

TECHNICAL BULLETIN
LTB00111NAS3
23 DEC 2014



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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.

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

Changes are highlighted in gray

SECTION: 211-02

'Squeak' Noise From Steering Column / Steering Gear Pinion Seal

AFFECTED VEHICLE RANGE:

Range Rover Sport (LS)

Model Year: 2006-2013

VIN: 6A900290-DA814822

MARKETS:

NAS

CONDITION SUMMARY:

Situation: A 'squeak' noise may be evident from the steering column area when turning the steering wheel.

Cause: This may be caused by a lack of lubrication of the steering gear pinion seal.



NOTE: check the vehicle history to see if the vehicle falls within the affected VIN range in Technical Bulletin LTB00021NAS and whether or not it has been performed. If it has not been performed, follow the Repair Procedure outlined in that bulletin as a separate Warranty claim and recheck for a 'squeak' before performing this bulletin. This Service Instruction addresses a 'squeak' noise only.

Action: Should a customer express this concern, follow the Service Instruction outlined below.

PARTS:

QFX500090	Additive - Lubrizol	Quantity: 50ml (1 container)
LR003401	Power Steering Fluid - Pentosin CHF 202 Power Steering fluid	Quantity: 2L

TOOLS:

Refer to Workshop Manual for any required special tools.

WARRANTY:



NOTE: 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 TOPIx to obtain the latest repair time.



NOTE: DDW requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.

DESCRIPTION	SRO	TIME	CONDITION	CAUSAL
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		(HOURS)	CODE	PART
Flush and replace the Power Steering fluid with additive	57.15.89.40	0.4	42	LR031744



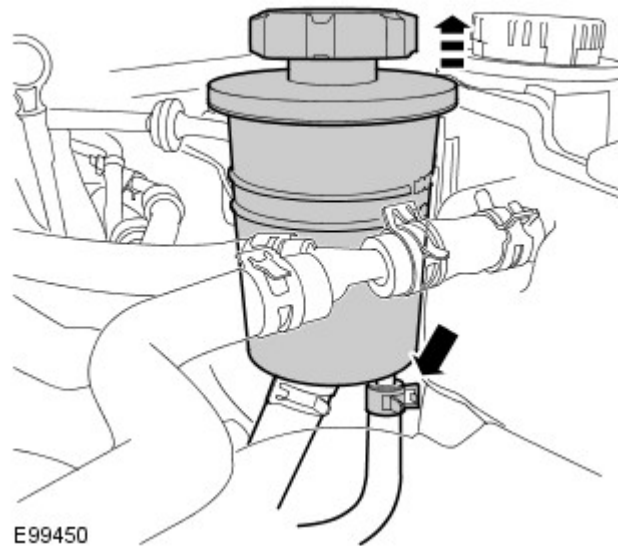
NOTE: Normal Warranty procedures apply.

SERVICE INSTRUCTION:

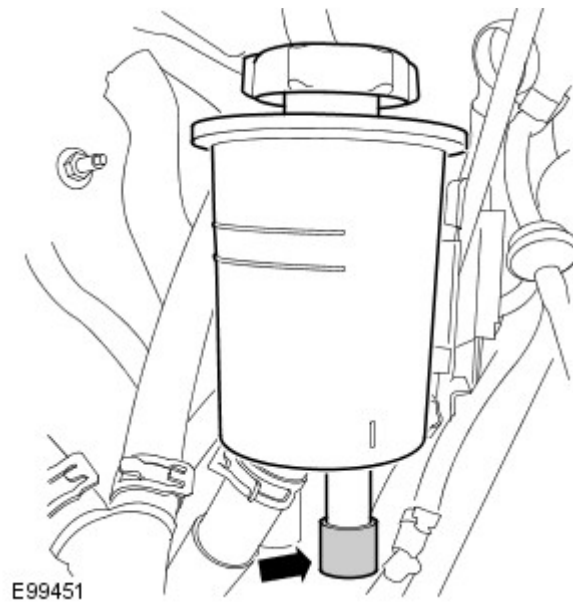


NOTE: this Service Instruction must be carried out in conjunction with SSM72094, which contains a video clip demonstrating the procedure (steps 14-21). Suitable temperature monitoring equipment will be required to enable the steering fluid's temperature to be maintained within the range specified in the Service Instruction.

1. Remove the Power Steering fluid reservoir cap.
2. Using a syringe, remove the Power Steering fluid from the reservoir.
 - Release but do not remove the Power Steering reservoir.
 - Release the Power Steering return hose from the reservoir.



3. Cap the Power Steering reservoir return pipe using a suitable plug.
4. Attach a suitable pipe to the Power Steering return hose to allow fluid to drain



5.  **WARNING: do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands**

Raise and support the vehicle

6.  **CAUTION: do not run the engine as damage to the Power Steering system may occur.**

Turn the steering lock-to-lock 10 times and allow the fluid to drain into a suitable container.

7.  **NOTE: The flush process will require approximately 0.75 liter of the specified Power Steering fluid to complete.**

Flush the Power Steering system.

- Fill the Power Steering fluid reservoir with Pentosin CHF 202 fluid.
- Turn the steering lock-to-lock 10 times.
- Allow the fluid to drain.

8. Install the Power Steering reservoir


- Remove and discard the blanking plug.
- Fit the Power Steering reservoir return hose.

9.  **NOTE: the Lubrizol additive may only be added once.**

Add the 50ml Lubrizol additive to the Power Steering fluid reservoir.

10. Fill and bleed the Power Steering system using the correct specification fluid (see TOPIx Workshop Manual, section 211-00).


11. Clean / degrease the Power Steering fluid reservoir adjacent to the MIN/MAX marks.

12.  **NOTE: the 'Pentosin CHF 202' label must be installed to identify that Lubrizol and Pentosin CHF 202 has been added to the Power Steering system for any required future repair / maintenance.**

Apply the 'Pentosin CHF 202' label (included with the Lubrizol additive packaging) adjacent to the Power Steering system fluid reservoir MIN/MAX marks.


13. Remove the Power Steering fluid reservoir cap and insert a suitable temperature probe into the fluid reservoir.

Refer to SSM72094 for a demonstration of steps 14-21.

14.  **NOTE: the steering maneuver should be carried out on a hard, flat surface outside of the workshop with the suspension set to standard on-road height.**

 **NOTE: the following should be carried out after referring to the video clip; see top of Service Instruction for details.**

Start the engine.

15. With the vehicle stationary and the steering wheel in the center position (road wheels straight ahead), turn the steering wheel ¼-turn to the right and hold firmly with both hands.
16. Raise the engine speed to 2,000 rev/min and monitor the temperature until 100° +/- 5° C is achieved.
17.  **CAUTION: do not hold steering at full lock for longer than two (2) seconds with the Power Steering fluid temperature at 100° +/- 5° C as this may cause damage.**

Turn the steering wheel at moderate speed to right-hand full lock and hold for two seconds, ensuring that the engine speed is maintained between 900-1,000 rev/min.

- From full lock, turn the steering wheel rapidly back ¼-turn to the left.
- Repeat this step eight (8) times.

18.  **CAUTION: do not hold steering at full lock for longer than two (2) seconds with the Power Steering fluid temperature at 100° +/- 5° C as this may cause damage.**

Turn the steering wheel at moderate speed to left-hand full lock and hold for two seconds, ensuring that the engine speed is maintained between 900-1,000 rev/min.

- From full lock, turn the steering wheel rapidly back ¼-turn to the right.
- Repeat this step eight (8) times.

19. Return the steering wheel to the straight-ahead position and switch the engine OFF.
20. Remove the temperature probe from the fluid reservoir.
21. Install the Power Steering fluid reservoir cap.
22. Road test the vehicle to verify the 'squeak' noise is no longer evident.

- If the 'squeak' noise is no longer evident, no further action is required. Return the vehicle to the customer.
- If the 'squeak' noise is still evident, repeat steps 13-22 up to two (2) more times.
 - If the 'squeak' noise is no longer evident, no further action is required. Return the vehicle to the customer.
 - If the 'squeak' noise is still evident, submit a Technical Assistance (TA) request for further assistance.