1. Robomow Layout & Spare Parts

This Service Manual refers to
Robomow models RL2000/855/555 only.
When servicing previous model of Robomow
(RL1000/850/550) refer to DOC0051G.

This first section is dedicated to the layout of the Robomow, how it is constructed, part numbers and identification of parts.

Important: Be sure to review section 1.1 (Orientation). It explains what is referred to as “right”, “left” etc. Failure to understand this can result in a mistake or problem in the analysis or repair of the product.

Table of Contents

1.1 Robomow layout and main components……2
1.2 IPL’s (Illustrated Parts List) ……8
1.3 Fuse location……22
1.4 Board identification ……23
1.5 Wiring Layout……25
1.6 Parts List……27
1.7 Parts Compatibility ……33

1.1 Robomow layout and main components

1.1.1 Robomow top view

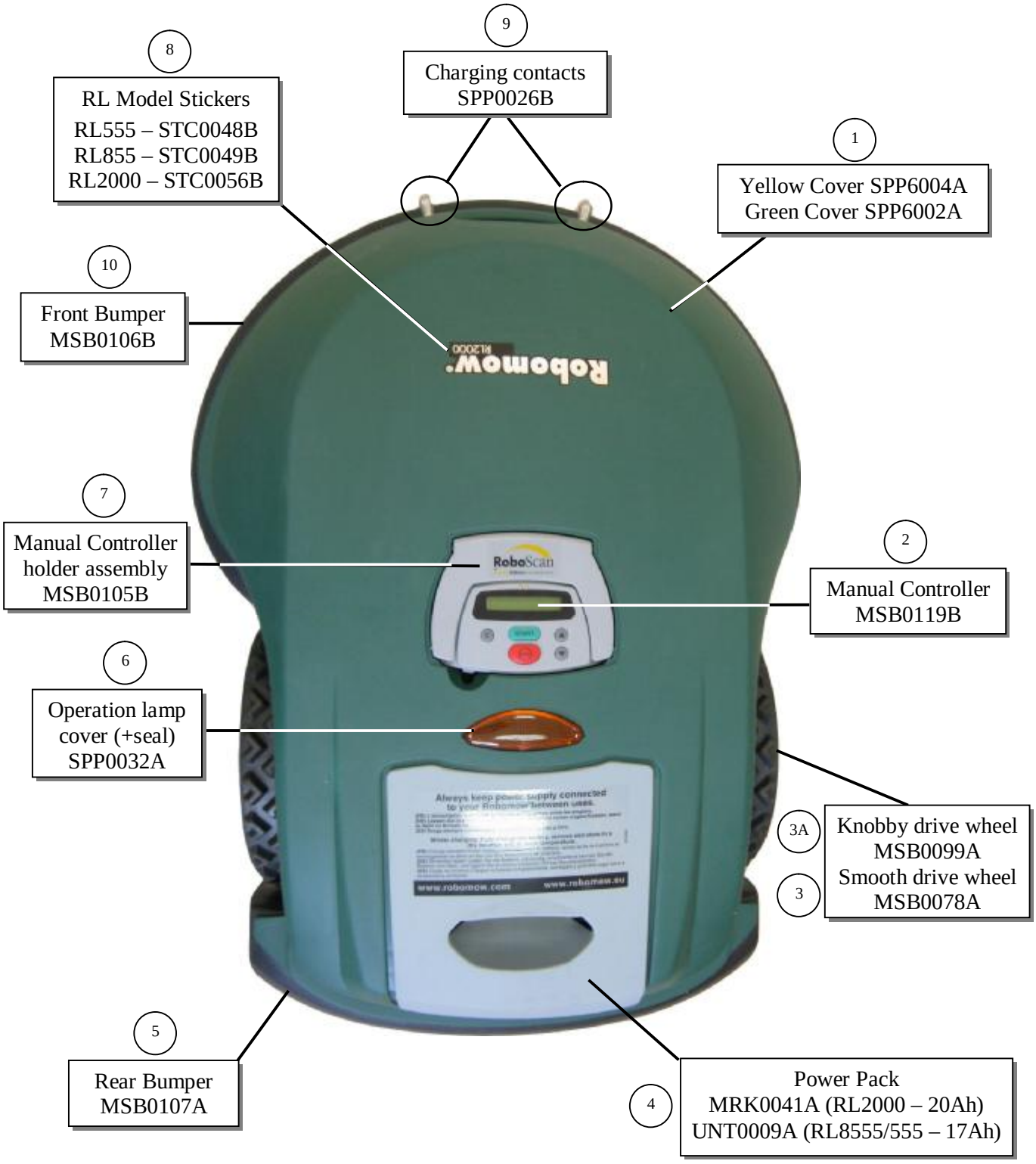


Figure 1.1 Top view

1.1.2 Robomow bottom view

Note: Mower sides are determined by its top view

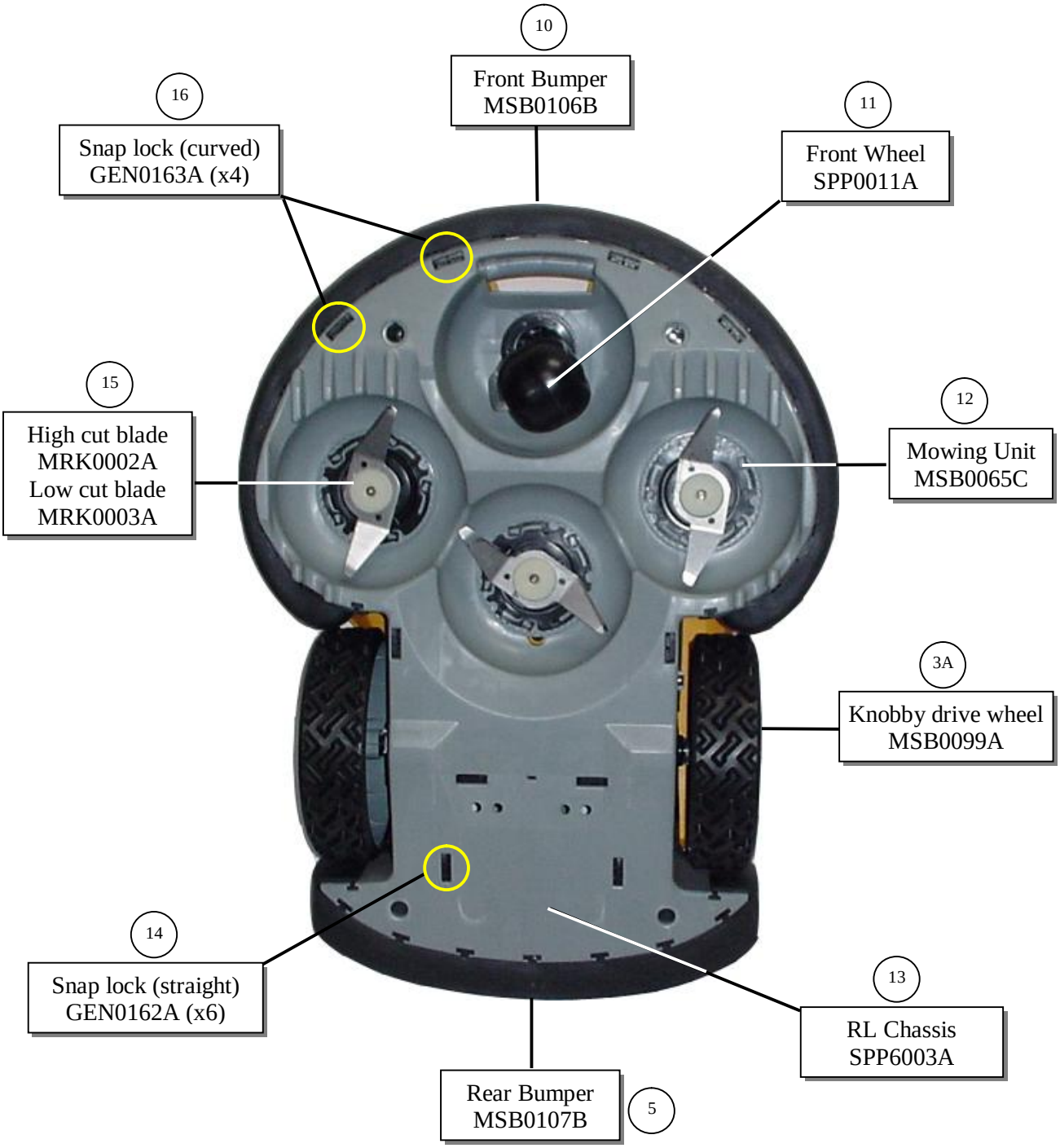


Figure 1.2 Bottom view

1.1.3 Robomow internal views

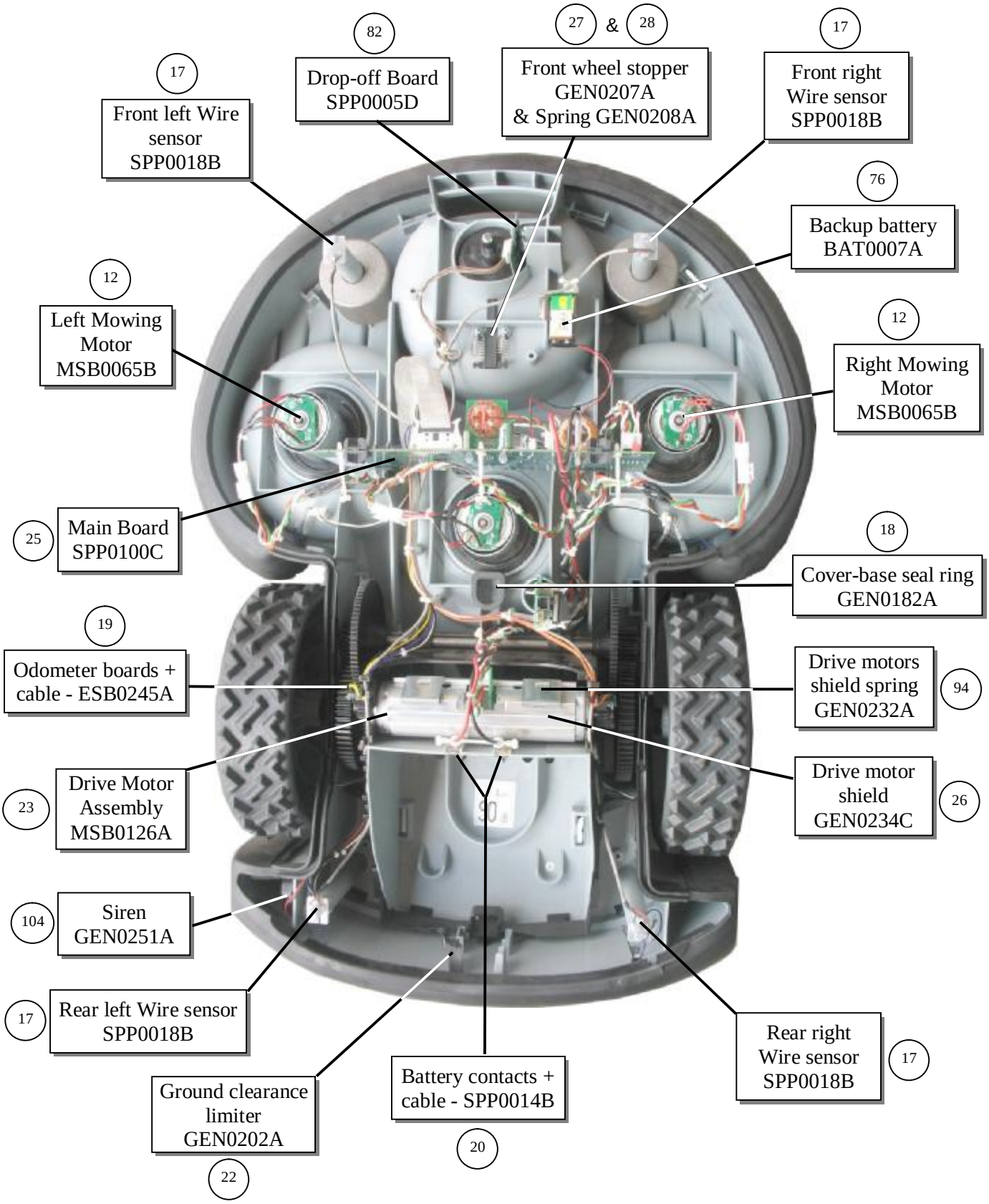


Figure 1.3 - Internal view (top)

4

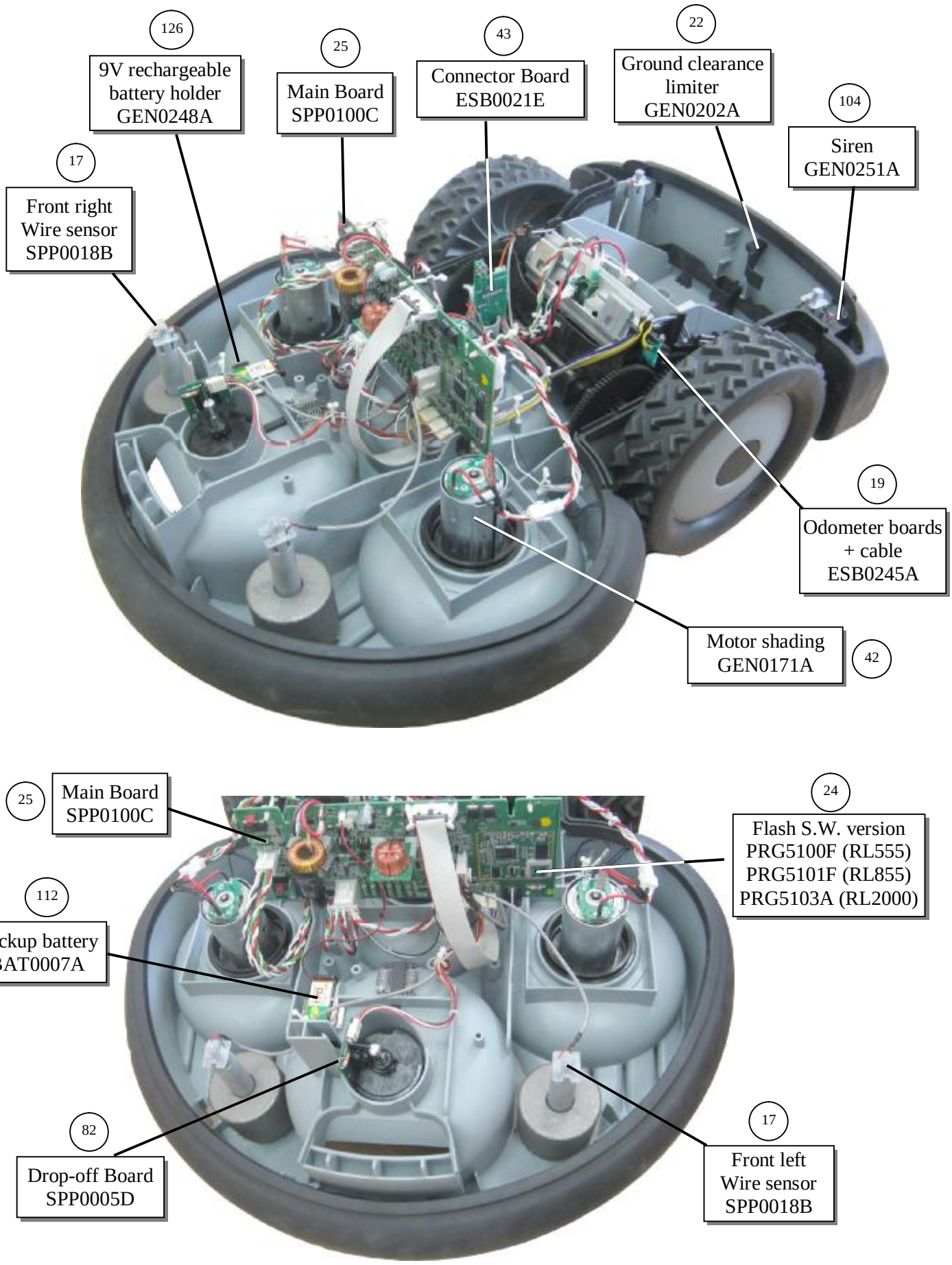


Figure 1.4 - Internal view (front)

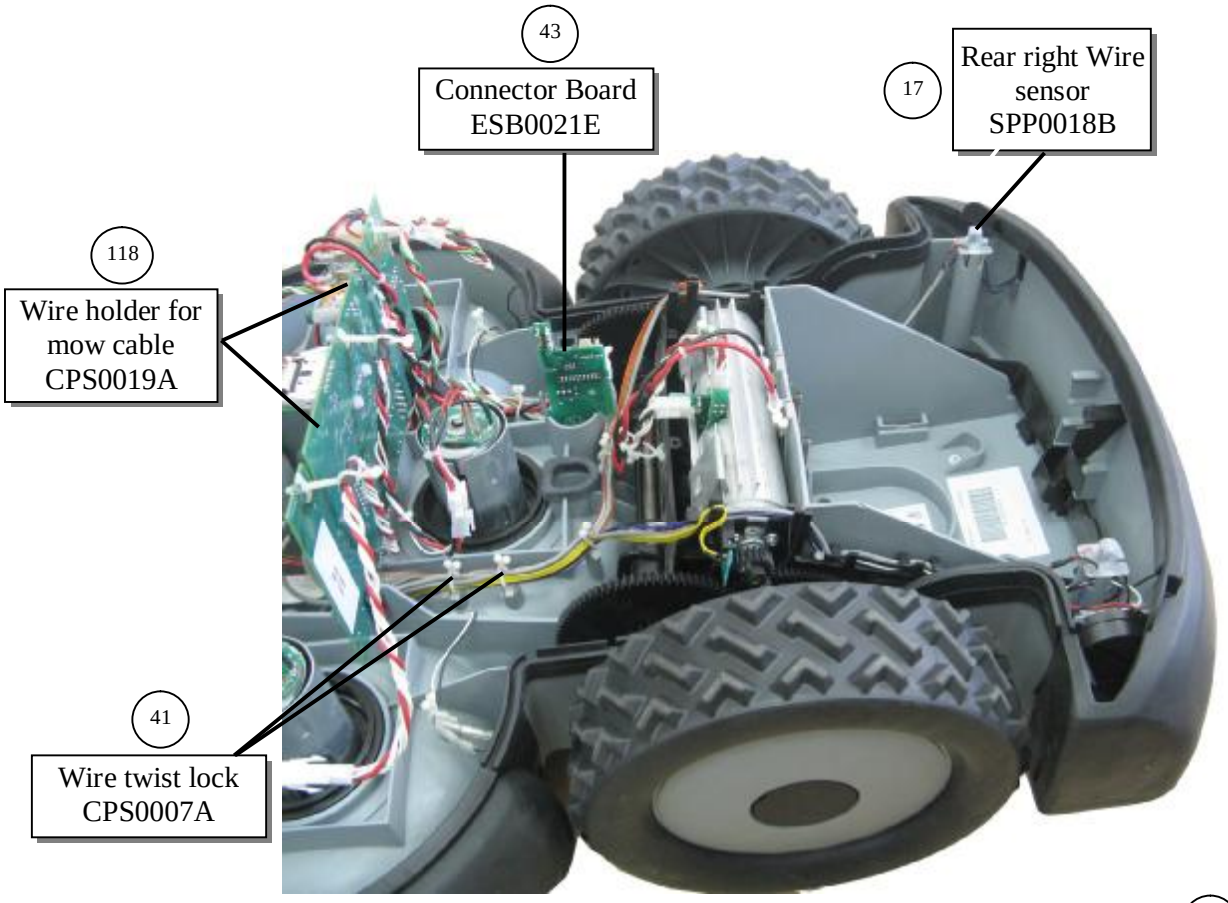


Figure 1.5 Internal view (side)

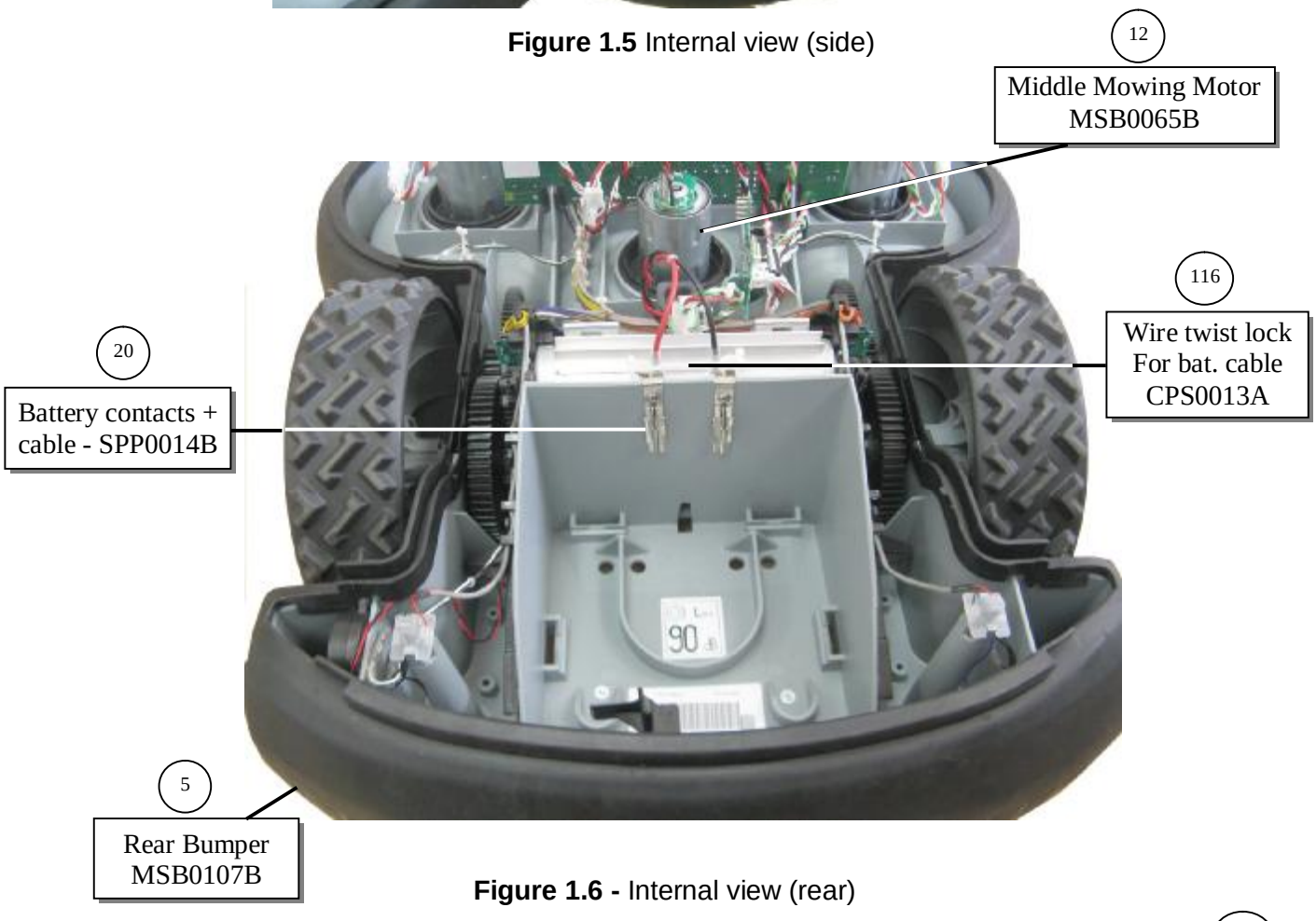


Figure 1.6 - Internal view (rear)

1.1.4 Charging Station views

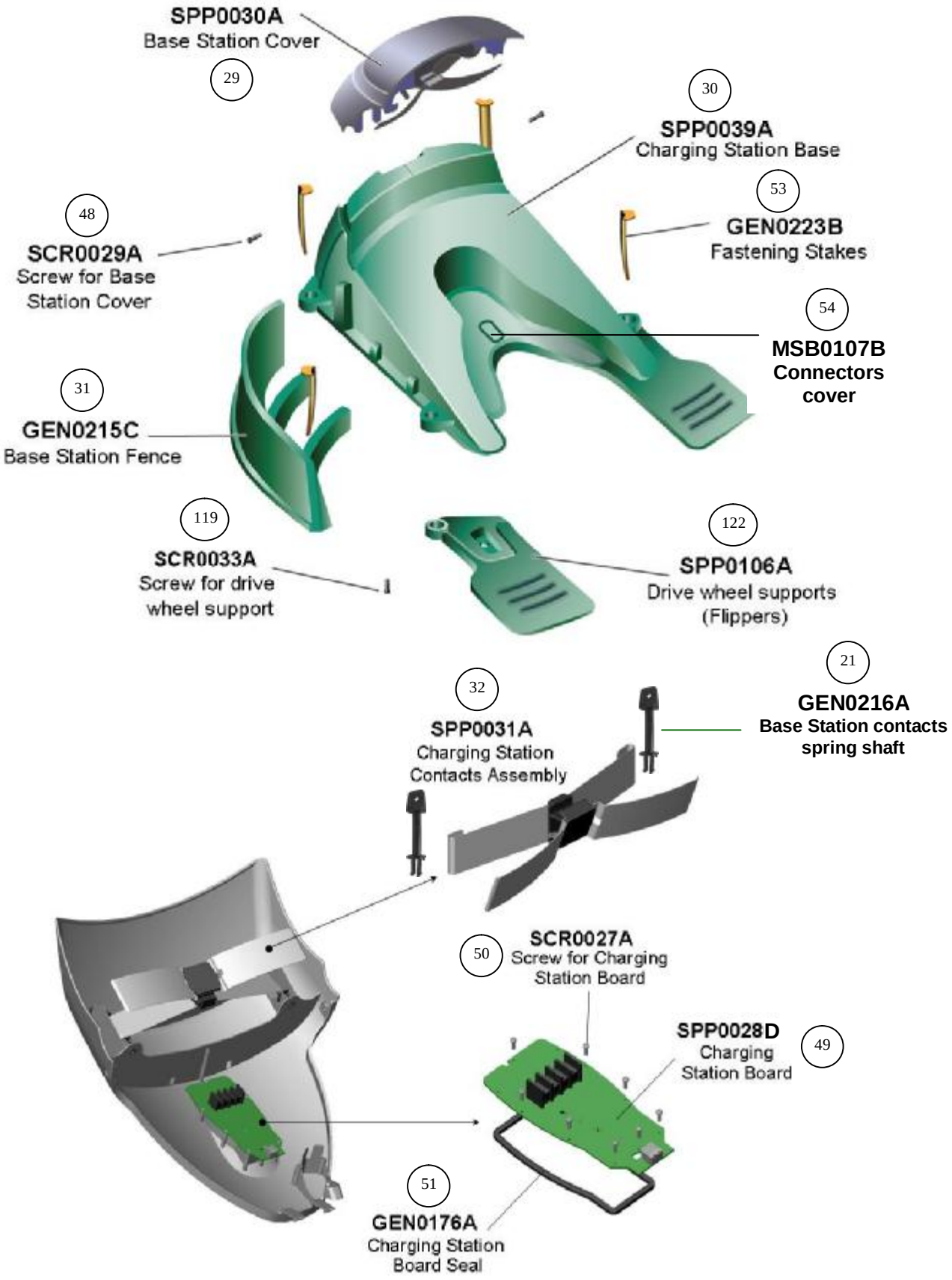


Figure 1.7 Base Station parts

1.2 IPL's / Exploded views

1.2.1 Robomow – bottom view……..……7
1.2.2 Base – top view……..……8
1.2.3 Cover – top view……..….9
1.2.4 Charging Station……..…..10
1.2.5 Gear Case ……..…..11
1.2.6 Power Pack & Power Supply……..….13
1.2.7 Fuses.....14
1.2.8 Perimeter Switch…….……15
1.2.9 Bumpers……..…..16
1.2.10 Front Wheel……..……..16
1.2.11 Thermistors……..…..17
1.2.12 Add-on Items……..….17
1.2.13 Decals……..….18
1.2.14 Old configuration spare parts……..…..19

1.2.1 Robomow bottom view

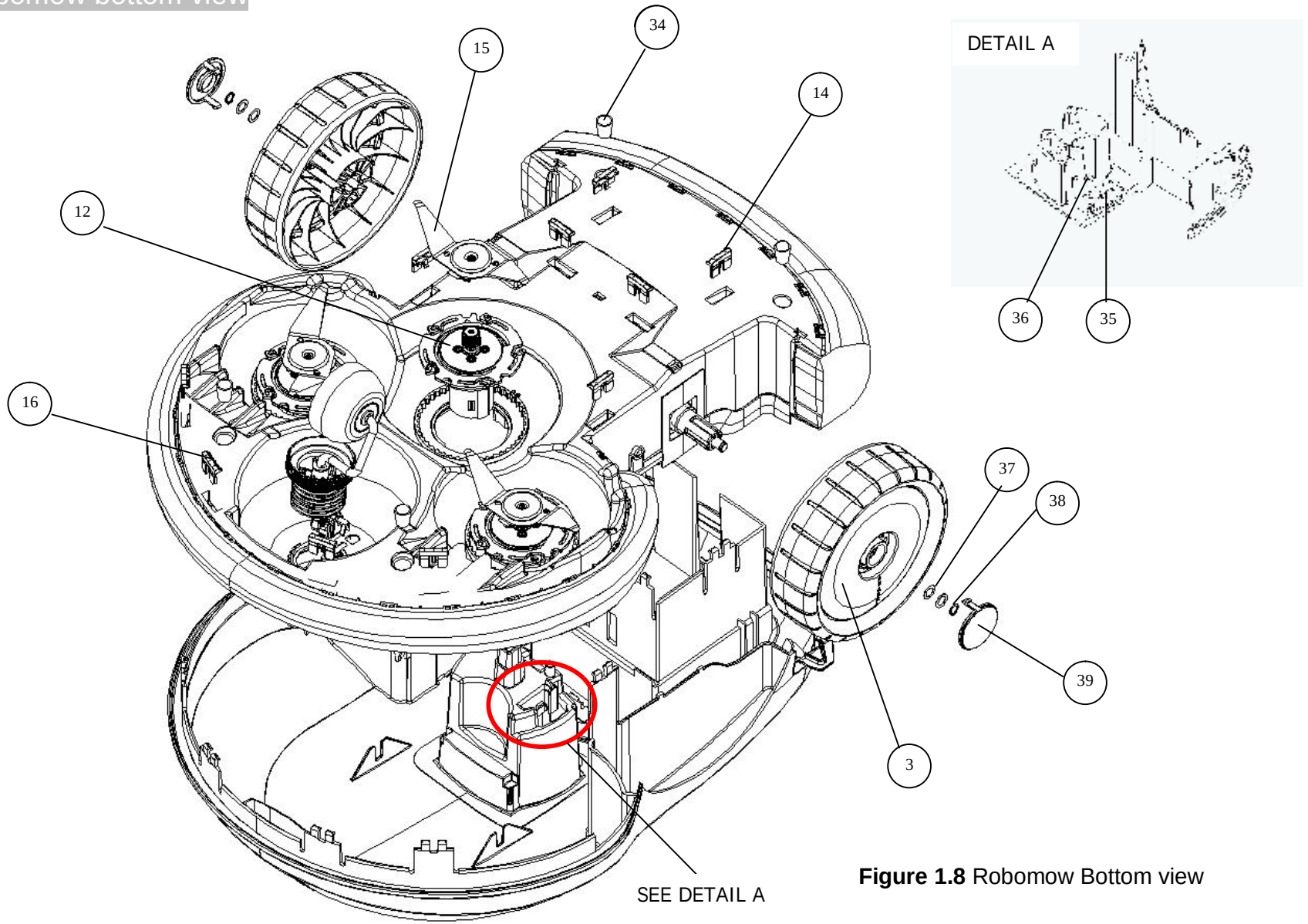


Figure 1.8 Robomow Bottom view

1.2.2 Base - top view

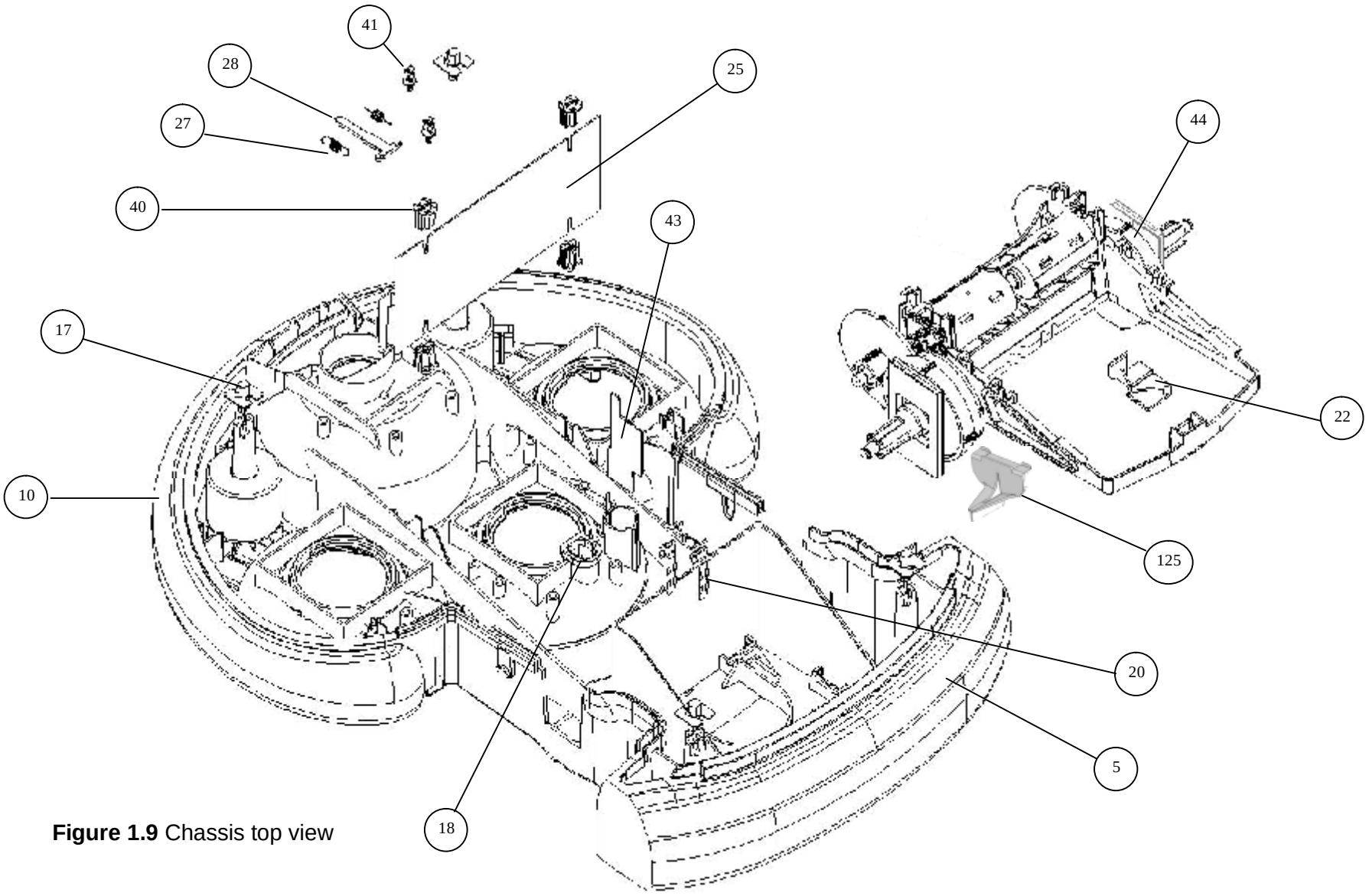


Figure 1.9 Chassis top view

1.2.3 Cover – top view

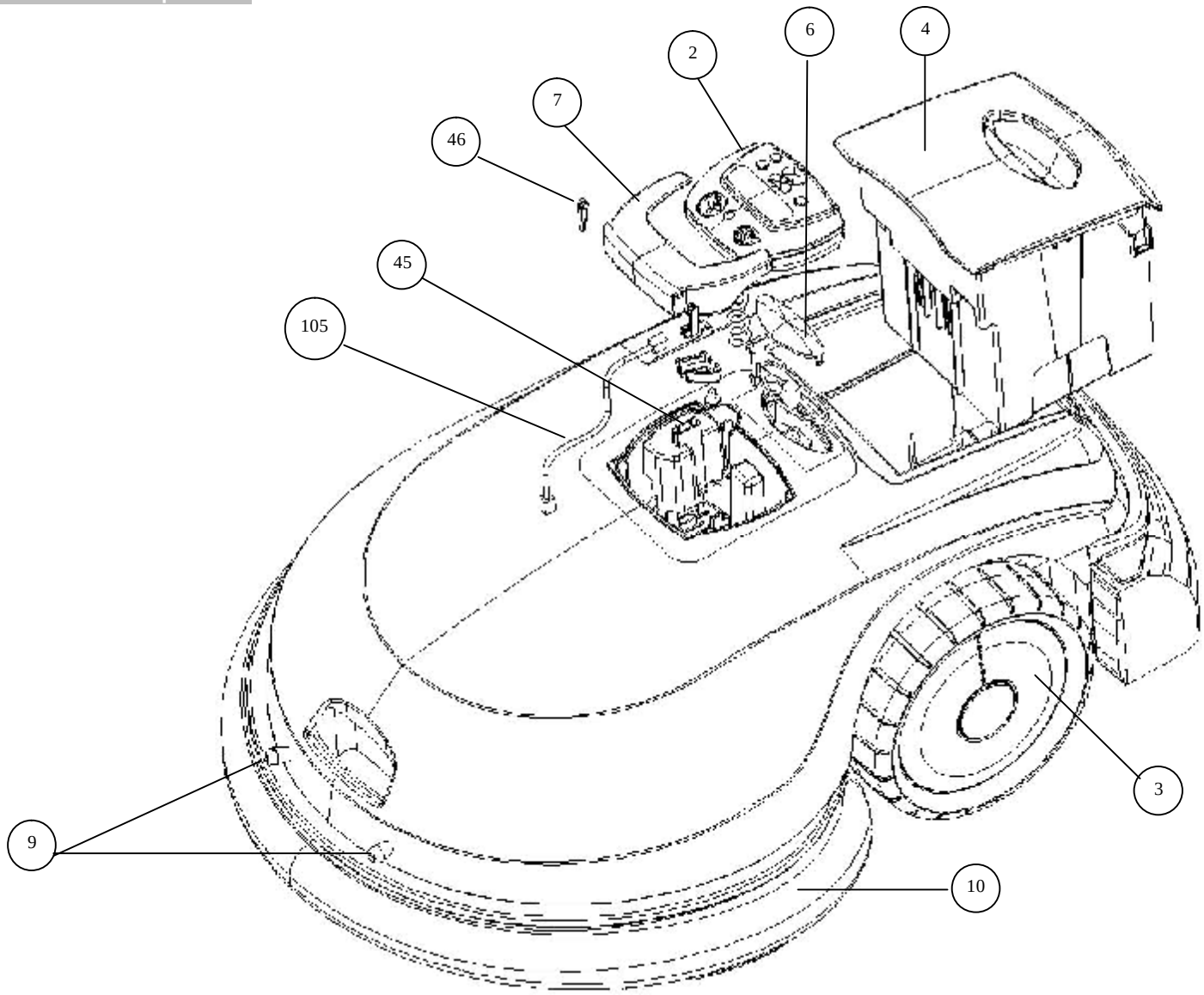


Figure 1.10 Cover top view

1.2.4 Gear Case

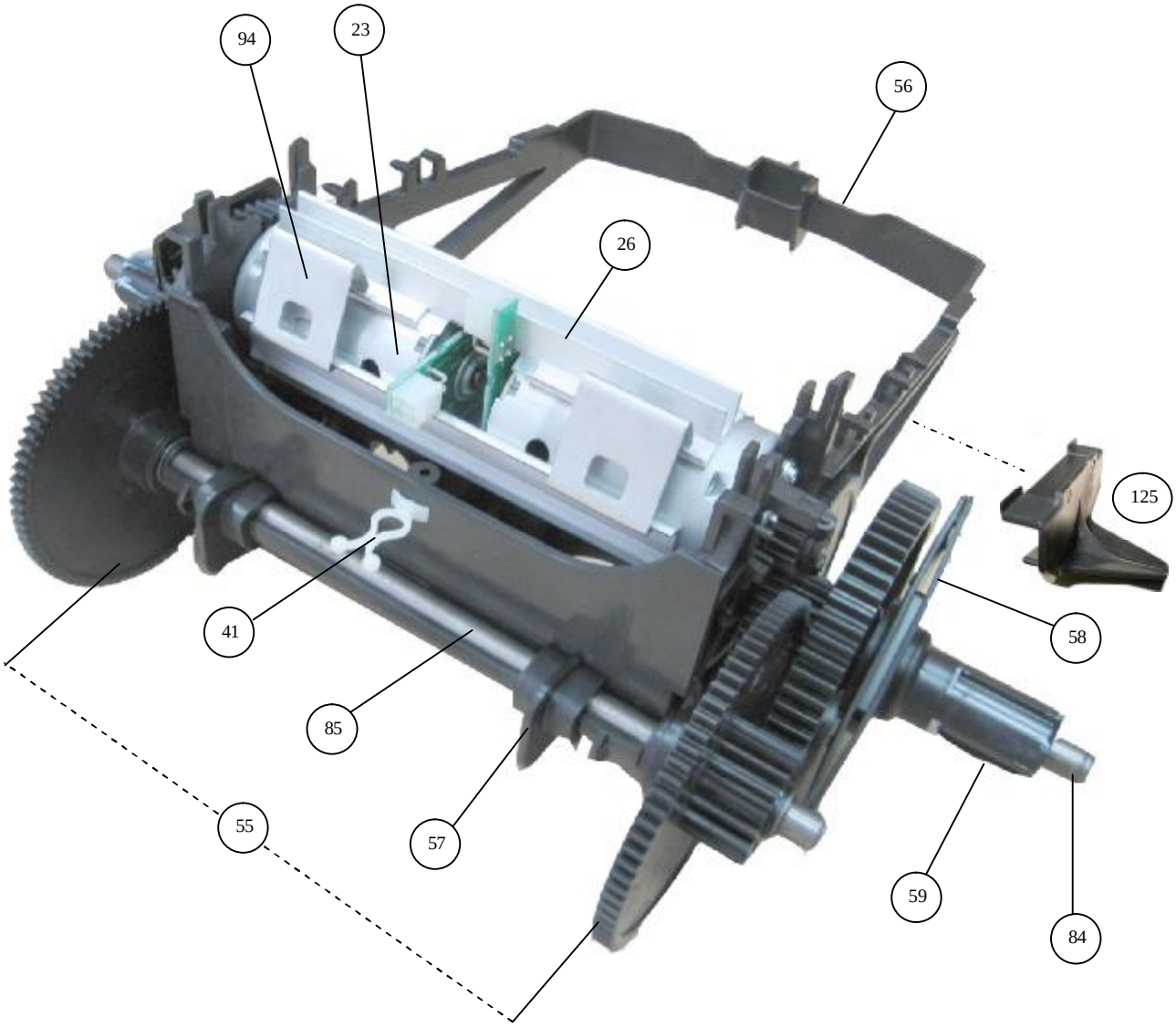


Figure 1.11 SPP0004E Gear Case

1.2.5 Gear Case (con.)

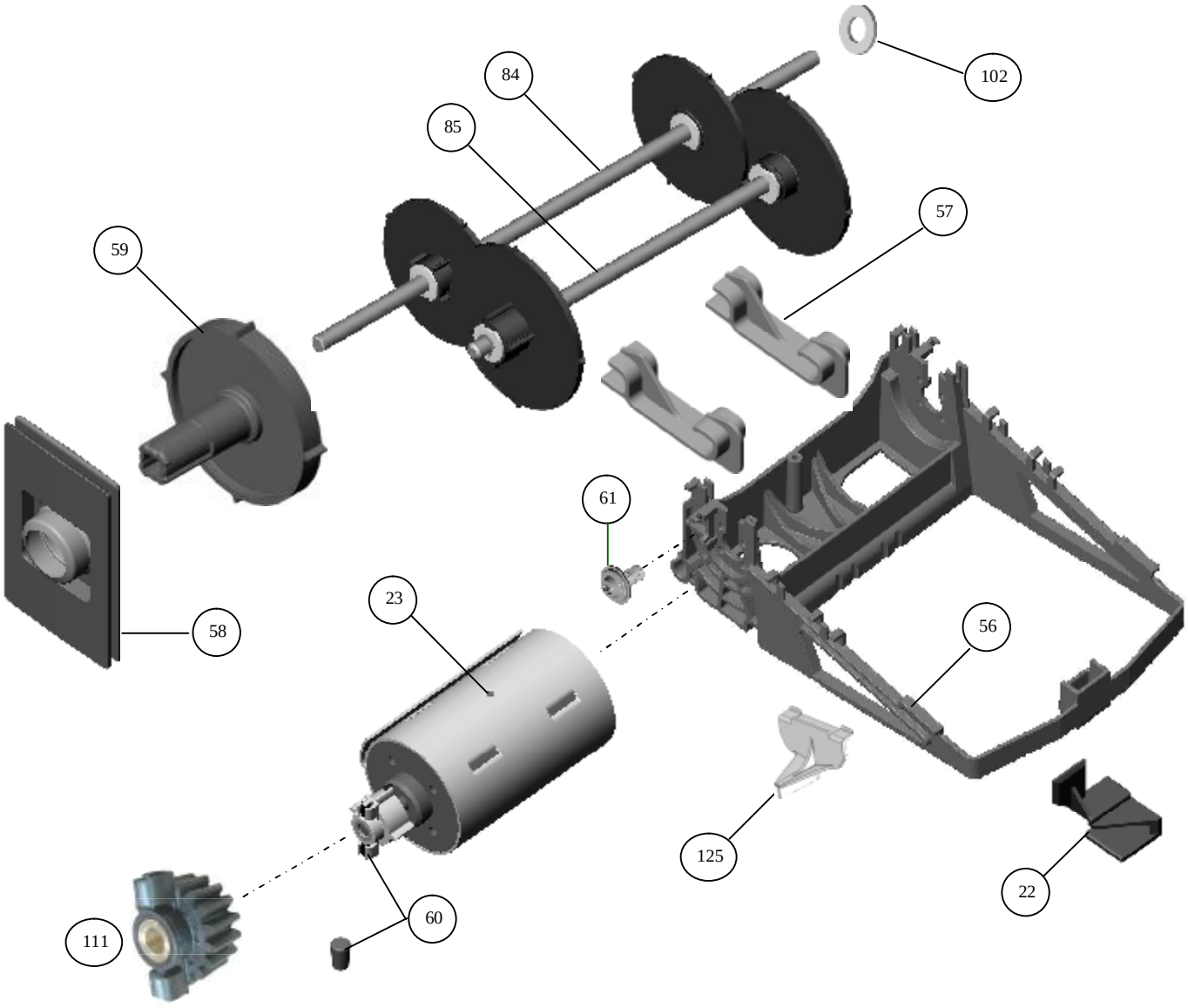


Figure 1.12 Gear Case exploded view

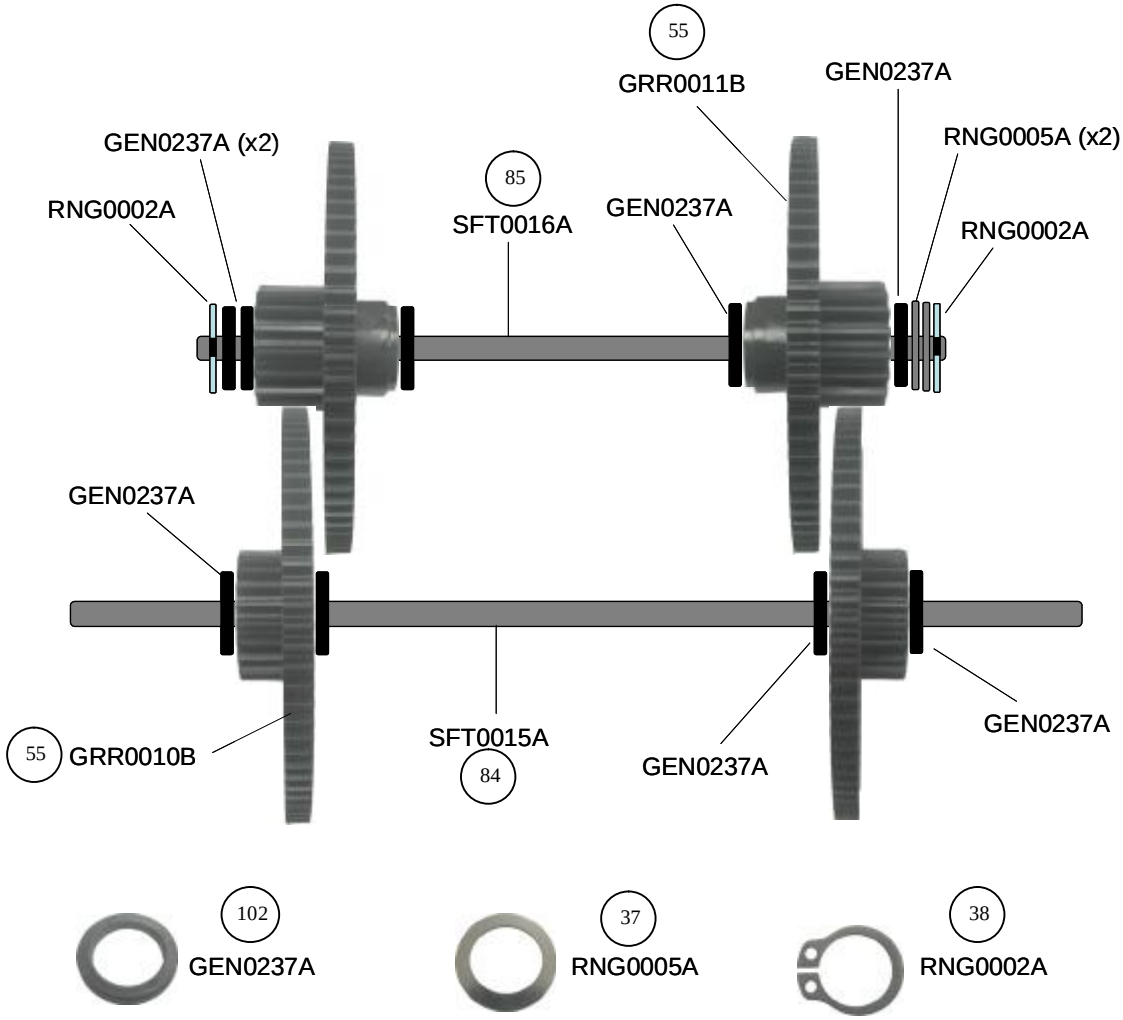


Figure 1.13 Gear Wheels with shafts

1.2.6 Power Pack & Power Supply

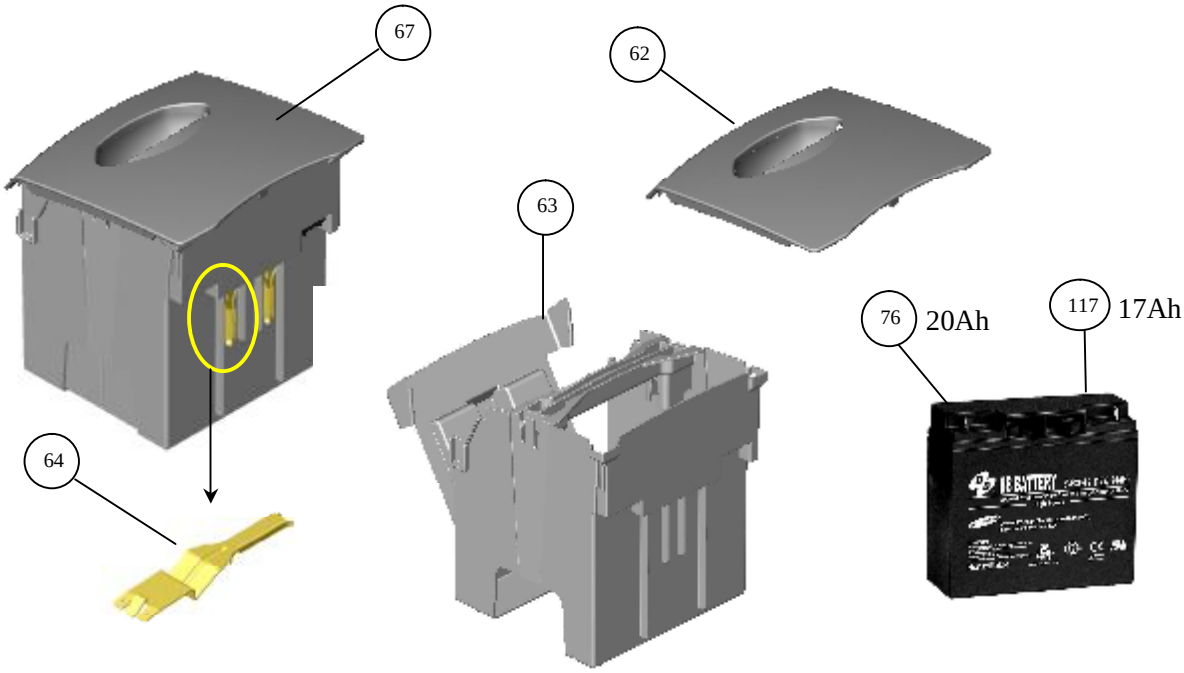


Figure 1.14 Power Pack

NOTE: for Power Pack wiring P/N's refer to 'Power Pack wiring diagram' (Section 1.5.2)

Figure 1.15 Switching Power Supply with AC cord and Power Supply holder

Figure 1.16 External Charger with Adaptor

Figure 1.17
Indoor Power Supply 0.9A

Figure 1.18
Power Supply for
Perimeter Switch

1.2.7 Fuses

Figure 1.19 Fuses

1.2.8 Perimeter Switch

Figure 1.20 Perimeter Switch

1.2.9 Bumpers

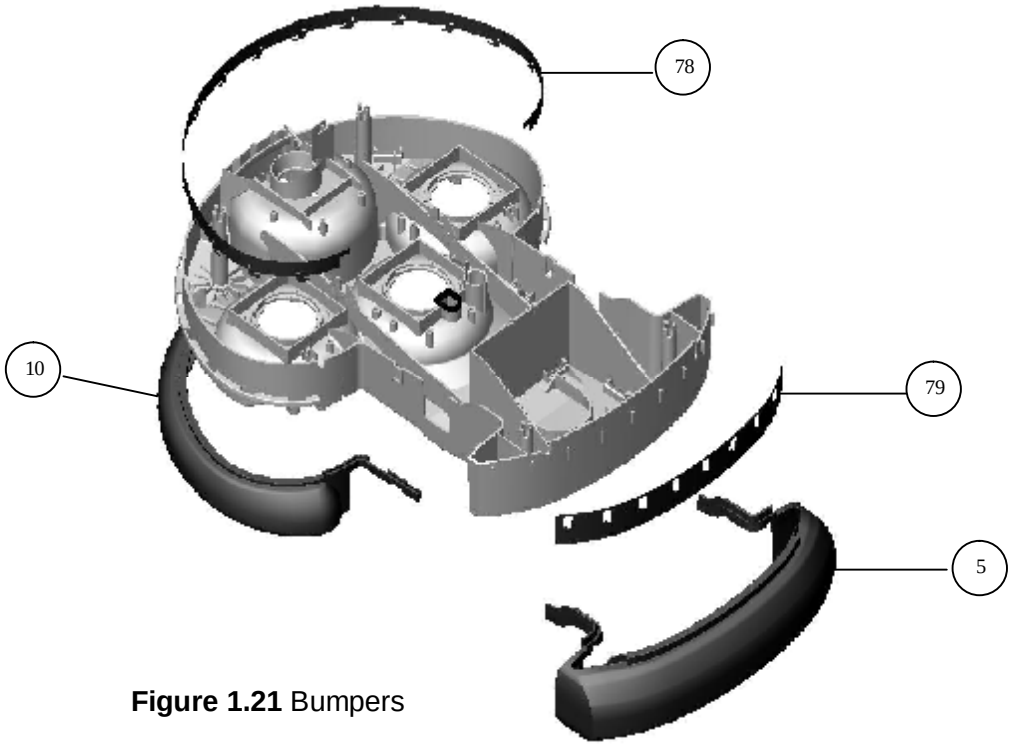


Figure 1.21 Bumpers

1.2.10 Front Wheel

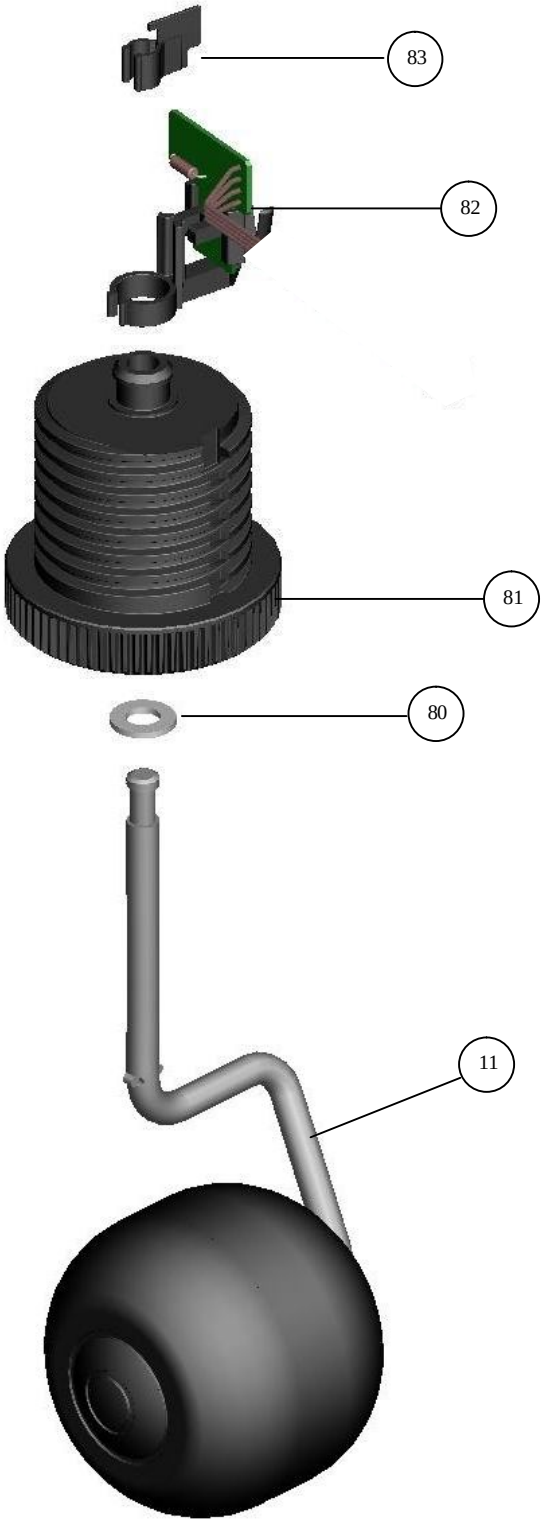
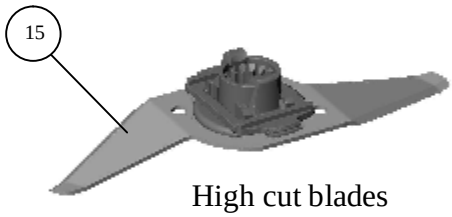


Figure 1.22 Front Wheel

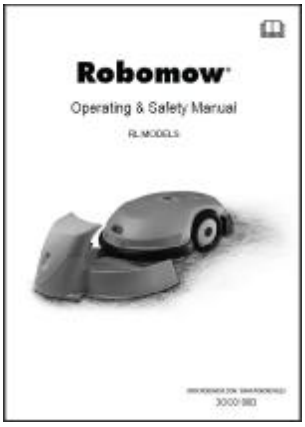
1.2.11 Add-On Items

Low cut blades



High cut blades

Figure 1.23 Blades



86

RL Operating & Safety Manual (En)

Figure 1.24
Operating Manual
and RoboRuler

110 RoboRule

Manual Controller
Holder Assembly

Mowing motor removal tool

Manual Controller seal

Figure 1.25

1.2.13 Decals

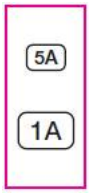
89

91

90

92

69



8

124

120

Figure 1.26 Stickers

1.3 Fuse location

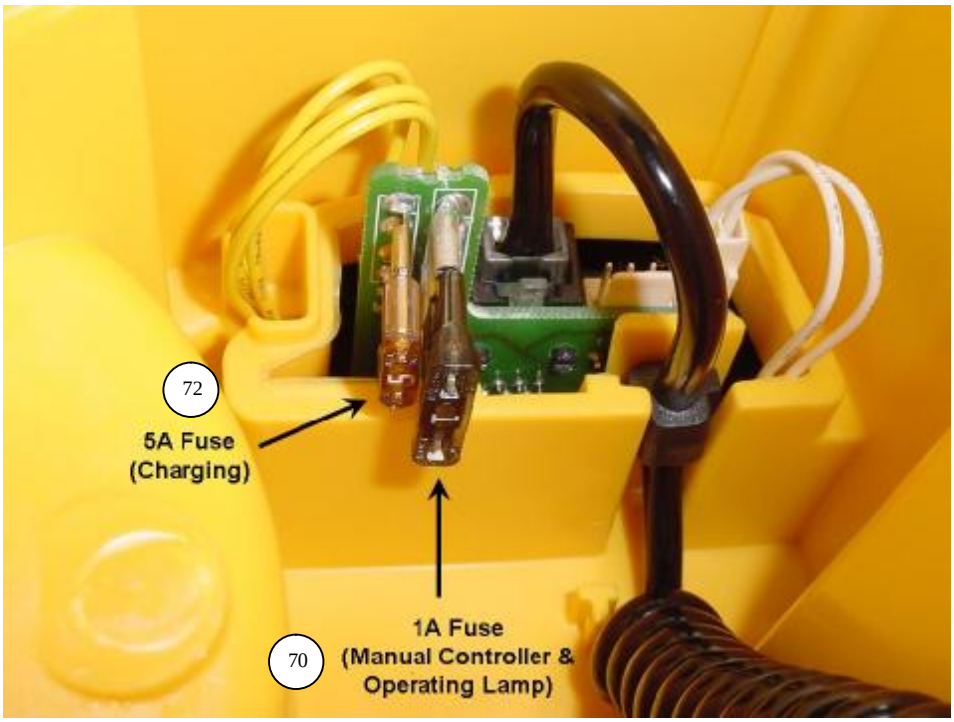


Figure 1.27 Robomow fuse location

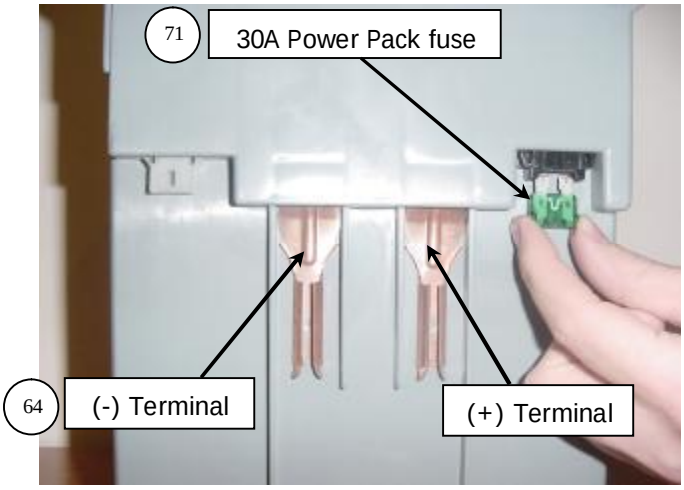


Figure 1.28 Power Pack fuse location

1.4 Board identification

1.4.1 Main Board

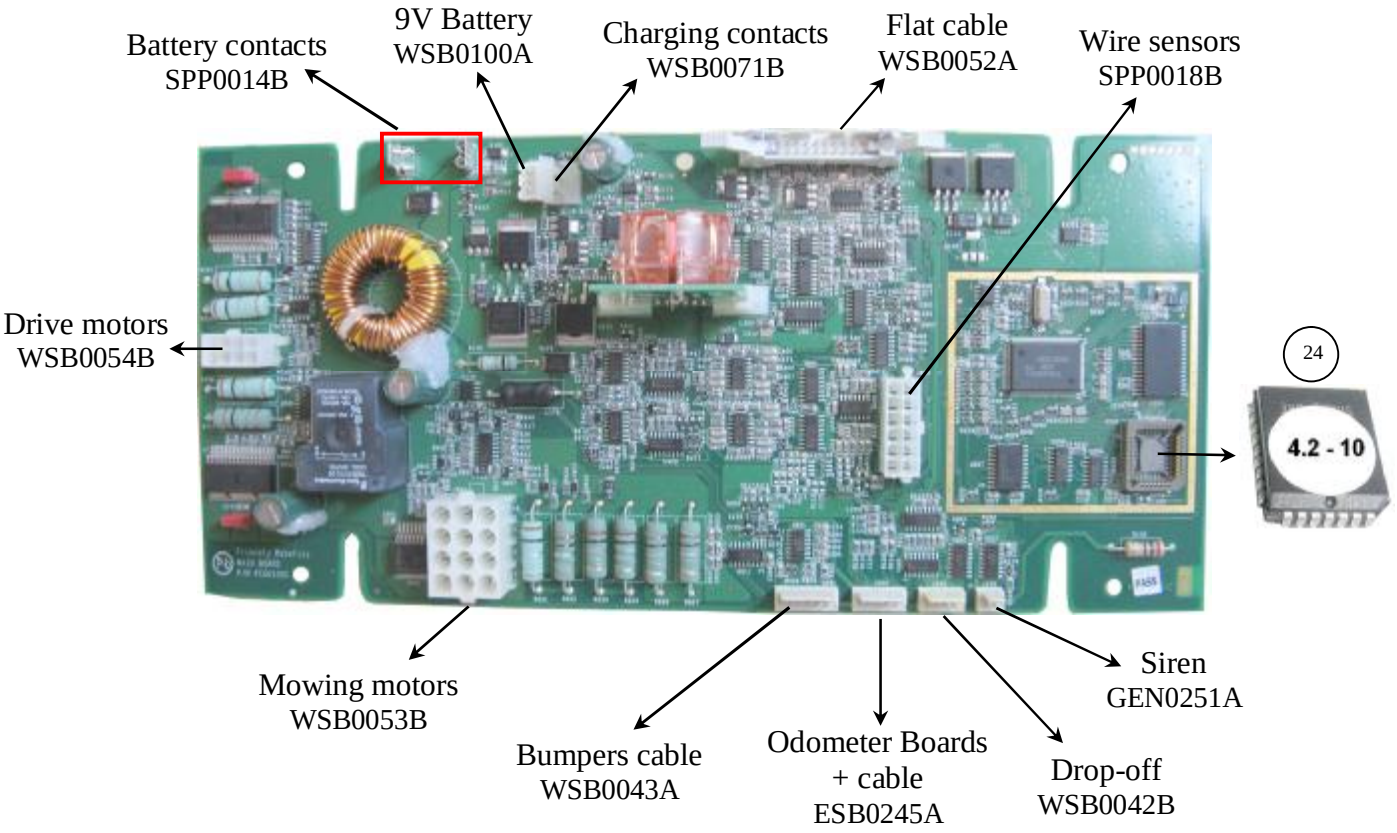


Figure 1.29 Main Board

1.4.2 Connector Board

Figure 1.30 Connector Board

1.4.3 Odometer Board

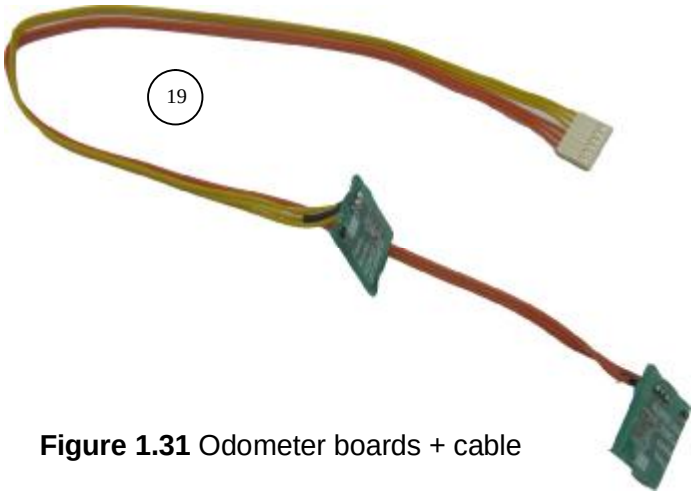


Figure 1.31 Odometer boards + cable

1.4.4 Drop-off Board

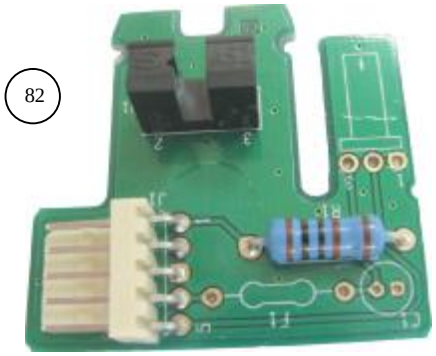
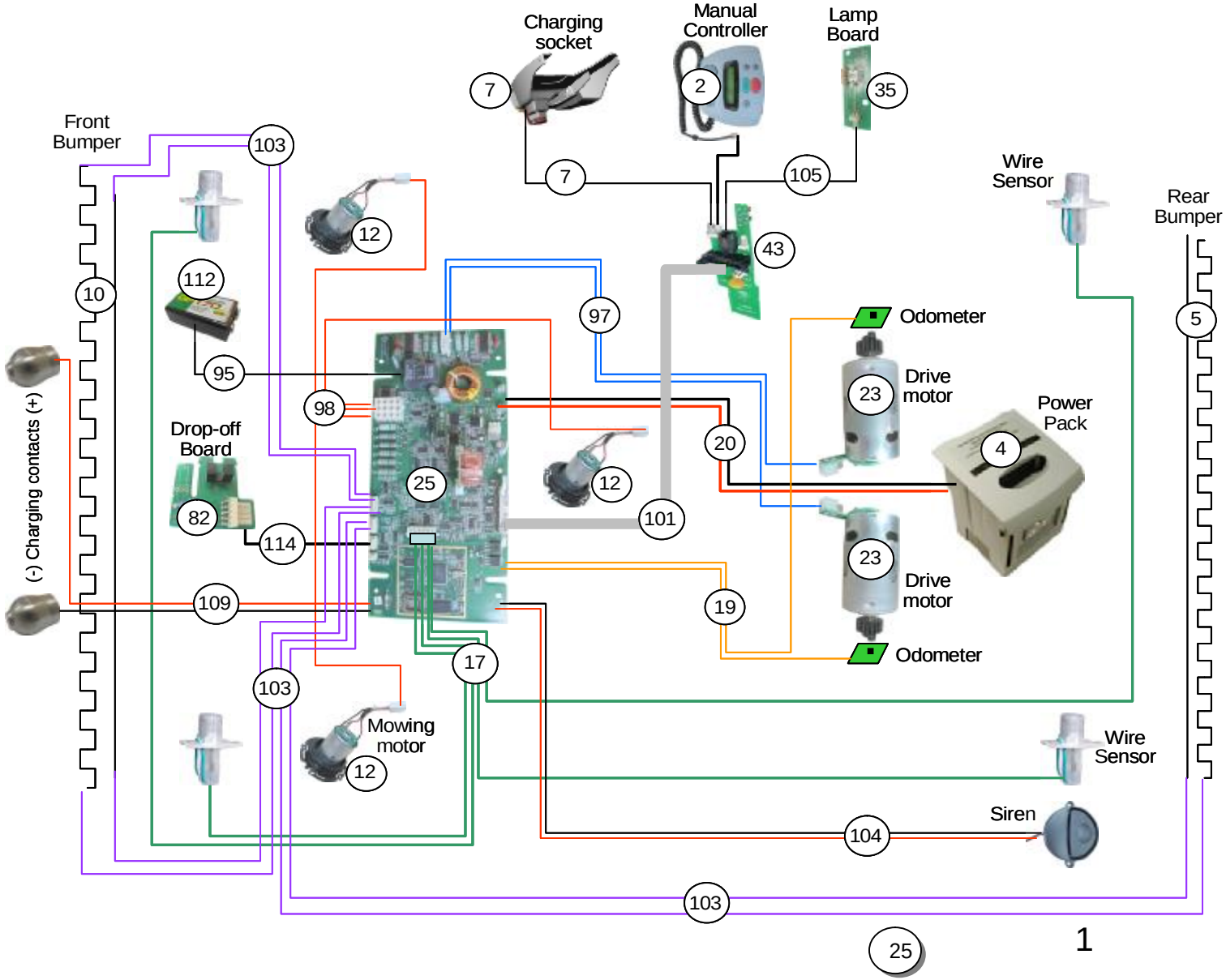
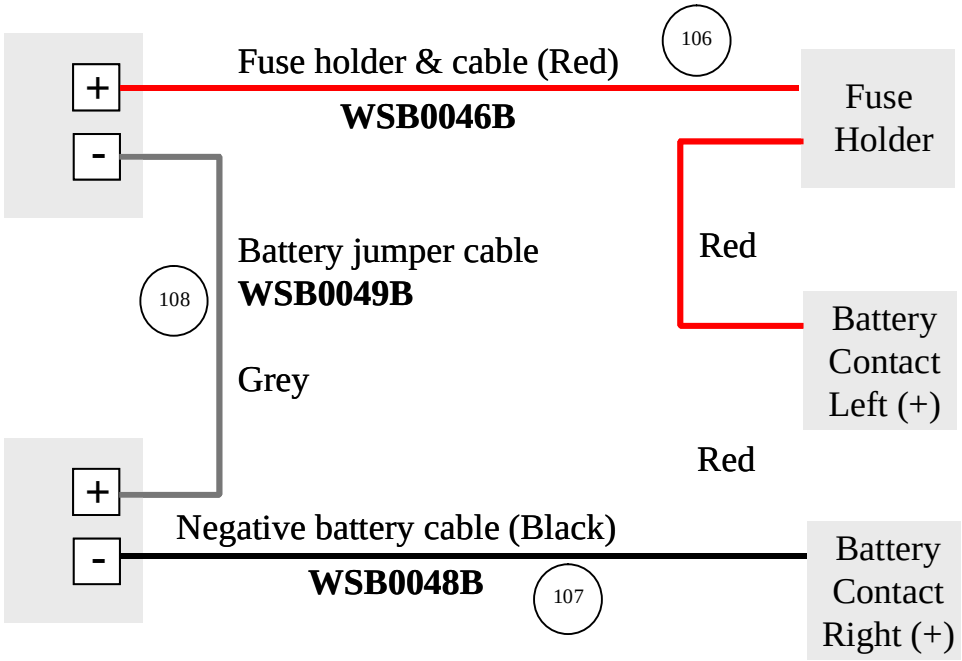


Figure 1.32 Drop-off Board

1.5 Wiring layout à 1.5.1 Robomow schematic wiring diagram



1.5.2 Power Pack wiring diagram



1.6 Spare Parts List

New part for RL2010 that is **not compatible** with old configuration
New part for RL2010 that is **compatible with some conditions**
New part for RL2010 that is **compatible** with old configuration

1.6.1 Spare Parts – sorted by item number

#	Friendly P/N (2010)	Part Description
1	**SPP6002A**	RL Green cover & labels
1	**SPP6004A**	RL Yellow cover & labels
2	**MSB0119B**	Manual Controller without speaker (ESB0100)
3	MSB0078A	Smooth drive wheel
3A	MSB0099A	Knobby drive wheel
4	**MRK0041A**	Power Pack (2 batteries of 12V - 20Ah) (RL2000)
4	UNT0009A	Power Pack (2 batteries of 12V - 17Ah)
5	MSB0107A	Rear bumper assembly
6	SPP0032A	Operation lamp cover + seal
7	MSB0105B	Man. cont. holder assembly
8	STC0048B	RL555 Sticker
8	STC0049B	RL855 Sticker
8	STC0056B	RL2000 Sticker
9	**SPP0026B**	Charging contact (for Docking Station)
10	MSB0106B	Front bumper assembly
11	SPP0011A	Front wheel with axle
12	**MSB0065C**	Mowing Unit
13	**SPP6003A**	RL Chassis
14	GEN0162A	Snap lock (straight)
15	MRK5003A	Single low cut blade
16	GEN0163A	Snap lock (curved)
17	**SPP0018B**	Wire sensor cable (2010)
18	GEN0182A	Cover-base seal ring
19	ESB0245A	Odometer Boards + cable
20	SPP0014B	Battery contacts assembly (RL side)
21	GEN0216A	Base Station contacts spring shaft
22	GEN0202A	Ground clearance limiter
23	**MSB0126A**	Drive motor assembly
24	**PRG5100F**	RL555 Flash software version 3.19 - 10 (ESB0100C)
24	**PRG5101F**	RL855 Flash software version 3.2 - 10 (ESB0100C)
24	**PRG5103A**	RL2000 Flash software version 4.2 - 10 (ESB0100C)
25	**SPP0100C**	Main Board (ESB0100C)
26	**GEN0234C**	Drive motors shield
27	GEN0208A	Front Wheel stopper spring
28	GEN0207A	Front Wheel stopper
29	SPP0030A	Charging Station Cover
30	SPP0039A	Charging Station Base
31	GEN0215C	Docking Station Fence
32	SPP0031A	Charging Station Contacts Assembly
33	SCR0031B	Screw M6x20 DIN 912 A2 (for charging contacts RL side)

34	GEN0140A	Sealing cup
35	ESB0022C	Lamp Board (LED)
36	GEN0133A	Magnet for Manual Controller
37	RNG0005A	Spacer for Drive Wheel - D18*D12*0.5 DIN 988
38	RNG0002A	Retaining ring for 12mm shaft (for Drive Wheel)
39	GEN0104A	Wheel Cup (gray)
39	GEN0201A	Wheel Cup (black)
40	GEN0146A	Main board rubber holder
41	CPS0007A	Wire twist lock
42	GEN0171A	Motor shading
43	**ESB0021E**	Connectors Board
44	**SPP0004E**	Spare part gear case
45	GEN0142A	Connector's cover
46	GEN0145A	Pivot for manual controller's tray
47	**INJ4119A**	Charging horn insulator
48	SCR0029A	Screw DIN 7981C A2 4.2x25 (Docking Station)
49	**SPP0028D**	Charging Station Board (ESB5002E)
50	SCR0027A	Screw WN 1412 KA25x8 (Docking Board)
51	GEN0176A	Docking Board seal
52	**INJ4120A**	Battery contact insulator
53	GEN0223B	Fastening Stakes for the Charging Station
54	GEN0217B	Charging Station Connectors Cover
55	**SPP0009C**	Gear Wheels replacement kit
56	SPP0015B	Gear Frame
57	GEN0122A	Shafts clamp (gear)
58	MSB0077A	Slider assembly
59	MSB0079A	Gear spline
60	GEN0101A	Odometer magnet
61	SCR0025A	Screw for RL motors
62	GEN0132A	Battery cover
63	GEN0131A	Battery Case
64	GEN0130A	Contact leaf-battery
65	**PWS0012A**	Switching Indoor Power Supply 1.5A (110-230VAC)
66	PWS0001B	230VAC indoor power supply -Europe
66	PWS0002B	230VAC indoor power supply - UK
66	PWS0003B	120VAC indoor power supply - US
67	MRK0037A	Empty Power Pack (excluding the batteries)
68	UNT0016A	Power Pack external charging adaptor
69	**STC0082A**	Fuses sticker
70	FUS0015A	Fuse mini blade 5A
71	FUS0003A	Fuse AT blade 30A 32V
72	FUS0012A	Fuse AT blade 1A 32V
73	**UNT5007C**	RL/RM Perimeter Switch (ESB5009E)
74	GEN0156A	Perimeter switch back cover
75	GEN0175A	Stake for perimeter switch
76	**BAT0006A**	Battery 12V 20Ah (RL2000)
77	CON0054A	Plot connector
78	MSB0090A	Contact strip front assembly
79	MSB0091B	Contact strip rear assembly
80	RNG0031A	Washer M10x15 (BN 739)
81	GEN0117A	Adjusting bolt

82	**SPP0005D**	Drop-off Board (ESB0018G)
83	GEN0116A	Drop off flag
84	**SFT0015A**	Drive long shaft
85	**SFT0016A**	Drive short shaft
86	**DOC0100D**	RL Operating & Safety Manual (En)
87	GEN0211A	Charging plug rubber cover
88	TOL0001A	Mowing motor removal tool
89	STC0018C	Danger sticker
90	STC0022A	Front caution sticker
91	STC0012D	Rear warning sticker
92	STC0036D	Battery charging decal (4 languages)
93	**WSB5019A**	15m cable from Charging Station
94	GEN0232A	Drive motors shield spring
95	**WSB0100A**	9V rechargeable battery cable to Main Board
96	**WSB0095A**	Charging Station Board to Charging Station contacts cable
97	**WSB0054B**	Drive motors cable (8 pins)
98	**WSB0053B**	Mowing motors cable (12 pins connector)
99	**PWS0011A**	300mA (34V) Power Supply (EUR) for Perimeter Switch
99	**PWS0013A**	300mA (34V) Power Supply (US) for Perimeter Switch
99	**PWS0014A**	300mA (34V) Power Supply (UK) for Perimeter Switch
100	**MRK5006A**	Rechargeable Power Pack for Perimeter Switch
101	WSB0052A	Flat cable
102	GEN0237A	Gear shaft spacer
103	WSB0043A	Bumper cable
104	**GEN0251A**	Siren
105	WSB0044A	Lamp board cable
106	WSB0046B	Fuse holder battery pack cable
107	WSB0048B	(-) spring battery cable
108	WSB0049B	Battery jumper cable
109	**WSB0071B**	Main Board to charging contacts cable
110	**DOC0008D**	RL RoboRuler
111	SPP0052A	RL pinion + magnets
112	**BAT0007A**	9V rechargeable battery for RL2000 (170mA)
113	**CBL0001A**	AC cord for switching Power Supply (EUR)
113	**CBL0002A**	AC cord for switching Power Supply (UK)
113	**CBL0003A**	AC cord for switching Power Supply (US)
114	**WSB0042B**	Drop off cable (5 to 5 pins)
115	**GEN0249A**	LCD Manual Controller seal
116	CPS0013A	Wire twist lock for bat. cable
117	GEN0129A	Battery 12V 17Ah (RL555 and 855)
118	**CPS0019A**	Wire holder (Mow cable on Main Board)
119	SCR0033A	Screw for the Charging Station drive wheel supports
120	STC0052A	Theft Guard decal
121	MRK0009B	External charger for Power Pack (EUR)
121	MRK0011B	External charger for Power Pack (US)
122	SPP0106A	Charging Station drive wheel supports
123	**GEN0247A**	Power Supply holder
124	STC0058A	Crossed-out wheeled bin
125	GEN0231A	Gear frame support
126	**GEN0248A**	9V rechargeable battery holder

1.6.2 Spare Parts – sorted by Friendly part number

New part for RL2010 that is **not compatible** with old configuration
New part for RL2010 that is **compatible with some conditions**
New part for RL2010 that is **compatible** with old configuration

#	Friendly P/N (2010)	Part Description
76	**BAT0006A**	Battery 12V 20Ah (RL2000)
112	**BAT0007A**	9V rechargeable battery for RL2000 (170mA)
113	**CBL0001A**	AC cord for switching Power Supply (EUR)
113	**CBL0002A**	AC cord for switching Power Supply (UK)
113	**CBL0003A**	AC cord for switching Power Supply (US)
77	CON0054A	Plot connector
41	CPS0007A	Wire twist lock
116	CPS0013A	Wire twist lock for bat. cable
118	**CPS0019A**	Wire holder (Mow cable on Main Board)
110	**DOC0008D**	RL RoboRuler
86	**DOC0100D**	RL Operating & Safety Manual (En)
43	**ESB0021E**	Connectors Board
35	ESB0022C	Lamp Board (LED)
19	ESB0245A	Odometer Boards + cable
71	FUS0003A	Fuse AT blade 30A 32V
72	FUS0012A	Fuse AT blade 1A 32V
70	FUS0015A	Fuse mini blade 5A
60	GEN0101A	Odometer magnet
39	GEN0104A	Wheel Cup (gray)
83	GEN0116A	Drop off flag
81	GEN0117A	Adjusting bolt
57	GEN0122A	Shafts clamp (gear)
117	GEN0129A	Battery 12V 17Ah (RL555 and 855)
64	GEN0130A	Contact leaf-battery
63	GEN0131A	Battery Case
62	GEN0132A	Battery cover
36	GEN0133A	Magnet for Manual Controller
34	GEN0140A	Sealing cup
45	GEN0142A	Connector's cover
46	GEN0145A	Pivot for manual controller's tray
40	GEN0146A	Main board rubber holder
74	GEN0156A	Perimeter switch back cover
14	GEN0162A	Snap lock (straight)
16	GEN0163A	Snap lock (curved)
42	GEN0171A	Motor shading
75	GEN0175A	Stake for perimeter switch
51	GEN0176A	Docking Board seal
18	GEN0182A	Cover-base seal ring
39	GEN0201A	Wheel Cup (black)
22	GEN0202A	Ground clearance limiter
28	GEN0207A	Front Wheel stopper

27	GEN0208A	Front Wheel stopper spring
87	GEN0211A	Charging plug rubber cover
31	GEN0215C	Docking Station Fence
21	GEN0216A	Base Station contacts spring shaft
54	GEN0217B	Charging Station Connectors Cover
53	GEN0223B	Fastening Stakes for the Charging Station
125	GEN0231A	Gear frame support
94	GEN0232A	Drive motors shield spring
26	**GEN0234C**	Drive motors shield
102	GEN0237A	Gear shaft spacer
123	**GEN0247A**	Power Supply holder
126	**GEN0248A**	9V rechargeable battery holder
115	**GEN0249A**	LCD Manual Controller seal
104	**GEN0251A**	Siren
47	**INJ4119A**	Charging horn insulator
52	**INJ4120A**	Battery contact insulator
121	MRK0009B	External charger for Power Pack (EUR)
121	MRK0011B	External charger for Power Pack (US)
67	MRK0037A	Empty Power Pack (excluding the batteries)
4	**MRK0041A**	Power Pack (2 batteries of 12V - 20Ah) (RL2000)
15	MRK5003A	Single low cut blade
100	**MRK5006A**	Rechargeable Power Pack for Perimeter Switch
12	**MSB0065C**	Mowing Unit
58	MSB0077A	Slider assembly
3	MSB0078A	Smooth drive wheel
59	MSB0079A	Gear spline
78	MSB0090A	Contact strip front assembly
79	MSB0091B	Contact strip rear assembly
3A	MSB0099A	Knobby drive wheel
7	MSB0105B	Man. cont. holder assembly
10	MSB0106B	Front bumper assembly
5	MSB0107A	Rear bumper assembly
2	**MSB0119B**	Manual Controller without speaker (ESB0100)
23	**MSB0126A**	Drive motor assembly
24	**PRG5100F**	RL555 Flash software version 3.19 - 10 (ESB0100C)
24	**PRG5101F**	RL855 Flash software version 3.2 - 10 (ESB0100C)
24	**PRG5103A**	RL2000 Flash software version 4.2 - 10 (ESB0100C)
66	PWS0001B	230VAC indoor power supply -Europe
66	PWS0002B	230VAC indoor power supply - UK
66	PWS0003B	120VAC indoor power supply - US
99	**PWS0011A**	300mA (34V) Power Supply (EUR) for Perimeter Switch
65	**PWS0012A**	Switching Indoor Power Supply 1.5A (110-230VAC)
99	**PWS0013A**	300mA (34V) Power Supply (US) for Perimeter Switch
99	**PWS0014A**	300mA (34V) Power Supply (UK) for Perimeter Switch
38	RNG0002A	Retaining ring for 12mm shaft (for Drive Wheel)
37	RNG0005A	Spacer for Drive Wheel - D18*D12*0.5 DIN 988
80	RNG0031A	Washer M10x15 (BN 739)
61	SCR0025A	Screw for RL motors
50	SCR0027A	Screw WN 1412 KA25x8 (Docking Board)
48	SCR0029A	Screw DIN 7981C A2 4.2x25 (Docking Station)

33	SCR0031B	Screw M6x20 DIN 912 A2 (for charging contacts RL side)
119	SCR0033A	Screw for the Charging Station drive wheel supports
84	**SFT0015A**	Drive long shaft
85	**SFT0016A**	Drive short shaft
44	**SPP0004E**	Spare part gear case
82	**SPP0005D**	Drop-off Board (ESB0018G)
55	**SPP0009C**	Gear Wheels replacement kit
11	SPP0011A	Front wheel with axle
20	SPP0014B	Battery contacts assembly (RL side)
56	SPP0015B	Gear Frame
17	**SPP0018B**	Wire sensor cable (2010)
9	**SPP0026B**	Charging contact (for Docking Station)
49	**SPP0028D**	Charging Station Board (ESB5002E)
29	SPP0030A	Charging Station Cover
32	SPP0031A	Charging Station Contacts Assembly
6	SPP0032A	Operation lamp cover + seal
30	SPP0039A	Charging Station Base
111	SPP0052A	RL pinion + magnets
25	**SPP0100C**	Main Board (ESB0100C)
122	SPP0106A	Charging Station drive wheel supports
1	**SPP6002A**	RL Green cover & labels
13	**SPP6003A**	RL Chassis
1	**SPP6004A**	RL Yellow cover & labels
91	STC0012D	Rear warning sticker
89	STC0018C	Danger sticker
90	STC0022A	Front caution sticker
92	STC0036D	Battery charging decal (4 languages)
8	STC0048B	RL555 Sticker
8	STC0049B	RL855 Sticker
120	STC0052A	Theft Guard decal
8	STC0056B	RL2000 Sticker
124	STC0058A	Crossed-out wheeled bin
69	**STC0082A**	Fuses sticker
88	TOL0001A	Mowing motor removal tool
4	UNT0009A	Power Pack (2 batteries of 12V - 17Ah)
68	UNT0016A	Power Pack external charging adaptor
73	**UNT5007C**	RL/RM Perimeter Switch (ESB5009E)
114	**WSB0042B**	Drop off cable (5 to 5 pins)
103	WSB0043A	Bumper cable
105	WSB0044A	Lamp board cable
106	WSB0046B	Fuse holder battery pack cable
107	WSB0048B	(-) spring battery cable
108	WSB0049B	Battery jumper cable
101	WSB0052A	Flat cable
98	**WSB0053B**	Mowing motors cable (12 pins connector)
97	**WSB0054B**	Drive motors cable (8 pins)
109	**WSB0071B**	Main Board to charging contacts cable
96	**WSB0095A**	Charging Station Board to Charging Station contacts cable
95	**WSB0100A**	9V rechargeable battery cable to Main Board
93	**WSB5019A**	15m cable from Charging Station

1.7 Parts Compatibility

From 2010 there are two different spare parts lists. One is for RL models manufactured from 2000 to 2009 (RL1000/ 850 / 550) and the other is for RL models manufactured from 2010 (RL2000/ 855/ 555). Use the proper spare parts list while servicing or when ordering spare parts.

This document describes the new parts from 2010 and their backwards compatibility.
Every part is colored based on the definition below:

ABC0100A – Backwards compatible with previous RL models (2000-2009).
ABC0200B – Backwards compatible with some conditions (follow the table above for more details).
ABC0300C – Part which is not backwards compatible and cannot be used in previous RL model.
ABC0400D – Special instructions for part that is replaced in previous RL models (2000-2009).

Part No.	Note
BAT0006A	§ The 20Ah batteries are in use from 2010 season. § These batteries are shipped from Friendly Robotics only with Robomow RL2000. § Power Pack of 20Ah batteries is available as an accessory (P/N MRK0041A). § The 20Ah batteries can be used with all RL models, but be aware to the following before using it in other configuration then the RL2000 (ESB0100C) and forward: § Main Board ESB0050B (and before) – Charging is with Power Supply 0.9A only, thus the charging time will be 30 hours or more. There is no option to change the charging current. § Main Board ESB0050D – RL1000 – Default charging current is 1.2A thus the charging time will be min 24-6 hours (instead of 20 hrs.). There is no option to increase the charging current over 1.2A. RL850 / 550 - Default charging current is 0.9A thus the charging time will be min 30 hours (instead of 24 hrs.). For faster charging it is required to purchase the indoor switching power supply 1.5A (PWS0012A + CBL0001/2/3A) and to change the setting in the *'Service> Settings> Power supply> Type> Regular*' menu to 1.2A (which is the max current allowed). The switching Power Supply is connected directly to the charging socket in the mower and it will reduce the charging time to 24-6 hours. § Main Board ESB0100C - When using it in RL555/855 the default charging current is 0.9A thus the charging time will be min 30 hours (instead of 24 hrs.). For faster charging it is required to purchase the indoor switching power supply 1.5A (PWS0012A + CBL0001/2/3A) and to change the setting in the *'Service> Settings> Power supply> Type> Regular*' menu to 1.5A - it will reduce the charging time to 20 hours. **IMPORTANT!** Using the mower for operation when batteries are not fully charged regularly will reduce the battery lifetime. It is recommended to fully charge the battery before starting the operation.
CBL0001/2/3	The switching power supply 1.5A (PWS0012A) is the same part number for all markets. The power supply is connected to AC cord that available as a spare part. When ordering the switching power supply (PWS0012A) confirm you order the right AC cord: CBL0001A – Type C is used in most of Europe. CBL0002A – Type G is used mostly in the UK (British standard). CBL0003A –Type A is used in most of North America.
CPS0019A	Wire holder (Mow cable on Main Board) is used to keep the mow cable pulled upwards to allow replacing the mow motor assembly without removing the Robomow cover. This part should not be used in RL previous configuration (2000-09).

DOC0008D	The RoboRuler has the same measurement as the previous one, except of a new measurement of 20cm use for narrow pass and external Base Station setup that can be set only with RL models from 2010 and forward.
DOC0100D	New Operating and Safety Manual integrated all RL models.
ESB0021E	Connectors Board without connector to the charging horns (the charging horns in RL2000 are connected directly to the Main Board). This part is not backwards compatible as there is no connector on the previous Main Boards, thus ESB0021D is still available as a spare part for the previous models.
GEN0234C	New Drive motor shield (Aluminum) with wider openings as the new drive motors assembly includes soldered circuit board with Thermistor and connector. This part is backwards compatible.
GEN0249A	LCD Manual Controller seal is compatible with all Manual Controllers part numbers.
INJ4119A	4 insulators are assembled between the charging horns and the RL2000 cover (front side) to increase the distance between the contacts and the plastic. This part cannot be used in previous configurations as it required changes in the plastic.
INJ4120A	2 insulators are assembled between the battery contacts and the RL2000 cover (rear side) to increase the distance between the contacts and the plastic. This part cannot be used in previous configurations as it required changes in the plastic.
MRK0041A	Refer to BAT0006A.
MRK5006A	Rechargeable Power Pack for Perimeter Switch is an accessory that can be used only with the new Perimeter Switch from 2010 and forward.
MSB0065B	Mowing unit - this part was used in RL models 2000-2009 but is not available anymore. When it has to be replaced in mower with Main Board ESB0050D and previous, it is required to use the new mowing unit MSB0065C + WSB0097A (Adaptor cable between new mowing motor to Main Board tabs);
MSB0065C	Mowing unit (includes Thermistor); The mowing unit is compatible with all RL models and configuration; When replacing this mowing unit in mower with Main Board ESB0050 and previous, it is required to use WSB0097A (Adaptor cable between new mowing motor to Main Board tabs);
MSB0119B	Same Manual controller to all RL models from 2010 (includes Rain sensor and without a speaker). **Caution!** Do not use this Manual Controller with previous configuration as there will not be audio and warning alarms.
MSB0126A	Drive motor assembly (includes Thermistor); This part is not compatible with previous RL configuration (2000-09) as the motor includes board with connector that cannot be fitted in the previous configuration of the Gear Case. In addition the new Drive Motor assembly has connector that prevent it to be assembled in the previous drive motor shield, thus if it required to replace Drive Motor in mower from 2000-2009 models use SPP0050A (right) or SPP0051A (left).
PRG5100F PRG5101F PRG5103A	All 2010 software versions are not compatible with previous RL models (RL550/ 850/ 1000); These S.W. versions can work with ESB0100C and forward only.

PWS0007A	RL1000 Outdoor Power Supply - this part was used in RL models 2000-2009 but is not available anymore. When it has to be replaced, use the following parts and follow the instructions below: PWS0012A - Switching Indoor Power Supply 1.5A (110-230VAC); CBL0001/2/3A – AC cord for switching Power Supply; WSB5019A - 15m cable from Charging Station to the switching indoor Power Supply; GEN0247A – Power Supply holder (+screws and dowels); Using Power Supply with higher output is not a problem as the Main Board and the software limit the max current drawn from the Power Supply to charge the batteries. **Caution!** Power supply PWS0012A is suitable for indoor use only. Choose a sheltered, dry, well ventilated spot. It should NOT be exposed to direct sunlight or rain. To connect the 15m low voltage cable (WSB5019A) old configuration charging station board, it is required to remove the white connector from the cable end and to connect the white/ black cables directly to the board as shown in Figure 1 below:

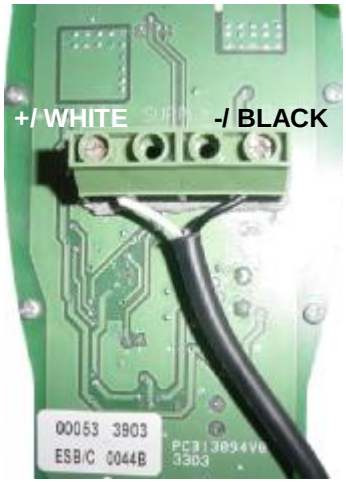
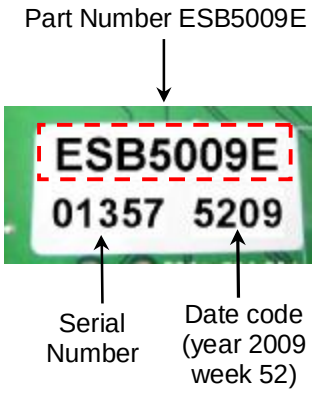


Figure 1
Step 1 – remove the connector from the 15m cable
Step 2 – Connect the white/ black cable to the board

PWS0011A **PWS0013A** **PWS0014A**	300mA (34V) Power Supply for RL/RM Perimeter Switch (EUR/ US/ UK); This power supply is used for RL and RM Perimeter Switch; This part replaces the previous power supply of 200mA (24V) in order to support bigger lawns; This part should be used with Perimeter Switch 2010 and forward (ESB5009E and forward); The part number of the electronics board can be seen when opening the Perimeter Switch (refer to Figure 2 below); This part compatible with spare parts Perimeter Switch P/N UNT5007C and forward; Do not use this Power Supply with Perimeter Switch from previous configuration (ESB5009C/ D) as it will cause to over heat damage;

Figure 2
Part Number and Serial number of Perimeter Switch Board



IMPORTANT!

ESB5009D à Power Supply 200mA 24V
ESB5009E à Power Supply 300mA 34V

PWS0012A	Switching Indoor Power Supply 1.5A (110-230VAC); This Power Supply is supplied with RL2000 from 2010 season (Main Board ESB0100C and battery 20Ah); This part is compatible with all RL previous models; when using it in RL1000 refers to the instructions for PWS0007A replacement (can be found in this table). **Caution!** Power supply PWS0012A is suitable for indoor use only. Choose a sheltered, dry, well ventilated spot. It should NOT be exposed to direct sunlight or rain.
SPP0004E	Spare part gear case is compatible with all previous RL models (2000-2009); When replacing the gear in previous models, it is required to use adaptor cable between the new drive motors to Main Board tabs (WSB0096A); In addition disassemble the Thermistor from the faulty gear replaced and connect the Thermistor back to the Drive motors shield (Aluminum) using the Drive Thermistor spring (Part Number GEN0233A); The mow Thermistor is continue to be connected to the shield of the right mowing motor.

Figure 3
Connecting the Thermistor from the old faulty gear on the new gear using the Drive Thermistor spring (GEN0233A)

SPP0005D	Drop-off Board (ESB0018G) is not compatible with previous RL configuration (2000-09) as it has 5 pins connector (instead of 4 pins);
SPP0009C	The previous part number SPP0009B was split into 3 different part numbers: SPP0009C – Gear wheels replacement kit (gear wheels + spacers + washers + circlip) SFT0015A - Drive long shaft SFT0016A - Drive short shaft As normally only the gear wheels wear out and there is no damage to the gear shafts.
SPP0018B	The new wire sensor cable is shielded to reduce noises from the motors; This cable is not compatible with previous RL configuration (2000-09) as it does not fit the Main Board (12 pins connector instead of 8-pins).
SPP0026B	RL2000 Charging contacts (horns) are not compatible with previous RL models (2000-09) as the contact length is shorter because a new insulator was added between the cover and the contact.
SPP0028D	Base Station Board (**ESB5002E**) is not compatible with previous RL configuration (2000-09) as it has different cable system that works differently. It is compatible with ESB0100C and forward.
SPP0100C	Main Board (ESB0100C) is not compatible with previous RL configuration (2000-09) **à** different cable system and connections on the board (drive, mow, wire sensors, drop-off, Thermistor and more).
SPP6002A	RL Green cover – the same cover but includes more parts (charging contacts + cable, labels, magnet, operating lamp cover and more). When using this cover in RL1000 it is required to replace the charging contacts cable WSB0071B with WSB0071A (as the 'B' is too short and cannot be connected to the Connectors Board).

SPP6003A	RL Chassis - the same chassis but includes more parts (weights, rear and front bumper, wire twist locks and more). This part is backwards compatible.
UNT5007C	RL Perimeter Switch (ESB5009E) is not backwards compatible with previous RL models (2000-09) as it has different cable system that works differently. UNT5007C compatibles with Main Board ESB0100C and forward. The simplest way to distinguish between the different Perimeter Switch models is given in pictures 4 and 5 below: Figure 5 – Perimeter Switch compatibles with Main Board ESB0050D and before (2000-09). Figure 5 - Perimeter Switch compatibles with Main Board ESB0100C and forward (2010 **à**).

Figure 4
Perimeter Switch operating panel 2009 configuration and earlier

Figure 5
Perimeter Switch operating panel 2010 configuration and forward

WSB0042B	Drop off cable (5 to 5 pins) is not compatible with previous RL models (2000-09) as it doesn't fit the previous Main Board (it has 5 pins instead of 4-pins).
WSB0053B	Mowing motors cable (12 pins connector) is not compatible with previous RL models (2000-09) as it doesn't fit the previous Main Board (12 pins instead of 6 tabs).
WSB0054B	Drive motors cable (8 pins) is not compatible with previous RL configuration (2000-09) as it doesn't fit the previous Main Board (8 pins instead of 4 tabs).
WSB0071B	Main Board to charging contacts (horns) cable is not compatible with previous RL configuration (2000-09) as the cable is too short (connected directly to the Main Board).
WSB0095A	Base Station Board to Base Station contacts cable (not applicable in previous configuration).
WSB0096A	Adaptor cable between new drive motors to tabs. Order this part as you need to use it in every case where the Gear Case is replaced in RL models 2000-09. This cable is adaptor cable that has two connectors of 4-pins from one side (connected to the new gear SPP0004E) and 4-tabs in the other side (connected to the Main Board receptacles).
WSB0097A	Adaptor cable between new mowing motor to tabs. Order this part as you need to use it in every case where the Gear Case is replaced in RL models 2000-09. This cable is adaptor cable that has two connectors of 4-pins from one side (connected to the new gear SPP0004E) and 4-tabs in the other side (connected to the Main Board receptacles).
WSB0100A	9V rechargeable battery cable to Main Board (not applicable in previous configuration).
WSB5019A	15m cable from Base Station (not applicable in previous configuration).