Intake Air Distribution and Filtering - 2.4L Duratorq-TDCi HPCR (103kW/140PS) - Puma - Intake Air Distribution and Filtering

Diagnosis and Testing

Overview

For information on description and operation:
REFER to: Intake Air Distribution and Filtering (303-12 Intake Air Distribution and Filtering - 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
• Hoses and ducts: condition and fitment • Air cleaner element condition and fitment • Restricted air intake • Vacuum hoses condition and fitment • Pipework to/from turbocharger: condition and fitment • Turbocharger: condition and fitment • Charge air cooler	• Fuse(s) • Wiring harness(es) • Loose or corroded electrical connector(s) • Mass air flow (MAF) sensor • Manifold absolute pressure/temperature (MAPT) sensors • Intake air temperature (IAT) sensor - IAT sensor 1 is part of the MAF sensor

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.
    - Make sure that all DTCs are cleared following rectification.

Symptom Chart

Symptom	Possible causes	Action
Vehicle does not start/hard starting	• Restricted/blocked air intake • Restricted/blocked air cleaner element	Check the intake air system for blockages or restriction. Rectify as necessary.
Poor performance	• Intake air system fault • Turbocharger fault(s) • Exhaust gas recirculation (EGR) valve fault • Low fuel pressure • Restricted exhaust system	Check the intake air system for blockages or restriction. Rectify as necessary. Check for DTCs indicating a turbocharger, EGR valve or fuel pressure fault. Rectify as necessary. Check the exhaust system for evidence of damage or restriction. Rectify as necessary.
Excessive intake noise	• Intake air leak after the turbocharger • Intake pipe disconnected/damaged after the air cleaner • Air cleaner assembly incorrectly assembled/damaged	Check the intake air system for loose or disconnected hoses or ducts. Check the hoses and ducts for damage, splits, etc. 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