



***BRAKES***

# ENGINEERED SOLUTIONS

## Bulletin BES 08-11

**Subject:** Electronic Parking Brake (EPB)

**Vehicle Involved:** Land Rover

**Condition:** Electronic Parking Brake System operation

**Repair Procedure:** On the Land Rover, the Electronic Parking Brake (EPB) uses cable-operated, drum-type parking brakes, mounted inside the hat of the rear rotors. Before adjusting or removing anything, the EPB must be released and disabled, and it may be necessary to slacken the parking brake star wheel adjusters to remove the rotor.

Disconnecting the battery will disable the EPB, as will removing fuses 8E, and 11E, from the under hood fuse box, or fuses 40P and 41P, from the inside fuse box. There is a manual release under the coin tray next to the shift lever. Pry the coin tray out of the console, and hook the jack handle into the cable loop and pull.

The actuator is mounted above the rear axle, and removal only requires removing the EVAP canister and a heat shield. Inside the actuator housing is the motor, transmission, and a force sensor. Both brake cables are joined at the force sensor.

Along with the control unit's software, this sensor is the key to the system's operation. The cable force sensor inside the actuator housing, allows the control unit to know when to turn off the motor when applying or releasing the parking brakes. After the brakes are applied, the control unit monitors that sensor for 20 minutes, and it will run the motor as needed to maintain the programmed brake force. Sometimes these adjustments can be heard long after the vehicle is shut off.

Here's how it works. The Electronic Parking brake is applied by pulling up on the console-mounted switch, and can be applied with the ignition OFF. Pushing down on the switch releases the brake, only with the ignition switch ON and the brake pedal depressed. The brake will also release automatically with the ignition



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switch ON, the transmission in gear, and the driver pressing the accelerator pedal (Drive-Away Mode).

If the switch is held up while vehicle speed is greater than 6 mph, the control unit will send a brake-apply request to the ABS control unit and the hydraulic brakes will be applied. Once stopped, the hydraulic brakes will release and the EPB will apply and hold the vehicle.

Depending on the driver's preferences that have been programmed, the brakes may apply automatically when removing the key from the ignition. To over ride this, hold the EPB switch down, releasing the EPB while removing the ignition key.

If the switch is operated to often in a short period of time, the system will go into stand by mode for about one minute, to let the motor cool down. The control module remains "awake" for 20 minutes after key-off. During this time it will respond to switch commands. Operating the switch will "awaken" the control unit from its sleep mode.

If brake release is requested, or brake apply is requested and the brake is already applied, the control will ignore the request, but illuminate the parking brake light in the instrument panel. It will then go back to sleep when the switch is released. If brake apply is requested and the brakes are not applied, it will apply the parking brakes and go to sleep after three minutes.