

PUBLISHED: 06-FEB-2020
2016.0 RANGE ROVER (LG), 415-01

INFORMATION AND ENTERTAINMENT SYSTEM

TELEMATIC CONTROL UNIT MODULE (TCU) (G1707127)

REMOVAL AND INSTALLATION

86.80.53	TELEMATIC CONTROL UNIT MODULE (TCU) - RENEW	ALL DERIVATIVES	0.80	USED WITHINS	+
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GENERAL EQUIPMENT

EQUIPMENT NAME

Jaguar Land Rover approved diagnostic equipment

REMOVAL

CAUTIONS:

- The Jaguar Land Rover (JLR) approved diagnostic equipment must be connected to the vehicle and the module renewal procedure started before disconnecting the original module from the vehicle. The module renewal procedure will prompt you to disconnect the original module and to connect the new module when required. This will allow the important calibration values to be retrieved from the original module for later re-use in the new module configuration.
- Prior to any work being undertaken on the Telematic Control Unit Module (TCU), confirmation is required if there is a stolen vehicle tracking subscription on the TCU. If there is stolen vehicle tracking subscription, the TCU will need to be placed into **Service Mode** by the customer in the InControl Smartphone app or on the InControl website. Failure to follow this instruction could result in theft notification alerts being activated.

NOTES:

- If the TCU has an active stolen vehicle tracking subscription, on completion of any repairs undertaken on the TCU the vehicle will require to be removed from **Service Mode** by the customer.
- This procedure contains some variation in the illustrations depending on the vehicle specification, but the essential information is always correct.
- This procedure contains illustrations showing certain components removed to provide extra clarity.

1.

CAUTION:

Failure to follow this step could result in a failed configuration.

Use the Jaguar Land Rover approved diagnostic equipment to switch the InControl system into service mode.

General Equipment: [Jaguar Land Rover approved diagnostic equipment](#)

2. Disconnect the battery ground cable.

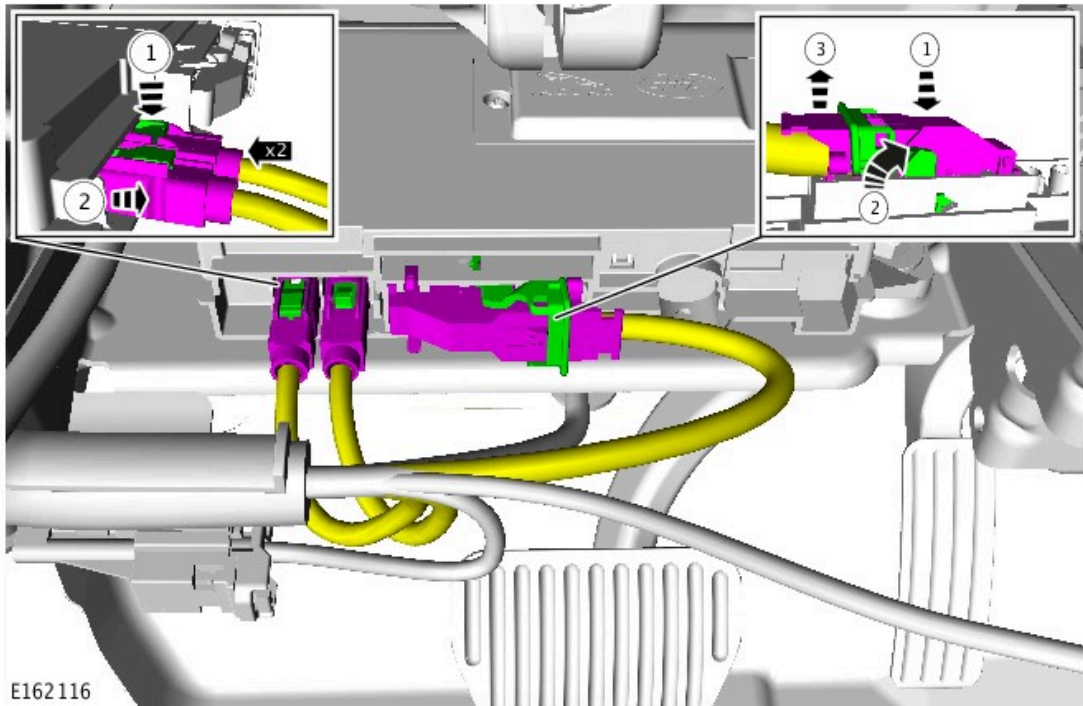
Refer to: [Specifications - \[+\] Without Armour](#) (414-00 Battery and Charging System - General Information, Specifications).

3. Refer to: [Instrument Panel Lower Section](#) (501-12A Instrument Panel and Console - Standard Wheelbase, Removal and Installation).

4.

NOTES:

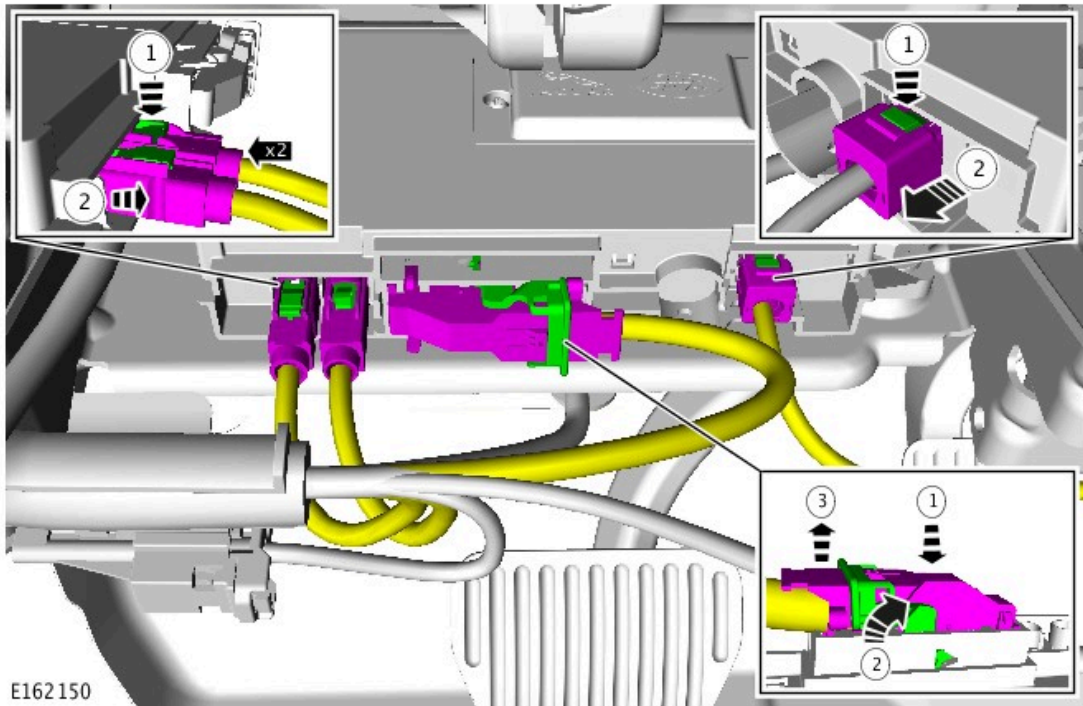
- Vehicles without WiFi.
- Note the orientation of the electrical connectors and wiring harness.



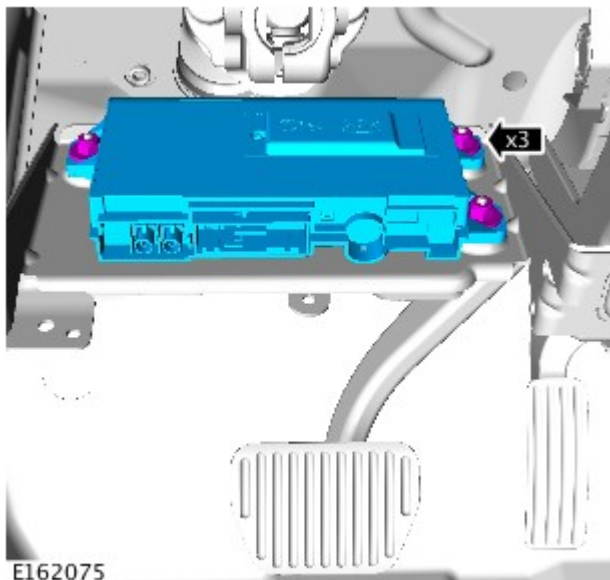
5.

NOTES:

- Vehicles with Wifi.
- Note the orientation of the electrical connectors and wiring harness.



6.



Torque: 10Nm

INSTALLATION

1. To install, reverse the removal procedure.
2. Use the JLR approved diagnostic equipment to calibrate the module.
General Equipment: [Jaguar Land Rover approved diagnostic equipment](#)

aytjaGFkdzQ7MjAyNC0wMDYyMD00MjoxNC4wNjFzOzESMy4yMzcuNS4xNDk7

PUBLISHED: 11-JAN-2018
2016.0 RANGE ROVER (LG), 501-12A

INSTRUMENT PANEL AND CONSOLE - STANDARD WHEELBASE

INSTRUMENT PANEL LOWER SECTION

(G1551609)

REMOVAL AND INSTALLATION

76.46.48	FINISHER - LOWER - INSTRUMENT PANEL - RENEW	ALL DERIVATIVES	0.70	USED WITHINS	+
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REMOVAL

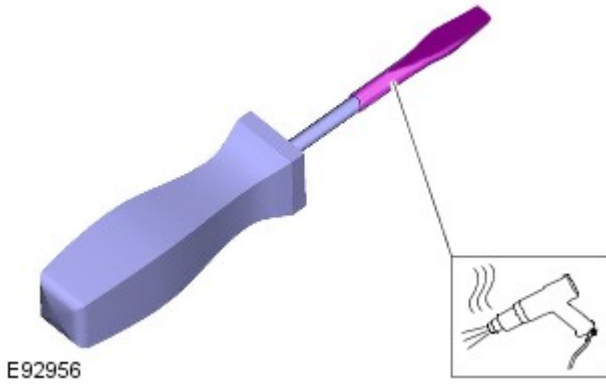
NOTES:

- Removal steps in this procedure may contain installation details.
- Some variation in the illustrations may occur, but the essential information is always correct.

1.

CAUTION:

Apply heatshrink or protective tape to the end of a suitable tool to protect the interior components.



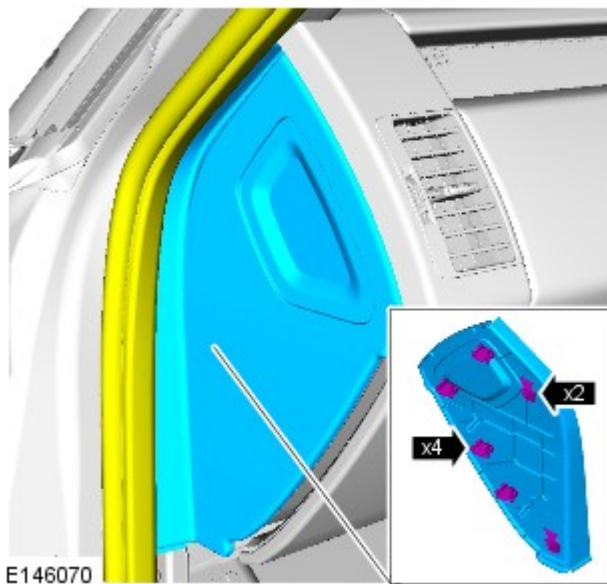
2. Disconnect the battery ground cable.

Refer to: [Specifications - \[+\] Without Armour](#) (414-00 Battery and Charging System - General Information, Specifications).

3.

NOTE:

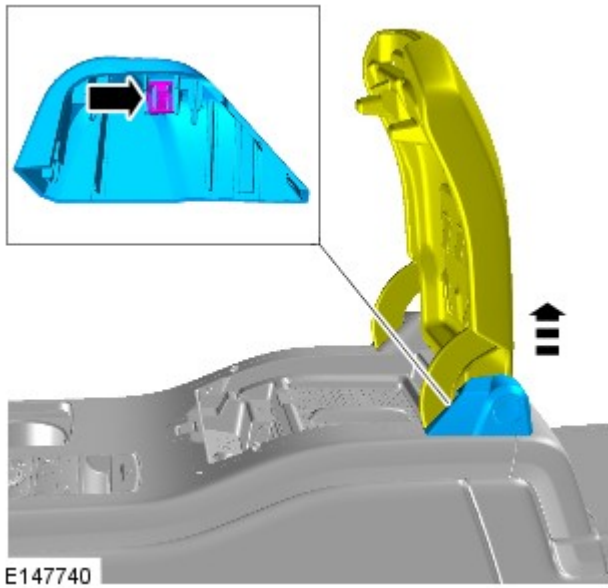
Repeat the procedure for the other side.



4.

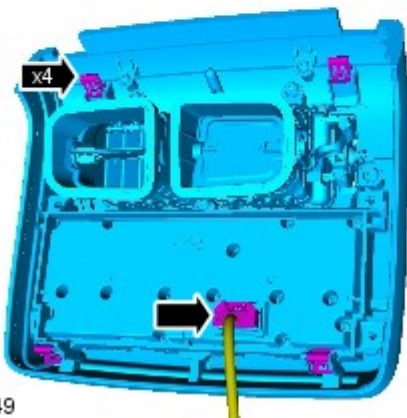
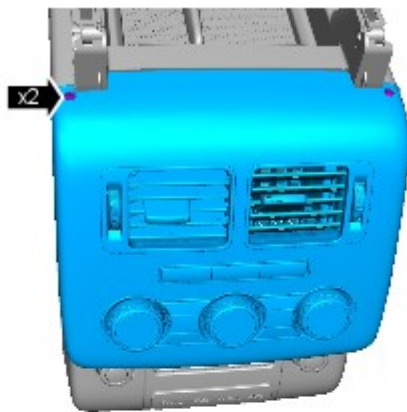
NOTE:

Repeat the procedure for the other side.



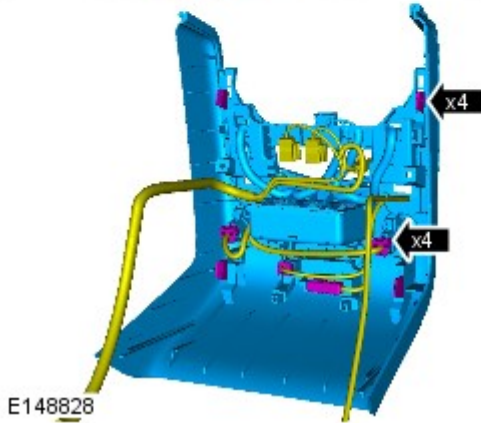
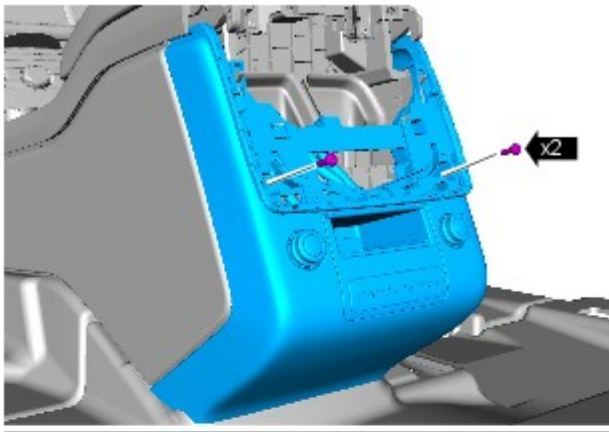
E147740

5.



E147749

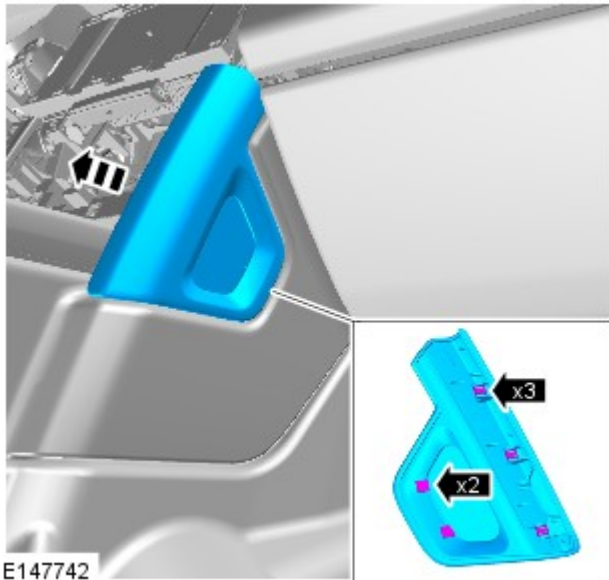
6.



E148828

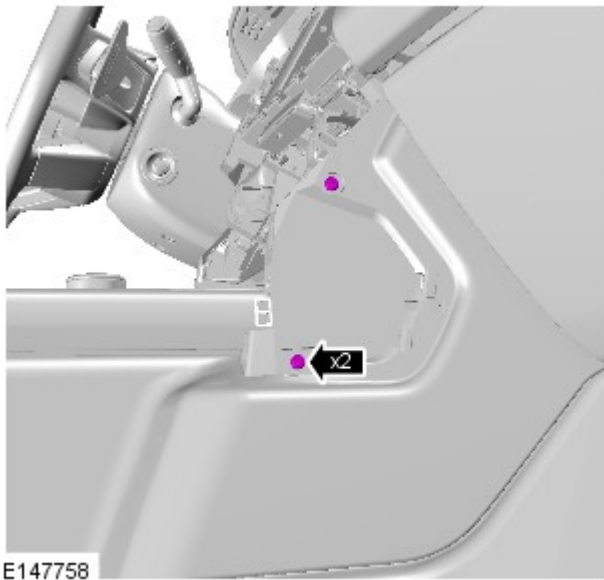
Torque: 1.7Nm

7.



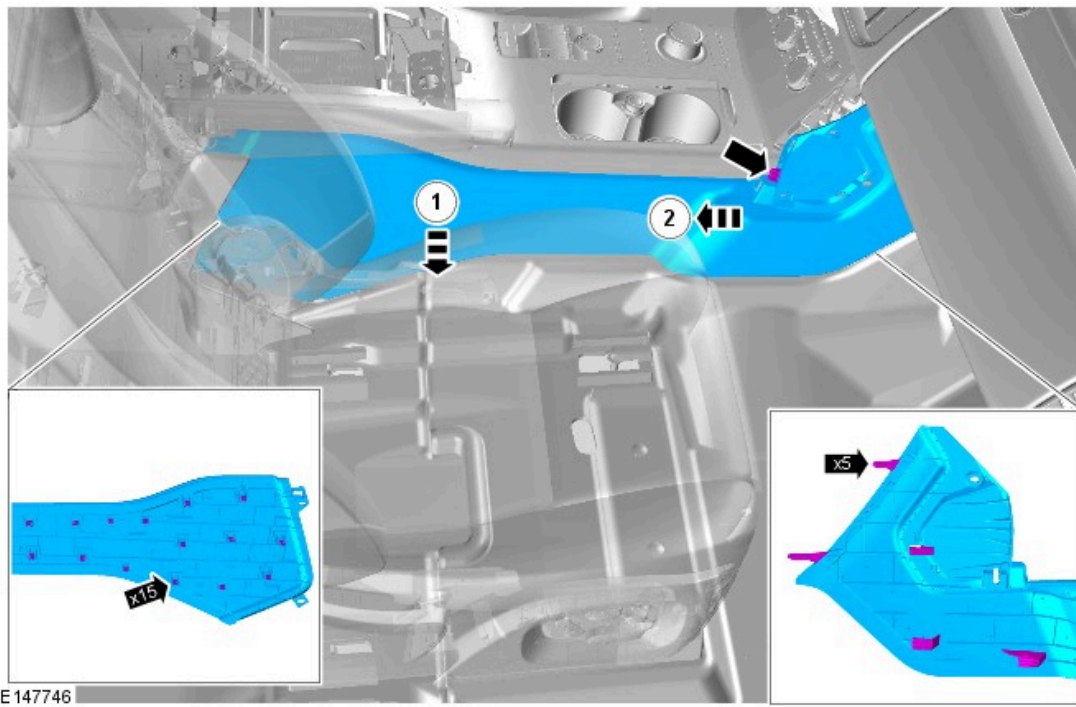
E147742

8.

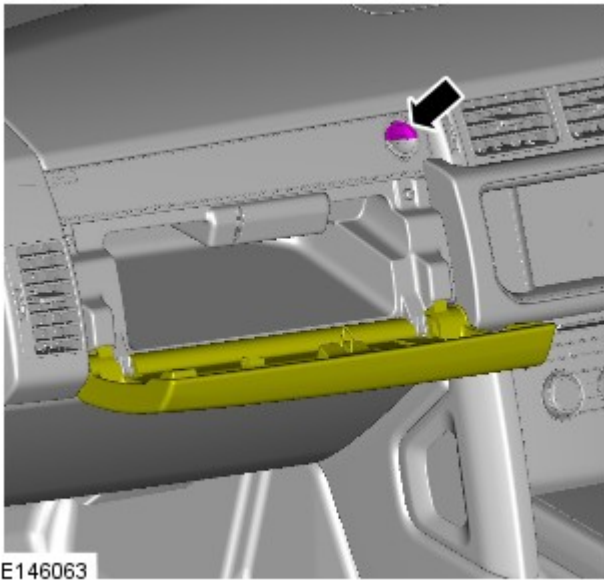


Torque: 1.7Nm

9.



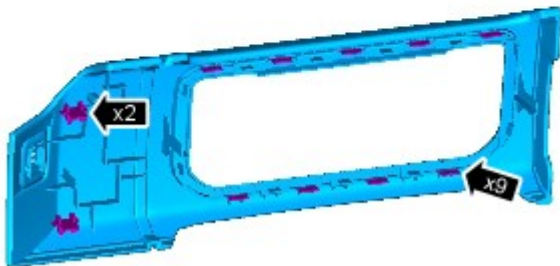
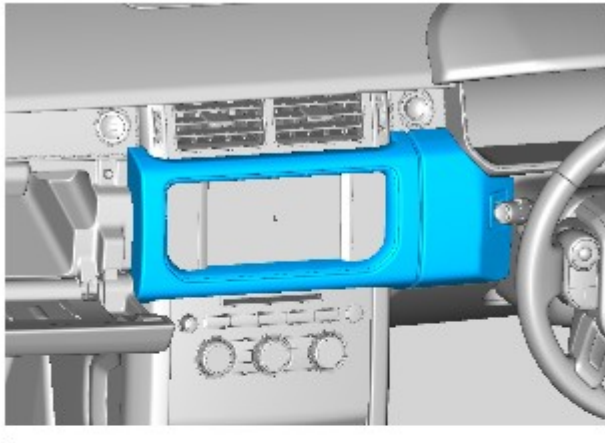
10.



11.

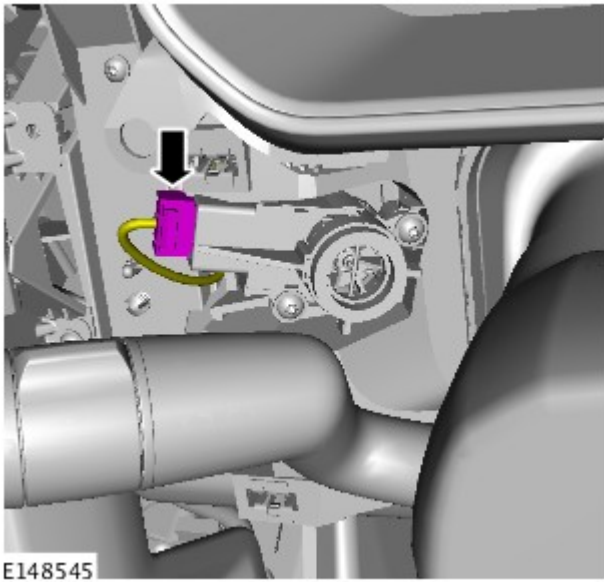
NOTE:

Release the trim clips from the middle to the sides, failure to follow this instruction may result in damage to the retaining frame.



E146064

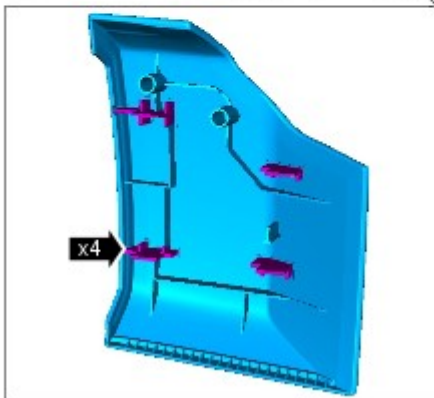
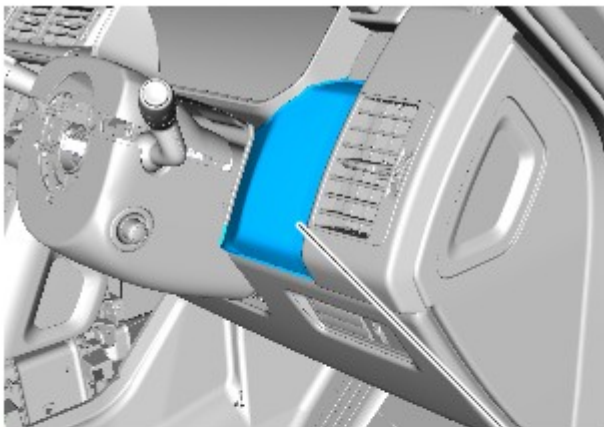
12.



13.

NOTE:

The steering wheel is shown removed for clarity.

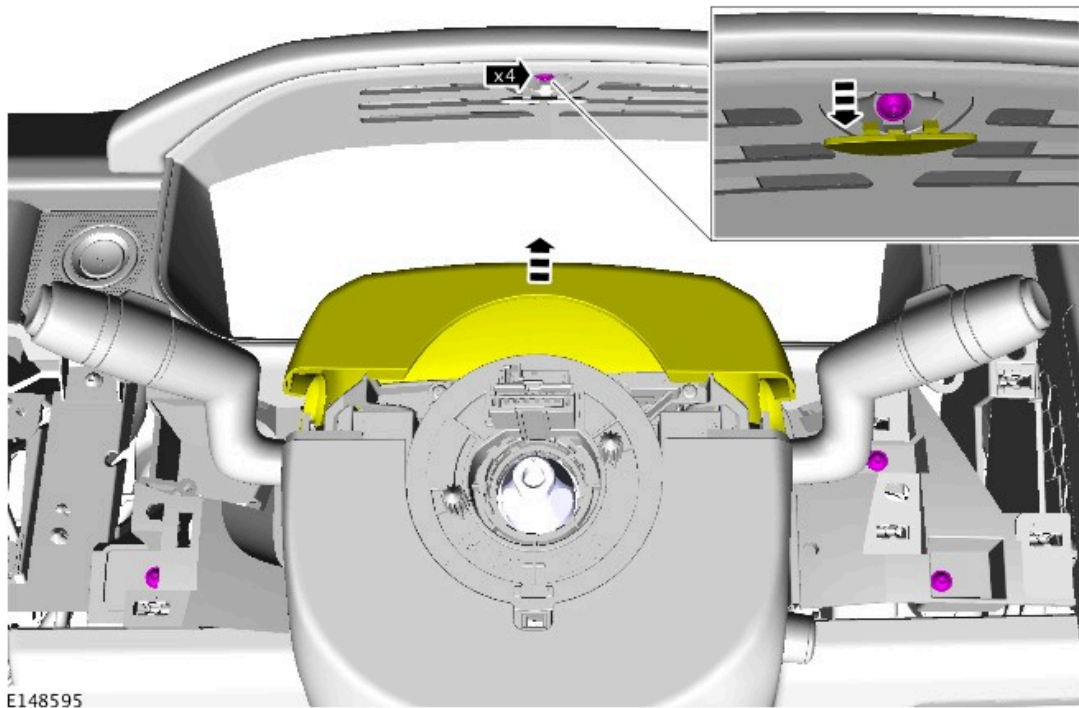


E148285

14.

NOTE:

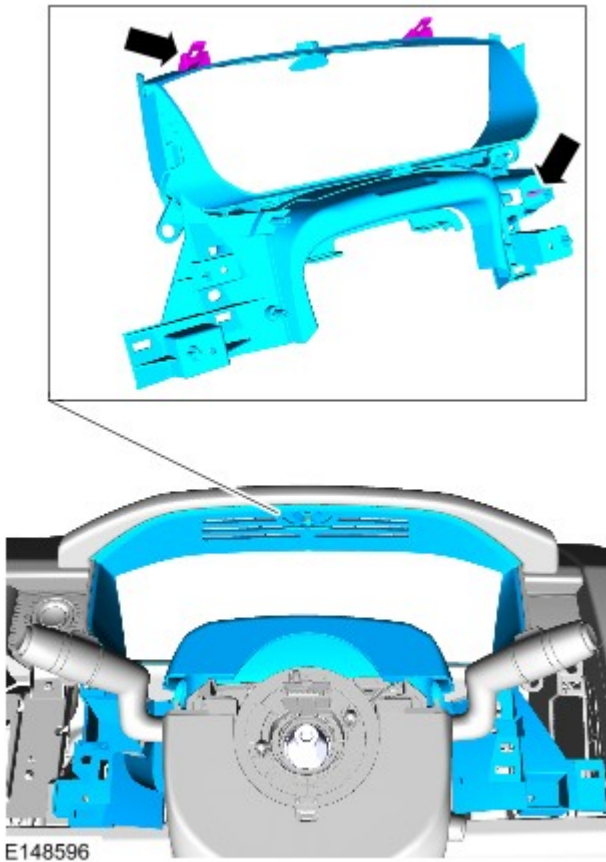
The steering wheel is shown removed for clarity.

*Torque: 1.7Nm*

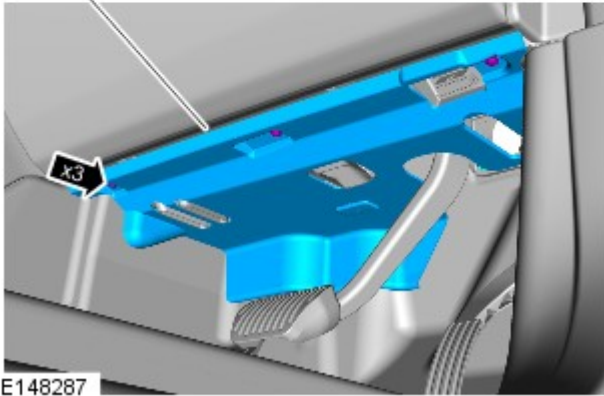
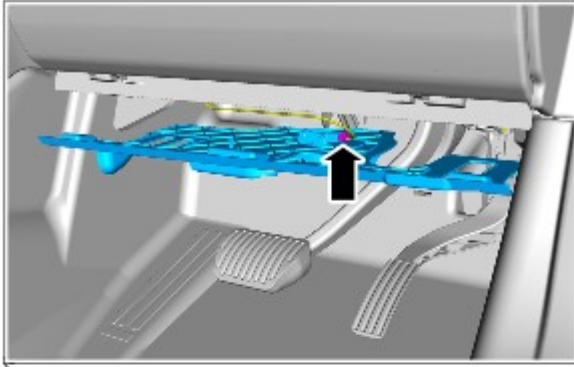
15.

NOTE:

The steering wheel is shown removed for clarity.



16.

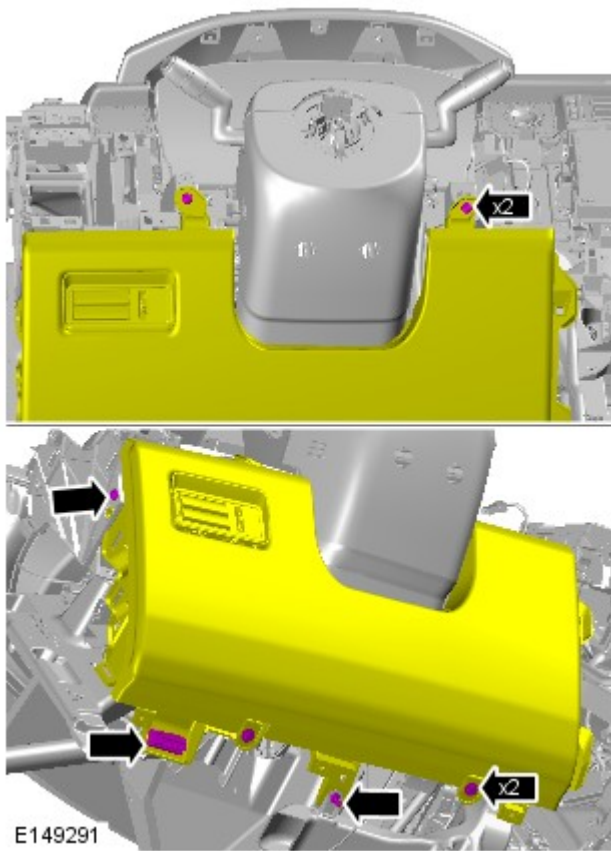


E148287

17.

CAUTION:

LH illustration shown, RH is similar.

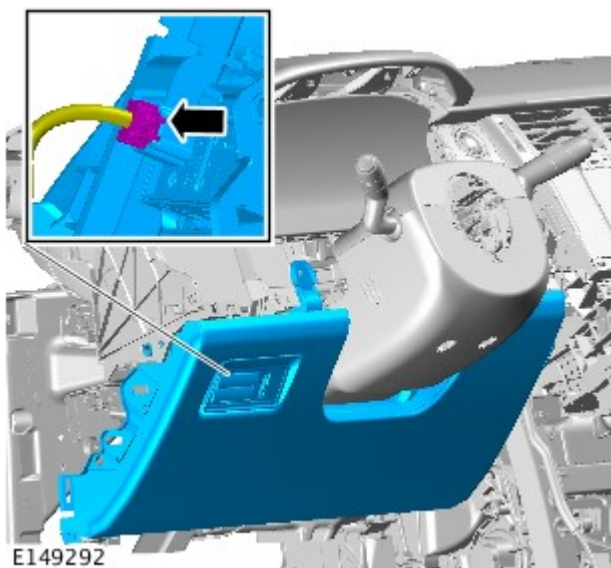


Torque

M6: 2.5Nm

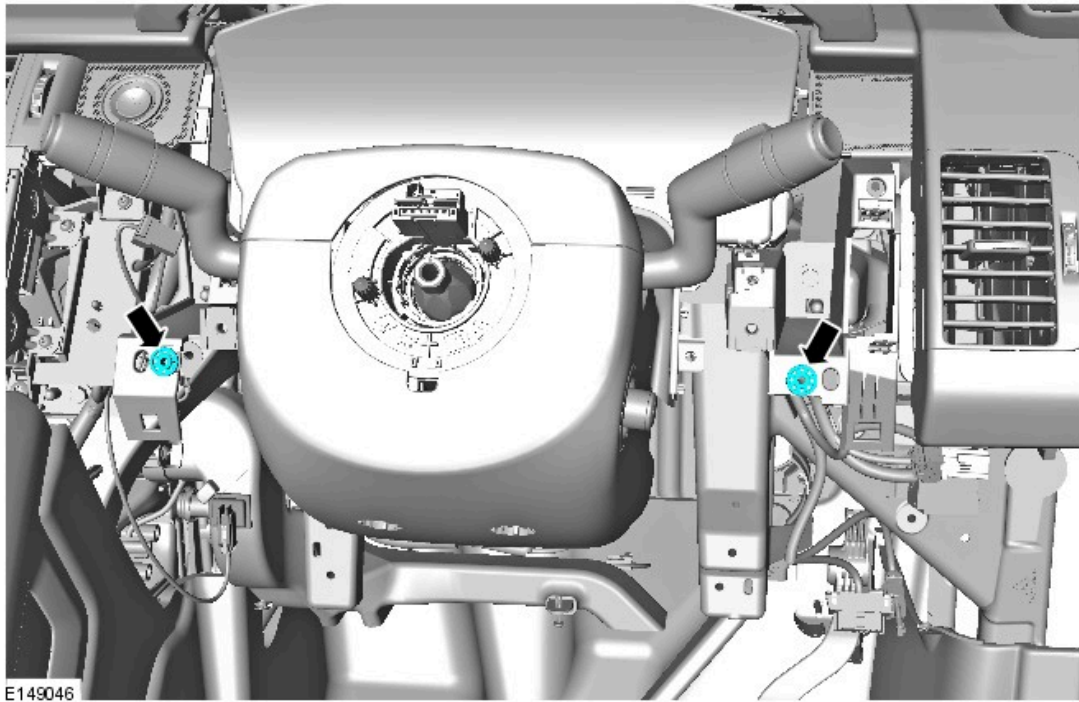
M6: 9Nm

18.



INSTALLATION

1.



2.

NOTE:

Install the trim retaining clips in the moulding prior to installing the components.



3. To install, reverse the removal procedure.

aytjjaGFkdzQ7MjAyNC0wMDY0VGVyMD00MjoxNC04MjRlRaOzESMy4yMzcuNS4xNDk7

PUBLISHED: 13-MAY-2019

2016.0 RANGE ROVER (LG), 414-00

BATTERY AND CHARGING SYSTEM – GENERAL INFORMATION (G1568866)

SPECIFICATIONS

Battery

ENGINE VARIANTS	ITEM	SPECIFICATIONS
Primary battery	Type	Absorbed glass mat (AGM)
	Capacity	90 Ah
	Cold cranking amps	850 CCA
	Reserve capacity	150 minutes
Secondary battery - vehicles with 3.0 TdV6 (cold markets only) and vehicles with 4.4L TdV8	Type	Absorbed glass mat (AGM)
	Capacity	70 Ah
	Cold cranking amps	760 CCA
	Reserve capacity	120 minutes
Secondary battery - vehicles with Stop/Start system	Type	Absorbed glass mat (AGM)
	Capacity	14 Ah
	Cold cranking amps	200 CCA

Primary battery disconnect/connect

CAUTIONS:

- The vehicle status and battery condition must be established before attempting battery disconnect/connect. Reference must then be made to the following table to establish the relevant procedure to be followed.
- After connecting the battery, the steering wheel must be turned to full left-hand and full right-hand lock with the engine running. This allows the dynamic stability control system to calibrate the steering wheel position. Failure to follow this instruction will result in a variety of instrument cluster warning lights being illuminated.

NOTES:

- For 2018 Model Year onward PHEV vehicles refer to: 414-00 Battery and Charging System - General Procedures - 12V System Disconnect - INGENIUM I4 2.0L Petrol - PHEV.
- If there is insufficient capacity in the battery to disarm the alarm, the alarm may sound on connection of the battery - turning the ignition key to position II will disarm the alarm.
- If a new battery is installed, the battery monitoring system (BMS) must be reset using Land Rover approved diagnostic equipment.

Vehicle status	Battery charged	Battery discharged
-	Procedure	Procedure
Vehicles without Telematics	-	-
Engine running	1	-
Vehicle powered down, locked and alarmed	2	3
Vehicle unlocked	4	5
Vehicles with Telematics	-	-
Engine running	6	-
Vehicle powered down, locked and alarmed	7	8
Vehicle unlocked	9	10

Procedure 1

Disconnect the battery	Connect the battery
1. If possible, apply the parking brake or chock the wheels	1. Make sure that all the electrical systems and ignition are switched OFF
2. Set the ignition to the OFF position.	2. Connect the battery GROUND cable
3. Wait 2 minutes for the engine management system to POWER DOWN	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
4. Remove the spare wheel	4. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.
5. Disconnect the battery GROUND cable	-

Procedure 2

Disconnect the battery	Connect the battery
1. Unlock the vehicle and disarm the alarm using the UNLOCK button on the key fob	1. Make sure that all the electrical systems and ignition are switched OFF

2. Enter the vehicle, set the ignition to the ON position, apply the parking brake or chock the wheels and then set the ignition to the OFF position.	2. Connect the battery GROUND cable
3. Wait 2 minutes for the engine management system to POWER DOWN	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
4. Remove the spare wheel	4. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.
5. Disconnect the battery GROUND cable	-

Procedure 3

Disconnect the battery	Connect the battery
1. Unlock the vehicle from the driver's door using the key	1. Make sure that all the electrical systems and ignition are switched OFF
2. Enter the vehicle, apply the parking brake or chock the wheels	2. Connect the battery GROUND cable
3. Remove the spare wheel	3. Set the ignition to the ON position.
4. Disconnect the battery GROUND cable	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
-	5. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.

Procedure 4

Disconnect the battery	Connect the battery
1. Enter the vehicle, set the ignition to the ON position, apply the parking brake or chock the wheels and then set the ignition to the OFF position.	1. Make sure that all the electrical systems and ignition are switched OFF
2. Wait 2 minutes for the engine management system to POWER DOWN	2. Connect the battery GROUND cable
3. Remove the spare wheel	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
4. Disconnect the battery GROUND cable	4. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.

Procedure 5

Disconnect the battery	Connect the battery
1. Enter the vehicle, apply the parking brake or chock the wheels	1. Make sure that all the electrical systems and ignition are switched OFF

2. Remove the spare wheel	2. Connect the battery GROUND cable
3. Disconnect the battery GROUND cable	3. Set the ignition to the ON position.
-	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
-	5. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.

Procedure 6

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF
2. If possible, apply the parking brake or chock the wheels	2. Connect the battery GROUND cable
3. Set the ignition to the OFF position.	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
4. Wait 2 minutes for the engine management system to POWER DOWN	4. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.
5. Remove the spare wheel	5. Request stolen vehicle tracking removed from Service Mode (if equipped).
6. Disconnect the battery GROUND cable	-

Procedure 7

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF
2. Unlock the vehicle and disarm the alarm using the UNLOCK button on the key fob	2. Connect the battery GROUND cable
3. Enter the vehicle, set the ignition to the ON position, apply the parking brake or chock the wheels and then set the ignition to the OFF position.	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
4. Wait 2 minutes for the engine management system to POWER DOWN	4. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.
5. Remove the spare wheel	5. Request stolen vehicle tracking removed from Service Mode (if equipped).
6. Disconnect the battery GROUND cable	-

Procedure 8

CAUTION:

Battery discharge may have activated the stolen vehicle tracking, check with customer if equipped.

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF
2. Unlock the vehicle from the driver's door using the key	2. Connect the battery GROUND cable
3. Enter the vehicle, apply the parking brake or chock the wheels	3. Set the ignition to the ON position.
4. Remove the spare wheel	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
5. Disconnect the battery GROUND cable	5. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.
-	5. Request stolen vehicle tracking removed from Service Mode (if equipped).

Procedure 9

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF
2. Enter the vehicle, set the ignition to the ON position, apply the parking brake or chock the wheels and then set the ignition to the OFF position.	2. Connect the battery GROUND cable
3. Wait 2 minutes for the engine management system to POWER DOWN	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
4. Remove the spare wheel	4. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.
5. Disconnect the battery GROUND cable	5. Request stolen vehicle tracking removed from Service Mode (if equipped).

Procedure 10

CAUTION:

Battery discharge may have activated the stolen vehicle tracking, check with customer if equipped.

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF
2. Enter the vehicle, apply the parking brake or chock the wheels	2. Connect the battery GROUND cable
3. Remove the spare wheel	3. Set the ignition to the ON position.
4. Disconnect the battery GROUND cable	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
-	5. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.
-	6. Request stolen vehicle tracking removed from Service Mode (if equipped).

Secondary battery disconnect/connect

Vehicle status	Procedure
Vehicles without Telematics	1
Vehicles with Telematics	2

Procedure 1

Disconnect the battery	Connect the battery
1. Enter the vehicle, apply the parking brake or chock the wheels	1. Make sure that all the electrical systems and ignition are switched OFF
2. Remove the luggage compartment side trim	2. Connect the battery GROUND cable
3. Wait 2 minutes for the engine management system to POWER DOWN	3. Set the ignition to the ON position.
4. Disconnect the battery GROUND cable	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
-	5. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.

Procedure 2

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF

2. Enter the vehicle, apply the parking brake or chock the wheels	2. Connect the battery GROUND cable
3. Remove the luggage compartment side trim	3. Set the ignition to the ON position.
4. Wait 2 minutes for the engine management system to POWER DOWN	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second (relay in door will click). One touch should now work
5. Disconnect the battery GROUND cable	5. Using suitable Land Rover diagnostic equipment calibrate the electric park brake, both tailgates. Check the clock and navigation settings.
-	6. Request stolen vehicle tracking removed from Service Mode (if equipped).

Vehicle Jump (Emergency) Starting - Using Another Vehicle

WARNINGS:

- Take care when working near rotating parts of the engine.
- Prior to attempting to start the disabled vehicle, make sure that the parking brake is applied or suitably chock the wheels. Make sure that 'P' - PARK - Automatic Gearbox or NEUTRAL - Manual Gearbox is selected.
- Suitable eye protection must be worn when working in the vicinity of the battery.
- DO NOT attempt to start the disabled vehicle if it is suspected that the electrolyte in the battery is frozen.
- During normal use, batteries emit explosive hydrogen gas sufficient to cause severe explosions and capable of causing serious injury - keep sparks and naked lights away from the engine compartment.

CAUTIONS:

- Make sure that there is no physical contact between the donor and disabled vehicles other than the booster cables.
- Make sure that the slave battery/starting aid is of the 12 volt type.
- Make sure that all electrical systems and ignition are switched OFF prior to connecting the booster cables.
- Disconnect the booster cables prior to operating any electrical systems.

Vehicle status	Procedure
Vehicles without Telematics	1
Vehicles with Telematics	2

Procedure 1

CARRY OUT THE FOLLOWING OPERATIONS IN THE SEQUENCE GIVEN

1. Connect one end of the RED (+) booster cable to the POSITIVE (+) battery terminal of the **DONOR** vehicle

CARRY OUT THE FOLLOWING OPERATIONS IN THE SEQUENCE GIVEN
2. Connect the other end of the RED (+) booster cable to the POSITIVE (+) battery terminal of the DISABLED vehicle
3. Connect one end of the BLACK (-) booster cable to the GROUND (-) battery terminal of the DONOR vehicle
4. Connect the other end of the BLACK (-) booster cable to a good earth point (e.g. unpainted metal surface or engine mounting) at least 0.5 m from the battery or fuel lines on the DISABLED vehicle
5. Start the engine of the DONOR vehicle and allow it to idle for a few minutes
6. Start the engine of the DISABLED vehicle
7. Allow the engines of both vehicles to idle for a few minutes, then switch off the engine of the DONOR vehicle
8. Disconnect the BLACK (-) booster cable from the earth point of the PREVIOUSLY DISABLED vehicle
9. Disconnect the BLACK (-) booster cable from the battery of the DONOR vehicle
10. Disconnect the RED (+) booster cable from the PREVIOUSLY DISABLED vehicle
11. Disconnect the RED (+) booster cable from the battery of the DONOR vehicle

Procedure 2

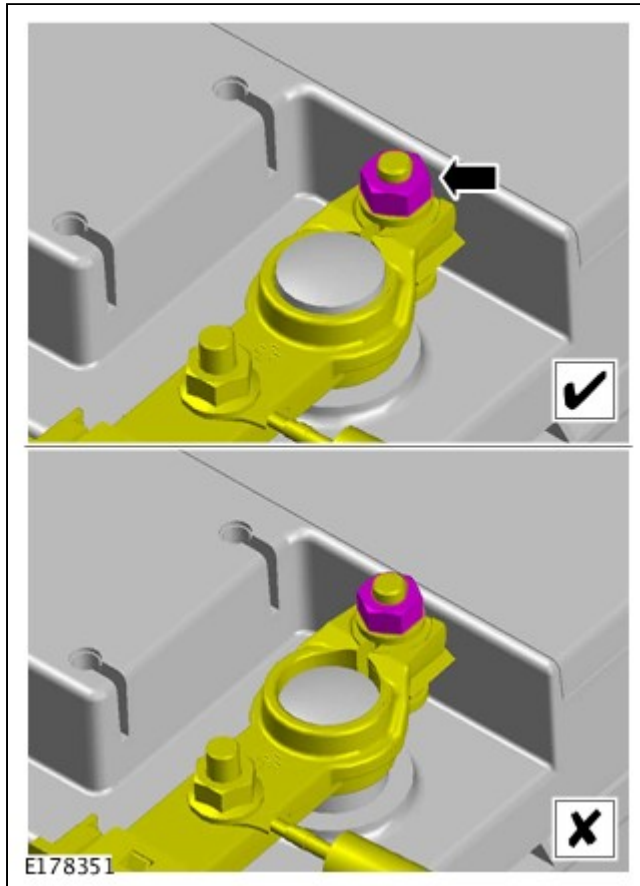
CARRY OUT THE FOLLOWING OPERATIONS IN THE SEQUENCE GIVEN
1. Make sure the customer has placed stolen vehicle tracking into Service Mode (if equipped).
1. Connect one end of the RED (+) booster cable to the POSITIVE (+) battery terminal of the DONOR vehicle
2. Connect the other end of the RED (+) booster cable to the POSITIVE (+) battery terminal of the DISABLED vehicle
3. Connect one end of the BLACK (-) booster cable to the GROUND (-) battery terminal of the DONOR vehicle
4. Connect the other end of the BLACK (-) booster cable to a good earth point (e.g. unpainted metal surface or engine mounting) at least 0.5 m from the battery or fuel lines on the DISABLED vehicle
5. Start the engine of the DONOR vehicle and allow it to idle for a few minutes
6. Start the engine of the DISABLED vehicle
7. Allow the engines of both vehicles to idle for a few minutes, then switch off the engine of the DONOR vehicle
8. Disconnect the BLACK (-) booster cable from the earth point of the PREVIOUSLY DISABLED vehicle
9. Disconnect the BLACK (-) booster cable from the battery of the DONOR vehicle
10. Disconnect the RED (+) booster cable from the PREVIOUSLY DISABLED vehicle
11. Disconnect the RED (+) booster cable from the battery of the DONOR vehicle
12. Request stolen vehicle tracking removed from Service Mode (if equipped).

Vehicle Jump (Emergency) Starting - Using a Slave Battery/Starting Aid

Vehicle status	Procedure
Vehicles without Telematics	1

CAUTION:

Ensure the clamping lug on the BMS is below the top of the negative terminal post as shown.

**Procedure 1**

CARRY OUT THE FOLLOWING OPERATIONS IN THE SEQUENCE GIVEN

1. Connect the end of the RED (+) booster cable to the POSITIVE (+) battery terminal of the vehicle
2. Connect the end of the BLACK (-) booster cable to a good earth point (e.g. unpainted metal surface or engine mounting) at least 0.5 m from the battery or fuel lines on the vehicle
3. Start the engine of the vehicle and allow it to idle
4. Disconnect the BLACK (-) booster cable from the earth point of the vehicle
5. Disconnect the RED (+) booster cable from the battery terminal of the vehicle.

Procedure 2

CARRY OUT THE FOLLOWING OPERATIONS IN THE SEQUENCE GIVEN

1. Make sure the customer has placed stolen vehicle tracking into **Service Mode** (if equipped).
2. Connect the end of the RED (+) booster cable to the POSITIVE (+) battery terminal of the vehicle
3. Connect the end of the BLACK (-) booster cable to a good earth point (e.g. unpainted metal surface or engine mounting) at least 0.5 m from the battery or fuel lines on the vehicle
4. Start the engine of the vehicle and allow it to idle
5. Disconnect the BLACK (-) booster cable from the earth point of the vehicle
6. Disconnect the RED (+) booster cable from the battery terminal of the vehicle.
7. Request stolen vehicle tracking removed from **Service Mode** (if equipped).

ay1jaGFkdzQ7MjAyNC0wMjYyOVYMD00MjoxNC43NTIaOzESMy4yMzcuNS4xNDk7