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SM5000LH/E Generator Parts Manual



Refer to the operators
manual for safe
operation and
maintenance

Foreword

Surge-Master has prepared this parts manual to assist customers in ordering quality OEM replacement parts.

Proper and regular service and replacing old, worn or broken parts with the correct OEM parts are essential to prolonging the life of your Surge-Master product. Please refer to this manual before ordering any replacement parts.

All information contained in this parts manual is based on the latest product specification available at the time of printing this manual. If your product differs from the specifications contained within this manual contact Surge-Master for information.

Surge-Master reserves the right to alter specifications on their products at any time.

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For parts and information please contact your dealer. If your dealer is no longer available please go to our website: <http://www.surgemaster.ca> and click on "PARTS INFORMATION".

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Alternator maintenance should be performed by trained personnel only.



Exercise extreme caution when working with exposed wiring of the alternator, be aware that high voltage discharge of the capacitor is a danger.

Bolt Torque

CHECKING BOLT TORQUE

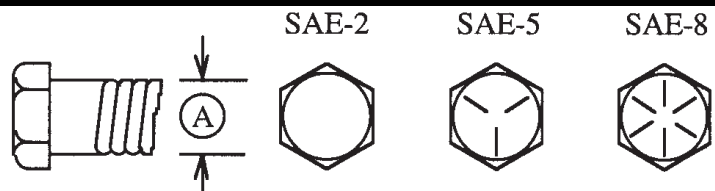
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* Torque value for bolts and capscrews are identified by their head markings.

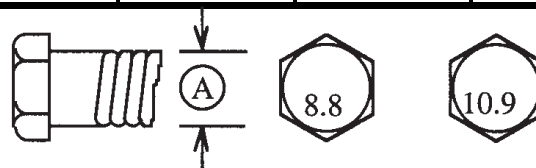
ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*					
	SAE 2 (N.m) (lb-ft)		SAE 5 (N.m) (lb-ft)		SAE 8 (N.m) (lb-ft)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970



METRIC TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*			
	8.8 (N.m) (lb-ft)		10.9 (N.m) (lb-ft)	
M3	0.5	0.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710



Hydraulic Fitting Torque

Tightening Flare Type Tube Fittings *

1. Check flare and flare seat for defects that might cause leakage.
2. Align tube with fitting before tightening.
3. Lubricate connection and hand tighten swivel nut until snug.
4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.

Tube Size OD (in.)	Nut Size Across Flats (in.)	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
		(N.m)	(lb-ft)	(Flats)	(Turn)
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1-1/4	102	75	3/4	1/8
7/8	1-3/8	122	90	3/4	1/8

The torque values shown are based on lubricated connections as in reassembly.

Wheel Lug Torque

It is extremely important safety procedure to apply and maintain proper wheel mounting torque on your trailer axle. Torque wrenches are the best method to assure the proper amount of torque is being applied to a fastener.

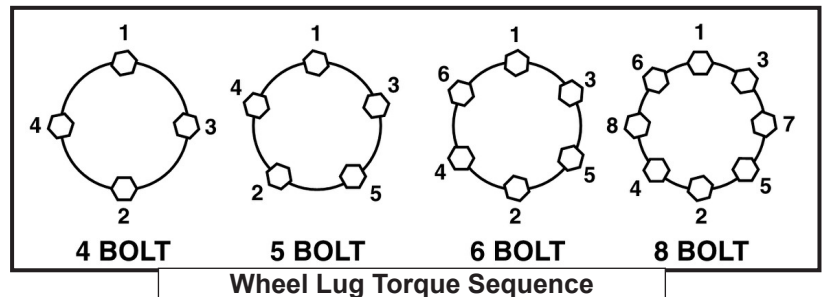
Wheel lugs should be torqued before first road use and after each wheel removal. Check and re torque after the first 16Km (10 miles), 40Km (25 miles), and again at 80Km (50 miles). Check periodically thereafter.

Note: Wheel lugs must be applied and maintained at the proper torque levels to prevent loose wheels, broken studs, and possible dangerous separation of wheels from your axle.

- Start all lugs by hand to prevent cross threading.
- Tighten lugs in sequence, per wheel lug torque sequence chart.
- The tightening of the fasteners should be done in stages. Following the recommended sequence, tighten fasteners per wheel torque requirements chart.

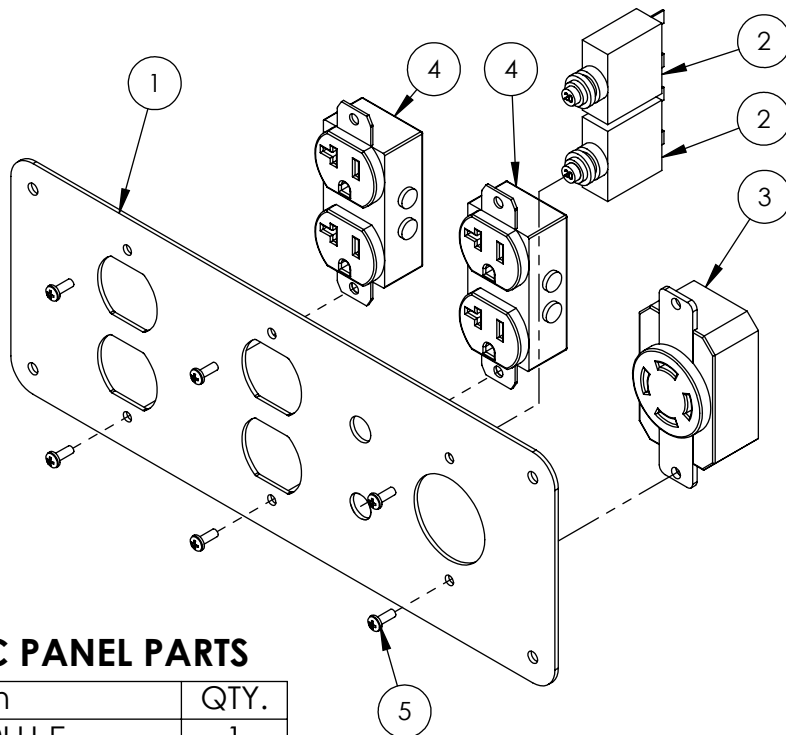
Wheel Torque Requirements

Wheel Size	Torque Unit	1st Stage	2nd Stage	3rd Stage
8"	ft-lbs	12 - 20	30 - 35	45 - 55
	Nm	16 - 26	39 - 45.5	58.5 - 71.5
12"	ft-lbs	20 - 25	35 - 40	50 - 60
	Nm	26 - 32.5	45.5 - 52	65 - 78
13"	ft-lbs	20 - 25	35 - 40	50 - 60
	Nm	26 - 32.5	45.5 - 52	65 - 78
14"	ft-lbs	20 - 25	50 - 60	90 - 120
	Nm	26 - 32.5	65 - 78	117 - 156
15"	ft-lbs	20 - 25	50 - 60	90 - 120
	Nm	26 - 32.5	65 - 78	117 - 156
16"	ft-lbs	20 - 25	50 - 60	90 - 120
	Nm	26 - 32.5	65 - 78	117 - 156



SURGEMASTER HEAVY DUTY SERIES PARTS BREAKDOWN

ITEM	SM5000LHE	SM6000LHE	SM7000LHE	SM5000LH	SM6000LH	Description	QTY.
1			4014L405			Engine Mount Plate	1
2			4014L406			1-3/16" Offset Gen Plate	1
3		4015L504		-		Tray, Battery	1
4	4062A101	4062A301		4062A101	4062A301	Assembly, SM5/6LH/E Panel	1
5			4062L107			Shield, Firewall	1
6			4062L108			Leg, SM Frame	2
7			4062S105			Axle, Wheel Kit	1
8			4062W101			Main Frame, SM HD/RC Style	1
9			4062W105			Fuel Tank, SM HD/RC Style	1
10			4062W107			Lift Handle	1
11			Z12302			Cotter Pin 3/32 X 2	2
12	Z47138	-	-	Z47137	-	Honda 9hp Engine	1
	-	Z47143	-	-	Z47142	Honda 11hp Engine	
	-	-	Z47148	-	-	Honda 13hp Engine	
13			Z62261			Box Connector, 3/8	1
14			Z62711			Grounding Terminal, 6-14	1
15	Z65411	-	-	Z65411	-	Alternator, 4.9 kVA	1
	-	Z65405	-	-	Z65405	Alternator, 6.0 kVA	
	-	-	Z65406	-	-	Alternator, 6.8 kVA	
16			Z71107			Hex Bolt 1/4NC x 3/4	2
17			Z71207			Hex Bolt 5/16NC x 3/4	1
18			Z71310			Hex Bolt 3/8NC x 1	4
19	Z71315	-	-	Z71315	-	Hex Bolt 3/8NC x 1-1/2	2
	-		Z71317	-	Z71317	Hex Bolt, 3/8NC x 1-3/4	
20			Z72111			Hex Lock Nut 1/4NC	2
21			Z72221			Hex Lock Nut 5/16NC	17
22			Z72231			Hex Lock Nut 3/8NC	2
23		Z72921			-	Wing Nut 1/4NF	2
24			Z76712			Self-tapping Screw #10	4
25			Z78303			Machine Screw #10NF x 1/2	1
26			Z78306			Machine Screw, 5/16NC x 5/8	10
27			Z79931			Rubber Mount	4
28			Z91307			NHS Tire 4.10-3.50-4 LRB	2
29			Z91902			Cap, 5/8 Axle	2
30			Z93103			Fuel Cap	1
31		Z93201			-	250 CCA Battery	1
32		Z93202			-	J-Hook 1/4 x 7	2
33		Z93207			-	Hold-Down Strap, 1 x 8-1/2	1
34		Z93208			-	Battery Cable, Neg 20"	1
35		Z93211			-	Battery Cable, Pos 32"	1
36			Z93301			Fuel Shut-off, 1/4"	1
37			Z93302			Fuel Filter, In-Line 1/4" Large	1
38			Z93303			Fuel Line, 1/4" x 2"	2
39			Z93304			Fuel Line, 1/4" x 12"	1

Electrical Panel Assembly**4062A101 SM5000LH/E ELECTRONIC PANEL PARTS**

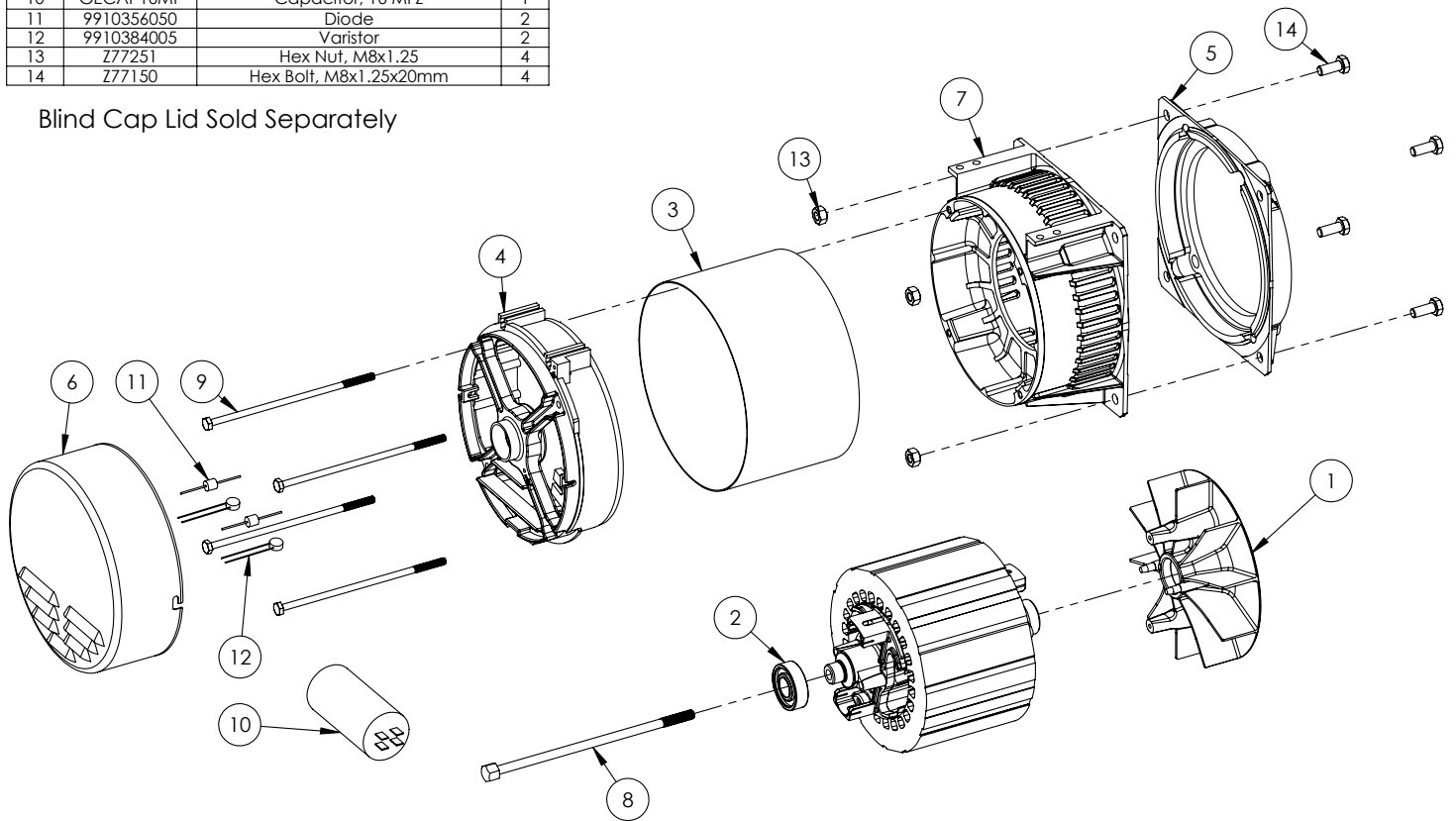
ITEM	PART NO.	Description	QTY.
1	4062L105	Panel, SM5000LH-E	1
2	Z62602	Thermal Breaker, 12A TC1 OL1	2
3	Z63403	Recp., 30A 125/250V L14-30	1
4	Z63406	Recp, 20A 125V 5-15R	2
5	Z78304	Machine Screw, #6NC x 3/8	6

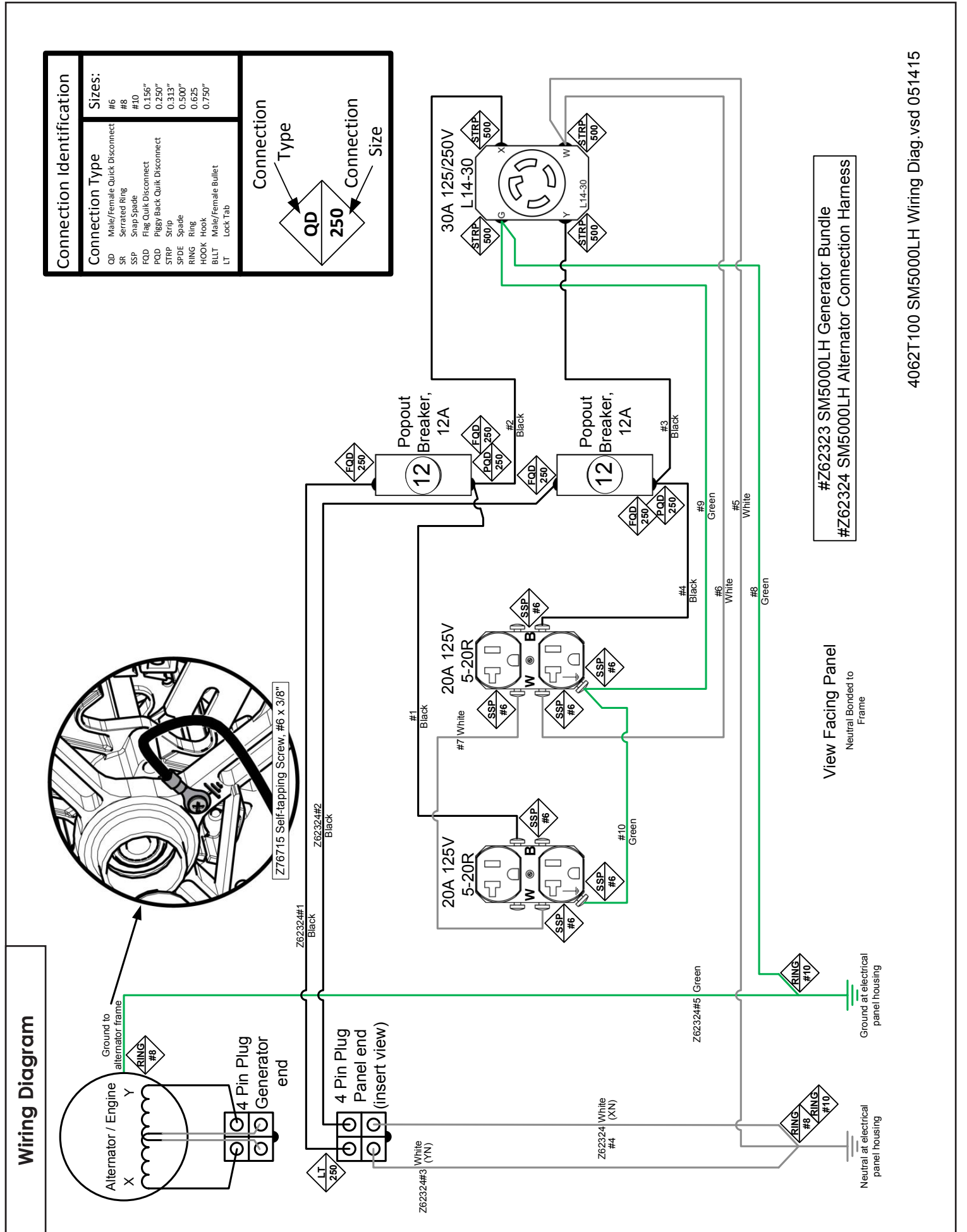
Alternator

4.9kVA ALTERNATOR PARTS

ITEM	PART NO.	DESCRIPTION	QTY
1	0392000015	Fan	1
2	0390302521	Rear Bearing	1
3	0390601042	Enclosing Band	1
4	0390302209	Non Drive End Bracket	1
5	GES16WINTFLA NGB	Interchange Flange	1
6	GES16COVER2	Blind Cap Lid	1
7	0391700136	Drive End Bracket	1
8	0391800322	Securing Stud	1
9	GES16W105CB OLTS	Securing Bolt	4
10	GECAP16MF	Capacitor, 16 MFZ	1
11	9910356050	Diode	2
12	9910384005	Varistor	2
13	Z77251	Hex Nut, M8x1.25	4
14	Z77150	Hex Bolt, M8x1.25x20mm	4

Blind Cap Lid Sold Separately





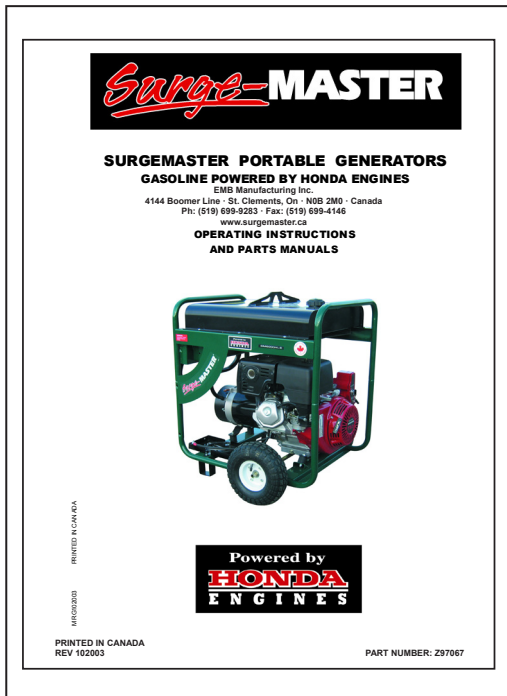
4062T100 SM5000LH Wiring Diag.vsd 051415

#Z62323 SM5000LH Generator Bundle
#Z62324 SM5000LH Alternator Connection Harness

View Facing Panel
Neutral Bonded to Frame

Ground at electrical panel housing
Neutral at electrical panel housing

Accessories



**#Z97067
GENERATOR
OPERATOR'S MANUAL**

Available as a download at
www.surgemaster.ca