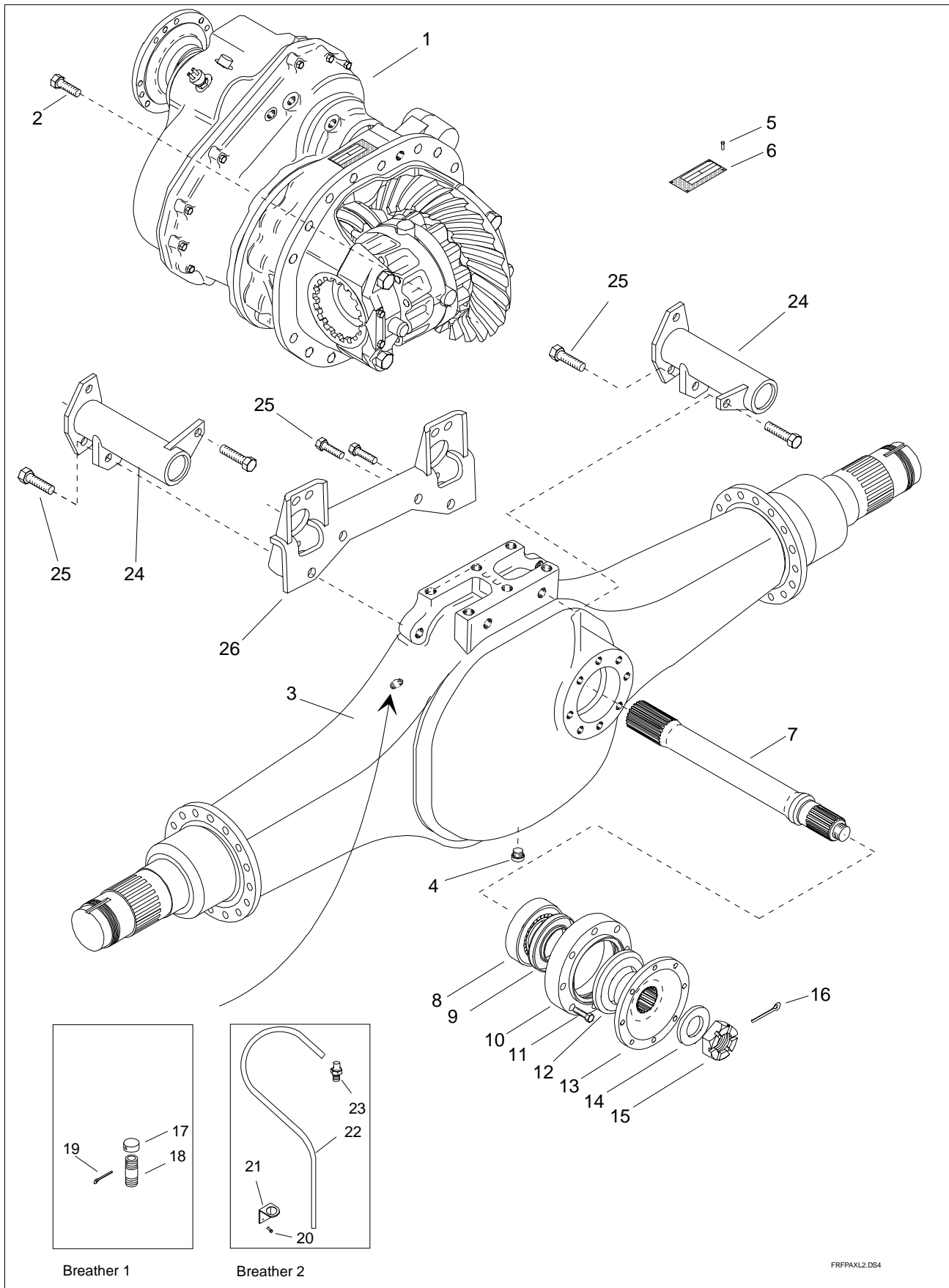


SISU AXLES

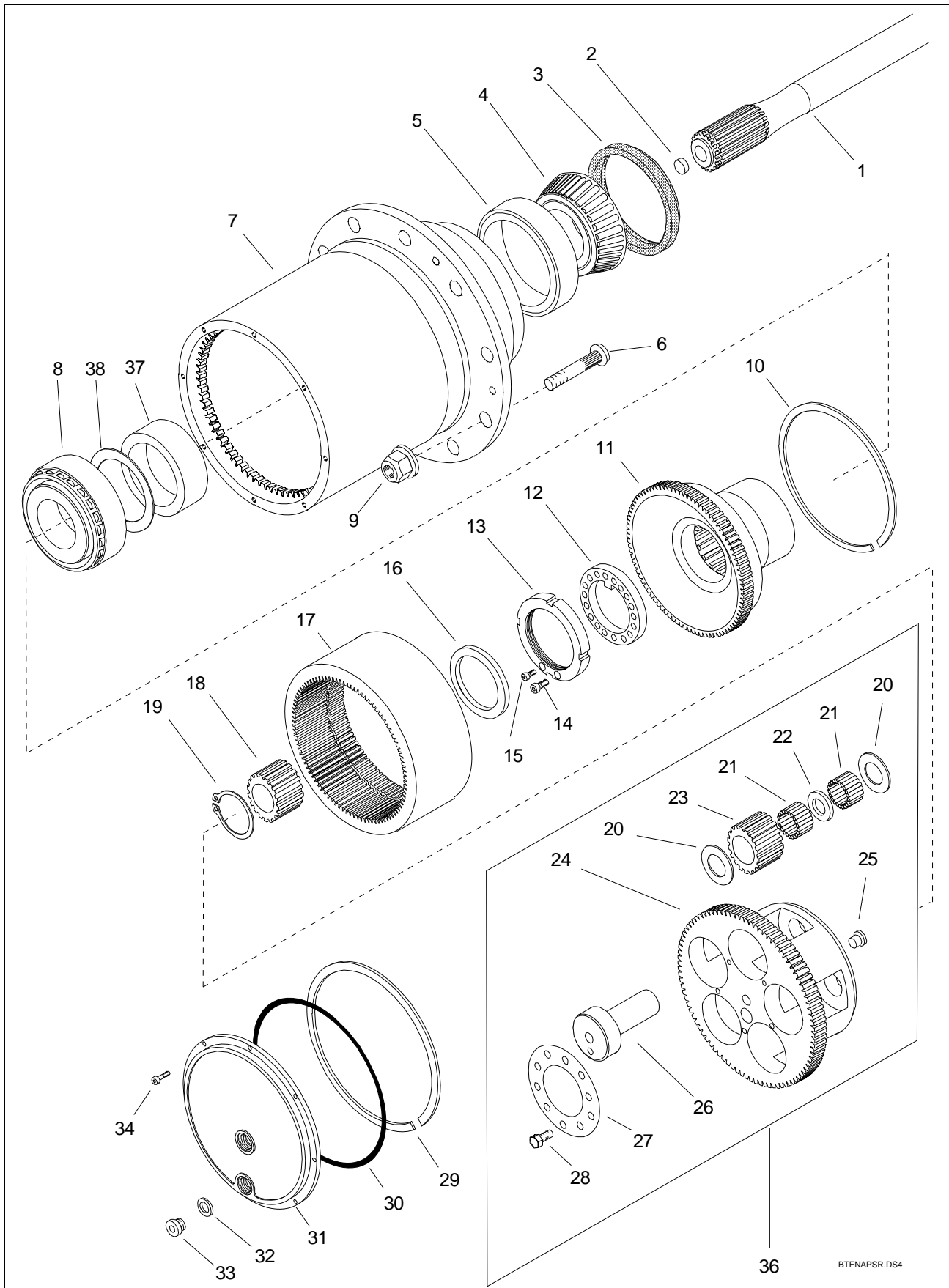
SPARE PARTS BOOK

**Tridem Axle
FRFP
FRFP-13/16-S
Up to S/N 144392 (11/2004)
Book No. 221 (2/2007)**

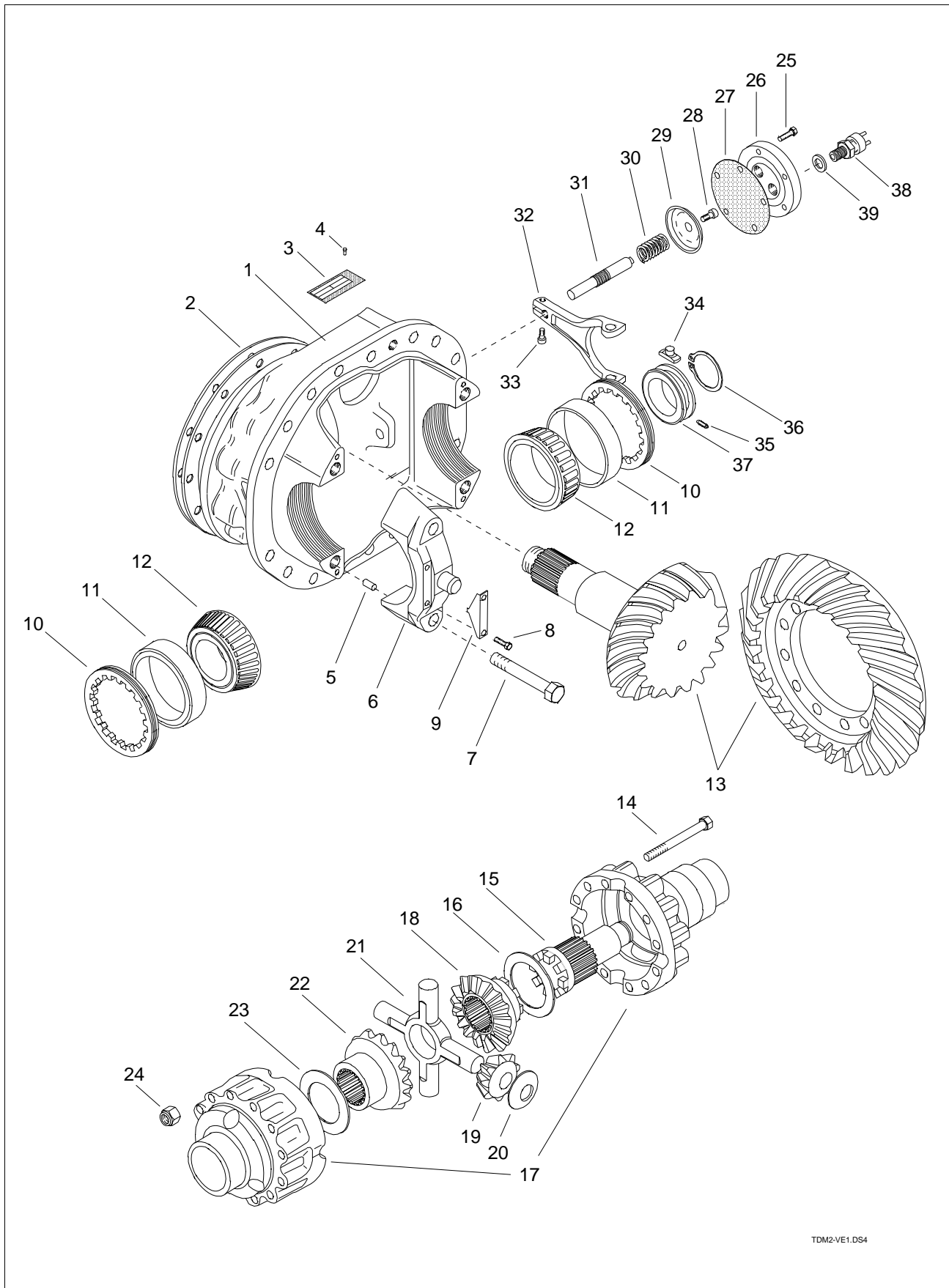
Sisu Axles, Inc.
Autotehtaan tie 1
PO Box 189
FIN-13101 Hämeenlinna
Finland
Phone +358 204 55 2999
Fax +358 204 55 2900



Item	Qty.	Order no.	Description	Note
1	1	544-206-2219	Diff. Carrier Assembly	FR 7.01, HS 1700/1800 flange
1	1	544-206-2221	Diff. Carrier Assembly	FR 5.56, HS 1700/1800 flange
1	1	544-206-2229	Diff. Carrier Assembly	FR 6.36, HS 1700/1800 flange
1	1	544-206-5651	Diff. Carrier Assembly	FR 8.79, HS 1700/1800 flange
2	16	90303-16407	Hex Screw	
3	1	543-114-7310	Axle Housing	1880 mm Track, 16 ton
3	1	543-114-7600	Axle Housing	1800 mm Track, 13 ton
3	1	543-114-7610	Axle Housing	2040 mm Track, 16 ton
3	1	543-114-7700	Axle Housing	1800 mm Track, 16 ton
3	1	543-115-1300	Axle Housing	2040 mm Track, 16 ton, Hendrickson RT650
3	1	543-116-0800	Axle Housing	1880 mm Track, 13 ton
3	1	543-116-7400	Axle Housing	1880 track, 16 t, Hendrickson brackets
4	1	90831-24139	Oil plug	Up to No. 00702, 2/2000
4	1	90873-22109	Oil plug	M22x1.5, since No 00703, 2/2000
4	1	91201-22150	Seal ring	Since No 00703, 2/2000
5	4	90111-29054	Rivet	
6	1	91600-20811	Name plate	
7	1	544-251-3610	Output Shaft	
8	1	91734-40651	Deep groove ball bearing	
9	1	91122-08505	Shaft seal	
10	1	544-321-0200	Seal housing	
11	8	590303-10503	Hex Screw	
12	1	91121-09001	Seal ring	
13	1	538-918-0710	Output flange	HS 1700/1800
13	1	538-967-0310	End Yoke	Output Splined Yoke 1710, spline N65, Z=24
14	1	90705-43069	washer	
15	1	90546-42653	Nut	
16	1	90621-63633	Split pin	
17	1	179-842-0000	Breather Cover	
18	1	179-841-1000	Breather pipe	
19	1	90621-32253	Split pin	
20	2	90111-29054	Rivet	
21	1	143-227-0800	Mounting Plate	
22		95242-06010	Plastic Pipe	
23	1	592422-01603	Hose clamp	
23	1	91978-30901	Binding screw	
24	1	146-721-5600	Chamber bracket	RH, 17 deg. for 145 mm slack adjuster
24	1	146-721-5610	Chamber bracket	LH, 17 deg. for 145 mm slack adjuster
24	1	546-721-6500	Chamber bracket	RH, 17 deg. for 165 mm slack adjuster
24	1	546-721-6510	Chamber bracket	LH, 17 deg. for 165 mm slack adjuster
25	4	90303-16407	Hex Screw	M16x40, 10.9
26	1	546-721-6600	Chamber bracket	20 deg. for 145 mm slack adjuster

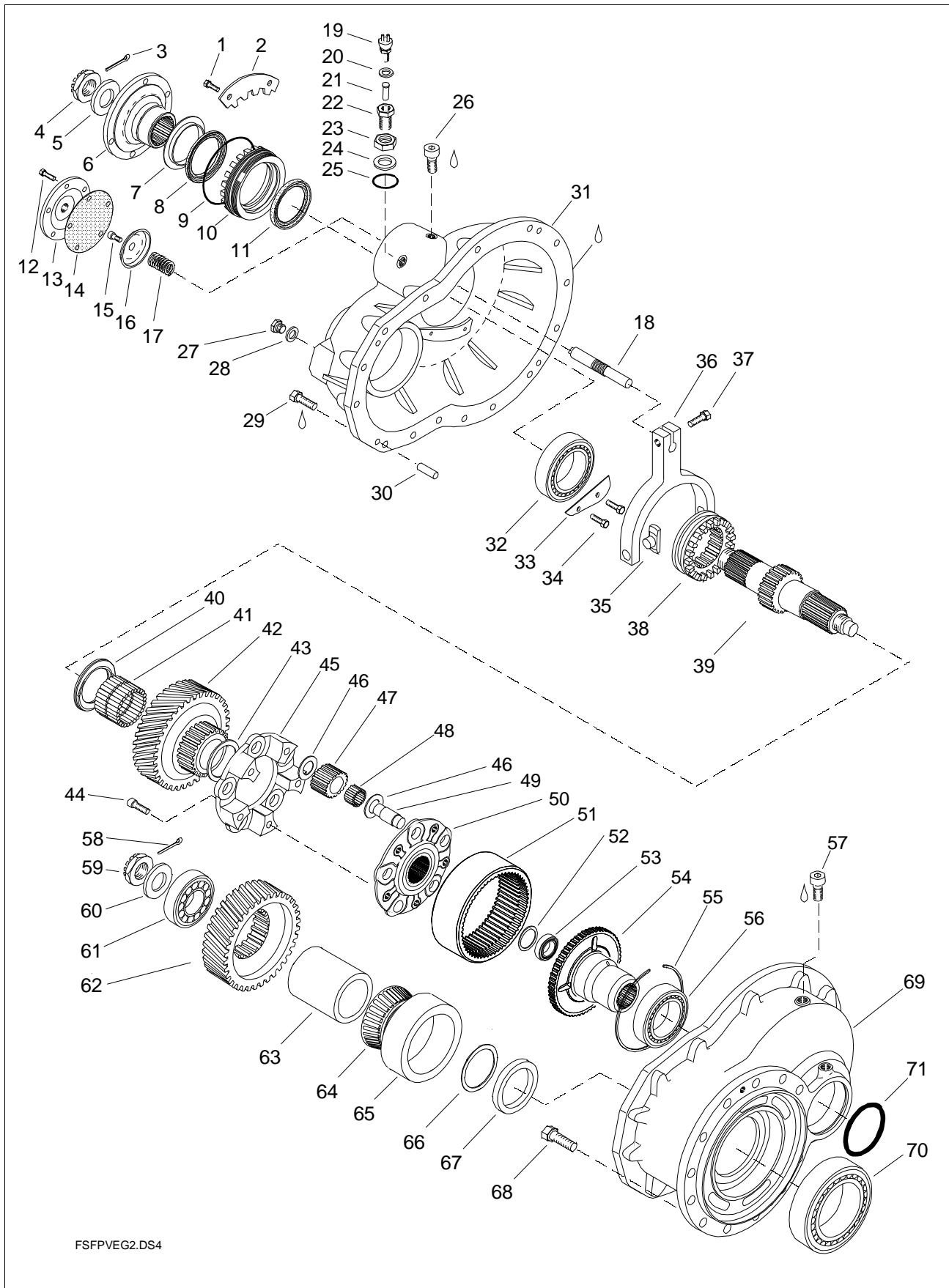


Item	Qty.	Order no.	Description	Note
0,1		N1	Note	Axle Shaft Spline D58/ Z23
1	2	143-511-0210	Axle Shaft	L=1097, FRDP, 1800 mm Track
1	1	143-511-5400	Axle Shaft	LH, L=1049, FRMP&FRFP, 1800 mm Track
1	1	143-511-5410	Axle Shaft	RH, L=1137, FRMP&FRFP, 1800 mm Track
1	2	143-511-5410	Axle Shaft	L=1137, FRDP, 1880 mm Track
1	1	143-511-6000	Axle Shaft	LH, L=1089, FRMP&FRFP, 1880 mm Track
1	1	143-511-6010	Axle Shaft	RH, L=1177, FRMP&FRFP, 1880 mm Track
1	1	143-511-6010	Axle Shaft	LH, L=1177, FRFP & FRMP, 2040 mmTrack
1	1	143-511-6300	Axle Shaft	RH, L=1257, FRFP & FRMP, 2040 mm Track
1	2	143-511-6310	Axle Shaft	L=1217, FRDP, 2040 mm Track
2	2	140-125-0100	Thrust pin	D25
3	2	591122-12702	Shaft seal	127x160, Since No. 20577 (3/2002)
3	2	91122-12701	Shaft seal	127x159, Up to. No. 20576 (3/2002)
4	2	090-111-0000	Bearing inner race	
5	2	090-121-5700	Bearing outer race	
6	20	140-911-2510	Wheel bolt	93 mm
6	20	140-911-2700	Wheel bolt	113 mm (with aluminium rims)
7	2	143-441-0410	Wheel hub	With steel rims up to S/N 20576 (3/2002)
7	2	543-441-0600	Wheel hub	With aluminium rims up to S/N 20576 (3/2002)
7	2	543-441-0700	Wheel hub	With steel rims since S/N 20577 (3/2002)
7	2	543-441-0710	Wheel hub	With aluminium rims since S/N 20577 (3/2002)
8	2	91744-01201	T. Roller bearing	
9	20	540-916-1610	Wheel nut	M22x1.5
10	2	91720-22001	Retainer ring	D220x3
11	2	135-271-0310	Ring gear hub	Up to No. 80190 (2/98)
11	2	535-271-0311	Ring gear hub	Since No. 80191 (2/98)
12	2	099-459-0000	Lock washer	Up to No. 80190 (2/98)
12	2	143-418-0510	Lock Washer	Since No. 80191 (2/98)
13	2	099-290-8003	Lock Nut	Up to No. 80190 (2/98)
13	2	599-290-8004	Lock Nut	Since No. 80191 (2/98)
14	2	590319-08186	Allen Screw	M8x18, Since No. 80191 (2/98)
14	2	90319-06106	Lock Screw	Up to No. 80190 (2/98)
15	2	590319-08126	Allen Screw	M8x12, Since No. 80191 (2/98)
15	2	90319-06106	Lock Screw	Up to No. 80190 (2/98)
16	2	090-721-8500	Protective cup	D60/85x10
17	2	135-261-0800	Ring gear	
18	2	135-211-0500	Sun gear	
19	2	91711-05600	Retainer ring	D56x2
20	20	090-353-5020	Spacer plate	D57/35x1.5
21	520	090-005-0530	Needle roller	D4.762x28.5
22	10	090-353-5000	Spacer ring	D35/44x6.2
23	10	135-241-0601	Planet gear	
24	2	141-441-0910	Planet carrier	
25	2	141-581-0001	Counter Piece	D15/20x17
26	10	135-251-0710	Planet gear shaft	
27	2	135-256-0210	Lock Washer	
28	20	90303-10203	Hex Screw	M10 x 20 - DIN 933 - 8.8
29	2	91720-26001	Retainer ring	D265x4.2
30	2	91109-50030	O-ring	D249.5x3
31	2	141-422-0410	Planetary gear cover	Aluminium, up to No. 92927 (9/1999)
31	2	541-422-1200	Planetary gear cover	Cast iron, Since No. 92928 (9/1999)
31	2	541-422-1300	Planetary gear cover	Cooled, cast iron, optional
32	4	91201-22150	Seal ring	Cu (with cast iron hub cover)
32	4	91201-22152	Seal ring	Al (with Al. hub cover)
33	4	90873-22103	Plug	M22x1.5, Allen head
34	16	90313-06168	Allen Screw	M6x16
36	2	141-404-0100	Planetary gear	
37	2	543-416-0310	Spacer ring	L=29 mm, since No. 93833, 11/99
38	ar	590731-09510	Shim	s= 0.1 mm, since No. 93833, 11/99
38	ar	590731-09515	Shim	s= 0.15 mm, since No. 93833, 11/99
38	ar	590731-09520	Shim	s= 0.2 mm, since No. 93833, 11/99
38	ar	590731-09550	Shim	s= 0.5 mm, since No. 93833, 11/99

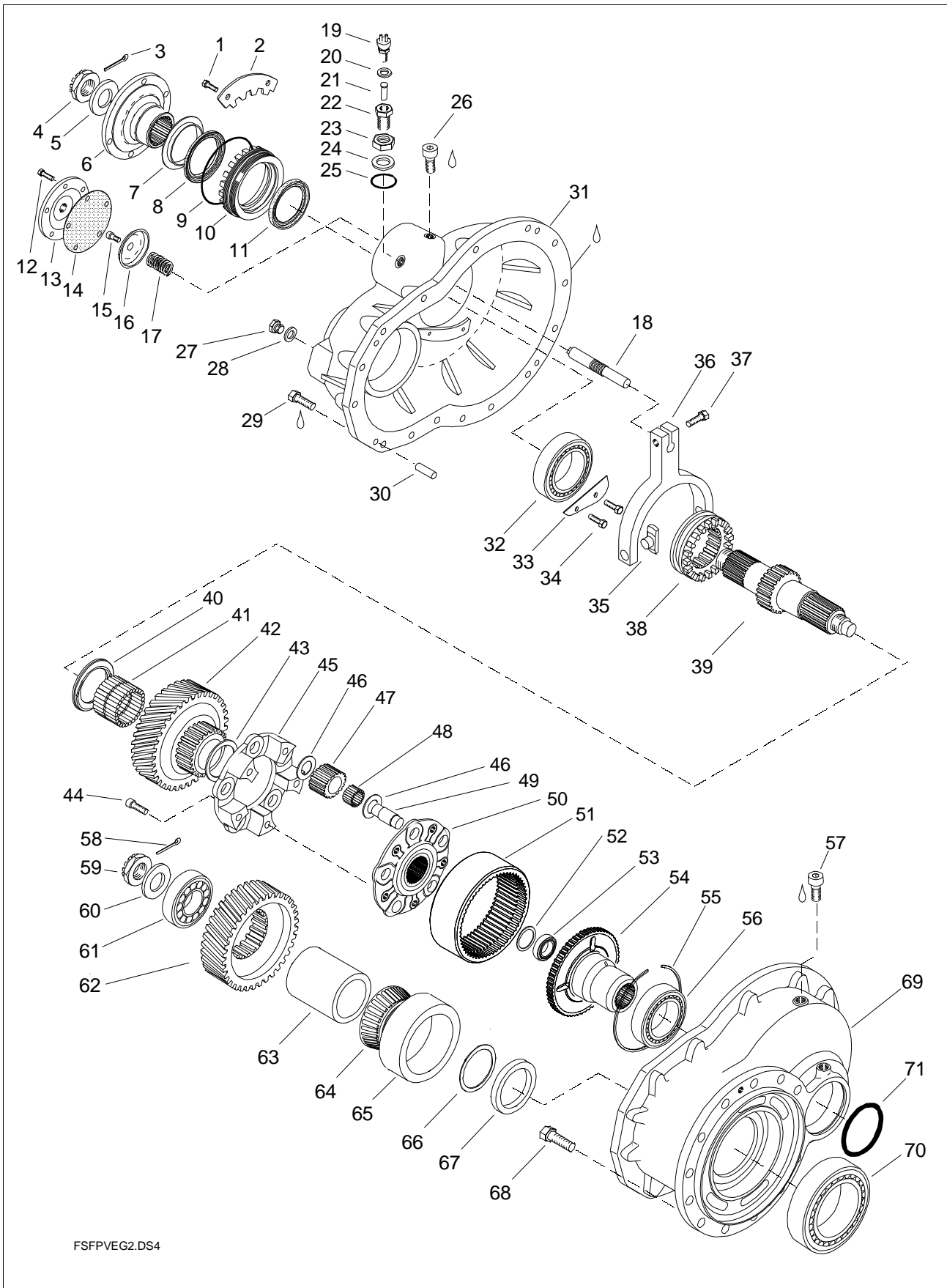


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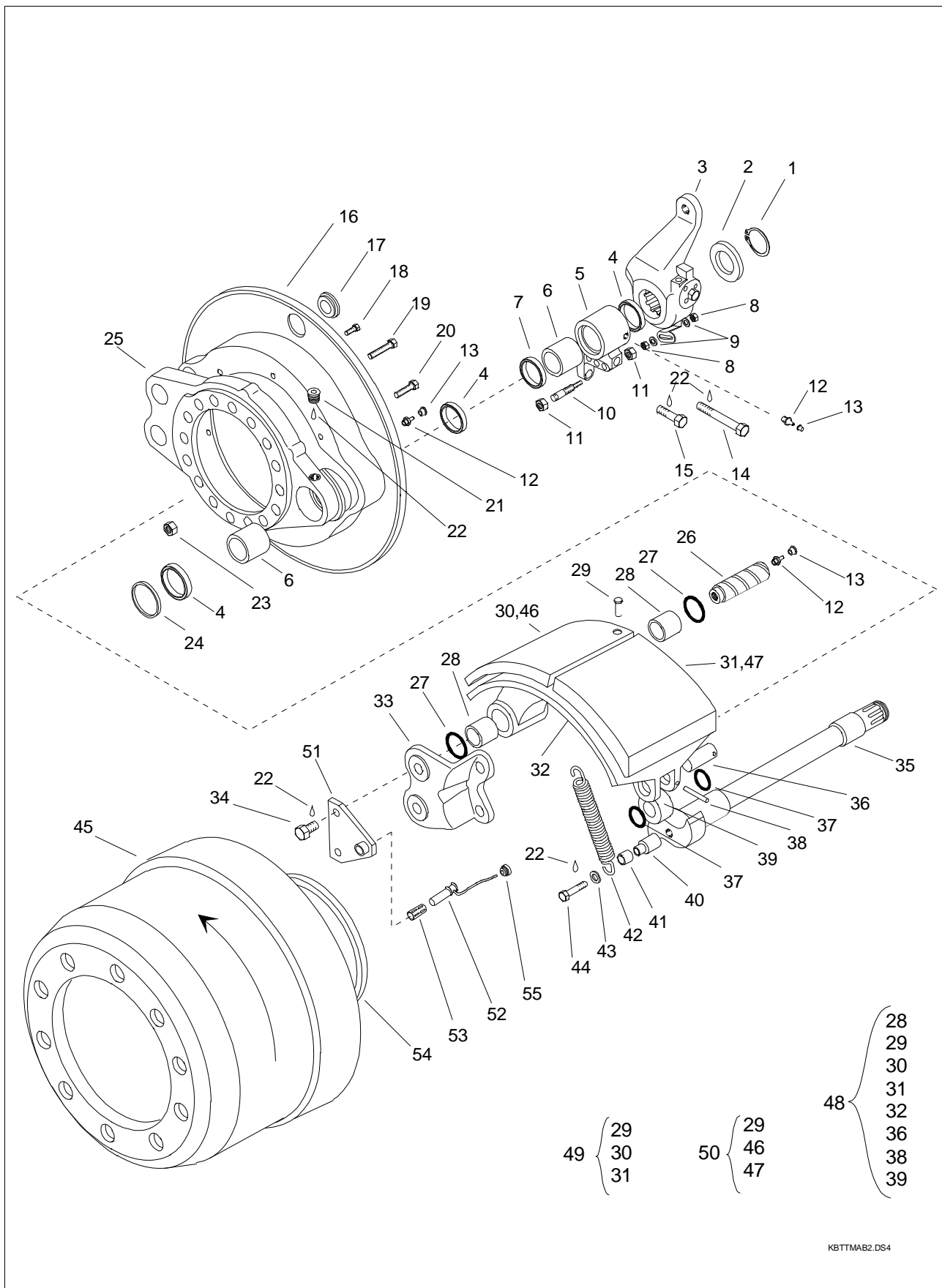
Item	Qty.	Order no.	Description	Note
1	1	144-210-1911	Differential Carrier	Inc. Bearing Case Halfs
2	ar	144-239-2000	Shim	(1.0 mm)
2	ar	144-239-2001	Shim	(0.5 mm)
2	ar	144-239-2002	Shim	(0.2 mm)
2	ar	144-239-2003	Shim	(0.1 mm)
3	1	91600-20811	Name plate	
4	4	90111-29054	Rivet	D2.9x5
5	4	590604-08141	Pin	Ø8x14
6	2	143-214-2180	Bearing Case Half	Not Serviced Separately
7	4	90301-20377	Hex Screw	M20x130
8	4	90303-08103	Hex Screw	M8x10
9	2	143-227-0610	Lock Washer	
10	2	143-226-0012	Adjusting nut	D149
11	2	090-121-4700	Bearing outer race	
12	2	090-110-9000	Bearing inner race	
13		543-240-3411	Ring and pinion gear set	21/27, FR 4.68, Use 543-240-6411
13	1	543-240-3419	Ring and pinion gear set	14/27, FR 7.01
13	1	543-240-3421	Ring and pinion gear set	17/26, Final Ratio 5.56
13	1	543-240-3429	Ring and pinion gear set	16/28, FR 6.36
13	1	543-240-3451	Ring and pinion gear set	12/29, FR 8.79
13	1	543-240-3481	Ring and pinion gear set	10/29, FR 10.55
13	1	543-240-6411	Ring and pinion gear set	25/32, FR 4.65
14	12	90321-16538	Hex Screw	M16x1.5
15	1	144-341-1700	Sliding Gear	
16	1	090-359-7000	Thrust washer	
17	1	143-310-3811	Diff. case assy	
18	1	143-351-3510	Side gear	D58/Z23
19	4	143-341-0700	Pinion gear	
20	4	143-345-0400	Thrust washer	D29/65x1.5
21	1	143-331-0603	Spider	
22	1	143-351-0900	Side gear	D58/Z23
23	1	090-357-5000	Thrust washer	D75/111x3
24	12	90556-16247	Nut	M16x1.5
25	5	90303-08203	Hex Screw	M8x20
25	5	90303-08303	Hex Screw	M8x30, only for cover -1510
26	1	172-161-0701	Membrane cover	M16x1.5, W/o diff diff lock indicator bore
26	1	572-161-1502	Membrane cover	For Signal Lamp Switch
27	1	172-351-1202	Membrane	
27	1	572-351-1204	Membrane	Viton
28	1	90319-08206	Screw	M8x20
29	1	172-361-0410	Push plate	
30	1	097-122-0100	Return spring	
31	1	172-212-1710	Sliding Shaft	
32	1	144-751-1210	Control fork	
33	1	90313-06208	Allen Screw	M6x20
34	2	133-348-0710	Sliding shoe	
35	1	90335-05108	Stopping screw	M5x10
36	1	91711-06500	Retainer ring	D65
37	1	144-348-0000	Sliding ring	
38	1	586-490-0381	Signal Lamp Switch	M18x1.5
39	1	91201-18150	Seal ring	D18/22x1.5 Cu



Item	Qty.	Order no.	Description	Note
1	2	90303-08203	Hex Screw	M8x20
2	1	143-227-0710	Lock Washer	
3	1	90621-63633	Split pin	D6.3x63
4	1	90546-42653	Nut	M42x1.5
5	1	90705-43069	washer	D43/80x6
6	1	538-918-0500	Flange	ISO 8667 - T180
6	1	538-918-0700	Flange	HS 1700/1800
7	1	090-711-9010	Shield	
8	1	090-400-9500	V-ring	VS-95
9	1	91101-39530	O-ring	D139.5x3
10	1	143-226-1200	Adjusting nut	
11	1	91122-08505	Shaft seal	D85/105x10
12	5	90303-08203	Hex Screw	M8x20
13	1	172-161-0701	Membrane cover	M16x1.5
14	1	172-351-1202	Membrane	
14	1	572-351-1204	Membrane	Viton
15	1	90319-08206	Screw	M8x20
16	1	172-361-0410	Push plate	D70x12
17	1	097-122-0100	Return spring	D29.5x43
18	1	172-212-1710	Sliding Shaft	D16/20x125
19	1	186-490-0281	Signal Lamp Switch	M12x1.5
20	1	91201-12150	Seal ring	D12/15.5x1.5 Cu
21	1	141-812-0100	Control pin	D8/10x26
22	1	141-812-0000	Binding screw	M12x1.5/M18x1.5
23	1	91842-18243	Lock Nut	M18x1.5
24	1	91838-18010	Pressure ring	Ms DR/R 18x23
25	1	91838-18100	O-ring	Ø16x2.5
26	1	90873-10053	Plug screw	M10x1, Allen head
27	2	90871-22193	Plug screw	M22x1.5, hex head
28	2	91201-22150	Seal ring	D22/27x1.5 Cu
29	16	90303-12308	Hex Screw	M12x30
30	2	90604-10201	Cotter Pin	D10x20
31	1	544-221-0700	Diff. Carrier Cover	w/o pressure lubrication
32	1	91744-00704	T. Roller bearing	
33	1	546-167-1101	Oil Plate	Supersedes: 146-167-1010 ja 546-167-1100
34	2	90303-08203	Hex Screw	M8x20
35	2	133-348-1701	Sliding shoe	
36	1	144-751-1300	Control fork	
37	1	90313-08208	Allen Screw	M8x20
38	1	544-274-0800	Sliding Ring	Ret. angle 0 deg., up to S/N 154399 (10/2005)
38	1	544-274-0910	Sliding Ring	Ret. angle 6 deg., since S/N 154400 (10/2005)
39	1	544-251-3600	Intermediate Shaft	
40	1	544-282-0100	Spacer ring	D75/99x6.5
41	1	591738-40751	Needle bush	
42	1	544-269-0910	Gear assembly	FR 4,65 and up, dog teeth ret. angle 0 deg.
42	1	544-269-1310	Gear assembly	FR 4,28, dog teeth ret. angle 0 deg.
42	1	544-269-1900	Gear assembly	FR 4,65 and up, dog teeth ret. angle 6 deg.
42	1	544-269-1910	Gear assembly	FR 4.28, dog teeth ret. angle 6 deg.
43	1	544-282-0210	Spacer ring	
44	5	90311-16508	Allen Screw	M16x50
45	1	535-231-1400	Planet carrier	
46	10	590-354-3210	Spacer ring	D32/54x1.47
47	5	535-241-1400	Planet gear	
48	5	591738-40321	Needle bush	
49	5	535-251-1500	Planet gear shaft	
50	1	541-441-1300	Planet carrier	

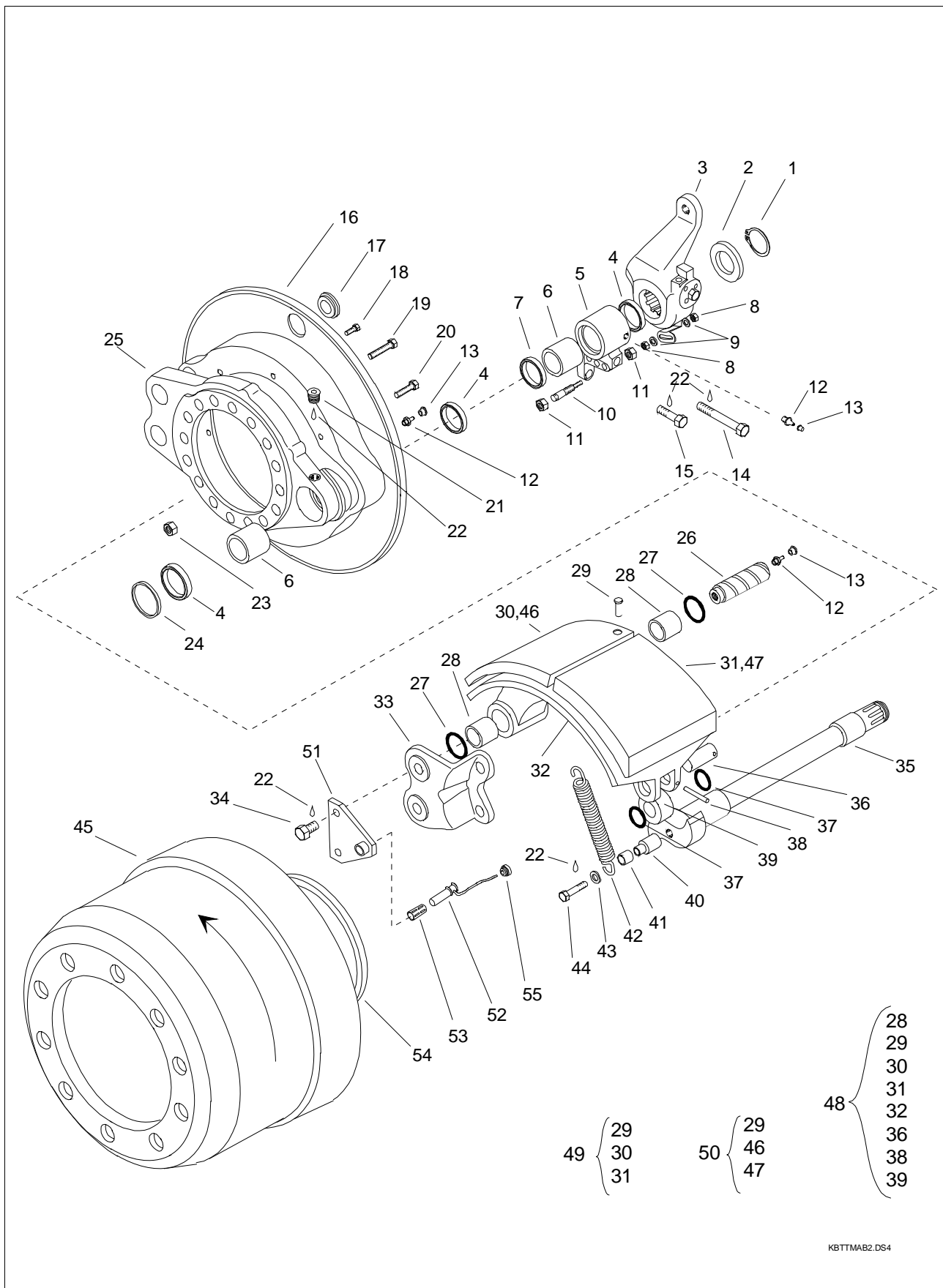


Item	Qty.	Order no.	Description	Note
51	1	535-261-2200	Ring gear	
52	ar	90731-03510	Shim	(0.1 mm)
52	ar	90731-03520	Shim	(0.2 mm)
52	ar	90731-03550	Shim	(0.5 mm)
52	ar	90732-03510	Shim	(1.0 mm)
53	1	591744-00352	T. Roller bearing	
54	1	535-271-0700	Ring gear hub	
55	1	591720-25001	Retainer ring	
56	1	91744-00951	T. Roller bearing	
57	1	90873-10053	Plug screw	
58	1	90621-63633	Split pin	
59	1	90546-42653	Nut	
60	1	90705-43069	washer	
61	1	591736-30553	Roller bearing	
62	1	544-261-2200	Gear	FR 4.65 and over (z28, ratio 1:1)
62	1	544-261-3300	Gear	FR 4.28 (z34, ratio 1:0.919)
63	1	543-261-1200	Spacer ring	
64	1	090-110-6740	Bearing inner race	
65	1	090-121-3700	Bearing outer race	
66	ar	099-516-7000	Shim	(0.1 mm)
66	ar	099-516-7001	Shim	(0.3 mm)
66	ar	099-516-7002	Shim	(0.5 mm)
66	ar	099-516-7003	Shim	(0.25 mm)
67	ar	599-557-1050	Spacer ring	L=18.40
67	ar	599-557-1052	Spacer ring	L=18.44
67	ar	599-557-1054	Spacer ring	L=18.48
68	12	90303-16407	Hex Screw	
69	1	544-211-1600	Diff. Carrier Housing	w/o pressure lubrication
70	1	91744-00681	T. Roller bearing	
71	1	591106-99532	O-ring	



KBTTMAB2.DS4

Item	Qty.	Order no.	Description	Note
1	2	91712-04000	Retainer ring	D40x2.5
2	4	91726-43065	Support ring	D43/65x3
3	1	146-530-1011	Slack adjuster	RH, 145 mm, up to No. 20898 (4/2002)
3	1	146-530-1021	Slack adjuster	LH, 145 mm, up to No. 20898 (4/2002)
3	1	546-530-3111	Slack adjuster	LH, 165 mm, since No. 20899 (4/2002)
3	1	546-530-3121	Slack adjuster	RH, 165 mm, since No. 20899 (4/2002)
4	6	91122-04201	Shaft seal	D42/55x8
5	1	146-224-2310	Bearing housing	RH
5	1	146-224-2400	Bearing housing	LH
6	4	590-314-2062	Sleeve	Sub. for 090-314-2060
7	2	91122-04202	Shaft seal	D42/55x7
8	4	90502-08133	Nut	M8
9	4	90705-08423	washer	D8.4/17x1.6
10	2	90177-01203	Stud bolt	M12/M8
11	4	90502-12193	Nut	M12
12	4/8	91402-10003	Grease nipple	M10x1, Straight
13	4/8	91421-06060	Shield hat	
14	2	90301-16117	Hex Screw	M16x100, 10.9
15	2	90303-16407	Hex Screw	M16x40, 10.9
16	2	146-131-2210	Dust Shield	210 mm
17	4	095-553-2000	Shield plug	
18	14	90303-08123	Hex Screw	M8x12
19	24	90169-01401	Hex Screw	M14x45
20	4	90301-14558	Hex Screw	M14x55
21	2	90873-10053	Plug screw	M10x1, Allen head
22		95752-10010	Thread locking compound	
23	28	90550-14227	Nut	M14 self locking
24	2	91726-43065	Support ring	D43/65x3
25	2	146-111-2610	Brake Bracket	
26	4	146-341-1200	Anchor bolt	With grease nipple
26	4	146-341-1210	Anchor bolt	W/o grease nipple
27	8	91106-36212	O-ring	D36,2x3 Viton
28	8	590-313-2091	Sleeve	Sub. for 090-313-2090
29	96	91501-00819	Rivet	Not serviced separately
30	4	546-361-6313	Brake lining	210 mm, Beral1561, not serviced separately
31	4	546-361-6213	Brake lining	210 mm, Beral1561, not serviced separately
32	4	146-351-4100	Brake shoe	210 mm, with o-rings
33	2	146-331-0400	Anchor support	
34	4	90303-10203	Hex Screw	M10x20, w/o ABS
34	4	90303-10303	Hex Screw	M10x30, with ABS
35	1	146-213-0400	S-cam shaft	L=550, RH 1800 mm Track
35	1	146-213-0500	S-cam shaft	L=550, LH 1800 mm Track
35	1	146-213-0600	S-cam shaft	L=590, RH 1880 mm Track
35	1	146-213-0700	S-cam shaft	L=590, LH 1880 mm Track
35	1	146-213-0800	S-cam shaft	L=670, RH 2040 mm Track
35	1	146-213-0900	S-cam shaft	L=670, LH 2040 mm Track
36	4	146-373-0201	Pin	Substitute for 146-373-0200
37	8	91106-25232	O-ring	No longer used
38	4	90602-05450	Spring cotter	D5x40
39	4	146-371-0700	Roller	
40	6	599-601-8900	Bush	Substitute for 099-601-2480
41	6	099-601-7240	Bush	Obsolete NLA
42	4	92052-30002	Return spring	
43	6	90705-13023	washer	D13/24x2.5
44	6	90303-12603	Hex Screw	M12x60
45	2	146-311-7900	Brake drum	W/o valve groove, 146-311-7910 is substitute
45	2	146-311-7910	Brake drum	With valve groove, substitute for 146-311-7900
46		146-392-6306	Brake lining (over size)	Not serviced separately
47		146-392-6206	Brake lining (over size)	Not serviced separately
48	4	546-306-0083	Brake shoe assy	210mm, Beral1561
49	ar	546-360-3113	Brake lining set	210mm, Beral1561, for one wheel
50		146-360-1126	Br. lining set(over size)	210mm, for one wheel



KBTTMAB2.DS4

Item	Qty.	Order no.	Description	Note
34	4	90303-10303	Hex Screw	M10x30
51	2	189-931-0900	Bracket	
52	2	189-250-0071	Sensor	Wabco, cable 1m
52	2	589-250-0081	Sensor	Knorr, protected cable 2m
53	2	189-295-0000	Bush	
54	2	189-291-0000	Ring gear	100 Teeth, ABS
55	2	592235-17041	Rubber bushing	D4/17, for Wabco sensor
55	2	592235-17101	Rubber bushing	D10/17, for Knorr sensor