

SK **BRUSH CUTTER** **PRO X**

72"(1829MM) ROTARY HEAD

DOC #15-1377

SERIAL #33906+

07/20/2022

WARRANTY + SERVICE 888.960.0364
PARTS 888.960.0361



DIAMONDMOWERS.COM

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APPENDIX

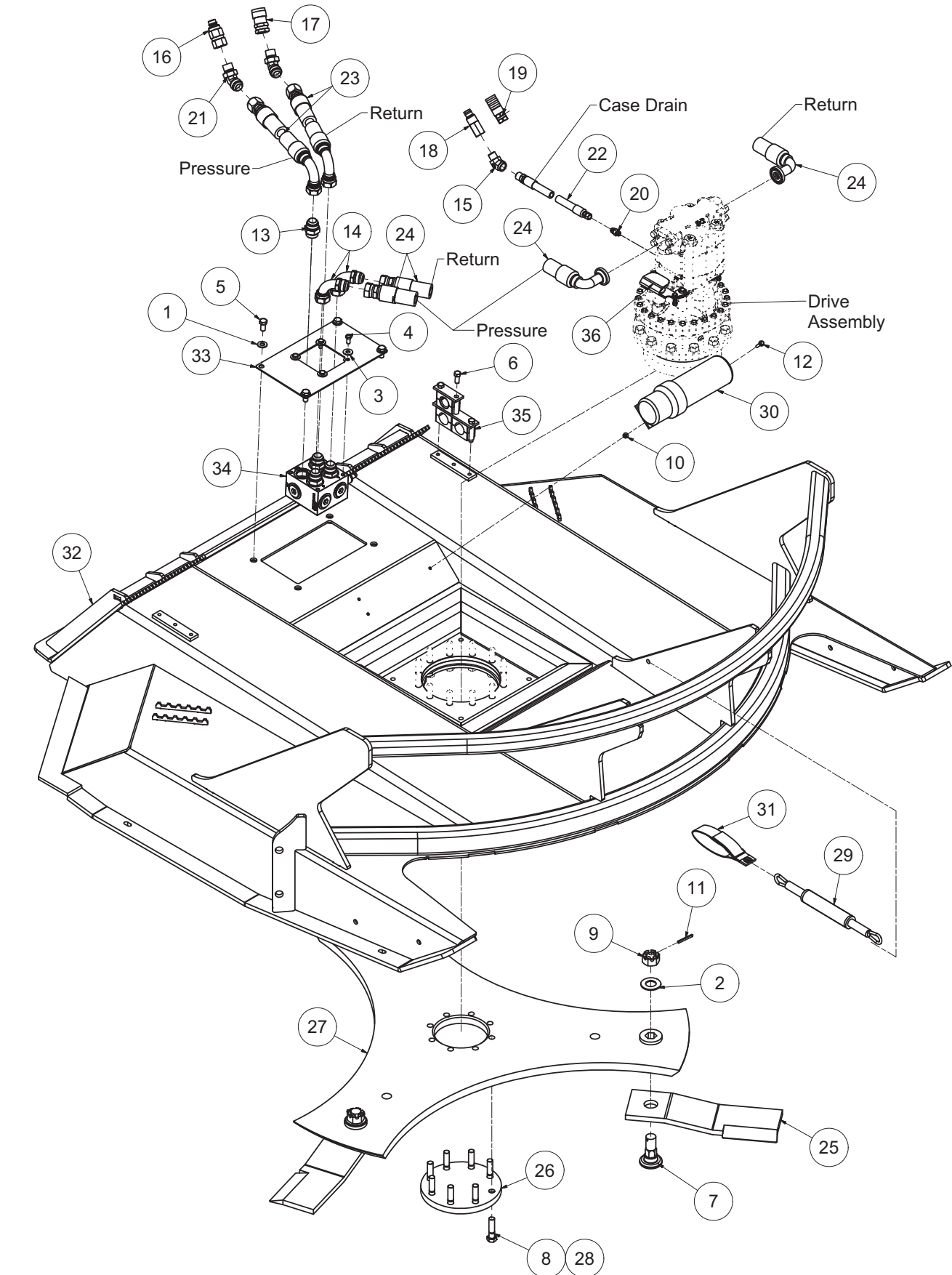
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CUTTER ASSEMBLIES

CUTTER ASSEMBLIES

DECK ASSEMBLY - HIGH FLOW



CUTTER ASSEMBLIES

DECK ASSEMBLY - HIGH FLOW

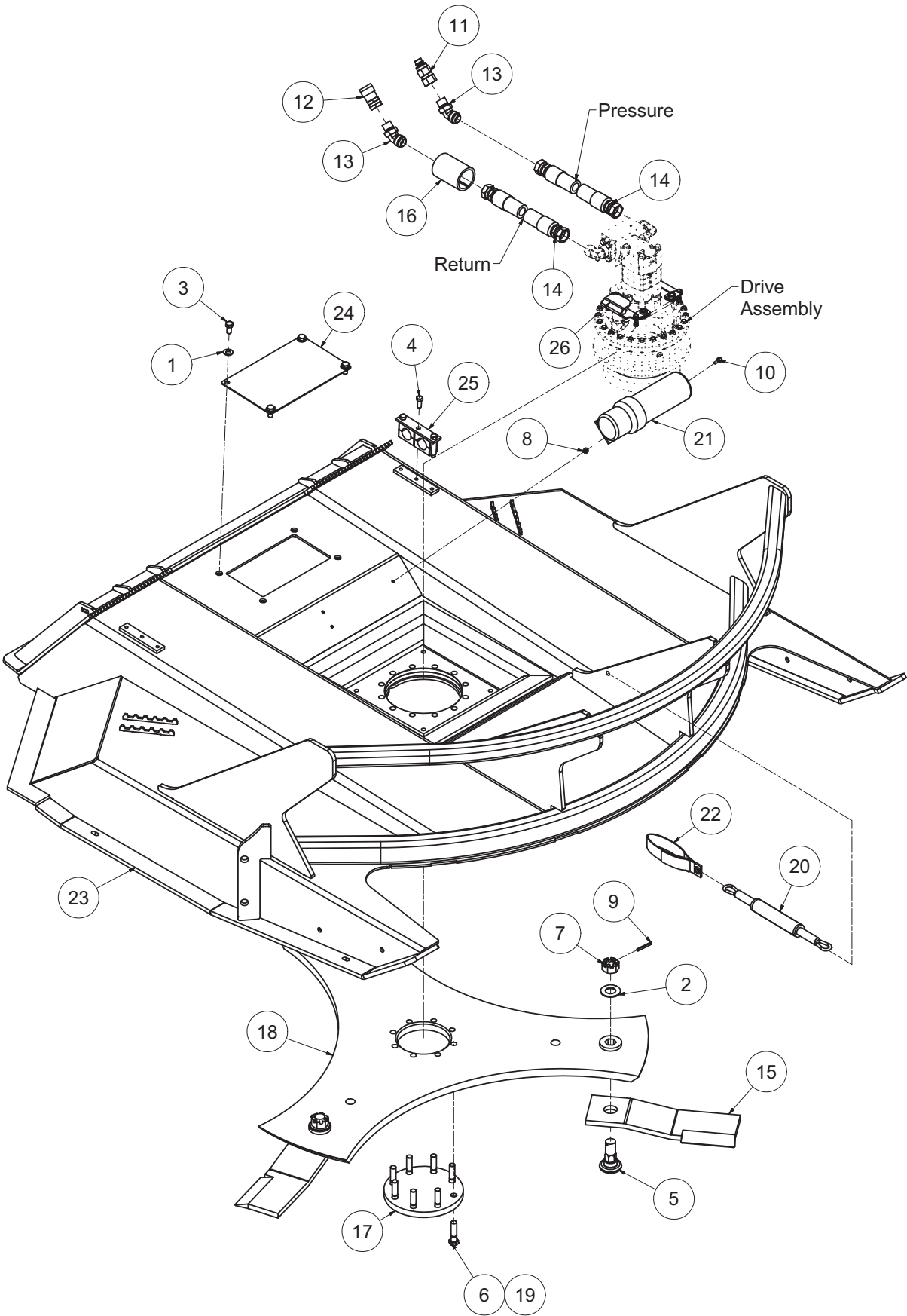
REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	1/2 X 1.062 GR 8 SAE FLAT WASHER, YELLOW ZINC	4	11-0042	
2	1-1/8 X 2.25 THRU-HARDENED SAE FW, YELLOW ZINC	3	11-0057	
3	3/8 THRU-HARDENED FLAT WASHER, YELLOW ZINC	4	11-0092	
4	3/8-16 X 3/4 GR 5 HEX CAP, ZINC	4	11-0545	31
5	1/2-13 X 1 GR 5 HEX CAP, ZINC	4	11-0569	75
6	7/16-14 X 1 GR 5, HEX CAP, ZINC	3	11-0584	49
7	1-1/8-12 NF HEX BASE D3 BLADE BOLT	3	11-0759	
8	5/8-11 X 2-1/2 GR 8 HEX CAP, YELLOW ZINC	8	11-0971	**212
9	1-1/8"-12 NF SLOTTED HEX NUT GR 8	3	11-1050	400
10	1/4-20 GR 5 NYLOCK FLANGE NUT, ZINC	3	11-1090	
11	ROLL PIN, 1/4" X 2"	3	11-2005	
12	1/4-20 X 1 GR 5 HEX FLANGE BOLT, ZINC	3	11-2210	8.5
13	1MOR X 1MJIC, ADAPTER	4	21-1005	
14	1MJIC X 1FJIC-90DEG, FITTING 3-3/4	2	21-1258	
15	1/2MP X 1/2FP ADAPTER 45 DEG	1	21-1290	
16	1/2" MALE QUICK COUPLER X 3/4" SAE, FLAT FACE, NO SPILL	1	21-1559	
17	1/2" FEMALE QCK COUPLER X 3/4" SAE, FLAT FACE, NO SPILL	1	21-1560	
18	3/8" MALE QUICK COUPLER, FLAT FACE, NO SPILL	1	21-1561	
19	3/8" FEMALE QUICK COUPLER, FLAT FACE, NO SPILL	1	21-1562	
20	ADAPTER, 1/4MOR X 3/8MJIC	1	21-1597	
21	1MJIC-45DEG X 3/4M-OR, FITTING	2	21-1654	
22	HOSE 3/8 X 118 (3/8FJIC X 1/2MP) KEVLAR	1	21-4613	
23	HOSE 1 X 91 (1FJIC X 1FJIC-90DEG)	2	21-4645	
24	HOSE 1 X 29 (#20FLG-90 X 1FJIC)	2	21-4646	
25	BRUSH BLADE - 5/8"	3	22-0006	
26	BOLT PROTECTOR, AUBURN	1	24-0228	
27	D3 72" DLR DISC	1	24-0285	
28	LOCTITE 262, .017 OZ (RED)	1	24-0382	
29	ELASTIC STRAP WITH CLIPS, 24", 47lb at 60"	1	24-0391	
30	LARGE MANUAL CANISTER, 12" X 3.25"	1	24-0397	
31	HANGING STRAP - ADJ 10-12"	1	24-0427	
32	D3 72" DLR PHASE 3	1	25-0348	
33	MANIFOLD CUTOFF ACCESS PLATE	1	31-1091	
34	MANIFOLD, ANTI-CAVITATION ATTACHMENT			
	OPTION A, 35-41 GPM (2800 PSI RELIEF)	1	39-0122	
	OPTION B, 29-34 GPM (3050 PSI RELIEF)	1	39-0123	
35	1" HOSE CLAMP KIT WITH TOP CLAMP, NO BASE	1	44-0351	
36	MOTOR HARDWARE LOCK KIT	1	44-0916	
	OPTIONAL HOSES			
	HOSE, 1 X 91, 4000 PSI (1FJIC X 1FJIC-90DEG) KEVLAR	1	21-4723	
	HOSE, 1 X 29, 4000 PSI (#20FLG-90DEG X 1 FJIC) KEVLAR	1	21-4724	

* NOT SHOWN

** CRITICAL TORQUE VALUES **MUST** BE FOLLOWED.

CUTTER ASSEMBLIES

DECK ASSEMBLY - STD FLOW



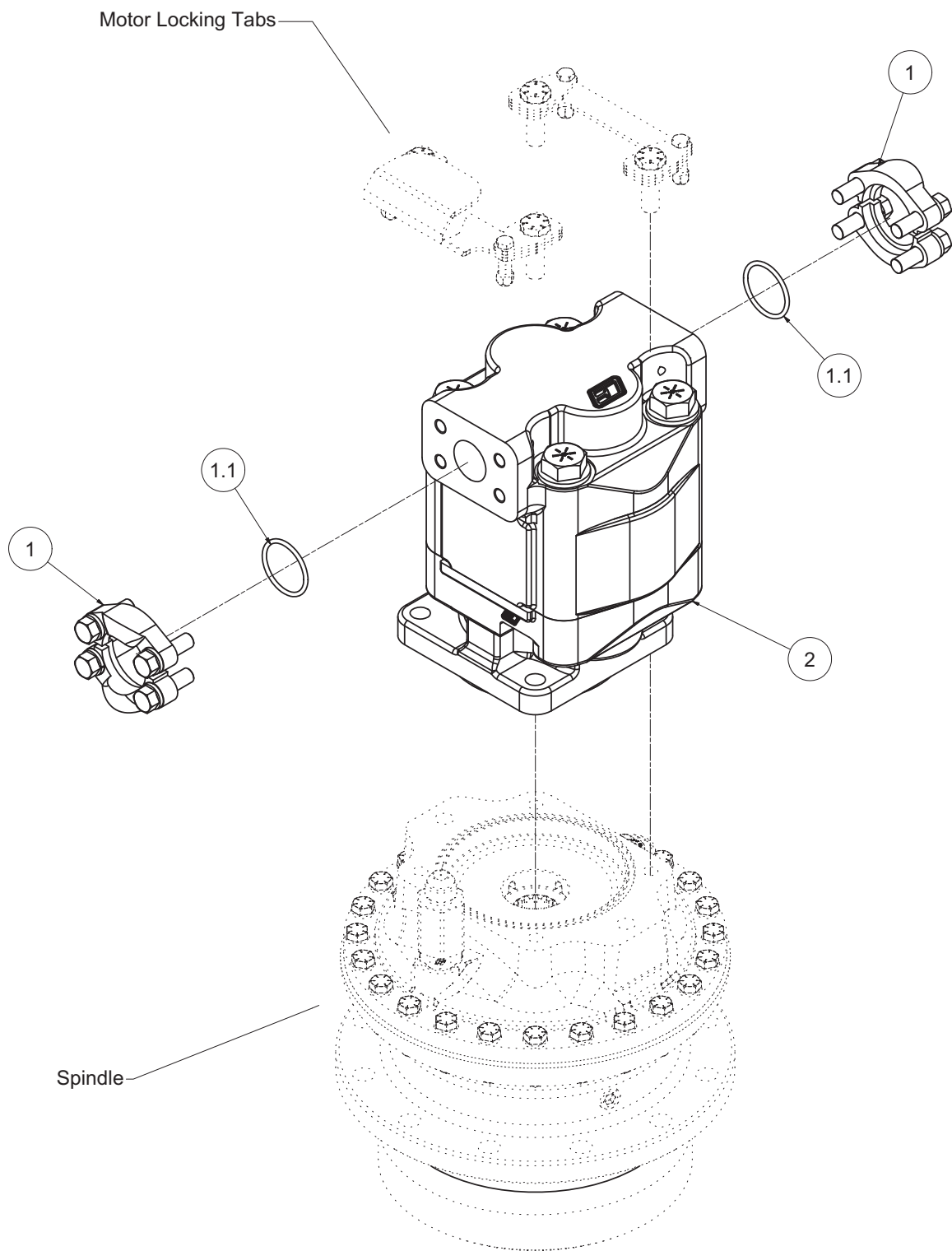
CUTTER ASSEMBLIES

DECK ASSEMBLY - STD FLOW

REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	1/2 X 1.062 GR 8 SAE FLAT WASHER, YELLOW ZINC	4	11-0042	
2	1-1/8 X 2.25 THRU-HARDENED SAE FW, YELLOW ZINC	3	11-0057	
3	1/2-13 X 1 GR 5 HEX CAP, ZINC	4	11-0569	75
4	7/16-14 X 1 GR 5, HEX CAP, ZINC	3	11-0584	49
5	1-1/8-12 NF HEX BASE D3 BLADE BOLT	3	11-0759	
6	5/8-11 X 2-1/2 GR 8 HEX CAP, YELLOW ZINC	8	11-0971	**212
7	1-1/8"-12 NF SLOTTED HEX NUT GR 8	3	11-1050	400
8	1/4-20 GR 5 NYLOCK FLANGE NUT, ZINC	3	11-1090	
9	ROLL PIN, 1/4" X 2"	3	11-2005	
10	1/4-20 X 1 GR 5 HEX FLANGE BOLT, ZINC	3	11-2210	8.5
11	1/2" MALE QUICK COUPLER X 3/4" SAE, FLAT FACE, NO SPILL	1	21-1559	
12	1/2" FEMALE QCK COUPLER X 3/4" SAE, FLAT FACE, NO SPILL	1	21-1560	
13	1MJIC-45DEG X 3/4M-OR, FITTING	2	21-1654	
14	HOSE 1 X 103 (1FJIC X 1FJIC)	2	21-4345	
15	BRUSH BLADE - 5/8"	3	22-0006	
16	KEVLAR SLEEVING 2 3/8 ID X 4.00 FLAT (SOLD/FT)	9	24-0141	
17	BOLT PROTECTOR, AUBURN	1	24-0228	
18	D3 72" DLR DISC	1	24-0285	
19	LOCTITE 262, .017 OZ (RED)	1	24-0382	
20	ELASTIC STRAP WITH CLIPS, 24", 47lb at 60"	1	24-0391	
21	LARGE MANUAL CANISTER, 12" X 3.25"	1	24-0397	
22	HANGING STRAP - ADJ 10-12"	1	24-0427	
23	D3 72" DLR PHASE 3	1	25-0348	
24	UPPER DECK COVER	1	31-1092	
25	1" HOSE CLAMP KIT	1	44-0259	
26	MOTOR HARDWARE LOCK KIT	1	44-0916	

CUTTER ASSEMBLIES

MOTOR - DECK SUBASSEMBLY, HIGH FLOW



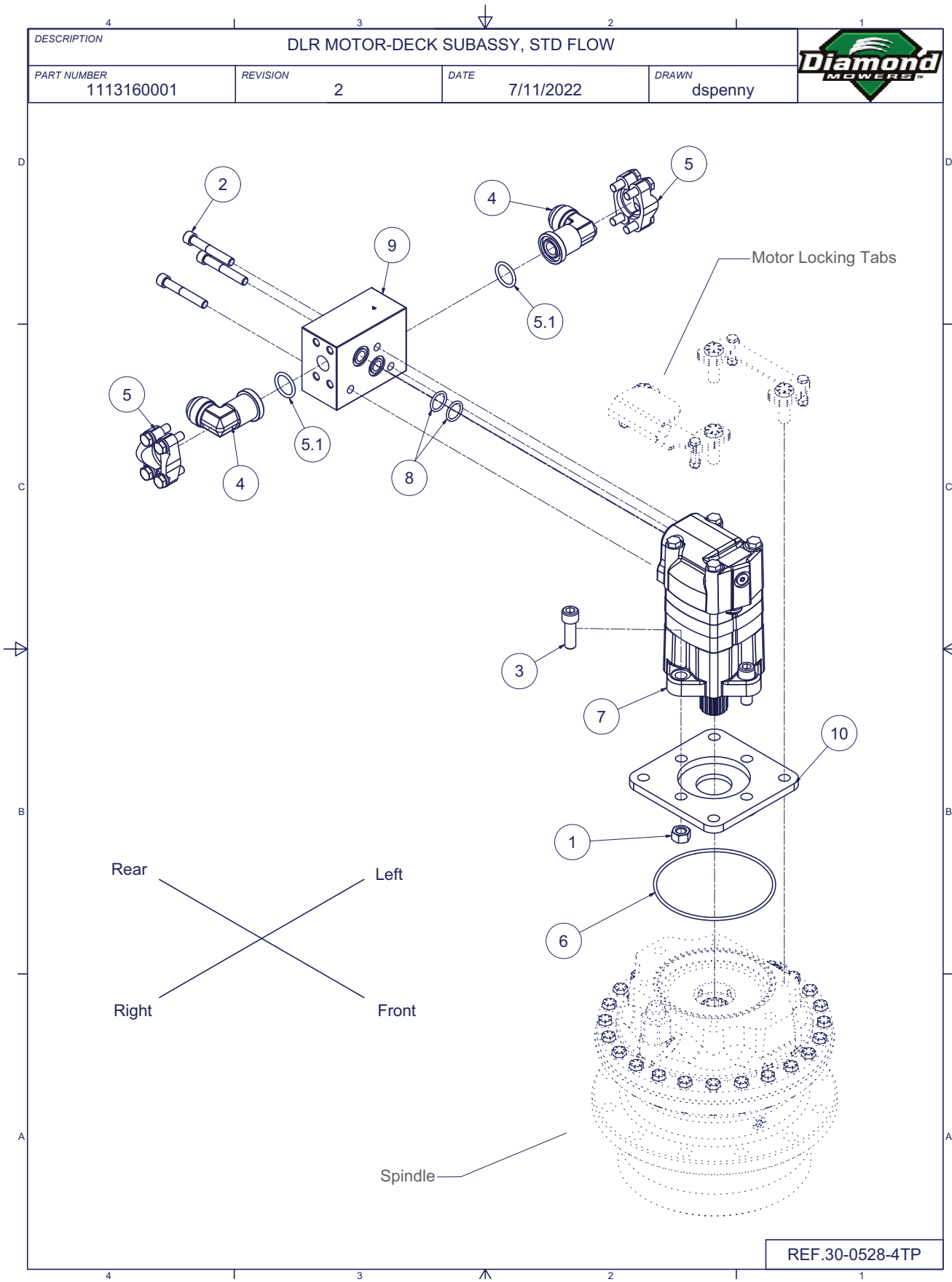
CUTTER ASSEMBLIES

MOTOR - DECK SUBASSEMBLY, HIGH FLOW

REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	#20 FLANGE KIT	2	21-2105	49
1.1	O-RING, #20 FLANGE	2	33-0013	
2	MOTOR	1		
	SKID LOADER 60"			
	M365, 1-3/4" GEAR, 1-1/4 14 SPLINE SHAFT, HD HOUSING		30-0520	
	29-35 GPM (110-132 LPM)			
	M365, 2-1/4" GEAR, 1-1/4 14 SPLINE SHAFT, HD HOUSING		30-0524	
	36-41 GPM (136-155 LPM)			
	M365 MOTOR, 2-1/2" GEAR SET SPLINED SHAFT		30-0518	
	42-46 GPM (159-174 LPM)			
	SKID LOADER 72"			
	M365, 2-1/4" GEAR, 1-1/4 14 SPLINE SHAFT, HD HOUSING		30-0524	
	29-34 GPM (110-129 LPM)			
	M365, 2-1/2" GEAR SET SPLINED SHAFT		30-0518	
	35-41 GPM (132-155 LPM)			
	SKID LOADER 84"			
	M365, 2-1/2" GEAR SET SPLINED SHAFT		30-0518	
	32-41 GPM (122-155 LPM)			

CUTTER ASSEMBLIES

MOTOR - DECK SUBASSEMBLY, STD FLOW



CUTTER ASSEMBLIES

MOTOR - DECK SUBASSEMBLY, STD FLOW

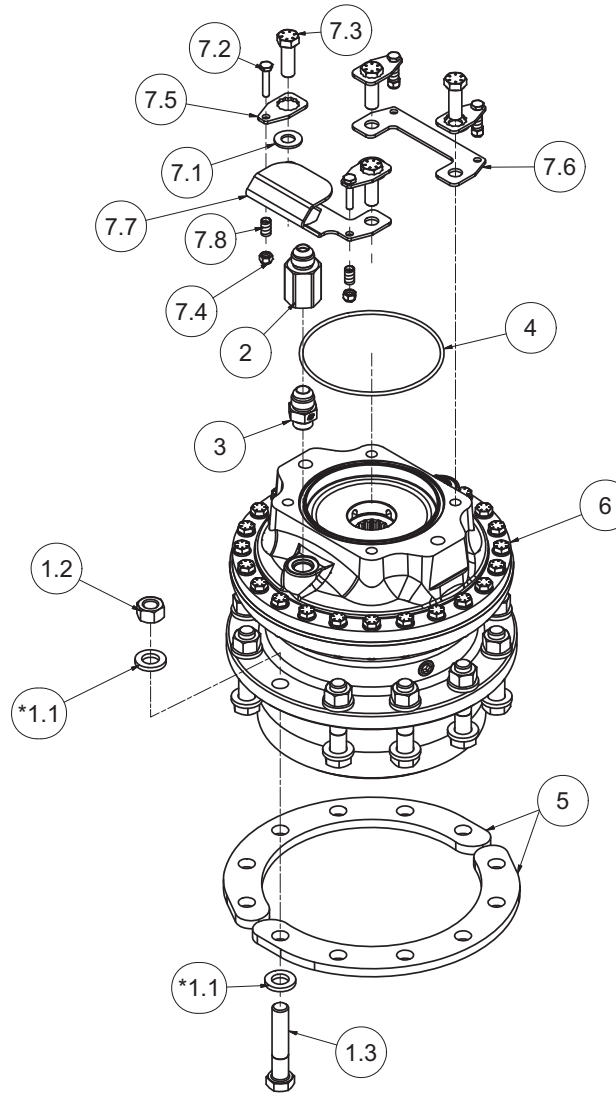
DESCRIPTION		DLR MOTOR-DECK SUBASSY, STD FLOW			
PART NUMBER	REVISION	DATE	DRAWN		
1113160001	2	7/11/2022	dspenny		

REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	1/2-13 GR.8 HEX NUT, ECOGUARD	4	11-1180	
2	3/8-16 X 2-1/2 ASTM A574 SKT CAP, ECOGUARD	3	11-1184	33
3	1/2-13 X 1-1/2 ASTM A574 SOCKET CAP, ECOGUARD	4	11-2279	85
4	FITTING, #12FL X 1MJIC 90 DEG	2	21-1302	
5	#12 FLANGE KIT	2	21-2186	
5.1	#12 FLANGE O-RING	2	33-0062	
6	O-RING, D3 SPINDLE	1	24-0305	
7	MOTOR	1		
	SKID LOADER 60"			
	4.9CU 2000 SERIES LOW SPEED HIGH TORQUE MOTOR		30-0528	
	16-23 GPM (61-87 LPM)			
	6.2CU 2000 SERIES LOW SPEED HIGH TORQUE		30-0529	
	24-28 GPM (91-106 LPM)			
	SKID LOADER 72"			
	4.9CU 2000 SERIES LOW SPEED HIGH TORQUE MOTOR		30-0528	
	17-20 GPM (65-76 LPM)			
	6.2CU 2000 SERIES LOW SPEED HIGH TORQUE		30-0529	
	21-28 GPM (79-106 LPM)			
8	O-RING, ALUMINUM BLOCK, 2000 SERIES	2	30-1205	
9	PRESSURE & RETURN BLOCK, 2000 SERIES	1	30-1206	
10	LOW FLOW MOTOR PLATE WITH LOCK BASE	1	41-1835	

REF.30-0528-4TP

CUTTER ASSEMBLIES

SPINDLE - DECK SUBASSEMBLY



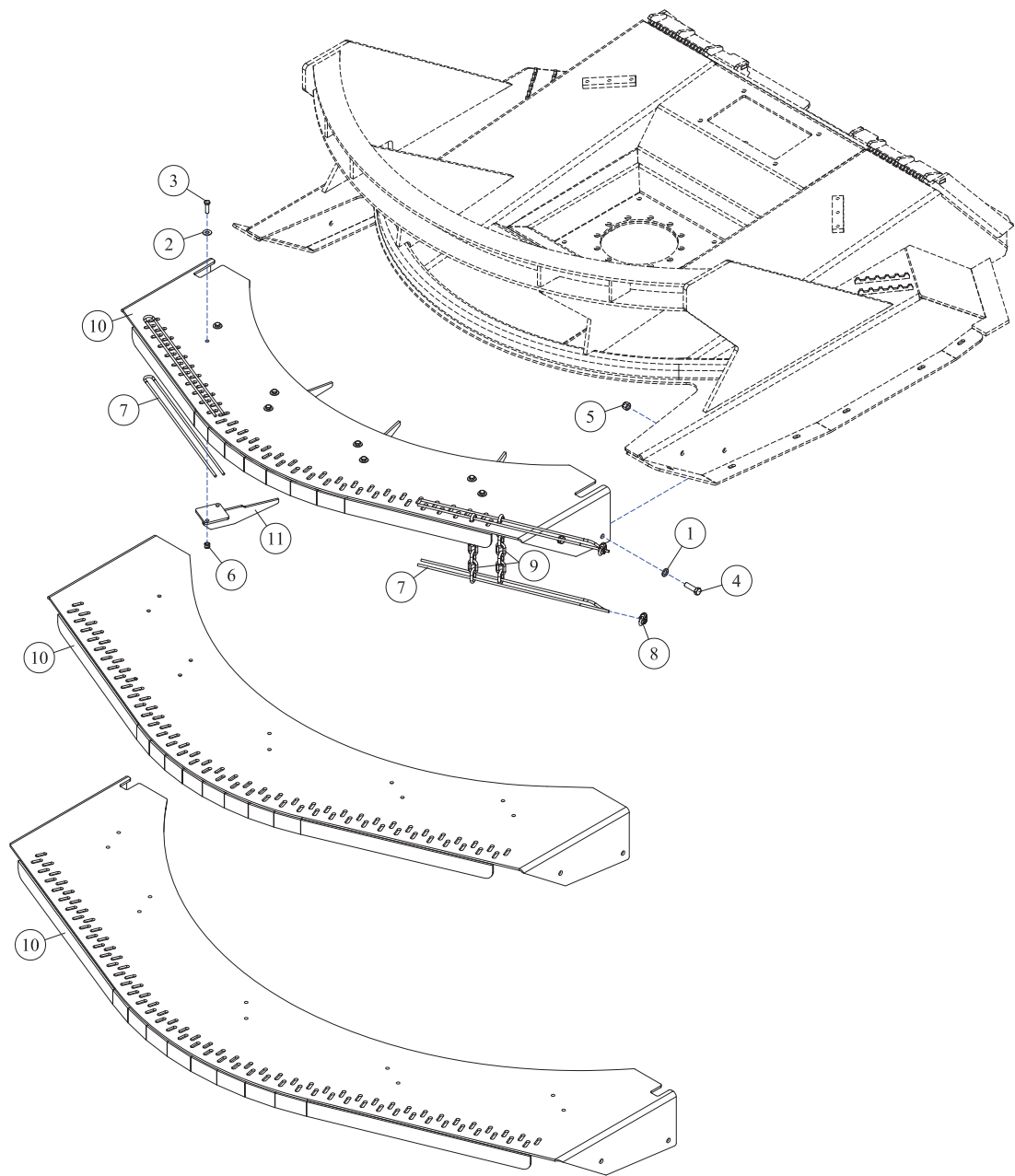
REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	BOLT KIT - SPINDLE 1" (DLR) SHELL	1	11-3625	
*1.1	M16 DIN EN 14399 THRU-HARDENED FW, ECOGUARD	24	11-0102	
1.2	5/8-11 GR 8 HEX NUT, ECOGUARD	12	11-1166	
1.3	5/8-11 X 3.25 GR 8 HEX CAP, ECOGUARD	12	11-2232	150
2	RELIEF VALVE, D3 SPINDLE	1	21-1653	
3	5/8MJIC X 1/2MORB	1	21-1706	
4	O-RING, D3 SPINDLE	1	24-0305	
5	LOWER BOLT PLATE, D3	2	31-0893	
6	SPINDLE-D3 DIRECT DRIVE SAE C	1	35-0204	
7	MOTOR HARDWARE LOCK KIT	1	44-0916	
7.1	1/2 X 1.062 GR 8 SAE FLAT WASHER, YELLOW ZINC	4	11-0042	
7.2	1/4-20 X 1-1/4 GR 5 HEX CAP, ZINC	4	11-0702	8.5
7.3	1/2-13 X 1-1/2 GR 8 HEX CAP SCREW, YELLOW ZINC	4	11-0972	90
7.4	1/4-20 GR 5 NYLOCK NUT, ZINC	4	11-1022	
7.5	MOTOR BOLT LOCK TAB	4	31-0503	
7.6	V3LOCK BOTTOM	1	31-0504	
7.7	MOTOR LOCKING BASE WITH PRV PROTECTION	1	31-0824	
7.8	BOLT LOCKING TAB SPRING	4	36-0013	

* NOTE: FLAT SIDE OF WASHERS TOWARDS HARDWARE.
CHAMFER SIDE TOWARDS SPINDLE & DECK.

35-0204-3 Rev 000

CUTTER ASSEMBLIES

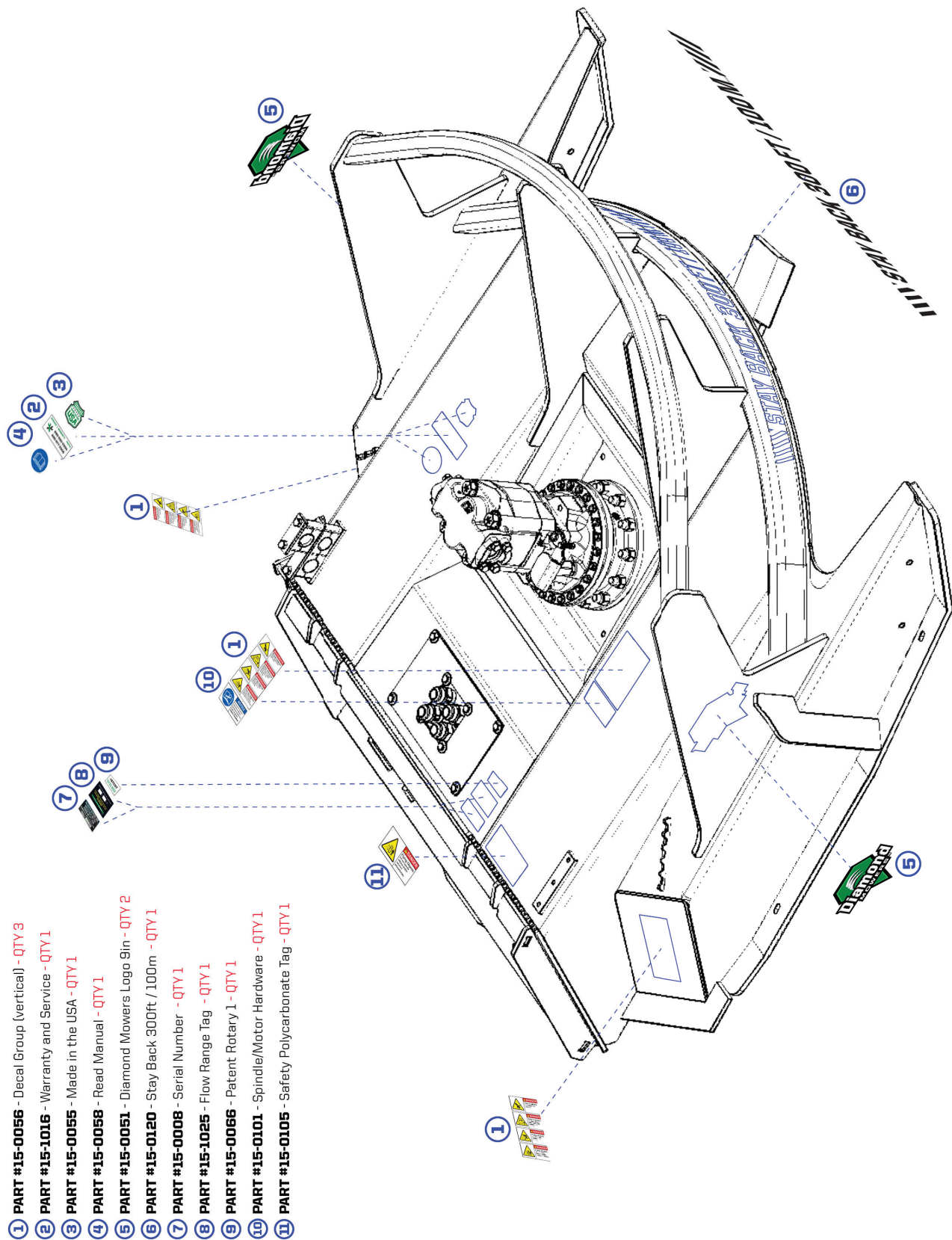
CHAIN CURTAIN ASSEMBLY



REF#	PARTS DESCRIPTION	REQ	PART #
1	1/2 SAE FLAT WASHER GR8	4	11-0042
2	3/8 SAE FLAT WASHER GR8		11-0090
	On 60" DLR	8	
	On 72" DLR	10	
	On 84" DLR	10	
3	3/8 X 1-1/4 NC HEX CAPSCREW		11-0533
	On 60" DLR	8	
	On 72" DLR	10	
	On 84" DLR	10	
4	1/2 X 1-3/4 NC HEX CAPSCREW	4	11-0535
5	1/2 NC NYLOCK NUT	4	11-1018
6	3/8 NC NYLOCK NUT		11-1024
	On 60" DLR	8	
	On 72" DLR	10	
	On 84" DLR	10	

REF#	PARTS DESCRIPTION	REQ	PART #
7	1/4 GALVANIZED CABLE (SOLD PER FOOT)		12-0032
	On 60" DLR	22	
	On 72" DLR	26	
	On 84" DLR	30	
8	1/4 WIRE ROPE CLAMP	2	12-0033
9	5/16 ZINC CHAIN - 7 LINKS GRADE 30		12-0036
	On 60" DLR	59	
	On 72" DLR	73	
	On 84" DLR	85	
10	CHAIN GUARD		
	D3 DLR CHAIN GUARD 60"	1	41-1636
	D3 DLR CHAIN GUARD 72"	1	41-1635
	D3 DLR CHAIN GUARD 84"	1	41-1637
11	BOLT ON CHAIN GUARD RIB		41-1653
	On 60" DLR	4	
	On 72" DLR	5	
	On 84" DLR	5	

DECAL ASSEMBLY



- 1 PART #15-0056 - Decal Group (vertical) - QTY 3
- 2 PART #15-1016 - Warranty and Service - QTY 1
- 3 PART #15-0055 - Made in the USA - QTY 1
- 4 PART #15-0058 - Read Manual - QTY 1
- 5 PART #15-0051 - Diamond Mowers Logo 9in - QTY 2
- 6 PART #15-0120 - Stay Back 300ft / 100m - QTY 1
- 7 PART #15-0008 - Serial Number - QTY 1
- 8 PART #15-1025 - Flow Range Tag - QTY 1
- 9 PART #15-0066 - Patent Rotary 1 - QTY 1
- 10 PART #15-0101 - Spindle/Motor Hardware - QTY 1
- 11 PART #15-0105 - Safety Polycarbonate Tag - QTY 1

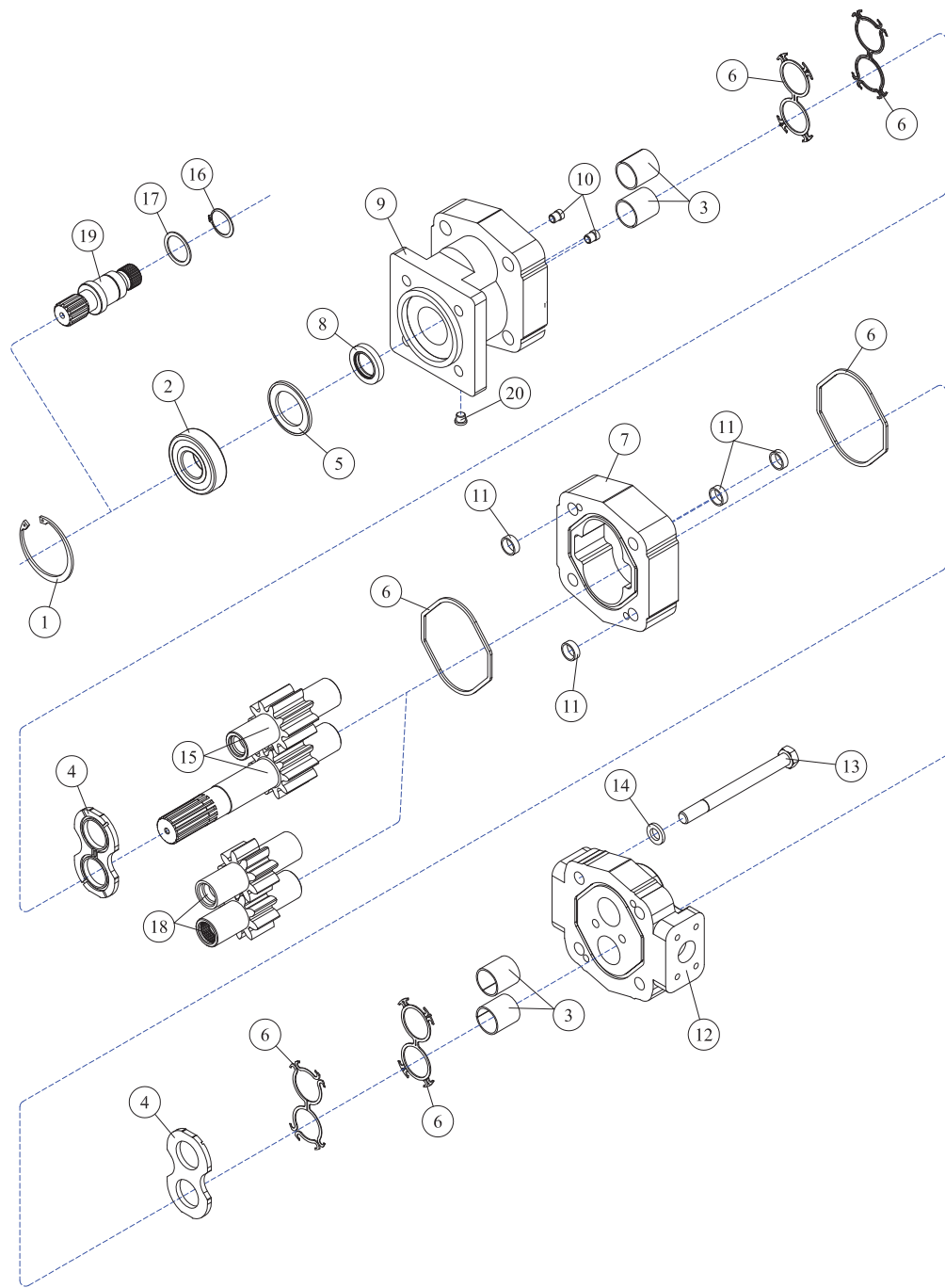
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DECK ASSEMBLIES

DECK ASSEMBLIES

MOTOR ASSEMBLY - 30-0518

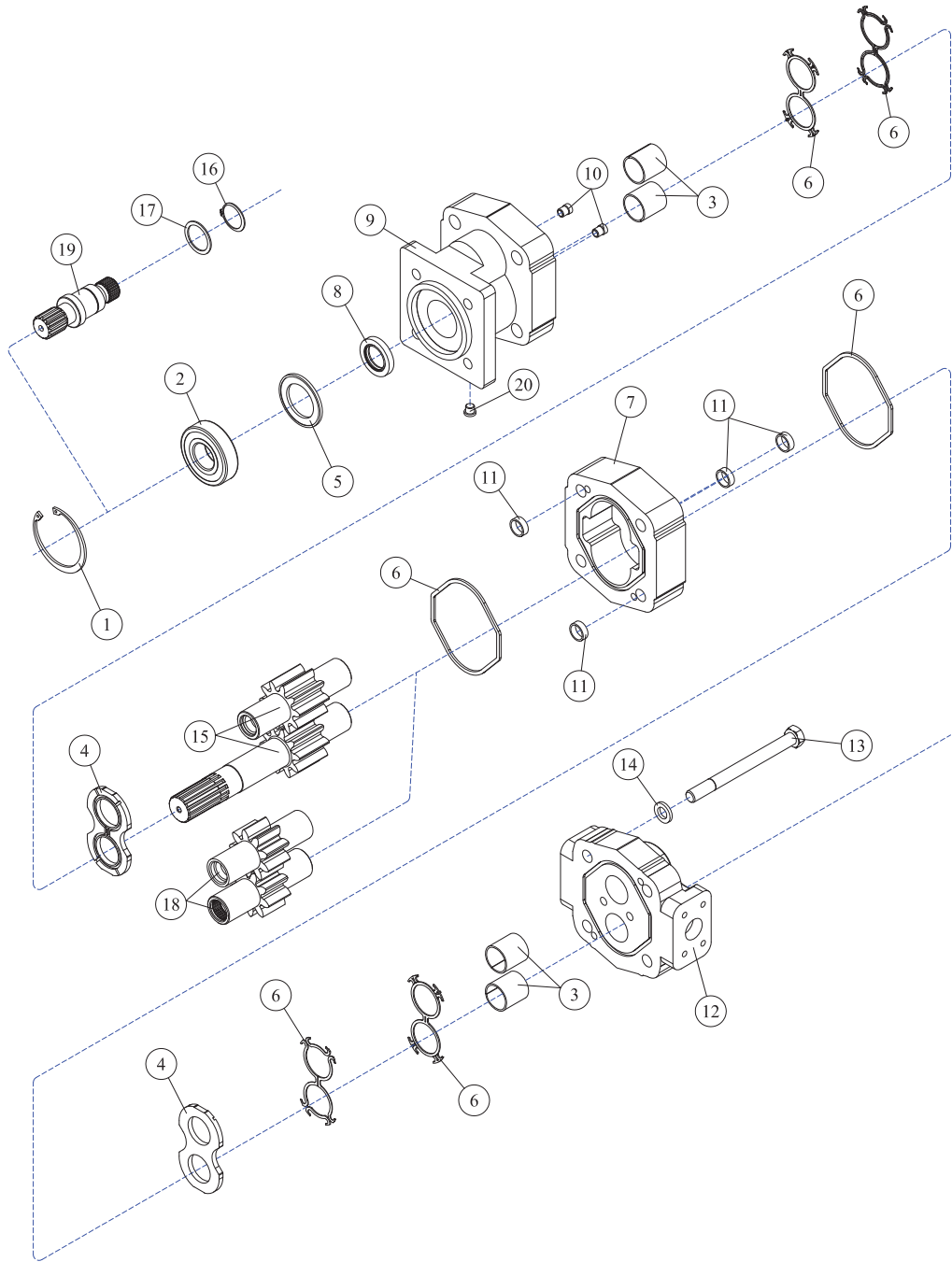


REF#	PARTS DESCRIPTION	REQ	PART #
1	SNAP RING	1	30-1009
2	OUTBOARD BEARING	1	30-1010
3	BUSHING	4	30-1011
4	THRUST PLATE	2	30-1012
5	SEAL RETAINER	1	30-1017
6	M365 SEAL KIT	Avail	30-1021
7	2-1/2" M365 GEAR HOUSING	1	30-1137
8	SHAFT SEAL		
	150 PSI (included in M365 seal kit)	1	30-1210
	500 PSI	1	30-1156
9	SHAFT END COVER	1	30-1086
10	CHECK ASSEMBLY	2	30-1087
11	ALIGNMENT BUSHING	4	30-1090

REF#	PARTS DESCRIPTION	REQ	PART #
12	PORT END COVER	1	30-1091
13	STUD	4	30-1334
14	WASHER	4	30-1093
	GEAR SET OPTION A:		
15	2-1/2" GEAR SET	1	30-1170
	GEAR SET OPTION B:		
16	RETAINING RING	1	30-1019
17	WASHER	1	30-1020
18	2-1/2" GEAR SET	1	30-1136
19	CONTINENTAL SHAFT, SPLINED	1	30-1144
20	PLUG	1	30-1096
*	SEAL APPLICATOR TOOL (not shown)	Avail	30-1048

DECK ASSEMBLIES

MOTOR ASSEMBLY - 30-0524

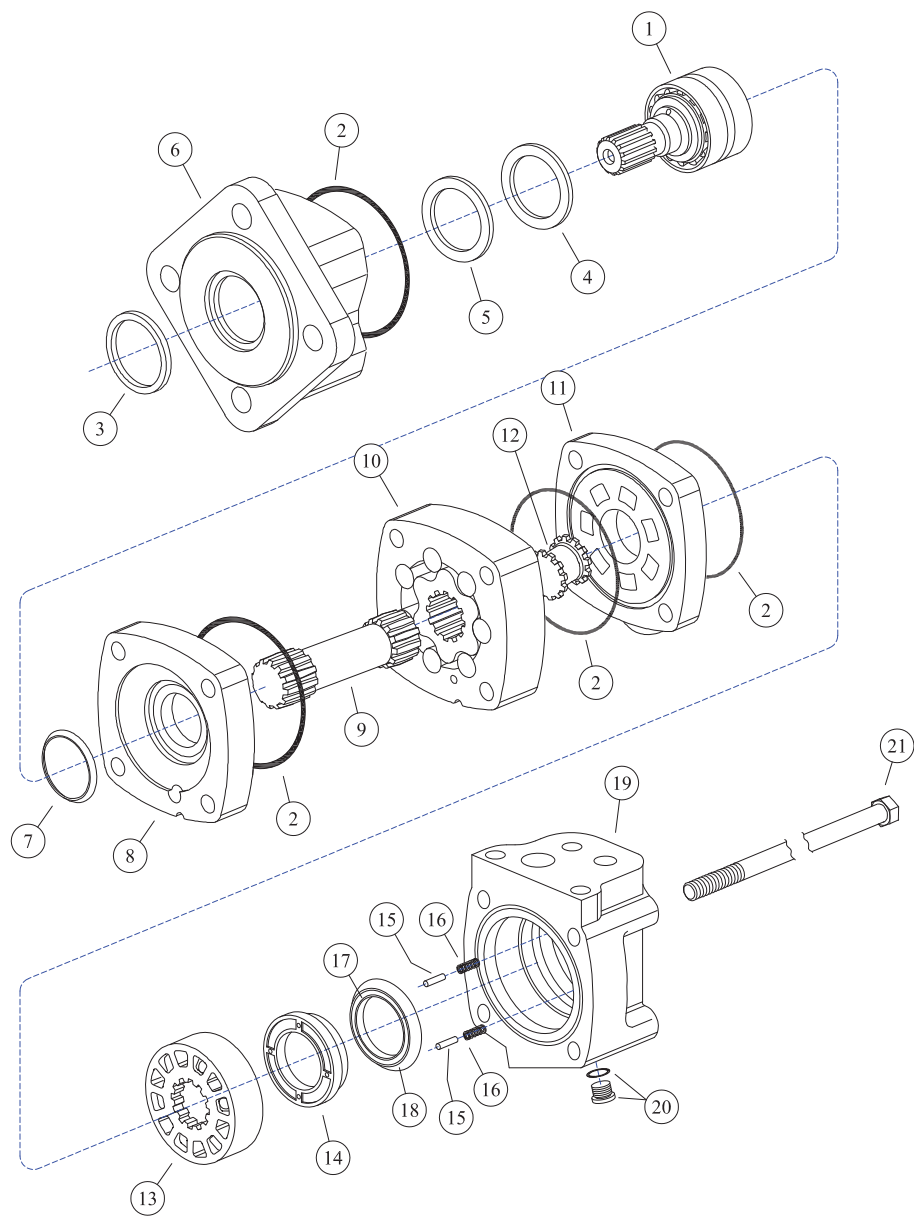


REF#	PARTS DESCRIPTION	REQ	PART #
1	SNAP RING	1	30-1009
2	OUTBOARD BEARING	1	30-1010
3	BUSHING	4	30-1011
4	THRUST PLATE	2	30-1012
5	SEAL RETAINER	1	30-1017
6	M365 SEAL KIT	Avail	30-1021
7	2-1/4" M365 GEAR HOUSING	1	30-1026
8	SHAFT SEAL		
	150 PSI (included in M365 seal kit)	1	30-1210
	500 PSI	1	30-1156
9	SHAFT END COVER	1	30-1086
10	CHECK ASSEMBLY	2	30-1087
11	ALIGNMENT BUSHING	4	30-1090

REF#	PARTS DESCRIPTION	REQ	PART #
12	PORT END COVER	1	30-1091
13	STUD	4	Call
14	WASHER	4	30-1093
	GEAR SET OPTION A:		
15	2-1/4" GEAR SET	1	30-1165
	GEAR SET OPTION B:		
16	RETAINING RING	1	30-1019
17	WASHER	1	30-1020
18	2-1/4" GEAR SET	1	30-1025
19	CONTINENTAL SHAFT, SPLINED	1	30-1144
20	PLUG	1	30-1096
*	SEAL APPLICATOR TOOL (not shown)	Avail	30-1048

DECK ASSEMBLIES

MOTOR ASSEMBLY - 30-0528



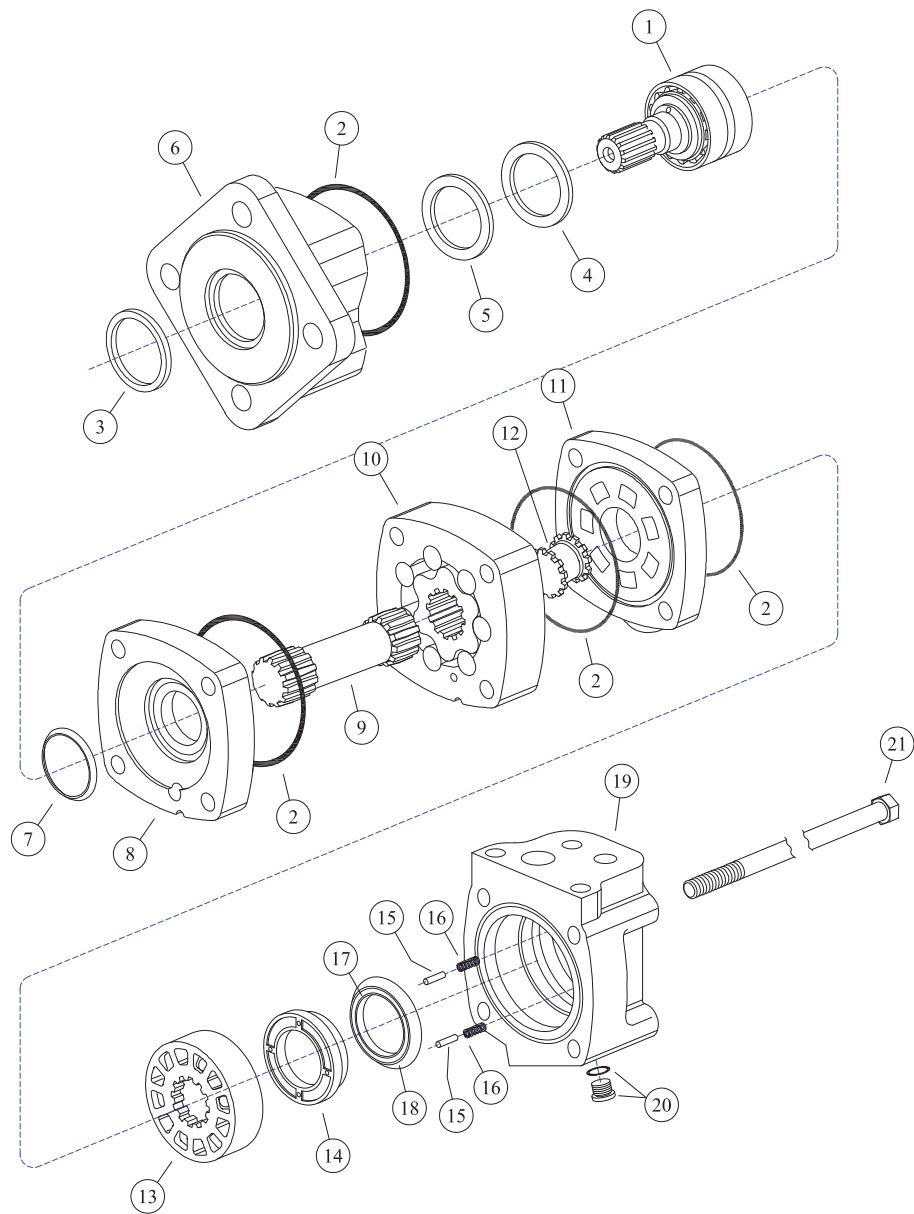
* Part included with item # 22 seal kit

REF#	PARTS DESCRIPTION	REQ	PART #
1	SHAFT & BEARING KIT (1-1/4" SPLINED 14T)	1	30-1311
2	SEAL	4	30-1312
3	SEAL, EXCLUSION	1	30-1313
4	SEAL, SHAFT	1	30-1314
5	RING, BACK-UP	1	30-1315
6	HOUSING, BEARING, DIAGONAL (FOUR BOLT)	1	30-1316
7	SEAL, SHAFT FACE	1	30-1317
8	PLATE, WEAR	1	30-1318
9	DRIVE, MAIN	1	30-1319
10	GEROLER	1	30-1320
11	PLATE, VALVE	1	30-1321
12	DRIVE, VALVE	1	30-1322

REF#	PARTS DESCRIPTION	REQ	PART #
13	VALVE	1	30-1323
14	BALANCE RING	1	30-1324
15	PIN, BALANCE RING	2	30-1325
16	SPRING, COMPRESSION	2	30-1326
17	SEAL, FACE, INNER	1	30-1327
18	SEAL, FACE, OUTER	1	30-1328
19	HOUSING, VALVE	1	30-1329
20	PLUG ASSEMBLY W/ O-RING	1	30-1309
	O-RING	1	30-1330
21	SCREW, CAP	4	30-1331
22	SEAL KIT	1	33-0064

DECK ASSEMBLIES

MOTOR ASSEMBLY - 30-0529



* Part included with item # 22 seal kit

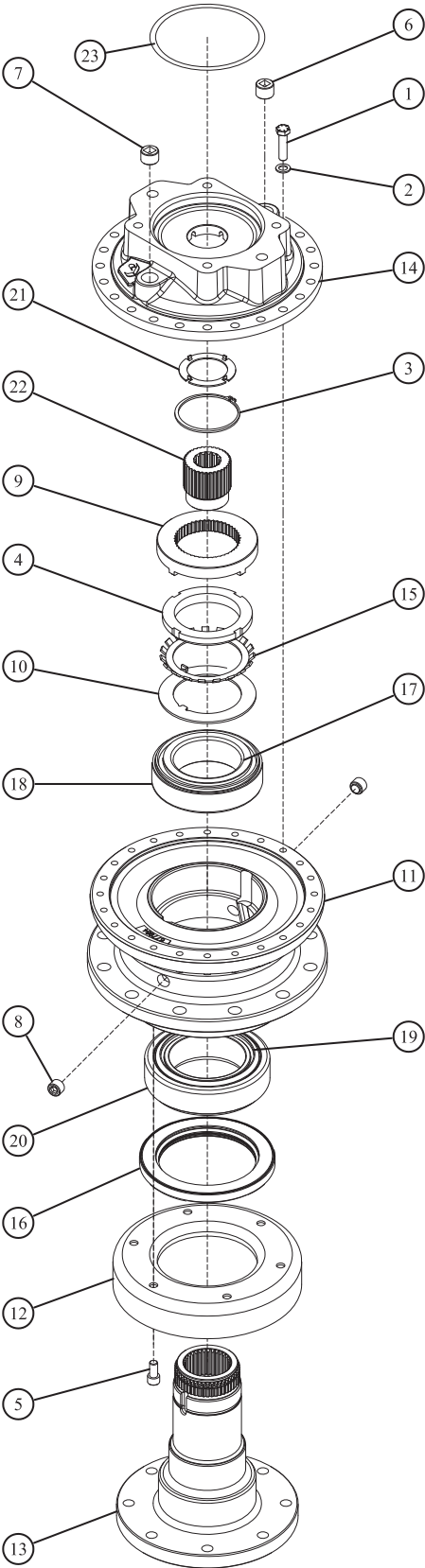
REF#	PARTS DESCRIPTION	REQ	PART #
1	SHAFT & BEARING KIT (1-1/4" SPLINED 14T)	1	30-1311
2	SEAL	4	30-1312
3	SEAL, EXCLUSION	1	30-1313
4	SEAL, SHAFT	1	30-1314
5	RING, BACK-UP	1	30-1315
6	HOUSING, BEARING, DIAGONAL (FOUR BOLT)	1	30-1316
7	SEAL, SHAFT FACE	1	30-1317
8	PLATE, WEAR	1	30-1318
9	DRIVE, MAIN	1	30-1319
10	GEROLER	1	30-1320
11	PLATE, VALVE	1	30-1321
12	DRIVE, VALVE	1	30-1322

REF#	PARTS DESCRIPTION	REQ	PART #
13	VALVE	1	30-1323
14	BALANCE RING	1	30-1324
15	PIN, BALANCE RING	2	30-1325
16	SPRING, COMPRESSION	2	30-1326
17	SEAL, FACE, INNER	1	30-1327
18	SEAL, FACE, OUTER	1	30-1328
19	HOUSING, VALVE	1	30-1329
20	PLUG ASSEMBLY W/ O-RING	1	30-1309
	O-RING	1	30-1330
21	SCREW, CAP	4	30-1331
22	SEAL KIT	1	33-0064

DECK ASSEMBLIES

SPINDLE ASSEMBLY - 35-0204

REF#	PARTS DESCRIPTION	REQ	PART #
1	BOLT-HEX HEAD	24	11-1611
2	WASHER-FLAT	24	11-1612
3	RING-RETAINING	1	11-1613
4	NUT-LOCK	1	11-1614
5	SCREW-SKT HD CAP	6	11-1616
6	PLUG (TO COVER) (MAGNETIC)	1	35-0200
7	PLUG (TO COVER) (NON-MAGNETIC)	1	35-0202
8	PIPE PLUG (TO HUB) (MAGNETIC)	2	21-1611
9	PLATE-KEEPER	1	35-0098
10	WASHER-THRUST (BOTTOM)	1	35-0099
11	HUB	1	35-0100
12	GUARD	1	35-0102
13	SHAFT-OUTPUT	1	35-0103
14	COVER		
	C COVER (STANDARD)	1	35-0199
	D COVER (OPTIONAL)	1	35-0109
	SEAL KIT		33-0078
15	WASHER-LOCK	1	
16	SEAL-OIL	1	
	SEALANT		
	BEARING AND SEAL KIT		33-0079
17	BEARING-CONE (TOP)	1	
18	BEARING-CUP (TOP)	1	
19	BEARING-CONE (BOTTOM)	1	
20	BEARING-CUP (BOTTOM)	1	
15	WASHER-LOCK	1	
16	OIL SEAL	1	
	SEALANT	1	
	D3 SPINDLE REPLACEMENT INSERT KIT		33-0080
21	WASHER-THRUST (TOP)	1	
22	COUPLING	1	
	SEALANT		
23	O-RING, D3 SPINDLE	1	24-0305





APPENDIX

O-RINGS - S.A.E.

ORING (AS568) BOSS FITTINGS [KIT PART# 33-0122] SAE SIZES

STANDARD ORING PART #	HYDRAULIC SIZE	ORING ID SAE (IN)	ORING WIDTH SAE (IN)	ORING MATERIAL
902	-2	0.24	0.06	90-durometer Nitrile
903	-3	0.30	0.06	90-durometer Nitrile
904	-4	0.35	0.07	90-durometer Nitrile
905	-5	0.41	0.07	90-durometer Nitrile
906	-6	0.47	0.08	90-durometer Nitrile
908	-8	0.64	0.09	90-durometer Nitrile
910	-10	0.76	0.1	90-durometer Nitrile
912	-12	0.92	0.12	90-durometer Nitrile
914	-14	1.05	0.12	90-durometer Nitrile
916	-16	1.17	0.12	90-durometer Nitrile
920	-20	1.48	0.12	90-durometer Nitrile
924	-24	1.72	0.12	90-durometer Nitrile
932	-32	2.34	0.12	90-durometer Nitrile

ORING (AS568) FLAT SEAL FITTINGS [KIT PART# 33-0123] SAE SIZES & METRIC SIZES

STANDARD ORING PART #	HYDRAULIC SIZE	END SIZE SAE (IN)	METRIC (MM)	ORING ID SAE (IN)	METRIC (MM)	ORING WIDTH SAE (IN)	METRIC (MM)	ORING MATERIAL
011	-4	1/4	6	0.30	7.70	0.07	1.78	90-durometer Nitrile
012	-6	3/8	8, 10	0.36	9.30	0.07	1.78	90-durometer Nitrile
014	-8	1/2	12	0.49	12.40	0.07	1.78	90-durometer Nitrile
016	-10	5/8	14, 15, 16	0.61	15.60	0.07	1.78	90-durometer Nitrile
018	-12	3/4	18, 20	0.74	18.80	0.07	1.78	90-durometer Nitrile
020	-14	7/8	22	0.86	21.80	0.07	1.78	90-durometer Nitrile
021	-16	1	25	0.93	23.50	0.07	1.78	90-durometer Nitrile
025	-20	1 1/4	28, 30, 32	1.18	29.90	0.07	1.78	90-durometer Nitrile
029	-24	1 1/2	35, 38	1.49	37.80	0.07	1.78	90-durometer Nitrile
135	-32	2	50	1.93	49.00	0.10	2.54	90-durometer Nitrile

APPENDIX

S.A.E. TORQUE SPECIFICATIONS

Nominal Dia.	threads per inch	Tensile Stress Area		 SAE J429 Grade 5						 SAE J429 Grade 8						 FNL Grade 9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
			 Clamp Load (Lbs.)	Tightening Torque			 Clamp Load (Lbs.)	Tightening Torque			 Clamp Load (Lbs.)	Tightening Torque			 Clamp Load (Lbs.)	Tightening Torque																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				K = 0.15	K = 0.17	K = 0.20		K = 0.15	K = 0.17	K = 0.20		K = 0.15	K = 0.17	K = 0.20		K = 0.15	K = 0.17	K = 0.20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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The torque values can only be achieved if nut (or tapped hole) has a proof load greater than or equal to the bolt's minimum ultimate tensile strength.

Clamp load calculated as 75% of the proof load when specified by the standard. ASTM A307 utilized 75% of 36,000 PSI.

Torque values for 1/4 and 5/16-in series are in inch-pounds. All other torque values are in foot-pounds.

Torque values calculated from formula $T = KDF$, where

K = 0.15 for "lubricated" conditions

K = 0.17 for zinc plated and dry conditions; we have also found various forms of customer applied thread lockers to have a similar K value.

K = 0.20 for plain and dry conditions

D = Nominal Diameter

F = Clamp Load

Note: When using Zinc Plated (lubricated with wax) Top Lock Nuts, the K value can vary between 0.12-0.16

METRIC TORQUE SPECIFICATIONS

Nominal Dia. (mm)	Pitch	4.6 Class 4.6				8.8 Class 8.8				10.9 Class 10.9				12.9 Class 12.9			
		Clamp Load (lbs)	Tightening Torque			Clamp Load (lbs)	Tightening Torque			Clamp Load (lbs)	Tightening Torque			Clamp Load (lbs)	Tightening Torque		
			Lubricated (ft-lbs)	Zinc Plated (ft-lbs)	Plain&Dry (ft-lbs)		Lubricated (ft-lbs)	Zinc Plated (ft-lbs)	Plain&Dry (ft-lbs)		Lubricated (ft-lbs)	Zinc Plated (ft-lbs)	Plain&Dry (ft-lbs)		Lubricated (ft-lbs)	As-Received (ft-lbs)	Plain&Dry (ft-lbs)
4	0.7	333	0.7	0.7	0.9	858	1.7	1.9	2.3	1228	2.4	2.7	3.2	1436	2.8	3.2	3.8
5	0.8	538	1.3	1.5	1.8	1387	3.4	3.9	4.5	1985	4.9	5.5	6.5	2319	5.7	6.5	7.6
6	1	763	2.3	2.6	3.0	1968	5.8	6.6	7.7	2816	8.3	9.4	11.1	3291	9.7	11.0	13.0
7	1	1095	3.8	4.3	5.0	2822	9.7	11.0	13.0	4039	13.9	15.8	18.5	4720	16.3	18.4	21.7
8	1.25	1389	5.5	6.2	7.3	3580	14.1	16.0	18.8	5123	20.2	22.9	26.9	5987	23.6	26.7	31.4
10	1.5	2200	10.8	12.3	14.4	5671	27.9	31.6	37.2	8115	39.9	45.2	53.2	9484	46.7	52.9	62.2
12	1.75	3197	18.9	21.4	25.2	8240	48.7	55.1	64.9	11792	69.6	78.9	92.8	13781	81.4	92.2	108.5
14	2	4379	30.2	34.2	40.2	11289	77.8	88.1	103.7	16154	111.3	126.1	148.4	18879	130.0	147.4	173.4
16	2	5943	47	53	62	15320	121	137	161	21924	173	196	230	25622	202	229	269
18	2.5	7301	65	73	86	18822	167	189	222	26934	239	270	318	31477	279	316	372
20	2.5	9286	91	104	122	23938	236	267	314	34256	337	382	449	40034	394	446	525
22	2.5	11509	125	141	166	29669	321	364	428	42457	460	521	613	49619	537	609	716
24	3	13372	158	179	211	34471	407	461	543	49329	582	660	777	57649	681	771	908
27	3	17428	232	262	309	44924	597	676	796	64288	854	968	1139	75132	998	1131	1331
30	3.5	21266	314	356	419	54819	809	917	1079	78448	1158	1312	1544	91680	1353	1534	1804
33	3.5	26310	427	484	570	67821	1101	1248	1468	97055	1576	1786	2101	113425	1842	2087	2455
36	4	30982	549	622	732	79866	1415	1603	1886	114291	2024	2294	2699	133569	2366	2681	3154

The torque values can only be achieved if nut (or tapped hole) has a proof load greater than or equal to the bolt's minimum ultimate tensile strength.

Clamp loads estimated as 75% of proof load for specified bolts.

Torque values listed in foot-pounds.

Torque values calculated from formula $T = KDF$ where; K=0.15 for "lubricated" condition, K=0.17 for zinc plated and dry condition (or as-received for the 12.9), K=0.20 for plain and dry condition

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