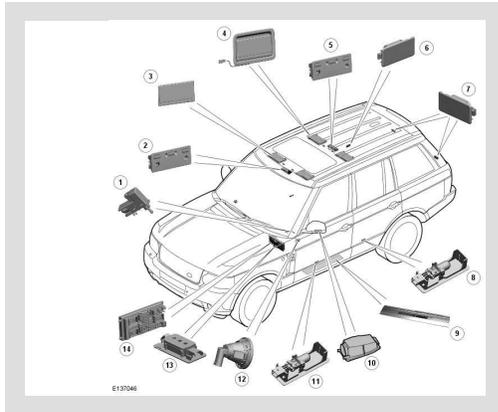


PUBLISHED: 13-MAY-2011
2011.0 RANGE ROVER (LM), 417-02

INTERIOR LIGHTING (G453258)

INTERIOR LIGHTING COMPONENT LOCATION



ITEM	DESCRIPTION
1	Glove compartment switch and lamp
2	Front interior and reading lamp
3	Front vanity mirror illumination lamps (2 off)
4	Rear vanity mirror illumination lamps (2 off)
5	Rear interior and reading lamp
6	Luggage compartment lamp
7	Upper tail door lamps
8	Rear door puddle lamp (2 off)
9	Front door treadplate LED illumination (2 off)
10	Door mirror approach lamp (2 off)
11	Front door puddle lamp (2 off)
12	Sill lamp (2 off)
13	Footwell lamp (2 off)
14	Central Junction Box (CJB)

GENERAL

NOTE:

The light emitting diode (LED) illumination of the front door pockets and the front and rear interior door handles is a function of the central junction box (CJB) and only operates when the light control switch is in the side lamp or headlamp positions.

The interior lighting is controlled by the CJB which is located behind the glove compartment. The interior lighting comprises the following lamps:

- Front interior lamp unit
- Rear interior lamp unit
- Upper tail door load space lamps (2 off)
- Luggage compartment load space lamp
- Fascia mounted sill lamps (2 off)
- Under fascia footwell lamps (2 off)
- Door mirror approach lamps (2 off)
- Puddle lamps (4 off).

The interior lamps have two modes of operation; automatic or manual. In the automatic mode the interior lamp functionality is controlled by the CJB on receipt of various input signals. In manual mode, the lamps can be switched on and off using the momentary button adjacent to the front interior lamp or can be disabled completely using the same switch.

The following table shows the bulbs used for the interior lighting and their type and rating:

NOTE:

Some interior lighting is LED and not listed in the below table.

BULB	TYPE	RATING
Front and rear interior lamps	Capless	6W
Front and rear map reading lamps	Capless	6W
Load space lamp	Capless	5W
Luggage compartment lamps (upper tail door)	Capless	5W
Vanity mirror lamps	Festoon	14V 0.1A (0.14W)
Door puddle lamps	Capless	5W

BULB	TYPE	RATING
Fascia sill lamps	Capless	3W
Lower fascia footwell lamps	Capless	5W
Door mirror approach lamps	Capless	6W
Glove compartment lamp	Festoon	5W

FRONT AND REAR INTERIOR LAMPS AND MAP READING LAMPS

The front and rear interior lamp assemblies are similar in design. The front interior lamp switch is connected directly to the CJB and controls the manual operation of the interior lamp functionality. The rear interior lamp switch is used only to switch the lamp on and off.

The map reading lights have a non-adjustable beam and are controlled via separate switches. Both the interior and map reading lamps use capless 5W bulbs.

LUGGAGE COMPARTMENT LAMPS

The luggage compartment lamps comprise one lamp unit located on the right-hand (RH) side trim panel, adjacent to the auxiliary power socket, and two lamps located in the interior trim panel of the upper tail door. All of these lamps are of the same design and use capless 5W bulbs. The lamps are controlled by the tail door latch assembly and the CJB and operate on the automatic interior lamp functionality.

GLOVE COMPARTMENT LAMP

The glove compartment lamp is located inside the glove compartment, at the top, adjacent to the latch. The lamp comprises a festoon 5W bulb. The lamp housing also incorporates a plunger type switch which is activated to switch the lamp on when the glove compartment lid is opened.

VANITY MIRROR ILLUMINATION LAMPS

The vanity mirror lamps are located in the front sun visors and also in the headlining for use by the rear seat passengers. The lamps are located behind a hinged cover, either side of the mirror glass. A festoon type bulb is fitted in contacts behind each lamp lens. The lamps are activated by a simple switch which operates when the mirror cover is lifted.

FOOTWELL LAMPS

Two types of footwell lamps are fitted. Two directional sill lamps are located in the front of the fascia and illuminate the sill area. These lamps use 3W capless bulbs.

Two further footwell lamps are located in the lower fascia closing panels and illuminate the area below the fascia. These lamps use 5W capless bulbs. The lamps are controlled by the CJB and operate on the automatic interior lamp functionality.

DOOR PUDDLE LAMPS

Each of the doors is fitted with a puddle lamp to illuminate the ground below the door when the door is open. The front door puddle lamps are located in the lower face of the door, facing the ground. The rear door puddle lamps are located in the bottom of the door trim panel.

The puddle lamps use a capless 5W bulb. The puddle lamps are controlled by the CJB and operate on the automatic interior lamp functionality.

DOOR MIRROR APPROACH LAMPS

The exterior mirror housings are fitted with a lamp which illuminates the area below the front door. The approach lamps comprise a housing located inside the mirror and bulb holder with harness connector. The housing contains a plastic lens which directs a beam of light in the required area. The approach lamps use a capless 6W bulb.

The lamps are controlled by the CJB, via the front driver and passenger door modules. The CJB sends a controller area network (CAN) message to the door module to illuminate the approach lamps when an unlock signal, a front door open signal or an ignition off mode is detected.

DIAGNOSTICS

Diagnostics for the interior lamps is limited to a check of the function of the front interior lamp switch. The CJB can be interrogated using a Land Rover approved diagnostic system to establish the correct operation of the front interior lamp switch, the door switches and the tail door switch.

OPERATION

The interior lamp operation is activated by any of the following input signals:

- Door switch contacts (front and rear)
- Tail door latch assembly
- Ignition switch position I (Aux)
- Central locking, lock request
- Central locking remote handset operation
- Crash sensor
- Front interior lamp switch.

The load space lamp and the upper tail door lamps are not switched on with the interior lamps. These lamps are only activated when the upper tail door is opened. When the upper tail door is opened, the interior lamps, in addition to the load space lamps, are switched on and are subject to the CJB timers. The tail door open signal to the CJB is provided by a microswitch in the tail door latch assembly.

AUTOMATIC OPERATION

The automatic control of the interior lamps has several switch on and off conditions as follows:

- The interior lamps are switched on when one or more doors are opened. When all the doors are closed, the interior lamps are switched off after a delay of 20 seconds. If the vehicle is locked after closing the doors, within the 20 second period, the lamps go off immediately.
- When the interior lamps are on and the ignition is moved to positions I or II, the lamps go off immediately after all doors have been closed.
- When the ignition switch is moved to the off position, the interior lamps are switched on for 20 seconds. This timer is overridden if a door is subsequently opened.
- When the vehicle is unlocked and the doors are closed, the interior lamps can be activated for a further 20 second period by pressing the 'unlock' button on the remote handset.
- When the vehicle is unlocked from a locked condition, the interior lamps are activated for a 20 second period. This timer is overridden if a door is subsequently opened.
- If a door is left open, the interior lamps will remain on for 16 minutes. After this period, the CJB timer switches the interior lamps off to prevent excessive battery drain.

The CJB uses a pulse width modulation (PWM) operation of the interior lamps for the on/off conditions. The lamps are switched on with a 'soft ramp' of 1.3 seconds. The lamps are switched off with a 'soft ramp' of 2.6 seconds. The soft on/off operation is controlled by a semiconductor within the CJB

MANUAL OPERATION

The interior lamps can be switched on or off using the manual switch for the front interior lamp. The front interior lamp switch will switch all interior lamps, front and rear, on or off. If the interior lamps are on when the switch is pressed, all interior lamps will go off. The on and off automatic switching conditions remain effective even when the manual switch is used.

If the ignition switch is in position I or II and the front interior lamp switch is used to switch the interior lamps on, the lamps will remain on continuously whilst the ignition is in position I or II. If the ignition switch is moved to the off position, the interior lamps will be subject to the 16 minute CJB timer. The interior lamp is immediately switched off when the vehicle is locked. After a locking procedure, the interior lamp automatic control is reinstated.

The rear interior lamp switch will switch the rear interior lamp only on or off.

CONTINUOUS OFF

To prevent drain on the battery if the doors are to remain open for some time, the interior lamps can be turned off permanently. This is stored in the CJB EEPROM and is also activated following a system power down or a reset of the CJB

To enter the continuous off condition, the front interior lamp switch must be pressed and held for more than 3 seconds. The continuous off function can only be disabled by pressing the front interior lamp switch, after which, full automatic control is resumed. When continuous off is active, the rear interior lamp switch can still be used to switch the rear interior lamp only on or off.

CRASH SIGNAL OPERATION

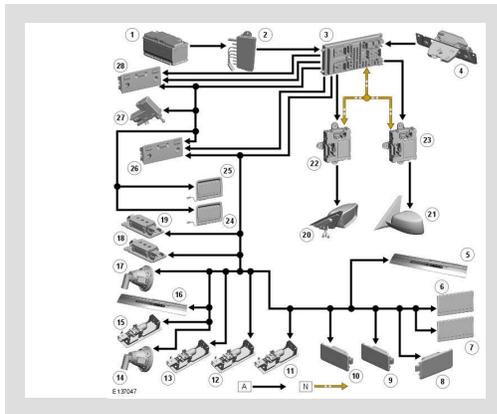
The CJB receives a crash signal on a hardwired connection from the restraints control module (RCM) in the event of a crash of a severity to activate the airbags. On receipt of this signal, the CJB activates the interior lamps which are on permanently and not subject to the CJB timer.

The crash operation of the interior lamps can only be cancelled by operating the manual switch on the front interior lamp or by locking and unlocking the vehicle.

INTERIOR LIGHTING CONTROL DIAGRAM

NOTE:

A = Hardwired; N = Medium speed CAN bus



ITEM	DESCRIPTION
1	Battery
2	Battery Junction Box (BJB)
3	Central Junction Box (CJB)

ITEM	DESCRIPTION
4	Tail door latch motor assembly
5	RH treadplate illumination LEDs
6	LH front vanity mirror illumination lamps
7	RH front vanity mirror illumination lamps
8	Luggage compartment lamp
9	LH upper tail door lamp
10	RH upper tail door lamp
11	LH rear door puddle lamp
12	RH rear door puddle lamp
13	LH front door puddle lamp
14	LH sill lamp
15	RH front door puddle lamp
16	LH treadplate illumination LEDs
17	RH sill lamp
18	LH footwell lamp
19	RH footwell lamp
20	Passenger door mirror approach lamp
21	Driver's door mirror approach lamp
22	Passenger door module
23	Driver's door module
24	LH rear vanity mirror illumination lamps
25	RH rear vanity mirror illumination lamps
26	Front interior and reading lamps
27	Glove compartment switch and lamp
28	Rear interior and reading lamps