

# Electronic Engine Controls - ID4 2.2L Diesel - Electronic Engine Controls

Diagnosis and Testing

## Principles of Operation

For a detailed description of the electronic engine controls, refer to the relevant Description and Operation section in the workshop manual.

REFER to: [Electronic Engine Controls](#) (303-14 Electronic Engine Controls - ID4 2.2L Diesel, Description and Operation).

## Inspection and Verification



**CAUTION:** Diagnosis by substitution from a donor vehicle is **NOT** acceptable. Substitution of control modules does not guarantee confirmation of a fault, and may also cause additional faults in the vehicle being tested and/or the donor vehicle

**NOTE:** If the control module or a component is suspect and the vehicle remains under manufacturer warranty, refer to the Warranty Policy and Procedures manual (section B1.2), or determine if any prior approval programme is in operation, prior to the installation of a new module/component.

1. Verify the customer concern
2. Visually inspect for obvious signs of mechanical or electrical damage and system integrity

### Visual Inspection

Mechanical	Electrical
<ul style="list-style-type: none"> <li>• Engine oil level</li> <li>• Cooling system coolant level</li> <li>• Fuel level</li> <li>• Fuel contamination</li> <li>• Fuel leaks</li> <li>• Front end accessory drive belt</li> <li>• Vacuum leaks</li> </ul>	<ul style="list-style-type: none"> <li>• Fuses</li> <li>• Wiring harness</li> <li>• Electrical connector(s)</li> <li>• Sensor(s)</li> <li>• Engine control module</li> <li>• Transmission control module</li> <li>• CAN (controller area network) circuit</li> </ul>

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step
4. If the cause is not visually evident, verify the symptom and refer to the Symptom Chart, alternatively, check for Diagnostic Trouble Codes (DTCs) and refer to the DTC Index

## Symptom Chart

Symptom	Possible source	Action
Engine cranks, but does not start	<ul style="list-style-type: none"> <li>• Low/contaminated fuel</li> <li>• Air intake system fault</li> <li>• Fuel system low pressure circuit fault</li> <li>• Fuel pump module fault</li> <li>• Blocked fuel filter</li> <li>• Fuel volume control valve blocked/contaminated</li> <li>• Fuel pressure control valve blocked/contaminated</li> <li>• Fuel injection pump failure</li> <li>• Crankshaft position sensor</li> <li>• Engine control module fault</li> </ul>	Check the fuel level/condition. Check the integrity of the air intake system and for correct installation. Check the fuel pump module operation, check the fuel system low pressure circuit for leaks/damage. Check the fuel filter, check the fuel volume control valve and fuel pressure control valve. Check the fuel injection pump. Check the crankshaft position sensor and circuits. Refer to the new module/component installation note at the top of the symptom chart if an engine control module fault is suspect
Difficult to start	<ul style="list-style-type: none"> <li>• Glow plug system fault (very cold conditions)</li> <li>• Low/contaminated fuel</li> <li>• Air leakage</li> <li>• Fuel pump module</li> </ul>	Check the glow plugs and circuits. Check the fuel level/condition. Check the integrity of the air intake system and for correct installation. Check the fuel pump module operation, check the fuel system low pressure circuit for leaks/damage. Check the fuel filter, fuel volume control valve and fuel pressure control valve. Check the exhaust gas recirculation system