



LTB01101NAS2

TECHNICAL BULLETIN

01 MAY 2018

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NOTE: The information in Technical Bulletins is intended for use by trained, professional Technicians with the knowledge, tools, and equipment required to do the job properly and safely. It informs these Technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by 'do-it-yourselfers'. If you are not a Retailer, do not assume that a condition described affects your vehicle. Contact an authorized Land Rover service facility to determine whether this bulletin applies to a specific vehicle.

INFORMATION

This reissue replaces all previous versions. Please destroy all previous versions.

Changes are highlighted in blue

SECTION:

303-01: Engine - GTDI 2.0L Petrol

SUBJECT/CONCERN:

Poor Engine Performance

AFFECTED VEHICLE RANGE:

| MODEL: | MODEL YEAR: | VIN: | ASSEMBLY PLANT: | APPLICABILITY: |
|-------------------------|-------------|---------------|-----------------|---|
| LR2 (LF) | 2013-2015 | 321215-439912 | Halewood | GTDi 2.0L Petrol |
| Range Rover Evoque (LV) | 2012-2015 | 600000-999999 | Halewood | GTDi 2.0L Petrol/GTDi 2.0L Petrol - SULEV |
| Range Rover Evoque (LV) | 2015 | 000051-077911 | Halewood | GTDi 2.0L Petrol/GTDi 2.0L Petrol - SULEV |

MARKETS:

NORTH AMERICA

CONDITION SUMMARY:

SITUATION:

One or more of the following may be evident:

- Engine has restricted performance;
- Engine runs rough;
- Engine exhibits poor starting; and/or
- Engine Malfunction Indicator Lamp (MIL) illuminated with Diagnostic Trouble Codes (DTC) P0300, P0301, P0302, P0303, P0304, and/or P1315 stored in the Powertrain Control Module (PCM).

NOTE:

Severe engine damage may occur if the specification of the fuel used does not meet the specification of fuel listed in the Owner's Handbook. Use high quality fuel with a minimum octane rating of 91 AKI (Anti-Knock Index).

CAUSE:

This may be caused by internal engine damage leading to a loss of compression and rough running.

ACTION:

Should a customer express this concern, follow the Diagnostic Procedures, **and only if necessary** Workshop Procedure, below.

PARTS:**NOTES:**

- * - a maximum allowance (\$83.75 USD or local equivalent) has been provided to cover the cost of 6.2 liters of engine oil. Claim using Sundry Code 'ZZZ001'.
- * - a maximum allowance (\$48.13 USD or local equivalent) has been provided to cover the cost of 4.25 liters of engine coolant. Claim using Sundry Code 'ZZZ001'.
- * **LR2 (L359) only** - a maximum allowance (\$38.38 USD or local equivalent) has been provided to cover the cost of 2 liters of power steering fluid. Claim using Sundry Code 'ZZZ001'.

| PART NUMBER | DESCRIPTION | QUANTITY |
|-------------|--|----------|
| LR049655 | Stripped Engine - GTDi 2.0L Petrol - NAS | 1 |
| LR000466 | Bolt & Washer - M16 - Front Subframe | 4 |
| LR001193 | Bolt - Driveshaft | 6 |
| QYG500090 | Bolt - Steering Column Universal Joint | 1 |
| RYH500420 | Nut & Washer - Steering Column Plate | 4 |
| LR026275 | Nut - Tie-Rod End | 2 |
| LR058339 | Bolt - Brake Caliper Carrier | 2 |
| LR024506 | Bolt - Front Knuckle Lower | 2 |
| FY112056 | Nut - Front Knuckle Lower | 2 |
| LR024151 | Hub Nut | 2 |
| LR033977 | Kit - Fuel Injector Install | 1 |
| LR049649 | Fuel Feed Pipe - High Pressure (HP) | 1 |
| LR025852 | Gasket - Exhaust Manifold | 1 |
| LR025680 | Nut - Exhaust Manifold | 10 |

| PART NUMBER | DESCRIPTION | QUANTITY |
|-------------|---------------------------------------|----------|
| LR046643 | Washer - Turbocharger Oil Feed | 4 |
| LR025565 | Washer - Turbocharger Coolant Feed | 3 |
| LR032083 | Washer - Turbocharger Oil Return | 2 |
| LR025110 | Gasket - Exhaust To Turbocharger | 1 |
| WCM500120 | Gasket - Exhaust Downpipe | 1 |
| LR049435 | Nut - Torque Converter | 6 |
| LR039593 | Seal - Vacuum Pump | 1 |
| FX110056 | Nut - Stabilizer Link Bar | 2 |
| LR025004 | Bolt - Flex Plate To Crankshaft | 6 |
| LR038760 | Gasket - Coolant Outlet | 1 |
| LR001950 | Snap Ring - Driveshaft Seal | 1 |
| LR003155 | Snap Ring - Driveshaft Seal | 1 |
| LR024991 | Gasket - Intake Manifold | 4 |
| LR025392 | Stud - Exhaust Manifold | 10 |
| LR028235 | Washer - Exhaust Manifold | 9 |
| LR025523 | Filter - In Block | 1 |
| LR025598 | Bolt - HP Fuel Pump | 2 |
| LR027158 | Thermostat Housing and Gasket | 1 |
| LR038661 | Bolt - Flex Plate To Torque Converter | 6 |
| LR000094 | Bolt - Engine Mounting | 2 |
| LR057234 | Gasket - Intake Manifold | 4 |
| LR005738 | Bolt - Exhaust | 3 |
| LR027177 | Nut - Exhaust | 3 |
| LR024150 | Bolt - Lower Arm - M14 x 85 | 4 |
| LR024149 | Bolt - Lower Arm - M14 x 90 | 2 |
| LR046643 | Washer - Copper | 4 |

| PART NUMBER | DESCRIPTION | QUANTITY |
|-------------|---|----------|
| LR052059 | Oil - 1 Liter - Power Transfer Unit (PTU) - Without Active Driveline | 1 |
| LR019727 | Oil - 1 Liter - Power Transfer Unit (PTU) - With Active Driveline | 1 |
| LR052439 | Oil - 1 Liter - Active Driveline Control Unit - With Active Driveline | 1 |
| ZZZ001 | * Fluids | 1 |

TOOLS:



E192494

Jaguar Land
Rover-approved
Midtronics battery
power supply



E179225

Jaguar Land
Rover-approved
diagnostic tool
with latest SDD
Software
Management Pack



E201918

Inline Diagnostic
Unit 2 (IDU2)

WARRANTY:

NOTES:

- * - a maximum allowance (\$83.75 USD or local equivalent) has been provided to cover the cost of 6.2 liters of engine oil. Claim using Sundry Code 'ZZZ001'.
- * - a maximum allowance (\$48.13 USD or local equivalent) has been provided to cover the cost of 4.25 liters of engine coolant. Claim using Sundry Code 'ZZZ001'.
- * **LR2 (L359) only**- a maximum allowance (\$38.38 USD or local equivalent) has been provided to cover the cost of 2.0 liters of power steering fluid. Claim using Sundry Code 'ZZZ001'.
- Use DDW to check for Field Service Action program eligibility requiring a Powertrain Control Module (PCM) software update. If eligible, perform and claim the update as per that program.

NOTES:

- Repair procedures are under constant review, and therefore times are subject to change; those quoted here must be taken as guidance only. Always refer to JLR claims submission system to obtain the latest repair time.
- The JLR Claims Submission System requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.

| DESCRIPTION | SRO | TIME (HOURS) | CONDITION CODE | CAUSAL PART |
|---|-------------|--------------|----------------|-------------|
| Tune - Download - Engine management | 12.90.13 | 0.2 | 01 | LR049655 |
| Cylinder pressures - Check - With diagnostic equipment | 12.25.01.02 | 0.6 | 01 | LR049655 |
| Engine - Replace - LR2 (L359) | 12.41.02 | 11.8 | 01 | LR049655 |
| Engine - Replace - Range Rover Evoque (L538; 2012-13MY) | 12.41.02 | 10.0 | 01 | LR049655 |
| Engine - Replace - Range Rover Evoque (L538; 2014-15MY) | 12.41.02 | 10.3 | 01 | LR049655 |

NOTE:

Normal Warranty procedures apply.

DIAGNOSTIC PROCEDURE 'A':

 **CAUTIONS:**

- A Jaguar Land Rover-approved Midtronics battery power supply must be connected to the vehicle battery during diagnosis / module programming.
- All ignition ON/OFF requests must be carried out. Failure to perform these steps may cause damage to control modules in the vehicle.

1 Connect the Jaguar Land Rover-approved Midtronics battery power supply to the vehicle battery.

2 Switch the ignition ON (engine not running).

3  **NOTE:**

The Jaguar Land Rover-approved diagnostic tool must be loaded with SDD 153.01 Software Management Pack v293 (or later).

Connect the Jaguar Land Rover-approved diagnostic tool to the vehicle and begin a new session.

4 Follow the on-screen prompts, allowing the diagnostic tool to read the VIN, identify the vehicle, and initiating the data collect sequence.

5  **NOTE:**

The Diagnostic Trouble Codes (DTC) listed in the table below are an indication of an engine misfire. If any of these are stored, they must be investigated and rectified before continuing with this bulletin (see TOPIx Workshop Manual section 303-01: Diagnosis and Testing - Engine - GTDi 2.0L Petrol).

Read the Diagnostic Trouble Codes (DTCs).

- If DTC P0300, P0301, P0302, P0303, P0304, and/or P1315 is NOT stored, **go to Diagnostic Procedure 'B'** below.

- If DTC P0300, P0301, P0302, P0303, P0304, and/or P1315 is stored, **go to Step 6** below.

| DIAGNOSTIC TROUBLE CODE (DTC) | DIAGNOSTIC TROUBLE CODE (DTC) | DIAGNOSTIC TROUBLE CODE (DTC) |
|-------------------------------|-------------------------------|-------------------------------|
| P0030-00 | P0458-00 | P2097-02 |
| P0031-00 | P0459-00 | P2231-00 |
| P0032-00 | P0496-00 | P2237-00 |
| P00D1-00 | P0497-00 | P2237-02 |
| P0131-00 | P064D-08 | P2237-64 |
| P0132-00 | P064D-16 | P2243-00 |
| P0133-00 | P064D-17 | P2251-00 |
| P0134-00 | P064D-86 | P228C-77 |
| P0192-00 | P2096-00 | P228D-77 |
| P0193-00 | P2096-02 | P2626-00 |
| P0444-00 | P2097-00 | |

6 Follow all on-screen instructions.

7 If the hyperlink is not available:

- 1 Select **Diagnosis** from the Session Type screen.
- 2 Select the **Selected Symptoms** tab.
- 3 Select one of the following symptoms:
 - **Powertrain - Engine system - Engine performance**
- 4 Select **continue**.
- 5 Select the **Recommendations** tab.
- 6 Select **Run** to perform the '**Special Applications - Inline diagnostic unit 2 relative compression test - GTDi 2.0L Petrol**' option.
 - If the vehicle does pass the compression test, **investigate other potential causes of the customer concern (see TOPIx Workshop Manual section 303-01:**

Diagnosis and Testing - Engine - GTDi 2.0L Petrol).

- When the investigation and rectification has been completed, **go to Diagnostic Procedure 'B'** below.
- If the vehicle does not pass the compression test, **go to the Workshop Procedure** below.

WORKSHOP PROCEDURE:

1

NOTES:

- This Workshop Procedure is only applicable to vehicles which DID NOT pass the compression test after following the relevant steps above.
- Prior approval is required before continuing with the Workshop Procedure; submit a Fixed Right Enhanced Diagnostic (FRED) request for the replacement of the engine.

Remove the engine (see TOPIx Workshop Manual section 303-01: Removal - Engine - GTDi 2.0L Petrol).

2

Remove the engine ancillaries from the engine (see TOPIx Workshop Manual section 303-01: Disassembly - Engine - GTDi 2.0L Petrol).

3

Install the engine ancillaries onto the replacement engine (see TOPIx Workshop Manual section 303-01: Assembly - Engine - GTDi 2.0L Petrol).

4

Install the replacement engine (see TOPIx Workshop Manual section 303-01: Installation - Engine - GTDi 2.0L Petrol).

5

NOTE:

Follow steps 6-13 of the filling section.

Fill the engine with new engine oil (see TOPIx Workshop Manual section 303-01: Engine - GTDI 2.0L Petrol - Engine Oil Draining and Filling).

6 Go to Diagnostic Procedure 'B'.

DIAGNOSTIC PROCEDURE 'B':

CAUTIONS:

- A Jaguar Land Rover-approved Midtronics battery power supply must be connected to the vehicle battery during diagnosis / module programming.
- All ignition ON/OFF requests must be carried out. Failure to perform these steps may cause damage to control modules in the vehicle.

NOTE:

Use DDW to check for Field Service Action program eligibility requiring a Powertrain Control Module (PCM) software update. If eligible, perform and claim the update as per that program.

1 Connect the Jaguar Land Rover-approved Midtronics battery power supply to the vehicle battery.

2 Switch the ignition ON (engine not running).

3 NOTE:

The Jaguar Land Rover-approved diagnostic tool must be loaded with SDD 153.01 Software Management Pack v293 (or later).

Connect the Jaguar Land Rover-approved diagnostic tool to the vehicle and begin a new session.

- 4 Follow the on-screen prompts, allowing the diagnostic tool to read the VIN, identify the vehicle, and initiating the data collect sequence.

5

 **NOTE:**

If the Powertrain Control Module (PCM) software is at the latest level, this Step cannot be performed.

If the hyperlink is not available:

- 1 Select **Diagnosis** from the Session Type screen.
- 2 Select the **Selected Symptoms** tab.
- 3 Select one of the following symptoms:
 - **Electrical - Instruments - Warning lamps - Engine malfunction lamp - Lamp illuminated** or
 - **Electrical - Instruments - Information and message center - Message display area - Powertrain**
- 4 Select **continue**.
- 5 Select the **Recommendations** tab.
- 6 Select **Run** to perform the '**Configure existing module - Powertrain control module**' option.

- 6 Follow all on-screen instructions until the application completes successfully.

- 1 When prompted, select the **Clear DTCs** option following completion of the software download.
- 2 When all tasks are complete, go to the next Step.

- 7 Exit the current session.

- 1 Select the **Session** tab.
- 2 Select the **Close Session** option.

- 8 Disconnect the diagnostic tool and battery power supply from the vehicle.