



# Technical Service Bulletin

No.LTB00079v3

13 May 2008

Reissue

**Please replace the previous edition of this bulletin.**

This bulletin supersedes TSB LTB00079v2/2008 dated 09 April, which should either be destroyed or clearly marked to show it is no longer valid (e.g. with a line across the page).

**Subject/Concern:** EPB Actuator Screech / Noise from Parking Brake Drum / Shoe drag.

**Models:**

Range Rover Sport (LS)		VIN-range: 5A900106 Onwards
Discovery 3/LR3 (LA)		VIN-range: 5A000259 Onwards

**Markets:** All **Section:** 206-00

**Summary:**

If there is a screech noise on application/release of the Electronic Parking Brake (EPB) when the car is stationary, with the possibility of the EPB lamp illuminating, with Diagnostic Trouble Code (DTC) C1A43-00, C1A53-68 and/or C1A46-62 stored, then follow this bulletin from Appendix 3. The EPB actuator must not be replaced until Appendix 3 has been completed.

If the EPB Actuator is functioning correctly but there is a rubbing or squeaking noise coming from the rear brakes when the vehicle is moving (with no other symptoms), carry out Diagnostic Procedure Appendix 1.

If the EPB Actuator is functioning correctly but there is evidence of parking brake shoe drag (heat build up/excessive lining wear), carry out Diagnostic Procedure Appendix 2.

**This version has been issued due to a change in the Subject/Concern.**

**Cause:** The parking brake shoes have been incorrectly adjusted. This may have caused excessive lining wear and/or noise and heat. If the condition has been present for a while, the internal components of the EPB actuator may have over-travelled and may be jammed.

**Suggested Customer Concern Code - N17.**

**Action:** Should a customer express concern, follow the Diagnostic Procedure outlined in accordance with the summary above.

**Labour Time:**

Operation Description	Operation No.	Time
Electric Park Brake Unjamming Procedure	70.35.89/37	0.2 hours
Service Electric Park Brake Shoes - Range Rover Sport	70.35.89/38	1.8 hours
Service Electric Park Brake Shoes - New Discovery	70.35.89/38	1.5 hours

**Repair/Claim Coding:**

**Causal Part:** If Actuator is faulty then SNF500180 otherwise SFS5000010

**ACES Condition Code:** 42

## Diagnostic Procedure

### Appendix 1

#### Inspect and Service the Park Brake - Rear Park Brake Squeak With Vehicle Moving

1.



**CAUTION: Parking Brake Actuator must be set into Mount Mode for this procedure. Use IDS version DVD 108 with Patch File 1 loaded or later.**

Then isolate the parking brake electrical circuit.

1 Remove the EPB 30 Amp fuse 'LINK FL8' from the Battery Junction Box (P108).

2. Remove the rear wheels, brake calipers and brake discs (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.09)).

3. **NOTE:** Only renew components if necessary. Renewal of components to be carried out as a separate warranty claim (normal wear and tear is not covered by warranty).

Inspect the general condition of the parking brake shoes.

1 Look for evidence of brake drag. This may be evident through excessive shoe lining or drum wear. There may also be evidence of heat build-up on the shoes, drums, discs or other internal components.

2 Ensure shoe hold-down clips and shoe return springs are not damaged. Note that these items may have been damaged by heat build up if the Parking Brake shoes have been dragging.

3 Remove any build-up of brake dust from the drum and drum/shoe interface.

4 Inspect shoe linings (they should be a minimum of 2.0 mm thick).

5 If there is evidence that brake shoe drag has caused excessive heat build up in the disc (which would normally be indicated if the brake shoe linings have separated from the shoes and if the brake discs are significantly discoloured), the brake discs should also be changed.

#### Install and Adjust

4. Install the brake discs and brake calipers (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.09)).

5.



**CAUTION: Carry out the parking brake shoe and lining adjustment procedure in full.**

Carry out parking brake shoe and lining adjustment (see Global Technical Reference GTR Workshop Manual, section: 206-05).

#### Check Actuator Operation

6. Reinstall the EPB 30 Amp fuse 'LINK FL8' to the Battery Junction Box (P108).

7. Select gear position 'NEUTRAL'.

8. Select gear range 'LOW'.

9. **NOTE:** If the repair has been successful there will be no abnormal loud screeching noises coming from the EPB actuator while carrying out this exercise. If there are abnormal screeching noises, the EPB actuator may have suffered internal damage and will have to be replaced. To be carried out as a separate warranty claim.

Using the EPB switch in the vehicle's cab, apply and release the parking brake three times.

10. Disconnect IDS and the battery charger/power supply.

## Diagnostic Procedure

### Appendix 2

#### Inspect and Service the Park Brake - Park Brake Shoe Drag

1.



**CAUTION: Parking Brake Actuator must be set into Mount Mode for this procedure. Use IDS version DVD 108 with Patch File 1 loaded or later.**

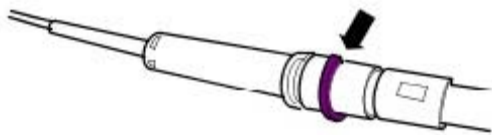
Then isolate the parking brake electrical circuit.

1 Remove the EPB 30 Amp fuse 'LINK FL8' from the Battery Junction Box (P108).

2. Remove the rear wheels, brake calipers and brake discs (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.09)).
3. **NOTE:** Only renew components if necessary. Renewal of components to be carried out as a separate Warranty Claim (normal wear and tear is not covered by warranty).

Inspect the general condition of the parking brake shoes.

- 1 Look for evidence of brake drag. This may be evident through excessive shoe lining or drum wear. There may also be evidence of heat build-up on the shoes, drums, discs or other internal components.
- 2 Ensure shoe hold-down clips and shoe return springs are not damaged. Note that these items may have been damaged by heat build up if the Parking Brake shoes have been dragging.
- 3 Remove any build-up of brake dust from the drum and drum/shoe interface.
- 4 Inspect shoe linings (they should be a minimum of 2.0 mm thick).
- 5 If there is evidence that brake shoe drag has caused excessive heat build up in the disc. (which would normally be indicated if the brake shoe linings have separated from the shoes and if the brake discs are significantly discoloured), the brake discs should also be changed.
4. Check that the Parking Brake cables are not seized. Look for heat damage at the cable ends. Check that the brake cables are correctly attached by releasing the outer cable retaining nuts from the back plates, and pulling on the cables. The cables should not detach from the brake.
5. Ensure the E-clips are installed to the outer brake cable ends in the correct groove. If the Parking Brake cables are damaged they can be replaced (Part Numbers SPB500012 (Left Hand) and SPB500081 (Right-Hand)). (see Global Technical Reference GTR Workshop Manual, section 206-05, 'Parking Brake Cable LH' and 'Parking Brake Cable RH').



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#### Install and Adjust

6. Refit the outer cable retaining nuts and torque to 8 Nm (6 lbft).
7. Install the brake discs and brake calipers (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.09)).

8.



**CAUTION: Carry out the parking brake shoe and lining adjustment procedure in full.**

Carry out parking brake shoe and lining adjustment (see Global Technical Reference GTR Workshop Manual, section: 206-05).

9. Reinstall the EPB 30 Amp fuse 'LINK FL8' to the Battery Junction Box (P108).

10.



**CAUTION: This procedure requires IDS DVD108 with Patch File 1 loaded or later.**

Connect an approved battery charger/power supply to the vehicle.

11. Connect IDS to the vehicle and begin a new diagnostic session, by entering the correct VIN for the current vehicle.
12. Select from the menu 'Set-up and Configuration', and then press 'tick' to continue.
13. Select 'Parking Brake' from the drop down menu.
14. Select 'Drive Parking Brake to the Latching Position' from the menu and then press 'tick' to continue.
15. Follow all on-screen instructions to complete this task.
16. Clear all DTCs from the EPB Module fault memory.

### Check Actuator Operation

17. Select gear position 'NEUTRAL'.
18. Select gear range 'LOW'.
19. **NOTE:** If the repair has been successful there will be no abnormal loud screeching noises coming from the EPB actuator while carrying out this exercise. If there are abnormal screeching noises, the EPB actuator may have suffered internal damage and will have to be replaced. To be carried out as a separate warranty claim.  
Using the EPB switch in the vehicle's cab, apply and release the parking brake three times.
20. **NOTE:** If any DTCs have been logged, further investigation is required into possible causes of these DTCs. Refer to the IDS DTC Help Text for further guidance. To be carried out as a separate warranty claim.  
Re-check for DTCs in the EPB Module. If the repair has been successful DTCs C1A43-00, C1A53-68 and/or C1A46-62 will not be logged and the EPB red warning lamp will not be flashing.
21. When the task is completed, exit the current session.
22. Disconnect IDS and the battery charger/power supply.

## Diagnostic Procedure

### Appendix 3

#### Unjamming the EPB

1.



**CAUTION: Unnecessary operation of a jammed EPB Actuator should be avoided. In the jammed condition (Actuator makes a screech noise when operated) the Actuator has a limited life if operated.**



**CAUTION: This procedure requires IDS DVD108 with Patch File 1 loaded or later.**

Connect an approved battery charger/power supply to the vehicle.

2. Connect IDS to the vehicle and begin a new diagnostic session, by entering the correct VIN for

the current vehicle.

3. Follow the IDS prompts to read the vehicle configuration.
4. When prompted 'Do you wish to read diagnostic trouble codes?', select 'NO' and then press 'tick' to continue.
5. When the 'Content Model' is displayed select 'Vehicle Configuration' tab.
6. Select from the menu 'Set-up and Configuration', and then press 'tick' to continue.
7. Select 'Parking Brake' from the drop down menu.
8. Select 'Parking Brake unjam Procedure' from the menu and then press 'tick' to continue.
9. **NOTE:** If the task completes successfully the parking brake cables will drive out to the 'mount' position.

Follow all on-screen instructions to complete this task.

10. When the task is completed, exit the current session.
11. Disconnect IDS and the battery charger/power supply.

### Inspect and Service the Park Brake

12.



**CAUTION: Parking Brake Actuator must be set into Mount Mode for this procedure. Use IDS version DVD 108 with Patch File 1 loaded or later.**

Then isolate the parking brake electrical circuit.

1 Remove the EPB 30 Amp fuse 'LINK FL8' from the Battery Junction Box (P108).

13. Remove the rear wheels, brake calipers and brake discs (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.09)).
14. **NOTE:** Only renew components if necessary. Renewal of components to be carried out as a separate Warranty Claim (normal wear and tear is not covered by warranty).

Inspect the general condition of the parking brake shoes.

1 Look for evidence of brake drag. This may be evident through excessive shoe lining or drum wear. There may also be evidence of heat build-up on the shoes, drums, discs or other internal components.

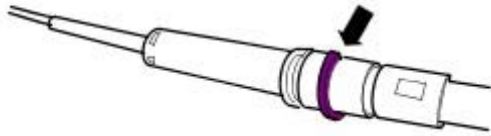
2 Ensure shoe hold-down clips and shoe return springs are not damaged. Note that these items may have been damaged by heat build up if the Parking Brake shoes have been dragging.

3 Remove any build-up of brake dust from the drum and drum/shoe interface.

4 Inspect shoe linings (they should be a minimum of 2.0 mm thick).

5 If there is evidence that brake shoe drag has caused excessive heat build up in the disc (which would normally be indicated if the brake shoe linings have separated from the shoes and if the brake discs are significantly discoloured), the brake discs should also be changed.

15. Check that the Parking Brake cables are not seized. Look for heat damage at the cable ends. Check that the brake cables are correctly attached by releasing the outer cable retaining nuts from the back plates, and pulling on the cables. The cables should not detach from the brake.
16. Ensure the E-clips are installed to the outer brake cable ends in the correct groove. If the Parking Brake cables are damaged they can be replaced (Part Numbers SPB500012 (Left Hand) and SPB500081 (Right-Hand)). (see Global Technical Reference GTR Workshop Manual, section 206-05, 'Parking Brake Cable LH' and 'Parking Brake Cable RH').



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## Install and Adjust

17. Refit the outer cable retaining nuts and torque to 8 Nm (6 lbft).
18. Install the brake discs and brake calipers (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.09)).
- 19.



**CAUTION: Carry out the parking brake shoe and lining adjustment procedure in full.**

Carry out parking brake shoe and lining adjustment (see Global Technical Reference GTR Workshop Manual, section: 206-05).

20. Reinstall the EPB 30 Amp fuse 'LINK FL8' to the Battery Junction Box (P108).
- 21.



**CAUTION: This procedure requires IDS DVD108 with Patch File 1 loaded or later.**

Connect an approved battery charger/power supply to the vehicle.

22. Connect IDS to the vehicle and begin a new diagnostic session, by entering the correct VIN for the current vehicle.
23. Select from the menu 'Set-up and Configuration', and then press 'tick' to continue.
24. Select 'Parking Brake' from the drop down menu.
25. Select 'Drive Parking Brake to the Latching Position' from the menu and then press 'tick' to continue.
26. Follow all on-screen instructions to complete this task.
27. Clear all DTCs from the EPB Module fault memory.

## Check Actuator Operation

28. Select gear position 'NEUTRAL'.
29. Select gear range 'LOW'.
30. **NOTE:** If the repair has been successful there will be no abnormal loud screeching noises coming from the EPB actuator while carrying out this exercise. If there are abnormal screeching noises, the EPB actuator may have suffered internal damage and will have to be replaced. To be carried out as a separate warranty claim.

Using the EPB switch in the vehicle's cab, apply and release the parking brake three times.

31. **NOTE:** If any DTCs have been logged, further investigation is required into possible causes of these DTCs. Refer to the IDS DTC Help Text for further guidance. To be carried out as a separate warranty claim.

Re-check for DTCs in the EPB Module. If the repair has been successful the DTCs listed at the start of this bulletin will not have logged and the EPB red warning lamp will no longer be flashing.

32. When the task is completed, exit the current session.
33. Disconnect IDS and the battery charger/power supply.