

# Engine Emission Control - 2.4L Duratorq-TDCi HPCR (103kW/140PS) - Puma - Engine Emission Control

Diagnosis and Testing

## Overview

For information on description and operation:

REFER to: [Engine Emission Control](#) (303-08 Engine Emission Control - 2.4L Duratorq-TDCi HPCR (103kW/140PS) - Puma, Description and Operation).

## Inspection and Verification

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

### Visual Inspection Chart

Mechanical	Electrical
<ul style="list-style-type: none"> <li>• Engine breather hoses</li> <li>• Oil separator</li> <li>• Exhaust gas recirculation (EGR) pipes (check for cracks)</li> <li>• EGR valve</li> <li>• EGR cooler(s)</li> </ul>	<ul style="list-style-type: none"> <li>• Fuse(s)</li> <li>• Wiring harness</li> <li>• Loose or corroded electrical connector(s)</li> <li>• EGR valve</li> <li>• Engine control module (ECM)</li> </ul>

3. **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. **4.** Use the approved diagnostic system or a scan tool to retrieve any diagnostic trouble codes (DTCs) before moving onto the symptom chart or DTC index.
  - o Make sure that all DTCs are cleared following rectification.

## Symptom Chart

Symptom (specific)	Possible cause	Action
Difficult to start Poor/Erratic idle Lack of power when accelerating	<ul style="list-style-type: none"> <li>• Exhaust gas recirculation (EGR) valve stuck open</li> </ul>	Check the EGR valve and circuits. Refer to the electrical guides. Check the mechanical condition of the EGR valve. Rectify as necessary.
Engine stops/stalls	<ul style="list-style-type: none"> <li>• Exhaust gas recirculation (EGR) valve stuck open</li> <li>• Breather system disconnected/restricted/blocked</li> </ul>	Check the EGR valve and circuits. Refer to the electrical guides. Check the mechanical condition of the EGR valve. Check the engine breather system. Check the oil separator.
Excessive fuel consumption Excessive black smoke Excessive emissions	<ul style="list-style-type: none"> <li>• Exhaust gas recirculation (EGR) valve stuck open</li> <li>• EGR not operating</li> <li>• Breather system restricted/blocked</li> </ul>	REFER to: <a href="#">Engine Emission Control</a> (303-08 Engine Emission Control - 2.4L Duratorq-TDCi HPCR (103kW/140PS) - Puma, Description and Operation). Check for DTCs indicating an EGR valve, throttle or sensor fault. Rectify as necessary.
Excessive blow-by	<ul style="list-style-type: none"> <li>• Breather system restricted/blocked</li> </ul>	Check the engine breather hoses. Check the oil separator. REFER to: <a href="#">Engine Emission Control</a> (303-08 Engine Emission Control - 2.4L Duratorq-TDCi HPCR (103kW/140PS) - Puma, Description and Operation). Rectify as necessary.
Engine oil leaks	<ul style="list-style-type: none"> <li>• Breather system restricted/blocked</li> </ul>	Check the engine breather hoses. Check the oil separator. REFER to: <a href="#">Engine Emission Control</a> (303-08 Engine Emission Control - 2.4L Duratorq-TDCi HPCR (103kW/140PS) - Puma, Description and Operation). Rectify as necessary.

## DTC Index

• NOTE: If a control module or 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 program is in operation, before the replacement of a component.

• NOTE: Generic scan tools may not read the codes listed, or may read only 5-digit codes. Match the 5 digits from the scan tool to the first 5 digits of the 7-digit code listed to identify the fault (the last 2 digits give extra information read by the manufacturer-approved diagnostic system).

• NOTE: When performing voltage or resistance tests, always use a digital multimeter (DMM) accurate to three decimal places, and with an up-to-date calibration certificate. When testing resistance always take the resistance of the DMM leads into account.

• NOTE: Check and rectify basic faults before beginning diagnosis routines involving pinpoint tests.