

SI DISC MULCHER **PRO X**

60"(1524MM) DISC HEAD

DOC #15-1358

SERIAL #30114+

04/11/2022

WARRANTY + SERVICE 888.960.0364
PARTS 888.960.0361



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DECK ASSEMBLIES

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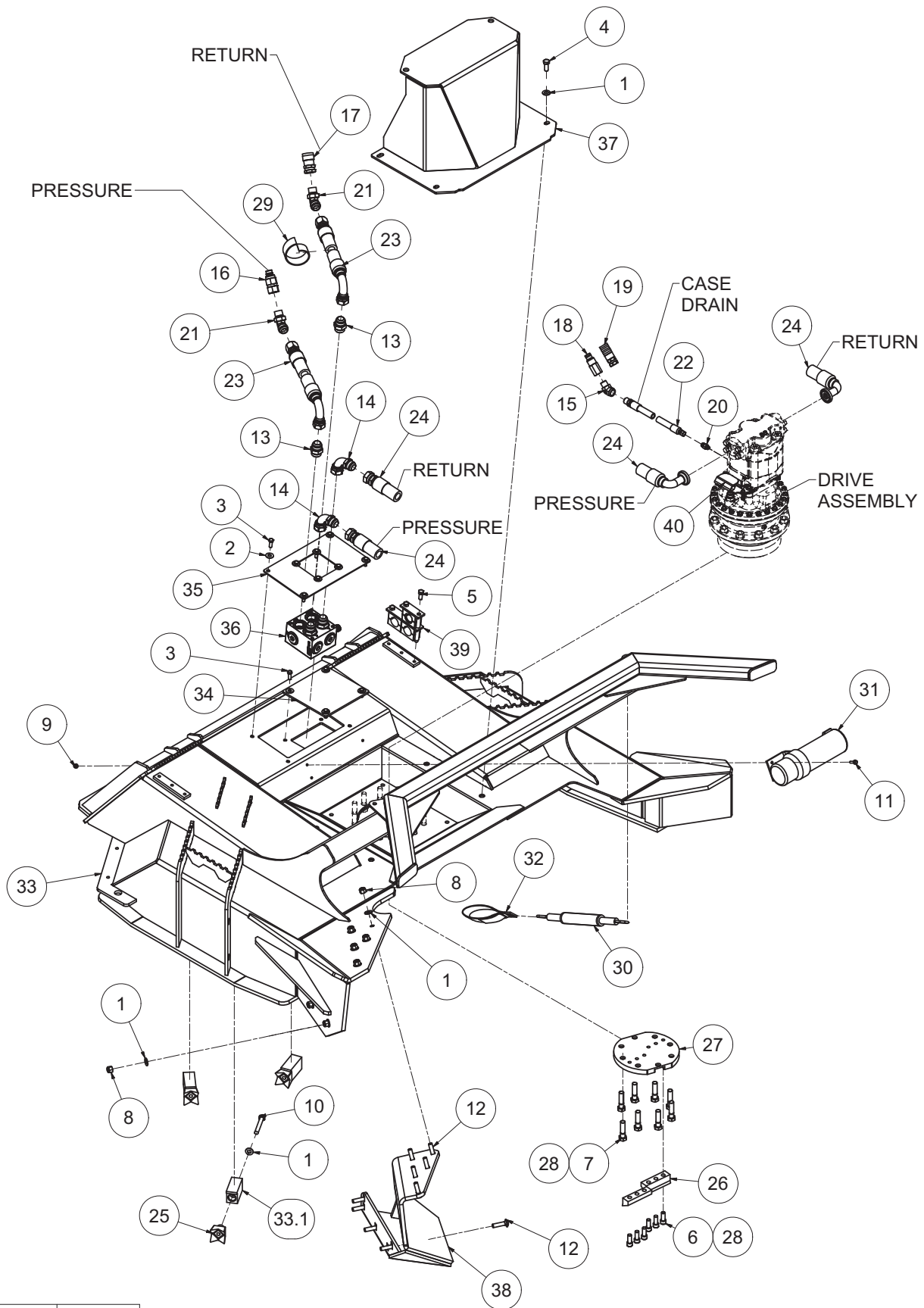
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CUTTER ASSEMBLIES

CUTTER ASSEMBLIES

DECK ASSEMBLY - GEAR MOTOR



25-1854-1 Rev H

CUTTER ASSEMBLIES

DECK ASSEMBLY - GEAR MOTOR

REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	1/2 X 1.062 GR 8 SAE FLAT WASHER, YELLOW ZINC	17	11-0042	
2	3/8 THRU-HARDENED FLAT WASHER, YELLOW ZINC	12	11-0092	
3	3/8-16 X 1 GR 5 HEX CAP, ZINC	12	11-0532	31
4	1/2-13 X 1-1/4 GR 5 HEX CAP, ZINC	4	11-0570	75
5	7/16-14 X 1 GR 5, HEX CAP, ZINC	3	11-0584	49
6	1/2-13 X 1-1/4 ASTM A574 SOCKET CAP, BLACK OXIDE	6	11-0965	124
7	5/8-11 X 2-1/2 GR 8 HEX CAP, YELLOW ZINC	8	11-0971	**212
8	1/2-13 GR 8 NYLOCK NUT, ZINC	10	11-1072	
9	1/4-20 GR 5 NYLOCK FLANGE NUT, ZINC	3	11-1090	
10	1/2-20 X 3-1/2 GR 8 HEX CAP, YELLOW ZINC	3	11-1628	120
11	1/4-20 X 1 GR 5 HEX FLANGE BOLT, ZINC	3	11-2210	8.5
12	1/2-13 x 2 GR 8 CARRIAGE BOLT, YELLOW ZINC	10	11-2226	
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 QUICK 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	FOUR-POINT HARDENED STEEL TOOTH	3	22-0019	
26	FBC, CENTER PLANER	2	24-0192	
27	BOLT PROTECTOR, FBS, D3 SPINDLE	1	24-0224	
28	LOCTITE 262, .017 OZ (RED)	1	24-0382	
29	HOSEGUARD 3" SPIRAL / 54"	1	24-0390	
30	ELASTIC STRAP WITH CLIPS, 24", 47lb at 60"	1	24-0391	
31	LARGE MANUAL CANISTER, 12" X 3.25"	1	24-0397	
32	HANGING STRAP - ADJ 10-12"	1	24-0427	
33	DECK (FBS 60 GEN 4)	1	25-0247	
33.1	DECK TOOTH HOLDER	3	90-7076	
34	60 SKID FBC ACCESS PORT COVER	1	31-0455	
35	MANIFOLD CUTOUT ACCESS PLATE	1	31-0740	
36	MANIFOLD, ANTI-CAVITATION, 3050 PSI RELIEF	1	39-0123	
37	MOTOR GUARD, D3 FBS	1	41-1461	
38	FBS 60 GEN 4 CHUTE	1	41-1888	
39	1" HOSE CLAMP KIT WITH TOP CLAMP, NO BASE	1	44-0351	
40	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 1FJIC) KEVLAR	1	21-4724	

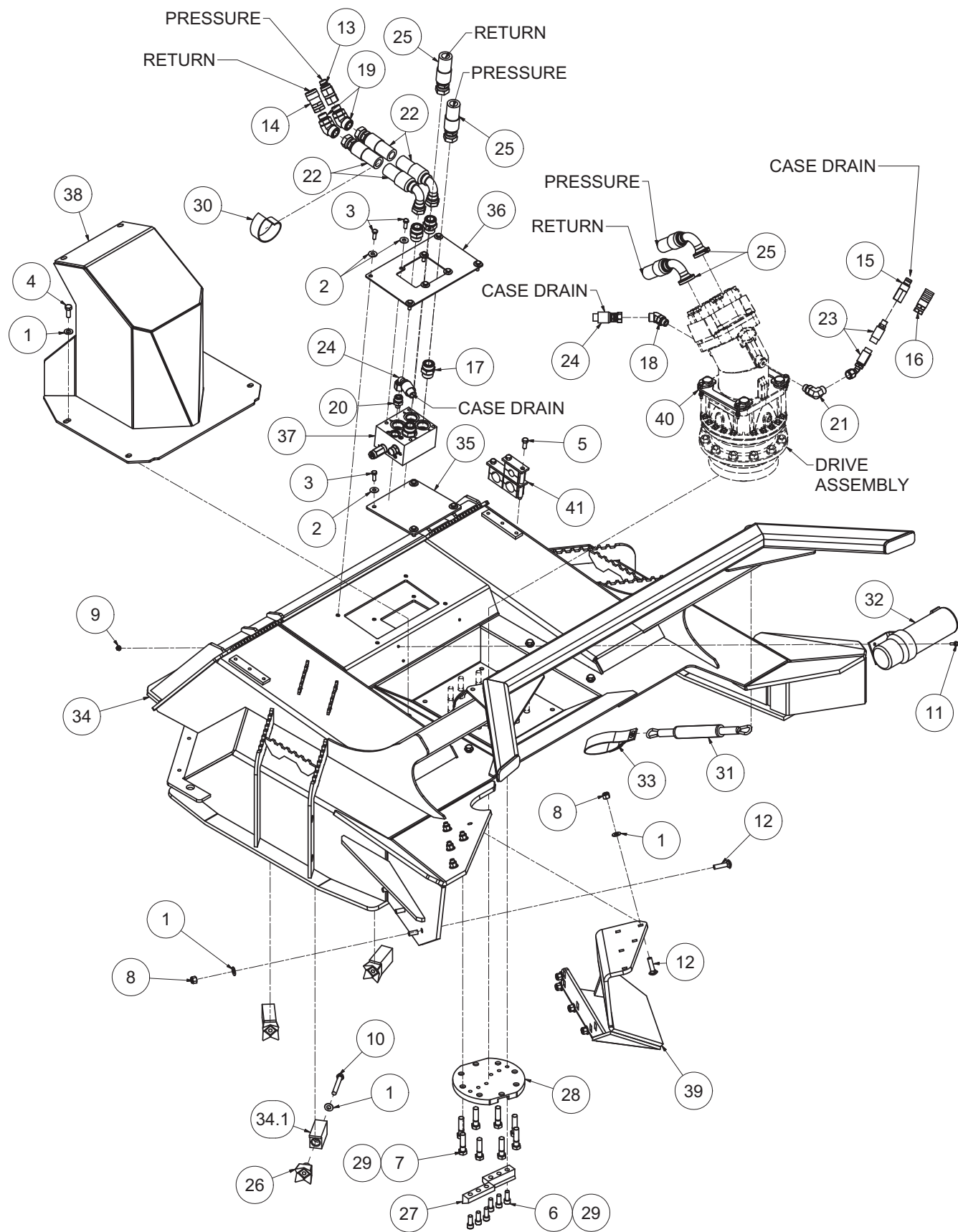
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** CRITICAL TORQUE VALUES **MUST** BE FOLLOWED.

25-1854-1 Rev H

CUTTER ASSEMBLIES

DECK ASSEMBLY - PISTON MOTOR



25-1855-1 Rev H

CUTTER ASSEMBLIES

DECK ASSEMBLY - PISTON MOTOR

REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE ft-lbs
1	1/2 X 1.062 GR 8 SAE FLAT WASHER, YELLOW ZINC	17	11-0042	
2	3/8 THRU-HARDENED FLAT WASHER, YELLOW ZINC	12	11-0092	
3	3/8-16 X 1 GR 5 HEX CAP, ZINC	12	11-0532	31
4	1/2-13 X 1-1/4 GR 5 HEX CAP, ZINC	4	11-0570	75
5	7/16-14 X 1 GR 5, HEX CAP, ZINC	3	11-0584	49
6	1/2-13 X 1-1/4 ASTM A574 SOCKET CAP, BLACK OXIDE	6	11-0965	124
7	5/8-11 X 2-1/2 GR 8 HEX CAP, YELLOW ZINC	8	11-0971	**212
8	1/2-13 GR 8 NYLOCK NUT, ZINC	10	11-1072	**106
9	1/4-20 GR 5 NYLOCK FLANGE NUT, ZINC	3	11-1090	
10	1/2-20 X 3-1/2 GR 8 HEX CAP, YELLOW ZINC	3	11-1628	120
11	1/4-20 X 1 GR 5 HEX FLANGE BOLT, ZINC	3	11-2210	8.5
12	1/2-13 x 2 GR 8 CARRIAGE BOLT, YELLOW ZINC	10	11-2226	
13	1/2" MALE QUICK COUPLER X 3/4" SAE, FLAT FACE, NO SPILL	1	21-1559	
14	1/2" FEMALE Q COUPLER X 3/4" SAE, FLAT FACE, NO SPILL	1	21-1560	
15	3/8" MALE QUICK COUPLER, FLAT FACE, NO SPILL	1	21-1561	
16	3/8" FEMALE QUICK COUPLER, FLAT FACE, NO SPILL	1	21-1562	
17	-16 MOR X -16 MOFS	4	21-1675	
18	ELBOW, -10 ADJ MOR X -10MFS, 45 DEG	1	21-1688	
19	ELBOW, -12 ADJ MOR X -16 MFS, 45 DEG	2	21-1689	
20	-10 MOFS X -10 MORB	1	21-1705	
21	ELBOW, -10 ADJ MOR X -10 MOFS, 90 DEG	1	21-1708	
22	HOSE, 1 X 88, 4000 PSI (-16 FFS X -16 FFS 90 DEG) KEVLAR	2	21-4616	
23	HOSE, 5/8 X 118 (-10 FFS 45 DEG X -8 MP) KEVLAR	1	21-4618	
24	HOSE, 5/8 X 25 (-10 FFS 90 DEG X -10 FFS) KEVLAR	1	21-4636	
25	HOSE 1 X 17.25 4000 PSI (-20CD 62FLG 90DEG X-16 FFS) KEVLAR	2	21-4792	
26	FOUR-POINT HARDENED STEEL TOOTH	3	22-0019	
27	FBC, CENTER PLANER	2	24-0192	
28	BOLT PROTECTOR, FBS, D3 SPINDLE	1	24-0224	
29	LOCTITE 262, .017 OZ (RED)	1	24-0382	
30	HOSEGUARD 3" SPIRAL / 54"	1	24-0390	
31	ELASTIC STRAP WITH CLIPS, 24", 47lb at 60"	1	24-0391	
32	LARGE MANUAL CANISTER, 12" X 3.25"	1	24-0397	
33	HANGING STRAP - ADJ 10-12"	1	24-0427	
34	FBS 60 GEN 4	1	25-0247	
34.1	DECK TOOTH HOLDER	3	90-7076	
35	60 SKID FBC ACCESS PORT COVER	1	31-0455	
36	MANIFOLD CUTOFF ACCESS PLATE	1	31-0748	
37	ANTI CAVITATION-FLUSHING MANIFOLD, ATTACHMENT	1	39-0126	
38	MOTOR GUARD, D3 FBS, PISTON	1	41-1729	
39	FBS 60 GEN 4 CHUTE	1	41-1888	
40	MOTOR LOCKING HARDWARE KIT	1	44-0865	
41	1" 4000 PSI HOSE CLAMP HIT WITH 5/8" TOP CLAMP, NO BASE	1	44-0957	
	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 1FJIC) KEVLAR	1	21-4724	

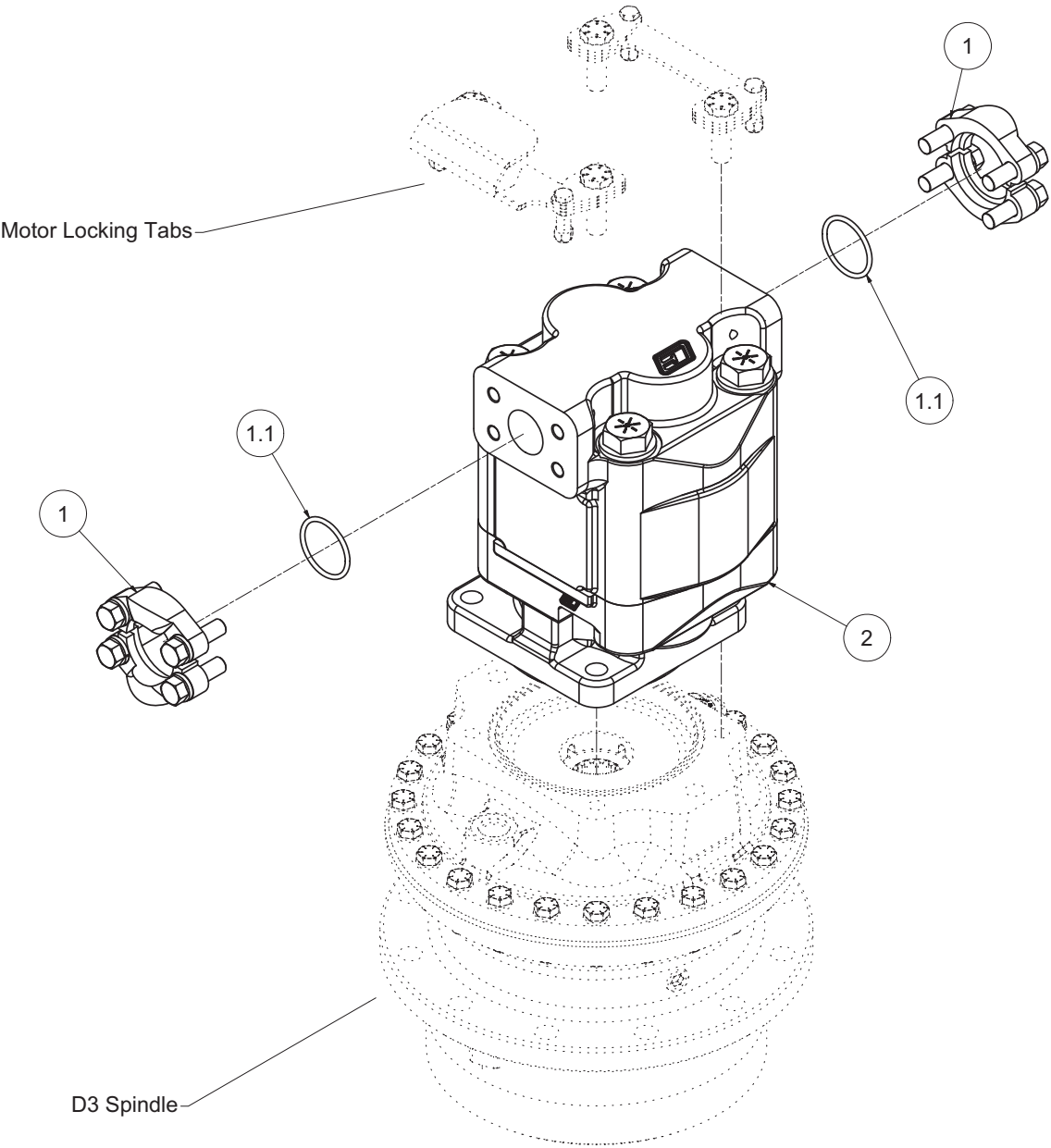
* NOT SHOWN

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

25-1855-1 Rev H

CUTTER ASSEMBLIES

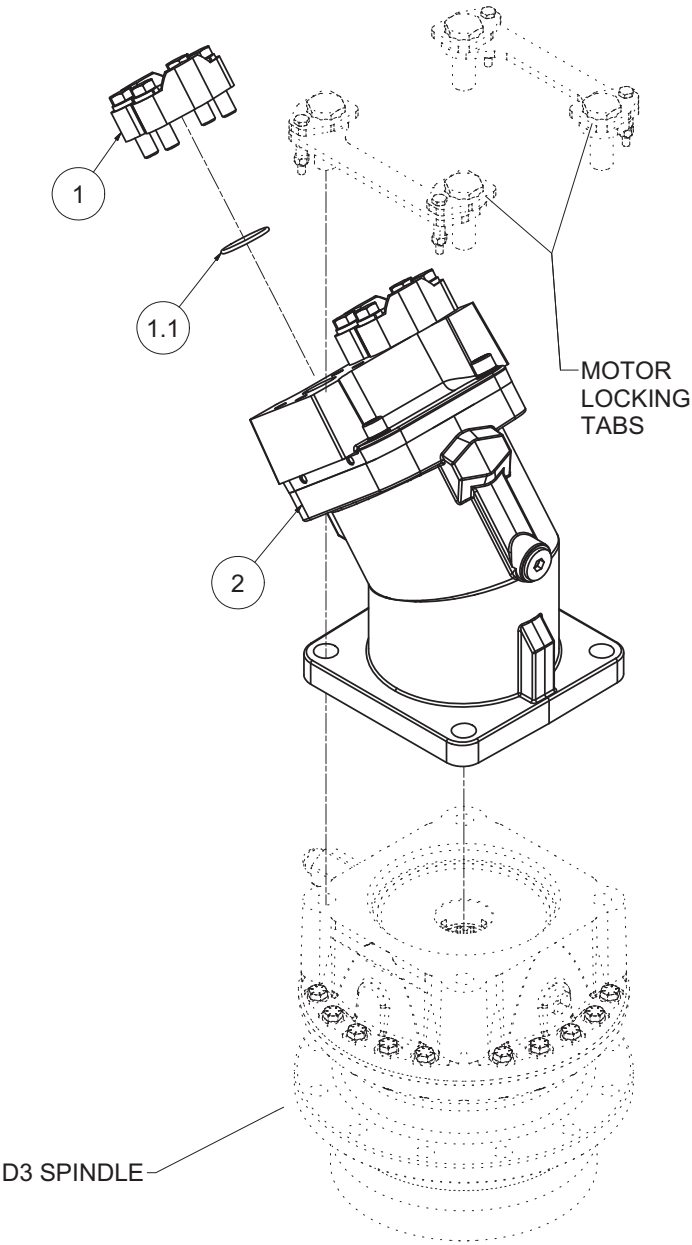
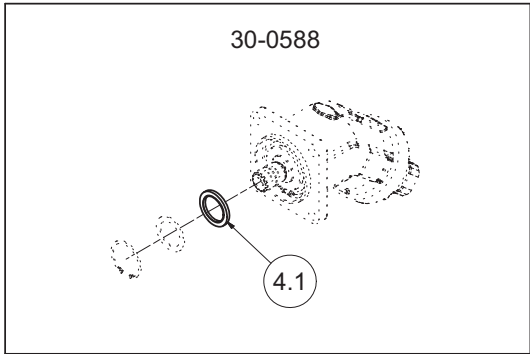
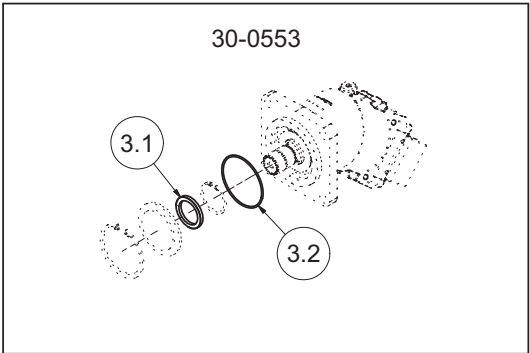
MOTOR - DECK SUBASSEMBLY, GEAR MOTOR



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		
	48" SKID LOADER MOTORS:			
	M365 1-1/2 GEAR 14 SPLINE MOTOR		30-0515	
	23-29 GPM (87-110 LPM)			
	M365, 1-3/4" GEAR, 1-1/4 14 SPLINE SHAFT		30-0520	
	30-37 GPM (114-140 LPM)			
	60" SKID LOADER MOTOR:			
	M365, 2-1/4" GEAR, 1-1/4 14 SPLINE SHAFT		30-0524	
	32-45 GPM (121-170 LPM)			

CUTTER ASSEMBLIES

MOTOR - DECK SUBASSEMBLY, PISTON MOTOR

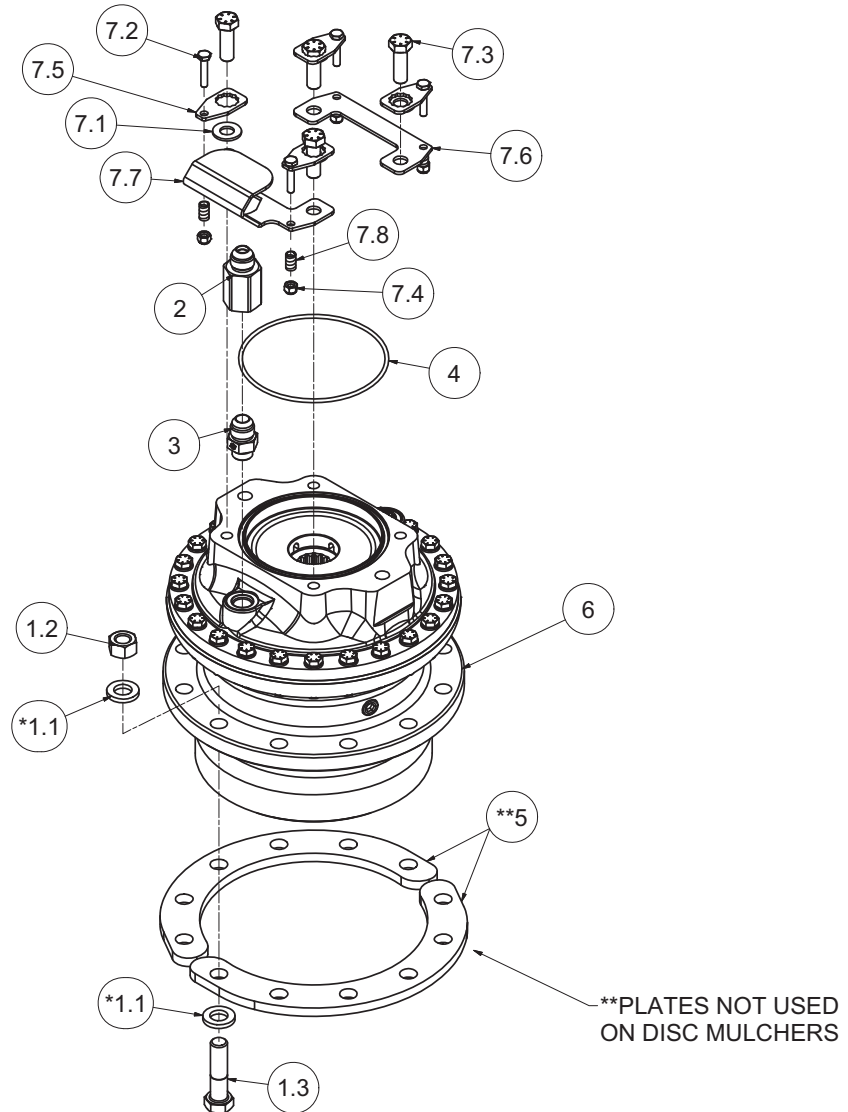


REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	#20 FLANGE KIT, CODE 62	2	21-1678	106
1.1	O-RING, #20 FLANGE	2	33-0013	
2	MA125 FIXED DISPL. BENT AXIS PISTON MOTOR 32-45 GPM (122-170 LPM) (STD FLOW)	1	30-0553	
3	SEAL KIT (FOR MOTOR 30-0553)	1	14-1244	
3.1	SHAFT SEAL	1	10-0120	
3.2	O-RING	1	30-1372	
2	FIXED DISPLACEMENT BENT AXIS PISTON MOTOR, 160CC 37-45 GPM (140-170 LPM) (HIGH FLOW)	1	30-0588	
4	SEAL KIT (FOR MOTOR 30-0588)	1	30-1438	
4.1	SHAFT SEAL	1	30-1436	

30-0553-3 Rev 000

CUTTER ASSEMBLIES

SPINDLE - DECK SUBASSEMBLY, GEAR MOTOR



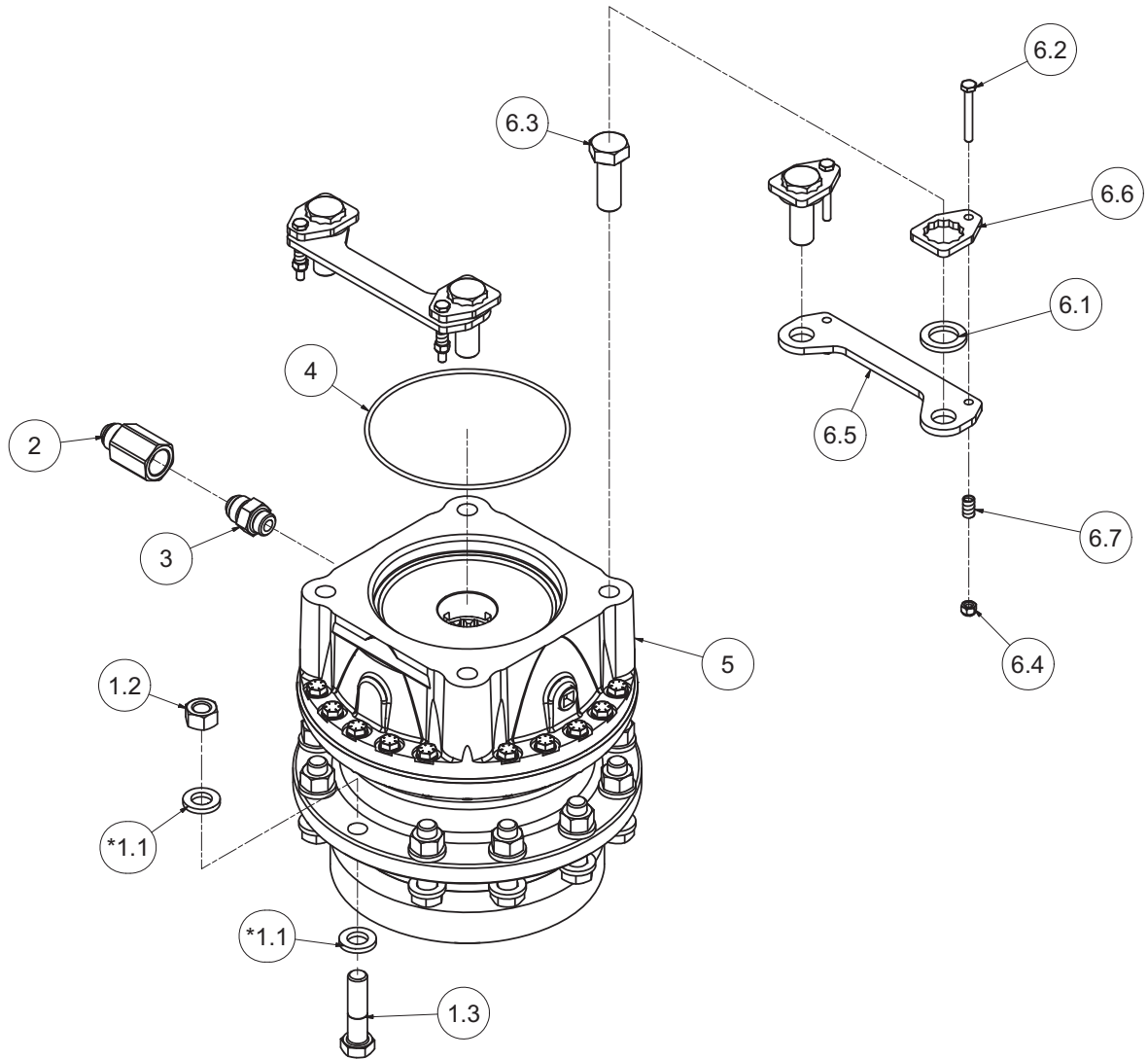
REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	BOLT KIT - 1/2" SPINDLE (FBS/DBR) SHELL	1	11-3624	
*1.1	M16 DIN EN 14399 THRU-HARDENED FW, ECOGUARD	24	11-0102	
1.2	5/8-11 GR 8 HEX NUT, ECOGUARD	12	11-1166	
1.3	5/8-11 X 2.5 GR 8 HEX CAP, ECOGUARD	12	11-2233	150
2	RELIEF VALVE, D3 SPINDLE	1	21-1653	
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.

35-0204-1 Rev 000

CUTTER ASSEMBLIES

SPINDLE - DECK SUBASSEMBLY, PISTON MOTOR



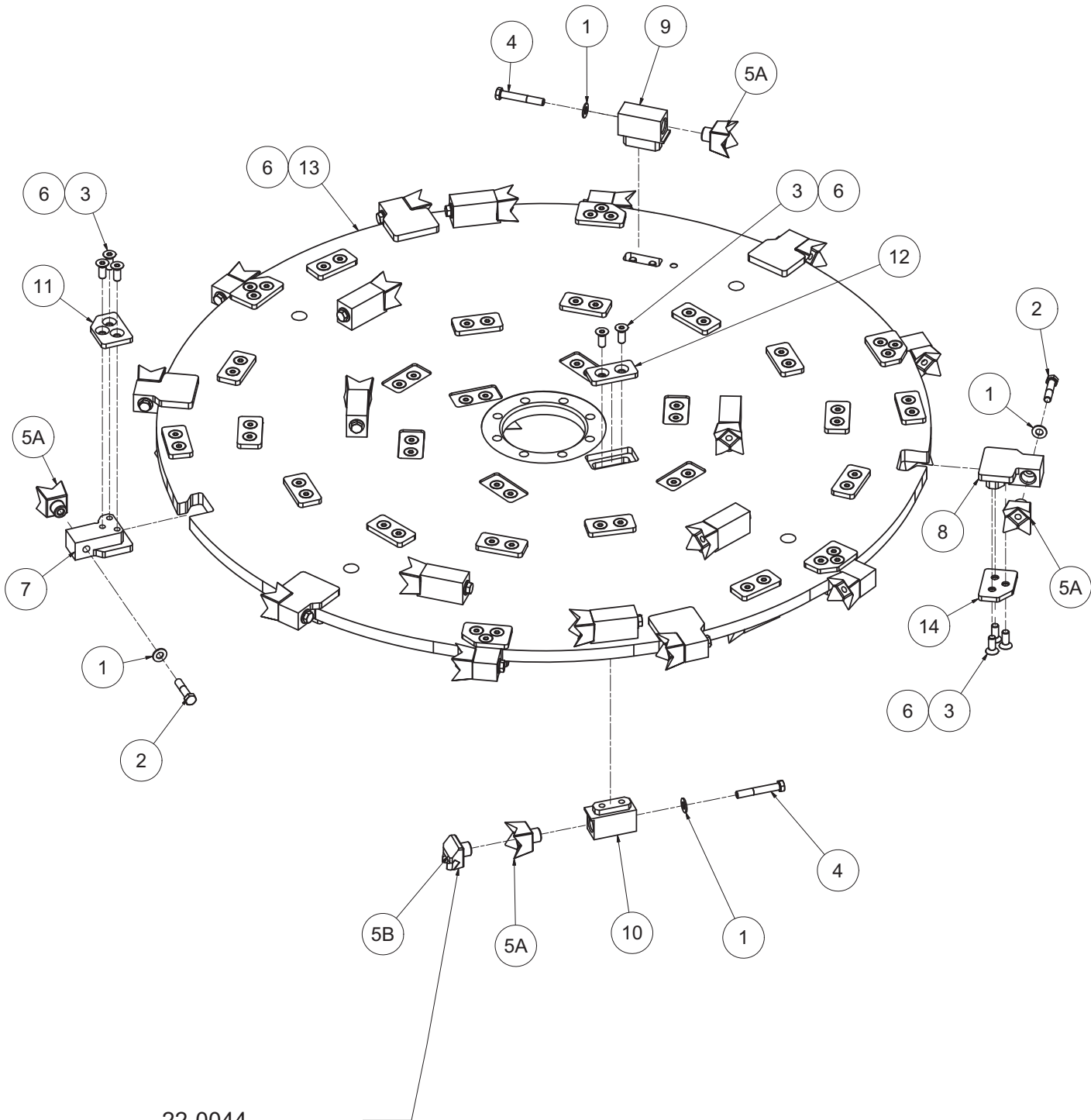
REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	BOLT KIT - 1/2" SPINDLE (FBS/DBR) SHELL	1	11-3624	
*1.1	M16 DIN EN 14399 THRU-HARDENED FLAT WASHER, ECOGUARD	24	11-0102	
1.2	5/8-11 GR 8 HEX NUT, ECOGUARD	12	11-1166	
1.3	5/8-11 X 2.5 GR 8 HEX CAP, ECOGUARD	12	11-2233	150
2	RELIEF VALVE, D3 SPINDLE	1	21-1653	
3	5/8MJIC X 1/2MORB	1	21-1706	
4	O-RING SAE D	1	33-0098	
5	D3 SPINDLE, DIRECT DRIVE, SAE D HD	1	35-0108	
6	MOTOR LOCKING HARDWARE KIT	1	44-0865	
6.1	3/4 SAE GR 8 FLAT WASHER, YELLOW	4	11-0039	
6.2	1/4-20 X 2 GR 5 HEX CAP, ZINC	4	11-0590	8.5
6.3	3/4-10 X 2 GR 8 HEX CAP, YELLOW ZINC	4	11-0751	220
6.4	1/4-20 GR 5 NYLOCK NUT, ZINC	4	11-1022	
6.5	MOTOR BOLT LOCK BASE, SAE D	2	31-0759	
6.6	MOTOR BOLT LOCK TAB, SAE D	4	31-0760	
6.7	BOLT LOCKING TAB SPRING	4	36-0013	

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

35-0108-1 Rev 000

CUTTER ASSEMBLIES

CUTTING HEAD - DECK SUBASSEMBLY



22-0044
OPTION ONLY
AVAILABLE ON
BOTTOM OF DISK

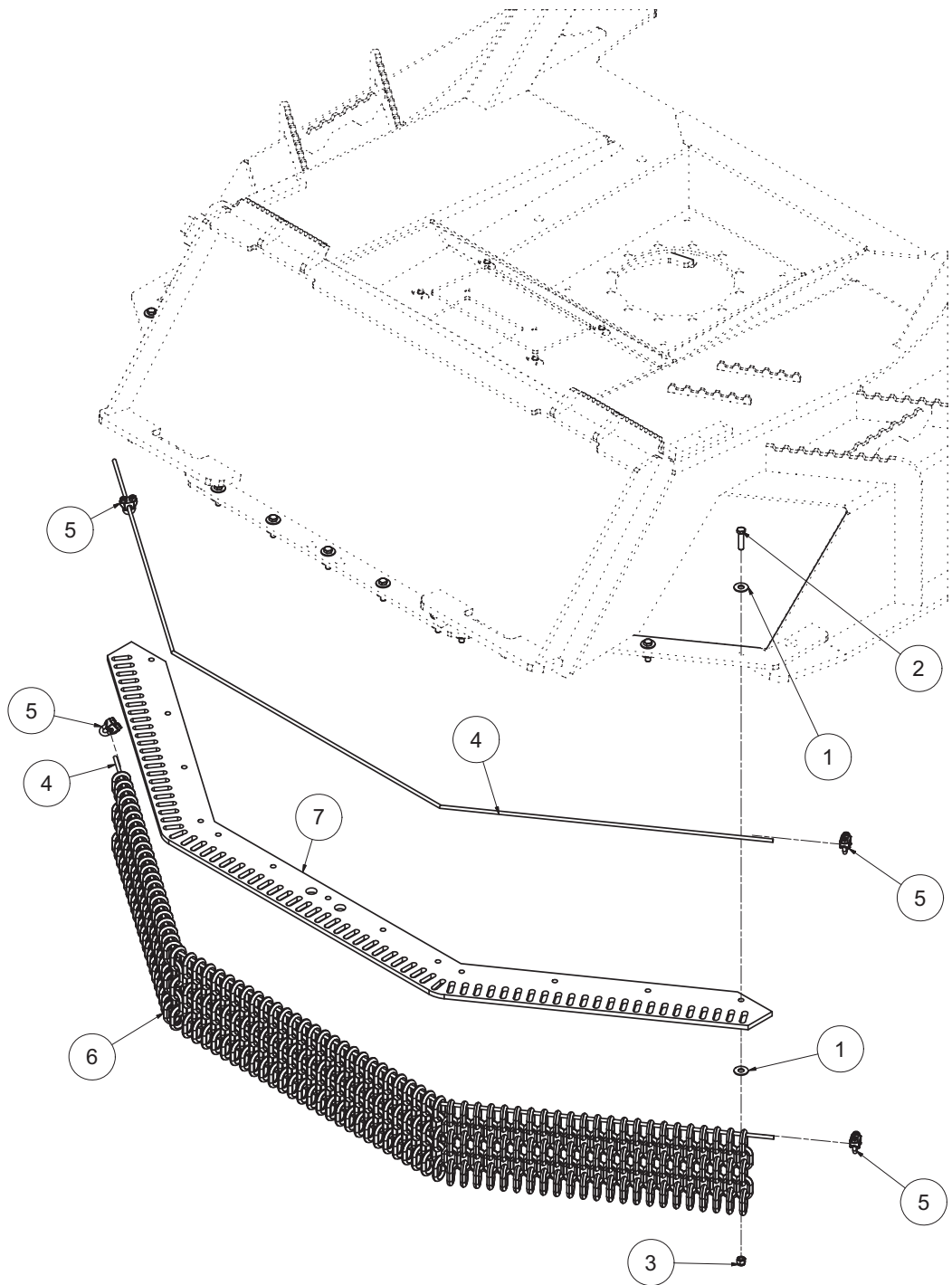
CUTTER ASSEMBLIES

CUTTING HEAD - DECK SUBASSEMBLY

REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	1/2 X 1.062 GR 8 SAE FLAT WASHER, YELLOW ZINC	44	11-0042	
2	1/2 X 2-1/4 H.S. NF HEX CAP	12	11-0660	120
3	1/2-13 X 1-1/4 ASTM F835 FLAT SOCKET CAP SCREW	100	11-1178	110
4	1/2-20 X 3-1/4 GR 8 HEX CAP, YELLOW ZINC	32	11-1666	120
5A	FOUR-POINT HARDENED STEEL TOOTH	44	22-0019	
5B	TWIN MAUL® CARBIDE TOOTH	22	22-0044	
6	LOCTITE 277, 10ML	1	24-0309	
7	OUTER TOOTH HOLDER	6	90-7054	
8	OUTER TOOTH HOLDER CC	6	90-7070	
9	MIDDLE TOOTH HOLDER W-O COUNTERSINK	24	90-7073	
10	INNER TOOTH HOLDER W-O COUNTERSINK	8	90-7074	
11	OUTER TOOTH HOLDER COVER	6	P24-0270-12	
12	COVER	32	P24-0270-13	
13	D3 DISH BLANK W-EXISTING PATTERN	1	P24-0283-11	
14	OUTER TOOTH COVER	6	P24-0310-12	
	TOOTH KIT - 20 TEETH, NO HARDWARE	1	44-0830	
	FOUR-POINT HARDENED STEEL TOOTH	20	22-0019	
	TOOTH KIT - 50 TEETH, NO HARDWARE	1	44-0831	
	FOUR-POINT HARDENED STEEL TOOTH	50	22-0019	
	OUTER TOOTH HOLDER KIT	1	44-0835	
	1/2-13 X 1-1/4 ASTM F835 FLAT SOCKET CAP SCREW	3	11-1178	110
	OUTER TOOTH HOLDER - BOLT ON	1	90-7054	
	OUTER TOOTH HOLDER COVER	1	P24-0270-12	
	MIDDLE TOOTH HOLDER KIT	1	44-0862	
	1/2-13 X 1-1/4 ASTM F835 FLAT SOCKET CAP SCREW	2	11-1178	110
	MIDDLE TOOTH HOLDER W-O COUNTERSINK	1	90-7073	
	COVER	1	P24-0270-13	
	INNER TOOTH HOLDER KIT	1	44-0863	
	1/2-13 X 1-1/4 ASTM F835 FLAT SOCKET CAP SCREW	2	11-1178	110
	INNER TOOTH HOLDER W-O COUNTERSINK	1	90-7074	
	COVER	1	P24-0270-13	
	TOOTH KIT - FOUR-POINT FBS060	1	44-0861	
	1/2 X 2-1/4 H.S. NF HEX CAP	12	11-0660	120
	1/2-20 X 3-1/4 GR 8 HEX CAP, YELLOW ZINC	36	11-1666	120
	1/2 X 1.062 GR 8 SAE FLAT WASHER, YELLOW ZINC	48	11-0042	
	FOUR-POINT HARDENED STEEL TOOTH	48	22-0019	
	TOOTH KIT - TWIN MAUL® FBS060	1	44-0945	
	1/2 X 1.062 GR 8 SAE FLAT WASHER, YELLOW ZINC	22	11-0042	
	1/2-20 X 3-1/4 GR 8 HEX CAP, YELLOW ZINC	22	11-1666	120
	TWIN MAUL® CARBIDE TOOTH	22	22-0044	
	TOOTH HOLDER KIT, OUTER TOP	1	44-0960	
	1/2-13 X 1-1/4 ASTM F835 FLAT SOCKET CAP SCREW	3	11-1178	
	OUTER TOOTH HOLDER CC	1	90-7070	
	OUTER TOOTH COVER	1	P24-0310-12	

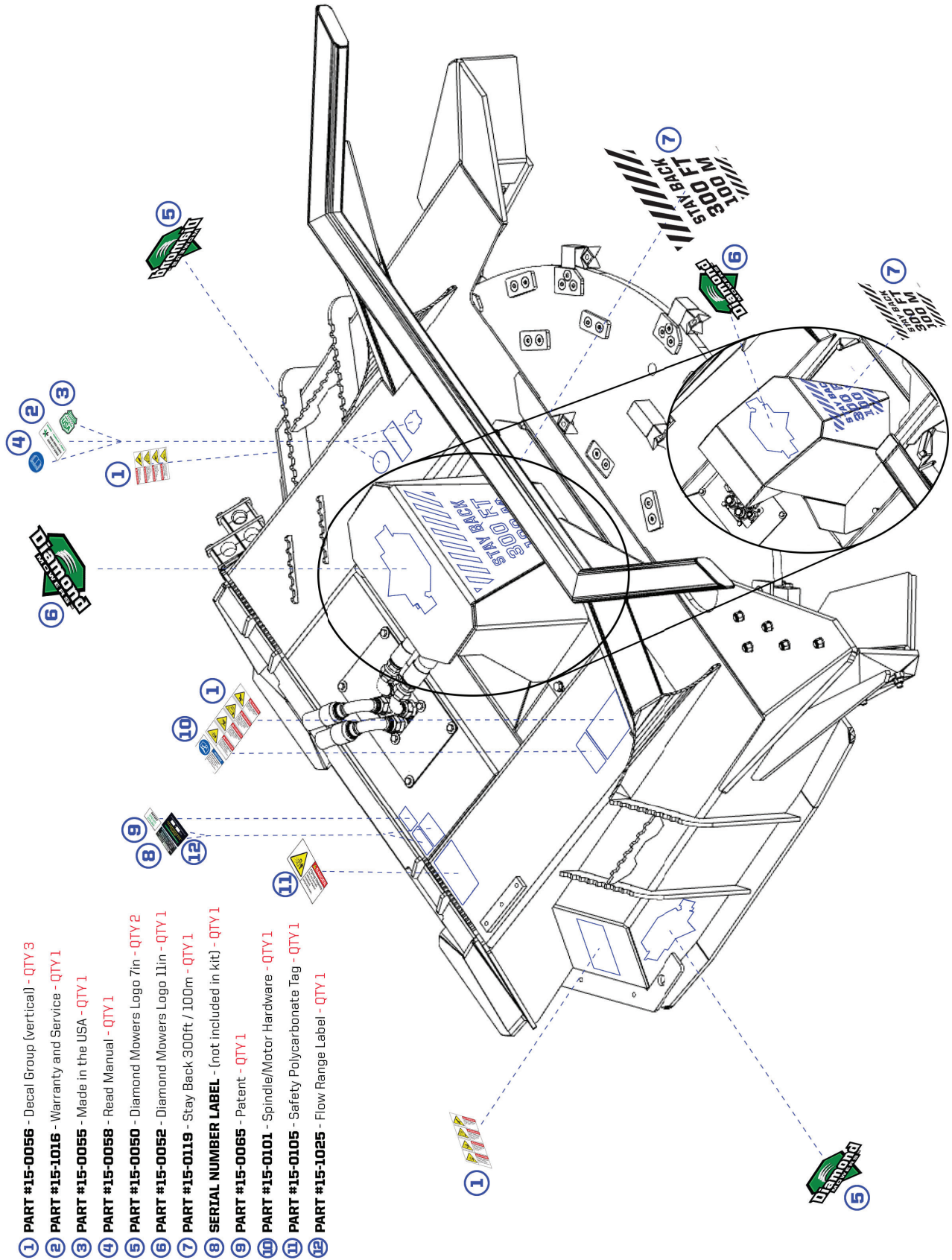
CUTTER ASSEMBLIES

CHAIN GUARD ASSEMBLY



REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	3/8 THRU-HARDENED FLAT WASHER, YELLOW ZINC	26	11-0092	31
2	3/8-16 X 1-1/2 GR 5 HEX CAP, ZINC	13	11-0529	
3	3/8-16 GR 2 NYLOCK NUT, ZINC	13	11-1024	
4	1/4" GALVANIZED CABLE 7,000 LBS TENSILE STR (SOLD/FT)	13	12-0032	
5	1/4" WIRE ROPE CLAMP	4	12-0033	
6	3/8" CHAIN - 5 LINKS	74	12-0047	
7	FBS CHAIN GUARD	1	31-0753	

DECAL ASSEMBLY



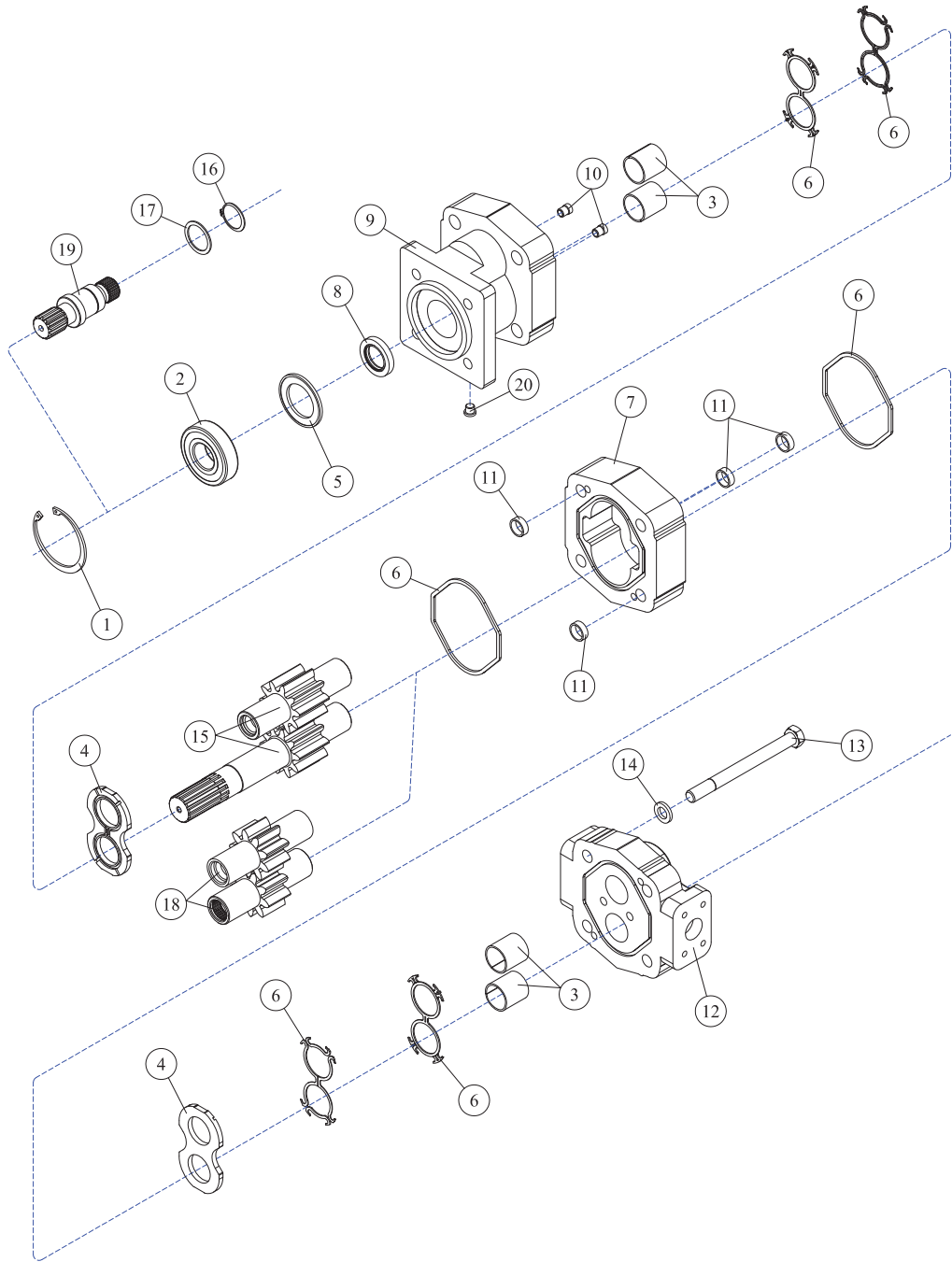
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DECK ASSEMBLIES

DECK ASSEMBLIES

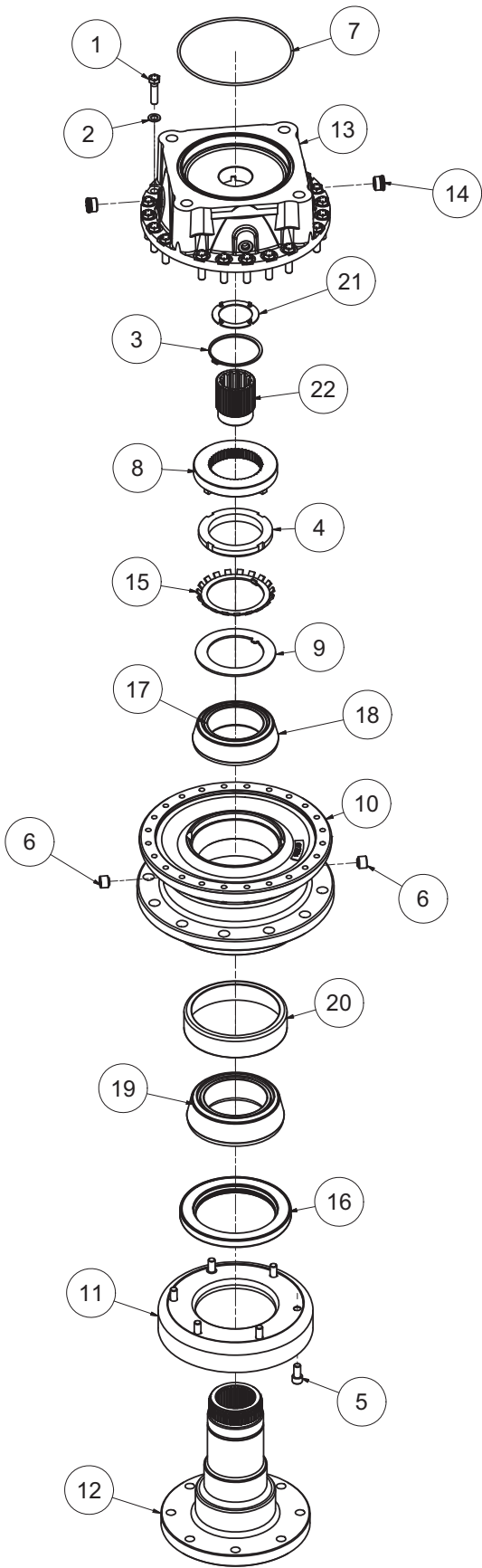
MOTOR ASSEMBLY - 30-0524



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

SPINDLE ASSEMBLY - 35-0108



35-0108	Rev 000
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DECK ASSEMBLIES

SPINDLE ASSEMBLY - 35-0108

REF#	PARTS DESCRIPTION	REQ	PART#	TORQUE (ft-lbs)
1	BOLT-HEX HEAD, FOR D3 SPINDLE	20	11-1611	45
2	FLAT WASHER, FOR D3 SPINDLE	20	11-1612	
3	RETAINING RING, FOR D3 SPINDLE	1	11-1613	
4	LOCKNUT, FOR D3 SPINDLE	1	11-1614	
5	SOCKET HEAD CAPSCREW, FOR D3 SPINDLE	6	11-1616	
6	PIPE PLUG TO HUB MAGNETIC	2	21-1611	
7	O-RING SAE D	1	33-0098	
8	KEEPER PLATE, D3 SPINDLE	1	35-0098	
9	BOTTOM THRUST WASHER, D3 SPINDLE	1	35-0099	
10	HUB	1	35-0100	
11	GUARD	1	35-0102	
12	OUTPUT SHAFT, D3 SPINDLE	1	35-0103	
13	D3 SPINDLE CAP, "D" BASE HD	1	35-0109	
14	D3 SPINDLE SAE C TOP PORT PLUGS	1	35-0200	
	SEAL KIT		33-0078	
15	LOCK-WASHER, FOR D3 SPINDLE	1		
16	OIL-SEAL, D3 SPINDLE	1		
*	SEALANT	1		
	BEARING AND SEAL KIT		33-0079	
15	LOCK-WASHER, FOR D3 SPINDLE	1		
16	OIL-SEAL, D3 SPINDLE	1		
17	TOP BEARING-CONE, FOR D3 SPINDLE	1		
18	TOP BEARING-CUP, FOR D3 SPINDLE	1		
19	BOTTOM BEARING-CONE, FOR D3 SPINDLE	1		
20	BOTTOM BEARING-CUP, FOR D3 SPINDLE	1		
*	SEALANT	1		
21	TOP THRUST WASHER, D3 SPINDLE	1	35-0096	
22	COUPLING, D3 SPINDLE, SAE D SPLINE	1	35-0201	

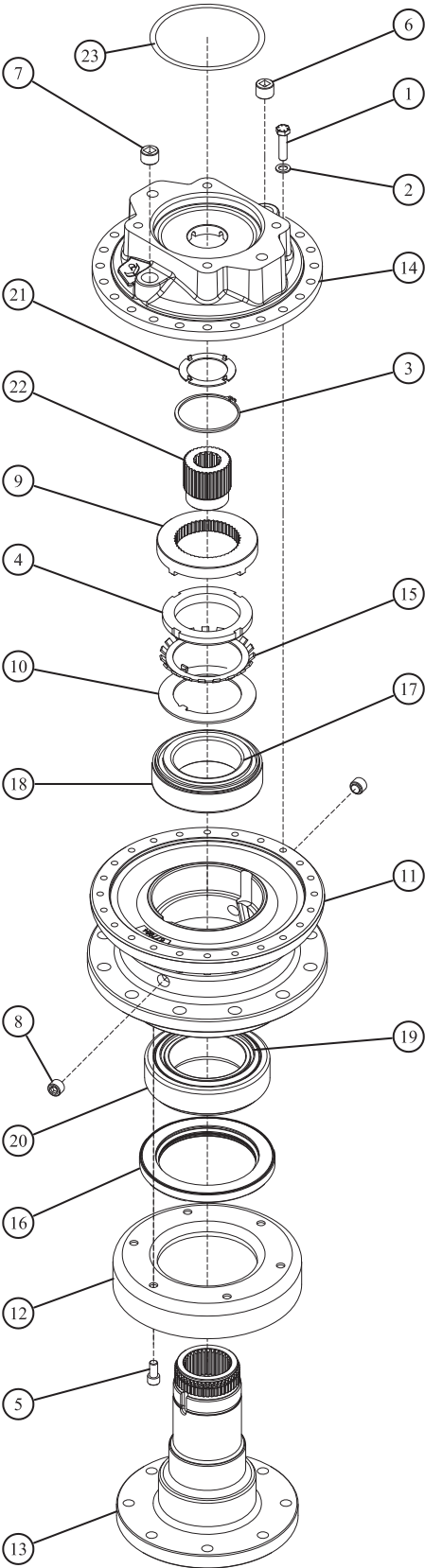
* NOT SHOWN

35-0108 Rev 000

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		 ASTM A307 Grade A						 SAE J429 Grade 5						 SAE J429 Grade 8						 FNL Grade 9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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				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.

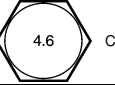
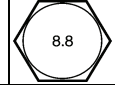
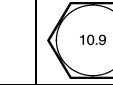
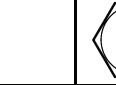
K = 0.20 for plain and dry conditions

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	 Class 4.6				 Class 8.8				 Class 10.9				 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

**DEMAND
BRILLIANCE**