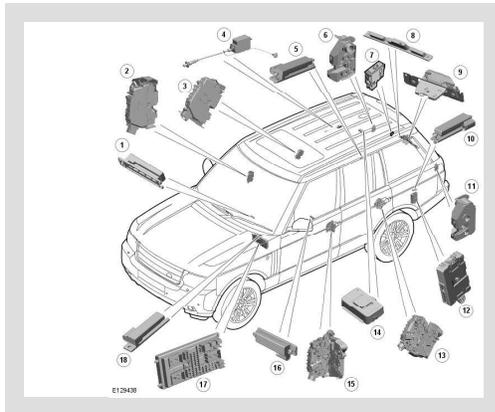


HANDLES, LOCKS, LATCHES AND ENTRY SYSTEMS

[G1248031]

DESCRIPTION AND OPERATION

COMPONENT LOCATION - SHEET 1 OF 2



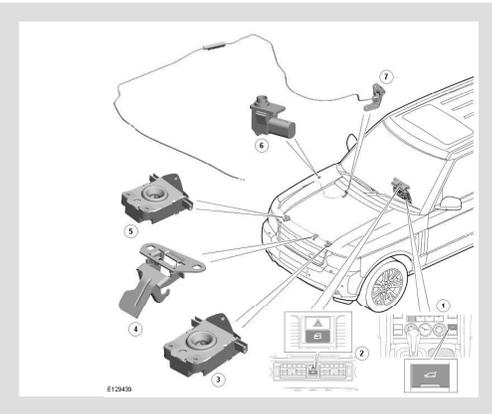
ITEM	DESCRIPTION
1	Passive start antenna - Front interior
2	Right Hand (RH) front door latch and motor
3	RH rear door latch and motor
4	Fuel flap release motor
5	Passive start antenna - Luggage compartment
6	RH lower tailgate latch and motor
7	Lower tailgate release button
8	Upper tailgate release button
9	Upper tailgate latch and motor
10	Passive start antenna - Luggage compartment
11	LH lower tailgate latch and motor
12	Keyless Vehicle Module (KVM)
13	LH rear door latch and motor
14	RF Receiver
15	LH front door latch and motor

ITEM	DESCRIPTION
16	Passive start antenna - Central interior
17	Central Junction Box (CJB)
18	Passive start antenna - Front interior

COMPONENT LOCATIONS - SHEET 2 OF 2

NOTE:

right-hand drive (RHD) installation shown, left-hand drive (LHD) installation similar



ITEM	DESCRIPTION
1	Upper tailgate internal release switch
2	Central Locking System (CLS) switch
3	LH hood latch
4	Hood safety catch
5	RH hood latch
6	Hood ajar switch
7	Hood release handle and cables

GENERAL

The hinged panels on the vehicle are secured with latches and mating strikers. A safety catch is installed on the hood to prevent it from opening if the hood latches are open while the vehicle is moving.

The hood latches and the door latches are opened by pulling on the release handles. The tailgate latches are opened by pressing the release switches.

A remotely operated CLS controls the locking and unlocking of the door latches and the opening of the tailgate latches. In some markets, the CLS also locks and unlocks the fuel filler door. The CLS software is incorporated into the central junction box (CJB).

The driver exterior door handle incorporates a door lock. The door lock enables operation of the CLS with the ignition key if the smart key operation fails, and allows the driver's door to be mechanically unlocked if there is a vehicle power failure.

The rear door latches incorporate child locks to enable the interior door handles to be disengaged from the latch mechanisms.

HOOD LATCHES

The hood is secured by two latches, installed under the hood locking platform, which engage with strikers on the hood. The hood safety catch is installed to the left of the hood leading edge centerline, and engages with a recess in the hood locking platform.

The hood latches are opened by a release handle on the lower part of the driver's side A pillar. Two hood release cables connect the release handle in series with the two hood latches. The two hood release cables are joined together by a connector block located on the inner fender.

DOOR LATCHES

The side door latches are sealed units that incorporate separate actuators for locking and superlocking the doors. Each door latch also incorporates a Hall effect sensor that operates as an ajar switch to provide a door status signal for the CJB. The driver's door latch incorporates two additional Hall effect sensors to provide signals of lock and unlock selections made with the smart key emergency key blade in the door lock. Turning the top of the emergency key blade rearwards sends a lock signal and turning the top of the emergency key blade forwards sends an unlock signal.

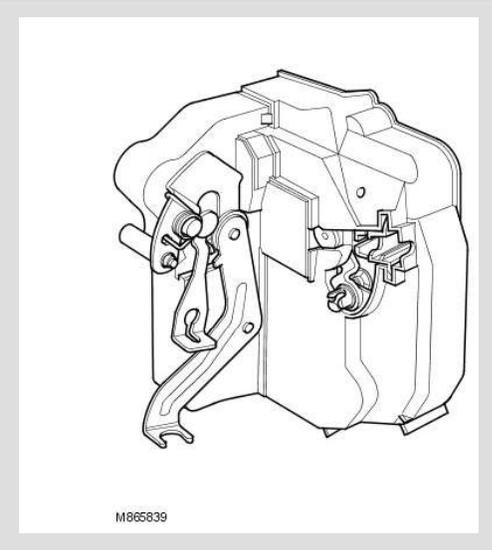
The driver's and front passenger door latches communicate with the CJB via their respective door modules and the medium speed controller area network (CAN) bus. The rear door latches are connected to the front door modules via a local interconnect network (LIN) bus connection. On all doors the door ajar Hall sensors are connected directly to the CJB.

Each of the door latches is mechanically connected to a locking button in the top of the door trim panel. Pressing the locking button down when the door is closed disengages the exterior handle from the door latch to lock the door. Pulling on the interior handle extends the locking button from the door trim again and re-engages the exterior handle with the door latch, to unlock the door. A second pull on the interior door handle opens the door latch. On all except the driver's door, the doors can be slam locked after pressing the button down while the door is open. For lockout protection, the driver's door locking button cannot be pressed down when the driver door is open.

Door Latch

NOTE:

Front door latch shown

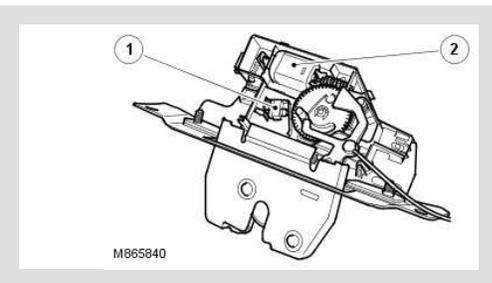


TAILGATE LATCHES

The upper tailgate latch incorporates a release actuator to open the upper tailgate and a microswitch that operates as an ajar switch to provide a tailgate status signal to the CJB. A black manual release wire is attached to the upper tailgate latch to allow the latch to be released in the event of actuator failure or loss of power. The end of the manual release wire is stowed in the inside trim at the bottom edge of the upper tailgate and is concealed by the trailing edge of the parcel shelf when the upper tailgate is closed.

Each lower tailgate latch is connected to a release actuator mounted inside the tailgate. A lever at the top of each latch housing allows the latches to be released in the event of actuator failure or loss of power. The levers are only accessible when the upper tailgate is open.

Upper Tailgate Latch



ITEM	DESCRIPTION
1	Ajar switch

ITEM	DESCRIPTION
2	Release actuator

HOOD AJAR SWITCH

The hood ajar switch is a plunger operated switch installed in the engine compartment, on the driver side of the secondary bulkhead. When the hood is closed, the hood presses the plunger into the switch housing and holds the switch open. When the hood opens, the spring loaded plunger extends, which allows the switch to close and connect a ground to the CJB. The switch can also be held open while the hood is open, by pulling the plunger up.

FUEL FILLER DOOR ACTUATOR

The fuel filler door actuator extends and retracts a wire reinforced plastic pin to lock and unlock the fuel filler door. A green manual release wire is attached to the pin to ensure the fuel filler door can be released in the event of actuator failure or loss of power. The end of the manual release wire is stowed in the soundproofing behind the trim panel covering the rear junction box (RJB).

CLS SWITCH

The CLS switch is a non latching push switch installed between the center face vents on the instrument panel, below the hazard warning switch. The CLS switch allows occupants to centrally lock the vehicle without arming the alarm. When the CLS switch is pressed, a battery voltage signal is connected to the CJB.

UPPER TAILGATE INTERNAL RELEASE SWITCH

The internal upper tailgate release switch is a non latching push switch installed on the center console. The switch, which is integral with the automatic temperature control (ATC) control module, allows the tailgate to be opened from inside the vehicle. When the switch is pressed a medium speed CAN signal is passed from the to the ATC control module to the CJB. The CJB only responds to the request when the CLS system is unlocked and the vehicle is stationary.

UPPER TAILGATE EXTERNAL RELEASE SWITCH

The external upper tailgate release switch is a microswitch installed in the license plate lamp housing in the bottom edge of the upper tailgate. The switch is operated by a lever connected to a rubber covered plate set into the outside surface of the license plate lamp housing. When the switch is activated it connects a ground to the CJB. The CJB only responds to the input when the CLS system is unlocked and the vehicle is stationary.

LOWER TAILGATE RELEASE SWITCH

The lower tailgate release switch is a non latching push switch installed under a rubber cover in the top edge of the lower tailgate. When the switch is pressed, a battery voltage signal is connected to the CJB. The CJB only responds to the input when the upper tailgate is unlatched and the vehicle is stationary.

RF RECEIVER

The RF receiver converts RF signals from the smart key into digital messages and transmits them to the CJB. The RF receiver is installed in a central position on the roof, above the roof liner, to the rear of the sunroof.

Operation of the RF receiver is powered by a permanent battery feed from the CJB. RF signals from the smart key are received by the RF receiver and passed to the keyless vehicle module (KVM) on a dedicated data line.

SYSTEM OPERATION

The locking system allows the doors and fuel filler door to be centrally locked and unlocked using the CLS switch, the driver's door lock and the smart key. The system has two locking states: locked and superlocked. Locking the vehicle from inside using the CLS switch puts the system into the locked state. Locking the vehicle from the outside using the driver's door lock or the smart key puts the vehicle into the superlocked state.

When the vehicle is locked, the CJB:

- Energizes the lock actuators in the side door latches to disengage the external door handles from the latches.
- Energizes the fuel filler door actuator to extend the locking pin to secure the filler door (all except NAS).
- Ignores inputs from the upper tailgate external release switch.

The CJB will lock the vehicle regardless of the ignition status. The upper tailgate internal release switch remains enabled and individual side doors can be unlocked using the internal door handle. From the locked state, the vehicle can be centrally unlocked using the CLS switch, the smart key or the driver's door lock.

When the vehicle is superlocked, the CJB:

- Energizes the lock and the superlock actuators in the side door latches to disengage both the internal and the external door handles from the latches.
- Energizes the fuel filler door actuator to extend the locking pin to secure the filler door (all except NAS).
- Ignores inputs from both the external and the internal release switches of the upper tailgate.
- Ignores inputs from the CLS switch.

The CJB will only superlock the vehicle after the ignition is off and the driver's door has opened. From the superlocked state, the vehicle can be centrally unlocked using the smart key or the driver's door lock.

TAILGATE OPENING

When the vehicle is locked or superlocked, operating the tailgate release button on the smart key causes the CJB to actuate the upper tailgate release actuator while leaving the remainder of the system in the locked/superlocked condition.

Volumetric protection is disabled when the tailgate is opened. For additional information, refer to: [Anti-Theft - Active \(419-01A Anti-Theft - Active, Description and Operation\)](#).

SINGLE POINT ENTRY (SPE)

With the vehicle superlocked and SPE is enabled, when the CJB receives a request from the smart key or the driver's door lock, it unlocks the driver's door and changes the rest of the CLS from the superlocked to the locked state. When it receives a second unlock request, from the smart key, the driver's door lock or the CLS switch, the CJB unlocks the remainder of the system.

AUTOMATIC LOCKING

The CJB can be configured to automatically lock the system when the vehicle exceeds a set speed. The set speed is selectable between 4 and 28 km/h (2.5 and 17.5 mph), in 4 km/h (2.5 mph) increments.

To guard against accidental unlocking, the CJB can also be configured to automatically lock (not superlock) the system if no ajar switch or CLS switch is activated within 2 minutes of unlocking the vehicle with the remote handset.

AUTOMATIC UNLOCKING

If a crash that triggers any of the air bags occurs, the restraints control module (RCM) outputs a crash signal to the CJB. On receipt of the crash signal the CJB outputs unlock signals to all of the door latch actuators, via the door modules and, where fitted, the fuel filler door actuator, irrespective of their current locked state. Subsequent attempts to lock the doors are inhibited until the CJB has received an unlock request.

REPETITION BLOCKING

To protect the door latch actuators the CJB incorporates a repetition blocking feature. The CJB increments an internal counter by one each time an actuation occurs and decrements the counter by one every 8 seconds. If the counter exceeds 15, the CJB blocks further unlocking commands until the counter returns to 15 or less. The block is ignored if the CJB receives a crash signal or the system goes from superlocked to locked. In addition to the counter for the side doors, separate counters are maintained for each of the tailgates.

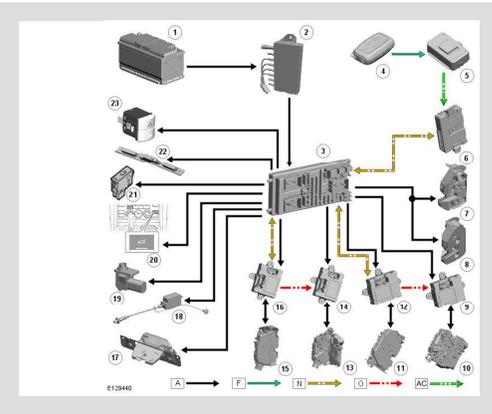
LOCKOUT PROTECTION

The vehicle cannot be locked when either of the front doors is open. The vehicle cannot be superlocked when the driver door is open.

CONTROL DIAGRAM

NOTE:

A = Hardwired connection; **F** = RF transmission; **N** = Medium speed CAN bus; **O** = LIN bus; **AC** = Data line



ITEM	DESCRIPTION
1	Battery
2	Battery Junction Box (BJB)
3	Central Junction Box (CJB)
4	Smart key
5	Radio Frequency (RF) receiver
6	Keyless Vehicle Module (KVM)
7	RH lower tailgate latch and motor
8	LH lower tailgate latch and motor
9	LH rear door module
10	LH rear door latch and motor
11	RH rear door latch and motor
12	RH rear door module
13	LH front door latch and motor
14	LH front door module
15	RH front door latch and motor
16	RH front door module
17	Upper tailgate latch and motor
18	Fuel flap release motor
19	Hood ajar switch
20	Upper tailgate internal release switch
21	Lower tailgate release button

ITEM	DESCRIPTION
22	Upper tailgate release button
23	Central Locking System (CLS) switch