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2020.0 DEFENDER (LE), 303-12C

INTAKE AIR DISTRIBUTION AND FILTERING - INGENIUM I6 3.0L PETROL (G2400978)

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PRINCIPLES OF OPERATION

For a detailed description of the Intake Air Distribution and Filtering system, refer to the relevant Description and Operation section in the workshop manual. REFER to: [Intake Air Distribution and Filtering](#) (303-12C Intake Air Distribution and Filtering - INGENIUM I6 3.0L Petrol, 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.

 NOTES:

- If a control module or a component is at fault or may be at fault and the vehicle remains under manufacturer warranty, refer to the Warranty Policy and Procedures manual, or determine if any prior approval program is in operation, prior to the installation of a new module/component.
- When performing voltage or resistance tests, always use a digital multimeter that has the resolution ability to view 3 decimal places. For example, on the 2 volts range can measure 1 mV or 2 kΩ range can measure 1 Ω. When testing resistance always take the resistance of the digital multimeter leads into account.
- Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests.

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

Visual Inspection

MECHANICAL

ELECTRICAL

MECHANICAL	ELECTRICAL
- Intake air hoses - Vacuum hoses - Turbocharger - Electric supercharger - Charge air cooler - Charge air radiator hoses	- Fuses - Wiring harnesses and connectors - Mass air flow sensor - Charge air temperature sensor - Manifold absolute pressure/temperature sensor - Intake air temperature sensor - Electric accelerator - Powertrain control module

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

5. Check JLR claims submission system for open campaigns. Refer to the corresponding bulletins and SSMs which may be valid for the specific customer complaint and complete the recommendations as required

SYMPTOM CHART

SYMPTOM	POSSIBLE CAUSES	ACTION
Engine does not start	- Intake air system restricted - Air filter element restricted /blocked	- Check the intake air system for restrictions. Rectify as necessary - Install a new air filter element as necessary
Engine difficult to start	- Intake air system restricted - Air filter element restricted /blocked	- Check the intake air system for restrictions. Rectify as necessary - Install a new air filter element as necessary
Engine performance poor	- Electric accelerator operating incorrectly - Charge air cooler hoses leaking - Electric supercharger - Turbocharger fault	- Check the electric accelerator intake air shutoff function (ensure that the electric accelerator returns to the open position). Rectify as necessary - Check the charge air radiator hoses for leaks. Rectify as necessary - Check for electric supercharger faults. Rectify as necessary - Check for turbocharger faults. Rectify as necessary

SYMPTOM	POSSIBLE CAUSES	ACTION
Intake noise excessive	■ Charge air cooler hoses leaking ■ Air cleaner incorrectly assembled ■ Intake pipe disconnected /damaged after the air cleaner	■ Check the charge air radiator hoses for leaks. Rectify as necessary ■ Check the air cleaner for correct assembly. Rectify as necessary ■ Check the intake system for correct installation and damage. Rectify as necessary

DTC INDEX

For a list of Diagnostic Trouble Codes (DTCs) that could be set on this vehicle, please refer to Section 100-00.
 REFER to: [Diagnostic Trouble Code Index - INGENIUM I6 3.0L Petrol, Vehicles With: MHEV, DTC: Powertrain Control Module \(PCM\) B1087-88 to P0634-00](#) (100-00 General Information, Description and Operation).

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