

	<b>3</b> Turn off all electrical loads e.g. (blower, radio, interior lights etc.)
	<b>4</b> Start the engine, switch on the heated rear screen <ul style="list-style-type: none"> <li>• Ensure the heated rear screen is <b>on</b> (see note above) and that the air conditioning system is <b>off</b>.</li> </ul>
	<b>5</b> Wait 90 seconds
	<b>6</b> Record the battery voltage ( <b>V1</b> ) shown on the multimeter
	Does battery voltage ( <b>V1</b> ) = <b>14.8 volts</b> or <b>greater</b> at idle? <b>Yes</b> Install a new generator. Refer to the warranty policy and procedures manual, or determine if any prior approval programme is in operation, prior to the installation of a new module/component <b>No</b> <a href="#">GO to B2.</a>

### B2: BATTERY VOLTAGE AT IDLE

	<b>1</b> Using battery voltage reading ( <b>V1</b> )
	Does battery voltage ( <b>V1</b> ) = <b>13 volts</b> or <b>greater</b> at idle ( <b>But less than 14.8 volts</b> )? <b>Yes</b> <a href="#">GO to B3.</a> <b>No</b> GO to Pinpoint Test <a href="#">C.</a>

### B3: BATTERY WARNING LAMP

	<b>1</b> The battery voltage is ( <b>V1</b> ) = <b>13 volts</b> or <b>greater</b> at idle ( <b>but less than 14.8 volts</b> )
	Is the battery warning lamp illuminated? <b>Yes</b> GO to Pinpoint Test <a href="#">C.</a> <b>No</b> The generator output is within the expected range, <b>Do not replace the generator</b> . If customer concern is still evident contact dealer technical support

### PINPOINT TEST C : BOSCH NON-BMS GENERATOR DIAGNOSTIC FLOW CHART

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>C1: CIRCUIT CHECKS</b>	
NOTE: Freelander 2 = Charge warning lamp is driven by the central junction box (from the powertrain control module) to the instrument panel cluster via the CAN bus	
NOTE: Defender = Charge warning lamp is driven by the powertrain control module to the instrument panel cluster via the CAN bus	
	<b>1 Freelander 2</b> = Refer to the electrical circuit diagrams and check the (LIN) circuit between the generator and the engine control module for short circuit to ground, short circuit to power, open circuit, high resistance faults
	<b>2 Defender</b> = Refer to the electrical circuit diagrams and check the (D+ and ALTMON) circuits between the generator and the engine control module for short circuit to ground, short circuit to power, open circuit, high resistance faults
	Are any circuit faults evident? <b>Yes</b> Repair the circuit as required GO to Pinpoint Test <a href="#">B.</a> <b>No</b> GO to Pinpoint Test <a href="#">D.</a>

### PINPOINT TEST D : BOSCH NON-BMS GENERATOR DIAGNOSTIC FLOW CHART

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>D1: CIRCUIT CHECKS 1</b>	
NOTE: Freelander 2 = The heated rear screen is timed to operate for 12 minutes	
NOTE: Defender = The heated rear screen is timed to operate for 8 minutes	
	<b>1</b> Connect a voltmeter to the vehicle battery
	<b>2</b> Switch ignition state to on (engine off)
	<b>3</b> Turn off all electrical loads e.g. (blower, radio, interior lights etc.)
	<b>4</b> Start the engine, switch on the heated rear screen <ul style="list-style-type: none"> <li>• Ensure the heated rear screen is <b>on</b> (see note above) and that the air conditioning system is <b>off</b>.</li> </ul>
	<b>5</b> Voltage measurement <ul style="list-style-type: none"> <li>• Measure the voltage drop between the generator body and battery negative terminal and record the value (<b>V2</b>)</li> </ul>
	Does the voltage drop value ( <b>V2</b> ) = <b>less than 0.3 Volts</b> ? <b>Yes</b> <a href="#">GO to D2.</a> <b>No</b> Switch off engine. Circuit check. Refer to the electrical circuit diagrams, check the <b>generator body</b>