

	<ul style="list-style-type: none"> Engine control module - internal fault 	
Charge warning lamp stays on/battery discharges	<ul style="list-style-type: none"> Accessory drive belt - fault Generator pulley slipping on shaft Generator - internal fault Battery cable - fault CAN Bus - circuit fault Engine control module internal fault Central junction box 	<ul style="list-style-type: none"> Check the battery and generator cables Refer to the electrical guides Check for DTCs indicating a generator fault Check the accessory drive belt condition and tension Check that the pulley does not rotate independently of the generator Check for DTCs indicating a CAN, central junction box or engine control module fault
Charge warning lamp intermittent	<ul style="list-style-type: none"> Accessory drive belt slipping Battery cable - fault Generator - circuit fault Generator - internal fault CAN Bus - circuit fault 	<p>NOTE: Use of a power pack or boost charger may bring the warning lamp on until disconnected</p> <ul style="list-style-type: none"> Check the accessory drive belt condition and tension Check the battery and generator cables refer to the electrical guides Check for DTCs indicating a generator or CAN circuit fault
Battery discharges without the charge warning lamp staying on	<ul style="list-style-type: none"> Battery - fault Battery quiescent drain Intermittent generator - fault 	<ul style="list-style-type: none"> Check the battery condition Check for battery quiescent drain Check for DTCs indicating a generator fault If no other reason for discharge can be found, check the circuit. Refer to the electrical guides
Noise (mechanical)	<ul style="list-style-type: none"> Accessory drive belt slipping 	<ul style="list-style-type: none"> Check the accessory drive belt condition and tension Disconnect the accessory drive belt and check that the generator rotates freely

Test Procedure

PINPOINT TEST A : BOSCH NON-BMS GENERATOR DIAGNOSTIC FLOW CHART	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
A1: MIDTRONICS BATTERY TEST	
NOTE: The battery must be fully charged and any battery defects rectified before continuing with generator diagnosis	
NOTE: The voltmeter must display readings to three decimal places (i.e. 0.001V)	
NOTE: Ignition on is position 2 on a keyed ignition system	
NOTE: Ignition on is two short presses of the start button (power mode 6) with keyless ignition system	
	1 Using a Midtronics hand held tester or the Midtronics GR-1 diagnostic charger, carry out the "Midtronics battery test" as detailed in the battery care manual. REFER to: Battery Care (414-00 Battery and Charging System - General Information, Description and Operation).
	2 Record battery diagnostic result on the provided form
	Does the battery pass the "Midtronics battery test"? Yes GO to B1. No Rectify any battery defects before continuing with generator diagnosis GO to Pinpoint Test B.

PINPOINT TEST B : BOSCH NON-BMS GENERATOR DIAGNOSTIC FLOW CHART	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
B1: GENERATOR OUTPUT	
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	
	1 Connect a voltmeter to the vehicle battery
	2 Switch ignition state to on (engine off)