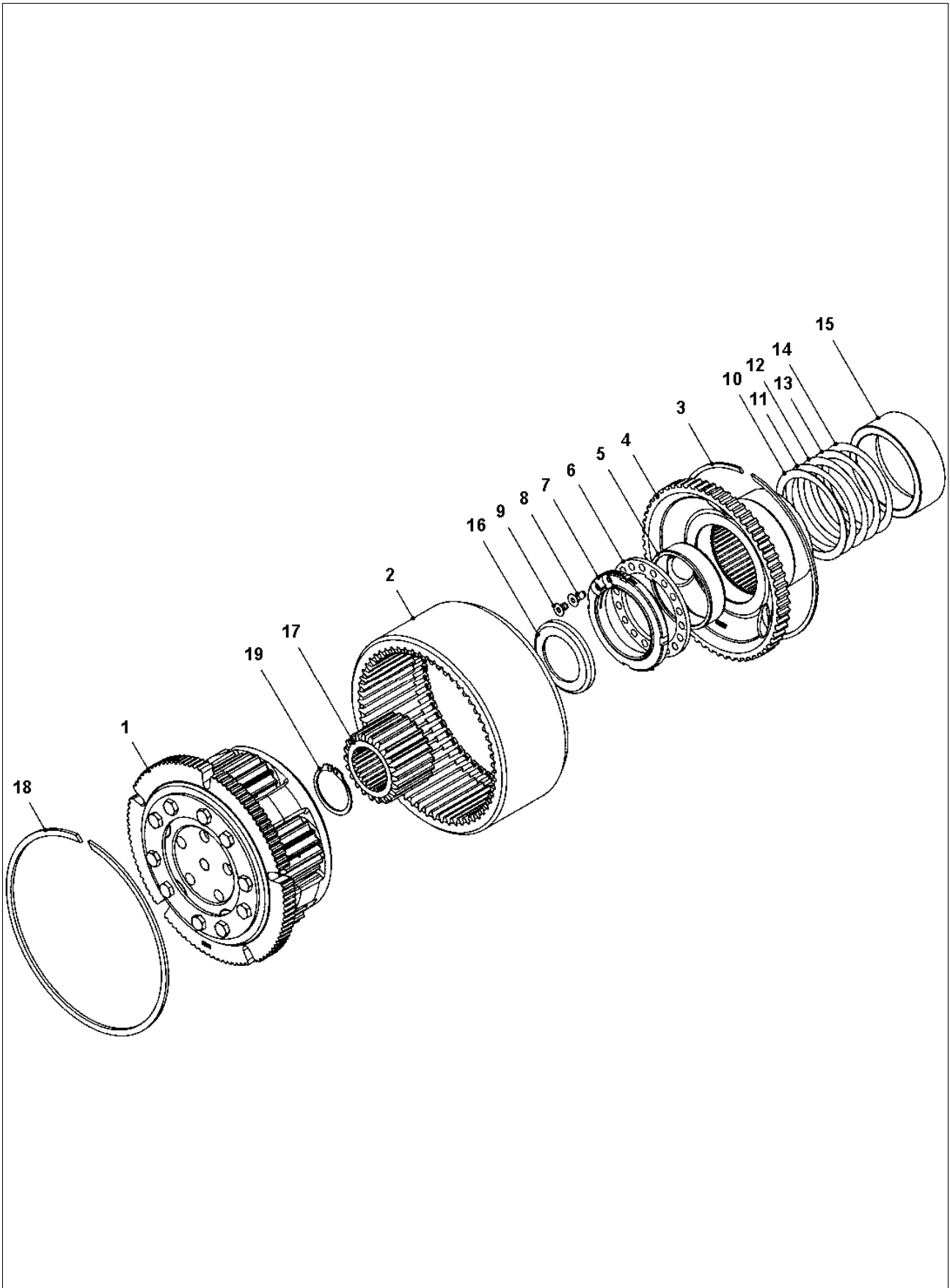
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Item	Qty.	Order no.	Description	Note
1	2	<b>543-441-1000</b>	Wheel hub	
2	2	<b>91744-01051</b>	T. Roller bearing	
3	2	<b>91744-01201</b>	T. Roller bearing	
4	2	<b>543-415-0600</b>	Spacer ring	D111/127x19
5	2	<b>591122-12702</b>	Shaft seal	D127/160
6	2	<b>541-422-1200</b>	Planetary gear cover	Cast iron
6	2	<b>541-422-1300</b>	Planetary gear cover	Cooled, cast iron, optional
7	2	<b>91109-50030</b>	O-ring	D249.5x3
8	16	<b>90313-06168</b>	Allen Screw	M6x16
9	4	<b>91201-22150</b>	Seal ring	D22/27x1.5 Cu
10	2	<b>90873-22103</b>	Plug	M22x1.5 - DIN908, Allen head
11	2	<b>90873-22109</b>	Oil plug	M22x1.5 - DIN908, Allen head, magnetic



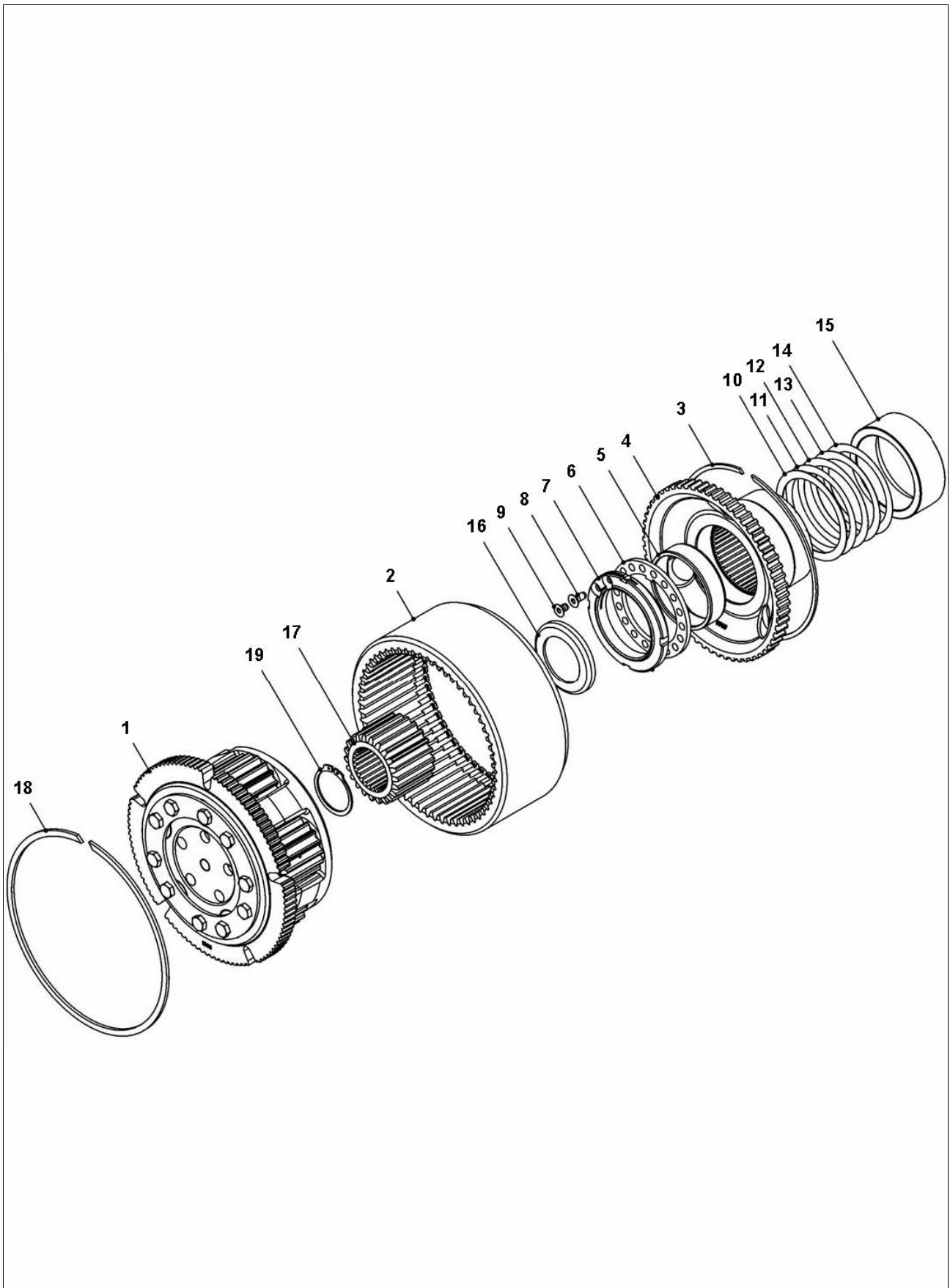
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Item	Qty.	Order no.	Description	Note
1	20	<b>540-916-1610</b>	Wheel nut	M22x1.5
2	20	<b>140-911-2700</b>	Wheel bolt	L=113 mm
3	20	<b>140-911-2510</b>	Wheel bolt	L=93 mm
3	20	<b>140-911-2610</b>	Wheel bolt	L=83 mm, 12.9

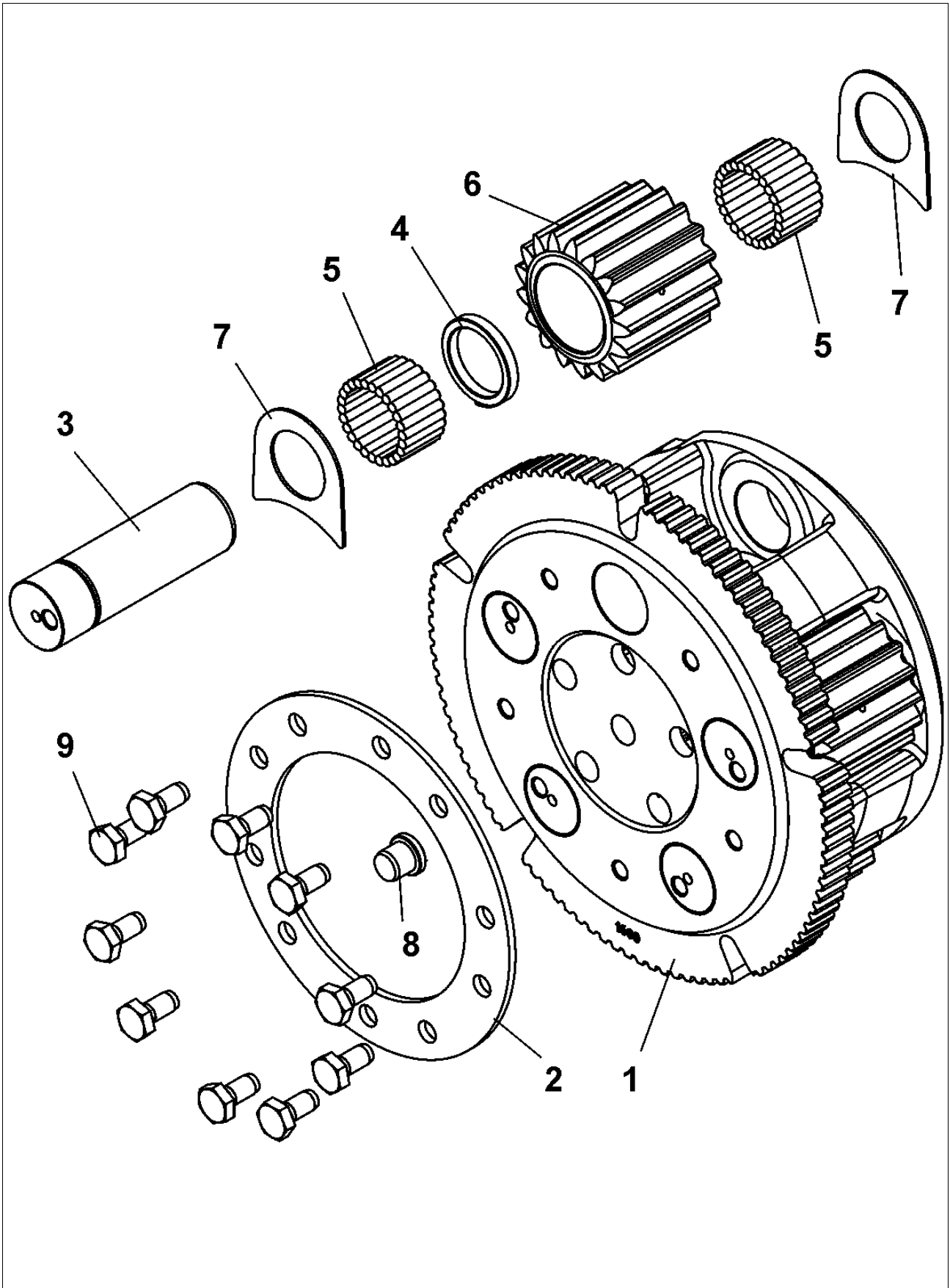




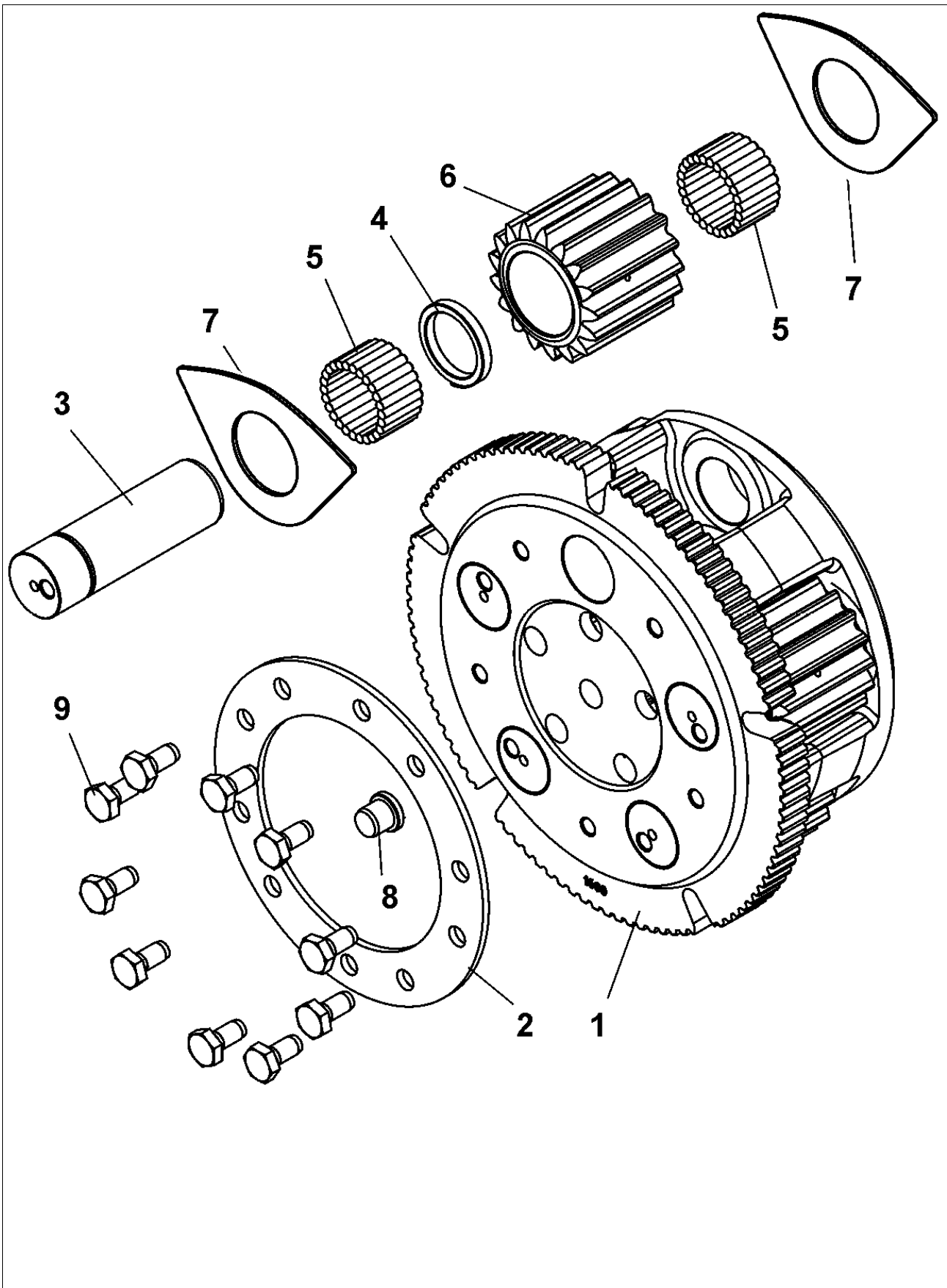
Item	Qty.	Order no.	Description	Note
1	2	<b>541-404-0211</b>	Planetary gear	FR 4.28/4.29/4.65/5.56/6.36/7.01/8.79/10.55
2	2	<b>535-261-2110</b>	Ring gear	i=3.636, z58
3	2	<b>91720-22001</b>	Retainer ring	D220x3
4	2	<b>535-271-0901</b>	Ring gear hub	i=3.636, z58
5	N/A	<b>543-416-0710</b>	Spacer ring	Obsolete
6	2	<b>143-418-0510</b>	Lock plate	S=6 mm, punched
7	2	<b>599-290-8004</b>	Lock Nut	M90x2, s=16 mm
8	2	<b>590319-08186</b>	Allen Screw	M8x18, Cone head
9	2	<b>590319-08126</b>	Allen Screw	M8x12M8x12, Cone head
10	NLA	<b>590731-09510</b>	Shim	s= 0.1 mm
10	NLA	<b>590731-09515</b>	Shim	s= 0.15 mm
11	ar	<b>590731-09520</b>	Shim	s= 0.2 mm
12	ar	<b>590731-09530</b>	Shim	s= 0.3 mm
13	ar	<b>590731-09550</b>	Shim	s= 0.5 mm
14	ar	<b>590732-09510</b>	Shim	s= 1.0 mm
15	2	<b>543-416-0500</b>	Spacer ring	D95/117x42
16	2	<b>090-721-8500</b>	Protective cup	D60/85x10
17	2	<b>535-211-1410</b>	Sun gear	i=3.636, z22, spline N55x26
18	2	<b>91720-26001</b>	Retainer ring	D265x4.2
19	2	<b>591711-05500</b>	Retainer ring	D55x2



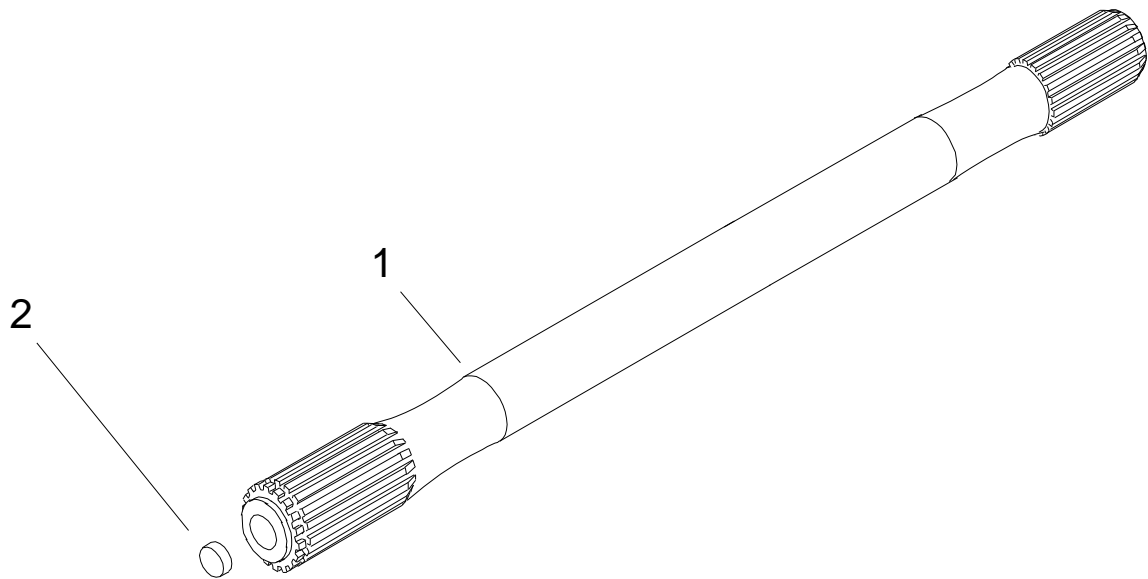
Item	Qty.	Order no.	Description	Note
1	2	<b>541-404-0221</b>	Planetary gear	FR 3.78/3.79/4.11/4.92/5.63/6.20/7.77/9.32
2	2	<b>535-261-2310</b>	Ring gear	i=3.214, z62
3	2	<b>91720-22501</b>	Retainer ring	D225x3
4	2	<b>535-271-0911</b>	Ring gear hub	i=3.214, z62
5	N/A	<b>543-416-0710</b>	Spacer ring	Obsolete
6	2	<b>143-418-0510</b>	Lock plate	S=6 mm, punched
7	2	<b>599-290-8004</b>	Lock Nut	M90x2, s=16 mm
8	2	<b>590319-08186</b>	Allen Screw	M8x18, Cone head
9	2	<b>590319-08126</b>	Allen Screw	M8x12M8x12, Cone head
10	NLA	<b>590731-09510</b>	Shim	s= 0.1 mm
10	NLA	<b>590731-09515</b>	Shim	s= 0.15 mm
11	ar	<b>590731-09520</b>	Shim	s= 0.2 mm
12	ar	<b>590731-09530</b>	Shim	s= 0.3 mm
13	ar	<b>590731-09550</b>	Shim	s= 0.5 mm
14	ar	<b>590732-09510</b>	Shim	s= 1.0 mm
15	2	<b>543-416-0500</b>	Spacer ring	D95/117x42
16	2	<b>090-721-8500</b>	Protective cup	D60/85x10
17	2	<b>535-211-1500</b>	Sun gear	i=3.214, z28, spline N55x26
18	2	<b>91720-26001</b>	Retainer ring	D265x4.2
19	2	<b>591711-05500</b>	Retainer ring	D55x2



Item	Qty.	Order no.	Description	Note
1	1	<b>541-441-1600</b>	Planet carrier	i=3.636, c.d.=75
2	1	<b>535-259-0311</b>	Lock plate	D126/184x4
3	5	<b>535-251-1710</b>	Planet gear shaft	i=3.636, D34.75/35
4	5	<b>090-353-5000</b>	Spacer ring	D35/44x6.2
5	260	<b>090-005-0530</b>	Needle roller	D4.762x28.5
6	5	<b>535-241-1510</b>	Planet gear	Z17, D44.3/75
7	10	<b>590-353-1400</b>	Thrust washer	D34.9x1.5
8	1	<b>141-581-0001</b>	Counter Piece	D15/20x17
9	10	<b>90303-10203</b>	Hex Screw	M10 x 20 - DIN 933 - 8.8



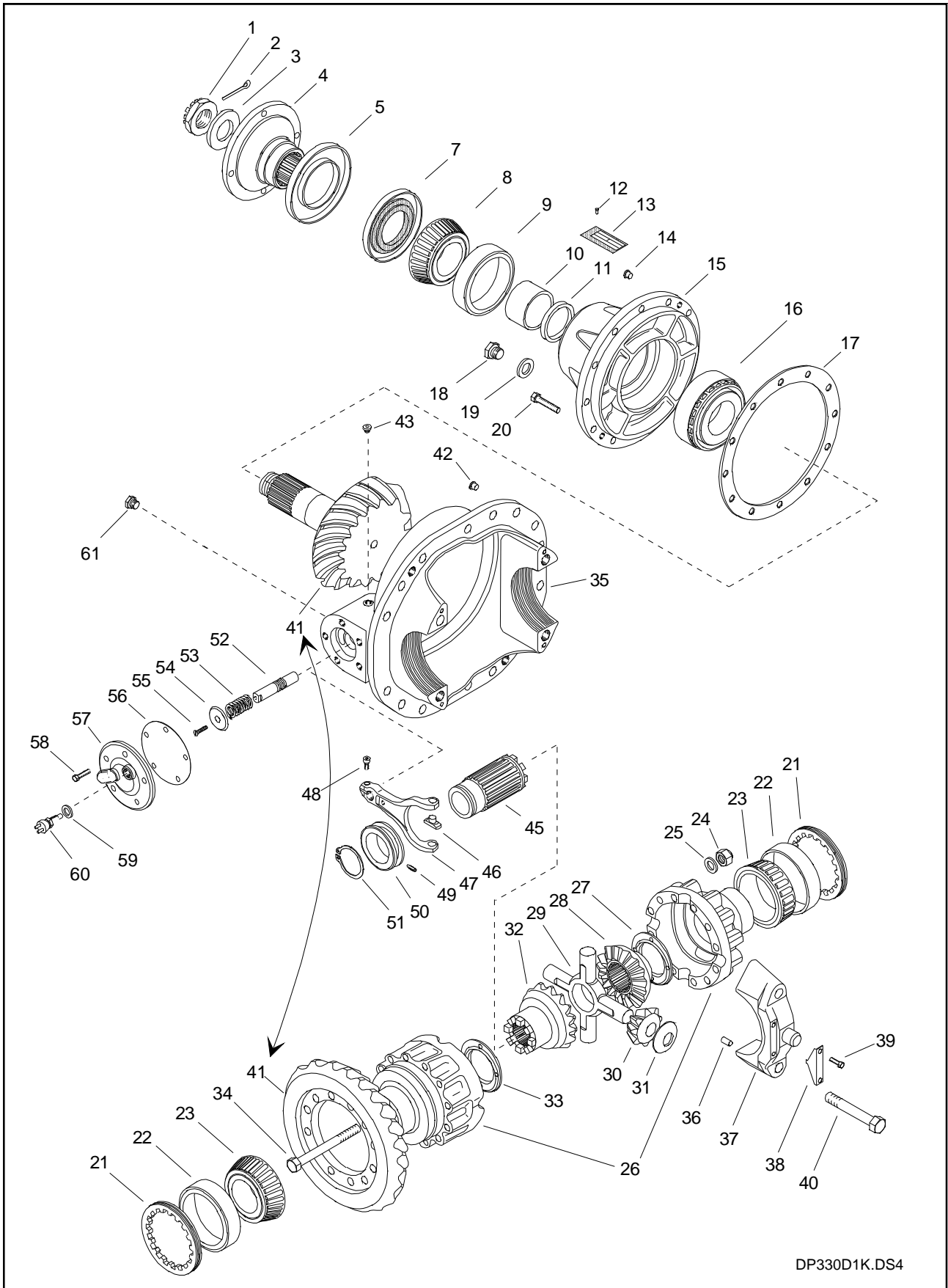
Item	Qty.	Order no.	Description	Note
1	1	<b>541-441-1610</b>	Planet carrier	i=3.214, c.d.=80
2	1	<b>535-259-0311</b>	Lock plate	D126/184x4
3	5	<b>535-251-1700</b>	Planet gear shaft	i=3.214, D30.2/35
4	5	<b>590-354-3300</b>	Spacer ring	D30.35/38.5x6.2
5	230	<b>090-005-0530</b>	Needle roller	D4.762x28.5
6	5	<b>535-241-1600</b>	Planet gear	Z17, D39.75/69
7	10	<b>590-353-1410</b>	Thrust washer	D30.4x1.5
8	1	<b>141-581-0001</b>	Counter Piece	D15/20x17
9	10	<b>90303-10203</b>	Hex Screw	M10 x 20 - DIN 933 - 8.8



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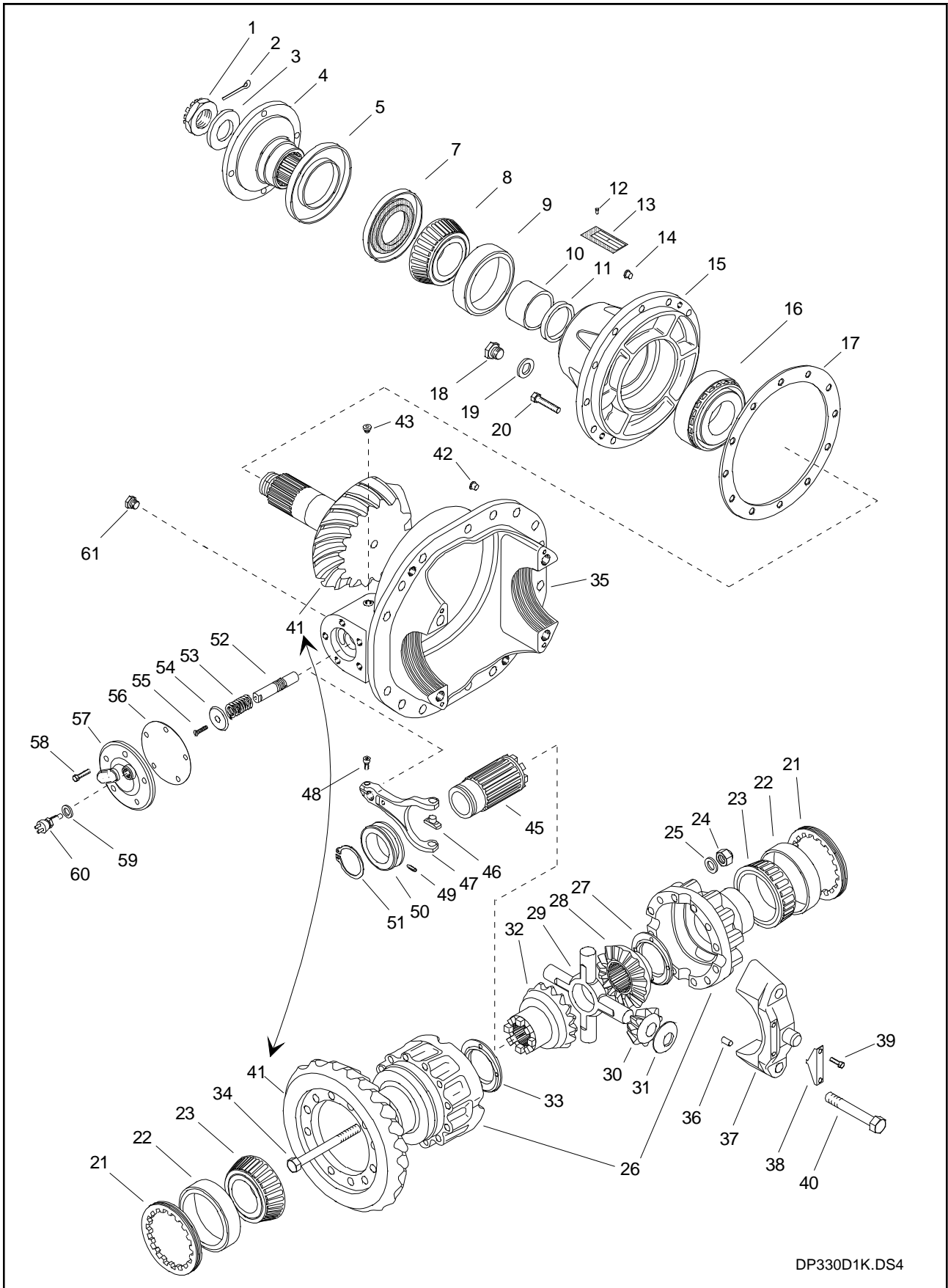


Item	Qty.	Order no.	Description	Note
1	1	<b>543-512-0201</b>	Axle Shaft	RH, L=1085, Track 1800
1	1	<b>543-512-0201</b>	Axle Shaft	RH, L=1085, Track 1880
1	1	<b>543-512-0202</b>	Axle Shaft	LH, L=1130, Track 1800
1	1	<b>543-512-0203</b>	Axle Shaft	RH, L=1170, Track 2040
1	1	<b>543-512-0203</b>	Axle Shaft	LH, L=1170, Track 1880
1	1	<b>543-512-0204</b>	Axle Shaft	LH, L=1280, Track 2040
2	2	<b>140-125-0100</b>	Thrust pin	D25



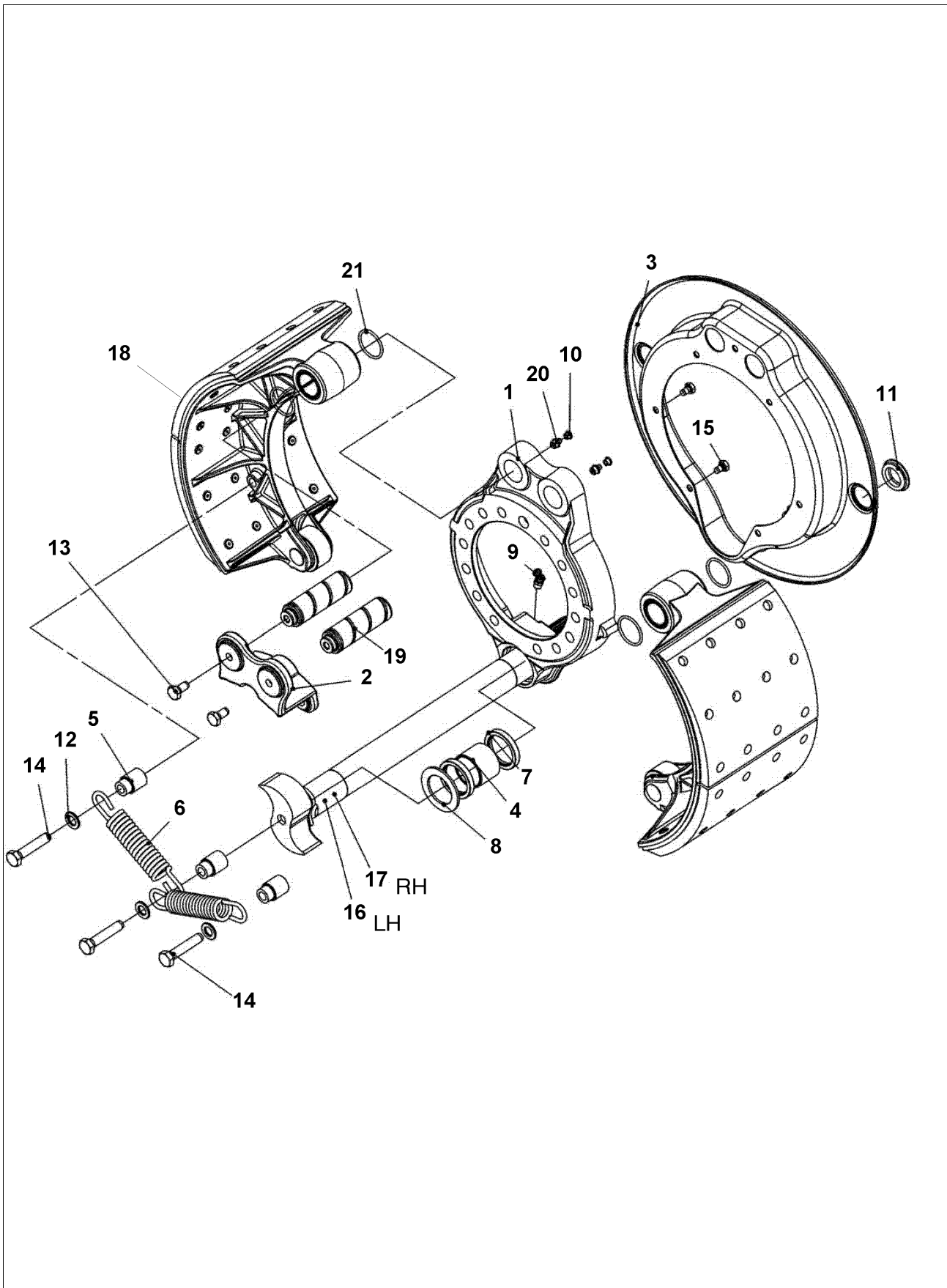
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Item	Qty.	Order no.	Description	Note
1	1	90546-42653	Nut	M42x1.5
2	1	90621-63633	Split pin	6.3x63
3	1	90705-43069	washer	D43/80x6
4	1	138-918-0400	Flange	HS1700-1800
4	1	138-918-0401	Flange	ISO 8667 - T180
4	1	538-967-0100	End Yoke	Input Splined Yoke 1710
5	1	090-711-9000	Shield	
7	1	591122-08508	Shaft seal	D85/140x13/20
8	1	090-110-6740	Bearing inner race	
9	1	090-121-3700	Bearing outer race	
10	ar	099-557-1026	Spacer ring	(l=53.70)
10	ar	099-557-1028	Spacer ring	(l=53.74)
10	ar	099-557-1030	Spacer ring	(l=53.78)
11	ar	099-517-1000	Shim	(s=0.30)
11	ar	099-517-1001	Shim	(s=0.40)
11	ar	099-517-1002	Shim	(s=0.50)
12	4	90111-29054	Rivet	D2.9x5
13	1	591600-20823	Name plate	
14	2	91425-09100	Shield plug	
15	1	144-231-0502	Bearing housing	
16	1	090-050-7001	T. Roller bearing	
17	ar	144-239-1400	Shim	(s= 0.50 mm)
17	ar	144-239-1401	Shim	(s= 0.20 mm)
17	ar	144-239-1403	Shim	(s= 0.10 mm)
17	ar	144-239-1404	Shim	(s= 1.00 mm)
18	1	90871-22193	Plug screw	M22x1.5, hex head
19	1	91201-22150	Seal ring	D22/27x1.5 Cu
20	14	90303-12308	Hex Screw	M12x30
21	2	143-226-0012	Adjusting nut	D149
22	2	090-121-4700	Bearing outer race	
23	2	090-110-9000	Bearing inner race	
24	12	90556-16247	Nut	M16x1.5
25		0		Not installed
26	1	543-310-4811	Diff. case assy	
27	1	090-357-5000	Thrust washer	D75/111x3
28	1	543-351-4210	Side gear	D55/Z26
29	1	143-331-0603	Spider	
30	4	143-341-0700	Pinion gear	
31	4	143-345-0400	Thrust washer	D29/65x1.5
32	1	543-351-4310	Side gear	D55/Z26
33	1	090-359-7000	Thrust washer	D97/127x3
34	12	599-116-3250	Hex Screw	M16x1.5, L= 207, 12.9
35	1	143-210-1511	Differential Carrier	Incl. Bearing Case Halfs and Bolts
36	4	590604-08141	Pin	Ø8x14
37		143-214-2180	Bearing Case Half	Not Servised Separately
38	2	143-227-0610	Lock plate	
39	4	90303-08163	Screw	M8x16
40	4	90301-20377	Hex Screw	M20x130
41	1	143-240-1819	Ring and pinion gear set	14/27, FR 7.01 (FR 6.20 w/3.214 hub reduction)
41	1	143-240-1821	Ring and pinion gear set	17/26, FR 5.56 (FR 4.92 w/3.214 hub reduction)
41	1	143-240-1829	Ring and pinion gear set	16/28, FR 6.36 (FR 5.63 w/3.214 hub reduction)
41	1	143-240-1851	Ring and pinion gear set	12/29, FR 8.79 (FR 7.77 w/3.214 hub reduction)
41	1	143-240-1881	Ring and pinion gear set	10/29, FR 10.55 (FR 9.32 w/3.214 hub reduction)
41	1	143-240-1891	Ring and pinion gear set	9/31, FR= 12.53 (FR 11.07 w/3.214 hub reduction)
41	1	543-240-7111	Ring and pinion gear set	25/32, FR 4.65 (FR 4.11 w/3.214 hub reduction)
41	1	543-240-7139	Ring and pinion gear set	28/33, FR 4.29 (FR 3.79 w/3.214 hub reduction)
42	2	91425-13120	Shield plug	

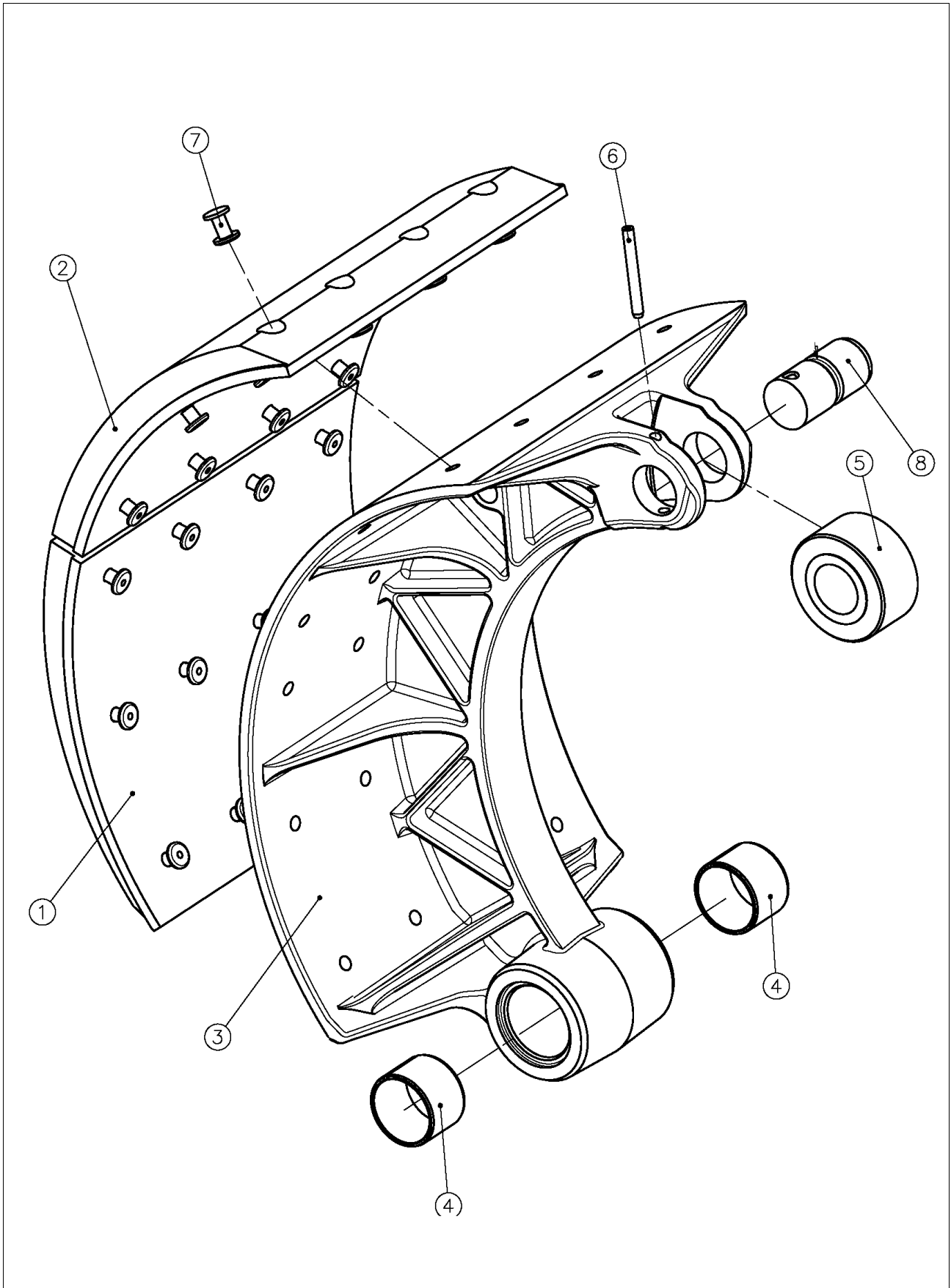


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Item	Qty.	Order no.	Description	Note
43	1	<b>90871-10143</b>	Plug screw	M10x1, hex head 14 mm
45	1	<b>144-341-1700</b>	Sliding Gear	
46	2	<b>133-348-0710</b>	Sliding shoe	
47	1	<b>144-751-1210</b>	Control fork	
48	1	<b>90313-06208</b>	Allen Screw	M6x20
49	1	<b>90335-05108</b>	Stopping screw	M5x10
50	1	<b>144-348-0000</b>	Sliding ring	
51	1	<b>91711-06500</b>	Retainer ring	D65
52	1	<b>172-212-1710</b>	Sliding Shaft	
53	1	<b>097-122-0100</b>	Return spring	
54	1	<b>172-361-0410</b>	Push plate	
55	1	<b>90319-08206</b>	Screw	M8x20
56	1	<b>172-351-1202</b>	Membrane	
57	1	<b>572-161-1502</b>	Membrane cover	For Signal Lamp Switch Option
58	5	<b>90303-08203</b>	Hex Screw	M8x20
59	1	<b>91201-18150</b>	Seal ring	D18/22x1.5 Cu
60	1	<b>586-490-0381</b>	Signal Lamp Switch	M18x1.5
61	1	<b>90871-18173</b>	Plug screw	M18x1.5
61	1	<b>91201-18150</b>	Seal ring	D18/22x1.5 Cu

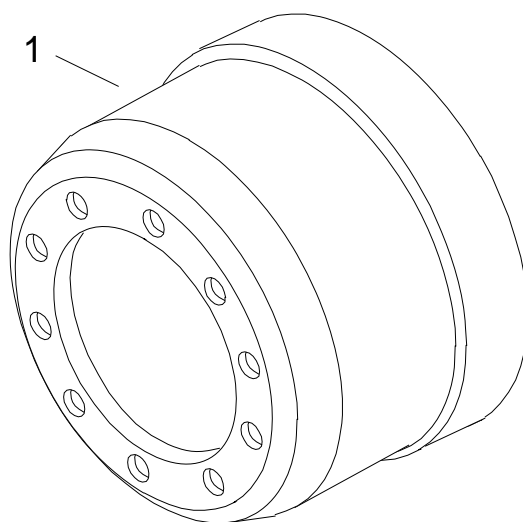


Item	Qty.	Order no.	Description	Note
1	2	<b>146-111-2610</b>	Brake Bracket	
2	2	<b>146-331-0400</b>	Anchor support	
3	2	<b>146-131-2210</b>	Dust Shield	210 mm
4	2	<b>590-314-2062</b>	Sleeve	D42/48x36
5	6	<b>599-601-8900</b>	Bush	D12/20/25x36
6	4	<b>92052-30002</b>	Return spring	D30x165.5
7	4	<b>91122-04201</b>	Shaft seal	D42/55x8
8	2	<b>91726-43065</b>	Support ring	D43/65x3
9	2	<b>91402-10453</b>	Grease nipple	M10x1, 45°
10	6	<b>91421-06060</b>	Shield hat	
11	4	<b>095-553-2000</b>	Shield plug	D33/44
12	6	<b>90705-13023</b>	washer	D13/24x2.5
13	4	<b>90303-10203</b>	Hex Screw	M10 x 20 - DIN 933 - 8.8
14	6	<b>90303-12603</b>	Hex Screw	M12x60
15	14	<b>90303-08123</b>	Hex Screw	M8x12
16	1	<b>146-213-0400</b>	S-cam shaft	RH, L=550, 1800 mm Track
16	1	<b>146-213-0600</b>	S-cam shaft	RH, L=590, 1880 mm Track
16	1	<b>146-213-0800</b>	S-cam shaft	RH, L=670, 2040 mm Track
17	1	<b>146-213-0500</b>	S-cam shaft	LH, L=550, 1800 mm Track
17	1	<b>146-213-0700</b>	S-cam shaft	LH, L=590, 1880 mm Track
17	1	<b>146-213-0900</b>	S-cam shaft	LH, L=670, 2040 mm Track
18	4	<b>546-306-0083</b>	Brake shoe assy	210mm, Beral1561
19	4	<b>146-341-1200</b>	Anchor bolt	With grease nipple
20	4	<b>91402-10003</b>	Grease nipple	M10x1, Straight
21	8	<b>91106-36212</b>	O-ring	D36,2x3 Viton



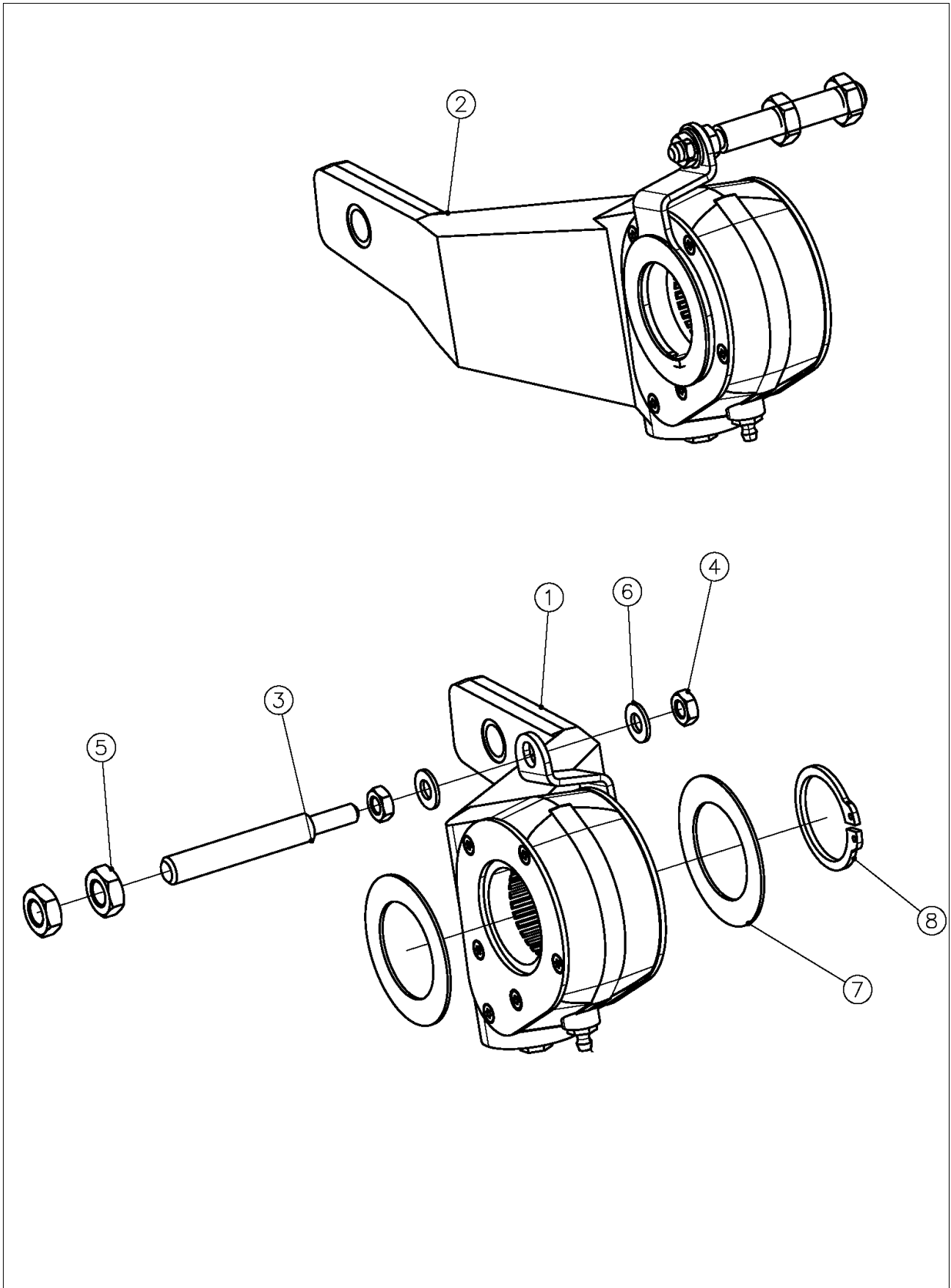


Item	Qty.	Order no.	Description	Note
1,2	ar	<b>546-360-3113</b>	Brake lining set	210mm, Beral1561, for one wheel
3	1	<b>146-351-4100</b>	Brake shoe	210 mm, o-ring sealing
4	2	<b>590-313-2091</b>	Sleeve	D32/36x25
5	1	<b>146-371-0700</b>	Roller	D25/54x28
6	1	<b>90602-05450</b>	Spring cotter	D5x40
7	24	<b>91501-00819</b>	Rivet	Included in lining set (pos1,2)
8	1	<b>146-373-0201</b>	Pin	D25x50

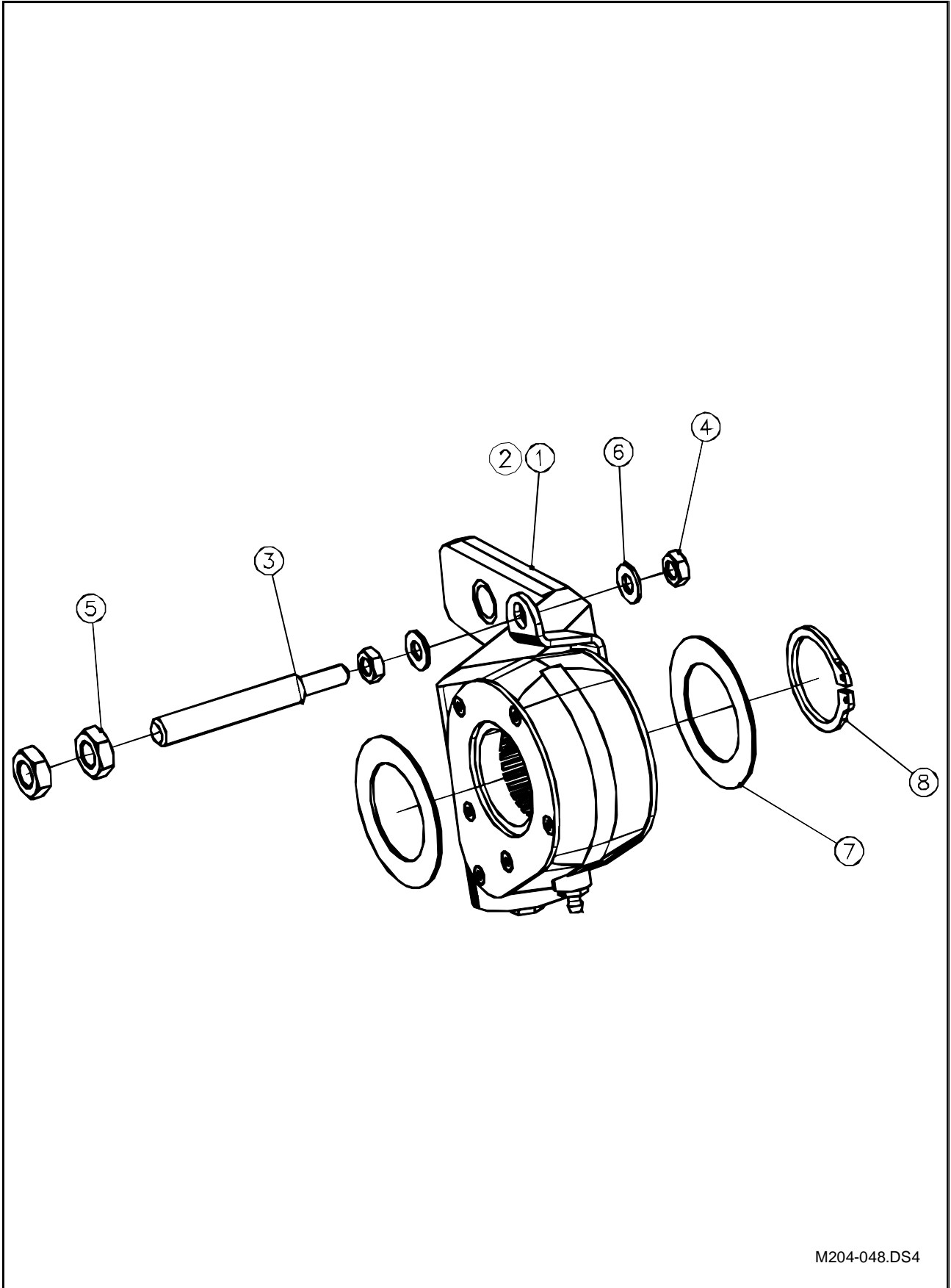


M203-036.DS4

Item	Qty.	Order no.	Description	Note
0	0	0		
1	2	146-311-7910	Brake drum	

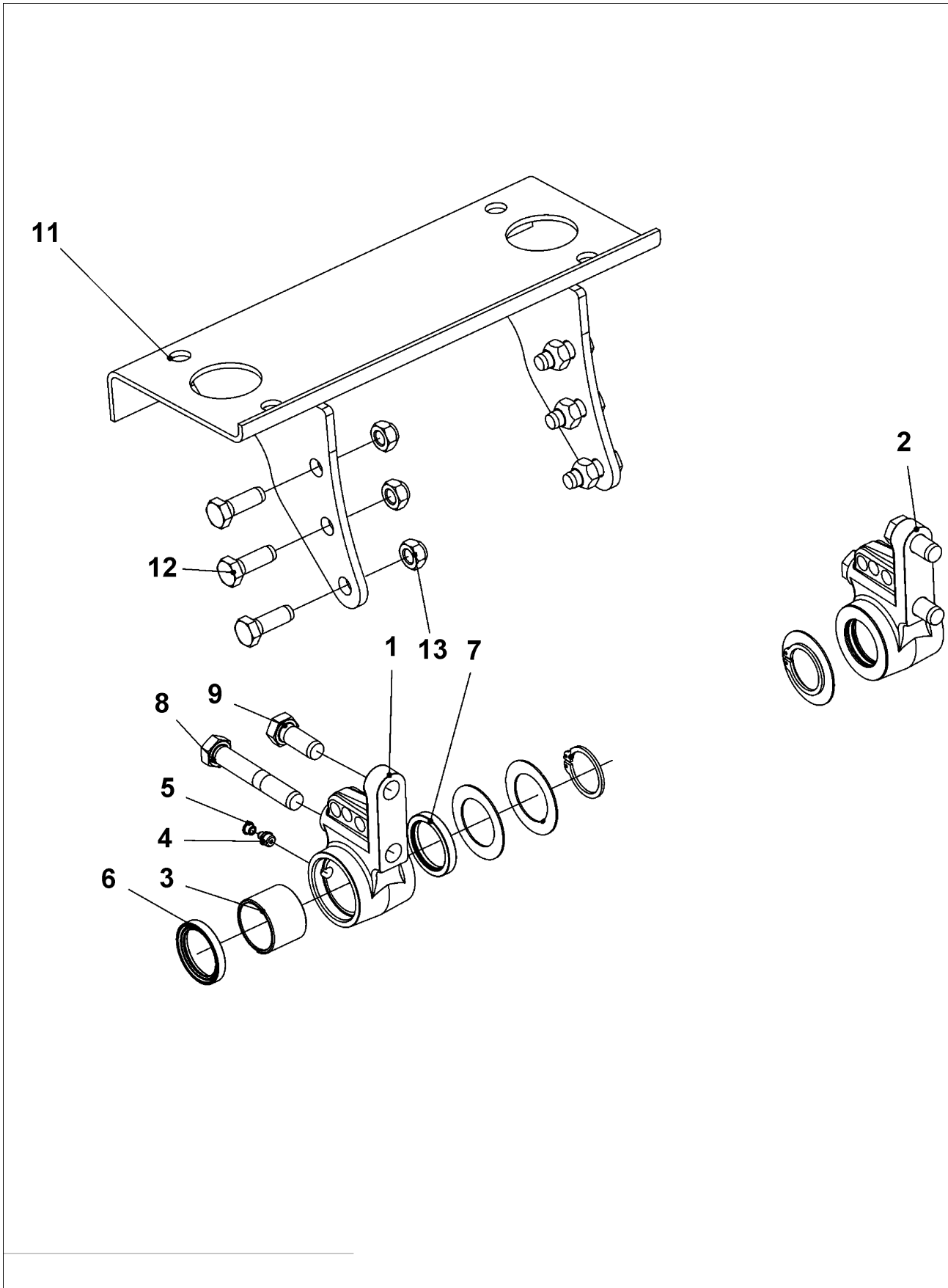


Item	Qty.	Order no.	Description	Note
1	1	<b>546-530-2012</b>	Slack adjuster	RH, 165 mm, offset 75
2	1	<b>546-530-2022</b>	Slack adjuster	LH, 165 mm, offset 75
3	2	<b>90177-01203</b>	Stud bolt	M12/M8, L=94
4	4	<b>90502-08133</b>	Nut	M8
5	4	<b>90502-12193</b>	Nut	M12
6	4	<b>90705-08423</b>	washer	D8.4/17x1.6
7	4	<b>090-354-3030</b>	Spacer plate	D43/66x1.5
8	2	<b>91712-04000</b>	Retainer ring	D40x2.5



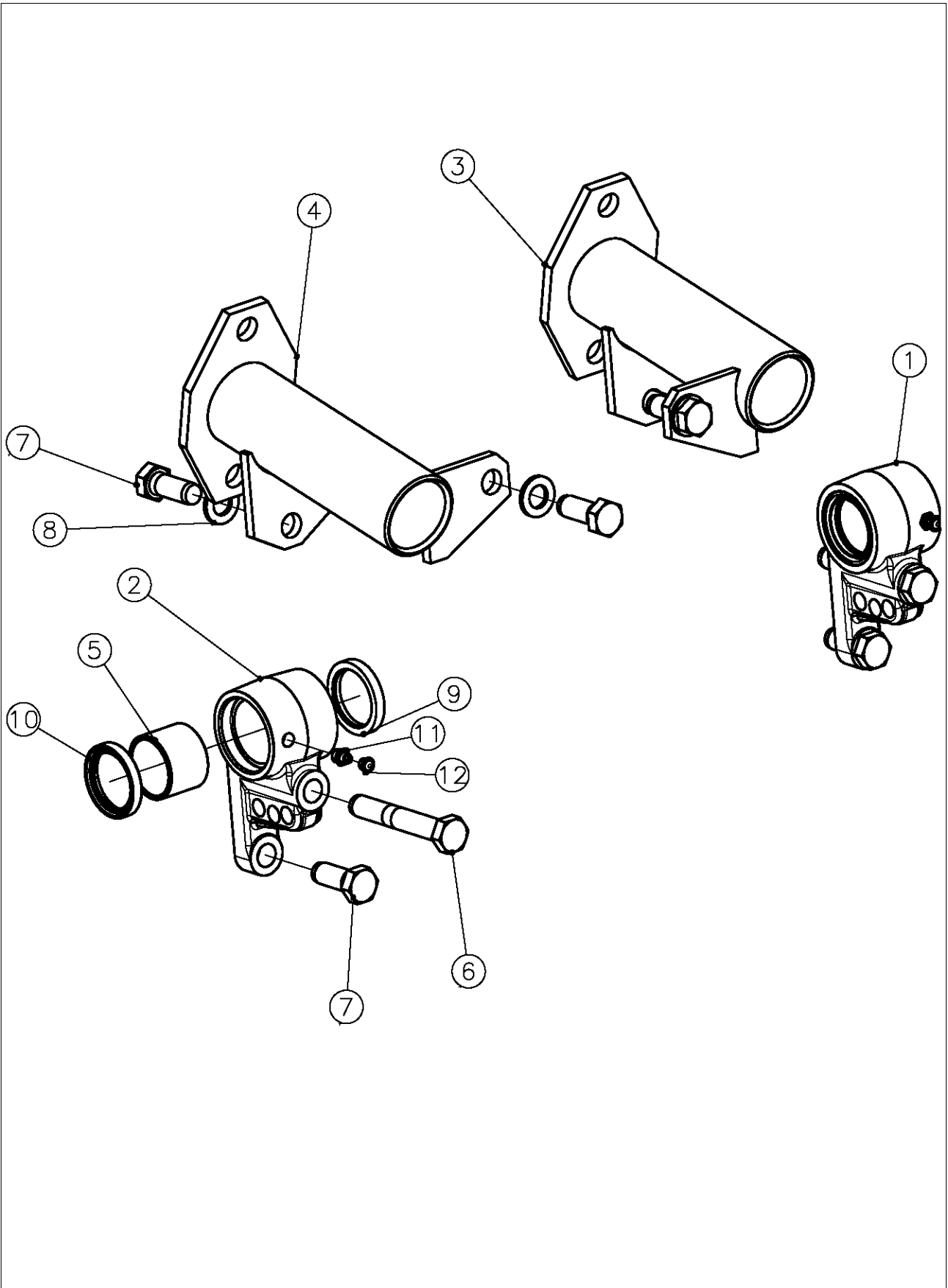
M204-048.DS4

Item	Qty.	Order no.	Description	Note
1	1	<b>546-530-3112</b>	Slack adjuster	RH, 165 mm, offset 60
2	1	<b>546-530-3122</b>	Slack adjuster	LH, 165 mm, offset 60
3	2	<b>90177-01203</b>	Stud bolt	M12/M8, L=94
4	4	<b>90502-08133</b>	Nut	M8
5	4	<b>90502-12193</b>	Nut	M12
6	4	<b>90705-08423</b>	washer	D8.4/17x1.6
7	4	<b>090-354-3030</b>	Spacer plate	D43/66x1.5
8	2	<b>91712-04000</b>	Retainer ring	D40x2.5

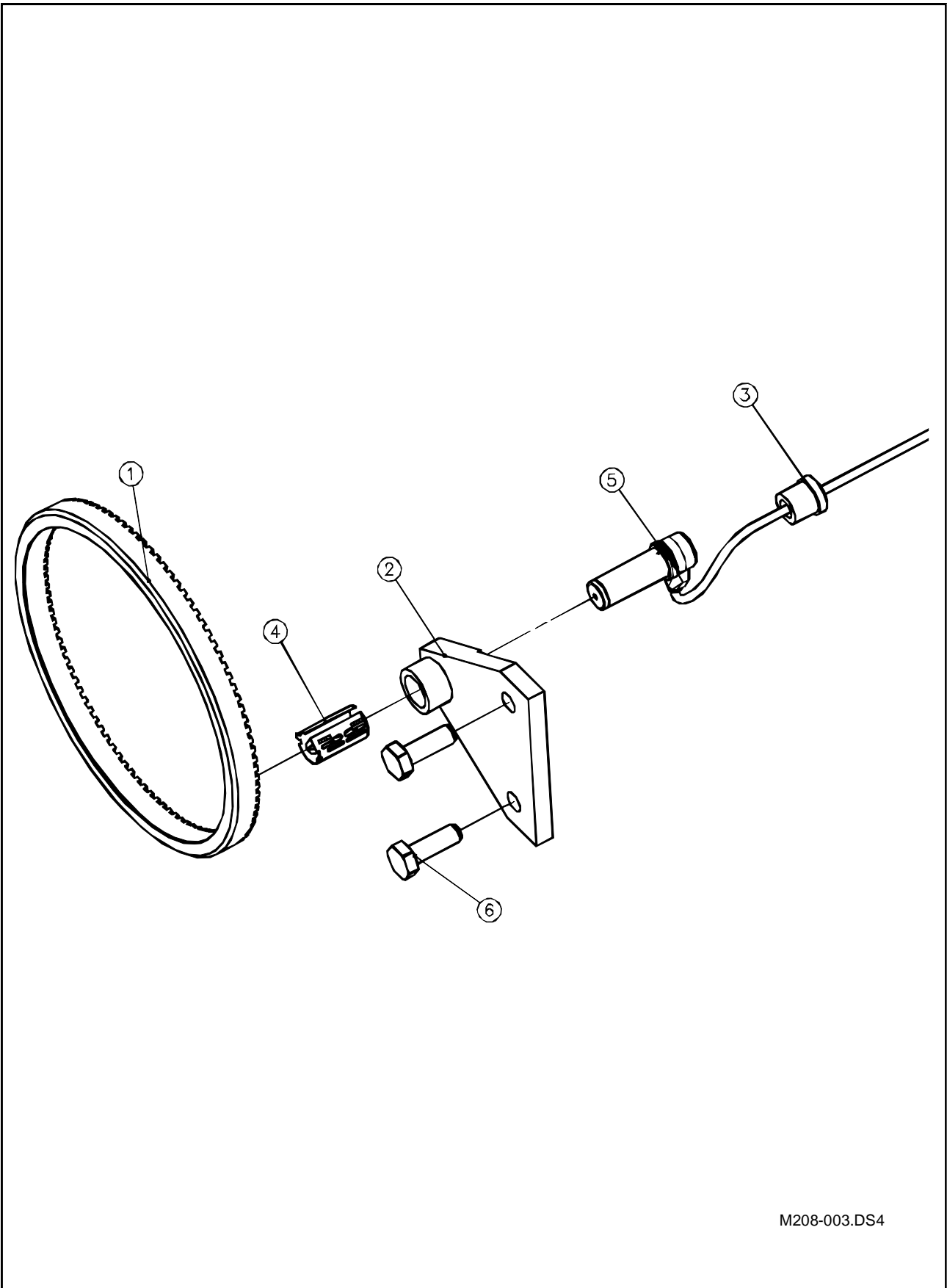




Item	Qty.	Order no.	Description	Note
1	1	<b>146-224-2400</b>	Bearing housing	RH
2	1	<b>146-224-2310</b>	Bearing housing	LH
3	2	<b>590-314-2062</b>	Sleeve	D42/48x36
4	2	<b>91402-10003</b>	Grease nipple	M10x1, Straight
5	2	<b>91421-06060</b>	Shield hat	
6	2	<b>91122-04202</b>	Shaft seal	D42/55x7
6	2	<b>91720-05500</b>	Retainer ring	D55x1.5, since S/N 164224 (9/2006)
7	2	<b>91122-04201</b>	Shaft seal	D42/55x8
8	2	<b>90301-16117</b>	Hex Screw	M16x100, 10.9
9	2	<b>90303-16407</b>	Hex Screw	M16x40, 10.9
11	1	<b>546-721-7400</b>	Chamber bracket	86 deg. for 165 mm slack adjuster w/75 mm offset
12	6	<b>90303-14407</b>	Hex Screw	M14x40
13	6	<b>90550-14227</b>	Nut	M14 self locking

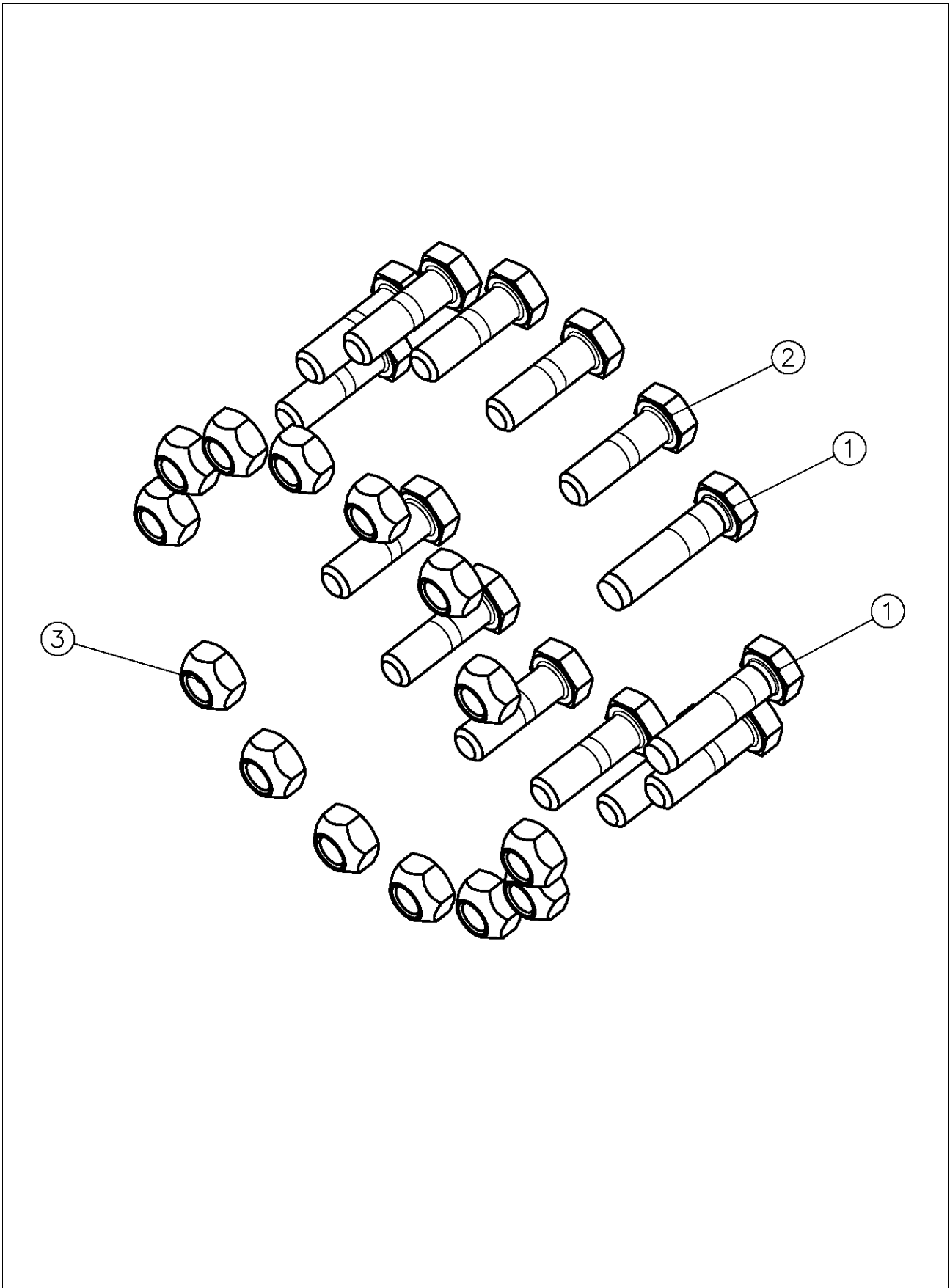


Item	Qty.	Order no.	Description	Note
1	1	<b>146-224-2310</b>	Bearing housing	RH
2	1	<b>146-224-2400</b>	Bearing housing	LH
3	1	<b>546-721-6900</b>	Chamber bracket	RH, 13 deg. for 165 mm slack w/60 mm offset
4	1	<b>546-721-6910</b>	Chamber bracket	LH, 13 deg. for 165 mm slack w/60 mm offset
5	2	<b>590-314-2062</b>	Sleeve	D42/48x36
6	2	<b>90301-16117</b>	Hex Screw	M16x100, 10.9
7	6	<b>90303-16407</b>	Hex Screw	M16x40, 10.9
8	4	<b>90705-17033</b>	washer	D17/30x3
9	2	<b>91122-04201</b>	Shaft seal	D42/55x8
10	2	<b>91122-04202</b>	Shaft seal	D42/55x7
10	2	<b>91720-05500</b>	Retainer ring	D55x1.5, since S/N 164224 (9/2006)
11	2	<b>91402-10003</b>	Grease nipple	M10x1, Straight
12	2	<b>91421-06060</b>	Shield hat	



M208-003.DS4

Item	Qty.	Order no.	Description	Note
1	2	<b>189-291-0000</b>	Ring gear	ABS, 100 Splines
2	2	<b>189-931-0900</b>	Bracket	
3	2	<b>592235-17101</b>	Rubber bushing	D10/17, for Knorr sensor
4	2	<b>189-295-0000</b>	Bush	Wabco 899 760 510
5	2	<b>589-250-0081</b>	Sensor	Knorr, protected wire
6	4	<b>90303-10303</b>	Hex Screw	M10x30



Item	Qty.	Order no.	Description	Note
1	4	<b>90301-14558</b>	Hex Screw	M14x55
2	24	<b>90169-01401</b>	Hex Screw	M14x45
3	28	<b>90550-14227</b>	Nut	M14 self locking