

### 3.1 STATIM 7000 S Class Troubleshooting – Cycle Faults – Software Revision R6xx

Cycle Fault Number	Description of Fault	Probable Cause of Fault
Cycle Fault #1	The cassette temperature failed to reach boiling temperature within a time-out period.	This fault may be caused by a large cassette leak in conjunction with an extremely large load or a blown thermal fuse caused by weak pump delivery and/or contaminated steam generator or a faulty steam generator triac. The blown thermal fuse may be the result of blocked, cracked or damaged water filter or of a leakage between chambers within water receiver housing. If the triac has failed, the thermal fuse may have also failed. A faulty steam generator (steam generator resistance failed open) could also cause this fault.
Cycle Fault #3	The cassette temperature failed to reach 110°C within a time-out period.	This may be caused by a faulty cassette seal, a damaged cassette, or a failed or faulty solenoid valves (failed to close). Verify check valve and pressure relief valves for leaks. Temperature measurement failure.
Cycle Fault #4	The cassette has failed to achieve sterilization conditions within a timeout period.	This may be caused by a faulty cassette seal, a damaged cassette, improperly installed copper tubing, failed or faulty solenoid valves (failed to close). Verify check valve and pressure relief valve for leaks. Temperature measurement failure.
Cycle Fault #10	The cassette temperature failed to drop to a floor condition during a pre-sterilization purge within a timeout period.	Check for a clogged duct in the cassette tray. Check exhaust tubing (kinked or tightly coiled). Check solenoid valves for improper connection, a failed solenoid valve (blown coil) or plunger sticking.
Cycle Fault #11	The cassette temperature failed to drop to a floor condition within a timeout period at the end of sterilization during venting.	Check for a clogged duct in the cassette tray. Check exhaust tubing (kinked or tightly coiled). Check solenoid valves for improper connection, a failed solenoid valve (blown coil) or plunger sticking.
Cycle Fault #12	This indicates a problem with the temperature measuring system.	Possible causes are a faulty PCB, a disconnected, broken or faulty thermocouple.
Cycle Fault #14	The Super Heater steam temperature sensor detected a temperature above the high threshold	Possible causes are a faulty Super Heated Steam generator, faulty PCB, faulty SHS solid-state relay.

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Cycle Fault #15	The cassette temperature rose above a ceiling temperature outside the Sterilization phase of a cycle (during conditioning or pressurizing phase of the cycle)	Probable causes are a blocked duct in the cassette, a pinched exhaust tube leading to the waste bottle, or a faulty solenoid valve.
Cycle Fault #16	The steam generator temperature rose above a ceiling temperature.	This may be the result of blocked, cracked or damaged water filter or of a leakage between chambers within water receiver housing.  Also this may be the result of a failed or weak water pump, a blocked steam generator inlet tube or a contaminated steam generator
Cycle Fault #17	The SHS heater temperature sensor detected a temperature above the high threshold	This may be the result of a failed Super heated steam heater, Solid-state relay or failed main PCB.
Cycle Fault #18	Ambient temperature to high	Ambient temperature (as sensed by the main PCB cold junction temperature sensor) increased over a preset threshold. This may be the result of a failed cool down fan, a failed SHS heater adapter board, a failed main PCB.
Cycle Fault #20	The cassette temperature rose above a ceiling temperature outside the Sterilization phase of a cycle (during conditioning or pressurizing phase of the cycle)	Probable causes are a blocked duct in the cassette, a pinched exhaust tube leading to the waste bottle, a faulty solenoid valve, a faulty SHS heater or SHS adapter PCB, a faulty Solid state relay.
Cycle Fault #25	The steam generator failed to heat up to a threshold temperature within 90 seconds of the start of the cycle.	The most probable cause is a blown thermal fuse due to weak pump delivery and/or a contaminated steam generator, or improperly connected steam generator leads (loose or unconnected). The blown thermal fuse may be the result of blocked, cracked or damaged water filter or of a leakage between chambers within water receiver housing. If the steam generator triac has failed, the thermal fuse may have also failed. Verify steam generator resistance (could be failed open).  Also, this may be caused by a flooded steam generator. In this case turn unit off for 30 sec and after that restart a cycle, this will force a priming phase.

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Cycle Fault #27	The pump failed to cool down the steam generator below a set-point temperature (150°C or 165°C) in a timeout period (during a “panic pump” condition).	Several conditions may cause this: weak pump delivery and/or out of water during a cycle, restriction to the pump inlet tube or a defective water quality sensor (sensor does not detect insufficient water in the water reservoir) or a contaminated steam generator. This may also be the result of blocked, cracked or damaged water filter or of a leakage between chambers within water receiver housing.
Cycle Fault #28	The cassette pressure rose above a ceiling value.	Pressure measurement failure. Gross pressure and/or temperature sensor mis-calibration. Unable to depressurize cassette (blocked exhaust, failed valve, etc.) This may also be the result of blocked, cracked or damaged water filter or of a leakage between chambers within water receiver housing.
Cycle Fault #30	The theoretical cassette temperature calculated from the measured cassette pressure failed to reach the sterilization temperature within 15 seconds of the cassette temperature reaching the sterilization temperature.	Poor air removal during conditioning (exhaust blockage). Pressure and/or temperature sensor mis-calibration. This may also be the result of blocked, cracked or damaged water filter or of a leakage between chambers within water receiver housing.
Cycle Fault #32	No water pumped into the boiler while executing the Water filter priming	This may be the result of blocked, cracked or damaged water filter or of a leakage between chambers within water receiver housing. Also a leaking water filter, leaking water reservoir connection or defective water pump may be the cause.
Cycle Fault #50	For the Rubber and Plastics cycle, the chamber temperature dropped below the sterilization temperature, allowing for measurement error (i.e. $T_{chm} < 121^{\circ}\text{C}$ ).	Chamber temperature sensor mis-calibration. Poor air removal during conditioning (exhaust blockage). Not able to generate steam or a leak in the system
Cycle Fault #51	For the Rubber and Plastics cycle, the chamber temperature rose more than 4 °C above the sterilization temperature, allowing for measurement error (i.e. $T_{chm} > 125^{\circ}\text{C}$ ).	Chamber temperature sensor mis-calibration. Unable to depressurize cassette (blocked exhaust, failed solenoid valve).
Cycle Fault #52	For the Rubber and Plastics cycle, the theoretical chamber temperature as calculated from the measured chamber pressure was more than 2 °C below the measured chamber temperature, allowing for measurement error.	Pressure and/or temperature sensor mis-calibration. Unable to depressurize cassette (blocked exhaust, failed valve). Poor air removal (partial exhaust blockage).

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Cycle Fault #53	For the Rubber and Plastics cycle, the theoretical chamber temperature as calculated from the measured chamber pressure was more than 2°C above the measured chamber temperature, allowing for measurement error.	Pressure and/or temperature sensor mis-calibration. Unable to depressurize cassette (blocked exhaust, failed valve). Poor air removal (partial exhaust blockage).
Cycle Fault #54	For the Rubber and Plastics cycle, the theoretical cassette temperature calculated from the measured cassette pressure was below the sterilization temperature, allowing for measurement error (i.e. Pchm < 204.8 kPa).	Pressure and/or temperature sensor mis-calibration. Unable to generate steam, or there is a leak in the system.
Cycle Fault #55	For the Rubber and Plastics cycle, the theoretical cassette temperature calculated from the measured cassette pressure was more than 4°C above the sterilization temperature, allowing for measurement error (i.e. Pchm > 232 kPa).	Pressure and/or temperature sensor mis-calibration. Unable to depressurize cassette (blocked exhaust, failed valve).
Cycle Fault #60	For a 134°C cycle, the chamber temperature dropped below the sterilization temperature, allowing for measurement error (i.e. Tchm < 134°C).	Chamber temperature sensor mis-calibration. Poor air removal during conditioning (exhaust blockage). Not able to generate steam or a leak in the system
Cycle Fault #61	For a 134°C cycle, the chamber temperature rose more than 4 C° above the sterilization temperature, allowing for measurement error (i.e. Tchm > 138°C).	Chamber temperature sensor mis-calibration. Unable to depressurize cassette (blocked exhaust, failed solenoid valve).
Cycle Fault #62	For a 134°C cycle, the theoretical chamber temperature as calculated from the measured chamber pressure was more than 2°C below the measured chamber temperature, allowing for measurement error.	Pressure and/or temperature sensor mis-calibration. Unable to depressurize cassette (blocked exhaust, failed valve). Poor air removal (partial exhaust blockage).
Cycle Fault #63	For a 134°C cycle, the theoretical chamber temperature as calculated from the measured chamber pressure was more than 2°C above the measured chamber temperature, allowing for measurement error.	Pressure and/or temperature sensor mis-calibration. Unable to depressurize cassette (blocked exhaust, failed valve). Poor air removal (partial exhaust blockage).

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Cycle Fault #64	For a 134°C the theoretical cassette temperature calculated from the measured cassette pressure was below the sterilization temperature, allowing for measurement error (i.e. Pchm < 304 kPa).	Pressure and/or temperature sensor miscalibration. Unable to generate steam, or there is a leak in the system.
Cycle Fault #65	For a 134°C cycle, the theoretical cassette temperature calculated from the measured cassette pressure was more than 4°C above the sterilization temperature, allowing for measurement error (i.e. Pchm > 341.2 kPa).	Pressure and/or temperature sensor mis-calibration. Unable to depressurize cassette (blocked exhaust, failed valve).
Cycle Fault #70	The time maintained by the internal timer of the processor didn't match the time maintained by the external real-time clock.	Transient electromagnetic disturbance (problem won't repeat). Damaged microprocessor or crystal (STATIM Controller Board). Damaged real-time clock or crystal.
Cycle Fault #71	Pressure reading is outside the possible range	Misconnected, disconnected or damaged pressure sensor.
Cycle Fault #79	Error in communication with the RFID adapter or Seal RFID tag	This occurs when there is failure to communicate with the RFID adapter module or with the RFID tag. Possible causes include failed RFID adapter PCB, failed Seal RFID tag.
Cycle Fault #80	SHS steam did not reach a target temperature in a specified period of time during the steam-drying phase.	Possible causes include failed Super heated steam heater solid state relay, failed Super heated steam heater element, failed main PCB, Heater cartridge full with water, failed SHS adapter PCB.
Cycle Fault #81	SHS steam did not reach a target temperature in a specified period of time during the air-drying phase.	Possible causes include: SHS steam thermocouple wire connection has been reversed, failed SHS heater solid state relay, failed SHS heater element, failed main PCB, Heater cartridge full with water, failed SHS adapter PCB and the thermocouple wire connection has been reversed.
Cycle Fault #82	Unit failed to cool down in a specified period of time.	Possible causes include failed Super heated steam heater solid state relay, failed Super heated steam heater element, failed main PCB, failed compressor or compressor triac.
Cycle Fault #90	Corrupted or not initialized chamber calibration value	This occurs when a new controller board or microprocessor has been installed. This may also happen when the unit has been subjected to a strong static discharge corrupting the memory. Calibrate chamber thermocouple.

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Cycle Fault #91	Corrupted or not initialized pressure calibration	This occurs when a new controller board or microprocessor has been installed. This may also happen when the unit has been subjected to a strong static discharge corrupting the memory. Calibrate pressure sensor.
Cycle Fault #98	Failure to communicate with the SHS adapter PCB.	Hardware failure. MCU not inserted properly in the socket, extract MCU, and verify pins not to be shorted. Damaged ADC converter, replace SHS adapter PCB. Verify connection to SHS adapter PCB. Failed SHS adapter PCB voltage reference.
“NO CONFIGURATION EEPROM”	Lack of communication between microcontroller and EEPROM	Hardware failure. MCU not inserted properly in the socket, extract MCU, and verify pins not to be shorted. Damaged or wrong inserted or missing EEPROM, replace software kit. Damaged controller PCB. If a PCB Adapter is used, verify that PCB adapter is properly secured in the socket and that there are no bent pins

### 3.2. Statim 7000 S Class Troubleshooting – Other Printer and LCD Messages

Cycle Fault Number	Description of Fault	Probable Cause of Fault
Message "PRINTER FAULT" (If optional printer is installed)	Printer is not printing. If a USB memory stick is used reset the unit by turning the power off and back on. In order to reprint the last printout, enter the User Menu and select the option LAST PRINTOUT by pressing the R&P button.	This may be caused by a paper jam, a failed printer or failed printer electronics. Check that power is ON, check connector attachments.
"CYCLE ABORTED"	This error message is displayed on the printout only, followed by the message "NOT STERILE", as a result of the operator pressing the STOP button to stop the cycle or as a result of any other abnormal cycle termination, including CYCLE FAULT errors.	
"STOP BUTTON PRESSED"	The operator pressed the STOP button to stop the cycle. The LCD shows the message "NOT STERILE" as a result.	
"CYCLE INTERRUPTED"	This message is displayed when the sterilization phase has failed with CF6x or Cf5x. If it occurs in three consecutive cycles Cycle Fault #6x or#5x is displayed. In this case, the message "Cycle Interrupted" is followed by the CF number in brackets. Also this message is generated if bad water conductivity or no water condition was detected for a while before water conductivity level turns back to normal. Also this message is displayed if the unit lost power before the cycle ended.	
"PRESS STOP TO RESET"	This message is displayed for all error faults. The user MUST press the STOP button on the keypad to reset the unit; otherwise the user will be unable to initiate another cycle.	