This reissue replaces all previous versions. Please destroy all previous versions. Only refer to the electronic version of this TSB in GTR.

This bulletin supersedes TSB LTB00079v5/2009 dated 21 January 2009, which should either be destroyed or clearly marked to show it is no longer valid (e.g. with a line across the page).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 TSB in GTR.

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 DDW to obtain the latest repair time.

• Unnecessary operation of a jammed or over-traveled EPB Actuator should be avoided. In the jammed-over-traveled condition the Actuator makes a screech noise when operated, the Actuator has a limited life if operated. Avoid unnecessary operation of the Actuator once this condition has been diagnosed.

<table>
<thead>
<tr>
<th>Subject/Concern:</th>
<th>EPB Actuator Screech/Noise from Parking Brake Drum/Shoe Drag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model:</td>
<td>Discovery 3 / LR3, Discovery 4 / LR4 (LA), Range Rover Sport (LS)</td>
</tr>
<tr>
<td></td>
<td>VIN Range: 5A000259 Onwards</td>
</tr>
<tr>
<td></td>
<td>VIN Range: AA513326 Onwards</td>
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<tr>
<td></td>
<td>VIN Range: 5A900106 Onwards</td>
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<tr>
<td>Markets:</td>
<td>All</td>
</tr>
<tr>
<td>Section:</td>
<td>206-00</td>
</tr>
</tbody>
</table>

**Summary**

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 **but no screech**), carry out Diagnostic Procedure Appendix 2.

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 followed.**

This version has been issued for a change in the Summary, Diagnostic Procedures, and a new procedure has been added to Appendix 3 (and Labor Time) that provides a means of checking if an EPB Actuator is serviceable before carrying out any repair work on the parking brake system.

**Cause:** The parking brake shoes may be corroded, worn or 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-traveled and may be jammed. **Suggested Customer Concern Code - N17.**

• If the root cause of the parking brake issue is incorrect adjustment during a previous service operation, a warranty claim cannot be made for the repair.

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

Labor Time

<table>
<thead>
<tr>
<th>Operation Description</th>
<th>Operation No.</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Park Brake Unarming Procedure</td>
<td>70.35.89/37</td>
<td>0.2 hours</td>
</tr>
</tbody>
</table>
Appendix 1

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

1. Parking Brake Actuator must be set into Mount Mode for this procedure. Use IDS version DVD 115 with Patch File 4 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. Inspect and rectify as necessary, the general condition of the parking brake shoes springs and back plate.

1. Remove the brake shoes from the back plate (see Global Technical Reference GTR Workshop Manual, Section 206-05).

2. The linings should be a minimum of 2.0 mm thick. Inspect the shoes and general condition of the other springs and clips. If there is evidence that the shoes or other components have been damaged due to heat build up then fit new shoes (shoe kit Part Number SFS500012).

3. Remove any build up of dust from the drum and drum / shoe interface. Clean the friction surface of the brake shoes and remove any metal flakes (detailed as 'A' in the illustrations) from the shoe lining using a suitable scraper. See graphic E114154 for reference.

4. Remove any build-up of corrosion from the back plate and brake shoe support platforms (detailed as 'B' in the illustration). These should be clean and smooth. See graphic E114154 for reference.

5. Protect / lubricate the backing plate brake shoe support platforms using a suitable grease (use Molyguard GS2039 : Part Number SYL500050).

6. It has been noted that the shoe hold down clips can become over-stressed during fitting / maintenance. Care should be taken not to over-compress the hold down clips during fitting. After fitting, or during any other maintenance inspection, always check that the parking brake shoes are being held against the brake back plate. When fitting new shoes, always use the new
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. **Carry out the parking brake shoe and lining adjustment procedure in full.**

   • This service instruction must be carried out in conjunction with SSM 34964 which contains video clips demonstrating the procedure. The video clips can be viewed via Electronic Product Quality Report (EPQR).

   Carry out parking brake shoe and lining adjustment (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.11)).

Diagnostic Procedure

Appendix 2

Inspect and Service the Park Brake - Park Brake Shoe Drag

1. **Parking Brake Actuator must be set into Mount Mode for this procedure. Use IDS version DVD 115 with Patch File 4 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. Inspect and rectify as necessary, the general condition of the parking brake shoes, springs and back plate.

      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. Remove the brake shoes from the back plate (see Global Technical Reference GTR Workshop Manual, Section 206-05).

      3. The linings should be a minimum of 2.0 mm thick. Inspect the shoes and general condition of the other springs and clips. If there is evidence that the shoes or other components have been damaged due to heat build up then fit new shoes (Shoe kit Part Number SFS500012).

      4. Remove any build up of dust from the drum and
Install and Adjust

drum / shoe interface. Clean the friction surface of the brake shoes and remove any metal flakes (detailed as 'A' in the illustrations) from the shoe lining using a suitable scraper. See graphic E114154 for reference.

5. Remove any build-up of corrosion from the back plate and brake shoe support platforms (detailed as 'B' in the illustration). These should be clean and smooth. See graphic E114154 for reference.

6. Protect / lubricate the backing plate brake shoe support platforms using a suitable grease (use Molyguard GS2039 : Part Number (SYL500050).

7. It has been noted that the shoe hold down clips can become over-stressed during fitting / maintenance. Care should be taken not to over-compress the hold down clips during fitting. After fitting, or during any other maintenance inspection, always check that the parking brake shoes are being held against the brake back plate. When fitting new shoes, always use the new hold down clips provided. If re-fitting used shoes, and there is any doubt about the integrity of the hold down clips, fit new clips. These are available under Part Number SMN500012 (kit contains four clips).

8. 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 discolored), the brake discs should also be changed.

4. Check the Parking Brake cables. 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 without replacing the EPB Actuator. (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').

6. Refit the outer cable retaining nuts and torque to 8 Nm (6 lbf ft).

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

8. Reinstall the EPB 30 Amp fuse 'LINK FL8' to the Battery Junction Box (P108).
9. **⚠️** Carry out the parking brake shoe and lining adjustment procedure in full.

- This service instruction must be carried out in conjunction with SSM 34964 which contains video clips demonstrating the procedure. The video clips can be viewed via EPQR.

Carry out parking brake shoe and lining adjustment (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.11)).

10. Clear all DTCs from the EPB Module fault memory.

### Check Actuator Operation

11. Select gear position 'NEUTRAL'.

12. Select gear range 'LOW'.

13. **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.

14. **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.

15. When the task is completed, exit the current session.

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

### Diagnostic Procedure

#### Appendix 3

#### Unjamming the EPB

1. **⚠️ 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.**

2. **⚠️ This procedure requires IDS DVD 115 with Patch File 4 loaded or later.**

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

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'.

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. **If the task completes successfully the parking brake cables will drive out to the 'mount' position. This Procedure unjams the actuator. The parking brake at the wheel may still be jammed on due to brake drag.**

Follow all on-screen instructions to complete this task.

10. When the task is completed, exit the current session.

11. Do not disconnect IDS and the battery charger/power supply.

**Electric Park Brake Actuator - Functionality Test**

* Follow this procedure to determine whether the EPB Actuator is still serviceable or whether it is jammed/internally damaged beyond repair.

12. **The direction of rotation must always be forward.**

   On both rear brakes, with the drums still in place, wind the brake adjusters out as far as they will go in order to lock the shoes against the drums. You should wind the adjusters until it is no longer possible to rotate the drums by hand.

13. With the vehicle transmission in 'Low Range' and the vehicle battery in good condition (see Global Technical Reference GTR Workshop Manual, section: 414-00) and the engine running, apply the EPB using the EPB switch in the cab. With the assistance of a colleague, listen to hear if the EPB motor runs and for the 'screech' noise from the EPB.
Module.

14. **It is necessary to press the brake pedal whilst operating the switch to release the EPB.**

Using the EPB switch in the cab, release the EPB.

15. Using the switch in the cab, apply the EPB again. Listen to hear if the EPB motor runs and for the 'screech' noise from the EPB Module.

16. If the EPB module made the 'screech' noise during both applications or during the second application, the actuator is potentially jammed. Re run the unjam procedure two more times and retest the EPB module again as described above. If the screech noise is still evident, replace the module.

17. If the EPB Module motor could be heard to run during the apply, with no 'screech' noise, then it is necessary to check the EPB 'Brake Force Sensor' output using the IDS Data Logger. To do this:

1. Select the 'Content Model' icon.
2. Select '206-00 Braking System'.
3. Select the 'Data Logger' icon.
4. Select 'Brake Force Sensor'.
5. Add to Data Logger.
7. The reading should be greater than 1000 N with the park brake applied with the transmission in low range.
8. Exit Data Logger.
9. If the 'Brake Force Sensor' output is greater than 1000 N then the EPB Module is in correct working order. If lower than 1000 N the EPB module should be replaced.
18. If the EPB Module motor did not run at all, then the reason for that should be established. Check for DTCs, check the power supply to the EPB Module and repair as necessary. If a fault is found and repaired, re-check the EPB Module after the repair, as outlined above.
19. Using the switch in the cab, release the EPB.
20. Back the brake adjusters off.
21. The rest of the procedure in Appendix 3 must now be followed in order to ensure the Park brake system is correctly repaired and adjusted.

**Inspect and Service the Parking Brake**

22. **Parking Brake Actuator must be set into Mount Mode for this procedure. Use IDS version DVD 115 with Patch File 4 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).

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

24. Inspect and rectify as necessary, the general condition of the parking brake shoes, springs and back plate.

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. Remove the brake shoes from the back plate (see Global Technical Reference GTR Workshop Manual, Section 206-05).

3. The linings should be a minimum of 2.0 mm thick. Inspect the shoes and general condition of the other springs and clips. If there is evidence that the shoes or other components have been damaged due to heat build up then fit new shoes (Shoe kit Part Number SFS500012).

4. Remove any build up of dust from the drum and drum / shoe interface. Clean the friction surface of the brake shoes and remove any metal flakes (detailed as 'A' in the illustrations) from the shoe lining using a suitable scraper. See graphic E114154 for reference.

5. Remove any build-up of corrosion from the back plate and brake shoe support platforms (detailed as 'B' in the illustration). These should be clean and smooth. See graphic E114154 for reference.

6. Protect / lubricate the backing plate brake shoe support platforms using a suitable grease (use Molyguard GS2039 : Part Number SYL500050).

7. It has been noted that the shoe hold down clips can become over-stressed during fitting / maintenance. Care should be taken not to over-compress the hold down clips during fitting. After fitting, or during any other maintenance inspection, always check that the parking brake shoes are being held against the brake back plate. When fitting new shoes, always use the new hold down clips provided. If re-fitting used shoes, and there is any doubt about the integrity of the hold down clips, fit new clips. These are available under Part Number SMN500012 (kit contains four clips).

8. 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 discolored), the brake discs should also be changed.

25. Check the Parking Brake cables. 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.
26. 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 without replacing the EPB Actuator. (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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27. Refit the outer cable retaining nuts and torque to 8 Nm (6 lbf).  
28. Install the brake discs and brake calipers (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.09)).

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

• This service instruction must be carried out in conjunction with SSM 34964 which contains video clips demonstrating the procedure. The video clips can be viewed via EPQR.

Carry out parking brake shoe and lining adjustment (see Global Technical Reference GTR Workshop Manual, section: 206-05 (70.40.11)).

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

Check Actuator Operation

31. Select gear position 'NEUTRAL'.  
32. Select gear range 'LOW'.

33. 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.

34. 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.

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