LTB00557V10

TECHNICAL BULLETIN

27 JUL 2018

INFORMATION

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

This bulletin supersedes TSB LTB00557v9/2018 dated 15 FEB 2018, which should either be destroyed or clearly marked to show it is no longer valid (e.g. with a line across the page). Only refer to the electronic version of this Technical Bulletin in TOPIx.

Changes are highlighted in blue

SECTION:

204-00

SUBJECT/CONCERN:

Noise From Front Suspension

AFFECTED VEHICLE RANGE:

MODEL:	MODEL YEAR:	VIN:	ASSEMBLY PLANT:
Range Rover (LG)	2013-2017	000001-380216	Solihull

MODEL:	MODEL YEAR:	VIN:	ASSEMBLY PLANT:
Range Rover Sport (LW)	2014-2017	000001-181319	Solihull
Range Rover Sport (LW)	2015-2017	601763-690429	Solihull

MARKETS:

ASIA PACIFIC; CHINA; EUROPE; JAPAN; MENA; OVERSEAS

CONDITION SUMMARY:

SITUATION:

A customer may express a concern that an audible noise (knock/rattle/thud) is coming from the area around the front suspension. The noise may be heard when traveling over uneven road surfaces and can occur during single or dual wheel inputs.

This version has been issued for a change to the diagnostic procedure and service instruction.

CAUSE:

Operation of the dynamic response actuator. **Suggested customer concern code - GT6.**

ACTION:

Should a customer express this concern, follow the diagnostic procedure and service instruction below.

PARTS:

NOTE:

*An allowance equivalent to £35.00 sterling has been allocated to locally source dynamic response system fluid - Texaco cold climate fluid PSF14315 (33270) and Loctite™ 243.

PART NUMBER	DESCRIPTION	QUANTITY
LR052058	Front stabilizer actuator (if required)	1
LR050753	Bolt (M12 x 55 mm) (if required)	4
LR045743	Bolt (M14 x 55 mm) (if required)	2
LR045788	M12 steel repair insert (if required)	4
LR043320	M14 steel repair insert (if required)	2
LR061527	Valve block	1
LR048454	Dynamic response fluid reservoir	1
*ZZZ001	Dynamic response fluid and Loctite™	£35

WARRANTY:

NOTES:

- Repair procedures are under constant review, and therefore times are subject to change; those quoted here must be taken as guidance only. Use TOPIx 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
Stabilizer bar - Dynamic response - Renew	60.60.50	1.2	42	LR046089
Front subframe - Stabilizer bar insert - Install	60.35.74	2.3	42	LR046089
Range Rover - Dynamic response valve block - Renew	60.60.20	2.7	42	LR061527
Range Rover Sport - Dynamic response valve block - Renew	60.60.20	2.4	42	LR061527
Dynamic response - System pressure test	60.90.20	0.4	42	LR046089

DESCRIPTION	SRO	TIME (HOURS)	CONDITION CODE	CAUSAL PART
Dynamic response reservoir - Renew	60.60.12	0.2	42	LR048454

NOTE:

Normal Warranty procedures apply.

DIAGNOSTIC PROCEDURE:

Basic Diagnostic Process:

NOTE:

Use customer supplied verbatim (speed/road surface/symptom) to understand what is the most probable root cause of the noises observed.

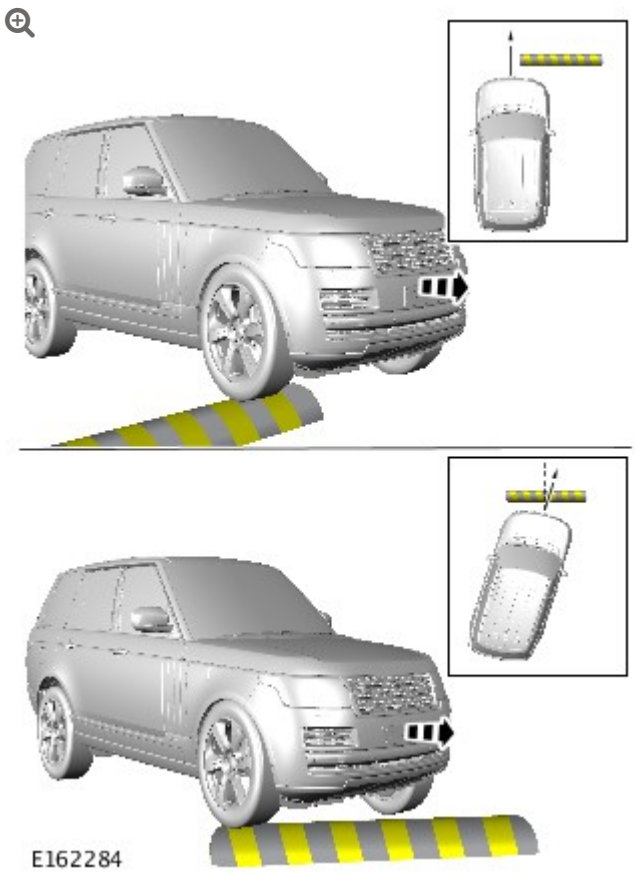
1

E162272

Symptom: Single knock OR a series of isolated knocks.

- **Drive Cycle/Conditions:** Single and dual wheel inputs from speed bumps/damaged road surfaces or similar. When traveling at speeds of up to 25mph (40kmh) ONLY when traveling in a forward direction.
- **Actions: Complete Steps 1-24 in the service instruction.**

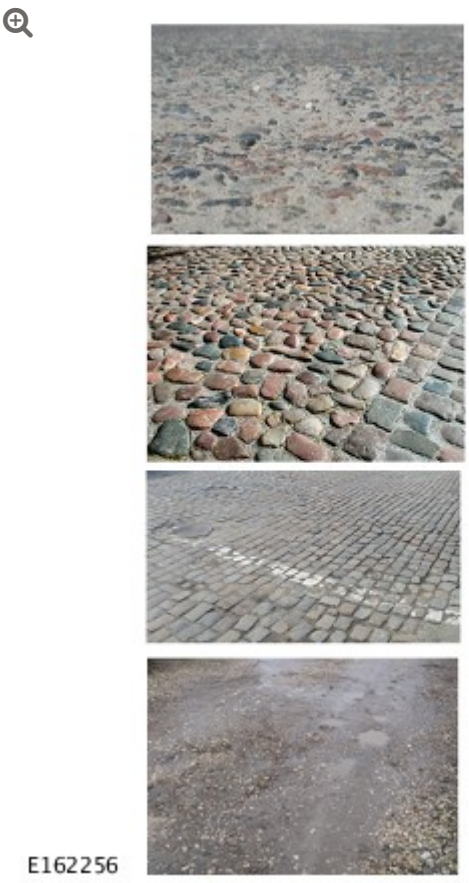
2



Symptom: Click Noise.

- **Drive Cycle / Conditions:** Click only occurs during: harsh cornering, rapid acceleration and abrupt braking.
- **Actions: Refer to technical bulletin LTB00618 – Click/rattle sound from engine mountings. If this does not solve the concern then remedial work may be required to the steering gear.**

3



Symptom: Rattle Noise

- **Drive Cycle / Conditions:** Rattle occurs when driving at speeds up to 32 km/h (20 mph) over uneven surfaces.
- **Actions: Refer to technical bulletin LTB00618 – Click/rattle Sound From The Front Of The Vehicle.**

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4 **Symptom:** Thud Noise.

- **Drive cycle/conditions:** Thud only occurs when braking sharply at low speeds.
- **Actions:**
- For 15 Model Year (MY) and earlier, **refer to technical bulletin LTB00573v3 – Front Suspension Noise On Brake Application.**
- For 16 My and onwards, **continue to the service instruction below.**

1

Inspect the Dynamic Response fluid reservoir for leaks.

- If a leak **IS** present, replace the dynamic response fluid reservoir (see TOPIx Workshop Manual section 204-06: Ride and handling optimization - Removal and installation - Fluid reservoir).
- If a leak **IS NOT** present, **continue to step 2.**

2

NOTES:

- This technical bulletin is written in a specific order, the most likely causes of this issue are dealt with first. The most likely causes will also give the

biggest benefit if addressed. It is therefore imperative that the steps are followed in order.

- Refer to TOPIx Workshop Manual for all torques not explicitly specified in this document.
- Replacement of any suspension component which affects suspension geometry must be followed by conducting a four-wheel alignment inspection following the procedure highlighted in the vehicle workshop manual.
- VEHICLE TESTING: It is important to identify a test route that highlights the customer concern of suspension knock and re-test the vehicle over the same test route when identified in the following procedure. The test route should include roads that have an uneven road surface or drain covers that allow single wheel inputs. The vehicle speed that highlights the issue needs to be noted during the initial appraisal of the customer concern and then replicated on subsequent test drives.
- Typically noise from the Dynamic Response system can be observed at low vehicle speeds e.g. 16 to 40 km/h (10 to 25 mph). Some occurrences of hydraulic knock are to be expected. Only excessive/abnormal knocking noise indicates a concern.

Testing for front suspension knock: Vehicles equipped with the dynamic response are expected to exhibit a low level of hydraulic knock from the system during normal operation, as the input forces are reacted to by the dynamic response system. Where there is a customer complaint of excessive/abnormal knocking noise, then the following steps need to be taken:

- Inspect and rectify basic faults before beginning the diagnostic routines.
- Visually inspect for obvious signs of mechanical/impact damage.
- Make sure all of the tire pressures are set according to the owners handbook.

- Make sure the same test route is used for road test after any remedial work.

3

NOTE:

> Do NOT remove the fuse for the Dynamic Response System as a means of diagnosis.

Carry out the front suspension knock diagnostic test (refer to the diagnostic procedure).

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4 If the noise is not present, inspect the front stabilizer bar link for abnormal play.

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5 Renew the stabilizer bar link if abnormal play is found.

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6 Complete a road test, if the concern is rectified, return the vehicle to the customer. If not, then **continue to the next step.**

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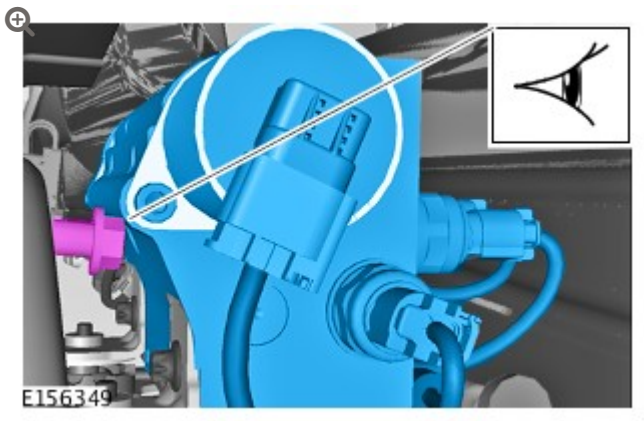
7 Inspect the stabilizer bar arm for free play?

- If there **IS** free play present that is greater than 10mm, perform a system bleed on the front actuator (see TOPIx Workshop Manual section 204-06 - Ride and handling optimization - General procedures - Active Stabilization System Bleeding)
- If there **IS NOT** free play present that is greater than 10 mm, **continue to step 8.**

8

NOTE:

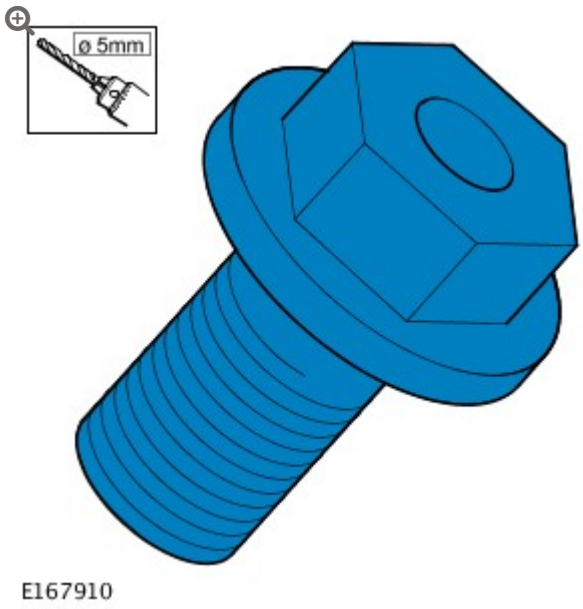
> The view of the end of the hydraulic valve block from the front of the vehicle.



Inspect the valve block to body stud clearance.

- Sufficient clearance between the valve block body and the plastic body fastener that secures the fuel lines is required. Where no or very little clearance exists, modify the head of the fastener, **continue to step 9.**

9



Remove the plastic body fastener and drill an axial hole 5 mm diameter through the head, this will allow the body stud to pass through the head of the fixing.

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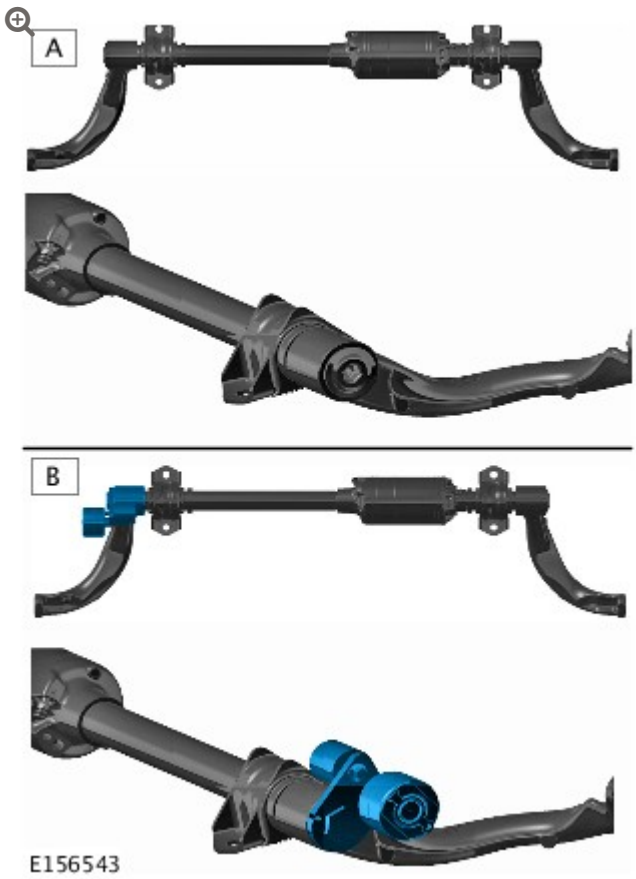
10 Complete a road test:

- **If the concern is rectified, return the vehicle to the customer.**
- **If the concern is not rectified, continue to step 11.**

11

NOTE:

If the latest specification of front actuator bar is installed DO NOT replace it unless it is damaged/leaking fluid.



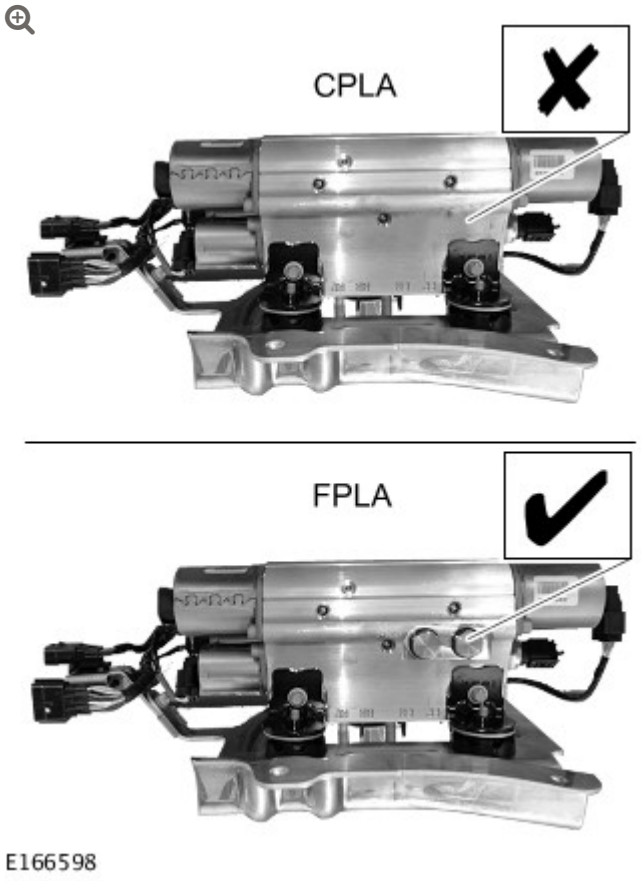
2013 Model Year (MY) vehicles: If the knocking noise is still present and considered unacceptable after performing the above steps, then replace the dynamic response front actuator (part number LR052058 shown as B in graphic E156543) (see TOPIx Workshop Manual section 204-06 Ride and Handling Optimisation - Front Stabilizer Bar). **2014 MY vehicles from VIN 125193:** will have the latest level parts already installed.

12 Even after performing all remedial actions, it is possible that a low level of residual knocking noise may still be evident. This is due to the system's hydraulic operation, which produces a low-level, but audible knock/rattle. If the vehicle user is still unhappy with the condition then **continue to step 13**.

13

NOTE:

On a strong customer complaint, please confirm which level of valve block is installed:



For Identification purposes, the valve block is shown removed for clarity.

- If the vehicle **IS NOT**equipped with the latest level valve block, install a new valve block (see TOPIx Workshop Manual section 204-06: Ride and handling optimization - Removal and Installation - Valve block) and then**continue to step 14**.
- If the vehicle **IS**equipped with the latest level valve block, **continue to step 24.**

NOTES:

- Using the Jaguar Land Rover (JLR) approved diagnostic equipment, complete a 'Dynamic response module - Valve block replacement' to any vehicle being installed with a new FPLA level valve block.
- Using the JLR approved diagnostic equipment, complete a hydraulic system test to **All** vehicles when valve block has been replaced.

14

CAUTION:

This procedure requires a minimum of SDD 153.04 and Software Management Pack V296 loaded or later.

NOTE:

The JLR approved diagnostic equipment will read the Vehicle Identification Number (VIN) for the vehicle automatically take the vehicle out of 'Transportation mode' if required.

Connect the JLR approved battery support unit.

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15 Connect the JLR approved diagnostic equipment to the vehicle and begin a new session.

16

NOTE:

When requested select 'FPLA valve'.

Follow the JLR approved diagnostic equipment prompts.

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17 If the hyperlink is not available, the application can be found as follows:

- Select the 'Service Functions' session Type.
- Run Dynamic response module - Valve block replacement.

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18 Follow the JLR approved diagnostic equipment prompts.

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19 If the hyperlink is not available, the application can be found as follows:

- Select the 'Diagnosis' Session Type.
- Select any of the following symptoms:
  - Chassis - Suspension system – Vehicle dynamic suspension.
- From 'Recommendations', run: Dynamic response hydraulic control - system test.

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20 If the Dynamic Response hydraulic control - system test succeeds then proceed to next step, if it fails then investigate the reported failure.

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21 If Required, reset the vehicle to 'Transportation mode'.

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22 When all of the tasks are complete, exit the session.

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23 Disconnect the JLR approved diagnostic equipment and the JLR approved battery support unit.

24

NOTE:

After performing all remedial actions it is possible that a low level of residual noise will still be evident, This is due to the systems hydraulic operation. The system is working correctly and this noise does not adversely affect vehicle stability or performance. If the customer is still not accepting of this then please contact your local Customer Relationship Center (CRC) team to discuss the case.

If noise levels have improved to a suitable level then return vehicle to customer.