

Service manual Polaris

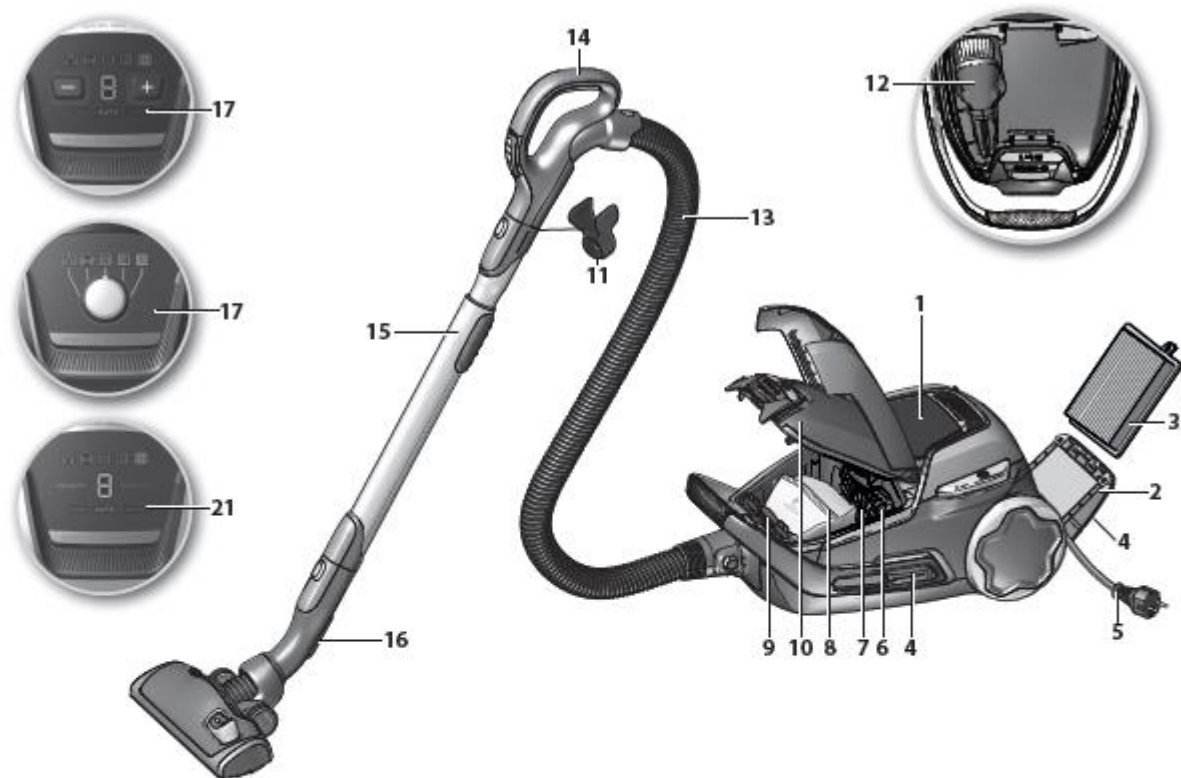
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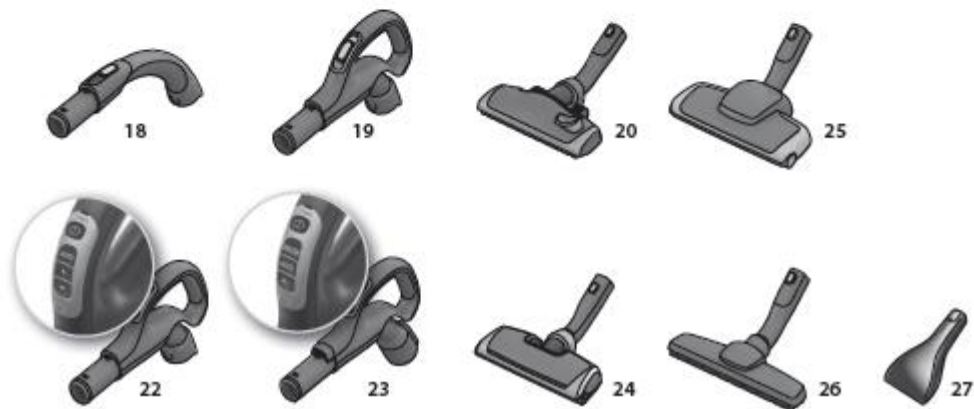


1. General description

- 1 Display (see the specified versions later)
- 2 Exhaust filter lid
- 3 Exhaust filter
- 4 Parking slot
- 5 Power cord
- 6 Motor filter
- 7 Motor filter holder
- 8 S-bag*
- 9 S-bag* holder
- 10 Dust compartment cover
- 11 Accessory clip
- 12 AeroPro 3in1 nozzle
- 13 AeroPro hose
- 14 AeroPro handle (see the specified versions later)
- 15 AeroPro telescopic tube
- 16 Parking clip
- 17 Display for models with manual control*
- 18 Display for models with + - control*
- 19 Display for models with remote control*
- 20 AeroPro Classic handle*
- 21 AeroPro Ergo handle*
- 22 AeroPro Remote Control handle*
- 23 AeroPro Silent nozzle
- 24 AeroPro Turbo nozzle*
- 25 AeroPro Mini Turbo nozzle*
- 26 AeroPro Parketto nozzle*



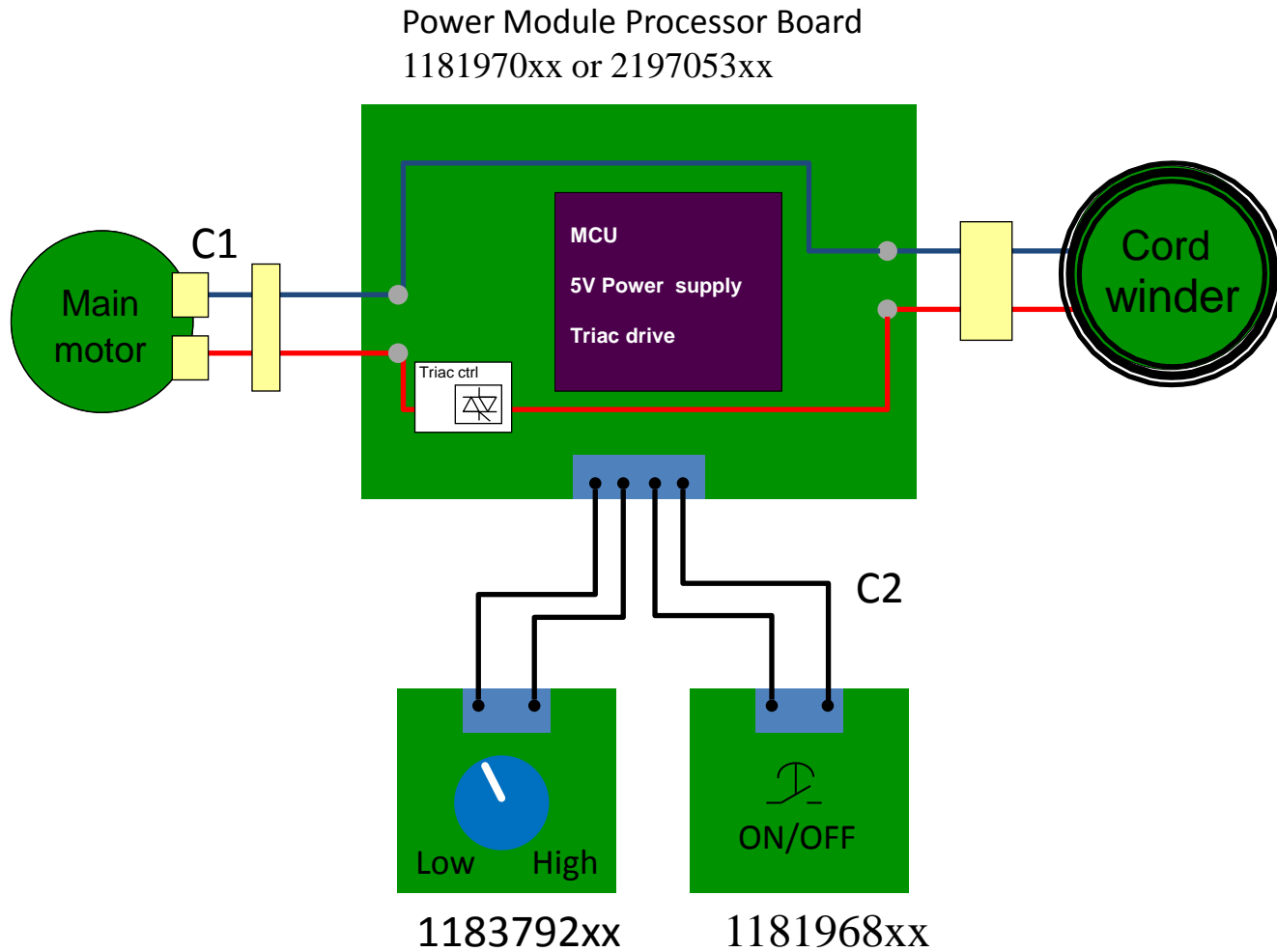
Accessories may vary from model to model.



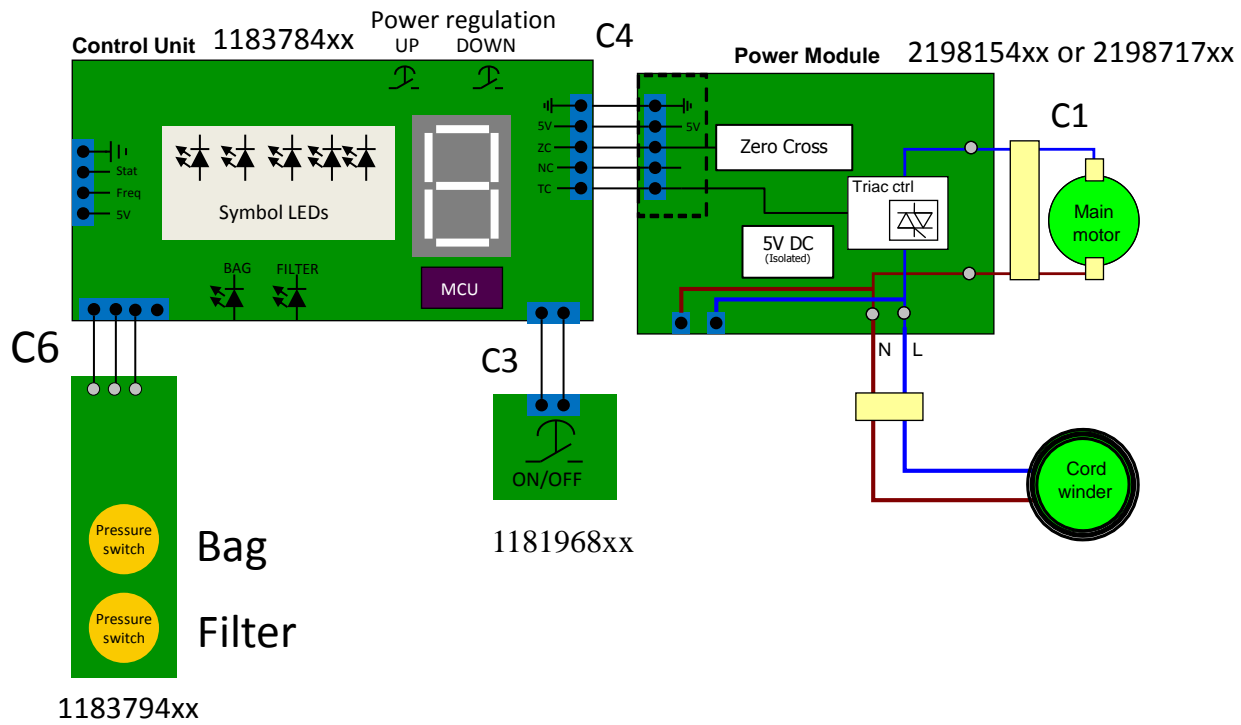
Explosion level	Component number	Object description	TDS description	Position	MATERIAL	Material type	RECOVERY / DISPOSAL
.1	21989801	DBCOMP NUO CPL RG 2000W	dust compartment	346A	Plastic part	regran PP	recovery and/or recycling after dis-
.1	118376101	SUSPENS MOTOR RING NUO DOMEL	motor suspension	130B	rubber	PUR Foam	recovery
.1	219769201	MOTOR DM 463.3.406-12 230V 2000W 0.5	motor	004	electrical	assembled	recovery and/or recycling after dis-
.1	219750101	SUSPENS BL ONE DM 463-7 TPE	bracket motor	523B	rubber	TPE	recovery
.1	118374701	NOISEABS MOTORHOUSE NUO	motorhouse absorber	990E	rubber		recovery
.1	113052001	NOISEABS MOTOR USR/ONE	motor absorber	990D	rubber	Bulpren	recovery
.1	118376001	LID MOTOR NUO RG	cover motor	308	Plastic part	regran PP	recycling
.1	118373401	EJECTOR FILTERGR NUO RG	ejector filtergrill	110	Plastic part	regran ABS	recovery*
.1	118377501	SPRING EJECTOR FILTERGR NUO	spring ejector	115	Metal part	Steel	recycling
.1	113051901	SPRING PEDAL	spring pedal	260C	metal	Steel	recycling
.1	219264502	SEALING FILTER POWDER	gasket grill filter	130A	rubber		recovery
.1	118370201	MOTORHOUSE NUO RG	housing motor	300A	Plastic part	regran PP	recycling
.1	219834859	CW VM V2V2H2-F2X1 EU 9M NUO	cord winder	335A	electrical	assembled	recovery and/or recycling after dis-
.1	118371601	FIXATION CW OUTER NUO RG	holder cw outer	335D	Plastic part	regran ABS	assembling**
.1	118373201	FIXATION CW INNER NUO RG	holder cw inner	335C	Plastic part	regran ABS	recycling
.1	118196801	PCB SAT PEDAL L1 NUS/ACT	pcb	014	electrical		recovery
.1	118197008	PCB CNTR PROCLP L1 NUO	pcb	014	electrical		recovery
.1	219898502	PEDAL CW NUO SIL PNTPR	pedal cw	329A	Plastic part	painted ABS	recovery
.1	219898702	PEDAL SWITCH NUO SIL PNTPR	pedal switch	329B	Plastic part	painted ABS	recovery
.1	118370401	LID SIDELEFT NUO GNGRY MET	cover frame side left	310A	Plastic part	ABS	recycling
.1	118373301	LID SIDERIGHT NUO GNGRY MET	cover frame side right	310B	Plastic part	ABS	recycling
.1	118371701	HOSECON INNER NUO RG	hose connection inner	550B	Plastic part	regran ABS	recycling
.1	118371801	HOSECON OUTER NUO RG	hose connection outer	550A	Plastic part	regran ABS	recycling
.1	118374801	RING O HOSECON NUO D44.17xD1.78 70SHA	ring hose connection	551	rubber	Bulpren	recovery
.1	219897901	BOTTOM NUO DEEPBLUE CPL TRA/TUNGSTEN	lower part with wheels	330	Plastic part	assembled	recovery and/or recycling after dis-
.2	118295201	FRONTWHEEL POM/TPE GNGRY ER3 2K	wheel front	335B	Plastic part	overmould	assembling**
.2	118374601	HOLDER FRONTWHEEL NUO RG	holder wheel front	119B	Plastic part	PP	recovery
.2	118373701	REARWHEEL TRA/TUNGSTEN NUO	wheel rear	119A	Plastic part	overmould	recycling
.2	118373901	WHEELCAP WHEEL NUO GNGRY MET	cover wheel rear	590A	Plastic part	ABS	recovery
.1	668100810	SPRING CATCH DB	spring catch	260D	metal		recycling
.1	219899202	DISPLAY NUO RG/SIL PNT PRCLP	display	590B	Plastic part	painted ABS	recovery
.2	118379201	PCB SAT SLIDER NUO	pcb	014	electrical		recovery
.1	118370501	LID REAR NUO DBLU POLY	top cover	560	Plastic part	ABS	recycling
.1	118374001	HINGE DBHOLDER NUO RG	hinge dust bag holder	047	Plastic part	regran ABS	recovery*
.1	118373501	DBHOLDER NUO RG	holder dust bag	523A	Plastic part	regran ABS	recycling
.1	118373601	HOLDER FILTER NUO RG	filter disaster	320B	Plastic part	regran PP	recycling
.1	118372801	FRAME DECOR NUO SUNSETORNG	frame decor	600A	Plastic part	ABS	recycling
.1	118374101	MESH FRAME DECOR NUO	frame mesh decor	600B	Plastic part	overmould	recovery
.1	118375801	PARKING CLIP LEFT NUO RG	parking clip side left	303A	Plastic part	PP	recovery*
.1	118375901	PARKING CLIP RIGHT NUO RG	parking clip side right	303B	Plastic part	PP	recovery*
.1	219896901	HANDLE NUO GNGRY CPL	handle complete	301	Plastic part	PC	recovery*
.1	113130001	FILTER EXH HEPAH13 WASH	hepa filter	350	other	assembled	deposit
.1	219897501	FILTERGR NUO DBLU POLY CPL	grill filter complete	140	Plastic part	regran ABS	recycling
.2	118372501	FILTERGR NUO GNGRY IN	grill filter	140B	Plastic part	regran ABS	recycling
.2	118376801	NOISEABS FILTERGRILL NUO ORNG	noise absorber grill filter	140A	rubber	Bulpren	recovery
.2	118370601	FILTERGR NUO DBLU POLY	lid grill filter	140C	Plastic part	regran ABS	recycling
.1	118137401	FILTER MOTOR ONE	filter motor	120B	other		deposit
.1	219898301	KNOB FGRILL NUO SIL PNT	knob grill filter	321A	Plastic part	painted ABS	recovery*
.1	118375101	SAFETIDEVI NUO RG	safety device	586	Plastic part	regran PP	recovery*
.1	118195801	SPRING PEDAL NUS	spring pedal	260B	metal	Steel	recycling
.1	219898201	LIDSET NUO DBLU POLY CPLPR ELX	cover set	900	Plastic part	assembled	recovery and/or recycling after dis-
.2	219898101	LID DB NUO DBLU POLY PR ELX	cover dust bag	309	Plastic part	ABS	assembling**
.2	118377301	SPRING LID DB NUO	spring lid	303	Metal part	Steel	recycling
.2	118372101	CATCH FRONTLID NUO RG	grip front lid	305	Plastic part	regran ABS	recovery*
.2	118372001	CATCH FRONTLID NUO RG	catch front lid	304	Plastic part	regran ABS	recovery*
.2	219898001	CATCH KNOB DBCOVER NUO SIL PNT	lock knob	345	Plastic part	painted ABS	recovery*
.2	118372301	KNOB DBCOVER NUO SUNSETORNG	knob cover dust bag	360	Plastic part	ABS	recovery*
.2	118372201	CATCH DBCOVER NUO RG	catch dust bag cover	365	Plastic part	regran ABS	recovery*
.2	118138401	DBAG ONE	dust bag	577	other	assembled	recovery*
.2	219892801	HOSECPCL 2GPA 1.7M SIL/GNGRY SILENT NUO	hose complete	110	accessory	assembled	recovery and/or recycling after dis-
.2	219371208	BENTEND STRAIGHT 2G GNGRY V3	handle straight	127A	Plastic part	PP	assembling**
.2	219370910	TUBE TELESCOPE 2GPA GNGRY	tube telescope	127B	accessory	assembled	recycling
.2	219892601	NOZZLE PA GNGRY ELX NUO SILENT	nozzle passive silent	106B	accessory	assembled	recovery and/or recycling after dis-
.2	219875901	NOZZLE MULTI GNGRY SILENT	nozzle multi silent	106M	accessory	assembled	assembling**
.2	219875901	NOZZLE MULTI GNGRY SILENT	nozzle multi silent	106M	accessory	assembled	recovery and/or recycling after dis-

PCBs:

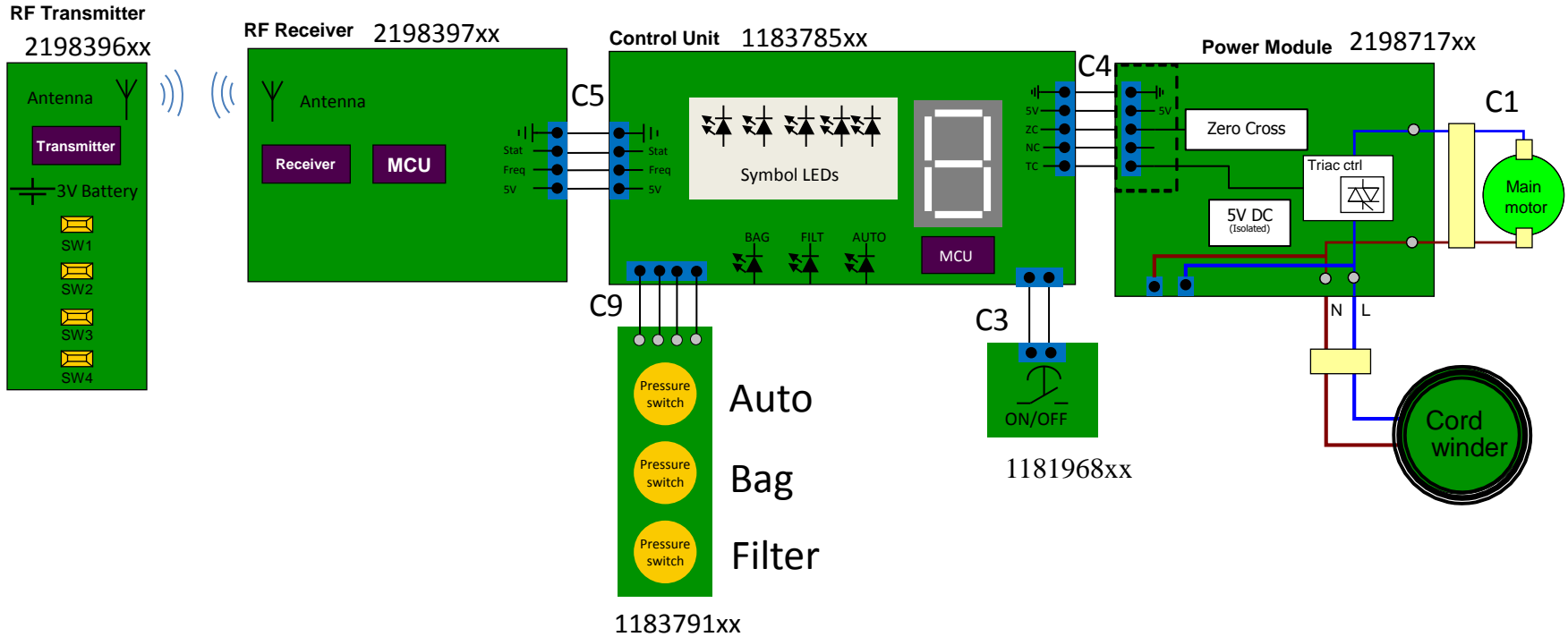
Level 1



Level 2

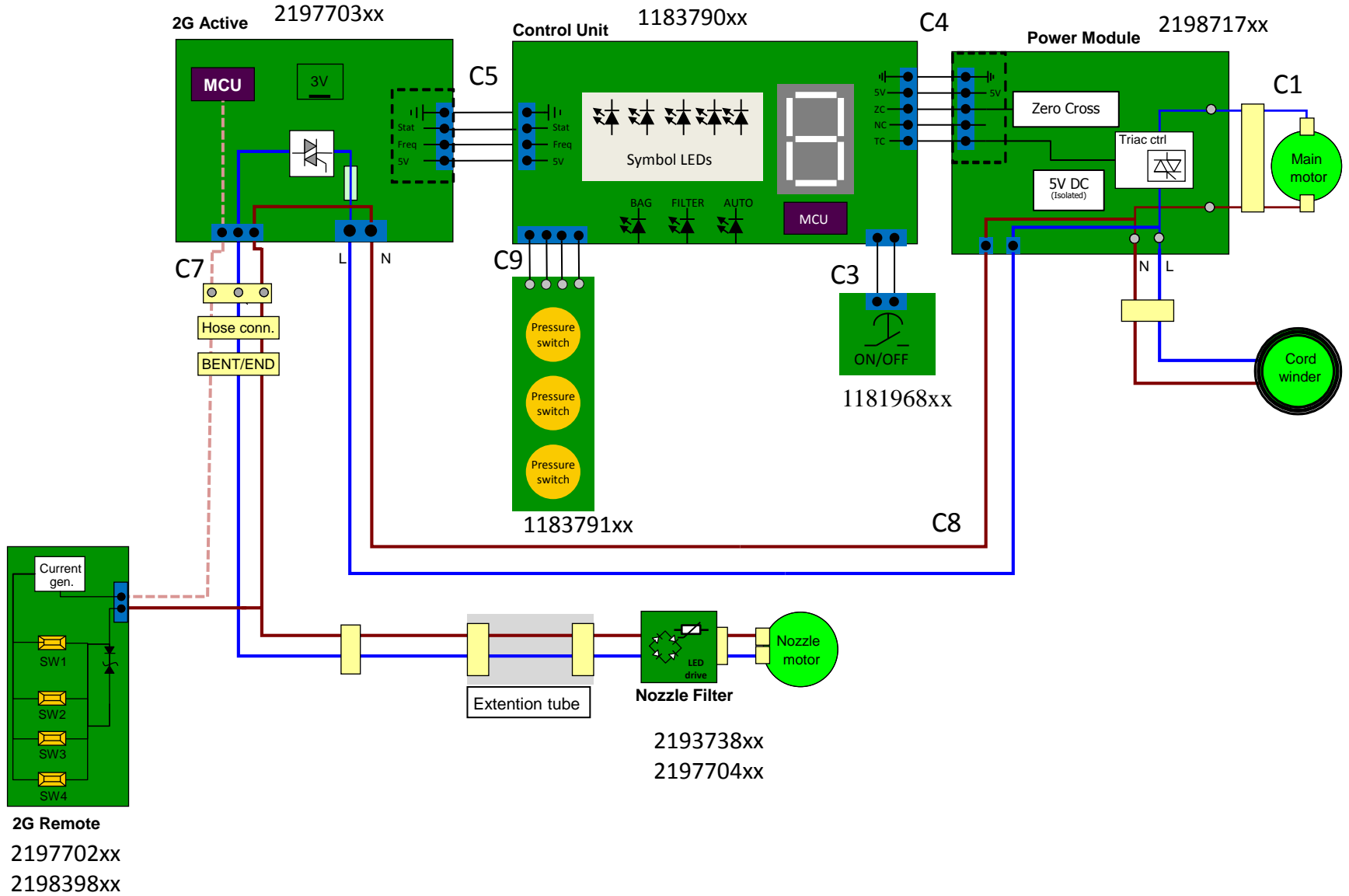


Level 3



Level 4

2G Active



3. Accessibility

The following chapter follows a disassembling process that step by step will allow the Technician to completely dismount the vacuum cleaner. Tags have been added to help finding quickly the needed item to be removed quickly.

ATTENTION:

Boards and electronic devices could be damaged by electrostatic discharges.

Don't touch any components without any ESD protection.

Dustbag cover and compartement:

To pull of the dust bag cover, place your hand at the bottom of it for easier removing:



Display cover is easily removable with the help of a thin tool:



Take out the screws than puff off the decoration part:



For rear cover removing take out the screws:



After that you can remove the PCB:



Pull off the lid filter



Remove the hose connection



Disjoin the bottom part



For handle removing take out the screws and with the help of a nozzle disjoin the parts (both sides):



Dispart the side panel with a screwdriver:



Take out the screw and remove the cord winder:



Take off the filter and the filter holder:



Take out all the screws of the housing:



Then pull of the housing:



4. Trouble shooting

Problem	Checks
<p>Cleaner doesn't start; if standby is indicated on display</p>	<ul style="list-style-type: none"> - Investigate if the plastic knob reaches the ON/OFF switch - Check contact between motor and motor wire (connect directly the motor and CW wire) - Check the connection between the PCB's - Change the Control Unit, test. - Change Power Module, test. - Change 2G active PCB, test.
<p>Cleaner doesn't start; no indication on display</p>	<ul style="list-style-type: none"> - Check the CW contact - Check contact between motor and motor wire (connect directly the motor and CW wire) - Check communication wire between Power module and control unit for failure or bad connection. - Change the control unit. - Change the Power module.
<p>Cleaner doesn't start; display shows normal running mode</p>	<ul style="list-style-type: none"> - Check contact between motor and motor wire (connect directly the motor and CW wire) - Check motor voltage, if no voltage, check the electronics as below, else check motor TCO and motor. - Check communication wire between Power module and control unit for failure or bad connection. - Change the control unit. - Change the Power module.
<p>Not possible to change power level</p>	<ul style="list-style-type: none"> - Investigate if the manual plastic knob/regulator reaches the all switches - Investigate if the plastic knob reaches the all switches on the bent-end (L3-L4) - Check the bent end battery (L3) - Check the bent end, test with another HBTN. If possible to change power setting, change (L4) - Check wiring from hose connection to 2G active PCB (L4) - Change 2G active PCB, test (L4) - Check wiring between between the PCB's - Change the control unit. <p>If the power regulation works for the first minutes after start, and then stops working. Motor seems to run only in maximum speed.</p> <ul style="list-style-type: none"> - Check the cooling system to the Power module (tube, cooling house, tube connection to dust compartment). - Change the Power module PCB.
<p>Auto function doesn't work properly (L3-L4)</p>	<ul style="list-style-type: none"> - Check tube connection between hose connection and Pressure switch PCB. - Check Pressure switch PCB:s communication cable connection. - Change Pressure switch PCB. - Change Control unit PCB.
<p>Filter or S-bag indicator always or never indicates or display show E5 or E6 error code</p>	<ul style="list-style-type: none"> - Check the bag or filter if replacement is needed. - Check the tubes to the pressure switches on the control unit PCB. - Check the wire connection - Change Pressure switch PCB. - Change the control unit PCB.
<p>Nozzle motor doesn't start or stop on active system (L4)</p>	<ul style="list-style-type: none"> - Check the bent end, test with another HBTN. If possible to start nozzle motor, change. - Check wiring from hose connection to 2G active PCB. - Change 2G active PCB, test. - Check wiring between 2G active PCB and control unit for failure or bad connection. - Change the control unit.

Level description

- Level 1: Manual power regulation with knob on body and standard s-bag indicator (analog)
- Level 2: Manual +/- buttons and Custom LED display
- Level 3: RF control +/- buttons and Custom LED display
- Level 4: 2G Active wired remote control, active nozzle and Custom LED display

Used PCB and (Level)

Control unit PCB – This include the display (L2, L3, L4)

Power module PCB – Fan motor triac, isolated 5V supply, Zero cross detection (L1-L4)

2G active PCB – Control board for wired remote and active nozzle (L4)

Pressure switch board – Contains all switches for AUTO, BAG and FILTER. (L1-L4)

Key remote PCB – This PCB is in the bent-end (L4)

RF Transmitter - Transmitter in Bent End (L3)

RF Receiver - RF/SUMO translator (L3)

The following error codes are used

Error code	Error
E2	Active hose disconnected – connect the hose
E3	Frequency interface is lost – check the connection between the PCB's
E5	Filter pressure sensor is closed during startup – change Pressure switch board
E6	Bag pressure sensor is closed during startup - change Pressure switch board