

Trouble Shooting Guide

OT stands for Oiltronic MT stands for Multitronic

Applicable for			Problem	Cause / Solution
OT II	MT II	MT III		
	x	x	If the two detonator wires are shorted during the firing sequence the Switch can be damaged.	
	x		If the two detonator wires are shorted during the Switch test the Switch can be damaged.	The software will give an error message indication that the current increase is higher than expected. If this message is not acknowledged with OK after several seconds the Switch can be damaged as the panel only turns off the voltage after the acknowledgement.
x	x	x	Problems with initiation (although a MT Switch test was successful).	Current leak on line. Possibly due to CCL with low resistance (under 2kOhm, which are recommended as minimum).
	x	x	High current draw and problems with initiation (although a MT Switch test was successful).	Current leak on line. Possibly due to CCL with low resistance (under 2kOhm, which are recommended as minimum).
	x	x	At low temperatures the Switch test shows problems after the first gun has been addressed.	Due to low temperature the capacitors in the Switches can not bleed off so Switches do not go into an idle state which is necessary for a second test. Avoid Switch test at low temperatures or allow system time between tests.
	x	x	At low temperatures guns can not be fired directly after Switch test.	Due to low temperature the capacitors in the Switches can not bleed off so Switches do not go into an idle state which is necessary for firing. Avoid Switch test at low temperatures or allow system time before firing.
	x	x	All problems which you want analysed.	The MT software will generate a dump file each time you open the software. This dump file contains a log of the job taking place. These files are serialised "Message.txt" files which are generally stored in a Multitronic folder under Programs/Antares. The files contain valuable information to analyse problems experienced during jobs. The appropriate dump file (see date and time of generation) should be transmitted to your DYNAenergetics representative or agent together with the panel serial number und software version used.
x			Hardware change. All panels with serial numbers of 1958-0025 and above have an increased current range and a more accurate shot indication (variance increased from 7% to 20%)	Shot indication is more reliable.

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	x		Hardware and software change. All panels with serial numbers of 1956-0021 (software version of 4.7) and above have a changed current measurement.	A mismatch of panels and software will result in wrong current readings. The function of the system will not be effected. Old panels used with new software will show values which are double as high as real values. New panels with old software will show values which are half as high as real values.
	x	x	Current increase is higher than allowed by software.	Current increase might be higher than allowed by software due to leaks in the line or attached components (i.e. Well Tractor electronics). To be able to bypass failure messages press "CTRL-ALT-I" while the Current Settings window is open and tick the "Ignore safety cutout" box.
x	x	x	Guns can not be fired while working off barges or on offshore.	Possibly the installation is in motion which will result in down hole CCL movements. The induced CCL signals can distort the firing signal resulting in the detonator staying in a safe state. Mark cable and remove CCL or repeat firing while motion is reduced.
x	x	x	System shows gun has not been fired although gun has been fired.	The indication if a gun has been fired results from a current measurement directly before and after initiation. If the values vary by more than 20% the software assumes the detonator has been shot, as we assume an open or a short after firing. If the electronic board in the detonator is not damaged or destroyed during the initiation (i.e. shooting in a dry gas environment) the variation of the current measurement is smaller than 20%, resulting in a wrong assumption of the gun not having been fired. To avoid this scenario tape one detonator wire to the base charge of the detonator. The initiation will damage the wire and result in a correct reading.
x	x	x	No shot ok indication while testing with dummy LED detonators.	The indication if a gun has been fired results from a current measurement directly before and after initiation. If the values vary by more than 20% the software assumes the detonator has been shot, as we assume an open or a short after firing. If the electronic board in the detonator is not damaged or destroyed during the initiation (i.e. using a dummy LED detonator) the variation of the current measurement is smaller than 20%, resulting in a wrong assumption of the gun not having been fired. To avoid this scenario while testing you will have to disconnect one of the detonator wires after observing the LED flash. This will result in a correct reading.
x	x	x	Detonator can not be initiated while running a high voltage GR-Switch.	GR-button has not been pressed on the OT panel / GR has not been selected in the MT software.
x	x	x	Detonator can not be initiated while running a high voltage GR-Switch although the GR-button has been pressed on the OT panel / the GR has been selected in the MT software.	Wrong GR-Switch is being used. There are two different GR-Switches available. One is for use with the OT and MT II panel, the other is for use with the MT III panel.
x	x	x	Gun can not be fired.	To high stray current leaks or to high resistances in the system (bad connections, bad insulation, etc.). As the system is working with a low voltage of between 15 and 35 VAV and a current of under 100 mA it is imperative to have good connections and good insulation with no leaks.

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	x	x	Initiators do not work on an other frequency than very low.	The software of the MT allows the alteration of the data rate in the settings window. This change in data rate was initially integrated to compensate for extreme temperatures, cable lengths and cable properties. In 2007 the electronic section of the initiators was redesigned. The redesign compensated for the adverse conditions and it was decided that the new electronic will only be able to be initiated with the very low data rate. If you have initiators with manufacturing dates after the following you will only be able to use the very low data rate for initiation: 0015 FDE – March 2007 1015 E – June 2007 Electronic Igniter EIST – November 2007
	x	x	Output voltage after calibration via Voltage Setting screen is too high.	The identification of the optimum voltage for a given setup is done through a calibration via the Voltage Setting screen. This calibration should only be done while the system is on surface or relatively shallow in the hole, with a temperature that is not too high. The calibration utilised the Zener Diodes that are integral part of the Switches. The Zener Diodes change their properties when exposed to increased temperatures. This though does not have any effect on the function of the Switch, it does though have an effect on the calibration via the Voltage Setting screen, which can result in a damage of the top Switch. If the system has to be rebooted between two initiations the voltage should not be adjusted through a calibration via the Voltage Setting screen, but should be entered manually in the Voltage Setting screen.
x			Panel has been damaged as it is still connected to the system while a standard shooting panel is being used.	The OT panel does not have a protection for high voltage being fed into the “Wireline” port.
	x	x	Panel has been damaged as a standard firing panel has been used and was routed through the MT panel.	Shooting a standard firing panel through a MT panel will damage the MT electronics even though the MT panel is in Log mode. A standard firing panel always has to be placed behind the MT panel.

- Please also see all appropriate technical letters to this topic