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2011.0 RANGE ROVER (LM), 100-00

GENERAL INFORMATION

**DIAGNOSTIC TROUBLE CODE INDEX - DTC:
MODULE NAME: PARKING BRAKE MODULE** (G1248418)

PARKING BRAKE MODULE (PBM)

 **CAUTION:**

Diagnosis by substitution from a donor vehicle is **NOT** acceptable. Substitution of control modules does not guarantee confirmation of a fault, and may also cause additional faults in the vehicle being tested and/or the donor vehicle

 **NOTES:**

- If the control module or a component is suspect and the vehicle remains under manufacturer warranty, refer to the warranty policy and procedures manual, or determine if any prior approval programme is in operation, prior to the installation of a new module/component
- Generic scan tools may not read the codes listed, or may read only 5-digit codes. Match the 5 digits from the scan tool to the first 5 digits of the 7-digit code listed to identify the fault (the last 2 digits give extra information read by the manufacturer-approved diagnostic system)
- When performing voltage or resistance tests, always use a digital multimeter accurate to three decimal places and with a current calibration certificate. When testing resistance, always take the resistance of the digital multimeter leads into account
- Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests
- Inspect connectors for signs of water ingress, and pins for damage and/or corrosion
- If diagnostic trouble codes are recorded and, after performing the pinpoint tests, a fault is not present, an intermittent concern may be the cause. Always check for loose connections and corroded terminals
- Where an 'on demand self-test' is referred to, this can be accessed via the 'diagnostic trouble code monitor' tab on the manufacturers approved diagnostic system
- Check DDW for open campaigns. Refer to the corresponding bulletins and SSMs which may be valid for the specific customer complaint and carry out the recommendations as required

The table below lists all Diagnostic Trouble Codes (DTCs) that could be logged in the Parking Brake Module, for additional Diagnosis and Testing information refer to the relevant Diagnosis and Testing Section. For additional information, refer to: Parking Brake (206-05 Parking Brake and Actuation, Diagnosis and Testing).

 **NOTE:**

Where reference is made to a drive cycle test, refer to the relevant Diagnosis and Testing Section

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
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DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
C0062-01	Longitudinal Acceleration Sensor - General electrical failure	<ul style="list-style-type: none"> General electrical failure 	<ul style="list-style-type: none"> Check the electrical connections to the sensor. Clear the DTC and retest. If the problem persists, renew the sensor
C0062-02	Longitudinal Acceleration Sensor - General signal failure	<ul style="list-style-type: none"> General signal failure 	<ul style="list-style-type: none"> Check the electrical connections to the sensor. Clear the DTC and retest. If the problem persists, renew the sensor
C0062-54	Longitudinal Acceleration Sensor - Missing calibration	<ul style="list-style-type: none"> Missing calibration 	<ul style="list-style-type: none"> Check the electrical connections to the sensor. Calibrate the sensor using the manufacturers approved diagnostic system
C1104-68	Brake Bedding Mode - Event information	<ul style="list-style-type: none"> Event information Brake bedding mode has been entered 	<ul style="list-style-type: none"> This is not a fault. This is where the parking brake bedding-in mode has been activated. For information on how the bedding-in mode is activated and deactivated, refer to the relevant section in the workshop manual
C1A43-01	Motor Supply - General electrical failure	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">  NOTE: The electric motor is part of the parking brake actuator module </div> <ul style="list-style-type: none"> Internal motor circuit fault 	<ul style="list-style-type: none"> Clear DTCs, complete drive cycle 3 to test for normal operation, refer to the relevant drive cycle shown below this table. Refer to the warranty policy and procedures manual if a module is suspect
C1A43-19	Motor Supply - Circuit current above threshold	<ul style="list-style-type: none"> Circuit current above threshold 	<ul style="list-style-type: none"> Refer to the electrical circuit diagrams and check the circuit. Check the power and ground connections to the modules
C1A43-67	Motor Supply - Signal incorrect after event	<ul style="list-style-type: none"> Signal incorrect after event 	<ul style="list-style-type: none"> Check the functionality of the park brake. Check for other related DTCs. Clear the DTC and retest. If the problem persists, renew the park brake actuator
C1A46-01	Mismatch Between Motor Drive Current and Resultant Force - General electrical failure	<ul style="list-style-type: none"> General electrical failure 	<ul style="list-style-type: none"> Check the functionality of the park brake. Check for other related DTCs. Clear the DTC and retest. If the problem persists, renew the park brake actuator
C1A46-64	Mismatch Between Motor Drive Current and Resultant Force - Signal plausibility failure	<ul style="list-style-type: none"> Signal plausibility failure 	<ul style="list-style-type: none"> Check the functionality of the park brake. Check for other related DTCs. Clear the DTC and retest. If the problem persists, renew the park brake actuator

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
C1A47-01	Force Sensor - General electrical failure	 NOTE: The force sensor is part of the parking brake actuator module <ul style="list-style-type: none"> ■ Internal force sensor electrical fault 	<ul style="list-style-type: none"> ■ Clear DTCs, complete drive cycle 1 to test for normal operation, refer to the relevant drive cycle shown below this table. Refer to the warranty policy and procedures manual if a module is suspect
C1A47-02	Force Sensor - General signal failure	 NOTE: The force sensor is part of the parking brake actuator module <ul style="list-style-type: none"> ■ Internal force sensor plausibility failure 	<ul style="list-style-type: none"> ■ Clear DTCs, complete drive cycle 3 to test for normal operation, refer to the relevant drive cycle shown below this table. Refer to the warranty policy and procedures manual if a module is suspect
C1A47-54	Force Sensor - Missing calibration	 NOTE: The force sensor is part of the parking brake actuator module <ul style="list-style-type: none"> ■ Internal force sensor not calibrated 	<ul style="list-style-type: none"> ■ Clear DTCs, complete drive cycle 1 to test for normal operation, refer to the relevant drive cycle shown below this table. Refer to the warranty policy and procedures manual if a module is suspect
C1A48-01	Warning Lamp - General electrical failure	<ul style="list-style-type: none"> ■ Parking brake actuator module to instrument cluster warning lamp circuit open circuit ■ Parking brake actuator module to instrument cluster warning lamp circuit short circuit to ground ■ Parking brake actuator module to instrument cluster warning lamp circuit short circuit to power ■ Parking brake actuator module fault ■ Instrument cluster fault 	<ul style="list-style-type: none"> ■ Check the parking brake actuator module to instrument cluster warning lamp circuit. Refer to the electrical circuit diagrams. Rectify as necessary. Refer to the warranty policy and procedures manual if a module is suspect. Clear DTCs, complete drive cycle 1 to test for normal operation, refer to the relevant drive cycle shown below this table

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
C1A53-68	Manual Emergency Release Activated - Event information	<ul style="list-style-type: none"> ■ Emergency release cable activated and stuck/damaged ■ Parking brake cables seized/damaged ■ Actuator jammed 	<ul style="list-style-type: none"> ■ Check that the emergency release cable is not permanently pulled (or stuck). Check the parking brake cables for broken or loose connections. Attempt to re-engage the parking brake by pulling the apply switch TWICE. Clear DTCs, complete the following drive cycle. Pull the parking brake emergency release cable. Pull the parking brake switch to the apply position, hold until the parking brake motor has stopped (this may take up to 20 seconds). Release the switch to idle position. For parking brake actuator module manual emergency release
U0073-88	Control Module Communication Bus "A" Off - Bus off	<ul style="list-style-type: none"> ■ High speed CAN bus circuit short circuit to ground, short circuit to power, open circuit, high resistance 	<ul style="list-style-type: none"> ■ Refer to the electrical circuit diagrams and check the power and ground connections to the module. Using the manufacturer approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check the CAN network
U0100-00	Lost Communication With ECM /PCM "A" - No sub type information	<ul style="list-style-type: none"> ■ Engine control module power or ground circuit open circuit, high resistance ■ High speed CAN bus circuit short circuit to ground, short circuit to power, open circuit, high resistance ■ Engine system fault 	<ul style="list-style-type: none"> ■ Refer to the electrical circuit diagrams and check the engine control module power and ground circuits for open circuit, high resistance ■ Using the manufacturer approved diagnostic system, perform a CAN network integrity test. Refer to the electrical circuit diagrams and check the high speed CAN bus circuit for short circuit to ground, short circuit to power, open circuit, high resistance ■ Using the manufacturer approved diagnostic system, check the engine control module for related DTCs and refer to the relevant DTC index
U0101-00	Lost Communication with TCM - No sub type information	<ul style="list-style-type: none"> ■ Transmission control module power or ground circuit open circuit, high resistance ■ High speed CAN bus circuit short circuit to ground, short circuit to power, open circuit, high resistance ■ Transmission system fault 	<ul style="list-style-type: none"> ■ Refer to the electrical circuit diagrams and check the transmission control module power and ground circuits for open circuit, high resistance ■ Using the manufacturer approved diagnostic system, perform a CAN network integrity test. Refer to the electrical circuit diagrams and check the high speed CAN bus circuit for short circuit to ground, short circuit to power, open circuit, high resistance ■ Using the manufacturer approved diagnostic system, check the transmission control module for related DTCs and refer to the relevant DTC index
U0102-00	Lost Communication With Transfer Case Control Module - No sub type information	<ul style="list-style-type: none"> ■ Transfer case control module power or ground circuit open circuit, high resistance ■ High speed CAN bus circuit short circuit to ground, short circuit to power, open circuit, high resistance ■ Transfer case system fault 	<ul style="list-style-type: none"> ■ Refer to the electrical circuit diagrams and check the transfer case control module power and ground circuits for open circuit, high resistance ■ Using the manufacturer approved diagnostic system, perform a CAN network integrity test. Refer to the electrical circuit diagrams and check the high speed CAN bus circuit for short circuit to ground, short circuit to power, open circuit, high resistance ■ Using the manufacturer approved diagnostic system, check the transfer case control module for related DTCs and refer to the relevant DTC index

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0121-00	Lost Communication With Anti-Lock Brake System (ABS) Control Module - No sub type information	<ul style="list-style-type: none"> ■ Anti-lock brake system control module power or ground circuit open circuit, high resistance ■ High speed CAN bus circuit short circuit to ground, short circuit to power, open circuit, high resistance ■ Anti-lock brake system fault 	<ul style="list-style-type: none"> ■ Refer to the electrical circuit diagrams and check the anti-lock brake system control module power and ground circuits for open circuit, high resistance ■ Using the manufacturer approved diagnostic system, perform a CAN network integrity test. Refer to the electrical circuit diagrams and check the high speed CAN bus circuit for short circuit to ground, short circuit to power, open circuit, high resistance ■ Using the manufacturer approved diagnostic system, check the anti-lock brake system control module for related DTCs and refer to the relevant DTC index
U0140-00	Lost Communication With Body Control Module - No sub type information	<ul style="list-style-type: none"> ■ Central junction box power or ground circuit open circuit, high resistance ■ High speed CAN bus circuit short circuit to ground, short circuit to power, open circuit, high resistance ■ Central junction box system fault 	<ul style="list-style-type: none"> ■ Refer to the electrical circuit diagrams and check the central junction box power and ground circuits for open circuit, high resistance ■ Using the manufacturer approved diagnostic system, perform a CAN network integrity test. Refer to the electrical circuit diagrams and check the high speed CAN bus circuit for short circuit to ground, short circuit to power, open circuit, high resistance ■ Using the manufacturer approved diagnostic system, check the central junction box for related DTCs and refer to the relevant DTC index
U0300-55	Internal Control Module Software Incompatibility - Not configured	<ul style="list-style-type: none"> ■ Parking brake module configuration does not match vehicle configuration ■ Parking brake actuator module fault 	<ul style="list-style-type: none"> ■ Check that the correct module is installed to the vehicle. Check that the car configuration file (CCF) is being used. Configure the module(s) using the approved diagnostic system
U0401-00	Invalid Data Received From ECM/PCM A - No sub type information	<ul style="list-style-type: none"> ■ Missing/invalid data from the engine control module 	<ul style="list-style-type: none"> ■ Using the manufacturer approved diagnostic system, check the engine control module for related DTCs and refer to the relevant DTC index
U0402-00	Invalid data received from the TCM - No sub type information	<ul style="list-style-type: none"> ■ Missing/invalid data from the transmission control module 	<ul style="list-style-type: none"> ■ Using the manufacturer approved diagnostic system, check the transmission control module for related DTCs and refer to the relevant DTC index
U0403-00	Invalid Data Received From The Transfer Case Control Module - No sub type information	<ul style="list-style-type: none"> ■ Missing/invalid data from the transfer case control module 	<ul style="list-style-type: none"> ■ Using the manufacturer approved diagnostic system, check the transfer case control module for related DTCs and refer to the relevant DTC index

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0415-00	Invalid Data Received From Anti-Lock Brake System (ABS) Control Module - No sub type information	<ul style="list-style-type: none"> ■ Missing/invalid data from the anti-lock brake system control module 	<ul style="list-style-type: none"> ■ Using the manufacturer approved diagnostic system, check the anti-lock brake system control module for related DTCs and refer to the relevant DTC index
U0422-00	Invalid Data Received From Body Control Module - No sub type information	<ul style="list-style-type: none"> ■ Missing/invalid data from the central junction box 	<ul style="list-style-type: none"> ■ Using the manufacturer approved diagnostic system, check the central junction box for related DTCs and refer to the relevant DTC index
U1A14-49	CAN Initialization Failure - Internal electronic failure	<ul style="list-style-type: none"> ■ CAN error ■ Parking brake actuator module fault 	<ul style="list-style-type: none"> ■ Clear DTCs, complete drive cycle 1 to test for normal operation, refer to the relevant drive cycle shown below this table. Refer to the warranty policy and procedures manual if a module is suspect
U2002-01	Switch - General electrical failure	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">  NOTE: This DTC can be set by very slow operation of the electric park brake switch </div> <ul style="list-style-type: none"> ■ Electric park brake switch needs to reset ■ Electric park brake switch contaminated ■ Electric park brake switch connector damaged, corroded or backed out terminals ■ Electric park brake switch circuits short circuit to ground, short circuit to power, open circuit, high resistance ■ Electric park brake switch internal failure 	<ul style="list-style-type: none"> ■ With the ignition set to on, apply the electric park brake for a minimum of 10 seconds, then release. Clear the DTC and retest ■ Check for any contamination/debris that may be causing the electric park brake switch to be stuck ■ Disconnect the electric park brake switch and check for connector damage, corroded or backed out terminals. Clear the DTC and retest ■ Refer to the electrical circuit diagrams and check the electric park brake switch circuits for short circuit to ground, short circuit to power, open circuit, high resistance ■ Check and install a new electric park brake switch as necessary. Clear DTCs and complete drive cycle 1 as described in section 206-05 Diagnosis and Testing and test for normal operation

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U2002-12	Switch - Circuit short to battery	<ul style="list-style-type: none"> ■ Electric park brake switch needs to reset ■ Electric park brake switch contaminated ■ Electric park brake switch connector damaged, corroded or backed out terminals ■ Electric park brake switch circuit short circuit to power ■ Electric park brake switch internal failure 	<ul style="list-style-type: none"> ■ With the ignition set to on, apply the electric park brake for a minimum of 10 seconds, then release. Clear the DTC and retest ■ Check for any contamination/debris that may be causing the electric park brake switch to be stuck ■ Disconnect the electric park brake switch and check for connector damage, corroded or backed out terminals. Clear the DTC and retest ■ Refer to the electrical circuit diagrams and check the electric park brake switch circuit for short circuit to power ■ Check and install a new electric park brake switch as necessary. Clear DTCs and complete drive cycle 1 as described in section 206-05 Diagnosis and Testing and test for normal operation
U2002-2F	Switch - Signal erratic	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">  NOTE: This DTC can be set by very slow operation of the electric park brake switch </div> <ul style="list-style-type: none"> ■ Electric park brake switch needs to reset ■ Electric park brake switch contaminated ■ Electric park brake switch connector damaged, corroded or backed out terminals ■ Electric park brake switch circuits short circuit to ground, short circuit to power, open circuit, high resistance ■ Electric park brake switch internal failure 	<ul style="list-style-type: none"> ■ With the ignition set to on, apply the electric park brake for a minimum of 10 seconds, then release. Clear the DTC and retest ■ Check for any contamination/debris that may be causing the electric park brake switch to be stuck ■ Disconnect the electric park brake switch and check for connector damage, corroded or backed out terminals. Clear the DTC and retest ■ Refer to the electrical circuit diagrams and check the electric park brake switch circuits for short circuit to ground, short circuit to power, open circuit, high resistance ■ Check and install a new electric park brake switch as necessary. Clear DTCs and complete drive cycle 1 as described in section 206-05 Diagnosis and Testing and test for normal operation

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U2002-92	Switch - Performance or incorrect operation	 NOTE: This DTC can be set by very slow operation of the electric park brake switch <ul style="list-style-type: none"> ■ Electric park brake switch needs to reset ■ Electric park brake switch contaminated ■ Electric park brake switch connector damaged, corroded or backed out terminals ■ Electric park brake switch circuits short circuit to ground, short circuit to power, open circuit, high resistance ■ Electric park brake switch internal failure 	<ul style="list-style-type: none"> ■ With the ignition set to on, apply the electric park brake for a minimum of 10 seconds, then release. Clear the DTC and retest ■ Check for any contamination/debris that may be causing the electric park brake switch to be stuck ■ Disconnect the electric park brake switch and check for connector damage, corroded or backed out terminals. Clear the DTC and retest ■ Refer to the electrical circuit diagrams and check the electric park brake switch circuits for short circuit to ground, short circuit to power, open circuit, high resistance ■ Check and install a new electric park brake switch as necessary. Clear DTCs and complete drive cycle 1 as described in section 206-05 Diagnosis and Testing and test for normal operation
U2012-00	Car Configuration Parameter(s) - No sub type information	<ul style="list-style-type: none"> ■ Module incorrectly programmed 	<ul style="list-style-type: none"> ■ Check/amend the Car Configuration File using the manufacturer approved diagnostic system
U3000-00	Control Module - No sub type information	<ul style="list-style-type: none"> ■ General electric failure 	<ul style="list-style-type: none"> ■ Check the control module connections for security and serviceability. Clear the DTC and retest
U3000-16	Control Module - Circuit voltage below threshold	<ul style="list-style-type: none"> ■ Control module circuit voltage below threshold: <ul style="list-style-type: none"> ■ Voltage less than (master control module voltage - 2V) for > 10 seconds ■ Battery voltage low ■ Control module circuit High resistance 	<ul style="list-style-type: none"> ■ Check the battery condition and state of charge. Refer to the relevant section of the workshop manual. Check the module power and ground circuits. Refer to the electrical circuit diagrams
U3000-17	Control Module - Circuit voltage above threshold	<ul style="list-style-type: none"> ■ Control module circuit voltage above threshold ■ Battery voltage high (overcharging) ■ Control module circuit short circuit to power 	<ul style="list-style-type: none"> ■ Check the battery condition and state of charge. Refer to the relevant section of the workshop manual. Check the module power and ground circuits. Refer to the electrical circuit diagrams

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U3000-4B	Control Module - Over temperature	<ul style="list-style-type: none"> ■ Control module over temperature 	<ul style="list-style-type: none"> ■ Allow the unit to cool, clear the DTC and retest. Do not renew the modulator as this is a protection function to ensure no internal damage occurs
U300A-64	Ignition Switch - Signal plausibility failure	<ul style="list-style-type: none"> ■ Signal plausibility failure 	<ul style="list-style-type: none"> ■ Check the ignition switch connections. Check the circuit between the ignition switch and the parking brake module. Refer to the electrical circuit diagrams. Clear the DTC and retest