

<b>Service-Code</b>	<b>Description</b>
1.2.5.1.	Thermo switch brush motor 1 (left)
1.2.5.2.	Thermo switch brush motor 2 (right)
1.2.5.5.	Thermo switch brush motor 3 (center)
1.2.6.1.	Brush motor 1 (left) overload
1.2.6.2.	Brush motor 3 (center) overload
1.2.6.3.	Lifting element brush deck
1.2.6.8.	Brush motor 2 (right) overload
1.4.5.2.	Malfunction filling level sensor (-B05), recovery tank
1.4.6.1.	Lifting element squeegee
1.4.6.3.	Blocking protection Suction motor 1
1.4.6.4.	Blocking protection Suction motor 1
1.5.2.3.	Relais High pressure Cleaner
1.5.5.1.	Malfunction filling level sensor (-B04), solution tank
1.5.5.3.	Thermo switch Pump High pressure cleaner
1.5.8.1.	LED High pressure cleaner
2.2.5.1.	Thermo switch broom motor
2.2.6.1.	Blocking protection Broom motor
2.2.6.2.	Blocking protection lifting element Pre sweep attachment
2.3.5.1	Thermo switch side broom motor left and right

2.3.6.1.	Blocking protection side broom motor left and right
2.4.6.1.	Blocking protection Suction Motor Pre sweep
2.5.6.1.	Blocking protection shaker motor
2.6.3.3.	Blocking Protection, switching relais hydraulic motor
2.6.3.4.	Blocking Protection, switching relais hydraulic motor
2.6.5.1.	Position sensor Dust bin
2.6.5.4.	Position sensor high dump
2.6.6.1.	Blocking protection turning dust bin
2.6.6.2.	Blocking protection hydraulic motor
3.1.1.2.	Fleetreorder communication interruption
3.1.4.5.	Power supply camera
3.1.4.6.	Camera On
3.1.6.E.	Power fuses (group signal)
3.2.6.5.	Backup battery weak
3.2.6.6.	Backup battery empty
3.3.1.1.	Service intervall expired
3.3.1.5.	SD-Card on the Display
3.3.4.2.	external buzzer
3.3.6.2.	Group signal low power output overload
3.4.1.1.	Malfunction Accelerator signal
3.4.1.2.	Malfunction drive control unit front (-A04)

3.4.1.3.	Malfunction drive control unit, general
3.4.1.4.	Malfunction drive control unit rear (-A05)
3.4.5.1.	over temperature drive motor front (-M01)
3.4.5.2.	over temperature drive motor rear (-M02) (option all wheel drive)
3.5.4.1.	Working head light front
3.5.4.2.	Blue spot rear
3.5.4.3.	Blue spot front
3.5.4.5.	Working head light rear
3.5.4.6.	StVZO Brake
3.5.5.1.	StVZO configuration
3.6.6.4.	Seat contact switch manipulation
3.8.1.1.	Servo steering Malfunction
4.1.3.1.	Communication problem drive control unit front
4.2.1.4.	Chemical dosing pump not recognized (CAN problem)
4.2.3.1.	Communication problem drive control unit rear
4.4.2.1.	CAN Slave control unit not recognized
4.5.2.1.	Malfunction CAN Diagnosis
4.5.2.5.	Display communicatin problems
4.5.3.5.	Display communicatin problems (Timeout)

4.6.1.2.	Internal malfunction of machine control unit
4.6.1.3.	Malfunction of internal software control unit
5.2.6.1.	Malfunctionn Battery discharge indicator
7.1.3.5.	STVZO Power supply problems
7.1.5.1.	USB-Output low voltage

Remedy	Circuit Board + Plug + PIN
Check current consumption of brush motor (-M03) and wiring of the thermo switch	A1.X15/11 or A1.X15/23
Check current consumption of brush motor (-M04) and wiring of the thermo switch	A1.X15/12 or A1.X15/24
Check current consumption of brush motor (-M05) and wiring of the thermo switch	A6.X15/4 or A6.X15/16
Short circuit in the brushmotor (-M03) or in it's wiring; Brush motor overload	A1.X3/1 or A1.X4/1 (TB1230) A1.X3/2 or A1.X4/2 (TB1520)
Short circuit in the brushmotor (-M05) or in it's wiring; Brush motor overload	A1.X5/1 or A1.X6/1 (TB1230) A1.X5/2 or A1.X6/2 (TB1520)
Overload of the brush deck lifting element (-M09) or short circuit	A1.X11/1 or A1.X11/4
Short circuit in the brushmotor (-M04) or in it's wiring; Brush motor overload	A6.X3/1 or A6.X4/1 (TB1230) A6.X3/2 or A6.X4/2 (TB1520)
Value of the sensor -B05 out of range. Voltage signal at -A06:X15.3 and -A06:X15.15 has to be within the range of 0.160V and 4.0V	A6.X14/5 or A6.X15/15 or A6.X15/3
Overload of the squeegee lifting element (-M10); squeegee lifting mechanically blocked; short circuit in it's wiring	A1.X11/2 or A1.X11/5
Short circuit in the suction motor (-M16) or in it's wiring	A1.X7/1 or A1.X8/1
Short circuit in the suction motor (-M17) or in it's wiring	A1.X9/1 or A1.X10/1
Interrupted wiring of -K29 or short circuit in it's wiring	A1.X12/8 or A1.X12/18
Value of the sensor -B04 out of range. Voltage signal at -A01:X15.3 and -A01:X15.15 has to be within the range of 0.160V and 4.0V	A1.X14/5 or A1.X15/15 or A1.X15/3
High pressure cleaner motor (-M29) overload or interrupted wiring of it's thermo switch	A1.X15/9 or A1.X15/21
Short circuit or open wire at -A01:X13.3/9 (-S29)	A1.X13/3 or A1.X13/9
check Current consumption of broom motor and wiring thermo switch (-M21)	A6.X15/8 or A6.X15/20
Over current broom motor -M21	A6.X5/1 or A6.X6/1 (man. emptying) A6.X5/2 or A6.X6/2 (Hydr. emptying)
Lifting element -M13 mechanically blocked or overloaded or short circuit in it's wiring	A6.X11/1 or A6.X11/4
Current consumption of the side broom motors (-M19 and -M20) or wiring of it's thermo switch	A6.X15/9 or A6.X15/21

Short circuit in the side broom motors (-M19 and -M20) or in it's wiring. Motors are overloaded.	A6.X9/1 or A6.X10/1 (man. emptying) A6.X9/2 or A6.X10/2 (hydr. emptying)
Over current suction motor (-M25)	A1.X11/3 or A1.X11/6
Overcurrent shaker motor (-M24)	A6.X11/3 or A6.X11/6
Overload switching relais (-K08) Hydraulic motor, short circuit in ist Wiring (-A06:X12.5/15; -A06:X12.9/19)	A6.X12/5 or A6.X12/15
Overload switching relais (-K08) Hydraulic motor, short circuit in ist Wiring (-A06:X12.5/15; -A06:X12.9/19)	A6.X12/9 or A6.X12/19
	A6.X15/10 or A6.X15/22
	A6.X15/11 or A6.X15/23 (S12) A6.X15/12 or A6.X15/24 (S11)
Lifting element (-M27) mechanically blocked, or overload caused by high load or short circuit	A6.X12/2 or A6.X12/5
Overcurrent of hydraulic motor (-M06); short circuit in it's wiring	A6.X7/1 or A6.X8/1
Check wiring between machine control unit and Fleetrecorder (CAN-Bus). (During switch on cycle the machine is blocked for 2 minutes). The fleet recorder is deactivated (Power supply). Option Fleet recorder is activated in the menu but no fleet recorder is installed in the machine.	A1.X20/4 or A1.X20/5
	A6.X13/2 or A6.X13/8
	A6.X13/6
The internally measured voltage at -A01:X1 and -A01:X2 is insufficient. (U >33V)	A1.X1/1 or A1.X2/1 A6.X1/1 or A6.X2/1
Replace backup battery; Type CR2030	/
Replace backup battery; Type CR2030	/
Reset the service intervall with the Hako diagnosis	/
re format the SD-card with the diagnosis system, if error repeats, replace the SD-card with a new one	/
Buzzer -P02; short circuit or open wire at -A01:X13.2/8	A2.X104/10
Overload of small cosumer outputs (e.g. buzzer, magnetic valve. Etc.)	A1.X12 (kpl.) und X13/1,2,3,7,8,9 A6.X12 (kpl.) und X13/1,2,3,7,8,9
Malfunction drive control unit; pre selection of driving direction implausibly or interrupted wiring accelerator	/
see blinking code of drive control unit front in the machine diagnosis	/

Configuration machine control unit (0.6.X) single drive / All-Wheel-Drive does not match the Variant in the wiring of the drive control units.	/
see blinking code of drive control unit rear in the machine diagnosis	/
check the wiring of the drive motor thermo switch. Is the machine used outside it's specification?	/
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Overload of Output -A01:X12.5/15, short circuit or open wire at -E01 and -E11	A1.X12/5 or A1.X12/15
Overload of Output -A06:X12.10/20, short circuit or open wire at -E15	A6.X12/10 or A6.X12/20
Overload of Output -A01:X12.10/20, short circuit or open wire at -E14; -E16; -E17	A1.X12/10 or A1.X12/20
Overload of Output -A06:X12.4/14, short circuit or open wire at -E12	A6.X12/4 or A6.X12/14
	A6.X12/7 or A6.X12/17
Configuration of StVZO does not meet the StVZO equipment	/
Seat contact switch (-S05) was more than 6 hours in the same position (open or closed), or both contacts of -S05 have the same state.	A1.X15/6 or A1.X15/18 (N.C.) A1.X15/7 or A1.X15/19 (N.O.)
Message is generated by the control unit for steering (-A09), Check the blinking code on the control unit.	A1.X16/3 or A1.X16/7
CAN-Bus-error between machine control unit and drive control unit (-A01 => -A04)	A1.X18/3 or A1.X18/7 A4.A31 or A4.A22
CAN-bus error between machine control unit and chemical dosing unit (-A01 => -A10)	A1.X18/1 or A1.X18/5 A10.X1/3 or A10.X1/4
CAN-bus error between machine control unit and drive control unit (-A01 => -A05)	A1.X18/3 or A1.X18/7 A5.A31 or A5.A22
Communication between Master- and slave control unit is interrupted (-A01 => _A06)	A1.X18/1 or A1.X18/5
	A1.X18/3 or A1.X18/7 X60/11 or X60/12
Communication between display and control unit interrupted (-A01 => -A02); (message is generated by the display). Appears during switching on the machine.	A1.X18/1 or A1.X18/5 A2.X105/1 or A2.X105/2
Communication between display and control unit interrupted (-A01 => -A02); (message is generated by the display). Appears during operation of the machine.	A1.X18/1 or A1.X18/5 A2.X105/1 or A2.X105/2

<p>e.g. EEPROM failure (defect control unit).  Replace the control unit (-A01)  The chassis of the machine (VGND) is connected to any voltage.  E.g. by a defective insulation of any wire of the machine.</p>	/
<p>(is the battery voltage without load &gt;36V? Loadvoltage &gt;32V?)</p>	/
<p>Machine working functions are inhibited. The machine  can be moved to charging station with reduced speed.  Check the voltage at -A01:X1 and -A01:X2;  is this voltage identical with battery voltage?</p>	/
	A6.X12/6 or A6.X12/16
<p>Short circuit at the output -X97;  Overload of the USB Output -X97;  Internal problem control unit -A01</p>	A1.X14/3 or A1.X14/9



<b>Concerned Parts</b>
M3.1/T (TB1230) or M3.2/T (TB1520)
M4.1/T (TB1230) or M4.2/T (TB1520)
M5.1/T (TB1230) or M3.2/T (TB1520)
M3.1 (TB1230) or M3.2 (TB1520)
M4.1 (TB1230) or M4.2 (TB1520)
M9
M5.1 (TB1230) or M5.2 (TB1520)
B5
M10
M16
M17
K29
B4
M29/T
S29/LED
M21.1/T (man. emptying) M21.2/T (hydr. emptying)
M21.1 (man. emptying) M21.2 (hydr. emptying)
M13.1 (man. emptying) M13.2 (hydr. emptying)
M19.1/T (SB r.h., man. emptying) or M19.2/T (SB r.h., hydr. emptying) or M20.1/T (SB l.h., man. emptying) or M20.2/T (SB l.h., hydr. emptying)

M19.1(SB r.h., man. emptying) or M19.2 (SB r.h., hydr. emptying) or M20.1 (SB l.h., man. emptying) or M20.2 (SB l.h., hydr. emptying)
M25.1 (man. emptying) M25.2 (hydr. emptying)
M24.1 (man. emptying) M24.2 (hydr. emptying)
K8
K8
S13
S11 or S12
M27
M6
A20
B27 (Camera) or P27 (Monitor)
B27 (Camera) or P27 (Monitor)
F2 (A1) or F8 (A6)
A1
A1
A2
A2
H1
A1 or A6
A4
A4

A4
A5
M1/T
M2/T
E1 or E11
E15
E14
E12
K31B
probably A6
S5
A9
A1 A4
A1 A10
A1 A5
A1 or A6
A1 X60
A1 or A2
A1 or A2

A1
A1
A1
A6
X97