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WHEELS AND TIRES

TIRE PRESSURE MONITORING SYSTEM (G2400927)

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PRINCIPLES OF OPERATION

For a detailed description of the Tire Pressure Monitoring System, refer to the relevant Description and Operation section in the workshop manual. REFER to: [Tire Pressure Monitoring System](#) (204-04 Wheels and Tires, 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 suspect and the vehicle remains under manufacturer warranty, refer to the Warranty Policy and Procedures manual, or determine if any prior approval programme 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
■ Wheels/tires ■ Tire pressure sensors	■ Fuses ■ Wiring harnesses and connectors ■ Tire pressure monitoring system control module ■ Anti-lock brake system control module ■ Tire pressure sensors

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 carry out the recommendations as required.

SYMPTOM CHART

SYMPTOM	POSSIBLE CAUSES	ACTION
Tire pressure monitoring system warning indicator illuminated continuously	One or more tires punctured / incorrectly inflated	Check the tires for punctures. Check the tire pressures and correct as necessary
Tire pressure monitoring system warning indicator flashing for 75 seconds and then illuminated continuously	Tire pressure monitoring system fault	 NOTE: It is not possible to have a TPMS fault without a DTC being set. Using the Jaguar Land Rover approved diagnostic equipment, check the tire pressure monitoring system control module for related DTCs and refer to the relevant DTC index

USE OF PROPRIETARY LF TOOLS FOR DIAGNOSIS OF TPMS SENSOR ISSUES

An LF TPMS test and diagnostic tool may be used to check the operation and status of the TPMS sensors. Such LF tools typically operate by generating a low-frequency (LF) magnetic field to activate the tire pressure sensors and then capturing the information transmitted by the sensor (in the form of UHF radio signals) and displaying the status of the sensor to the technician. Any LF tool capable of supporting the communication protocols of the Continental TG1C sensor may be used.

If TPMS faults are logged with DTCs indicating either "No Signal" (DTC codes ending in 31 - for example, C1A56 / C1A58 / C1A60 / C1A62- **31**) or "No Operation" (DTC codes ending in 93 - for example, C1A56 / C1A58 / C1A60 / C1A62- **93**) from one or more TPMS sensor/transmitter assemblies and if an LF Tool is available, the following procedures may be used to diagnose the specific nature of the fault:

Incorrect TPMS Sensors Fitted

First, complete a visual external inspection to ensure wheel unit sensors are fitted. (e.g. no Winter wheels, space saver, Rubber valves etc) and ask the customer if they have fitted the spare wheel unit before the fault occurred. If no wheel units/incorrect wheel units/rubber valves are fitted:

1. Fit the correct JLR wheel units. Part Numbers for correct wheel units are: FW93 – 1A159 – AB (for Low Pressure Systems) / GX63 – 1A159 – AA (for High Pressure systems)
2. Use the Tire Pressure Sensor Replacement routine available in Pathfinder to write the new wheel unit ID(s) to the tire pressure monitoring system control module. Then, test drive the vehicle for at least 15 minutes duration with speed >32 km/h (20 mph) and retest for TPMS DTCs

Correct TPMS Sensors Fitted

If the correct TPMS sensor/transmitter assemblies are fitted and if an LF Tool is available, the following procedures may be used to diagnose the specific nature of the fault:

3. Use the LF Tool to check the STATUS of all the wheel units. If any of the wheel units are in SHIP (DISABLED Mode), use the LF Tool to activate the units to ON (ENABLED/PARK Mode). Then, test drive the vehicle for at least 15 minutes duration with speed >32 km/h (20 mph) and retest for TPMS DTCs
4. If there is no response from one or more of the wheel units, first check the following:
 - Check that only approved JLR parts are fitted
 - Check that the frequency of the wheel units is 433MHz
 - Review potential electrical interference to the tire pressure monitoring system control module e.g. charging units, power adapters, laptop/Nav screens, etc
 - Check to see if after-market Front and/or Rear facing cameras have been fitted. If fitted, reposition them
5. Following the above checks and any remedial action, if faults still persist:
 - Run the Tire Pressure Monitoring Tire Pressure Sensor Test available in Pathfinder and identify faulty wheel unit/s
 - Replace the faulty wheel units with the correct JLR wheel units. Part Numbers for correct wheel units are: FW93 – 1A159 – AB (for Low Pressure Systems) / GX63 – 1A159 – AA (for High Pressure systems)
 - Use the Tire Pressure Sensor Replacement routine available in Pathfinder to write the new wheel unit ID(s) to the tire pressure monitoring system control module. Then, test drive the vehicle for at least 15 minutes duration with speed >32 km/h (20 mph) and retest for TPMS DTCs

DTC INDEX

For a list of Diagnostic Trouble Codes (DTCs) that could be logged on this vehicle, please refer to Section 100-00. REFER to: [Diagnostic Trouble Code Index - DTC: Tire Pressure Monitoring System Control Module \(TPMSCM\)](#) (100-00 General Information, Description and Operation).