



to fit:

Land Rover Discovery 3, 4 and Range Rover Sport models



EN

## Hand brake shoe set

### Problem

Excessive heat build-up in the rear brakes, squeal from the rear brakes while driving, squeal from the rear brake when the electronic parking brake (EPB) is applied and EPB warning lamp illuminated.

Possible fault codes stored:

C1A43 – Motor supply circuit

C1A46 – Parking brake actuator module plausibility check

C1A53 – Manual emergency release activated – automatic parking brake actuator module cable reengagement failed

### Cause

The parking brake shoes are binding, due to corrosion, debris, wear or are incorrectly adjusted, or there is an EPB module software fault. This can cause the small teeth inside the unit to break or the small adjuster nut to over tighten and jam at the extent of its travel.

### Solution

If the parking brake cannot be released, it can be released manually. Located inside the centre console there is a wire cable loop, pulling this will release the parking brake. For the Discovery 3 and 4 first remove the small rectangular plastic cover situated just behind the parking brake lever. The Range Rover Sport, EPB lever needs to be removed by unscrewing two screws, to access the cable.

If replacing the parking brake actuator, it is strongly advised that the rear brake discs, pads and shoes be replaced at the same time.

If the vehicle has had new brake shoes or rear discs fitted or has been wading through mud (not water) for more than 50 miles (80 km) it is imperative that the shoes are checked and adjusted correctly. Failure to do this will cause excessive brake lining wear and/or noise and heat. As a result, the internal components of the EPB actuator may over-travel and as a result become jammed, causing the rear brakes to seize on.

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## How to check the parking brake shoes.

- Raise and support the vehicle.
- Using a suitable diagnostic tool, clear any fault codes and set the parking brake into service mode.
- Isolate the parking brake electrical circuit; remove the EPB 30 Amp fuse from the battery junction box.
- Remove the rear wheels, brake calipers and brake discs.
- Inspect the general condition of the parking brake shoes, springs and back plate.
- The linings should be a minimum of 2.0 mm thick. If there is evidence that the shoes or other brake components have been damaged due to heat build-up then replace as necessary.
- Remove any build-up of dust from the drum and brake shoe interface. Clean the friction surface of the brake shoes and remove any metal flakes from the shoe lining.
- Remove any build-up of corrosion from the back plate and brake shoe support platforms. These should be smooth and clean.
- Lubricate the backing plate brake shoe support platforms using the Blue Print ceramic brake grease.
- The brake shoe hold down clips can become over-stressed during replacement or maintenance. Always check that the parking brake shoes are being held against the brake back plate. When fitting new shoes, always use new hold down clips. If re-fitting used shoes, and there is any doubt about the integrity of the hold down clips, fit new clips.
- Install the brake discs and brake calipers.

## How to adjust the parking brake shoes

- Raise and support the vehicle.
- Remove the wheels and tyres.
- Using a suitable diagnostic tool, set the parking brake into service mode.
- Align the access hole with the indicators located on the back plate.
- Locate the parking brake shoe adjuster.
- Remove the access plug.
- Using a flat blade screwdriver as a lever to displace the parking brake shoes.

**NOTE:** The movement of the parking brake shoe will be small and may not be felt when levering.

- Failure to displace the parking brake shoes will result in incorrect clearance when carrying out the adjustment step.
- Now, using the screwdriver rotate the brake shoe adjuster to extend it until the brake disc is locked hand tight. However, do not apply excessive force on the brake shoe adjuster. Failure to follow this instruction may result in damage to the parking brake system.
- The following steps sets the running clearance for the parking brake shoes.
- Using a suitable marker, mark the position of the brake shoe adjuster.
- The parking brake adjuster must then be rotated back exactly one full revolution (10 clicks), until the mark is again visible.
- The wedge adjuster must be correctly seated to make sure the parking brake cable is correctly adjusted.
- Loosen the wedge adjuster Allen screw half a turn.
- Tap the brake disc lightly with a soft faced mallet, around the parking brake shoe location within the brake disc.
- Tighten the wedge adjuster Allen screw to 6 Nm.
- Install the access plug.
- Repeat the above procedures for the other side.
- Refit the EPB 30 Amp fuse from the Battery Junction Box and take the vehicle out of service mode by operating the parking brake twice or via the diagnostic tool.

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## The Bedding in procedure

- This procedure must be carried out if, new parking brake shoes are fitted, new rear brake discs are fitted or if the vehicle has been wading through mud (not water) for more than 50 miles (80 Km).
- With the Engine running, press the brake pedal fully on and off three times. On the third press, hold the brake pedal down.
- With the brake pedal still in the down position, pull the EPB switch upwards 4 times and then downwards 3 times. This must be completed within 10 seconds.
- Your dash display will then show 'Park Brake Bedding Cycle Active' or similar. If it has not, then release the brake pedal and try again.
- You need to ensure that you are on a clear road, as this procedure needs to be completed 10 times.
- Drive at least 19mph (30 kmh) to a maximum of 22mph (35 kmh) and then apply the EPB switch until you stop. You then need to wait for 60 seconds or drive for 1 mile to allow the brakes to cool down, before repeating the process. If the engine is stopped or the vehicle is driven over the speed required, the bedding in process will be cancelled. At the end of the 10th time, the bedding in mode will automatically finish.

To prevent the same failure happening to the new parts, it is recommend that the parking brake shoes are regularly checked and adjusted.

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