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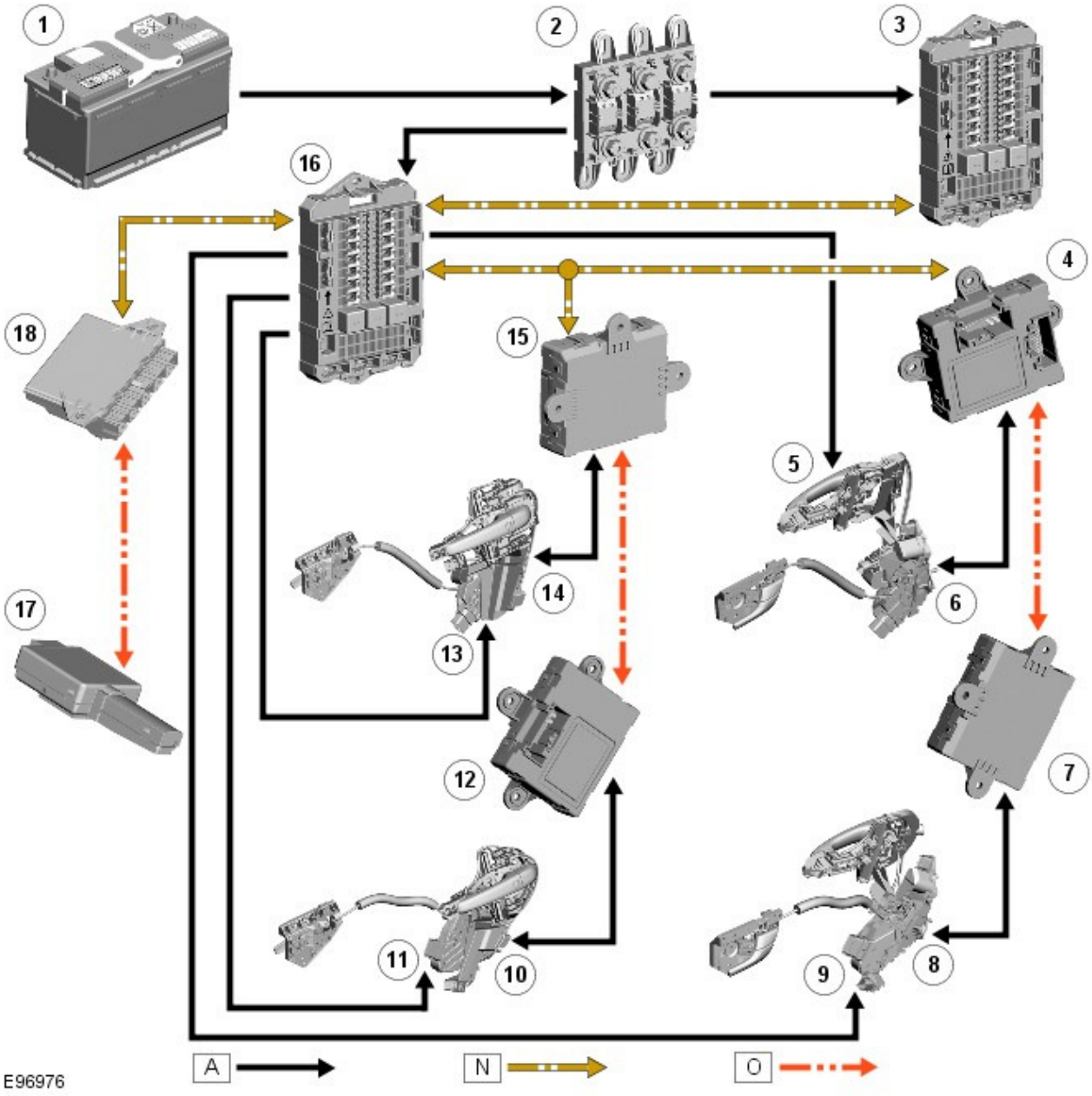
Handles, Locks, Latches and Entry Systems - Handles, Locks, Latches and Entry Systems - System Operation and Component Description

Description and Operation

Control Diagram

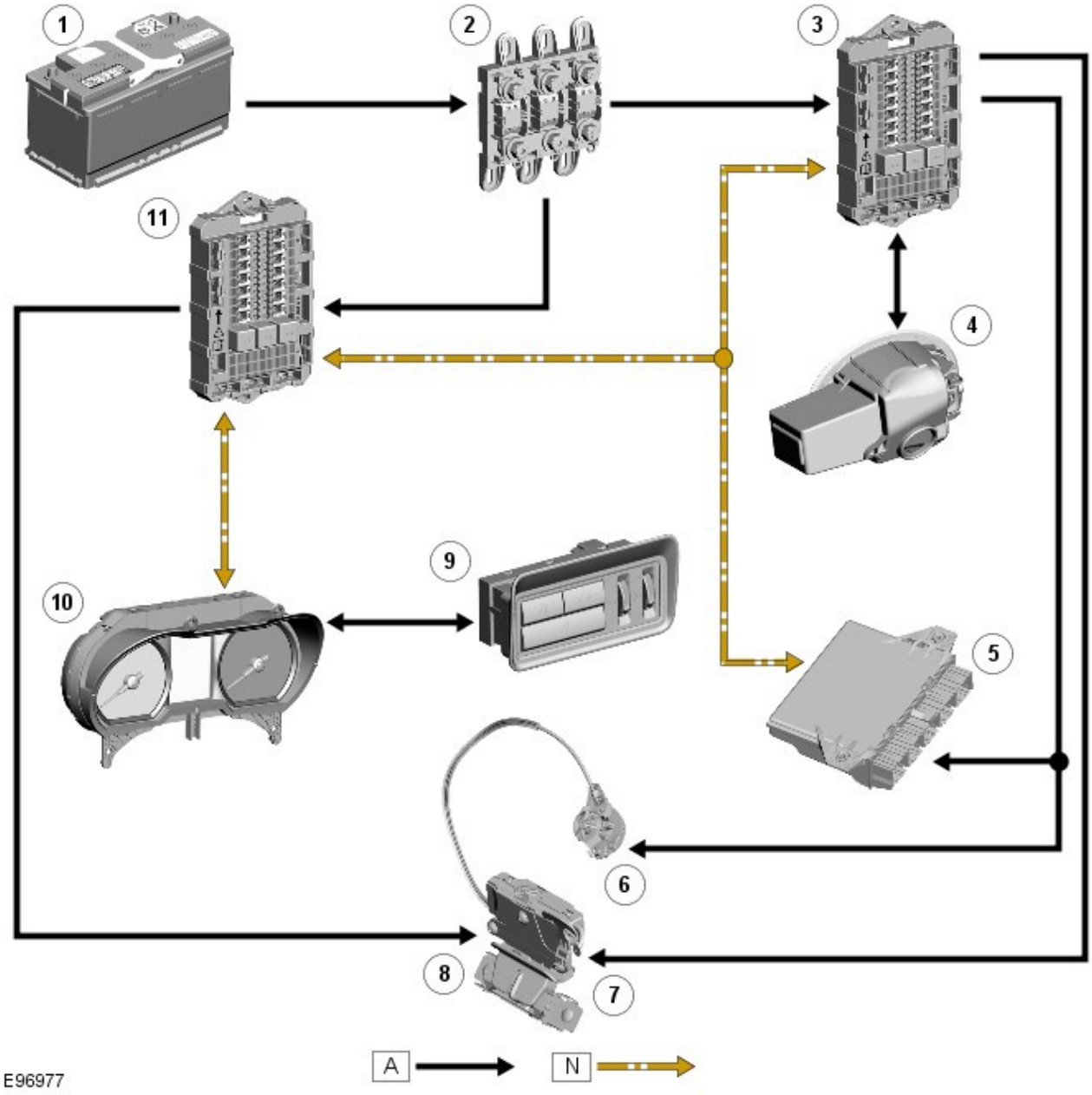
Central Locking



Item	Description
Note:	**A** = Hardwired; **N** = Medium speed CAN (controller area network); **O** = LIN (local interconnect network) bus
1	Battery
2	Megafuse (250 A)
3	RJB (rear junction box)
4	Door module - front passenger
5	Door ajar switch - front passenger
6	Door latch - front passenger
7	Door module - RH (right-hand) rear passenger
8	Door latch - RH rear passenger

9	Door ajar switch - RH rear passenger
10	Door latch - LH (left-hand) rear passenger
11	Door ajar switch - LH rear passenger
12	Door module - LH rear passenger
13	Door ajar switch - driver door
14	Door latch - driver door
15	Door module - driver door
16	CJB (central junction box)
17	Central-locking radio-frequency receiver
18	Keyless vehicle module

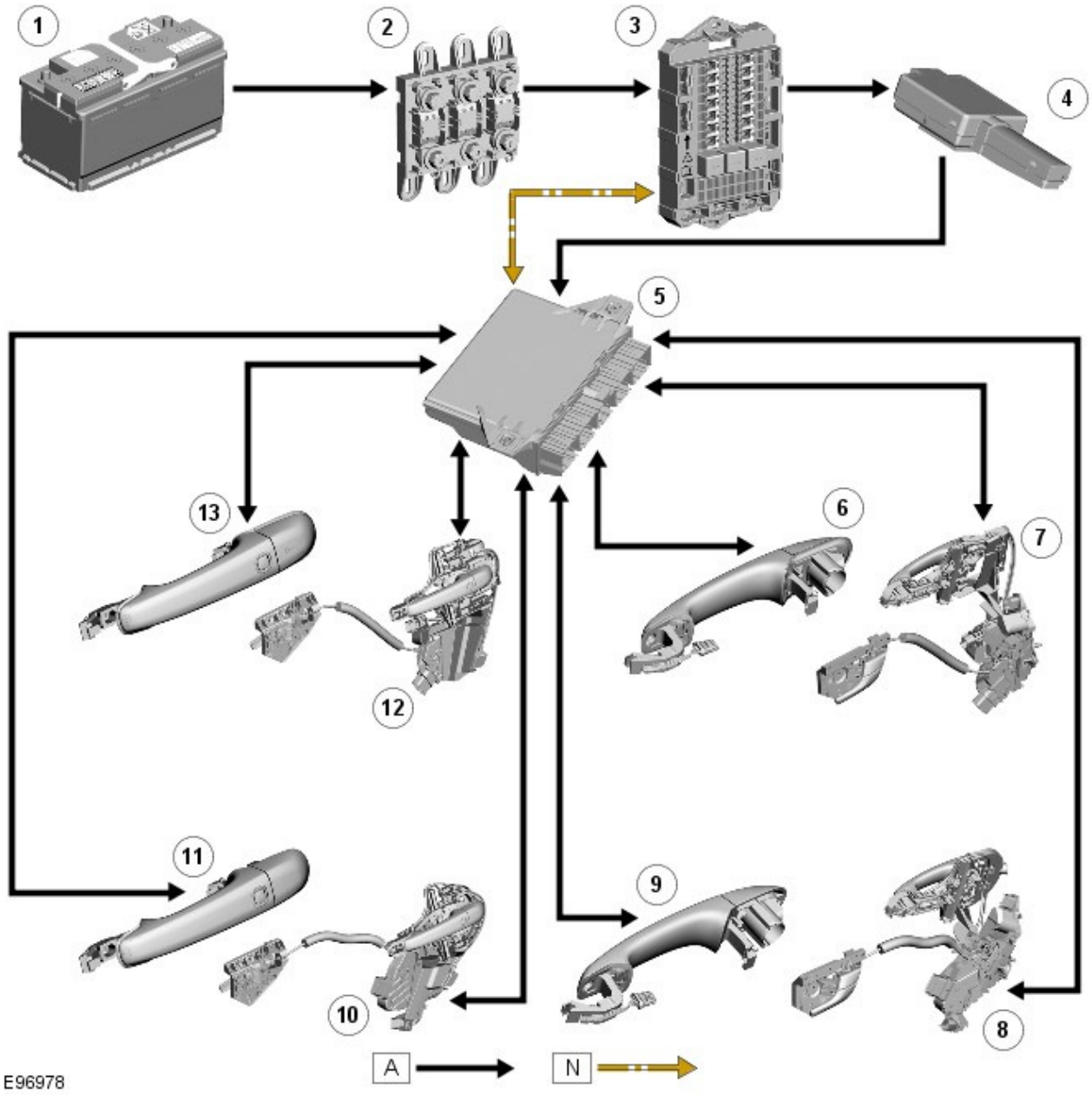
Luggage Compartment Lid and Fuel Filler Door Locking



Item	Description
Note:	**A** = Hardwired; **N** = Medium speed CAN
1	Battery
2	Megafuse (250 A)
3	RJB
4	Locking motor - fuel door

5	Keylesss vehicle module
6	Emergency key barrel - luggage compartment
7	Release latch - luggage compartment lid
8	Ajar switch - luggage compartment lid
9	Fascia switch - luggage compartment lid
10	Instrument cluster
11	CJB

Passive Entry System



Item	Description
Note:	**A** = Hardwired; **N** = Medium speed CAN
1	Battery
2	Megafuse (250 A)
3	CJB
4	Radio frequency receiver
5	Keylesss vehicle module
6	Door handle, lock/unlock switch and antenna - front passenger
7	Door latch, fast latch - front passenger

8	Door latch, fast latch - RH rear passenger
9	Door handle, lock/unlock switch and antenna - RH rear passenger
10	Door latch, fast latch - LH rear passenger
11	Door handle, lock/unlock switch and antenna - LH rear passenger
12	Door latch, fast latch - driver door
13	Door handle, lock/unlock switch and antenna - driver door

System Operation

The hinged panels are secured with latches and strikers. A remotely operated central locking system controls the locking and unlocking of the door and luggage compartment latches. A radio frequency Smart Key allows the vehicle to be locked and unlocked by pressing the appropriate handset buttons. Two levels of central locking system are available: remote central locking and an optional passive entry system.

The passive entry and associated passive start system allows the driver to unlock and start the vehicle without using a vehicle key in a door-lock or ignition switch. The passive entry system is an optional fitment while the passive start system is a standard fitment on all vehicles. The passive start system is combined with the passive anti-theft immobilization system.
Refer to: Anti-Theft - Passive (419-01B Anti-Theft - Passive, Description and Operation).

Emergency access to the vehicle is provided by two concealed key barrels: one located in the front left-hand door handle and one located on the underside of the luggage compartment lid finisher. An emergency, removable key blade is fitted into the Smart Key.

Operation of either key barrel unlocks the vehicle but does not disarm the alarm system. The key barrels in the door and luggage compartment lid are concealed by a plastic cover which can be removed by inserting the blade of the emergency key into a slot in the cover.

Locking and unlocking conditions using the emergency key in the door key barrel:

- If the alarm is not armed the vehicle can be centrally unlocked.
- If the alarm is armed the door only can be opened and the alarm will be triggered.
- The vehicle cannot be double locked or the alarm system armed using the emergency key.

The vehicle can be centrally locked and unlocked from inside using the interior handle release levers on the front doors only. Central locking and unlocking can also be performed using lock and unlock buttons on the vehicle's fascia. The driver can select locking options, single point entry or drive away locking for example, from a menu available on the touch screen.

Central Locking – Radio Frequency Remote System

The radio frequency central locking system, provides locking and unlocking of the vehicle from inside and outside of the vehicle. The system is operated using buttons on the Smart Key, which transmits radio frequency signals to the central locking radio frequency receiver.

The system provides additional security by double-locking the doors from outside the vehicle if the lock button, on the Smart Key, is pressed twice within 3 seconds; this function is not applicable in North American Specification (NAS) and Japanese markets.

Additional buttons on the Smart Key provide for the convenience operation of the luggage compartment lid release, headlamp delay and panic alarm functions. A global open or close feature is also available in certain markets using the lock/unlock buttons.

Passive Entry

On vehicles fitted with the optional passive entry system, the vehicle can be unlocked without the use of a key blade or pressing buttons on the Smart Key. The Smart Key operates the passive entry system in addition to the passive start system.
Refer to: Anti-Theft - Passive (419-01B Anti-Theft - Passive, Description and Operation).

The passive entry system is controlled by the keyless vehicle module and five low frequency antennas. One antenna located in each door handle and one antenna located behind the rear bumper cover.

When a vehicle door handle is pulled to the first five-percent of its travel and the Smart Key is within one meter of the handle; the Smart Key receives the low-frequency signal transmitted from the keyless vehicle module. The Smart Key responds with a radio frequency transmission of its authorization code. The radio frequency signal is received by the central locking radio-frequency receiver and passed to the keyless vehicle module which checks and approves the code as valid. Once the handle is pulled to eighty percent of its travel the keyless vehicle module then drives the fast latch directly to allow the door to be opened. The keyless vehicle module also transmits an unlock request to the CJB. The CJB then passes an unlock request to the door modules.

Locking of the vehicle is performed by pressing one of the buttons located on each exterior door handle, with the Smart Key within a one meter range of the vehicle. When the door handle button is pressed, the keyless vehicle module transmits a low-frequency signal via the low-frequency handle antenna to the Smart Key. The Smart Key transmits a radio frequency signal which is verified by the keyless vehicle module and allows the doors to be locked or double locked and the alarm system to be armed.

To double lock the vehicle, the button on the exterior door handle must be pressed twice within three seconds, with the Smart Key within one meter range of the vehicle.

If a door, engine-compartment lid or the luggage compartment lid is ajar when an attempt to lock the vehicle is made, an error tone is emitted and no locking action will occur.
Refer to: Anti-Theft - Active (419-01A Anti-Theft - Active, Description and Operation).

Component Description

Engine Compartment Lid Latches

Two engine-compartment lid latches are located on the front crossmember. An engine-compartment lid release lever is located below the instrument panel on the left-hand 'A' pillar and is connected with a cable to the latches. An engine-compartment lid ajar switch is integrated in the engine-compartment lid latch.

Door Latches

The door latches are located at the rear of each door and engage with a striker on the adjacent pillar. Each door latch motor assembly contains micro-switches for lock, unlock and door ajar. Motors provide for the central door locking and the double locking feature. The electrical control for the door latch components is provided by the CJB and RJB via the driver's and passenger door modules.

The interior door handles are connected by a cable to the latch release mechanisms. The interior door handles also incorporate a locking facility to allow the doors to be locked from inside the vehicle when all the doors are closed. If a door is ajar the locking feature is inhibited.

Luggage Compartment Lid Latch

The luggage compartment latch is attached to the bottom of the lid. The latch can be released electrically by pressing the interior release button located on the outboard side of driver's lower knee bolster; a release button is also provided on the Smart Key. There is also a release switch on the underside of the luggage compartment lid finisher.

On NAS vehicles an emergency release cable is attached to the latch. This allows the latch to be manually opened by pulling a handle located in the luggage compartment lid interior trim.

Fuel Filler Door

The fuel filler door is electrically locked by a motor located on the fuel door housing. The fuel door is locked when the vehicle is locked and alarmed. The fuel door can be opened when the vehicle is unlocked or locked:

- via an interior handle,
- via drive-a-way locking,
- via the lock switch on the fascia,
- via the external door key barrel.