



TTV678

TROUBLESHOOTING GUIDE

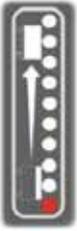


NaceCare Solutions
1205 Britannia Road East
Mississauga, Ontario
L4W 1C7

Tel: (800) 387-3210
Fax: (800) 709-2896
Email: info@nacecare.com
Website: www.nacecare.com

Trouble Shooting

Sleeping/rest mode: Battery indicator flashes every 5 seconds indicates machine has been idle for more than 20 minutes. Vario functions disabled cycle key switch!

Number of bars flashing on display	Fault	Possible Cause	Effect on Product	Investigate the Following	Action Required	If Fault Persists.
* 1 Bar flashes continuously 	* Batteries voltage low.	* Batteries not been charged. * Possible bad connection between batteries, controller, charger or fuses caused by loose connections , damaged wiring , water ingress. * Not accepting charge due to faulty battery/cell. * Charger not functioning.	* Operating time severely reduced or machine will not operate.	* Check when machine last charged. * Switch OFF the machine. * Remove Fuses. * Check connections to batteries, charger and fuses for loose wires or screws. * Check each battery Voltage individually to detect defect unit 10.5V min. * Check battery voltage and charge current. ensuring charger red fault light is extinguished.	* Charge batteries immediately. * Tighten loose connections and replace damaged components. * Replace batteries as required. * Replace charger.	
* 2 Bars Flash continuously. 	* Traction drive overload.	* Traction drive over current trip due to too high a load. * Traction drive is disconnected or has bad connection due to wiring or connectors becoming damaged, loose or corroded due to water ingress.	* Brake engaged no movement.	* Did machine fall on incline. Check traction wheel free from debris. * Cycle Key switch to resume normal operation. If the above fails then: Switch machine off. Check connections and harness between drive motor and controller.	* Cycle key switch to resume normal operation. * Tighten loose connections and replace damaged components.	
3 Bars Flash continuously. 	Brush motor over current trip has occurred.	Rough floor surface. Brush motor has failed or is damaged. Brush motor bad connection.	* Intermittent brush trip. * Brush Motor doesn't run or runs intermittently.	* Brush type suitable for floor surface. * Cycle Key switch to resume normal operation. * If the above fails then: Switch off machine. * Check brush motor for damage. * Check brush motors turn freely. * Cycle key switch to resume normal operation. * If the above fails then: * Switch machine off. * Check connections and harness between Brush Motor and controller. * Check BRUSH Motor connections block underneath chassis , behind mud guard for loose wires and loose screws. * Cycle key switch to resume normal operation.	* Change brush , adjust brush speed and reduce pressure by turning adjustment knob anticlockwise. * Replace effected motor or wiring.	
* 4 Bars Flash once with pause. 	* System trip.	* System failure.	* Machine will not operate.	* Replace controller.		
* 4 Bars Flash twice with pause.	* Spare Solenoid connection trip.	* System has been incorrectly rewired.	* Machine will not operate.	* Refer to wiring diagram and check the solenoid/water/detergent pump wiring configuration.	* Rectify wiring fault found.	
* 5 Bars flash continuously. 	* Vac Motor is disconnected, has failed open circuit, has a bad connection or water ingress - temperature trip activated.	* Wiring between Vac motor and Controller is damaged, wiring is loose or wiring connections are loose, possibly wire has come out of a connection block - blocked exhaust.	* Vac motor will not operate.	* Cycle Key switch to resume normal operation. * If the above fails then: * Switch off machine. * Check for loose or damaged wiring and connections between Vac motor and controller. * Cycle key switch to resume normal operation.	* Tighten loose connections and replace damaged components - check exhaust clean if necessary.	

Contact Service Agent.

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Number of bars flashing on display	Fault	Possible Cause	Effect on Product	Investigate the Following	Action Required	If Fault Persists.
* 6 Bars flash continuously. 	* Control system is inhibiting drive.	* Faulty controller.	* Machine will not operate.	* Check controller for water damage.	* Replace controller.	
* 7 Bars flash once with pause. 	* Accelerator pedal trip.	* Accelerator pedal being activated without seat switch being activated (nobody on seat) Or seat switch momentarily deactivated while accelerator pedal being activated during forward / reverse operation.	* Machine will not drive.	* Ensure accelerator pedal is not activated without seat switch being activated. Ensure firm contact with seat by operator at all times while accelerator is pressed.	* Operator to be trained.	
* 7 Bars flash twice with pause.	* Emergency stop has been activated. * Off aisle cleaning activated with floor tool raised.	* Inadvertent pressing of emergency stop or activation of off-aisle cleaning mode.	* Machine will not drive.	* Ensure emergency Stop button has not been activated and off aisle vac switch is in off position with floor tool raised.	* Reset emergency stop button. Switch off aisle vac and raise floor tool. * Cycle key switch to resume normal operation.	
* 7 Bars flash 3 times with pause.	* Vac Motor system short circuit.	* Vac motor wiring fault / motor fault.	* Vac motor will not operate.	* Check vacuum motor and wiring	* Replace motor and any damaged wiring. * Cycle key switch to resume normal operation.	
* 8 Bars flash continuously. 	* Control system trip.	* Seat switch failure.	* Machine does not operate.	* Check seat switch wiring.	* Replace wiring as required.	
* 9 Bars flash once with pause. 	* Flashing beacon failure to operate.	* Beacon short circuit.	* Flashing beacon does not operate in accordance with safety requirements.	* Check wiring and connections to device.	* Replace damaged components. * Cycle Key switch to resume normal operation.	
* 9 Bars flash 3 times with pause.	* Water pump failure to operate.	* Failure of pump or wiring short circuit.	* No water supplied to cleaning heads.	* Check wiring and connections to pump.	* Replace damaged components. * Cycle Key switch to resume normal operation.	
* 9 Bars flash 4 times with pause.	* Detergent pump failure to operate.	* Failure of pump or wiring short circuit.	* No detergent supplied in water mix to cleaning head.	* Check wiring and connections to pump.	* Replace damaged components. * Cycle Key switch to resume normal operation.	
* 9 Bars flash 5 times with pause.	* Solenoid brake circuit failure.	* Failure of solenoid or wiring.	* Machine will not move.	* Check wiring and connections to brake.	* Replace damaged components. * Cycle Key switch to resume normal operation.	
* 10 bars flash continuously 	* Supply voltage to controller has exceeded 40 volts.	* Battery and motor connections may have become loose.	* Possible long term damage to controller if fault persists.	* Check battery wiring, trio drive and motor connections.	* Replace damaged components. * Cycle Key switch to resume normal operation.	
* Bars cycle up and down continuously (from 1 to 10 and 10 back to 1) and repeats.	* Accelerator pedal movement detected during Vario start up sequence (partially pressed or jammed).	* Foot or object on pedal during switch on or possible jamming of pedal.	* Machine will not operate.	* Remove object and ensure pedal is not jammed or depressed during switch on of Vario.	* Cycle Key switch to resume normal operation .	
* Bars cycle from 1 to 10 continuously and repeats.	* Machine inhibit.	* Controller/harness incorrectly wired.	* Machine will not operate.	* Check controller and harness wiring with special attention to wires p2/03 and p2/10.	* Correct wiring. * Cycle Key switch to resume normal operation	
* No indication on display.	* Horn and beacon failure.	* Replace 20 Amp fuse (If this doesn't fix fault replace horn or beacon)				
* No indication on display.	* Brush motors continuously either off or on while in transport mode.	* Microswitch failure.	* Brushes will not operate correctly.	* Check wiring and microswitch on underside of machine by brushes ensuring microswitch is clear of debris.	* Replace/clean damaged components.	
* No indication on display.	* VAC motor continuously either off or on.	* Microswitch failure.	* Vacuum will not operate correctly.	* Check wiring and microswitches behind floor tool handle.	* Replace/clean damaged components.	

Trouble-Shooting



PROBLEM	CAUSE	SOLUTION
Machine will not operate	Missing or blown fuses Key in the 'OFF' position Low battery charge Machine isolator button in 'OFF' mode Machine is connected and charging Waste tank full switch stuck or clogged	Fit or replace fuse (page 7) Turn key to 'ON' position (page 7) Charge batteries (page 19) Reset isolator (page 15) Take off charge (page 19) Inspect and clean switch (page 14/17)
Vacuum will not operate	Floor tool in raised position Waste water tank full	Lower floor-tool (page 12) Empty waste water tank (page 17)
Poor water pick-up	Waste-water tank full Clogged / blocked vacuum hose Loose hose connections Debris basket filter clogged / blocked Separator filter clogged / blocked Poor separator seal Damaged separator seal Damaged / split vacuum hose Damaged floor-tool blades Low battery charge	Empty waste-water tank (page 17) Remove and clean (page 17) Push tight connections (page 16) Remove and clean (page 17) Remove and clean (Page 17) Clean and refit (page 17) Renew (contact service dept) Renew (contact service dept) Renew (contact service dept) Recharge batteries (page 19)
No brush / scrub function	No brushes fitted Brush deck raised	Check and fit (page 9) Lower brush deck (page 12)
Little or no water flow	Clean-water tank empty Clean-water tank filter blocked/ clogged Incorrect water flow setting Brush deck raised	Fill clean-water tank (page 10) Remove and clean (17) Adjust as desired (Page 13) Lower brush deck (page 12)
Little or no dosing solution flow	Chemical dosing tank empty incorrect dosing flow setting	Fill dosing-tank (page 11) Adjust as desired (page 13)
Machine just 'stops' while operating	Too much load on the brush system	Reset the machine using the key and decrease the brush load to best suit the floor type (page 14)
Machine will not operate in reverse	Floor-tool in lowered position 'Causes Battery Indicator to Flash'	Raise floor-tool (page 12)