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ANTI-THEFT - ACTIVE (G2401029)

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PRINCIPLES OF OPERATION

Vehicle Immobilizer Control Module (VIM)

For a detailed description of the anti-theft - active operation, refer to the relevant description and operation section of the workshop manual. REFER to: [Anti-Theft - Active](#) (419-01A Anti-Theft - Active, 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:

- Guided Diagnostics must be followed and the repair advised by the process completed. Failure to do so may result in the rejection of any warranty claim made.
- If a control module or a component is 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 1mV or 2 K Ohm range can measure 1 Ohm. 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
■ Start/stop switch ■ Electric steering column lock ■ Smart key	■ Fuses ■ Electrical harnesses ■ Harness connectors ■ Smart key battery

MECHANICAL	ELECTRICAL
	■ Body Control Module (BCM, controls +12 volt supply to the vehicle immobilizer control module and software logic for the vehicle immobilizer column lock control) ■ Remote Function Actuator (RFA) ■ Radio Frequency (RF) receiver ■ Instrument pack (provides electrical ground circuit to the vehicle immobilizer control module) ■ Volumetric sensor ■ Controller Area Network (CAN) circuits ■ Vehicle Immobilizer Control Module (VIM)

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 check the system for any set diagnostic trouble code(s) and proceed to the Diagnostic Trouble Code(s) (DTC) index

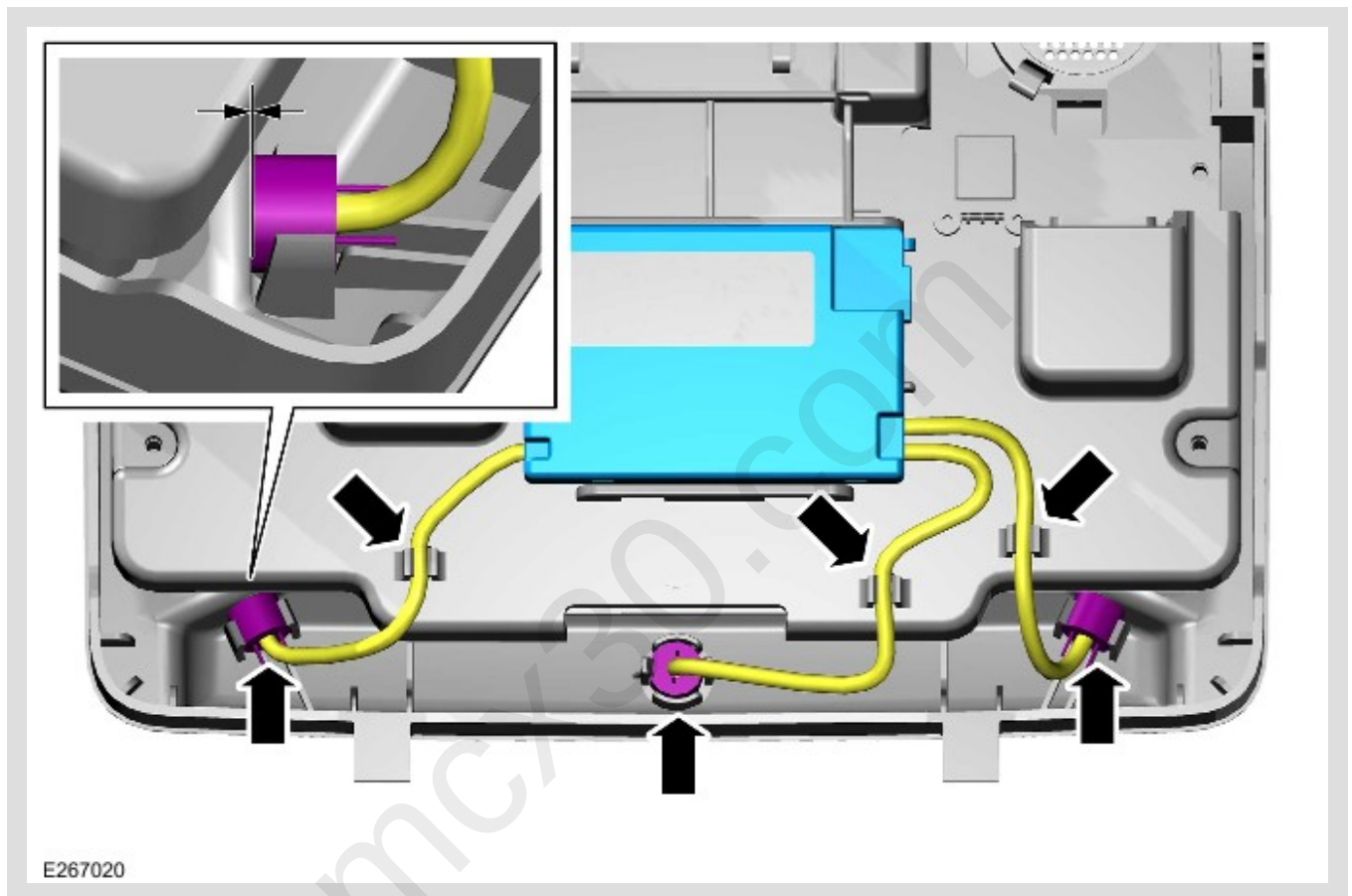
5. Check Jaguar Land Rover claims submission system for open campaigns. Refer to the corresponding bulletins and SSMs which may be valid for the specific customer complaint and complete the recommendations as required

SYMPTOM CHART

SYMPTOM	POSSIBLE CAUSE	ACTION
False alarm triggers - Volumetric sensor identified as last known alarm trigger	■ Genuine movement detected, no further action required ■ Water ingress into the volumetric sensor /connectors ■ Poor installation of the volumetric sensor (false trigger) ■ Sensor internal failure	 NOTES: ■ Confirm if the vehicle has been checked previously for the same concern or whether this is the first visit to a retailer ■ Make sure to take a recording of the alarm trigger history and add this to the warranty claim ■ Check with the customer to establish whether the vehicle is parked near air force bases or other locations where the vehicle could be subject to loud noises (jets flying overhead, tractors driving very close by) ■ Inspect the area of the volumetric sensor for any evidence of water leaks and rectify as necessary ■ Check the installation of the volumetric sensor, remove and reinstall the sensor making sure all connections are secure and the sensor is correctly installed ■ If there have been repeat visits for false alarm triggers install a new volumetric sensor

CORRECT INSTALLATION OF THE VOLUMETRIC SENSOR

The volumetric sensor is located in a central position in the overhead console. The volumetric sensor allows the interior of the vehicle to be monitored when the vehicle is double locked. In cases where customers have reported "false-alarm" triggers of the vehicle anti-theft alarm and where the volumetric sensor has been identified as the last known alarm trigger (see diagnostic instructions below), this may indicate an issue with the installation of the volumetric sensor rather than an internal failure of the sensor itself.



In light of this, when first faced with this issue, the existing volumetric sensor should be carefully removed and refitted. Care should be taken to make sure that the sensor and associated connectors are installed correctly and securely. See illustration and video for correct installation, when installed conduct 'push-pull-push' on connections to make sure of correct engagement. Make sure the sensors are pushed fully home and abut against the console, there should be equal placement all around the sensor and it should not be angled when compared to the surface of the console, no large visible gap should be seen and any small gap should be equal all around the sensor when viewed from the front and the rear of the console, use a flashlight to aid with gap visibility, REFER to: [Overhead Console \(501-12 Instrument Panel and Console, Removal and Installation\)](#).

If the issue reoccurs after refitting of the volumetric sensor, then the sensor should be replaced.

READING ALARM TRIGGER HISTORY THROUGH PATHFINDER DIAGNOSTICS



NOTE:

Make sure to take a recording of the alarm trigger history and add this to the warranty claim

To determine the details of recent anti-theft alarm triggers on Pathfinder vehicles, the following steps should be followed:

1. Using the Jaguar Land Rover approved diagnostic equipment, connect to the vehicle through the Vehicle Communication Interface (VCI) unit
2. Load in the Vehicle Identification Number (VIN)
3. SELECT 'ECU Diagnostics'
4. SELECT 'Body Control Module (BCM)'
5. SELECT 'ECU Functions From List'
6. SELECT 'Alarm Trigger History' and follow on-screen instructions to view recent alarm trigger history

DTC INDEX

For a complete list of all diagnostic trouble code(s) that could be set on this vehicle, please refer to Section 100-00. REFER to: [Diagnostic Trouble Code Index - DTC: Remote Function Actuator \(RFA\)](#) (100-00 General Information, Description and Operation) / [Diagnostic Trouble Code Index - DTC: Vehicle Immobilizer Control Module \(VIM\)](#) (100-00 General Information, Description and Operation) / [Diagnostic Trouble Code Index - DTC: Body Control Module \(BCM\)](#) (100-00 General Information, Description and Operation).