

Parking Brake Group

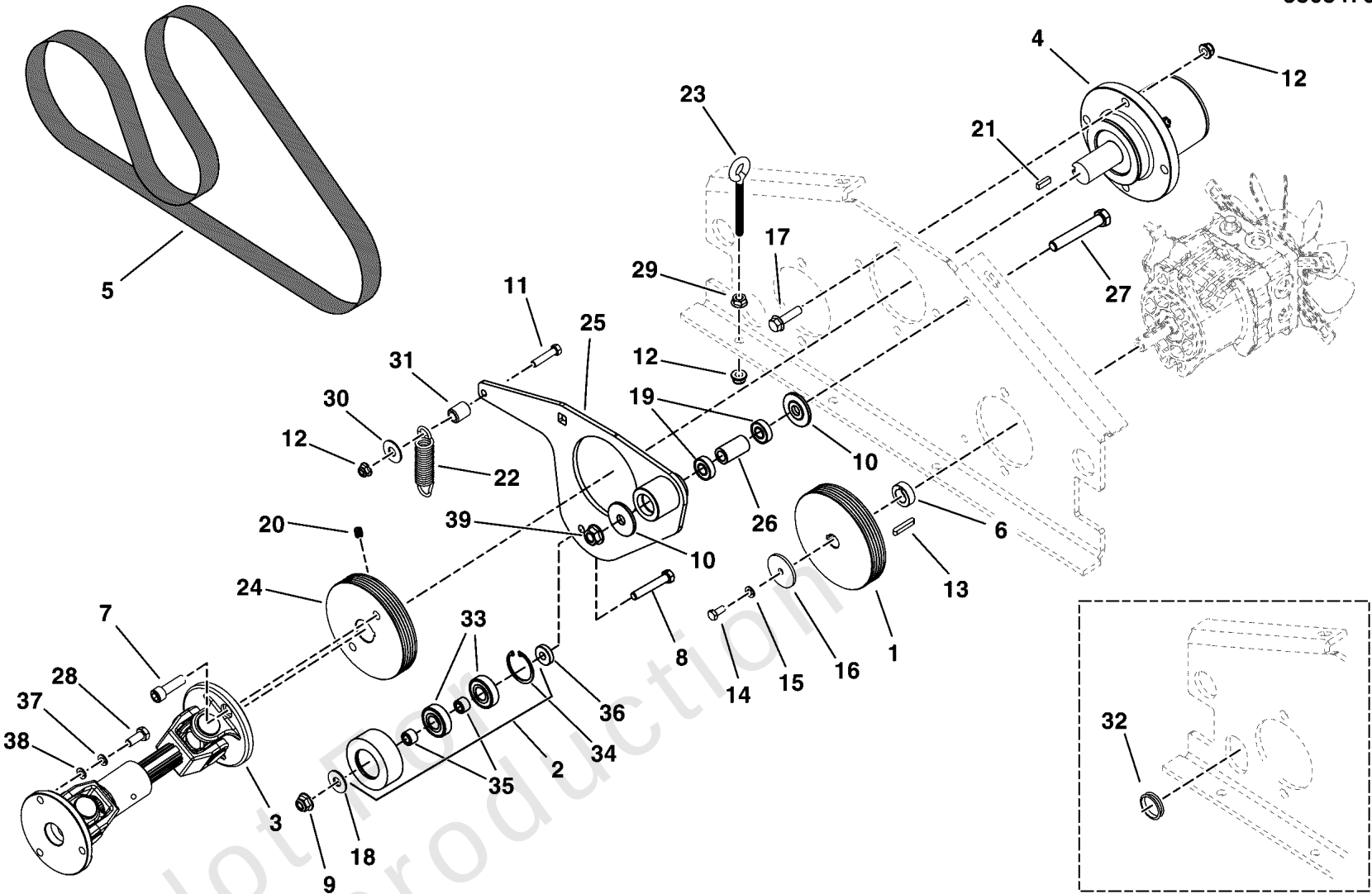
REF NO	PART NO	QTY	DESCRIPTION
1A	5100115	2	CABLE, PARKING BRAKE IS2000 -(61" Models)
1B	5023324	2	CABLE, PARKING BRAKE -(52" Models)
2	5021494	2	SPRING, COMPRESSION
3	5023323	2	CLEVIS, 5/16-24, STEEL, CLEAR ZINC
4	5025213X8	2	PIN-CLEVIS, 5/16 X 1 YZ
5	5041930	2	SPACER, .38 X .50 X .27
6	5100171	1	GRIP, BLACK FLEXIBLE
7	5021098	2	BEARING, BRONZE FLANGE, 3/4
8	5025211	2	PIN, HAIR, .0585 X 1-1/8, 1/4 EYE, YZ
9	5102896YP	2	BRAKE DRUM, 5 BOLT
9-1	5102896X1	5	STUD BRAKE DRUM KNOTT -(Replacement Brake Stud with 30 tooth knurl.)
10	5023490	8	BOLT-5/16-18 X 3/4 12PT FLNG-PATCH
11	5102897	1	BRAKE SHOE ASM, LH, KNOTT
12	5102898	1	BRAKE SHOE ASM, RH, KNOTT -(Not Shown)
13	5025084	2	NUT, 3/8-16 HEX JAM
14	5025013X6	4	BOLT, 3/8-16 X 3/4" GD5 CZ
15	5025394	6	NUT, 3/8-16 HEX NYLOCK FLANGE
16	5025011X14	2	BOLT, 5/16-18 X 1-3/4 GD5 YZ
17	5025392	2	NUT, 5/16-18 HEX NYLOCK FLANGE
18	5025013X12	2	BOLT, 3/8-16 X 1-1/2" GD5 CZ
19	5025156	2	WASHER, 3/8 SAE
20	5025155	2	WASHER, 5/16" SAE
21	5025045	2	NUT, 5/16-24 HEX NYLON LOCK
22	5025033	2	NUT, 5/16-24 HEX
23	5021773	2	SPRING, BRAKE
24	5411566A	1	WELD, SHAFT, PARKING BRAKE - BLK
25	5042134	2	SPACER, .32 X .75 X 1.06
26	5025337	2	WASHER, 5/16 USS
27	5411393A	2	LINK, BRAKE LOCK - BLK
28	7022886	2	SWITCH, DP NO/NC SNAP-IN
29	5025170	8	WASHER, 5/16 LOCK CZ
30	5020047	2	COLLAR, 5/16 SET

Pump Drive Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5901298

5303476



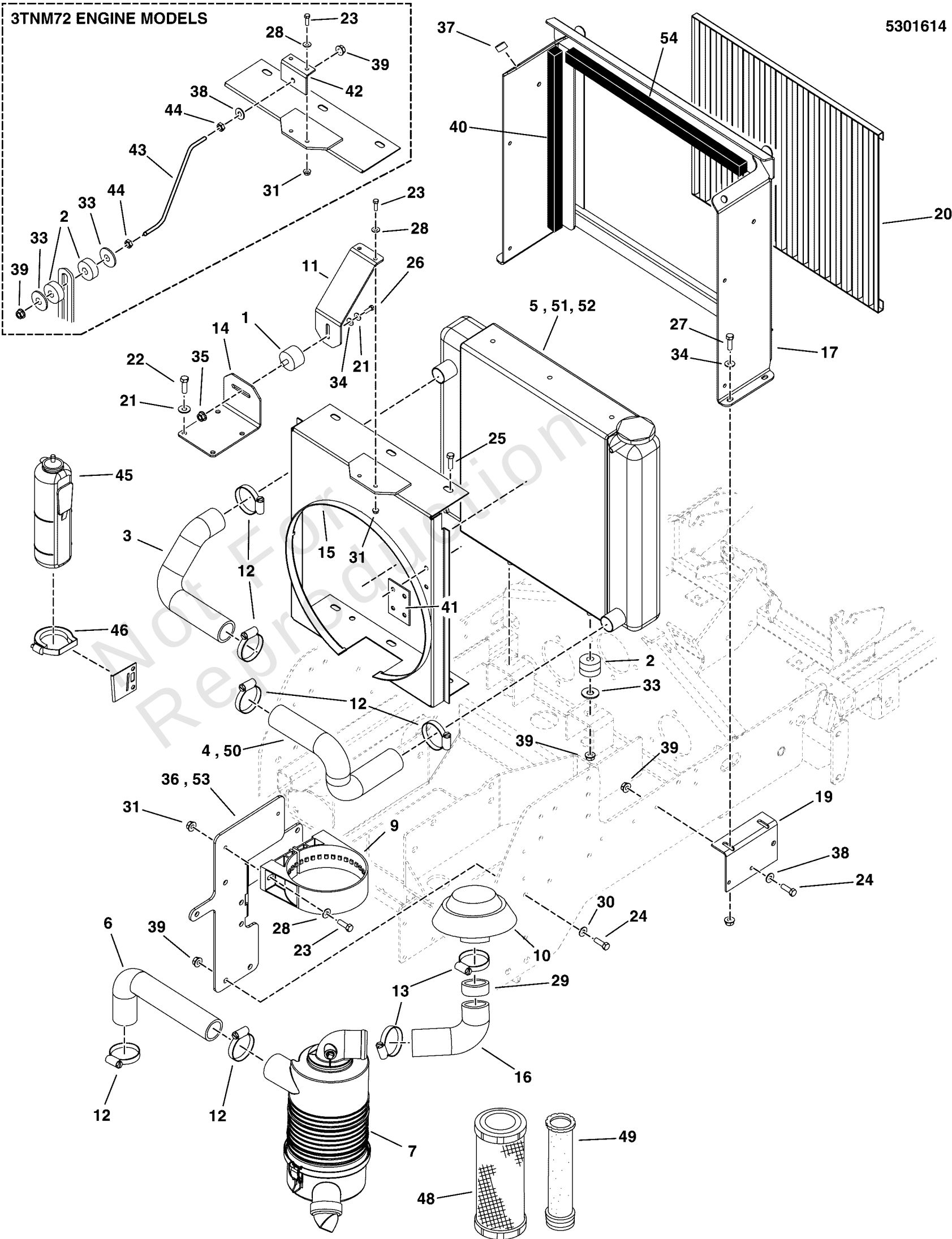
Pump Drive Group

REF NO	PART NO	QTY	DESCRIPTION
1	5102752	2	PULLEY, POLY V "K" SECTION 5K4.5 X 15MM
2	5411931	1	ASSM, PULLEY, FLAT BACKSIDE IDLER, 2.75 (5102806) -(INCLUDES REF. # 33-35)
3	5101712	1	DRIVE SHAFT ASM, IS2500Z
4	5101791	1	ASSM, CARRIER BEARING
5	5102272	1	BELT, POLYRIB, 49.75, 5 RIB
6	5101862	2	BUSHING, 15MM X 25MM X 8.6MM - KEYED
7	5025327	2	BOLT, 3/8-16 X 1-1/4 SHCS
8	5025013X18	1	BOLT, 3/8-16 X 2-1/4" GD5 CZ
9	5025394	5	NUT, 3/8-16 HEX NYLOCK FLANGE
10	5103262	2	SPACER, IDLER ARM, 1/2, PM
11	5025011X10	1	BOLT, 5/16-18 X 1-1/4 GD5 YZ
12	5025392	2	NUT, 5/16-18 HEX NYLOCK FLANGE
13	5023254	2	KEY, 5MM SQ. W/ RADIUS
14	5026648	2	CAPSCREW-HEX HEAD M6-1.0X20MM W/PATCH,CZ
15	5025169	2	WASHER, 1/4 LOCK
16	5044577	2	WASHER, .265 X 1.50 X .109, YZ
17	5025390X10	4	BOLT, 3/8-16 X 1-1/4, FLANGE, GD 5, CZ
18	5025401	1	WASHER, 3/8 USS
19	7078243	2	BEARING, BALL, AXLE
20	5025563	6	SET SCREW, 3/8-16 X 1/2 KNURLED
21	5050407X8	1	KEY, 1/4 SQ X 1
22	5102668	1	SPRING-EXT, .930 ODX4.020LGX.120WR, BLK
23	5025141X26	1	EYE BOLT,5/16-18 X3.5,2.13THRD,.55EYE,CZ
24	5102755	1	PULLEY, POLY V "K" SECTION 5K4.25 X 1"
25	5411560A	1	WELD, IDLER ARM - BLK
26	5103812	1	SPACER, .52 X .84 X 1.53, PM
27	5025017X26	1	BOLT, 1/2-13 X 3-1/4, HEX HD, GD5, CZ (SV)
28	5025249	3	BOLT, M8-1.25 X 20MM GD8.8
29	5025127	1	NUT, 5/16-18 HEX SERRATED FLANGE (SMALL)
30	5025337	2	WASHER, 5/16 USS
31	5041930	1	SPACER, .38 X .50 X .27, CZ
32	5102677	1	GROMMET, 1-1/2" ID FOR 1/4" METAL
33	1705897	2	BEARING, BALL 11/16X1-9/16X15/32
34	5020865	1	SNAP RING, INTERNAL
35	5020880	2	INSERT, BEARING, 17MM X 12MM L
36	5044960	1	SPACER, .39 X 1.00 X .25
37	5025170	3	WASHER, 5/16 LOCK CZ
38	5025155	3	WASHER, 5/16" SAE
39	5025396	1	NUT, Hex Flange, Nylock, 1/2-13

Radiator & Accessories Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5901298



Radiator & Accessories Group

REF NO	PART NO	QTY	DESCRIPTION
1	5023130	1	MOUNT,ISO,TOP,RAD 5000Z-DIESEL -(3TNM68 Engines)
2	5023131	2	MOUNT, ISO, BOTTOM, RAD 5000Z-DIESEL -(3TNM72 Engines use qty. 3)
3	5101717	1	HOSE, UPPER, RADIATOR
4	5101718	1	HOSE, LOWER, RADIATOR -(S/N: 2014038188 & BELOW)
5	5101697	1	* RADIATOR I, IS2500 -(S/N: 2014038188 & BELOW)
6	5101847	1	HOSE, AIR CLEANER, IS2500Z -(3TNM68 Engines)
6	5102569	1	HOSE, AIR CLEANER, YANMAR -(3TNM72 Engines)
7	809218	1	AIR CLEANER ASSY
8	841238	1	ELEMENT ASSEMBLY -(NOT SHOWN)
9	807213	1	BRACKET, AIR CLEANER ASSY
10	593754	1	CAP, A/C RAIN
11	5404365B	1	MOUNT, UPPER RADIATOR -(3TNM68 Engines)
12	5023447	4	CLAMP, SS HOSE, 1-3/4
13	5023448	3	CLAMP, SS HOSE 2-3/4
14	5404364B	1	MOUNT, UPPER ENGINE - RED -(3TNM68 Engines)
15	5405892A	1	WELD, SHROUD - BLK
16	5102213	1	HOSE, AIR FILTER, IS2500 YANMAR
17	5405944B	1	WELD, RADIATOR ENCLOSURE - RED
18	5405945B	1	PLATE,MOUNT,RADIATOR ENCLOSURE, RH - RED -(NOT SHOWN)
19	5405946B	1	PLATE, MOUNT,RADIATOR ENCLOSURE,LH - RED
20	5101739	1	SCREEN, FRONT, RAD
21	5025170	5	WASHER, 5/16 LOCK CZ
22	5025249	4	BOLT, M8-1.25 X 20MM GD8.8
23	5025010X6	2	BOLT, 1/4-20 X 3/4 GD5 YZ
24	5025013X8	6	BOLT, 3/8-16 X 1" GD5 CZ
25	5023158	5	BOLT, 5/16-18 X 1/2 FLANGE, SPEC
26	5025011X6	1	BOLT, 5/16-18 X 3/4 GD5
27	5025011X8	4	BOLT, 5/16-18 X 1 GD5 YZ
28	5025154	3	WASHER, 1/4 SAE
29	5102351A	1	SLEEVE, 2.0 OD X 1.87 ID X 2.5 LG - BLK
30	5025401	4	WASHER, 3/8 USS
31	5025391	4	NUT, 1/4-20 HEX NYLOCK FLANGE
32	5025392	4	NUT, 5/16-18 HEX NYLOCK FLANGE
33	5025165	2	WASHER-3/8 FENDER
34	5025155	7	WASHER, 5/16" SAE
35	5025139	1	NUT, 5/16-18 HEX SERRATED FLANGE (LARGE)
36	5406142B	1	BRACKET, AIR FILTER - RED -(S/N: 2016680389 & Below)
37	197546	2	MNT, VBRTN, RBBR
38	5025156	4	WASHER, 3/8 SAE
39	5025394	8	NUT, 3/8-16 HEX NYLOCK FLANGE

Footnotes:

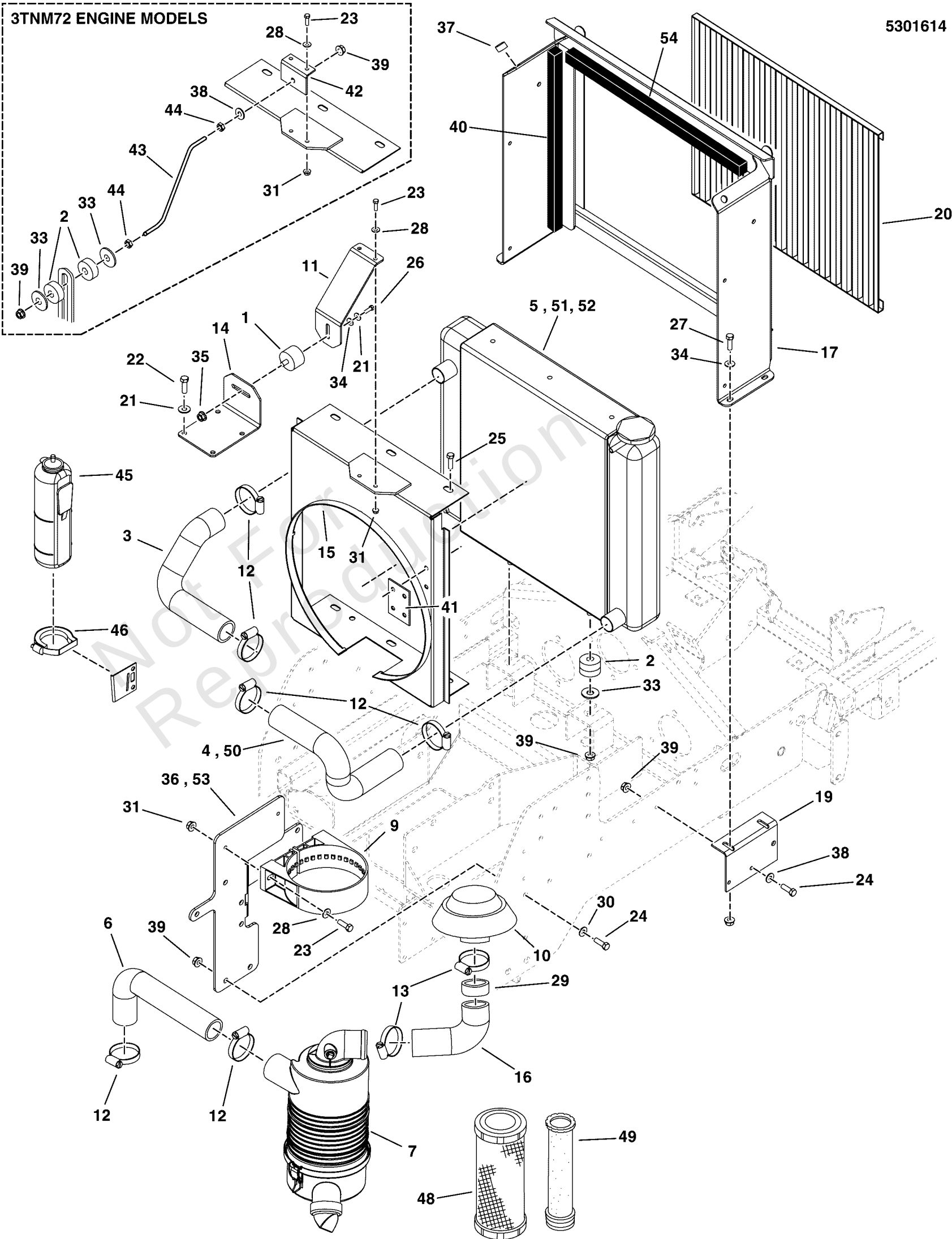
** Replace 5102266 Radiator w/ 5102582 & 5405892A

* Replace 5101697 Radiator w/ 5102582, 5405892A & 5102267

Radiator & Accessories Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5901298



Radiator & Accessories Group

REF NO	PART NO	QTY	DESCRIPTION
40	5050913X18	2	FOAM, 3/4 X 1 X 18
41	5406139A	1	TAB, MOUNT, COOLANT TANK - BLK
42	5406385B	1	BRACKET,RADIATOR TOP SUPPORT,IS2500 -RED -(3TNM72 Engines)
43	5102577	1	ROD, RADIATOR SUPPORT, 24HP YANMAR -(3TNM72 Engines)
44	5025084	2	NUT, 3/8-16 HEX JAM -(3TNM72 Engines)
45	5101985X4	1	BOTTLE, COOLANT OVERFLOW (SV) -(NOT SHOWN)
46	5101985X14	1	CLAMP, COOLANT OVERFLOW (SV) -(NOT SHOWN)
47	5050926X22	1	Seal, Wiper, Clip On, 22.00 -(NOT SHOWN)
48	841237	1	ELEMENT ASSY
49	841238	1	AIR FILTER ELEMENT, SMALL DIA., INT (SV)
50	5102267	1	HOSE, LOWER, RADIATOR -(S/N: 2014038189 & ABOVE)
51	5102266	1	USE 5102582 - RADIATOR 11,IS2500 YAN-NET -(S/N: 2014038189 - 2014390038)
52	5102582	1	RADIATOR III, IS2500 -(S/N: 2014390039 & ABOVE)
53	5412198B	1	BRACKET, AIR FILTER - RED -(S/N: 2016680390 & Above)
54	5102753X18	2	FOAM, 1/2 X 1 X 18

Footnotes:

** Replace 5102266 Radiator w/ 5102582 & 5405892A

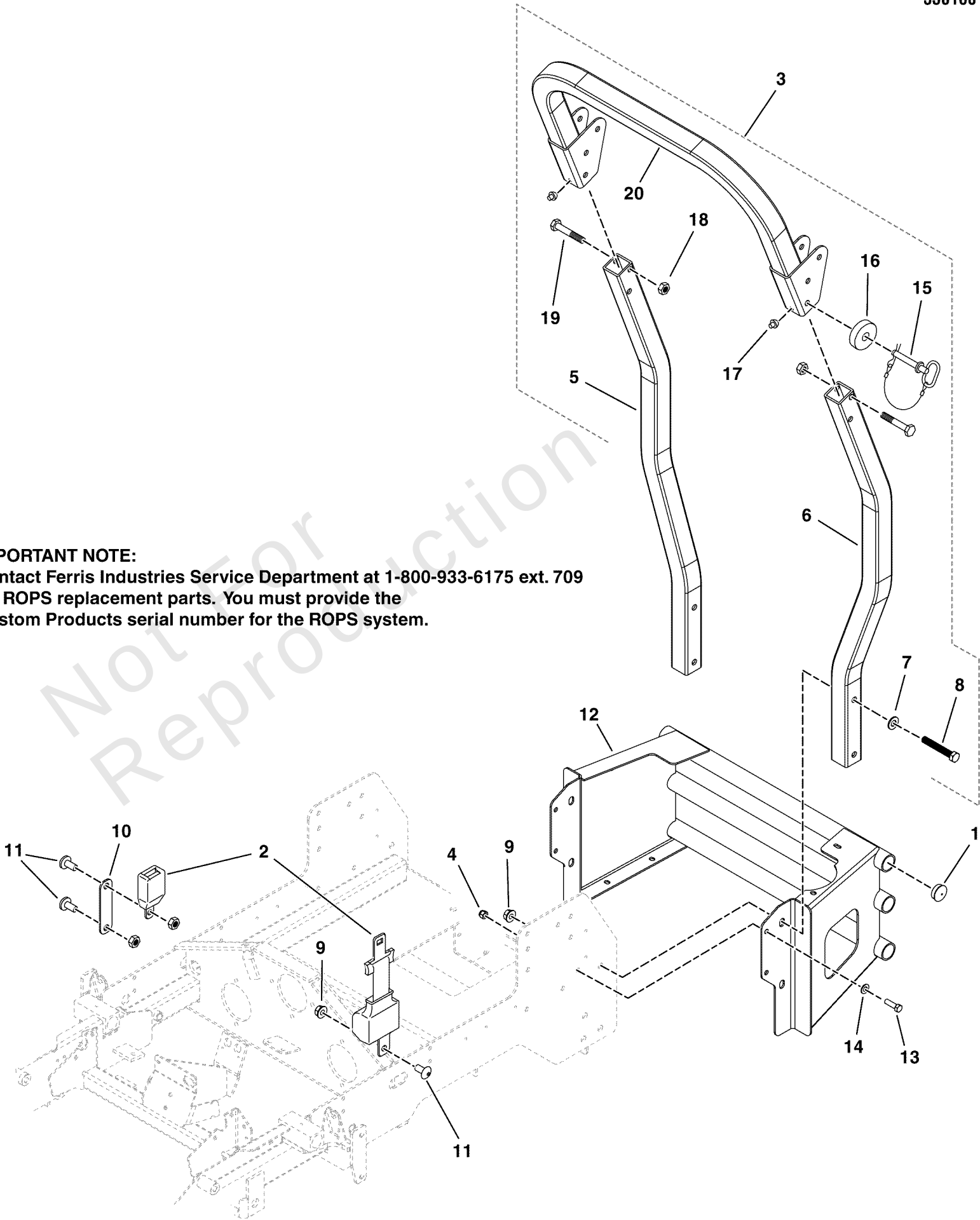
* Replace 5101697 Radiator w/ 5102582, 5405892A & 5102267

Rear Bumper, Roll Bar & Seat Belt Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5901298

5301601



IMPORTANT NOTE:
Contact Ferris Industries Service Department at 1-800-933-6175 ext. 709
for ROPS replacement parts. You must provide the
Custom Products serial number for the ROPS system.

Rear Bumper, Roll Bar & Seat Belt Group

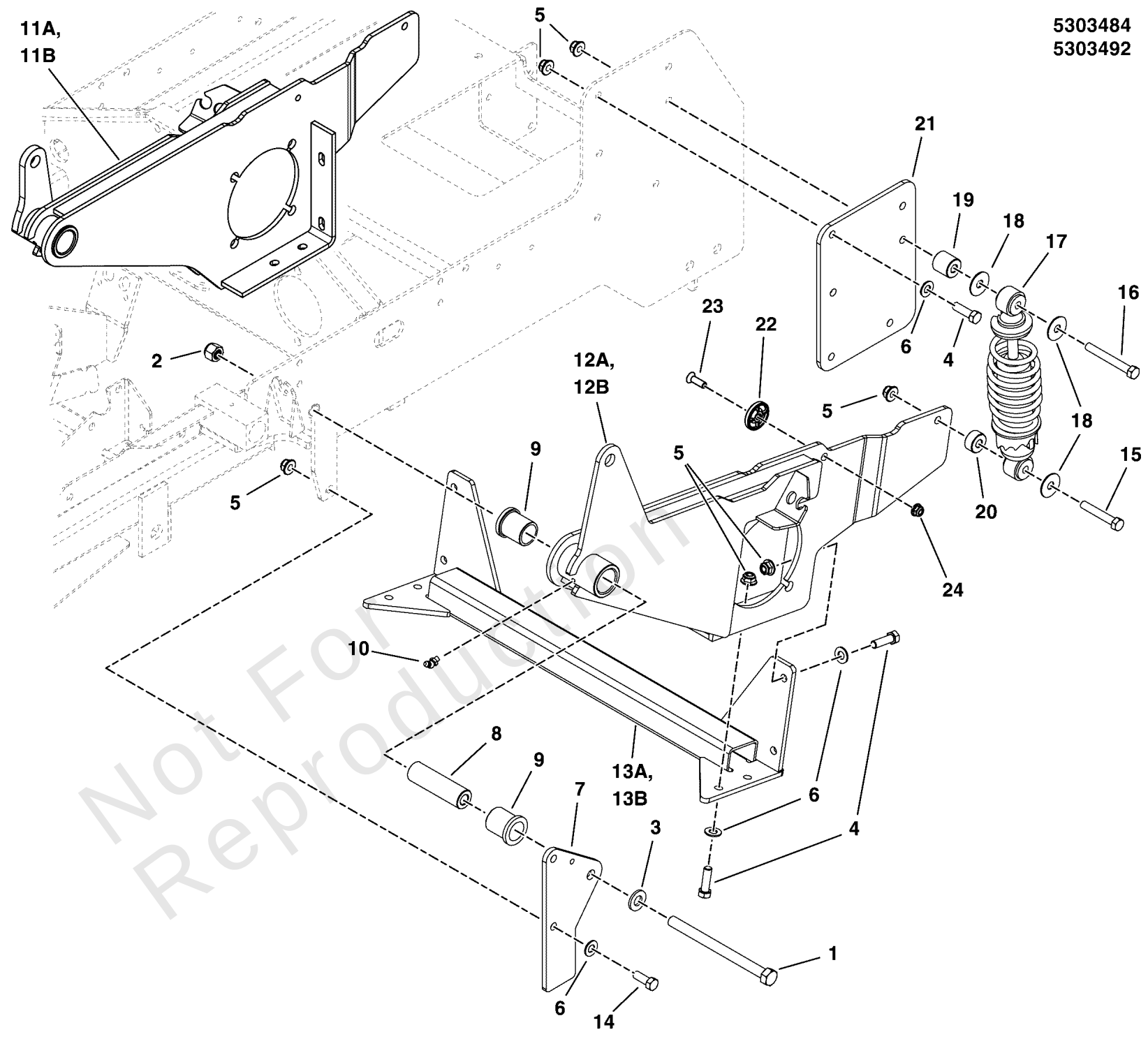
REF NO	PART NO	QTY	DESCRIPTION
1	5023484	6	PLUG, PANEL, 1.25 - BLACK
2	5100139	1	SEAT BELT, RETRACTING - ASSM
3	-----	1	ROPS (Call 1-800-933-6175 ext. 2193 if replacing a ROPS) -(Includes No. 5-9 & 15-20)
4	5025394	4	NUT, 3/8-16 HEX NYLOCK FLANGE
5	-----	1	ROLL BAR POST, RH
6	-----	1	ROLL BAR POST, LH
7	5025158	4	WASHER, 1/2 SAE
8	5025017X26	4	BOLT, 1/2-13 X 3-1/4, HEX HD, GD5, CZ (SV)
9	5025396	7	NUT, Hex Flange, Nylock, 1/2-13
10	5401044A	1	EXTENSION, SEAT BELT - BLK
11	5100267	3	SCREW, 1/2-13 X 1.00, SHCS
12	5404669B	1	BUMPER, REAR, IS2500
13	5025013X8	4	BOLT, 3/8-16 X 1" GD5 CZ
14	5025156	4	WASHER, 3/8 SAE
15	5100079	2	PIN, HINGE W/ LANYARD
16	5100545	2	WASHER, EPDM FOAM, 1/2" ID
17	5100383	2	BUMPER, ROPS
18	-----	2	NUT
19	-----	2	BOLT
20	-----	1	ROLL BAR TOP LOOP

Rear Suspension Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5901298

5303484
5303492



Rear Suspension Group

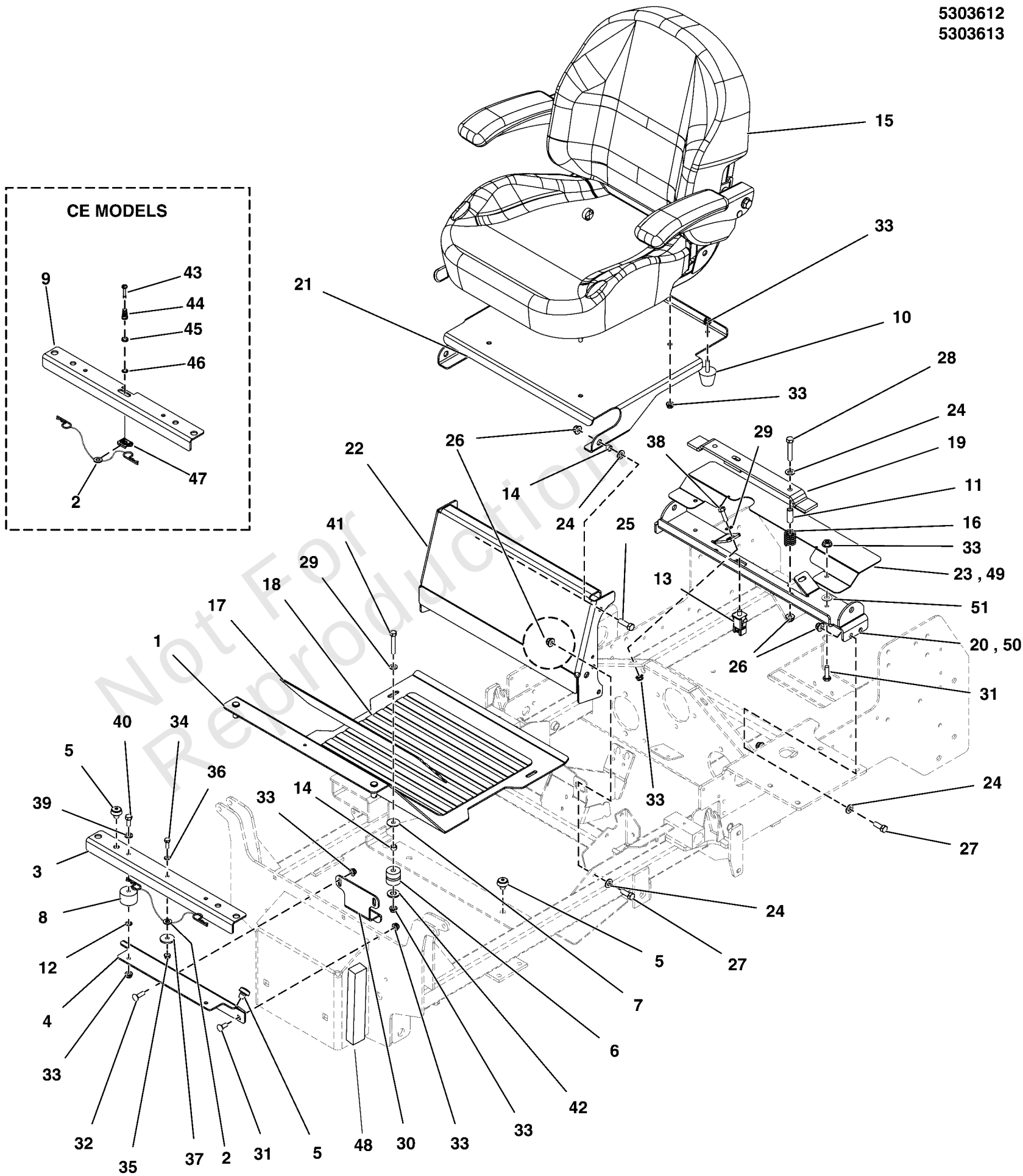
REF NO	PART NO	QTY	DESCRIPTION
1	5025488X52	2	BOLT, 1/2-13 X 6-1/2 GD8, YZ
2	5025056	2	NUT, 1/2-13 HEX NYLON LOCK
3	5025440	2	WASHER, 1/2 GD9 YZ
4	5025013X10	18	BOLT, 3/8-16 X 1-1/4" GD5 CZ -(Qty: 12 - 52" Models)
5	5025394	26	NUT, 3/8-16 HEX NYLOCK FLANGE -(Qty: 20 - 52" Models)
6	5025293	22	WASHER, 3/8 GD.9 FLAT -(Qty: 16 - 52" Models)
7	5408787A	2	SUPPORT, SWING ARM - BLK
8	5061339	2	SPACER, .52 X 1.00 X 3.42
9	5021541	4	BUSHING, FLANGE
10	5020020	2	GREASE FITTING, 45 DEGREE
11a	5411216B	1	WELD, MOTOR MOUNT, RH, IS2500 - RED -(52" MODELS)
11b	5411181B	1	WELD, MOTOR MOUNT, RH - RED -(61" MODELS)
12a	5411218B	1	WELD, MOTOR MOUNT, LH, IS2500 - RED -(52" MODELS)
12b	5411179B	1	WELD, MOTOR MOUNT, LH - RED -(61" MODELS)
13a	5404056A	1	WELD, TIE BAR - 52 - BLK -(52" MODELS)
13b	5405866A	1	WELD, TIE BAR, 61 - BLK -(61" MODELS)
14	5025013X8	4	BOLT, 3/8-16 X 1" GD5 CZ
15	5025013X18	2	BOLT, 3/8-16 X 2-1/4" GD5 CZ
16	5025013X24	2	BOLT, 3/8-16 X 3" GD5 CZ
17	5022842	2	COIL-OVER SHOCK ASSEMBLY
18	5025165	6	WASHER-3/8 FENDER
19	5045943	2	SPACER, SHOULDER
20	5046860	2	SPACER, .39 X 1.00 X .50
21	5061751B	2	PLATE, FRAME SUPPORT, LH - RED
22	5102701	2	SPACER, .34 X 1.54 X .25 - UHMW -(52" MODELS)
23	5025594	2	SCREW, 5/16-18X1, PHILLIPS HD, BZ -(52" MODELS)
24	5025392	2	NUT, 5/16-18 HEX NYLOCK FLANGE -(52" MODELS)

Seat Plate & Floor Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5901298

5303612
5303613



Seat Plate & Floor Group

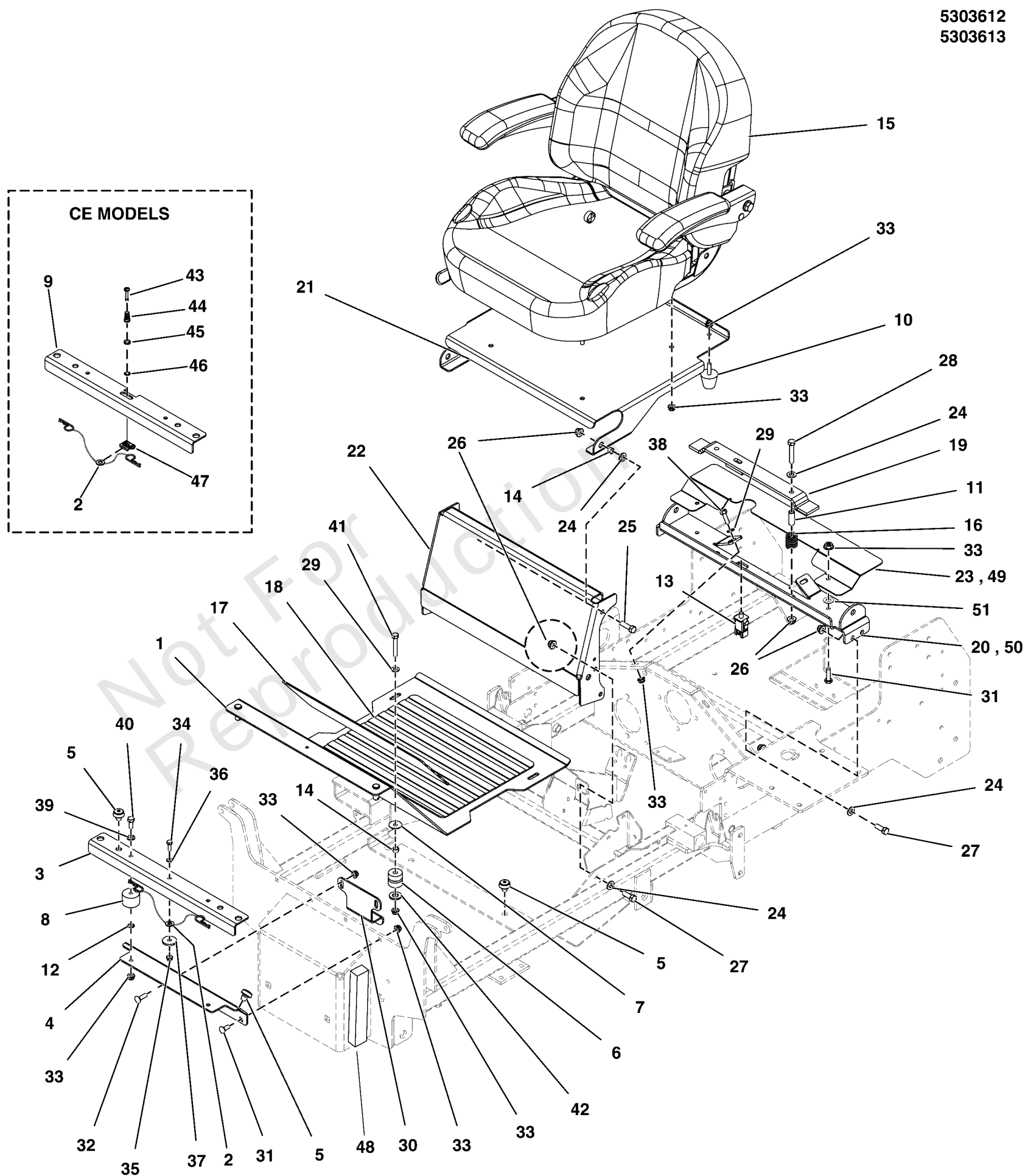
REF NO	PART NO	QTY	DESCRIPTION
1	5409273B	1	WELD, FLOOR PLATE, IS2500, CE - RED
2	5103107	2	HAIRPIN COTTER LANYARD ASM, 8"
3	5411884B	1	PLATE, FLOOR MOUNTING, TOP, DOM - RED
4	5411885B	1	PLATE, FLOOR MOUNTING, BOTTOM - RED
5	197546	6	MNT, VBRTN, RBBR
6	5023131	2	MOUNT, ISO,BOT,RAD 5000Z-DIESEL
7	5025164	2	WASHER, 5/16 FENDER
8	5023130	2	MOUNT,ISO,TOP,RAD 5000Z-DIESEL
9	5411886B	1	PLATE, FLOOR MOUNTING, TOP, CE - RED -(CE MODELS)
10	5022612	2	BUMPER, RUBBER 5/16-18
11	5041931	2	SPACER, .38 X .50 X 1.25, CZ
12	5025188	2	WASHER, 5/16 INT. TOOTH LOCK
13	5022198	1	SWITCH, PLUNGER, NO/NO SNAP-IN
14	5041930	2	SPACER, .38 X .50 X .27, CZ
15	5103354	1	SEAT, 2012
16	5103070	2	SPRING COMP .76IDX1.3LGX.105WIRE BLACK
17	5101007	1	SAFETY WALK, FLOOR REST, 17.13 X 6.00
18	5101013	1	SAFETY WALK, 11.50 X 15.00
19	5404894B	1	WELD, SEAT SWITCH, IS2500Z -RED
20	5405031B	1	WELD, SEAT SUPPORT - RED -(S/N: 2016811910 & Below)
21	5407295B	1	PLATE, SEAT SUPPORT IS2500Z - RED
22	5407296B	1	SEAT SUPPORT - RED
23	5404943B	1	GUARD, HYDRO BELT, IS2500 - RED -(S/N: 2016811910 & Below)
24	5025156	10	WASHER, 3/8 SAE
25	1960032	2	SCREW HEX HD 3/8-16X1.250 .141TH HD G5
26	5025394	10	NUT, 3/8-16 HEX NYLOCK FLANGE
27	5025013X8	6	BOLT, 3/8-16 X 1" GD5 CZ
28	5025013X16	2	BOLT, 3/8-16 X 2, GD5, CZ
29	5025155	9	WASHER, 5/16" SAE
30	5409265B	1	RETAINER, BATTERY - RED
31	5025145X6	4	BOLT, 5/16-18 X 3/4, CARRIAGE
32	5025145X8	2	CARRIAGE BOLT 5/16-18 X 1"
33	5025392	17	NUT, 5/16-18 HEX NYLOCK FLANGE
34	5025010X6	1	BOLT, 1/4-20 X 3/4 GD5 YZ
35	5025391	1	NUT, 1/4-20 HEX NYLOCK FLANGE
36	5025154	1	WASHER, 1/4 SAE
37	5044617	1	WASHER, .34 X 1.25 X 10 GA
38	5025011X8	2	BOLT, 5/16-18 X 1 GD5 YZ
39	5025170	2	WASHER, 5/16 LOCK CZ
40	5025011X5	2	BOLT, 5/16-18 X 5/8 GD5 YZ
41	5025011X16	2	BOLT, 5/16-18 X 2, GD5
42	5025440	2	WASHER, 1/2 GD9 YZ
43	5025572	1	DZUS, 1/4 TURN FASTENER, D8Z29MM -(CE MODELS)
44	5025573	1	DZUS, EJECTOR SPRING -(CE MODELS)
45	5025574	1	DZUS, CUPPED WASHER -(CE MODELS)
46	5025576	1	DZUS, RECEPTACLE, CLIP-ON, D8 -(CE MODELS)

Seat Plate & Floor Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5901298

5303612
5303613



Seat Plate & Floor Group

REF NO	PART NO	QTY	DESCRIPTION
47	5025577	1	DZUS, RETAINER PUSH-ON, SS -(CE MODELS)
48	5102753X8P5	1	FOAM, 1/2 X 1 X 8.50 LONG -(S/N: 2015714694 & Below)
48	5100810	1	PAD, RUBBER MOUNT -(S/N: 2015714695 & Above)
49	5412732B	1	GUARD, HYDRO BELT - RED -(S/N: 2016811911 & Above)
50	5412889B	1	SUPPORT, SEAT - RED -(S/N: 2016811911 & Above)
51	5025498	2	5/16 PUSH-ON NUT RETAINER, STL, CZ

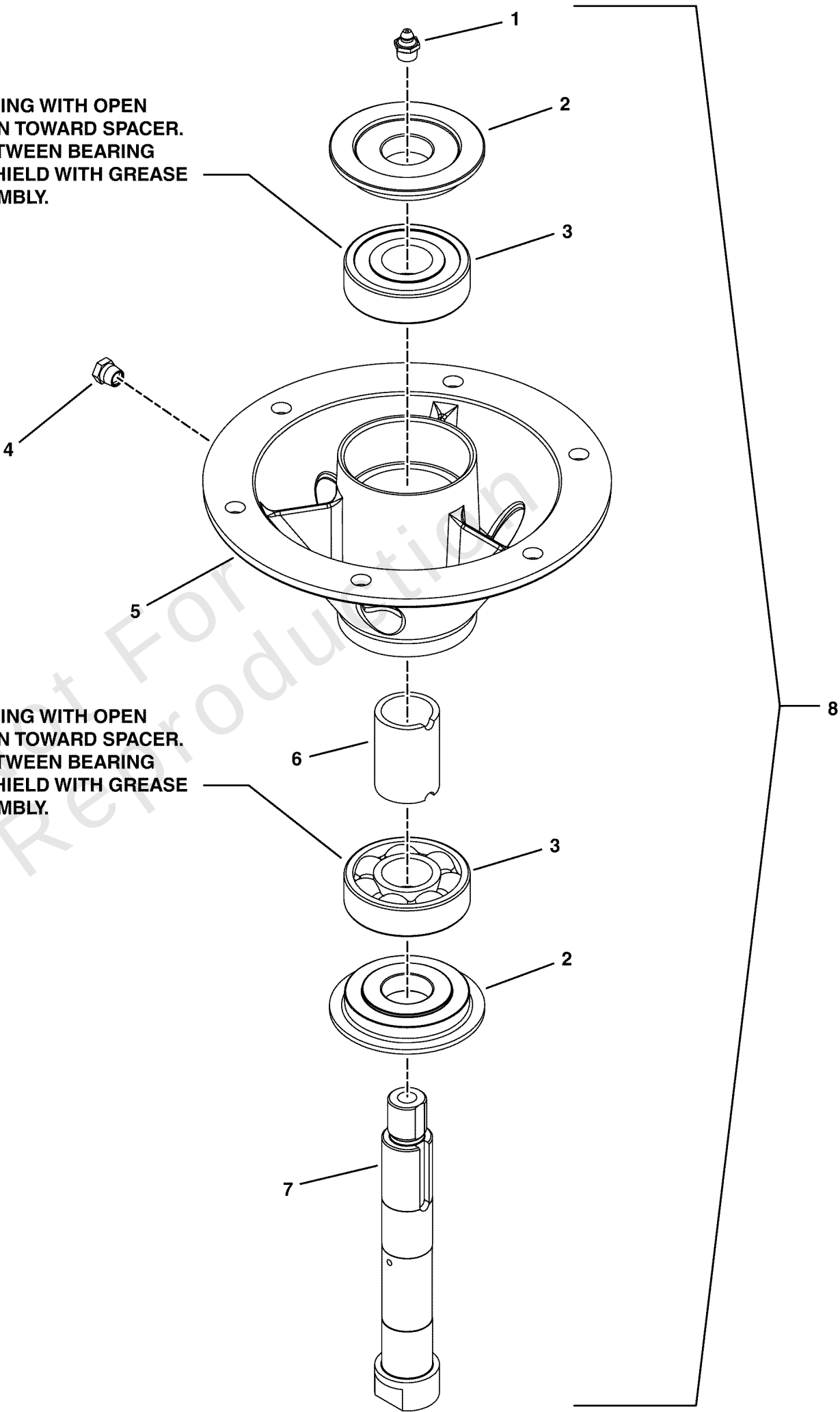
Spindle Service Parts - 5100993

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5901298

5100993

INSTALL BEARING WITH OPEN
SIDE FACING IN TOWARD SPACER.
FILL AREA BETWEEN BEARING
AND TRASH SHIELD WITH GREASE
DURING ASSEMBLY.



INSTALL BEARING WITH OPEN
SIDE FACING IN TOWARD SPACER.
FILL AREA BETWEEN BEARING
AND TRASH SHIELD WITH GREASE
DURING ASSEMBLY.

NOTE: FILL CAVITY WITH NLGI, GRADE 2, EP-2 GREASE
(SUPERPLEX EP-2, SHELL ALBIDA LCS, BP ENERGREASE LC)

Spindle Service Parts - 5100993

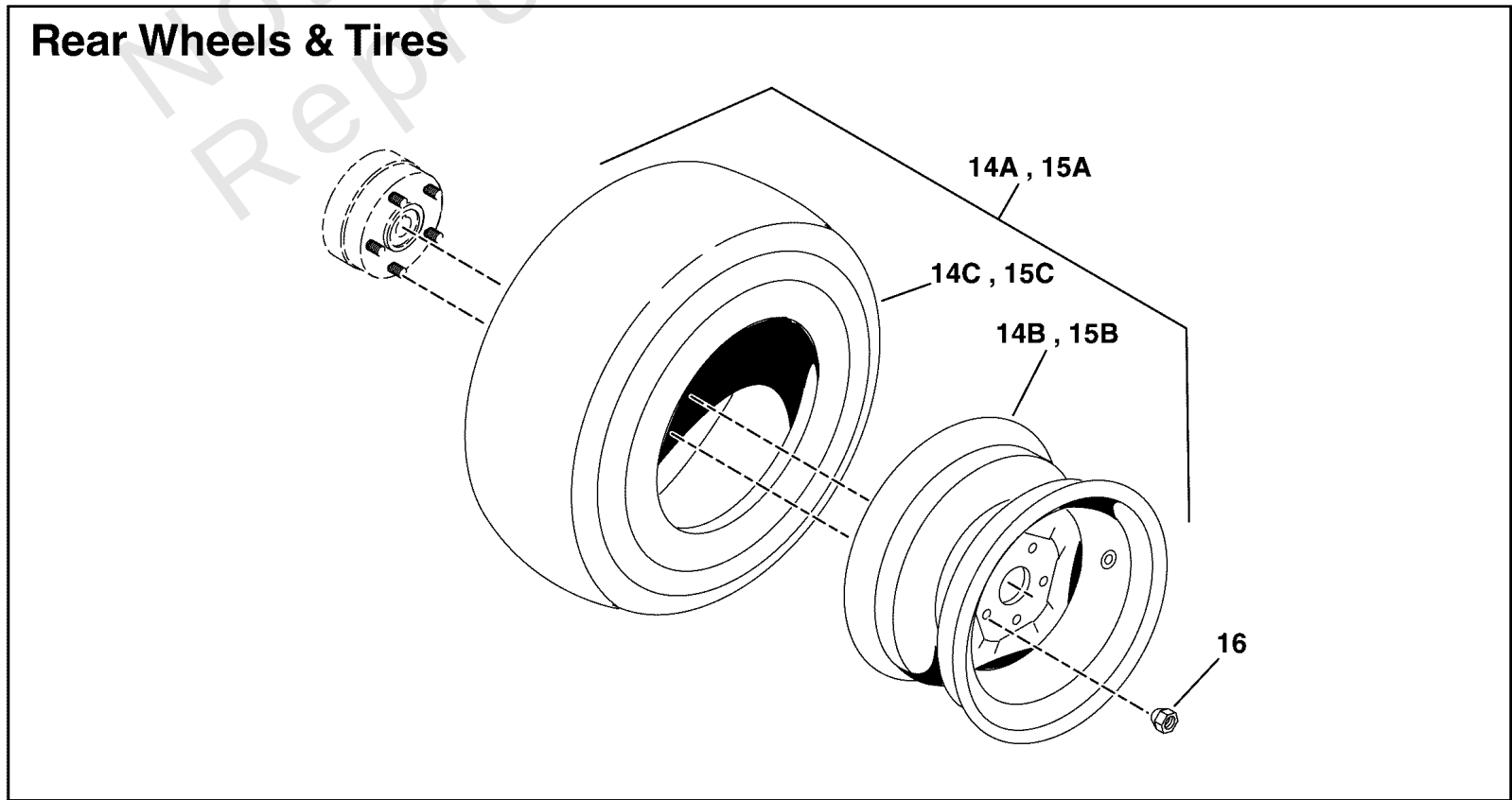
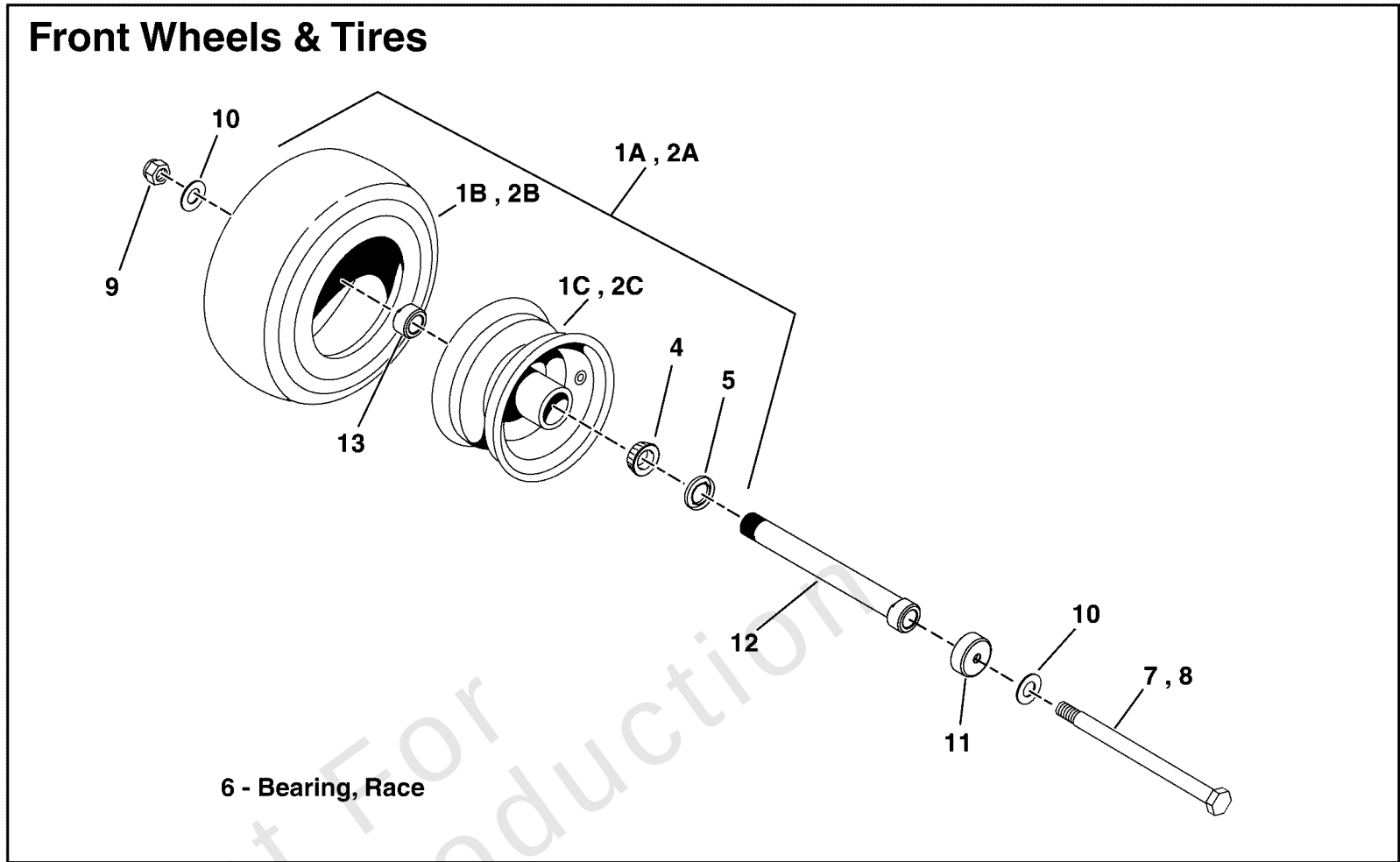
REF NO	PART NO	QTY	DESCRIPTION
1	5023329	1	FITTING
2	5049793	2	TRASH SHIELD
3	5023330	2	BEARING, .98 X 2.44 X .67
4	5023296	1	FITTING, RELIEF, 1-5 PSI
5	5101048	1	HOUSING, SPINDLE, BOTTOM MOUNT SM
6	5061099	1	SPACER, 1.00 X 1.25 X 1.75
7	5061098	1	SPINDLE SHAFT
8	5100993	1	SPINDLE ASSM, CAST IRON 8.0 - 6-BOLT -(Includes Ref No. 1 - 7)

Wheel & Tire Group

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 5901298

5303491
5303479



Wheel & Tire Group

REF NO	PART NO	QTY	DESCRIPTION
1A	5022631S	2	TIRE, CASTER, 13 X 5.00-6 -(52" Models)
1B	5022029X1	2	TIRE ONLY (SV) -(52" Models)
2A	5023136	2	TIRE ASSM, 13 X 6.5 - 6, PNE / TB -(61" Models)
2B	5022577	2	TIRE, RUBBER ONLY -(61" Models)
3	5022631SX1	2	WHEEL ASSY, 13 X 5 X 6, SILVER (SV)
4	5022631SX2	4	BEARING, Tapered Roller
5	5022631SX3	4	SEAL, GREASE
6	5022631SX4	2	BEARING, RACE -(Not Illustrated)
7	5025017X64	2	BOLT, 1/2-13 X 8 GD5 YZ -(52" Models)
8	5025017X72	2	BOLT, 1/2-13 X 9 GD5 YZ -(61" Models)
9	5025396	2	NUT, Hex Flange, Nylock, 1/2-13
10	5025158	2	WASHER, 1/2 SAE
11	5103594	4	DEBRIS, COVER, CASTER WHEELS
12	5103649	2	BEARING ADJUSTER, SPACER, 7.062 LG
13	5103650	2	NUT, BEARING ADJUSTER, AXLE
14A	84007951	2	TIRE ASSEMBLY -(52" Models)
14B	5103887X1	2	WHEEL, 12 X 7, 5/4.5, 1.13 OFFSET (SV) -(52" Models)
14C	5022646SX1	2	TIRE, Rear, 23 x 9.5 x 12 -(52" Models)
15A	5103920	2	TIRE/WHEEL ASM, 23X10.5-12, TURF SMART -(61" Models)
15B	5103920X1	2	WHEEL, 12 X 8.5, 5/4.5, 1.3 OFFSET (SV) -(61" Models)
15C	84003895	2	TIRE (23 X 10.5 - 12) -(61" Models)(Refer to Note: *)
16	5020601	10	NUT, 1/2-20, FOR WHEEL BOLT SILVER

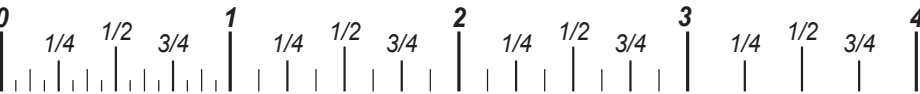
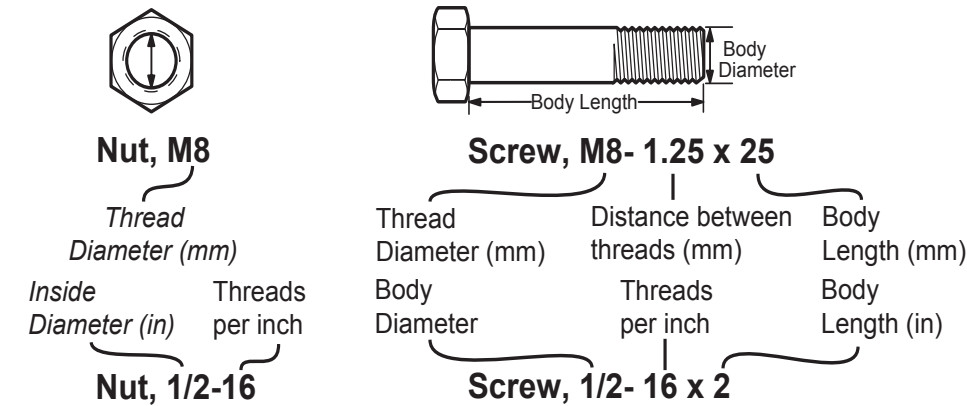
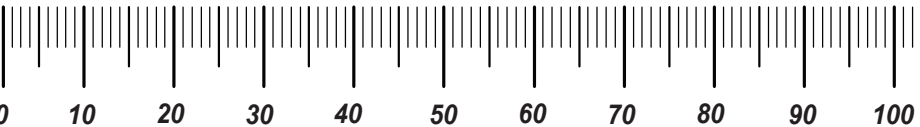
Footnotes:

Note: *Replacement tires have a different tread pattern than what was factory installed. If replacing, it is recommended to replace in pairs.

Hardware Identification & Torque Specifications

Torque Specification Chart								
FOR STANDARD METRIC MACHINE HARDWARE (Tolerance ± 20%)								
Property Class	 Class 5.6		 Class 8.8		 Class 10.9		 Class 12.9	
Size Of Hardware	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.
M3	5.88	.56	13.44	1.28	19.2	1.80	22.92	2.15
M4	13.44	1.28	30.72	2.90	43.44	4.10	52.56	4.95
M5	26.4	2.50	60.96	5.75	5.97	8.10	7.15	9.7
M6	44.64	4.3	7.3	9.9	10.3	14	12.1	16.5
M7	5.2	7.1	12.1	16.5	16.9	23	19.9	27
M8	7.7	10.5	17.7	24	25	34	29	40
M10	15	21	35	48	50	67	59	81
M12	26	36	61	83	86.2	117	103	140
M14	42	58	101	132	136	185	162	220
M16	64	88	147	200	210	285	250	340
M18	89	121	202	275	287	390	346	470
M20	126	171	290	390	405	550	486	660
M22	169	230	390	530	559	745	656	890
M24	217	295	497	375	708	960	840	1140
M27	320	435	733	995	1032	1400	1239	1680
M30	435	590	995	1350	1401	1900	1681	2280
M33	590	800	1349	1830	1902	2580	2278	3090
M36	759	1030	1740	2360	2441	3310	2935	3980
M39	988	1340	2249	3050	3163	4290	3798	5150

The guides and ruler furnished below are designed to help you select the appropriate hardware.



Standard Hardware Sizing

When a washer or nut is identified as 1/2" (M8), this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch (8mm metric thread diameter); if a second number is present it represents the *threads per inch* (distance between threads).

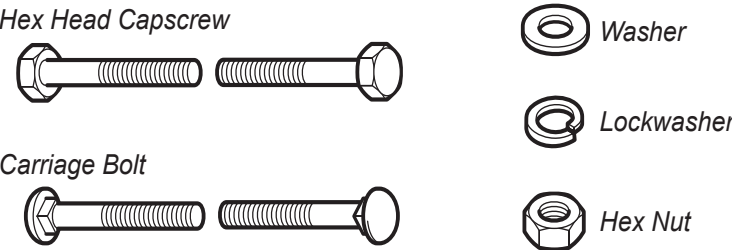
When bolt or capscrew is identified as 1/2 - 16 x 2" (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (*distance between threads*). The final number is the body length of the bolt or screw, 2 inches (50mm).

Torque Specification Chart						
FOR STANDARD MACHINE HARDWARE (Tolerance ± 20%)						
Hardware Grade	 SAE Grade 2		 SAE Grade 5		 SAE Grade 8	
Size Of Hardware	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.	in/lbs ft/lbs	Nm.
8-32	19	2.1	30	3.4	41	4.6
8-36	20	2.3	31	3.5	43	4.9
10-24	27	3.1	43	4.9	60	6.8
10-32	31	3.5	49	5.5	68	7.7
1/4-20	66	7.6	8	10.9	12	16.3
1/4-28	76	8.6	10	13.6	14	19.0
5/16-18	11	15.0	17	23.1	25	34.0
5/16-24	12	16.3	19	25.8	29	34.0
3/8-16	20	27.2	30	40.8	45	61.2
3/8-24	23	31.3	35	47.6	50	68.0
7/16-14	30	40.8	50	68.0	70	95.2
7/16-20	35	47.6	55	74.8	80	108.8
1/2-13	50	68.0	75	102.0	110	149.6
1/2-20	55	74.8	90	122.4	120	163.2
9/16-12	65	88.4	110	149.6	150	204.0
9/16-18	75	102.0	120	163.2	170	231.2
5/8-11	90	122.4	150	204.0	220	299.2
5/8-18	100	136	180	244.8	240	326.4
3/4-10	160	217.6	260	353.6	386	525.0
3/4-16	180	244.8	300	408.0	420	571.2
7/8-9	140	190.4	400	544.0	600	816.0
7/8-14	155	210.8	440	598.4	660	897.6
1-8	220	299.2	580	788.8	900	1,244.0
1-12	240	326.4	640	870.4	1,000	1,360.0

NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
 - for prevailing torque locknuts - use 65% of grade 5 torques.
 - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

Common Hardware Types



Wrench & Fastener Size Guide

 1/4" Bolt or Nut Wrench—7/16"	 5/16" Bolt or Nut Wrench—1/2"	 3/8" Bolt or Nut Wrench—9/16"	 7/16" Bolt or Nut Wrench (Bolt)—5/8" Wrench (Nut)—11/16"	 1/2" Bolt or Nut Wrench—3/4"
M6 Bolt or Nut Wrench—10mm	M8 Bolt or Nut Wrench—13mm	M10 Bolt or Nut Wrench—17mm	M12 Bolt or Nut Wrench—19mm	M14 Bolt or Nut Wrench—22mm

