

Wiring Harnesses -

Torque Specifications

Description	Nm	lb-ft
Electrical harness bridge bolts - 4.0 Litre	45	33
Fusebox main feed cable bolt - 4.0 Litre	10	7
Purge valve bolt - 4.4 Litre	6	4
A/C compressor mounting bracket bolts - 4.4 Litre	25	18
A/C compressor bolts - 4.4 Litre	25	18
Upper suspension arm and brake line heat shield nuts and bolts - 4.4 Litre	10	7
Road wheel nuts	140	103
Cylinder head ground connector bolt	10	7
Wiring harness support bracket bolts - 4.4 Litre	10	7
Fusebox main feed cable bolt	10	7
Radiator access panel bolts	10	7
* Starter motor solenoid nut	8	6
PAS pump mounting bracket bolts	25	18

*** Caution: damage to the internal connections will result if this torque is exceeded**

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Wiring Harnesses - Wiring Harness

Description and Operation

Introduction



CAUTION: Do **not** use any other heat shrink sleeve other than the approved glue lined heat shrink sleeve mentioned in the repair procedure.

The purpose of this document is to promote quick and efficient minor repair to harness connectors or cables using approved methods and the wiring harness repair kit. Repairs may only be made to cables and connectors which have been mechanically, **not electrically** damaged. It also applies where the whole extent of the damage can be clearly identified and rectified.

Care and neatness are essential requirements in making a perfect repair.

Caution:

At the time of this first issue of the Harness Repair Guide, do not approve repairs to any of the following circuits:

- Any media orientated system transport network harnesses.
- Supplement restraint system (SRS) firing circuits (Air bags).
- Link lead assemblies, which are unique to safety critical circuits such as anti-lock brake system (ABS) and thermocouple circuits. An example of this is the ABS wheel speed sensors with moulded connectors.
- 4. Screened cables, leads and wiring harness(s).

If any harness(s) with defective electrical connector terminals or wires from the above circuits are a concern, new components must be installed.

Repair Kit



CAUTION: Where the repair procedure indicates that a glue lined heat shrink sleeve should be applied, apply sufficient heat to the glue lined heat shrink to melt the glue in order to provide a water tight seal. Do **not** over heat the glue lined heat shrink sleeve so that the wiring harness insulation becomes damaged.

The wiring harness repair kit has been produced which comprises:

- Pre-terminated wiring harness(s) of different sizes and types
- Three sizes of butt splice connectors
- A selection of colored cable identification sleeves
- Two sizes of glue lined heat shrink sleeves
- Crimping pliers
- A wire cutter and insulation stripper
- An electrical connector terminal extraction handle and tips

A suitable heat source, for shrinking heat shrink sleeves will be required.

The pre-insulated diamond grip range of electrical connector terminals and in-line, butt splice connectors contained within the wiring harness repair kit are the **only** acceptable product for the repairs of wiring harnesses. The butt connectors not only grip the wire but also the insulation, making a very secure joint.

If an electrical connector terminal is not included in the wiring harness repair kit then approval for the repair is **NOT** given and in these circumstances a new wiring harness must be installed.

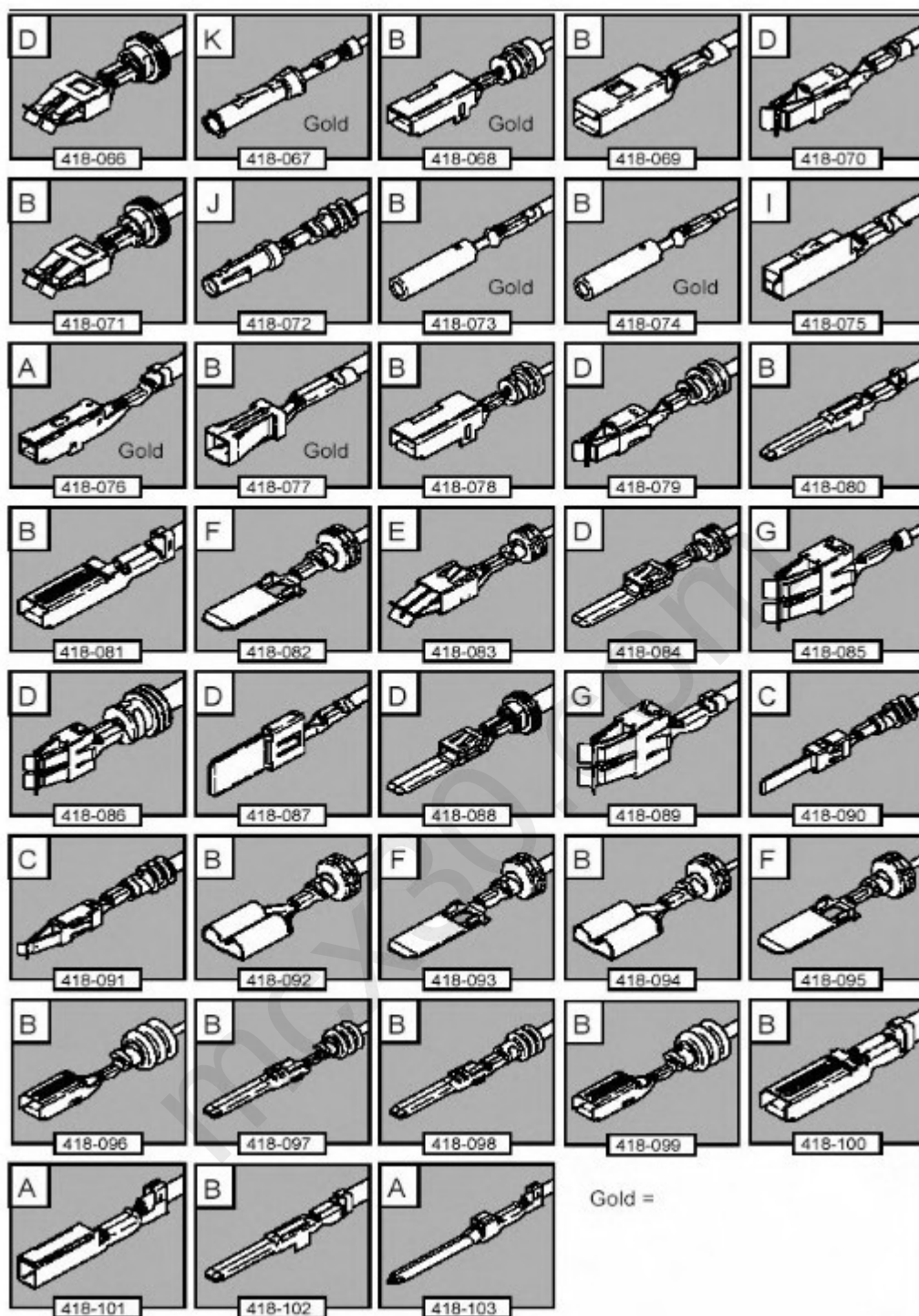
Pre-Terminated Wiring Harness(s) and Butt Splice Connectors

All pre-terminated wiring harness(s) and butt splice connectors in the wiring harness repair kit are contained in bags which can be resealed after use. Each bag is marked with the part number of the items stored within the bag. Each storage compartment in the wiring harness repair kit is identified with the corresponding part number. Make sure that pre-terminated wiring harness(s) and connectors are not mixed up it is advisable to only open one bag at a time and to reseat the bag securely before opening another bag. Also, replace the bag in its mating part number compartment within the case.

The pre-terminated wiring harness(s) are supplied with the insulation in one of three colors, red, blue or yellow. The colors do not apply to any particular circuit but to the harness wire size. See the Relationship Table in the Repair Method section.

Butt splice connectors are also supplied with red, blue or yellow coverings, which must be matched to the pre-terminated wiring harness insulation color.

Pre-Terminated Wiring Harness(s)



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The illustration shows:

- The pre-terminated wiring harness(s) which are included in the wiring harness repair kit
- The part number of the pre-terminated wiring harness
- The letter showing the extractor tip which must be used to remove this type of electrical connector terminal
- Those electrical connector terminals which are gold

Some of the pre-terminated wiring harness(s) have seals installed to the insulation for sealed connector applications. It is essential for prevention of moisture ingress that a sealed pre-terminated wiring harness must be used where a sealed terminal was removed.



CAUTION: Where the repair procedure indicates that a glue lined heat shrink sleeve should be applied, apply sufficient heat to the glue lined heat shrink to melt the glue in order to provide a water tight seal. Do **not** over heat the

glue lined heat shrink sleeve so that the wiring harness insulation becomes damaged.

Two sizes of heat shrink sleeving are supplied in the wiring harness repair kit. Each heat shrink sleeve contains a sealant glue. These must be used when connecting wiring harness(s) or electrical connector terminal(s) at all times. The smaller diameter heat shrink sleeve is to be used with the red and blue butt splice connectors and the larger diameter sleeve with the yellow butt splice connectors.

For ease and speed, some of the pre-terminated wiring harness(s) may already have the insulation partly stripped at the splice end. If the repair requires insulation to be stripped from the cable, refer to the Relationship Table for the correct length of insulation to be stripped.

The Pre-Terminated Wiring Harness(s) illustration shows the electrical connector terminal type, the part number of the pre-terminated wiring harness and the letter of the extractor tip which must be used to extract the electrical connector terminal from the connector housing. Additionally, those electrical connector terminal(s) which are gold are identified, all others are therefore, tinned and not gold.

Wiring Harness Cable Identification Sleeves

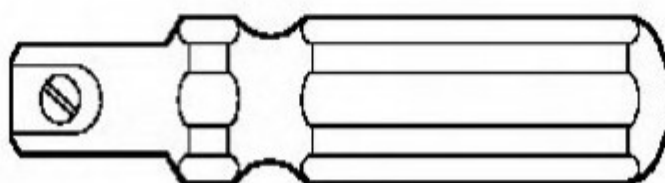
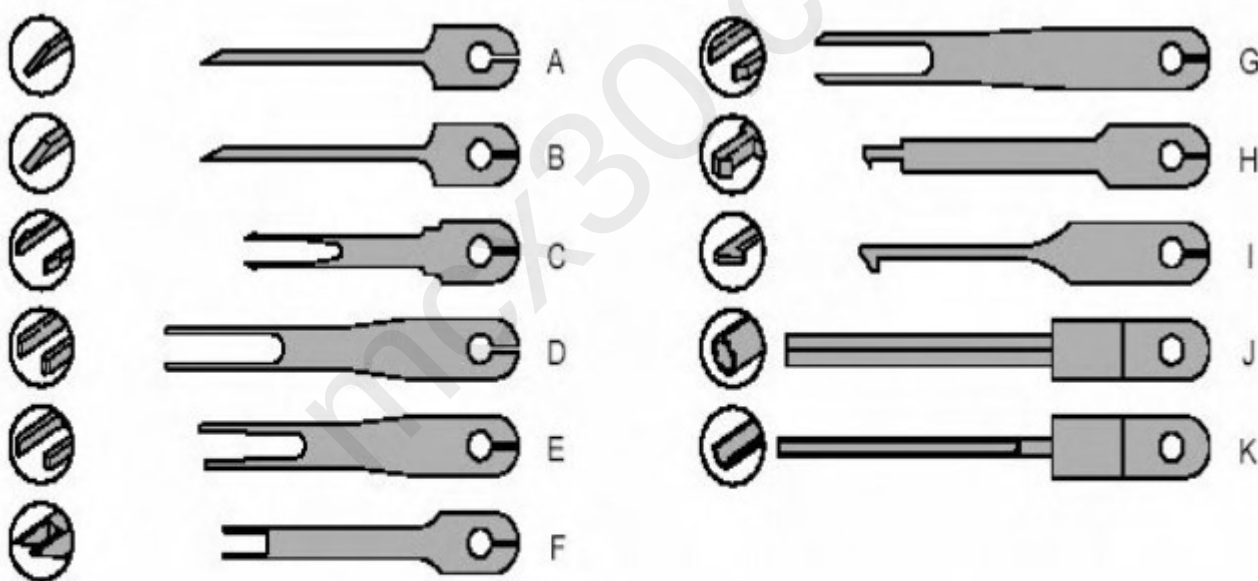
A selection of colored sleeves are contained in the wiring harness repair kit for maintaining the wiring harness cable identification on the pre-terminated wiring harness. Place the correct colored sleeve(s) over the pre-terminated wiring harness insulation as near to the electrical connector as possible with the main wiring harness cable color nearest to the electrical connector.

For example, if the original wiring harness cable color is pink with a black trace put the pink wiring harness cable identification sleeve on the pre-terminated wiring harness first followed by a black sleeve, and slide both along the wiring harness cable to the electrical connector terminal.

Extraction Handle and Tips

The extraction handle, in conjunction with the correct tip, is used to remove a terminal from an electrical connector. Each tip contained in the wiring harness repair kit is marked with an identification letter, A to K inclusive. Each tip has been specially designed to extract a particular type of electrical connector terminal. The use of any other tool is **not** recommended and is liable to cause damage to the electrical connector. The tip is fastened to the handle by a screw which holds the tip firmly yet allows it to be easily replaced.

Extraction Handle and Tips

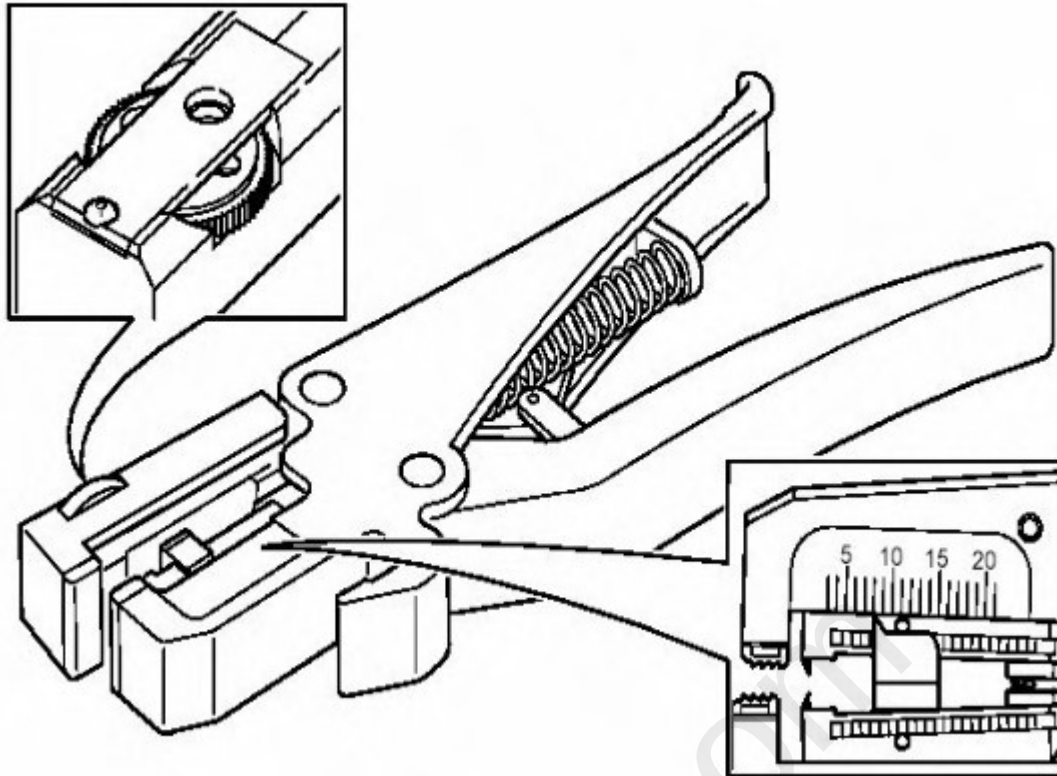


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Insulation Stripper

The moving jaw has an adjuster wheel which has a series of holes in it. Turning the wheel and placing the cable in the matching size hole will automatically adjust the jaw to the correct pressure. Note that some wiring harness(s) may have a harder insulation and slight adjustment of the wheel may be needed to make a clean strip but exercise care not to damage the wire.

Insulation Stripper

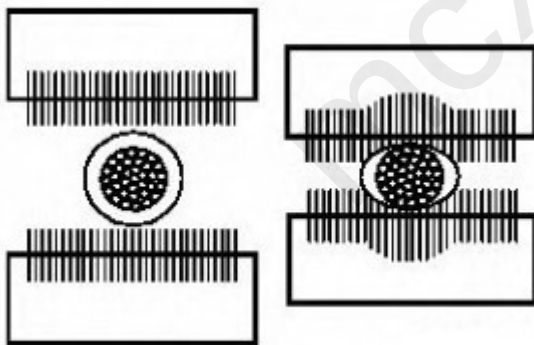


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By pressing the outer edges of the wiring harness cable length stop together the adjuster can be slid up or down the jaw. This decreases or increases the length by which the wiring harness cable insulation will be stripped from the pre-terminated wiring harness or wiring harness wire. The adjuster has a position indicator to align with a graduated scale and this sets the correct length in millimetres, of insulation to be stripped. The amount of insulation to be stripped is shown in the Relationship Table.

The illustration shows the insulation stripper tool and a wiring harness correctly gripped in the jaws. A wire cutter is provided on the outer side of the fixed jaw.

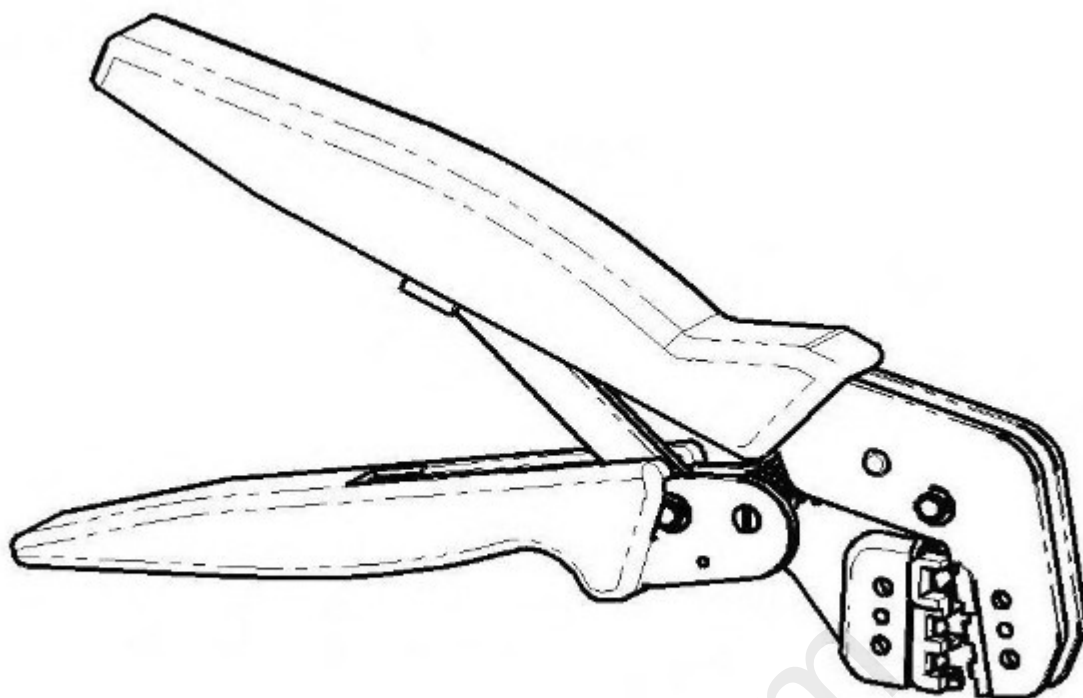
Cable Correctly Gripped in Stripper Blades



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Crimping Pliers

Crimping Pliers



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The crimping pliers have a moving jaw and a stationary jaw, with three different sized crimping enclosures. Each of the enclosures is identified by a red, blue or yellow coloured dot which corresponds to the three colours of the pre-terminated wiring harness(s) and butt splice connector colors.

List of Parts

Description	Part Number	Quantity
Wiring Harness Repair Kit	418-S065	1
Pre-Terminated Wiring Harness(s)	418-066 to 418-103 inclusive	10 each
Glue Lined Heat Shrink Pack – small diameter	418-104	25 per pack
Glue Lined Heat Shrink Pack – larger diameter	418-105	10 per pack
Case Assembly Comprising – carry case, lid, inner lid, base, insert, trays foam spacers	418-106	1
Butt Splice Connector – Red	418-107	50 per pack
Butt Splice Connector – Blue	418-108	50 per pack
Butt Splice Connector – Yellow	418-109	20 per pack
Extraction Tool Handle	418-110	1
Extraction Tip Pack consists of 2 spare screws plus	418-S111	1
Tip A	418-118	1
Tip B	418-119	1
Tip C	418-120	1
Tip D	418-121	1
Tip E	418-122	1
Tip F	418-123	1
Tip G	418-124	1
Tip H	418-125	1
Tip I	418-126	1
Tip J	418-127	1
Tip K	418-128	1
Sleeve Identification Pack – for Red insulation	418-112	500
Sleeve Identification Pack – for Blue insulation	418-113	500
Sleeve Identification Pack – for Yellow insulation	418-114	500
Instruction Manual	JTP 593	1
Crimping Pliers	YRW500010	1
Wire Stripping Tool	418-117	1

Items can be ordered from:

SPX United Kingdom Limited

Ironstone Way

Brixworth

Northants

NN6 9UD

United Kingdom

Telephone: +44 (0) 1327 704461

Fax: +44 (0) 1327 706632

Repair Methods



CAUTION: Several different types and sizes of terminal may be found in a single electrical connector housing.

It is necessary to identify:

- The conductor (wire) size of the affected wiring harness
- The electrical connector range from which the damaged wiring harness is to be removed
- The terminal type

Use of the approved diagnostic tool will greatly assist in the quick identification of electrical connectors and faulty pin terminal(s).

Reference can also be made to the vehicle Electrical Guides, held by Dealers, to identify wiring harness(s) and electrical connector(s).

By using the Relationship Table, the wiring harness conductor (wire) size can be related to a suitable pre-terminated wiring harness by the color of the insulation. Also, the correct length of insulation to be stripped from the wiring harness lead is identified.

Relationship Table

CABLE RANGE	SPLICE	STRIP LENGTH
0.35 mm ² to 1.50 mm ²	RED	6.00 to 7.00 mm
1.00 mm ² to 2.50 mm ²	BLUE	6.00 to 7.00 mm
4.00 mm ² to 6.00 mm ²	YELLOW	9.00 to 9.50 mm

Electrical Connector Terminal Extraction

It must be noted that some electrical connector(s) have anti-backout devices which prevent the terminals from being removed from the electrical connector. Some examples of these are shown in following illustrations. The anti-backout device must be released before attempting to remove the terminal from the electrical connector. Some anti-backout devices require a special tip to release the device and these have been included in the kit. Most can be released by carefully using a suitable small screwdriver.

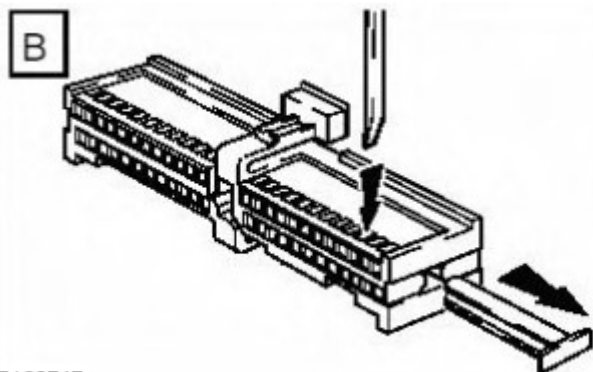
Various types of electrical connector have seals installed internally or externally to prevent moisture ingress. These normally do not have to be removed but make sure that they are installed when the electrical connectors are connected.

The illustrations show examples of each tip used on different types of electrical connector(s). There are a large number of different types of electrical connector used on vehicles therefore only one example using each tip is shown. Technicians experience and judgement will dictate which type of tip should be used for those electrical connector(s) which are not shown. Care should be exercised to avoid further damage when removing the terminals from the electrical connector.

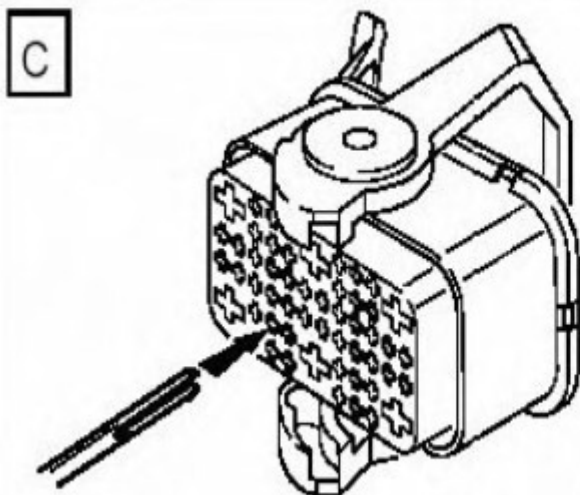
- **NOTE: Examples of the extraction tips and anti-backout tips.**



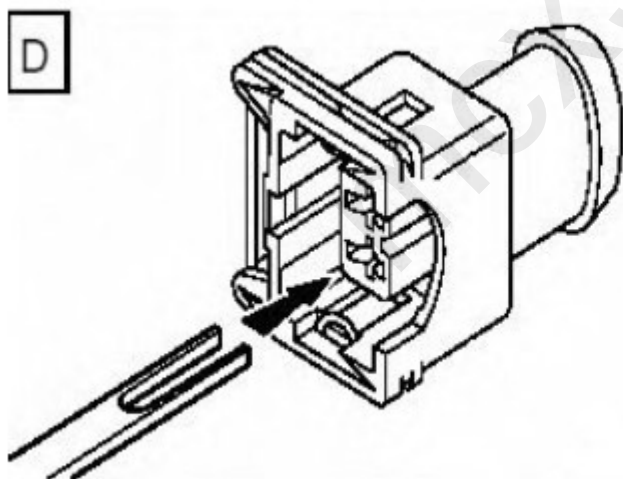
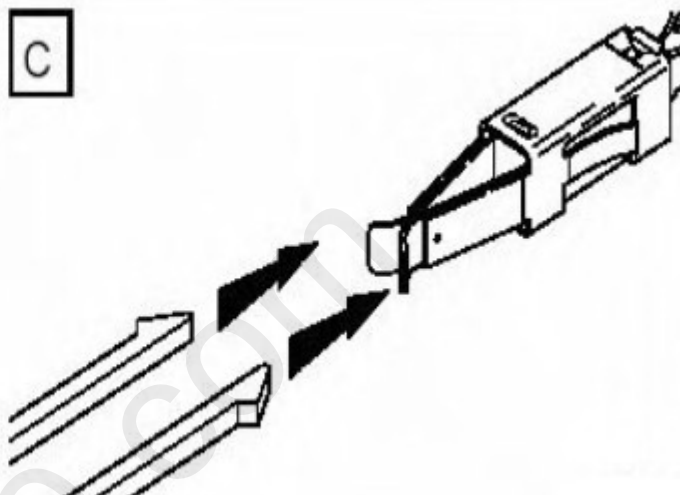
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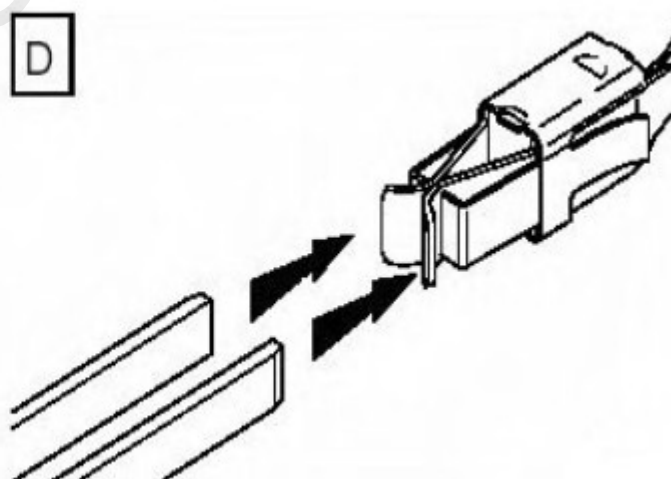
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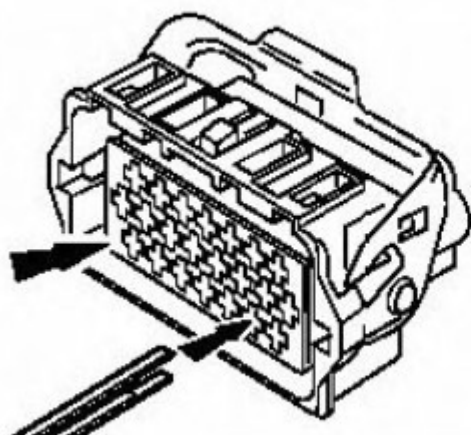
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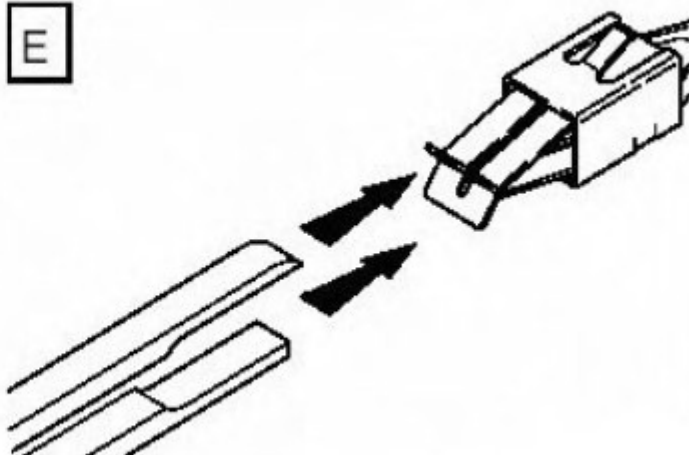
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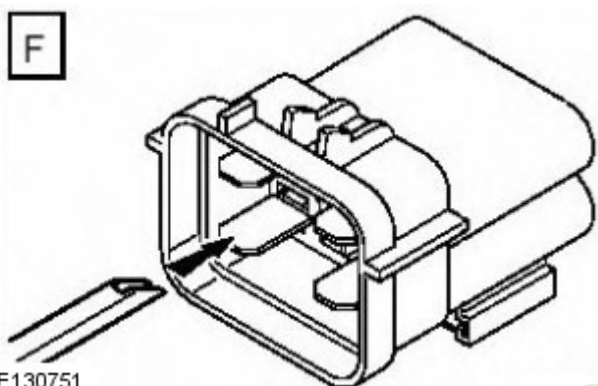


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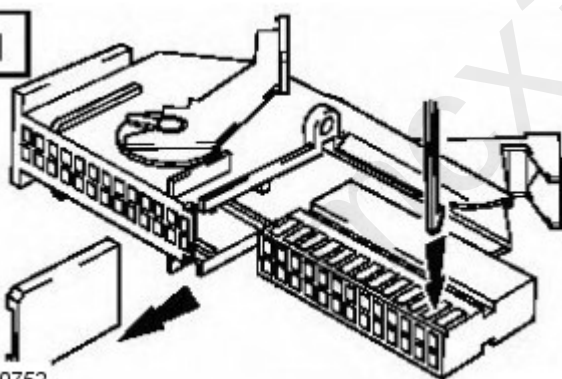
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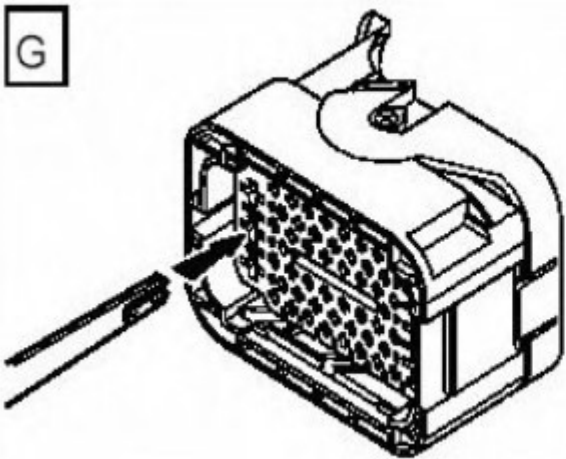
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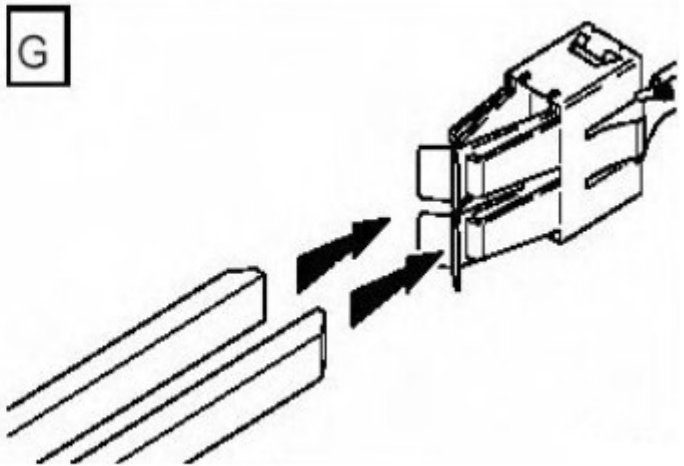


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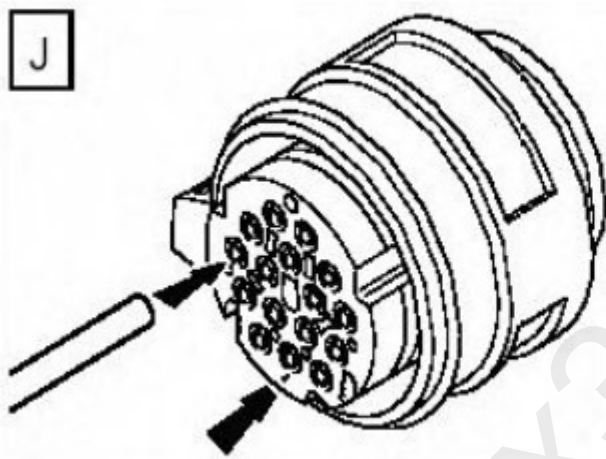


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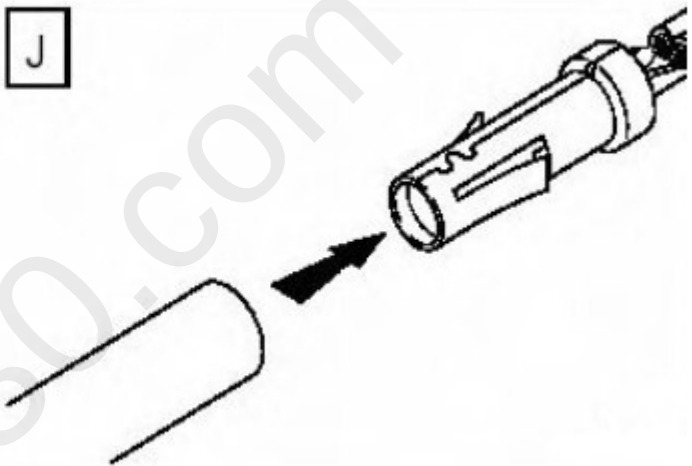


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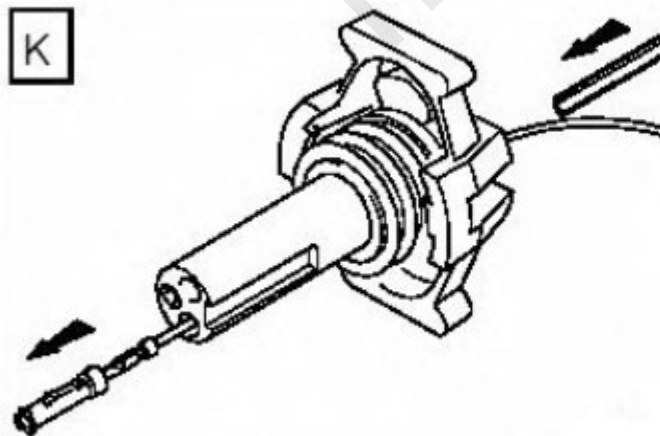


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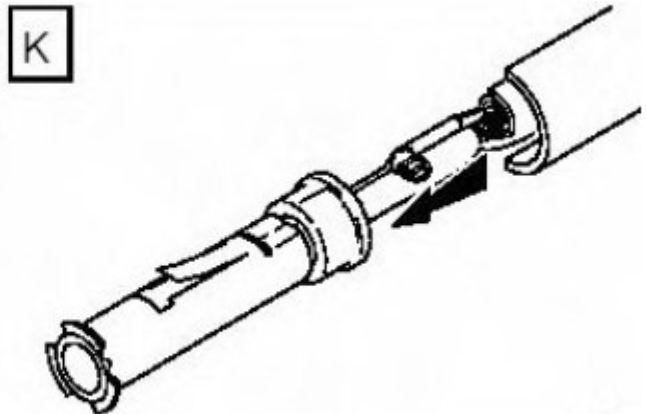


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K



K



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• NOTE: The chart shows the electrical connector types, terminal pins/sockets, extractor tip and anti-backout tip.

Electrical connector terminal type	Pin or socket	Extractor tip	Anti-backout tip
Multilock 040 series	D	A	
Multilock 040 series	B	A	
Multilock 070 series	B	B	

Electrical connector terminal type	Pin or socket	Extractor tip	Anti-backout tip
Multilock 040 series	D	B	
Econoseal III 070 series	D	B	
Econoseal III 070 series	B	B	
Econoseal III 070 series	B	B	
Econoseal III J2	D	B	
Econoseal III 250 series	B	F	
Econoseal III 250 series	D	B	
Econoseal III 250 series	B	F	
Econoseal III 250 series	D	B	
Micro-timer II 1.5mm	D	C	
Micro-timer II 1.5mm	B	C	
Std power timer 4.8 flat	D	G	
Std power timer 5.8 flat	B	D	
Std power timer 5.8 flat	B	D	
Std power timer 2.8 flat	D	D	
Std power timer 4.8 flat	D	G	
Std power timer 5.8 flat	B	D	
Ford 2.8 flat	D	E	H
Multilock 070 series	D	B	
Multilock 070 series	B	B	
Junior power timer 2.8 flat	D	D	
Sumitomo TS90 connector	B	B	H
Modu IV gold plated	D	B	
Multilock 040 series gold plated	D	A	
Micro qualock	D	I	
EECV	D	B	
EECV	D	B	
Kostal dia 1.50 series	D	J	
AMP 6.3 flat	D	B	
Junior power timer 2.8 flat	D	D	
2.8 series	D	B	I
Sumitomo TS90 connector	D	B	H
Ducon 0.60 gold plated	D	K	
AMP 6.3 flat	D	D	
Econoseal III 250 series	B	F	

Repair Procedure

• CAUTIONS:



Do not use crimping pliers, insulation strippers, butt splice connectors, heat shrink sleeves or pre-terminated wiring harness(s) that are not supplied with the Jaguar wiring harness repair kit. Each part has been designed to be used only with the other parts in this wiring harness repair kit.



Where the repair procedure indicates that a glue lined heat shrink sleeve should be applied, apply sufficient heat to the glue lined heat shrink to melt the glue in order to provide a water tight seal. Do **not** over heat the glue lined heat shrink sleeve so that the wiring harness insulation becomes damaged.

It is not correct to make more than five repair joints on the wiring harness to any electrical connector and if more damage is found at the same electrical connector then a new wiring harness must be installed.

- Remove the faulty terminal from the electrical connector using the extractor tool and correct tip. Make sure that any anti-backout device is released before trying to remove the terminal.
- CAUTION:** : A number of electrical connector terminals are gold plated or gold flashed. When defective, they must be installed with a gold pre-terminated wiring harness(s) from the wiring harness repair kit. It is not always easy to identify the female as gold but the male pins are visually easier, therefore always check both male and female terminals to identify those which are gold. Under no circumstances are gold and tin terminals to be mixed as this will lead to early failure of the electrical contact.
- NOTE:** Never use a harness lead with a smaller diameter than the original harness lead.

Select the correct size and type of pre-terminated wiring harness and butt splice connector from the wiring harness repair kit.

- Using the wire cutter on the stripping tool, cut the pre-terminated wiring harness and the harness cable to the required length.
- NOTE:** See illustration: **Stripping Insulation**

From the Relationship Table, find the correct length of insulation to be stripped from the pre-terminated wiring harness and set the adjustable cable length stop to the correct length. Place the pre-terminated wiring harness in the wire stripper and remove the insulation.

- Put the cable identification sleeve(s) on to the wiring harness with the main cable colour nearest to the terminal.
- During this next step do not overtighten. Place the selected butt splice connector in the crimping tool, matching the aperture and the butt connector colours. Make sure that the window indentation in the butt connector is resting over the guide bar on the lower jaw. Partially close the grip until the butt connector is securely held in the aperture. This will give support to the butt connector while the pre-terminated wiring harness is inserted into it.
- NOTE:** See illustration: **Splice Correctly Located**

Insert the pre-terminated wiring harness into the butt connector and make sure that the wire is against the wire stop. Close the grip firmly, crimping the lead to the butt connector. When the handles have been completely closed the butt connector will be freed from the tool as the handles are released. If the handles have not been completely closed then the jaws will hold the butt connector and it cannot be removed from the tool until the crimp is fully made by closing the handles completely.

- Make sure that the harness cable has been squarely cut and the correct length of insulation removed. If more than one splice is needed the butt connectors must be not be crimped to the wiring harness at the same distance from the connector. The splices must be staggered to prevent a bulk of splices in the same area of the wiring harness.
- It is preferable to cover the butt splice joint with heat shrink sleeve. This is desirable not essential, except where the electrical connector is a sealed electrical connector. Use the smaller diameter sleeve for red and blue pre-terminated wiring harness(s) and the large diameter sleeve for the yellow pre-terminated wiring harness(s). It is advisable to place the heat shrink over the completed joint but in some instances the sleeve will not pass over the terminal. Check, and if required, place the correct size sleeve onto the harness cable or pre-terminated wiring harness before crimping the butt splice to the wiring harness.
- Place the harness cable into the butt splice with the splice window over the guide bar. Make sure that the cable harness wire is against the stop in the butt splice, crimp the butt splice connector to the wiring harness.
- Gently pull the harness cables each side of the butt splice to make sure that a secure joint has been made.

-  **WARNING:** Do not use a naked flame in areas where fuel or oil have been spilt. Clean the area of residual oil and fuel and wait until the fuel spill has fully evaporated.

• **CAUTIONS:**



When using a heat source make sure that it is localised and causes no damage to surrounding materials.

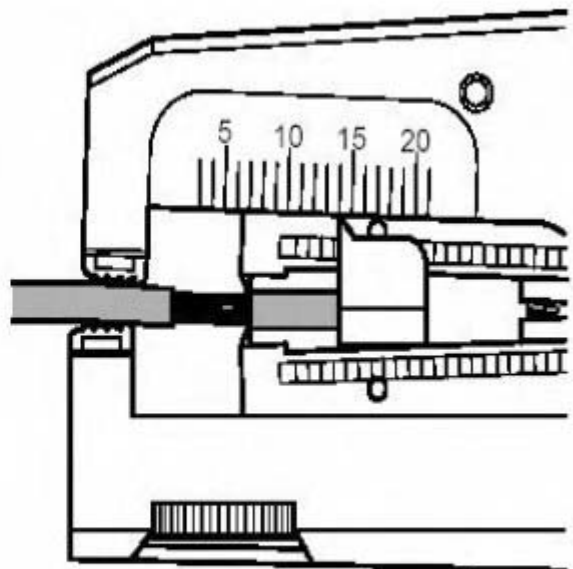
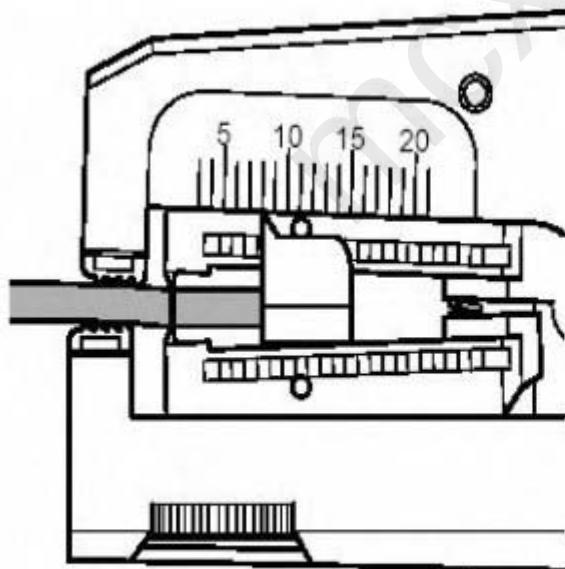


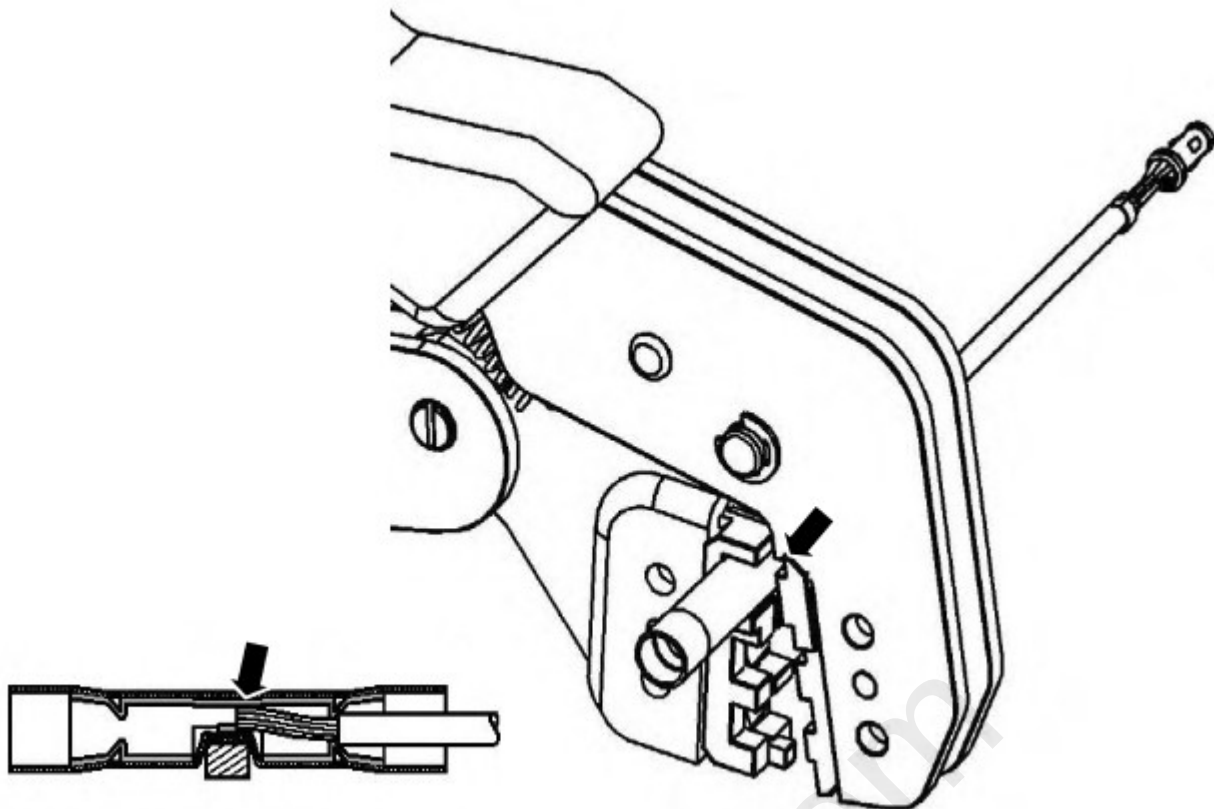
Where the repair procedure indicates that a glue lined heat shrink sleeve should be applied, apply sufficient heat to the glue lined heat shrink to melt the glue in order to provide a water tight seal. Do **not** over heat the glue lined heat shrink sleeve so that the wiring harness insulation becomes damaged.

Using a suitable heat source, shrink the sleeve over the butt splice.

- If further pre-terminated wiring harness(s) are to be installed to the same electrical connector, make sure that the lead is cut at a different length to the previous joint. This makes sure that the splices will, where possible, be staggered on the wiring harness and prevent a bulk of splices in one area.
- When all of the splices have been made, fit the terminal(s) to the electrical connector, taking care that the terminals are correctly orientated.
- Install the wiring harness cover and secure with adhesive electrical tape. Do not cover the wiring harness right to the electrical connector as the terminals must have a little movement and not be firmly bound to the electrical connector or wiring harness. Make sure that the cable identification sleeve(s) are showing at the wiring harness electrical connector.

Stripping Insulation





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Wiring Harnesses - Wiring Harness Repair

General Procedures

1. For additional information, refer to: [Wiring Harness](#) (418-02 Wiring Harnesses, Description and Operation).

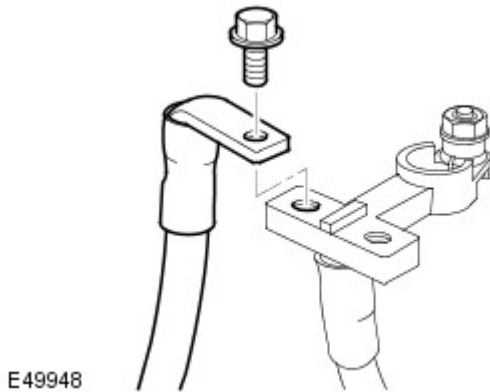
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Wiring Harnesses - Engine Wiring Harness V6 4.0L Petrol

Removal and Installation

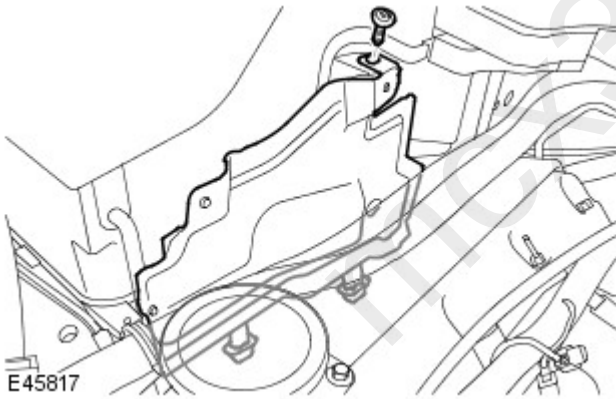
Removal

1. Disconnect the battery ground cable.
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).
2. Remove the engine undershield.
For additional information, refer to: [Engine Undershield](#) (501-02 Front End Body Panels, Removal and Installation).
3. Remove the intake manifold.
For additional information, refer to: [Intake Manifold](#) (303-01C Engine - V6 4.0L Petrol, In-vehicle Repair).
4. Remove the battery.
For additional information, refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).
5. Remove the engine compartment fuse box main feed cable.
 - Remove the bolt.



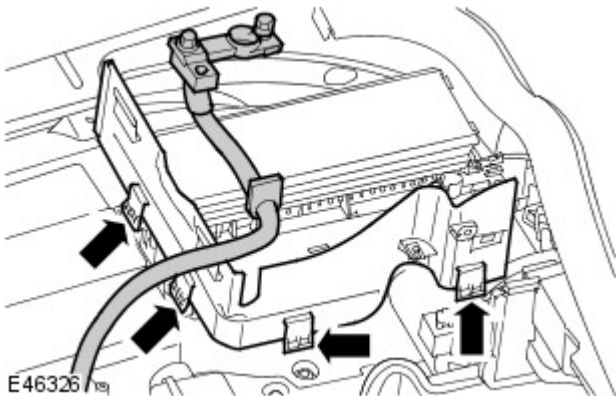
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6. Remove the engine compartment upper heat shield.
 - Remove the screw.
 - Release the 2 mounting clips.



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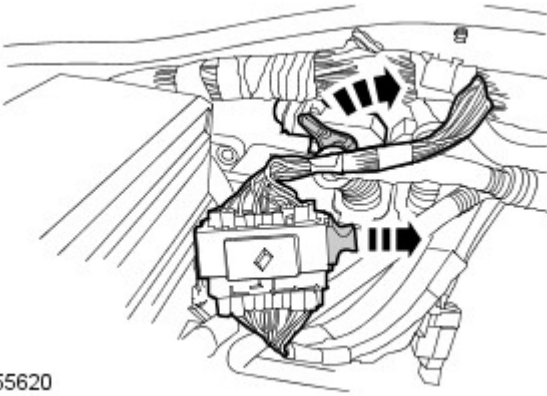
7. Remove the battery compartment side wall.
 - Release the battery positive cable and grommet.
 - Release the 4 clips.



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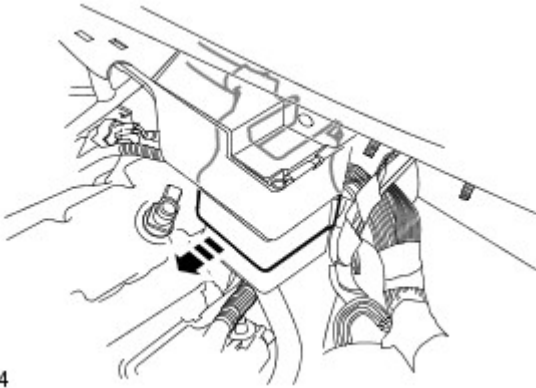
8. Release the engine harness from the battery compartment.

- Disconnect the 2 electrical connectors.



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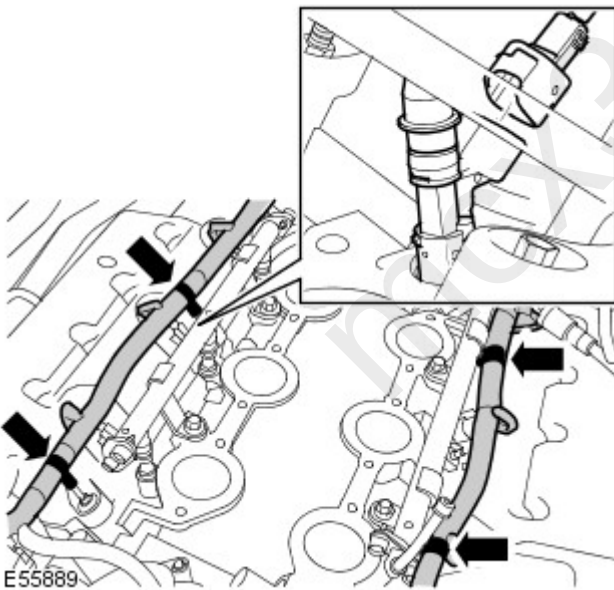
9. Release the 2 clips on the harness protective cover.



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10. Disconnect the fuel injector electrical connectors.

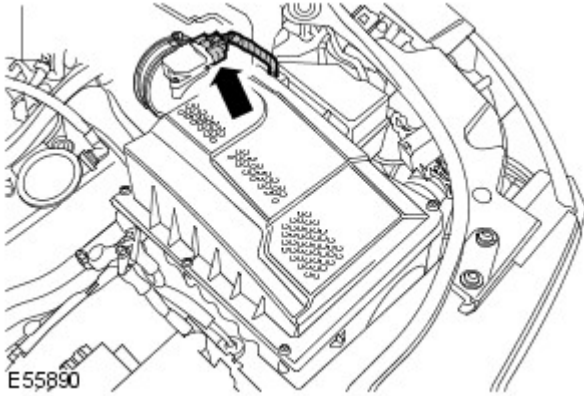
- Release the 4 clips.



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11. Disconnect the mass air flow (MAF) sensor electrical connector.

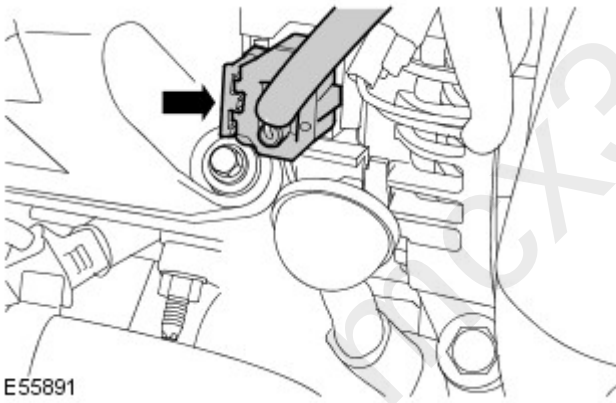
- Release the clip.



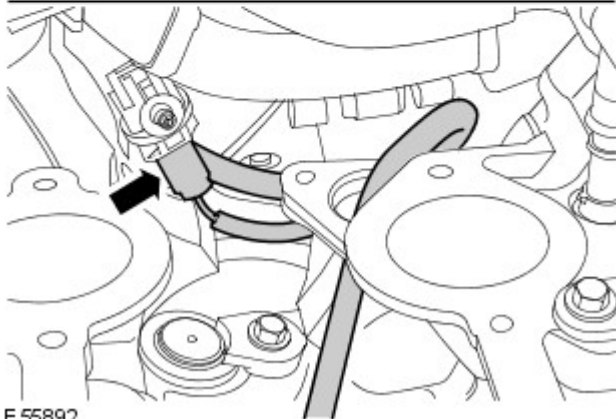
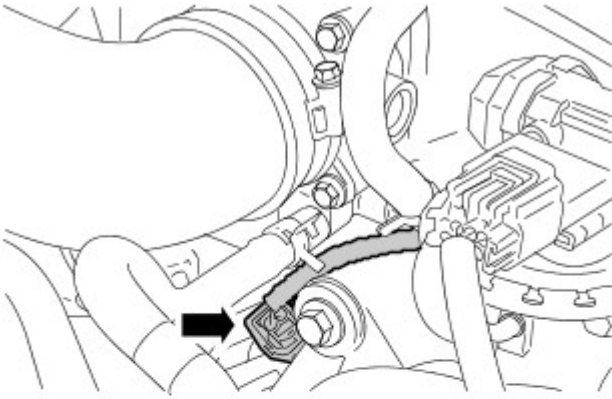
12. Disconnect the engine coolant temperature (ECT) sensor electrical connector.



13. Disconnect the generator connector.



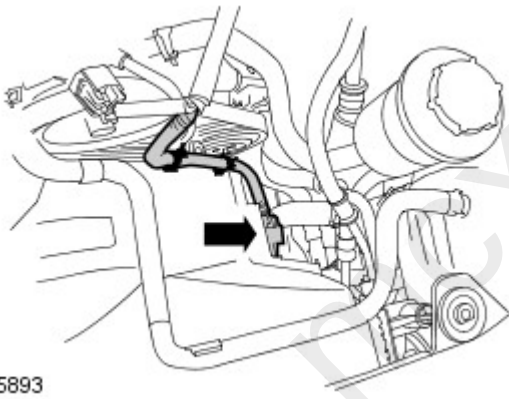
14. Disconnect the knock sensor (KS) electrical connectors.



E 55892

15. Disconnect the cooling fan control electrical connector.

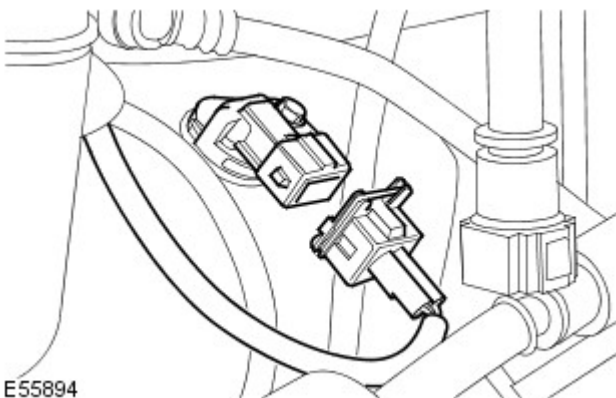
- Release the 2 clips.



E55893

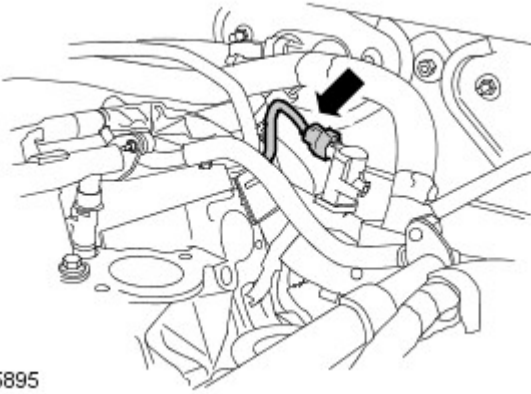
16. Disconnect the camshaft position (CMP) sensor electrical connector.

- Release the clip.



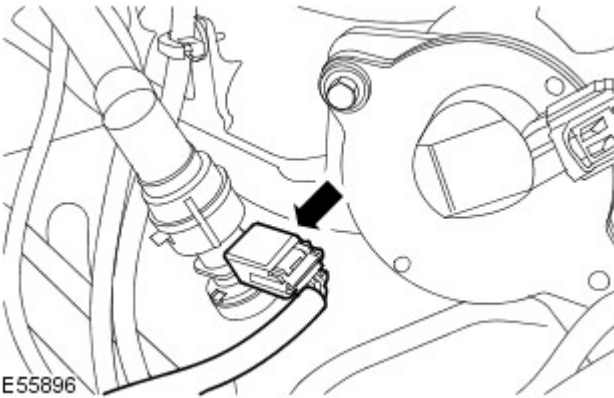
E55894

- 17.** Disconnect the purge control valve (PCV) electrical connector.



E55895

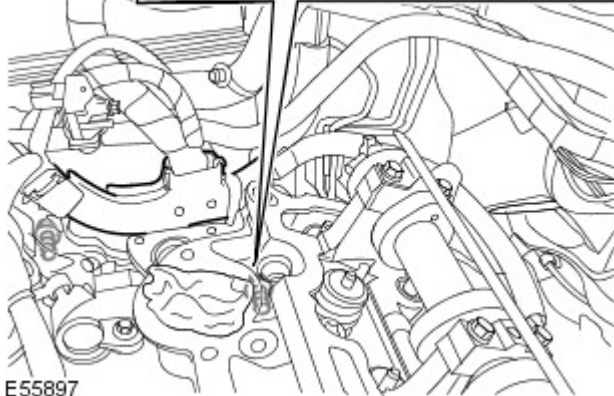
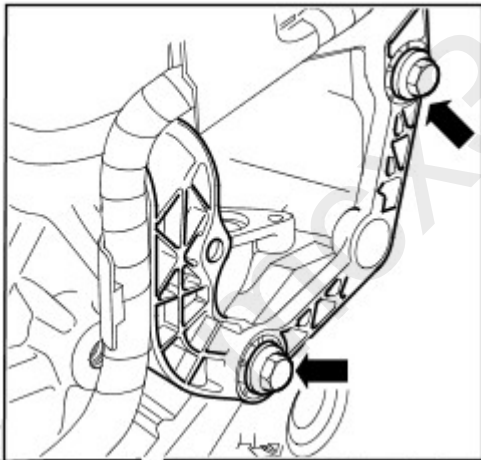
- 18.** Disconnect the LH breather electrical connector.



E55896

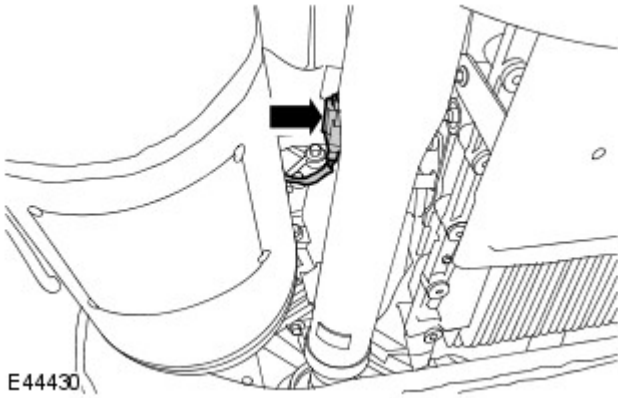
- 19.** Release the wiring harness bridge.

- Remove the 2 bolts.



E55897

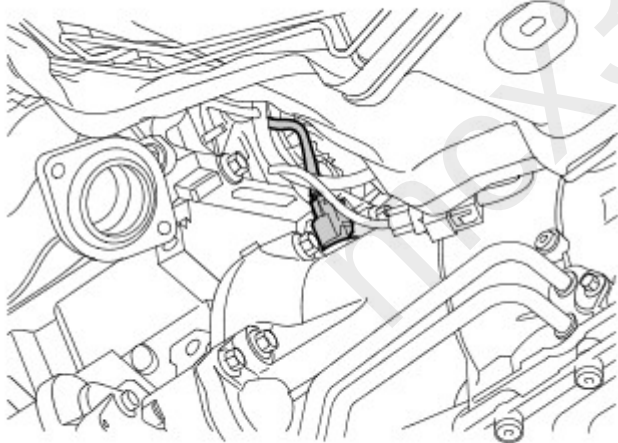
20. Disconnect the LH HO2S and release the clip.



21. Disconnect the RH HO2S and release the clip.



22. Disconnect the crankshaft position (CKP) sensor electrical connector.



23. NOTE: Note the fitted position.

Remove the engine wiring harness.

Installation

1. NOTE: Align to the position noted on removal.

Install the engine wiring harness.

2. Connect the CKP sensor electrical connector.

3. Connect the HO2S electrical connectors.

4. Install the electrical harness bridge.

- Tighten the bolts to 45 Nm (33 lb.ft).

5. Connect the breather electrical connector.

6. Connect the PCV electrical connector.
7. Connect the CMP sensor electrical connector.
 - Secure the clip.
8. Connect the cooling fan electrical connector.
 - Carefully secure the clips.
9. Connect the KS electrical connectors.
10. Connect the generator.
11. Connect the ECT sensor electrical connector.
12. Connect the MAF sensor electrical connector.
 - Secure the clip.
13. Connect the fuel injector electrical connectors.
 - Carefully secure the clips.
14. Connect the engine wiring harness.
 - Install the clips on the harness protective cover.
 - Connect and secure the electrical connectors.
15. Install the battery compartment side wall.
 - Secure the clips.
 - Install the battery positive cable and grommet.
16. Install the engine compartment upper heat shield.
 - Secure the clips.
 - Tighten the screw.
17. Install the fusebox main feed cable.
 - Install the bolt and tighten to 10 Nm (7 lb.ft).
18. Install the battery.

For additional information, refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).
19. Install the intake manifold.

For additional information, refer to: [Intake Manifold](#) (303-01C Engine - V6 4.0L Petrol, In-vehicle Repair).
20. Install the engine undershield.

For additional information, refer to: [Engine Undershield](#) (501-02 Front End Body Panels, Removal and Installation).
21. Connect the battery ground cable.

For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

Wiring Harnesses - Engine Wiring Harness V8 5.0L Petrol

Removal and Installation

Removal

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

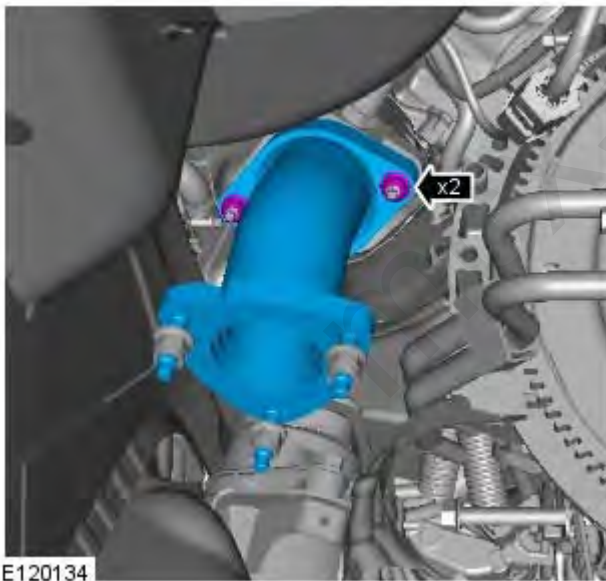
All vehicles

1.  **WARNING:** Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

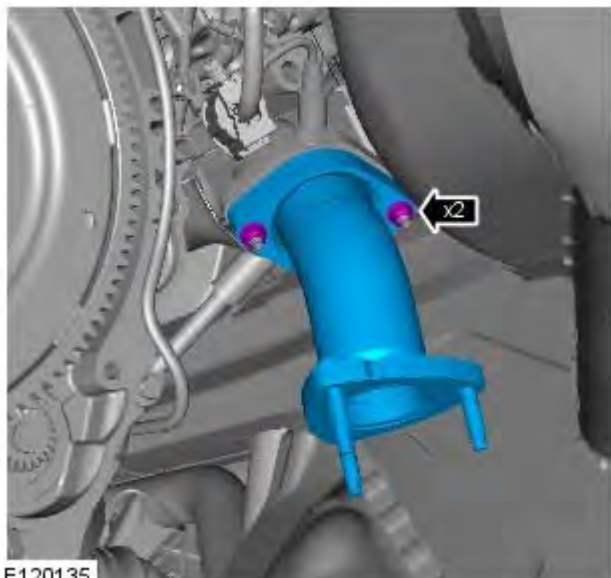
2. For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).
3. For additional information, refer to: [Auxiliary Battery Tray](#) (414-01 Battery, Mounting and Cables, Removal and Installation).
4. For additional information, refer to: [Battery Tray](#) (414-01 Battery, Mounting and Cables, Removal and Installation).
5. For additional information, refer to: [Air Cleaner Outlet Pipe LH](#) (303-12D Intake Air Distribution and Filtering - V8 5.0L Petrol, Removal and Installation).
6. For additional information, refer to: [Air Cleaner Outlet Pipe RH](#) (303-12D Intake Air Distribution and Filtering - V8 5.0L Petrol, Removal and Installation).
7. For additional information, refer to: [Plenum Chamber](#) (412-01 Air Distribution and Filtering, Removal and Installation).
8. For additional information, refer to: [Exhaust System](#) (309-00D Exhaust System - V8 5.0L Petrol, Removal and Installation).
9. NOTE: Remove and discard the gasket.

TORQUE: 48 Nm



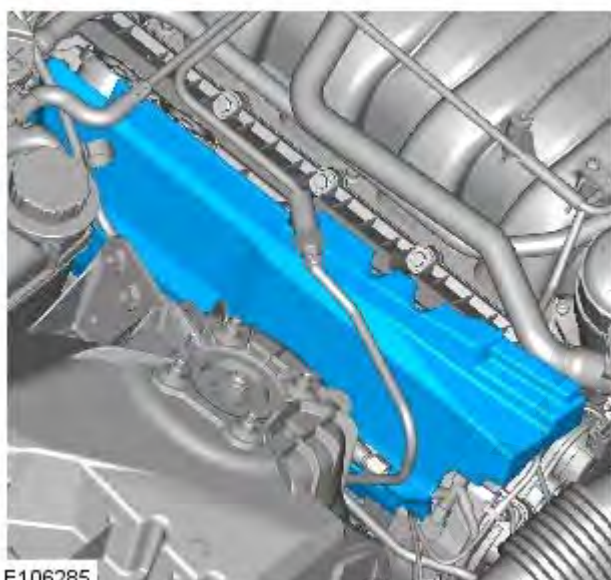
10. NOTE: Remove and discard the gasket.

TORQUE: 48 Nm



E120135

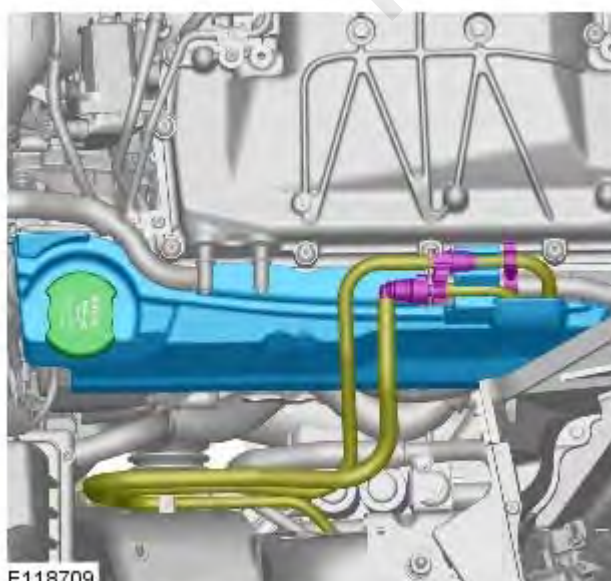
11.



E106285

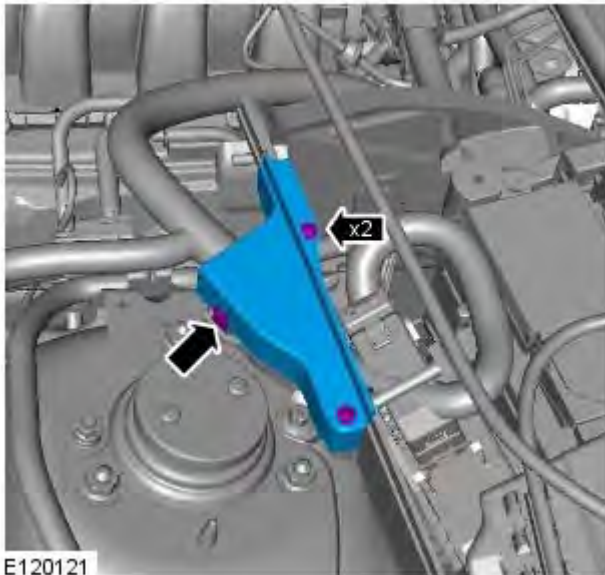
12. ⚠ WARNING: Do not smoke or carry lighted tobacco or open flame of any type when working on or near any fuel related components. Highly flammable vapors are always present and may ignite. Failure to follow these instructions may result in personal injury.

⚠ CAUTION: Be prepared to collect escaping fuel.

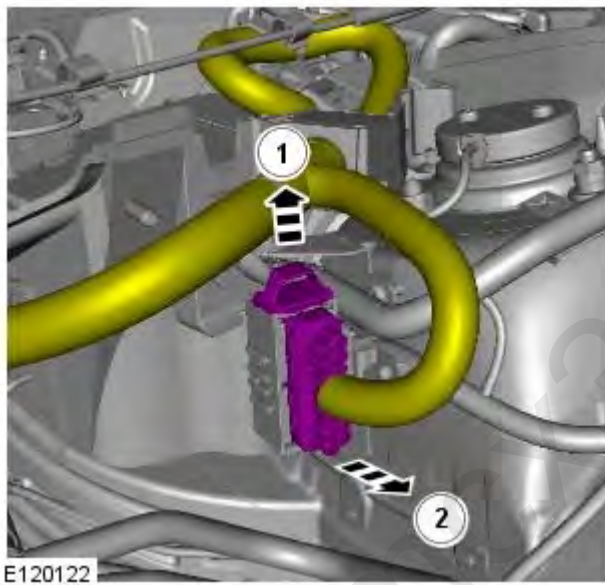


E118709

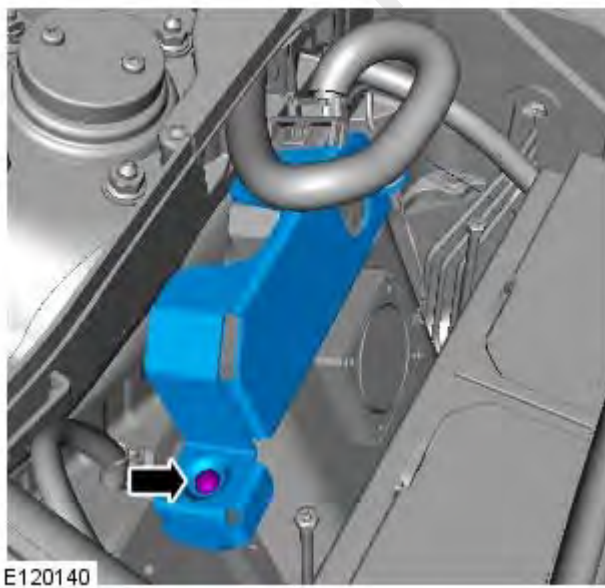
13. NOTE: RHD illustration shown, LHD is similar.



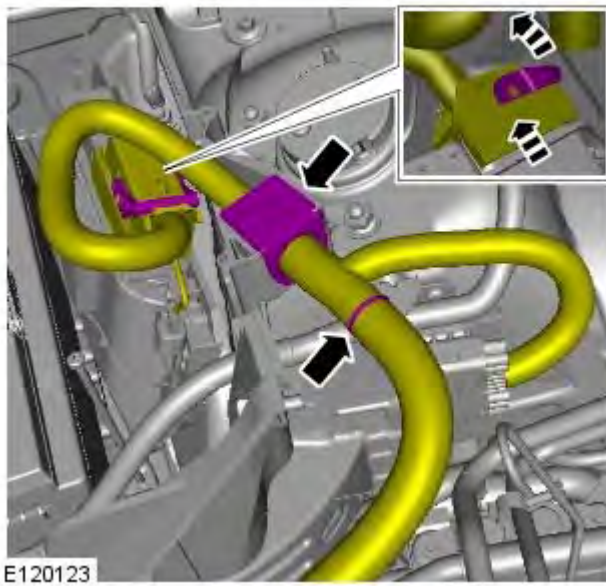
14.



15.

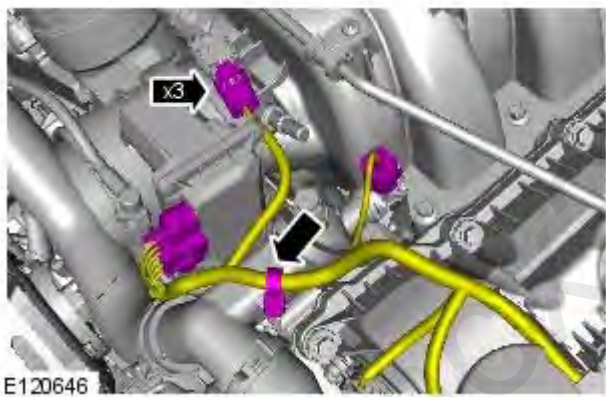


16. NOTE: Make sure the electrical connector is correctly secured.



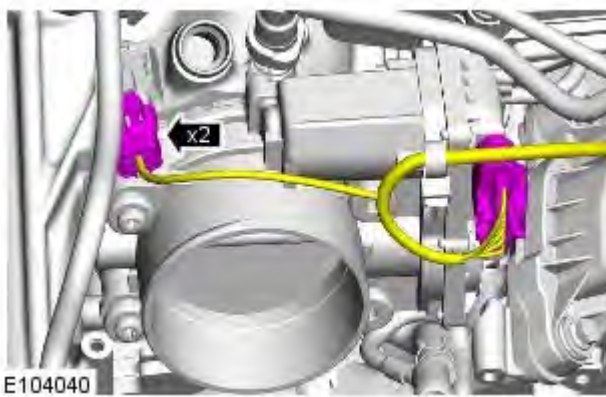
Vehicles without supercharger

17.



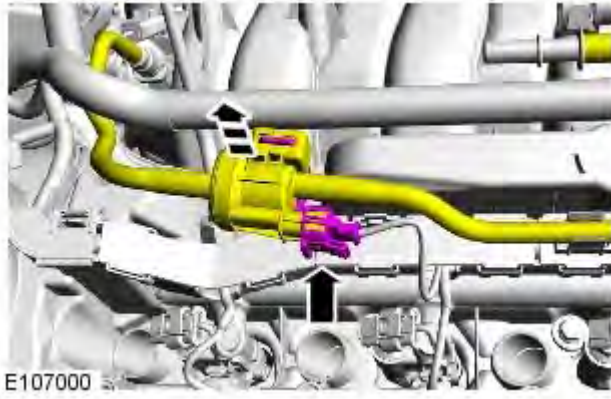
Vehicles with supercharger

18.

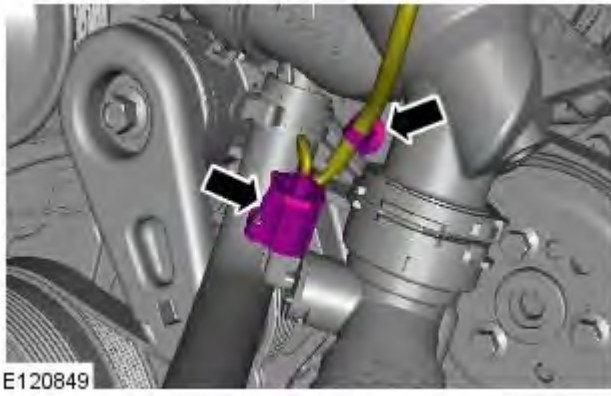


All vehicles

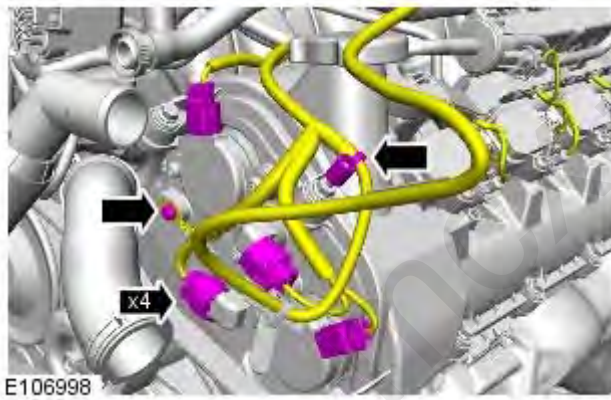
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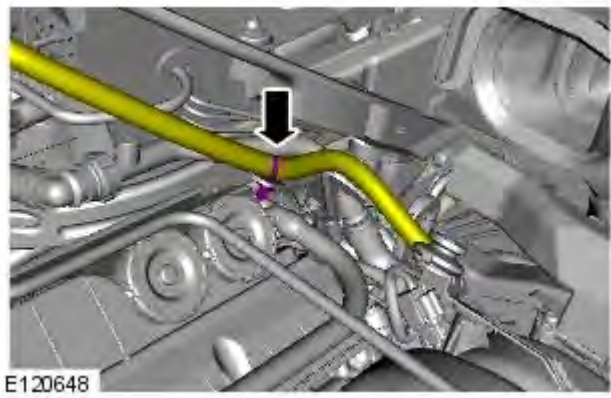
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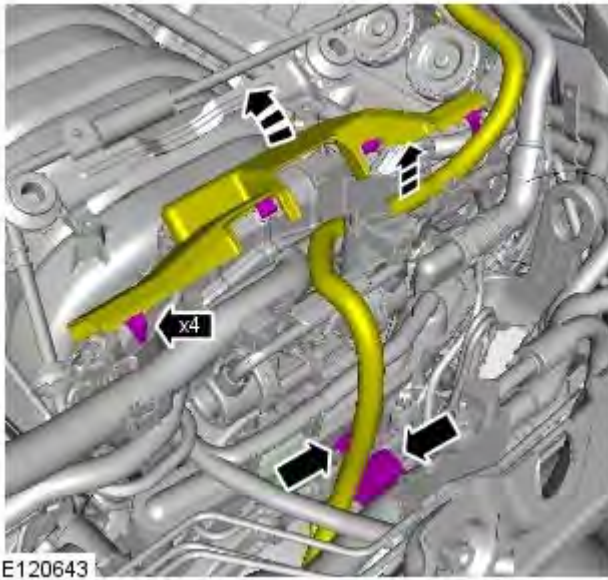
21. TORQUE: 10 Nm



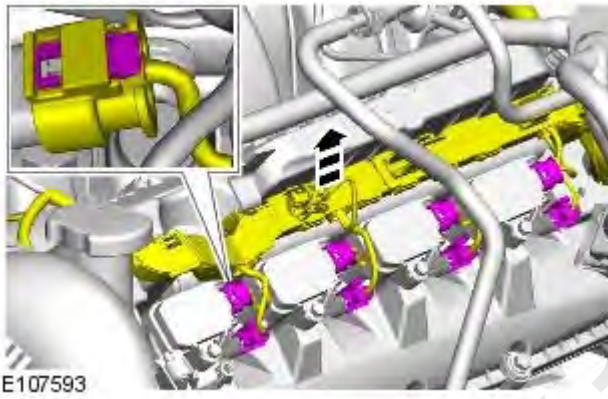
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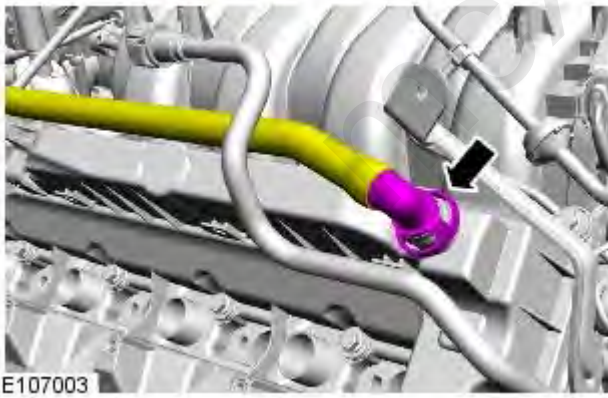
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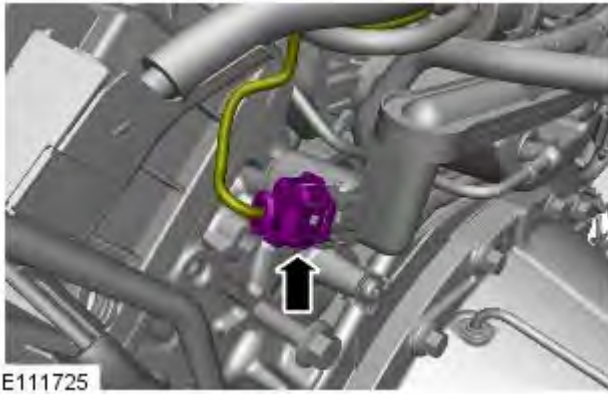
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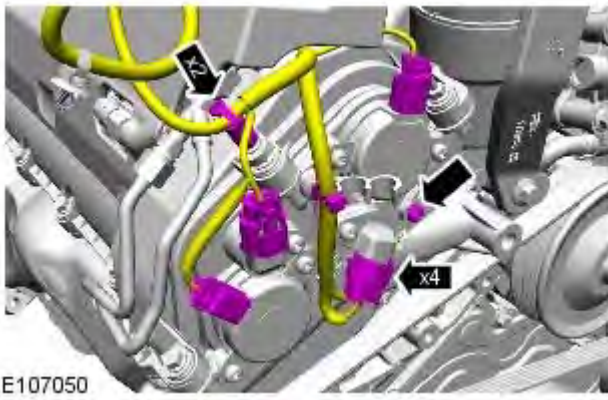
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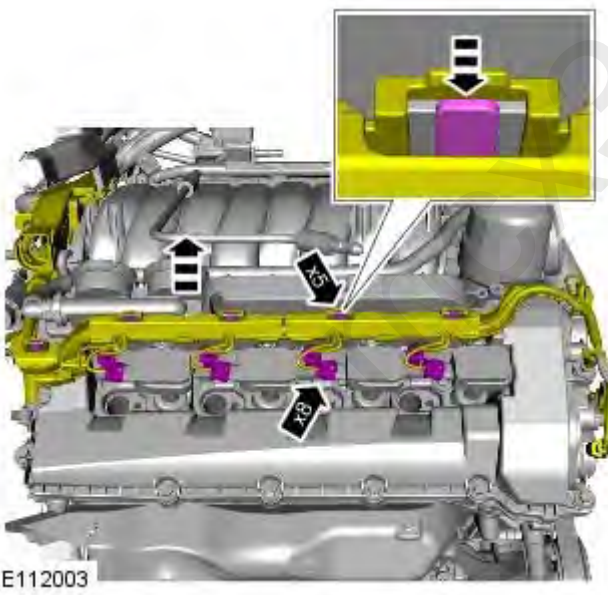
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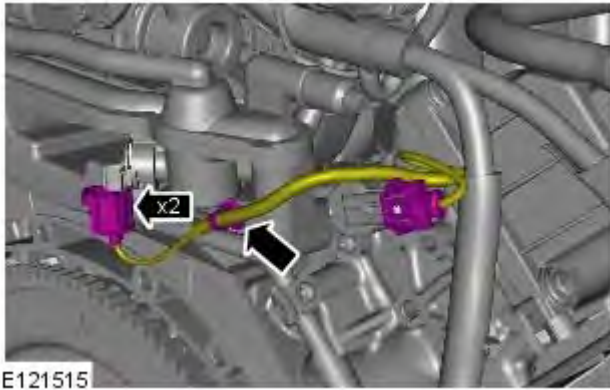
27. TORQUE: 10 Nm



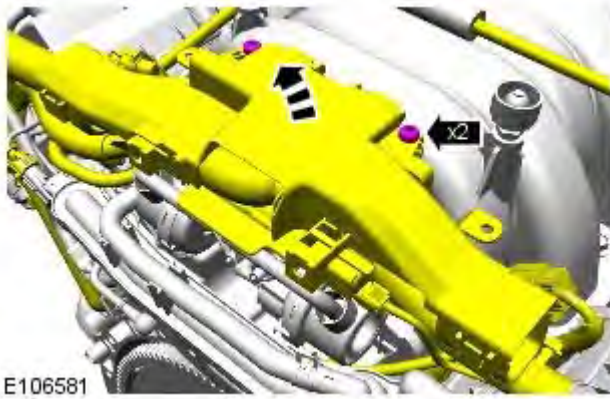
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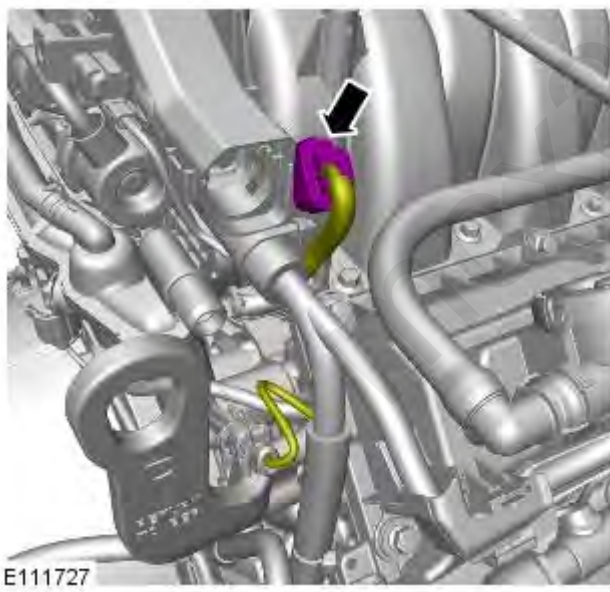
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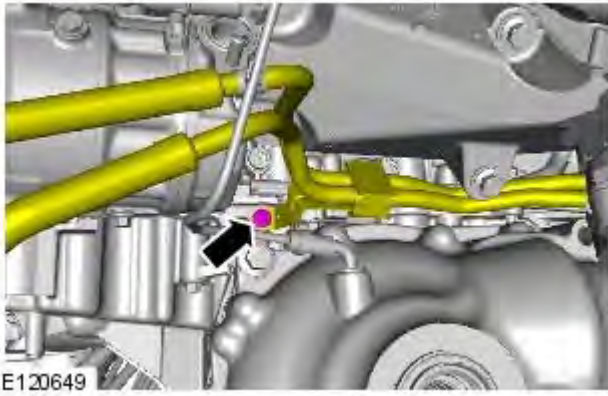
30. TORQUE: 6 Nm



31.

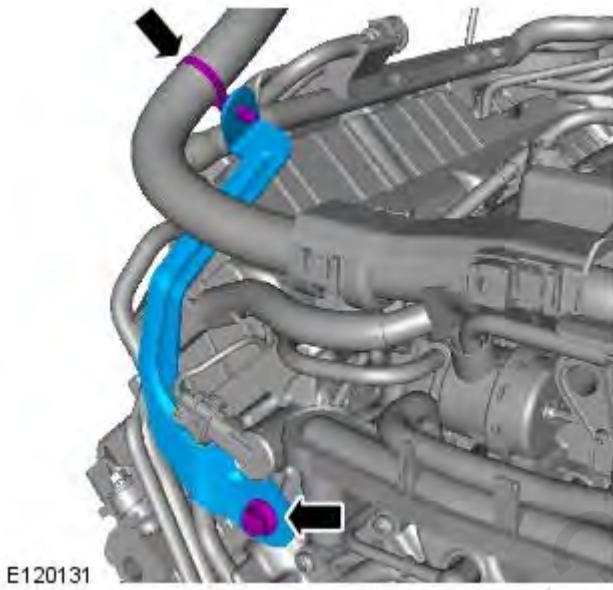


32. TORQUE: 10 Nm



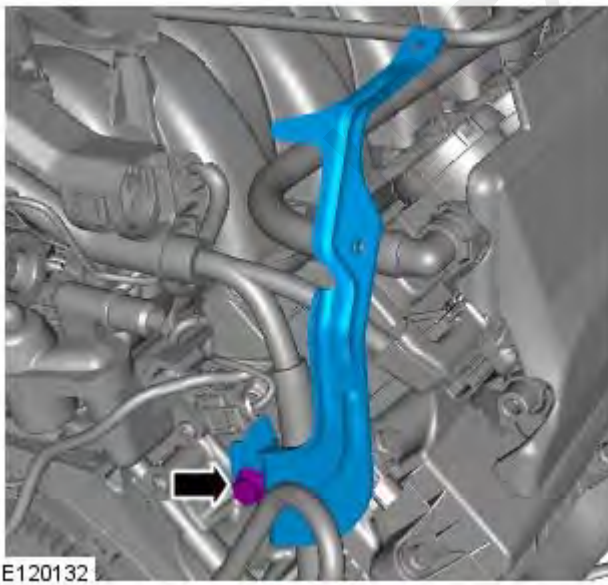
33. NOTE: RHD illustration shown, LHD is similar.

TORQUE: 47 Nm Nm

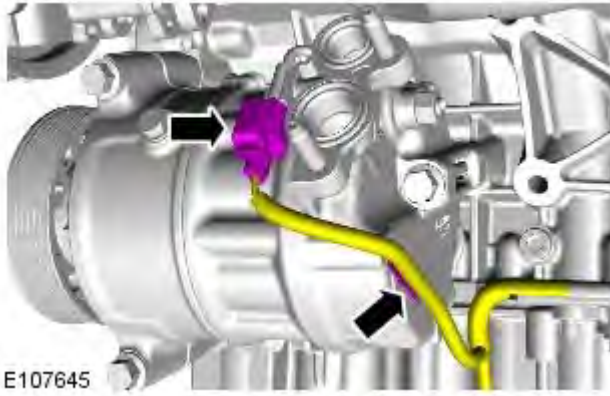


34. NOTE: RHD illustration shown, LHD is similar.

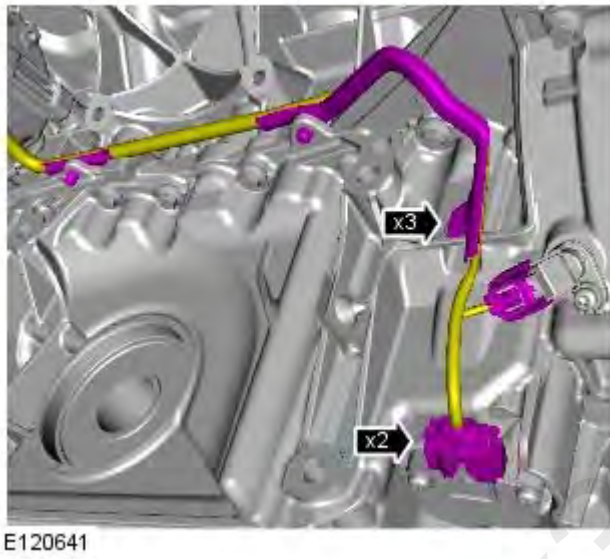
TORQUE: 47 Nm Nm



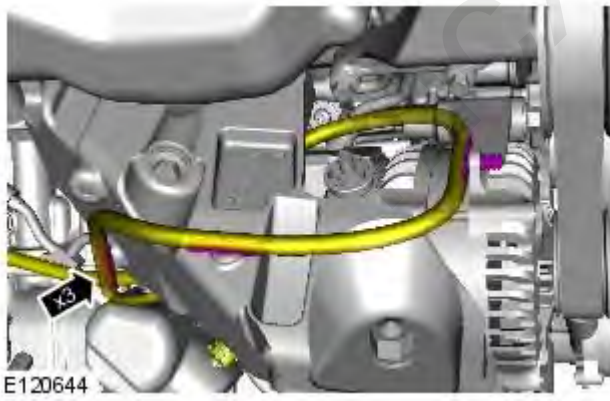
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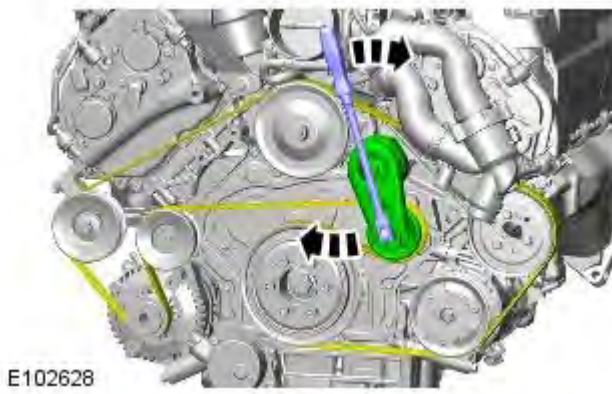
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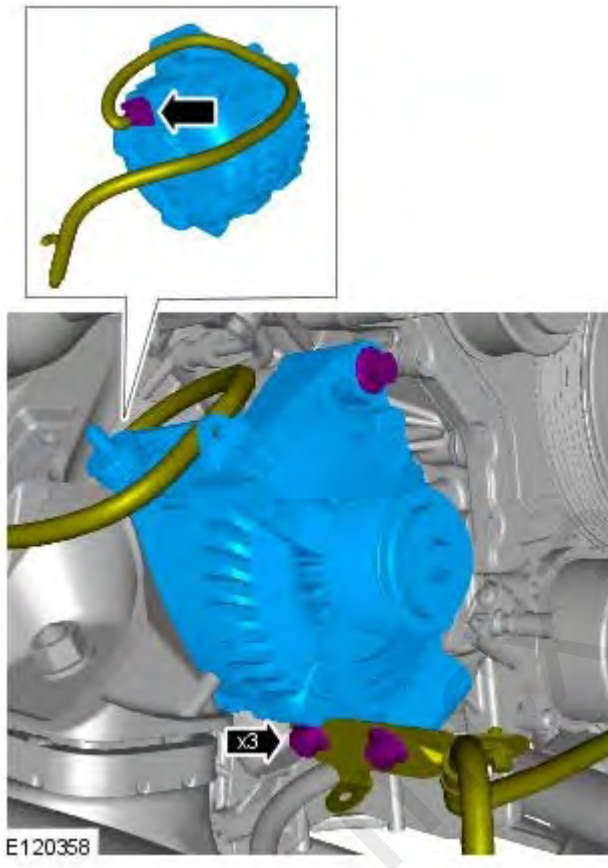
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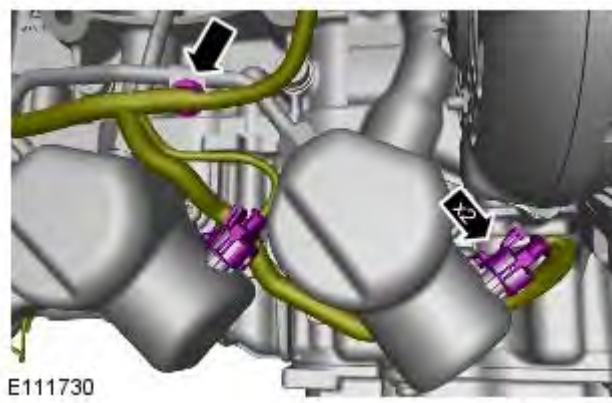
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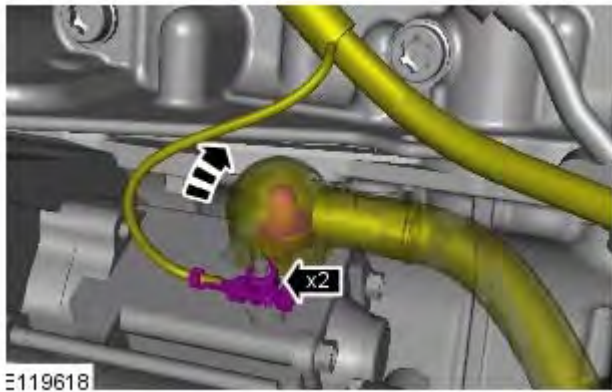
39. TORQUE: 48 Nm



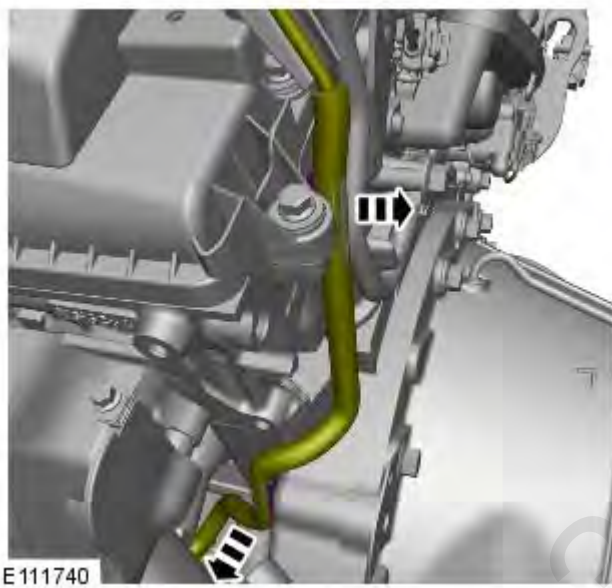
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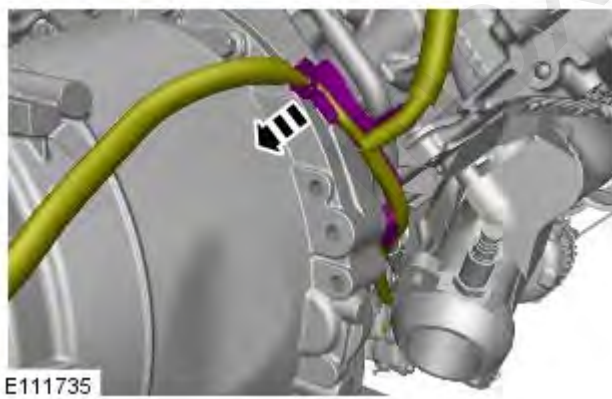
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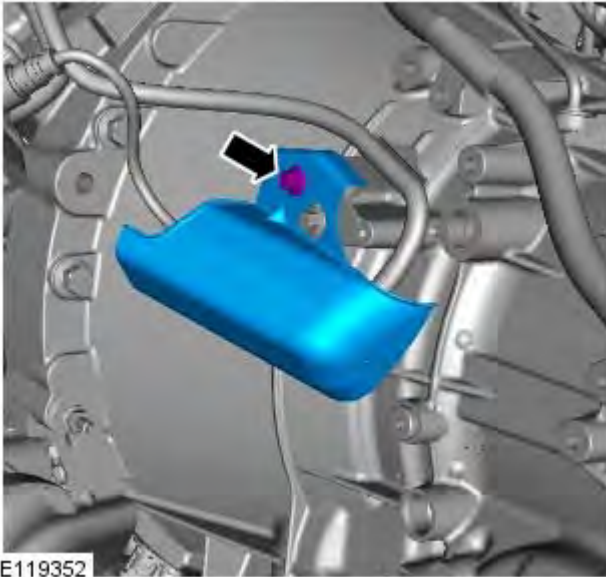
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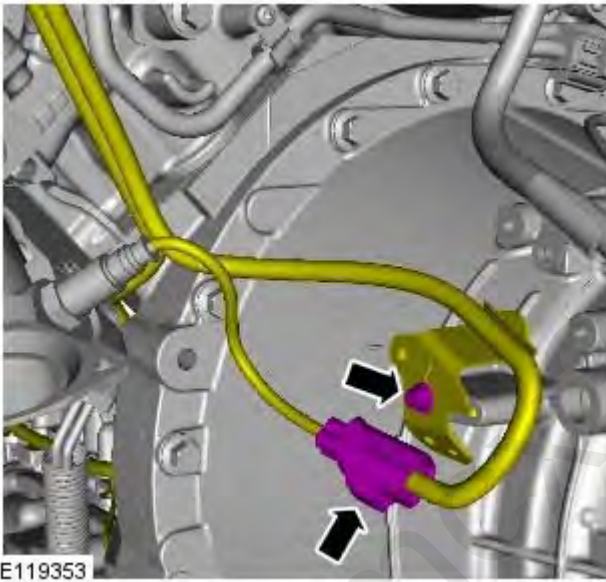
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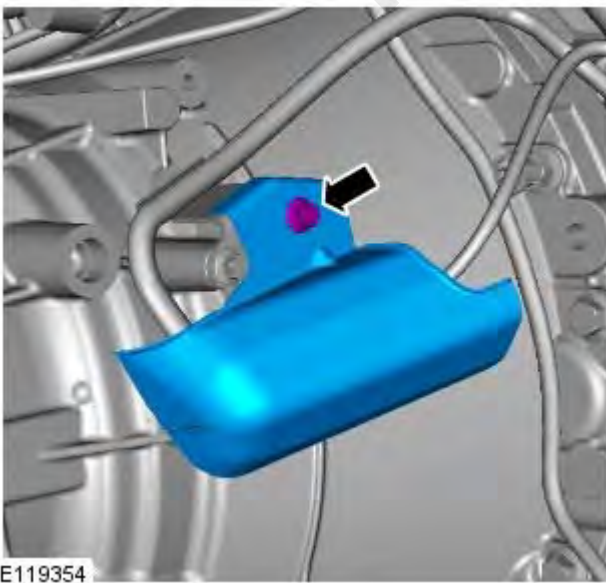
44. TORQUE: 10 Nm



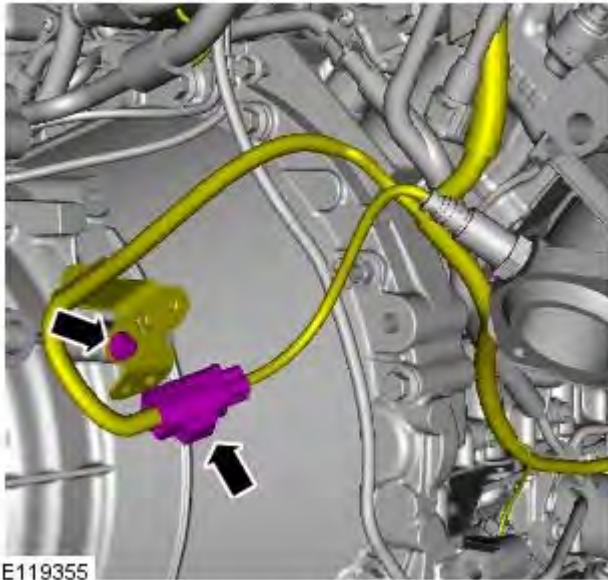
45. TORQUE: 10 Nm



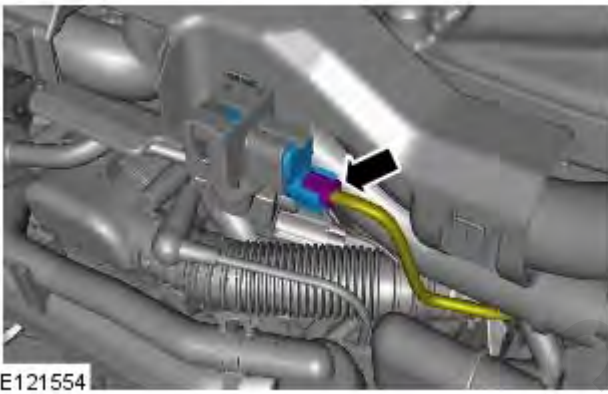
46. TORQUE: 10 Nm



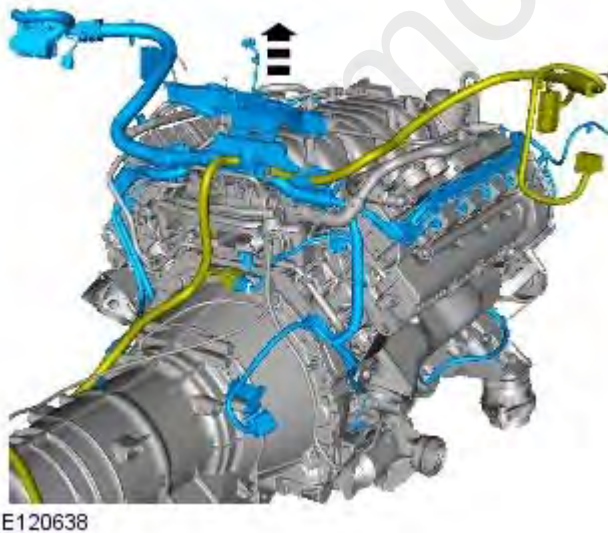
47. TORQUE: 10 Nm



48.



49. NOTE: RHD illustration shown, LHD is similar.



Installation

1. NOTE: After the engine harness has been installed, test using Land Rover/ Jaguar approved diagnostic equipment.

To install, reverse the removal procedure.

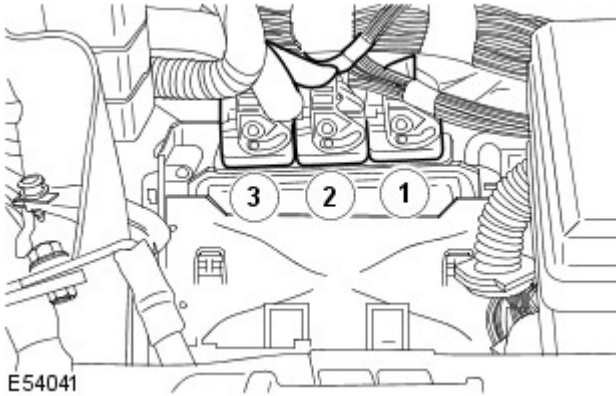
Wiring Harnesses - Engine Wiring HarnessTDV6 2.7L Diesel

Removal and Installation

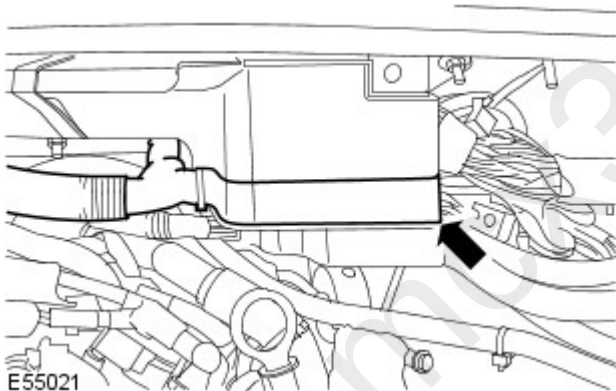
Removal

1. Disconnect the battery ground cable.
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).
2. Remove the crankcase vent oil separator.
For additional information, refer to: Crankcase Vent Oil Separator (303-08, Removal and Installation).
3. Remove the battery.
For additional information, refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).
4. **NOTE:** Right hand drive shown, for Left hand drive reverse the sequence.

Disconnect the three engine harness electrical connectors.

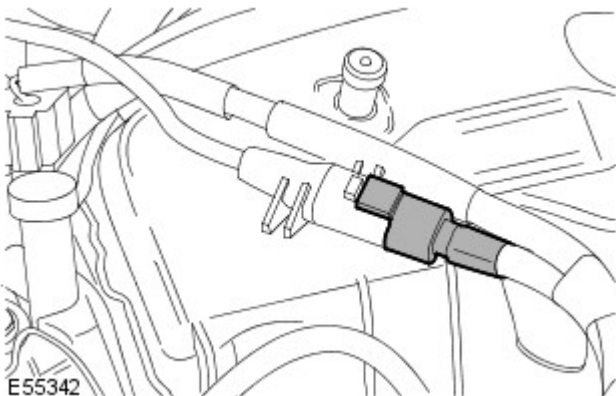


5. Release the engine wiring harness from the bulkhead.



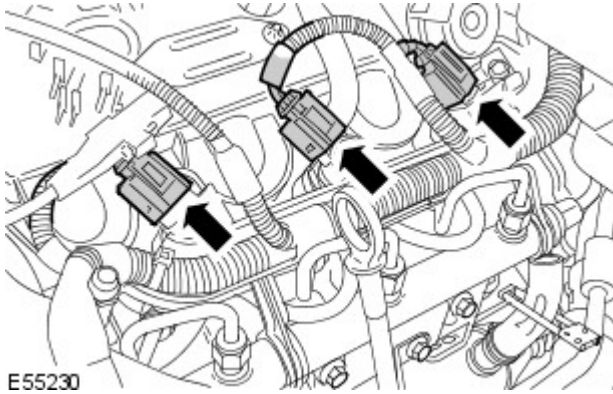
6. **NOTE:** Left-hand shown, right-hand similar.

Disconnect the knock sensor (KS) electrical connectors.



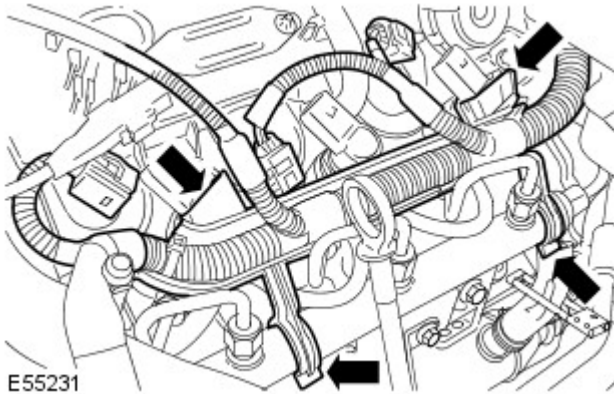
7. NOTE: Left-hand shown, right-hand similar.

Disconnect the fuel injector electrical connectors.

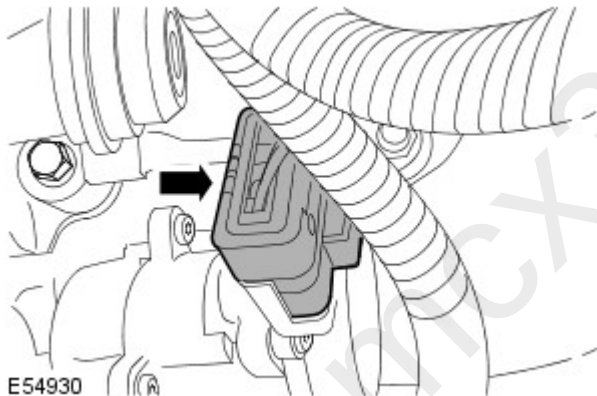


8. NOTE: Left-hand shown, right-hand similar.

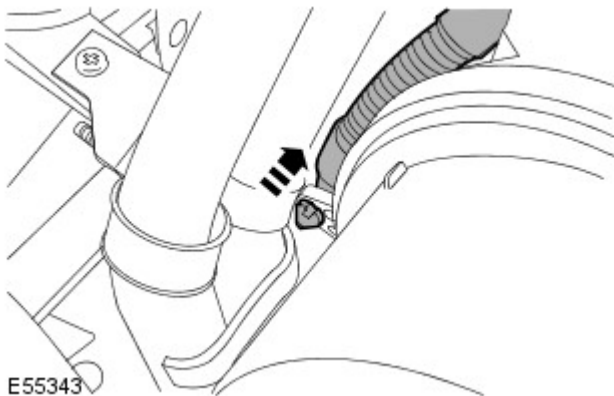
Release the engine wiring harness from the fuel supply manifolds.

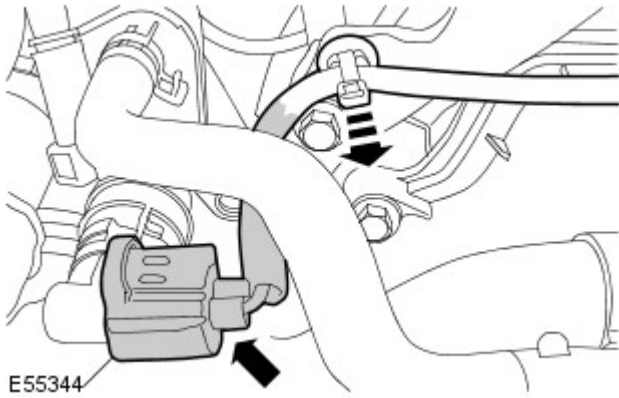


9. Disconnect the RH EGR valve electrical connector.



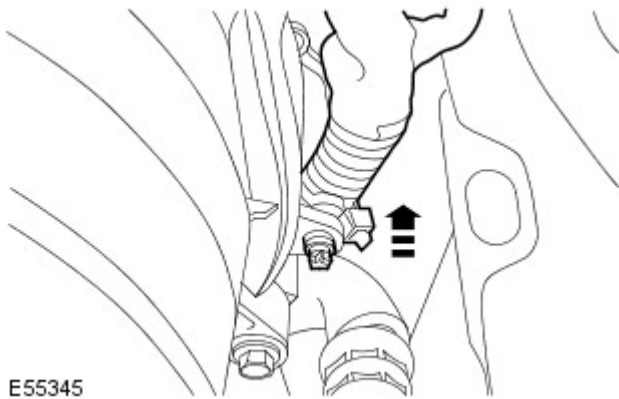
10. Release the engine wiring harness from the timing cover.





11. Disconnect the engine coolant temperature (ECT) sensor electrical connector.

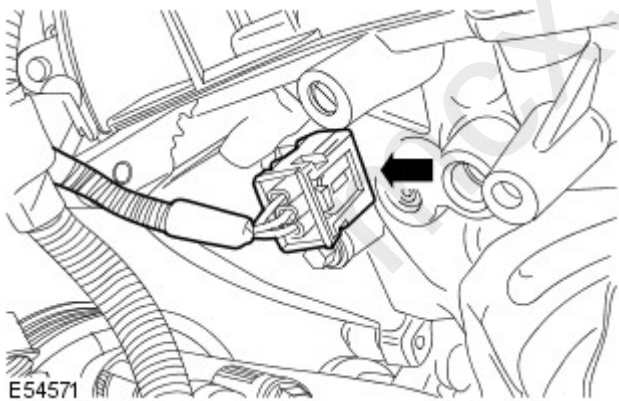
- Release the engine wiring harness from the engine lifting bracket.



12. Release the engine wiring harness from the timing cover.

13. Remove the LH exhaust gas recirculation (EGR) valve.
For additional information, refer to: [Exhaust Gas Recirculation \(EGR\) Valve LH - Vehicles Without Diesel Particulate Filter \(DPF\)](#) (303-08A Engine Emission Control - TDV6 2.7L Diesel, Removal and Installation).

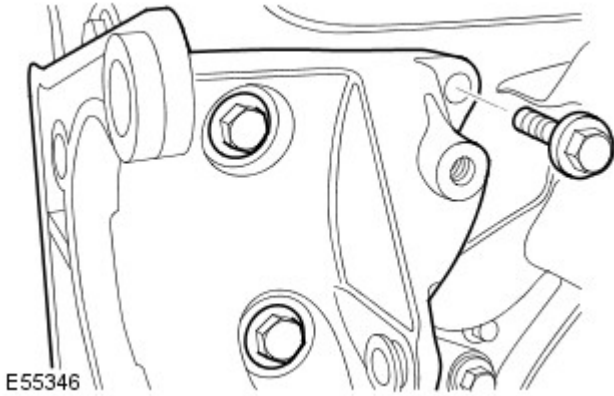
14. Disconnect the camshaft position (CMP) sensor electrical connector.



15. Remove the power steering pump.
For additional information, refer to: Power Steering Pump - 2.7L Diesel (211-02, Removal and Installation).

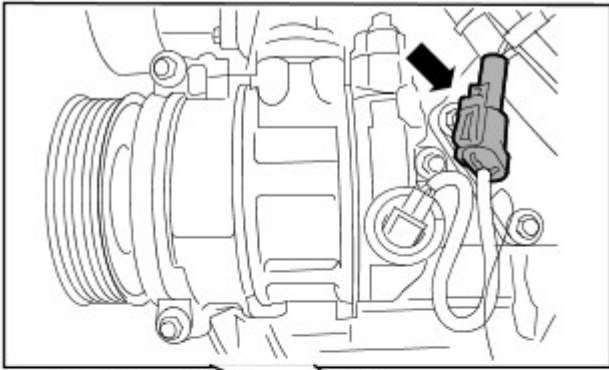
16. Remove the power steering pump mounting bracket.

- Remove the three retaining bolts.



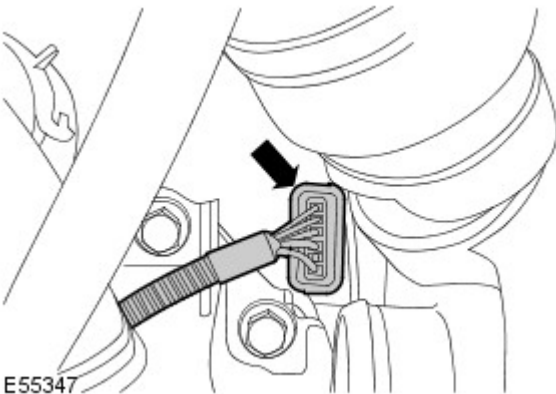
E55346

17. Disconnect the A/C compressor electrical connector.

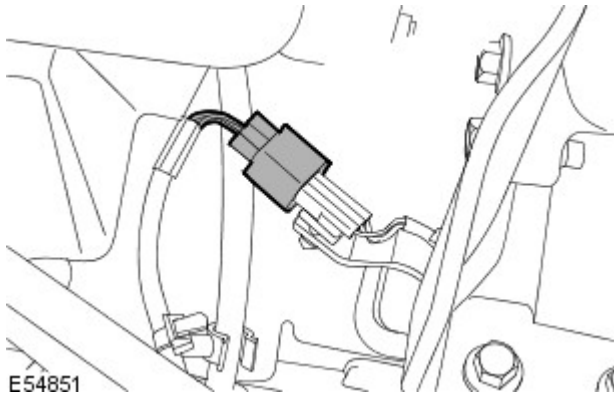


E55018

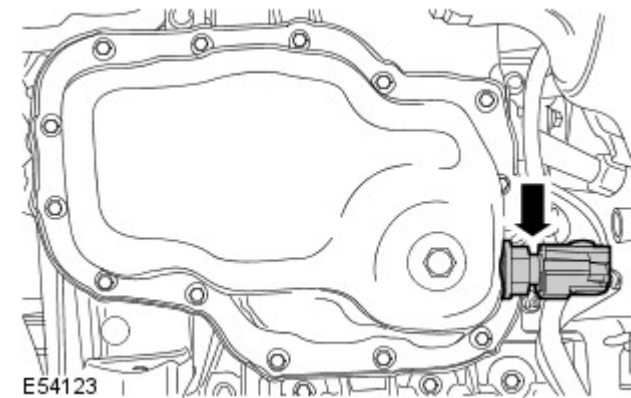
18. Disconnect the turbocharger electrical connector.



E55347



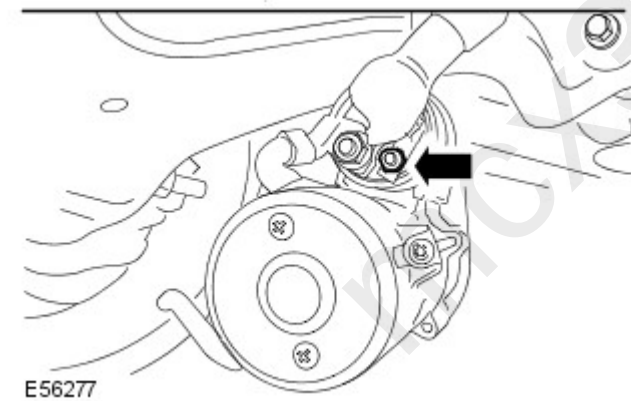
- 19.** Disconnect the crankshaft position (CKP) sensor electrical connector.



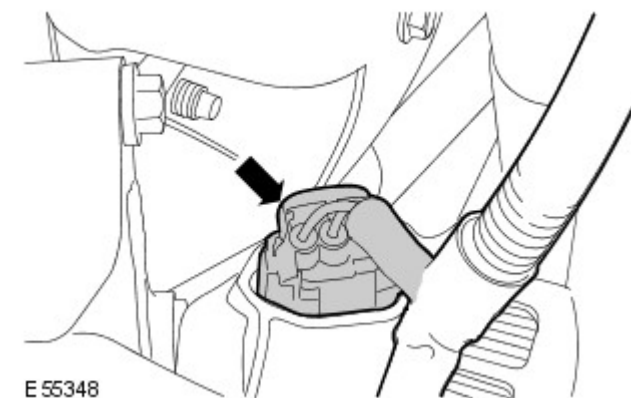
- 20.** Remove the engine undershield.
For additional information, refer to: [Engine Undershield](#) (501-02 Front End Body Panels, Removal and Installation).

- 21.** Disconnect the engine oil temperature sensor electrical connector.

- Release the engine wiring harness from the oil pan.



- 22.** Disconnect the starter motor solenoid electrical connector.



- 23.** Disconnect the generator electrical connector.

- 24.** Remove the engine wiring harness.

Installation

1. Install the engine wiring harness.
2. Connect the generator electrical connector.
3. Connect the starter motor solenoid electrical connector.
 - Tighten to 7 Nm (5 lb.ft).
4. Connect the engine oil temperature sensor electrical connector.
 - Attach the engine wiring harness to the oil pan.
5. Install the engine undershield.

For additional information, refer to: [Engine Undershield](#) (501-02 Front End Body Panels, Removal and Installation).
6. Connect the CKP sensor electrical connector.
7. Connect the turbocharger electrical connector.
8. Connect the A/C compressor electrical connector.
9. Install the power steering pump mounting bracket.
 - Tighten the retaining bolts to 25 Nm (18 lb.ft).
10. Install the power steering pump.

For additional information, refer to: Power Steering Pump - 2.7L Diesel (211-02, Removal and Installation).
11. Connect the CMP sensor electrical connector.
12. Install the LH EGR valve.

For additional information, refer to: [Exhaust Gas Recirculation \(EGR\) Valve LH - Vehicles Without: Diesel Particulate Filter \(DPF\)](#) (303-08A Engine Emission Control - TDV6 2.7L Diesel, Removal and Installation).
13. Attach the engine wiring harness to the timing cover.
14. Connect the ECT sensor electrical connector.
 - Attach the engine wiring harness to the engine lifting bracket.
15. Attach the engine wiring harness to the timing cover.
16. Connect the RH EGR valve electrical connector.
17. Attach the engine wiring harness to the fuel supply manifolds.
18. Connect the fuel injector electrical connectors.
19. Connect the KS electrical connectors.
20. Attach the engine wiring harness to the bulkhead.
21. Connect the three engine wiring harness electrical connectors.
22. Install the battery.

For additional information, refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).
23. Install the crankcase vent oil separator.

For additional information, refer to: Crankcase Vent Oil Separator (303-08, Removal and Installation).
24. Connect the battery ground cable.

For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

Wiring Harnesses - Engine Wiring Harness TDV6 3.0L Diesel

Removal and Installation

Removal

• NOTE: RHD shown, LHD is similar.

• NOTE: Some variation in the illustrations may occur, but the essential information is always correct.

• NOTE: Removal steps in this procedure may contain installation details.

1. Remove the battery.
For additional information, refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).
2. For additional information, refer to: [Engine Cover - TDV6 3.0L Diesel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
3. For additional information, refer to: [Exhaust System](#) (309-00B Exhaust System - TDV6 3.0L Diesel, Removal and Installation).
4. For additional information, refer to: [Starter Motor](#) (303-06B Starting System - TDV6 3.0L Diesel, Removal and Installation).
5. For additional information, refer to: [Generator](#) (414-02B Generator and Regulator - TDV6 3.0L Diesel, Removal and Installation).
6. For additional information, refer to: [Exhaust Gas Recirculation \(EGR\) Valve LH](#) (303-08B Engine Emission Control - TDV6 3.0L Diesel, Removal and Installation).
7. For additional information, refer to: [Air Conditioning \(A/C\) Compressor](#) (412-03B Air Conditioning - TDV6 3.0L Diesel, Removal and Installation).
8. For additional information, refer to: [Power Steering Pump - TDV6 3.0L Diesel](#) (211-02 Power Steering, Removal and Installation).

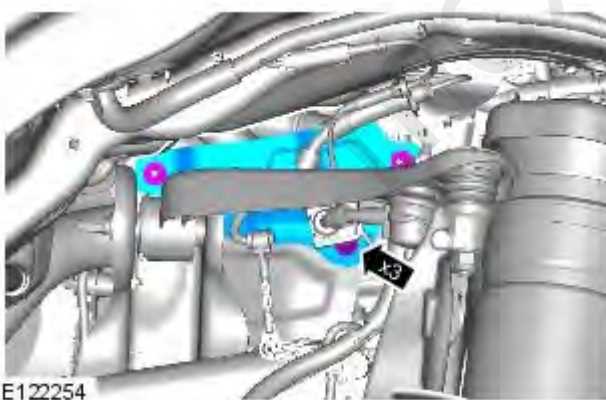
9.  **WARNING:** Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

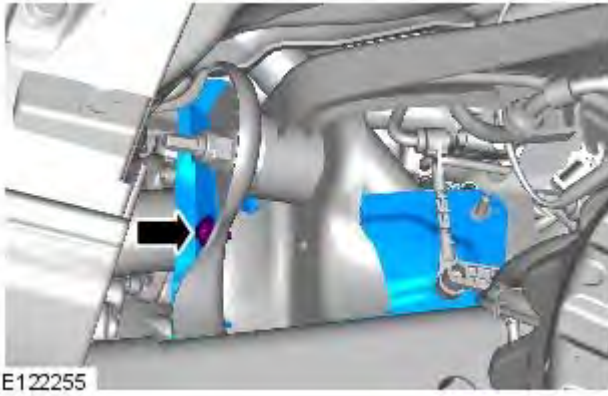
10. Remove the front road wheels and tires.

- TORQUE: 140 Nm

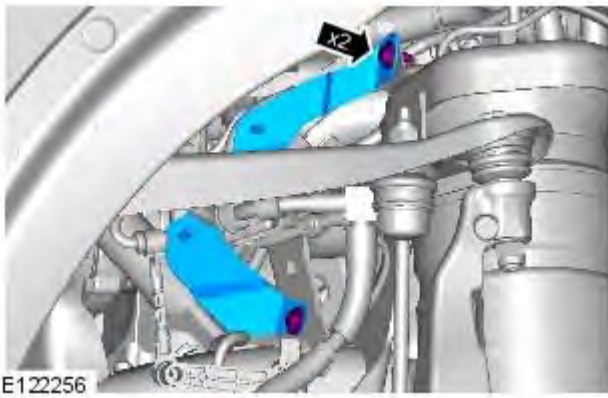
11. TORQUE: 9 Nm



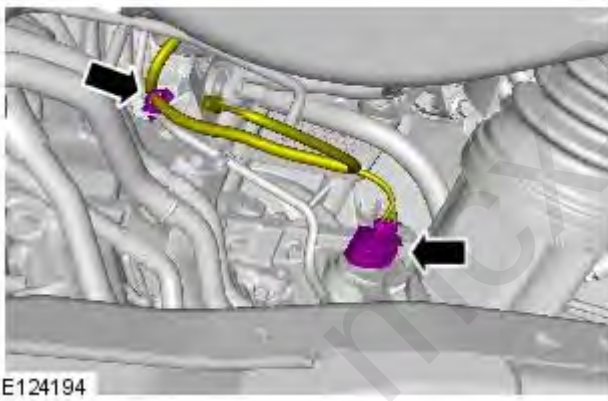
12. TORQUE: 9 Nm



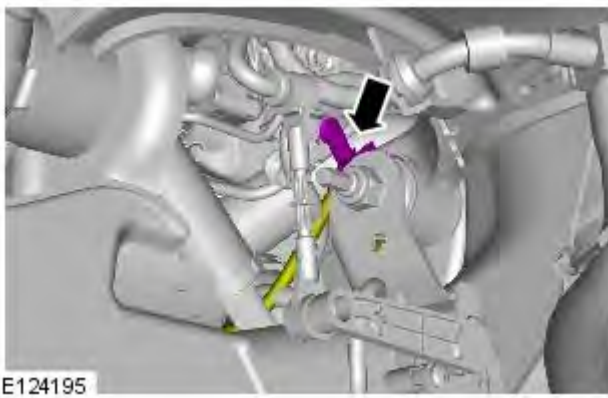
13. TORQUE: 9 Nm



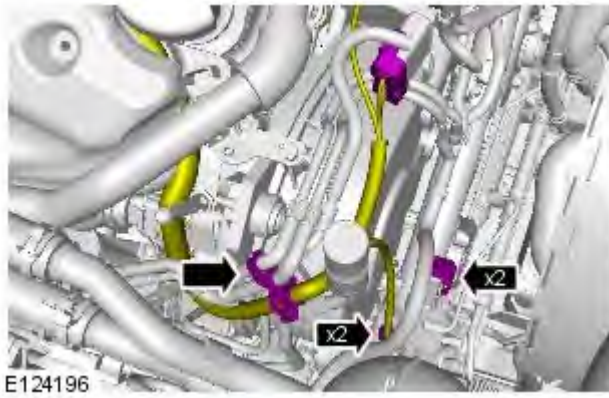
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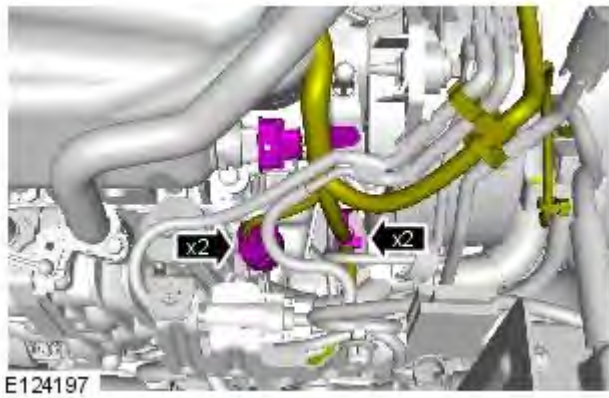
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16.



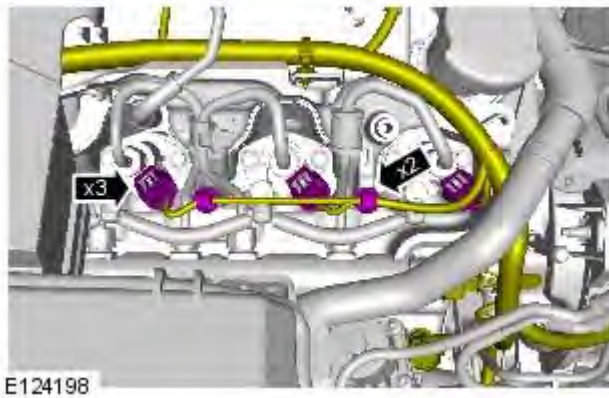
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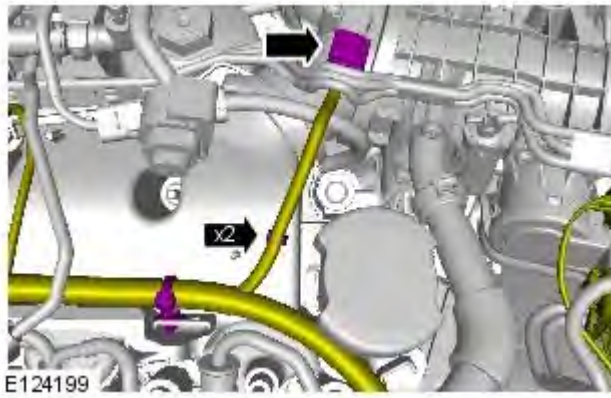
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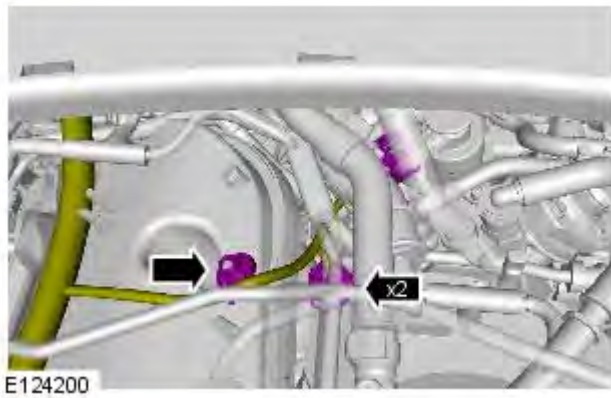
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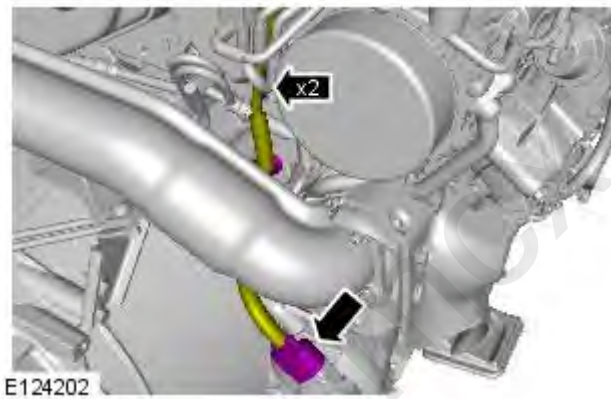
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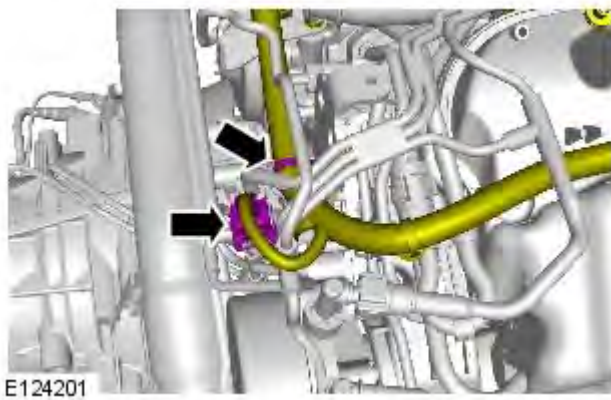
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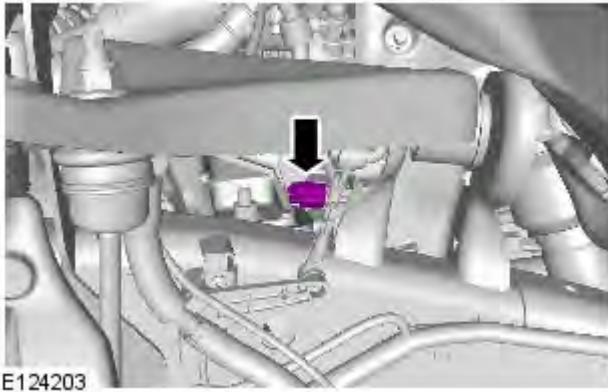
22. NOTE: Engine shown removed for clarity.



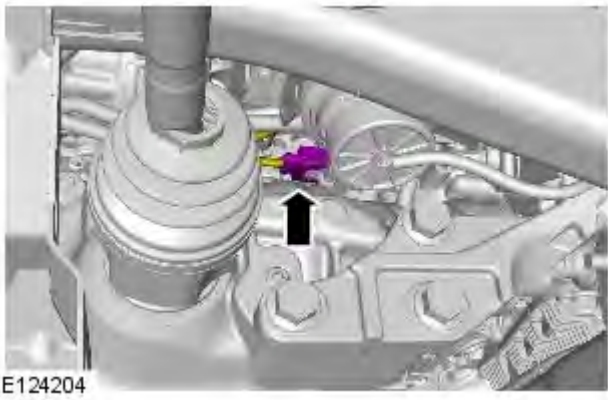
23. NOTE: Engine shown removed for clarity.



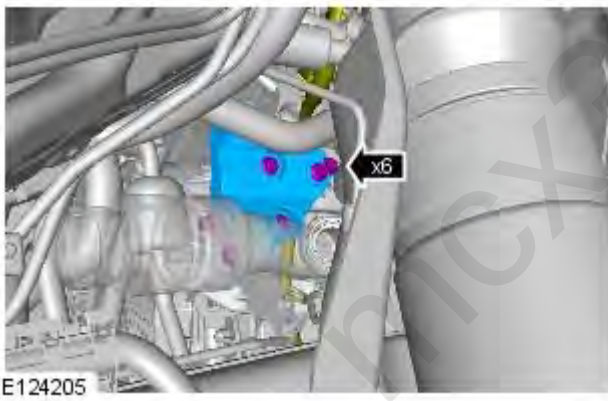
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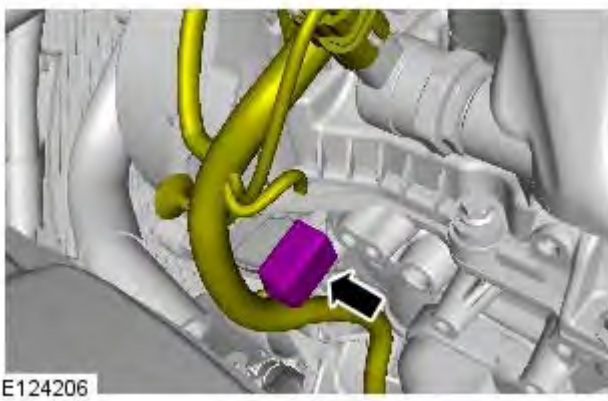
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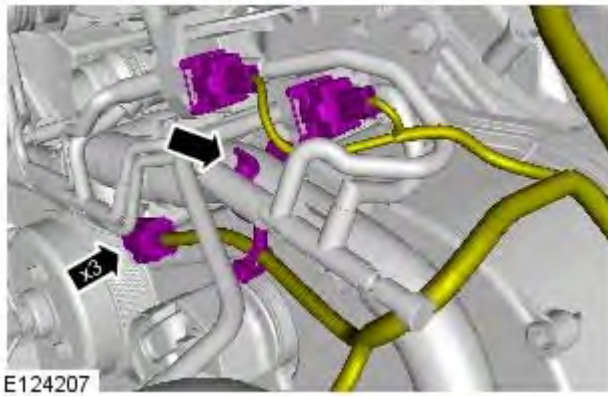
26. TORQUE: 25 Nm



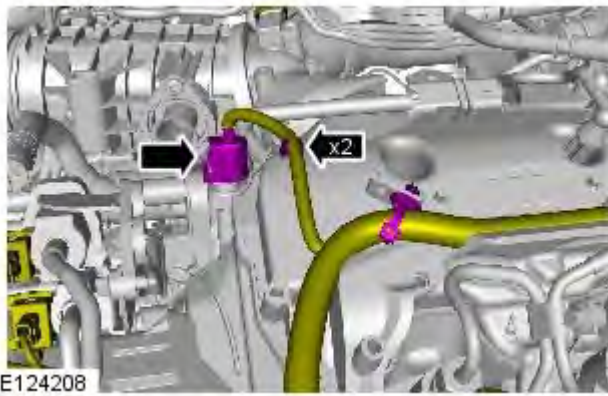
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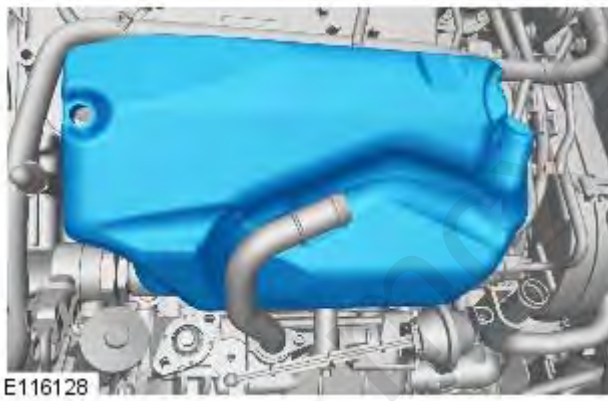
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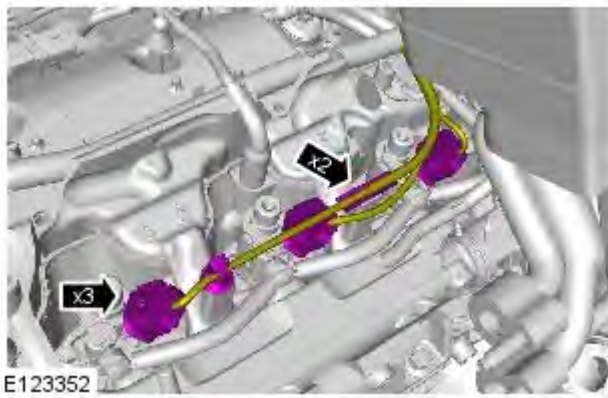
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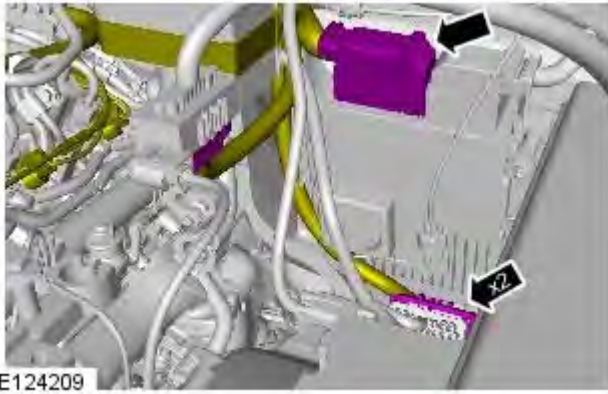
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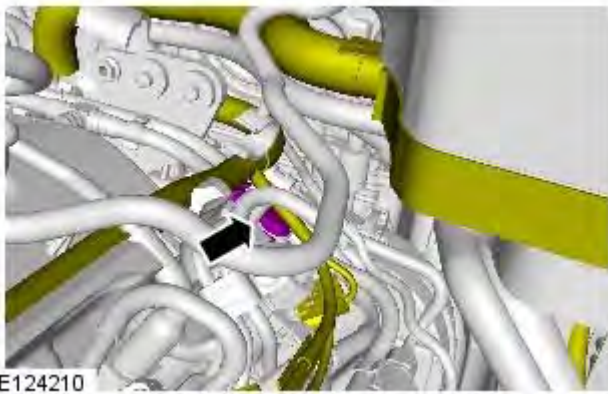
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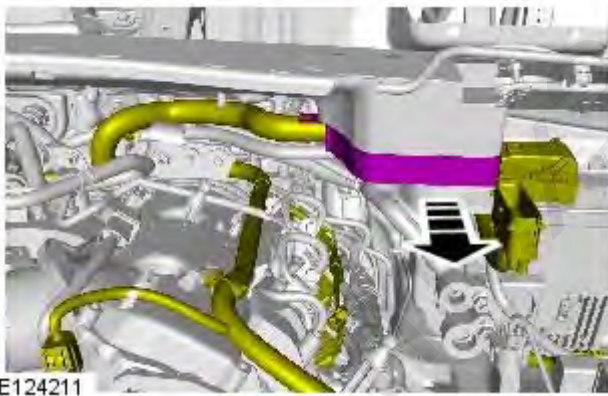
32.



33.

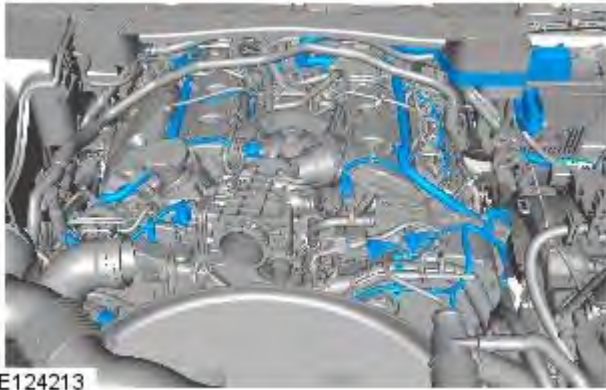


34.



35. TORQUE: 10 Nm





36.  **CAUTION:** Take extra care not to damage the wiring harnesses.

- **NOTE:** Note the position of the wiring harnesses to aid installation.

Installation

1. To install, reverse the removal procedure.

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Wiring Harnesses - Frame Wiring Harness Vehicles Built From: 01 / 2007

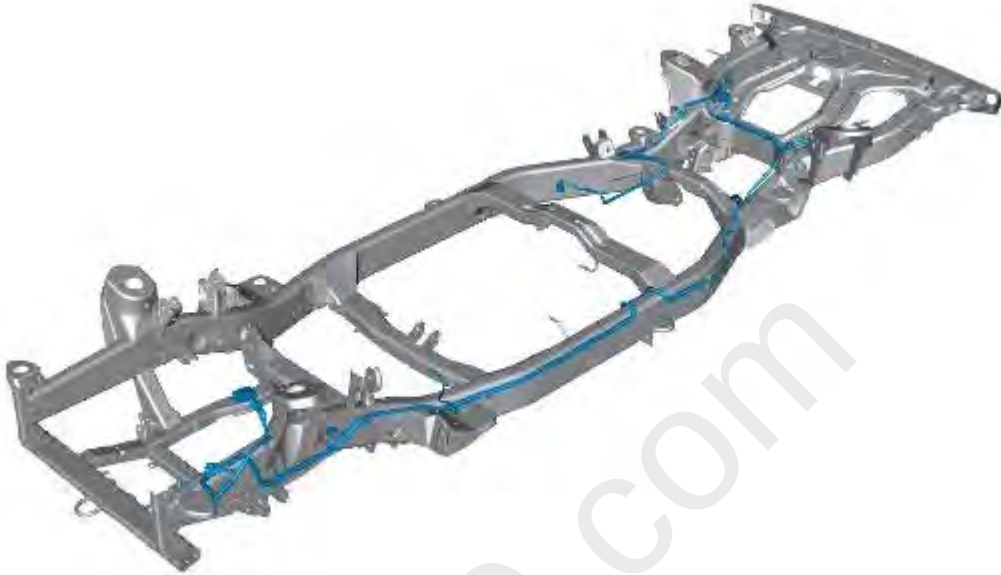
Removal and Installation

Removal

All vehicles

1. NOTE: All of the clips on the harness can be access with the integrated body installed to the frame. The graphic is to give guidance of the routing of the harness.

The frame wiring harness routing.



E92590

2. Open the upper liftgate and lower tailgate.

3. Remove the spare wheel and tire.

4.  **WARNING:** Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

Raise and support the vehicle.

5. Remove the wheels and tires.

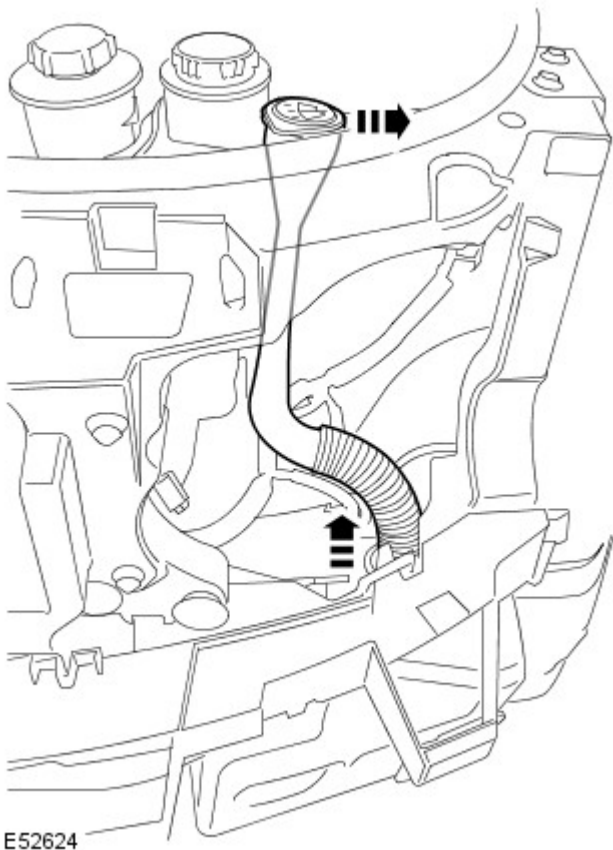
6. Disconnect the battery ground cable.

For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

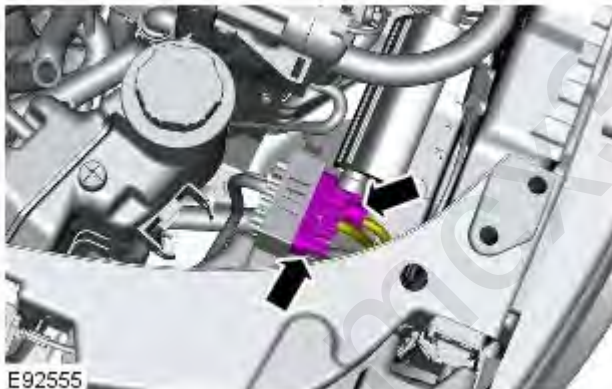
7. Remove the LH front wheel arch liner.

For additional information, refer to: [Fender Splash Shield](#) (501-02 Front End Body Panels, Removal and Installation).

8. Remove the windshield washer reservoir filler neck.

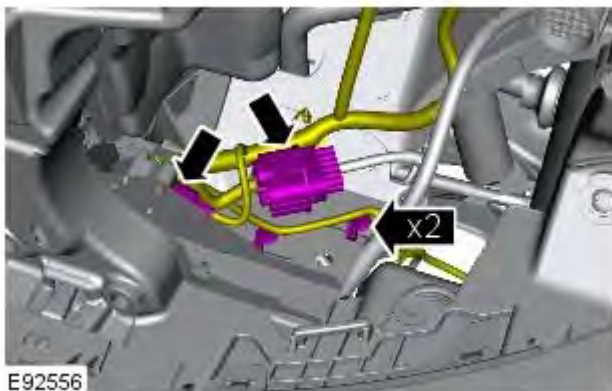


9. LH side behind the front headlamp: Disconnect the frame wiring harness electrical connector.



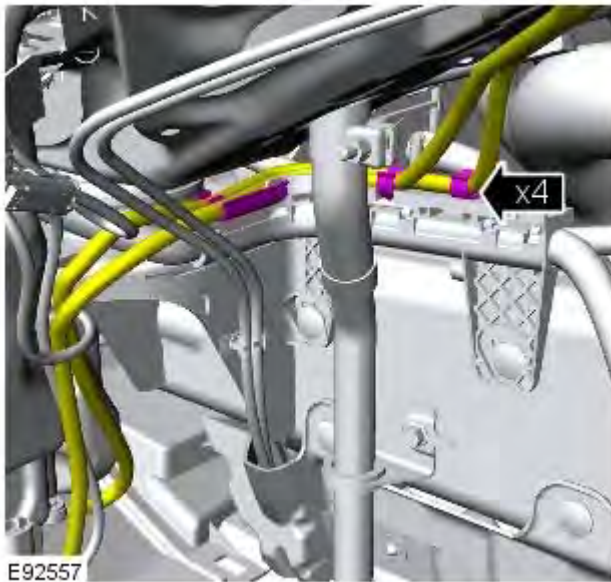
10. LH side behind the front panel: Disconnect the 2 electrical connectors from the frame wiring harness.

11. LH side behind headlamp: Release the 2 clips from the inner fender.



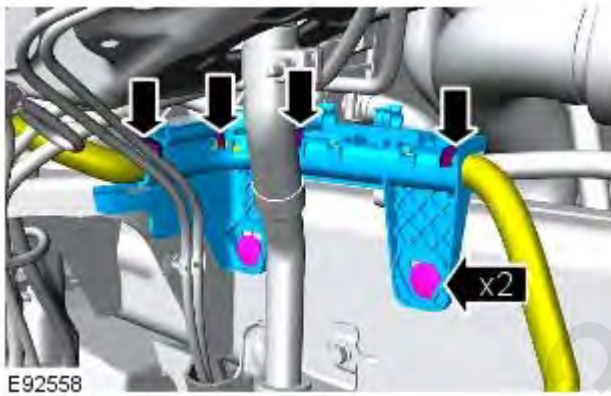
12. LH side behind headlamp: Reposition the frame wiring harness down to the inner fender.

13. LH side front: Release the 2 windshield washer jet hoses.

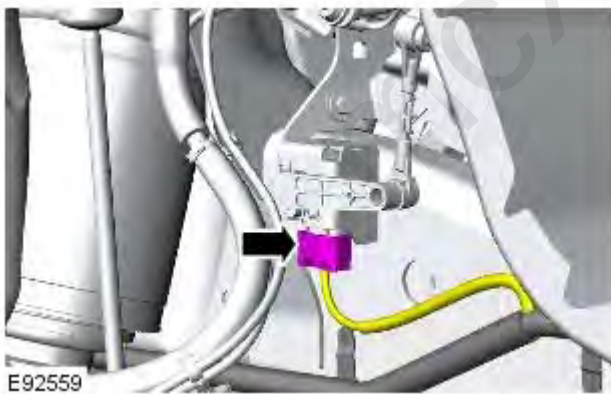


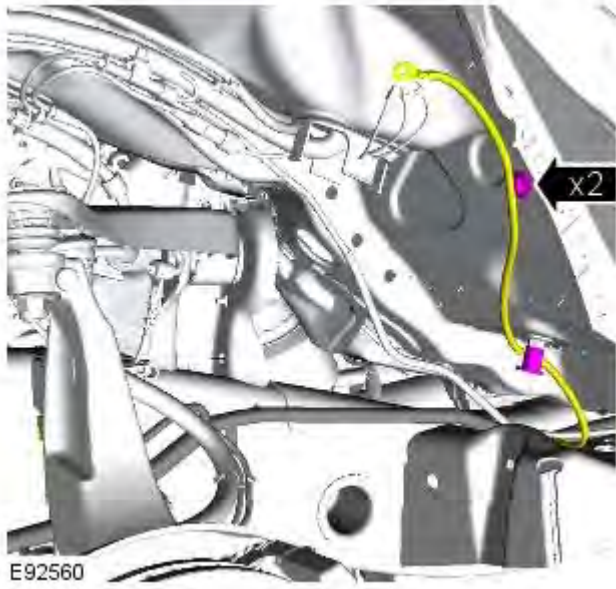
14. Remove the frame wiring harness carrier.

- Remove and discard the 4 tie straps.
- Release the 2 clips.



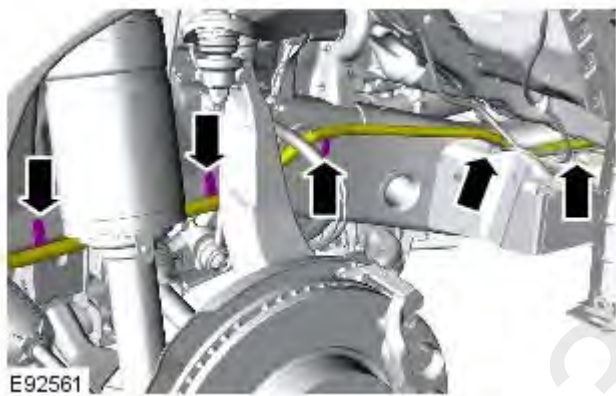
15. LH side front: Disconnect the height sensor electrical connector.





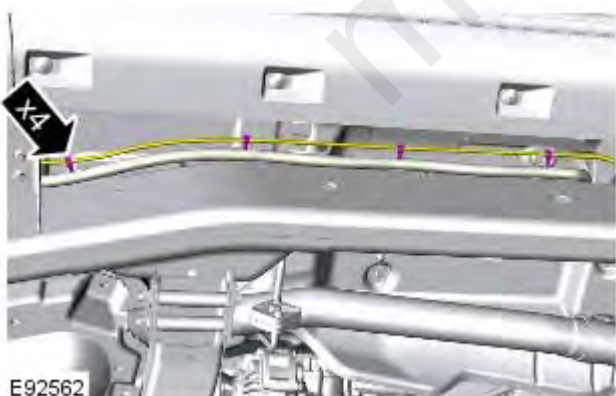
16. Disconnect the ground cable from the wheel arch earth stud.

- Release the 2 clips.



17. LH front side: Release the frame wiring harness from the frame.

- Release the 5 clips.



18. Remove the air suspension reservoir.

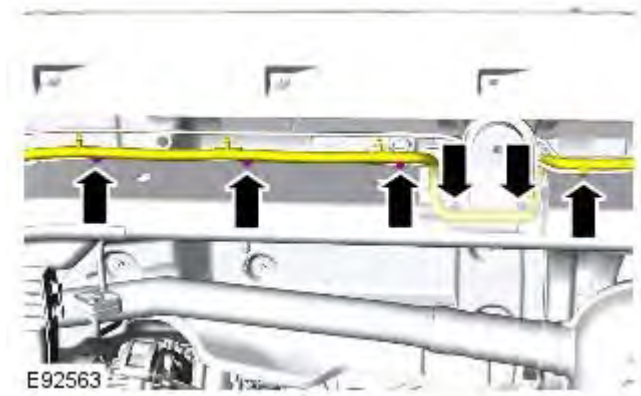
For additional information, refer to: [Air Suspension Reservoir](#) (204-05 Vehicle Dynamic Suspension, Removal and Installation).

19. LH side: Release air suspension line from the frame wiring harness.

- Release the 4 clips.

20. LH side: Release the frame wiring harness from the frame.

- Release the 6 clips.



21. Remove the air suspension silencer.

For additional information, refer to: [Air Suspension Muffler](#) (204-05 Vehicle Dynamic Suspension, Removal and Installation).

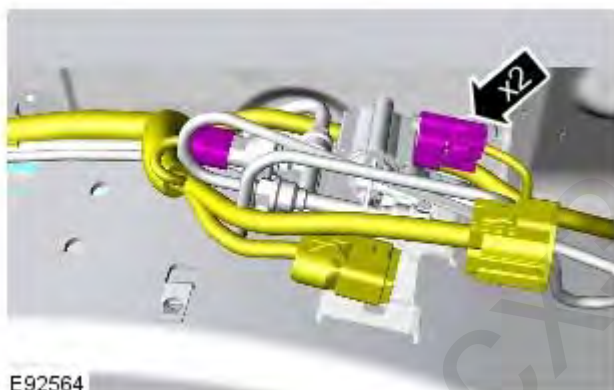
All except vehicles with diesel engine

22. Remove the evaporative emission canister.

For additional information, refer to: [Evaporative Emission Canister](#) (303-13B Evaporative Emissions - V8 5.0L Petrol, Removal and Installation).

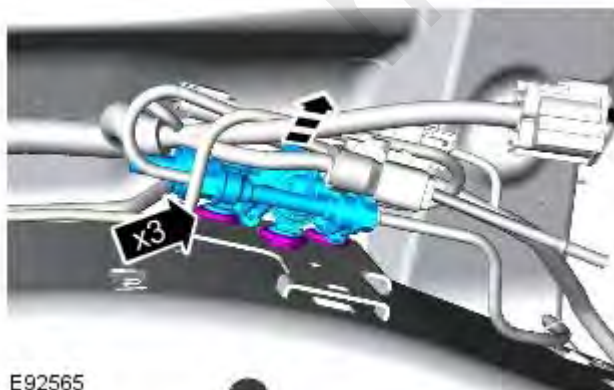
All vehicles

23. Disconnect the 2 electrical connectors from the air suspension solenoid.

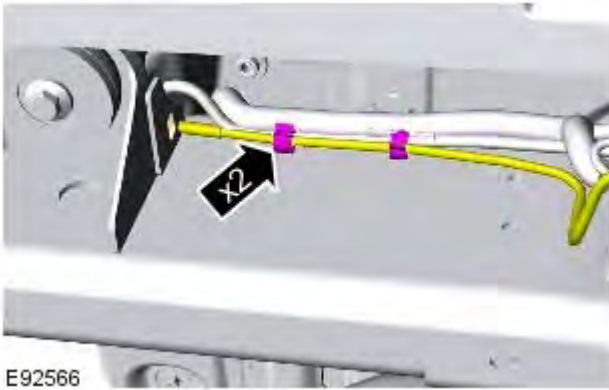


24. Release the air suspension compressor valve block.

- Release the 3 grommets.



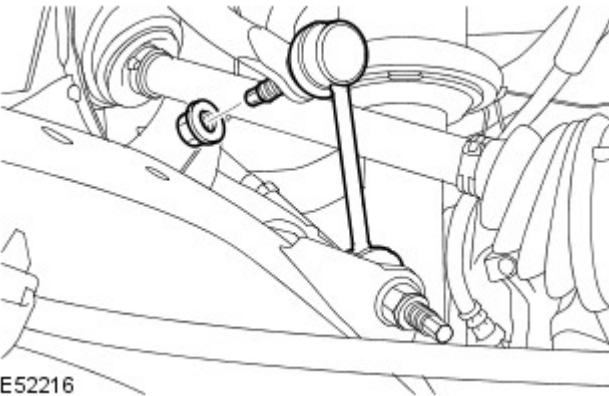
25. LH side: Release air suspension line from the frame wiring harness.



26.  **CAUTION:** Use a wrench on the hexagon provided to prevent the ball joint rotating.

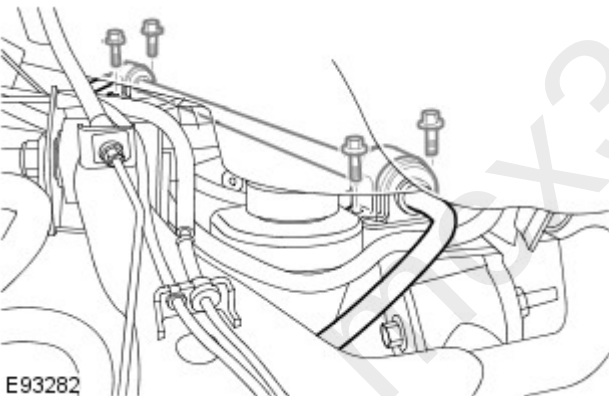
Release both stabilizer bar links.

- Remove the 2 nuts.

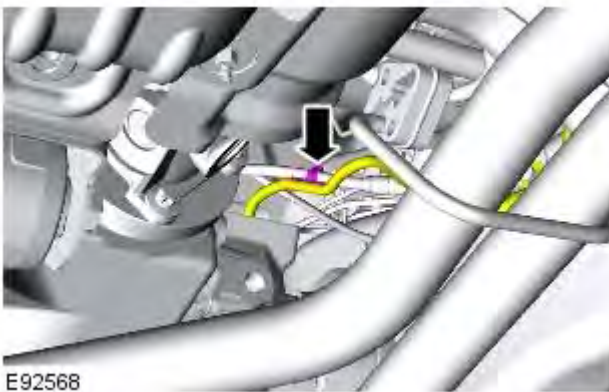


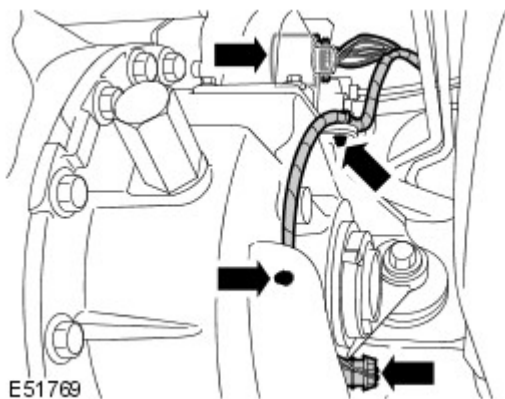
27. Release the stabilizer bar.

- Remove the 4 bolts.



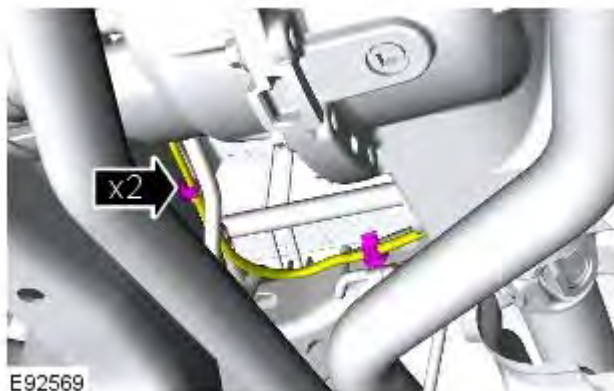
28. Release the frame wiring harness from the parking brake cable.





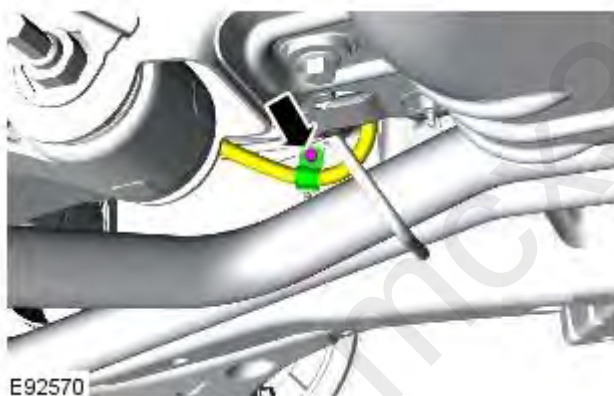
29. Vehicles with differential locking motor: Disconnect the 2 electrical connectors.

- Release the 2 wiring harness clips.



30. Release the parking brake emergency release cable.

- Release the 2 clips.

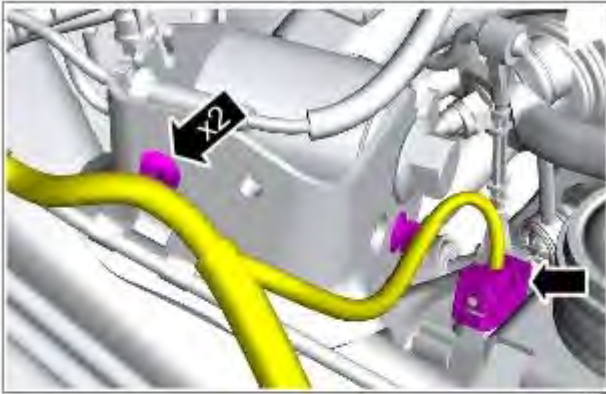


31. LH side: Release the frame wiring harness.

- Remove the bolt.

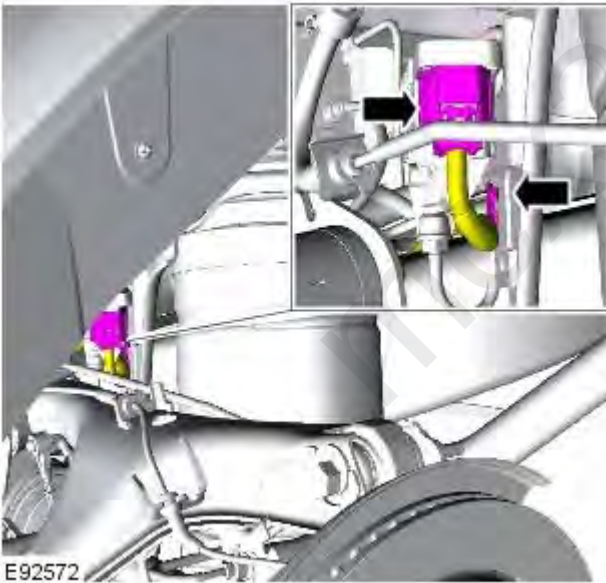
32. Disconnect the electrical connector from the rear LH height sensor.

- Release the 2 clips.



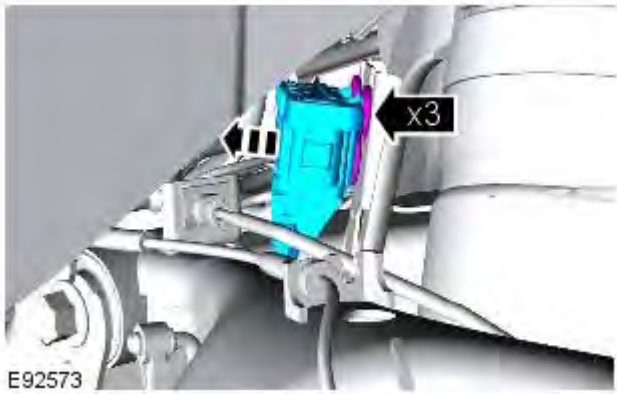
33. LH side rear: Disconnect the air suspension rear valve block electrical connector.

- Release the clip.



34. Release the valve block from its mounting bracket.

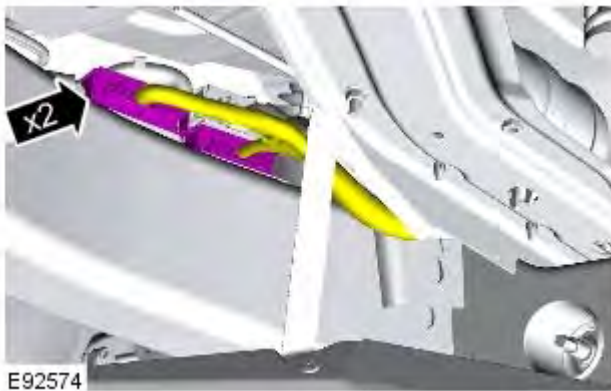
- Release the 3 grommets.



35. Reposition the frame wiring harness to above the frame.

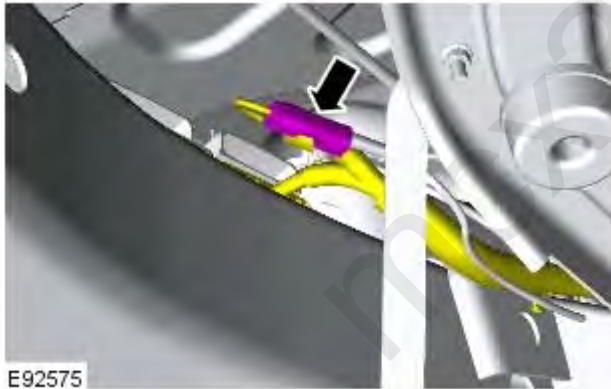
36. LH side rear: Disconnect the 2 electrical connectors from the frame wiring harness.

- Release the 2 electrical connectors.

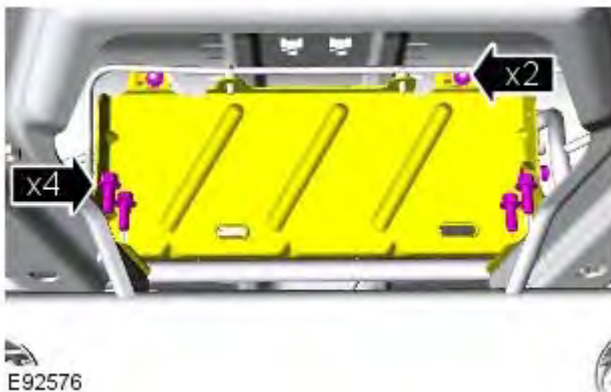


37. Disconnect the LH rear ABS sensor.

- Release the clip.

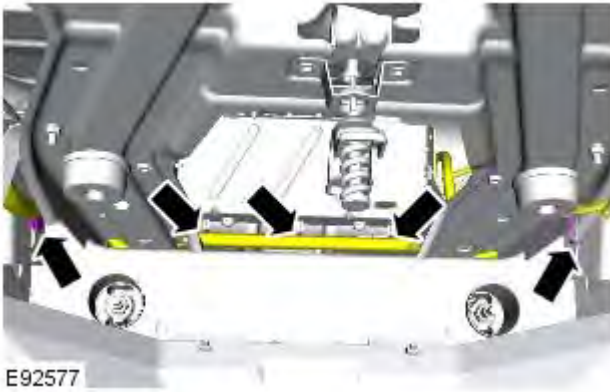


38. Release the parking brake actuator mount bracket.



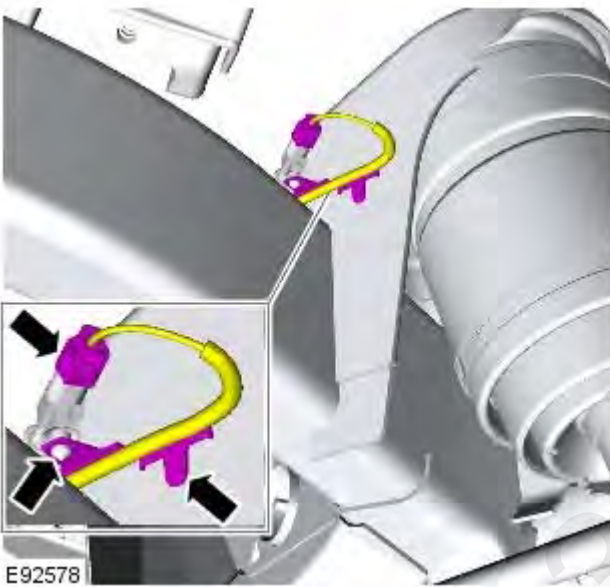
39. Spare wheel aperture: Release the frame wiring harness.

- Release the 5 clips.



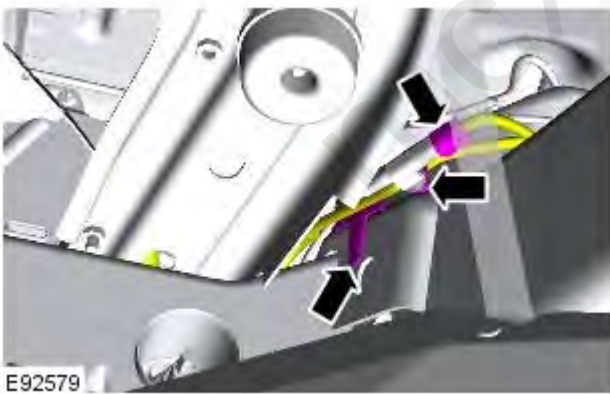
40. RH side rear: Disconnect the ABS sensor electrical connector.

- Release the 2 clips.



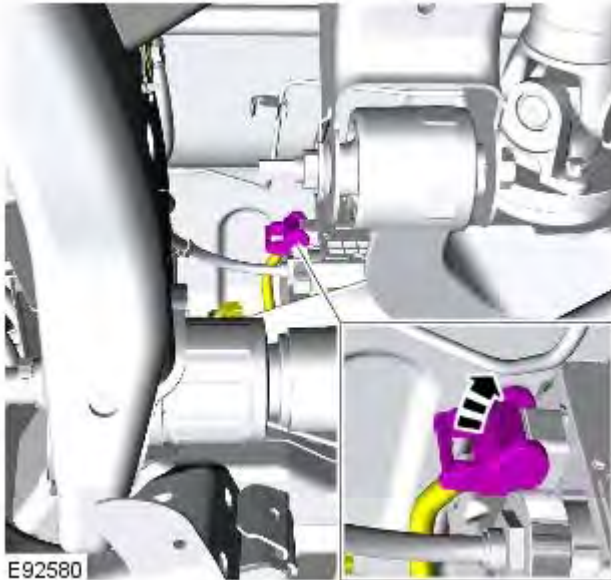
41. RH side rear: Disconnect the low brake pad warning lamp electrical connector.

- Release the 2 clips.



42. Disconnect the electronic parking brake actuator electrical connector.

- Release the clip.



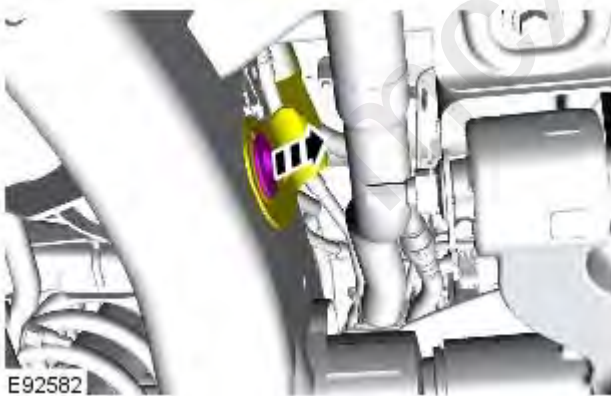
43. Release the RH parking brake cable.

- Remove the bolt.
- Release the clip.

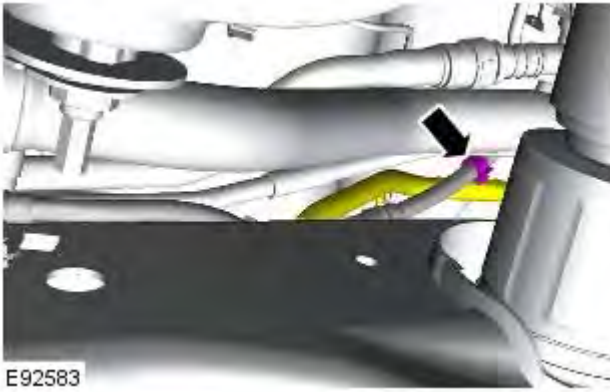


44. Release the fuel line support bracket.

- Remove the inner section of the fuel line support bracket.
- Release the clip.



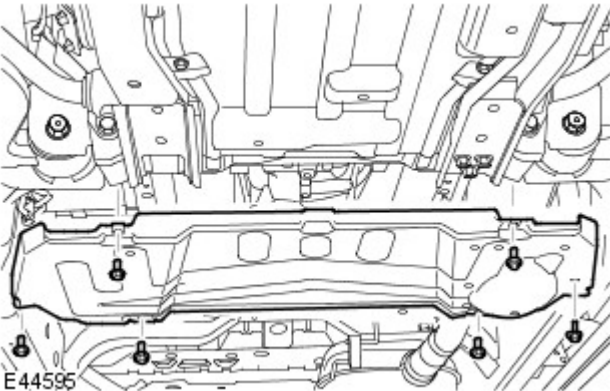
- 45.** Release the frame wiring harness from the parking brake cable.



- 46.** RH side: Release the frame wiring harness from the frame.

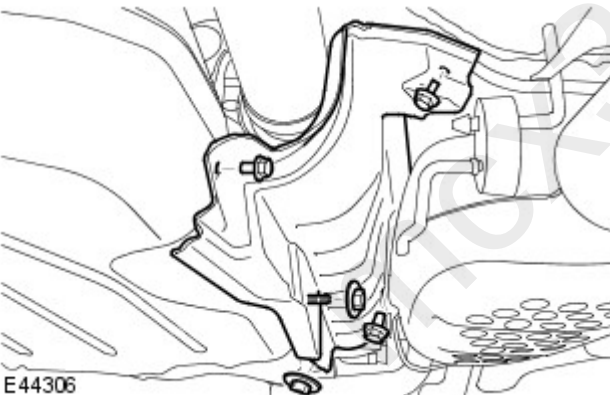
- 47.** Remove the transmission under shield.

- Remove the 6 bolts.



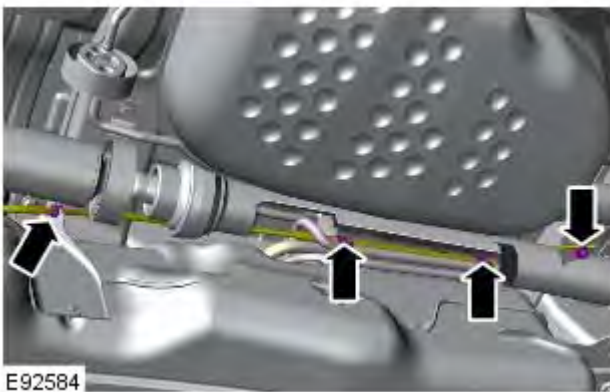
- 48.** Remove the fuel tank heat shield.

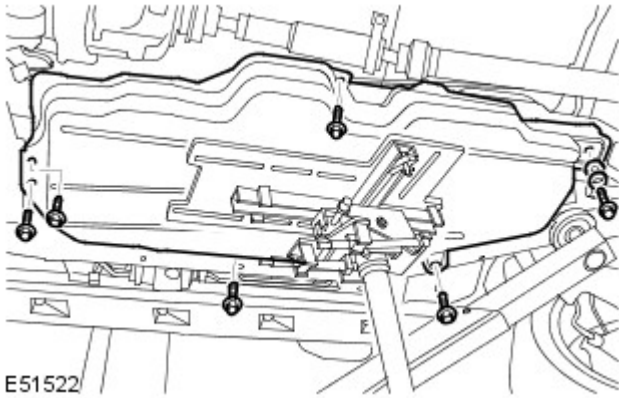
- Remove the 3 bolts and 2 nuts.



- 49.** Release the parking brake emergency release cable.

- Release the 4 clips



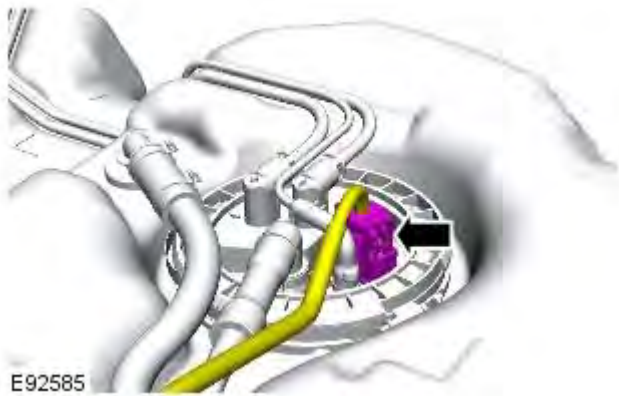


50.  **WARNING:** Secure the component to the transmission jack.

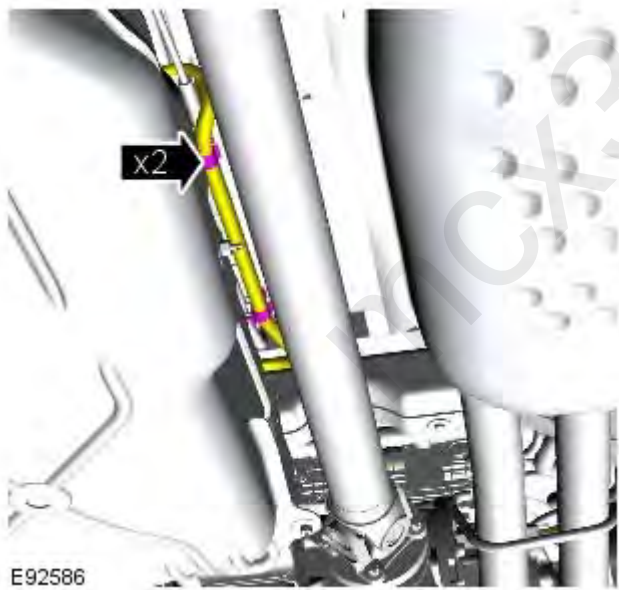
 **CAUTION:** Note the rear bolt is fitted with 2 washers.

Using a transmission jack, lower the fuel tank.

- Remove the 6 bolts.



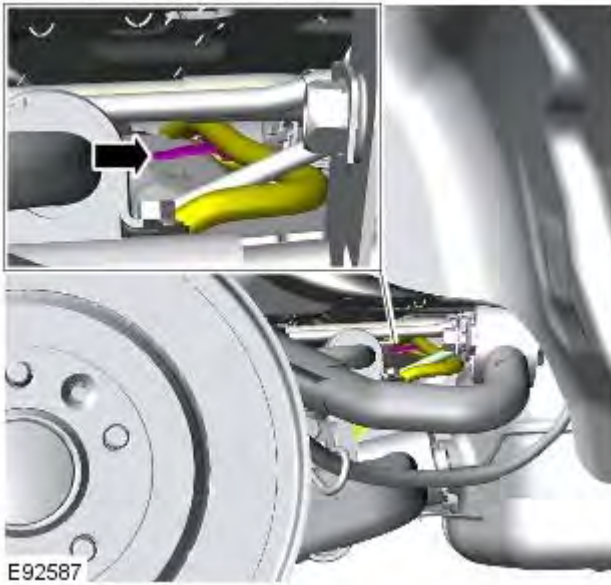
51. Disconnect the fuel pump module electrical connector.



52. Release the frame wiring harness from the fuel tank.

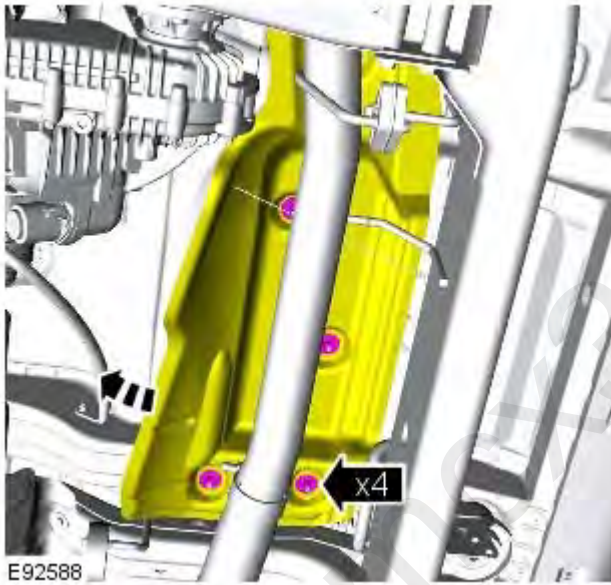
53. Rear of fuel tank: Release the frame wiring harness from the top of the frame crossmember.

- Release the clip.

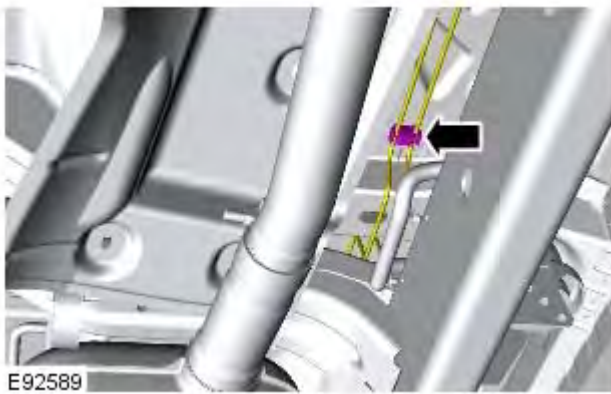


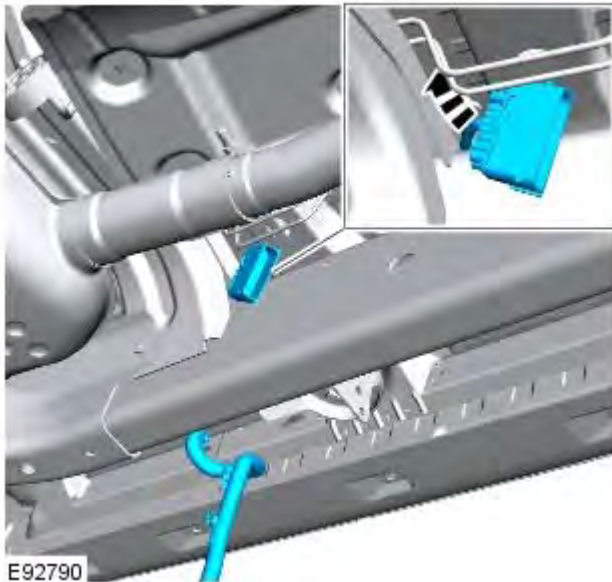
54. Secure the fuel tank.

55. Release the exhaust heat shield for access.



56. Release the brake pipes.





57. With assistance, remove the frame wiring harness.

- Position both ends of the frame wiring harness to the LH center body mount.
- Route the front end of the frame wiring harness between the body and center crossmember.
- With assistance, remove the frame wiring harness.

Installation

1. Check the old frame wiring harness against the new frame wiring harness to make sure that they are the same.

2. NOTE: Make sure the wiring harness is routed correctly.

With assistance, install the frame wiring harness.

- Route all of the frame wiring harness electrical connectors and clips into position.

3. Secure the brake pipes.

4. Secure the exhaust heat shield.

5. ⚠ WARNING: Secure the component to the transmission jack.



CAUTION: Note the rear bolt is fitted with 2 washers.

Using a transmission jack, lower the fuel tank.

- Remove the 4 bolts.

6. Connect the fuel pump module electrical connector.

7. RH side: Secure the frame wiring harness to the fuel tank.

8. Rear of fuel tank: Secure the frame wiring harness to the top of the frame crossmember.

9. ⚠ CAUTION: Note the rear bolt is fitted with 2 washers.

Install the fuel tank.

- Tighten the bolts to 45 Nm (33 lb.ft).

10. Secure the parking brake emergency release cable.

- Secure in the 4 clips.

11. Install the fuel tank heat shield.

- Tighten the bolts to 6 Nm (4 lb.ft).
- Tighten the nuts to 3 Nm (2 lb.ft).

12. Install the transmission under shield.

- Tighten the bolts to 10 Nm (7 lb.ft).

13. RH side: Secure the frame wiring harness to the frame.

14. Secure the frame wiring harness to the RH parking brake

cable.

15. Secure the RH parking brake cable bracket.

- Install the inner section of the parking brake cable bracket.

16. Secure the RH parking brake cable.

- Secure the clip.
- Tighten the new bolts to 22 Nm (16 lb.ft).

17. Connect the electronic parking brake actuator electrical connector.

- Secure the clip.

18. RH side rear: Connect the low brake pad warning lamp electrical connector.

- Secure the 2 clips.

19. RH side rear: Connect the ABS sensor electrical connector.

- Secure the 2 clips.

20. Spare wheel aperture: Secure the frame wiring harness.

- Secure the 5 clips.

21. Secure the parking brake actuator mount bracket.

- Tighten the bolts to 22 Nm (16 lb.ft).

22. Connect the LH rear ABS sensor.

- Secure the clip.

23. LH side rear: Connect the 2 electrical connectors to the frame wiring harness.

- Secure the electrical connectors.

24. Reposition the rear valve block electrical connector.

25. Reposition the RH side rear height sensor electrical connector.

26. LH side rear: Connect the air suspension valve block electrical connector.

- Secure the clip.

27. Connect the electrical connector to the rear LH height sensor.

- Secure the clip.

28. Secure the valve block to its mounting.

29. LH side: Secure the frame wiring harness.

- Tighten the bolt to 22 Nm (16 lb.ft).

30. Secure the parking brake emergency release cable.

- Secure the clips.

31. Secure the frame wiring harness to the LH parking brake cable.

32. Attach both stabilizer bar links.

- Tighten the nuts to 115 Nm (85 lb.ft).

33. Secure the stabilizer bar.

- Tighten the bolts to 62 Nm (46 lb.ft).

34. Install the rear wheels and tires.

35. Secure the air suspension compressor valve block.

36. Connect the electrical connectors to the air suspension

solenoid.

37. Install the air suspension silencer.

For additional information, refer to: [Air Suspension Muffler](#) (204-05 Vehicle Dynamic Suspension, Removal and Installation).

38. LH side: Secure the air suspension line to the frame wiring harness.

39. LH side: Secure the frame wiring harness to the frame.

- Secure the 6 clips.

40. Install the air suspension reservoir.

For additional information, refer to: [Air Suspension Reservoir](#) (204-05 Vehicle Dynamic Suspension, Removal and Installation).

41. Connect the ground cable to the wheel arch earth stud.

- Tighten the nut to 25 Nm (18 lb.ft).
- Secure the 2 clips.

42. LH side front: Connect the height sensor electrical connector.

43. Install the frame wiring harness carrier.

- Install new tie straps.
- Secure to the clips.

44. LH side front: Secure the 2 windshield washer jet hoses.

45. Reposition the frame wiring harness through the inner fender.

46. LH side behind headlamp: Secure the 2 clips to the inner wing.

47. LH side behind the front panel: Connect the 2 electrical connectors to the frame wiring harness.

48. LH side behind the front headlamp: Connect the frame wiring harness electrical connector.

49. Install the windshield washer reservoir filler neck.

50. Install the LH front wheel arch liner.

For additional information, refer to: [Fender Splash Shield](#) (501-02 Front End Body Panels, Removal and Installation).

51. Connect the battery ground cable.

For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

Wiring Harnesses - Front Parking Aid Camera Wiring Harness - Front

Section RHD AWD

Removal and Installation

Removal

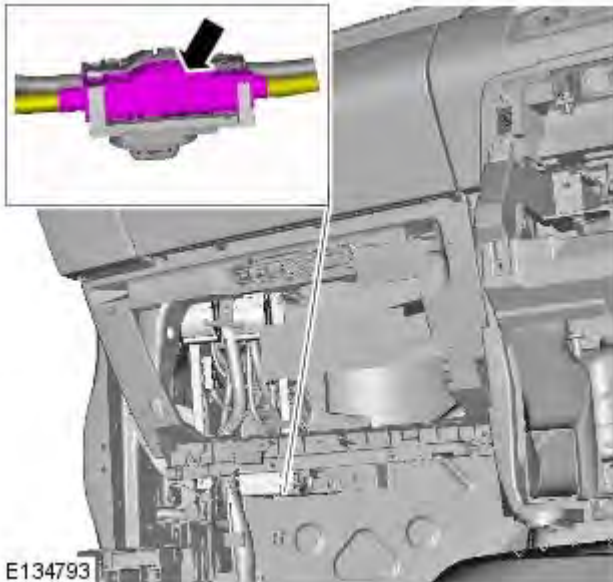


CAUTION: Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

1. Remove the central junction box (CJB). For additional information, refer to: [Central Junction Box \(CJB\)](#) (418-00 Module Communications Network, Removal and Installation).

2. NOTE: The left hand front camera wiring harness connectors are coloured magenta, the right hand front camera wiring harness connectors are coloured blue.

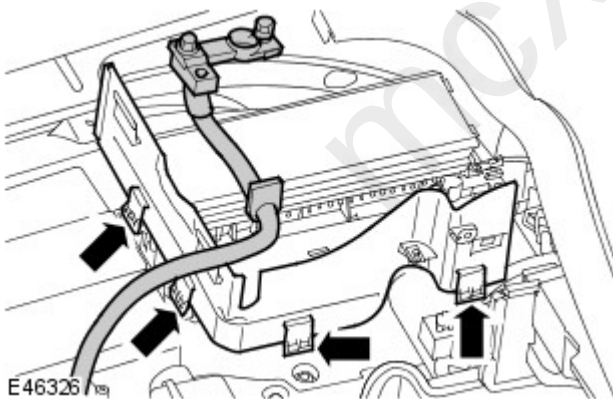
Disconnect the electrical connector.



3. Remove the battery. For additional information, refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).

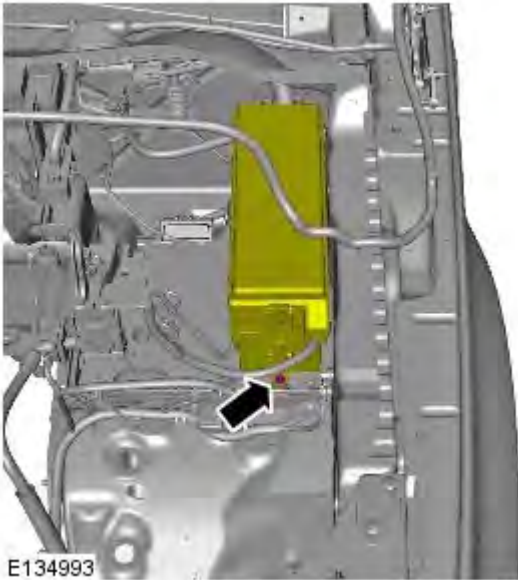
4. Remove the battery compartment side wall.

- Release the battery positive cable and grommet.
- Release the 4 clips.

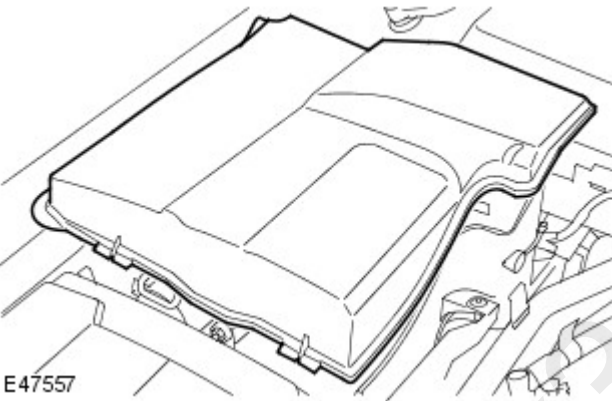


5. Release the engine compartment fuse box.

- Remove the bolt.

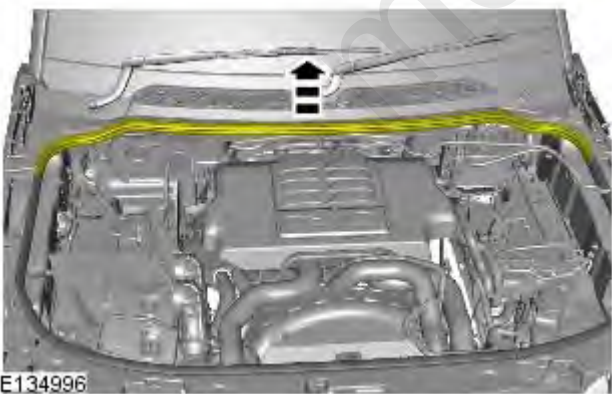


6. Remove the brake master cylinder cover.



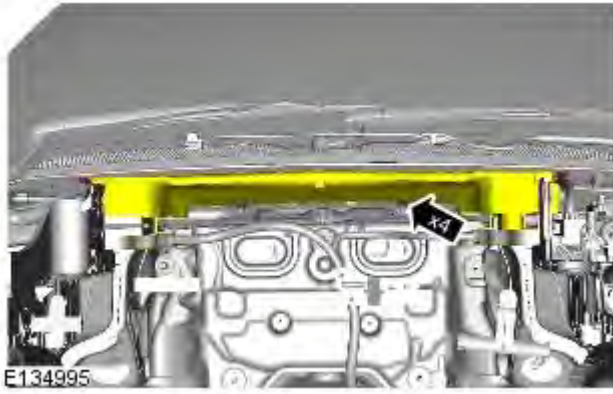
7. Remove the air cleaner. For additional information, refer to: [Air Cleaner](#) (303-12C Intake Air Distribution and Filtering - V6 4.0L Petrol, Removal and Installation).

8. Release the hood seal.

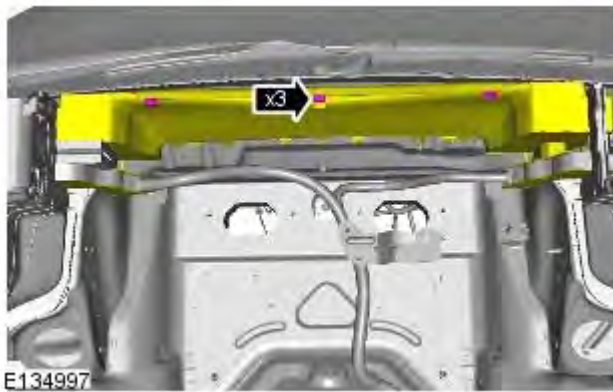


9. Release the wiring harness carrier.

- Remove the 4 nuts.



10. Release the 3 clips.



11. NOTE: The left hand front camera wiring harness connectors are coloured white, the right hand front camera wiring harness connectors are coloured green.

Disconnect the electrical connector.



Installation



E135323

1.  **CAUTION:** Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

Install the camera overlay wiring harness

2. **NOTE:** Some variation in the illustrations may occur, but the essential information is always correct.

Remove the connector from the camera overlay wiring harness.

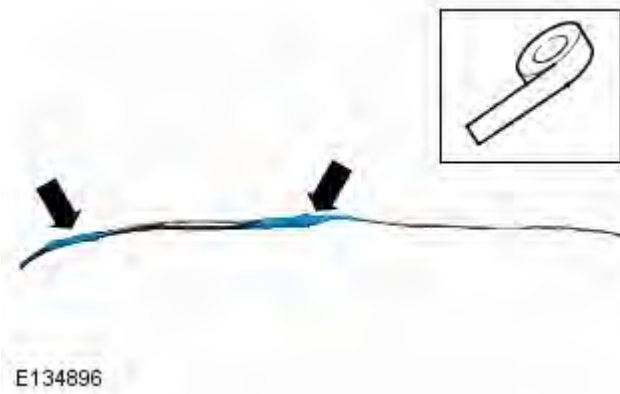


- Remove the locking tab.
- Carefully release the clip.
- Apply suitable tape to protect the end of the camera overlay wiring harness.



E133998

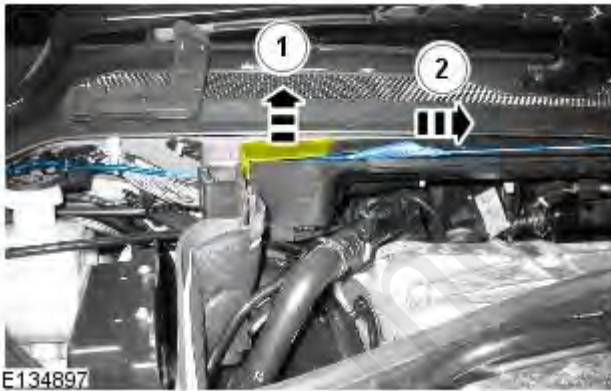
3. Using suitable tape, secure a suitable rod to the camera overlay wiring harness.



4. Carefully feed the camera overlay wiring harness under the bracket.



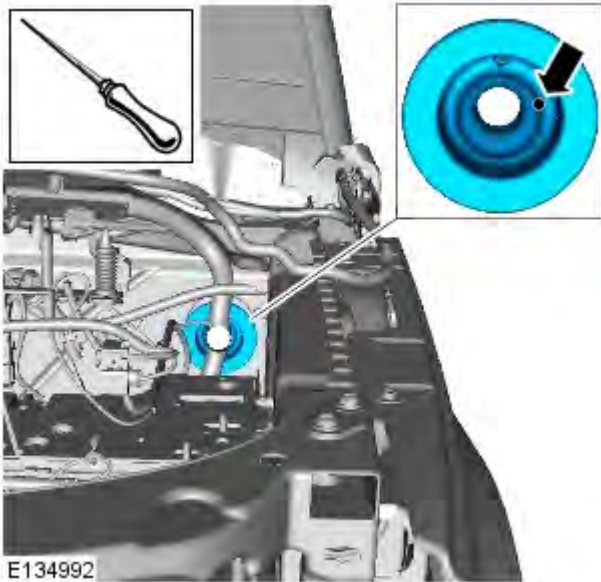
5. Carefully feed the camera overlay wiring harness through the wiring harness carrier.



6. Carefully feed the camera overlay wiring harness through the wiring harness carrier.



7. Using a suitable tool, make a hole in grommet in the position shown.



8. With the aid of another technician, carefully feed the camera overlay wiring harness through the grommet.





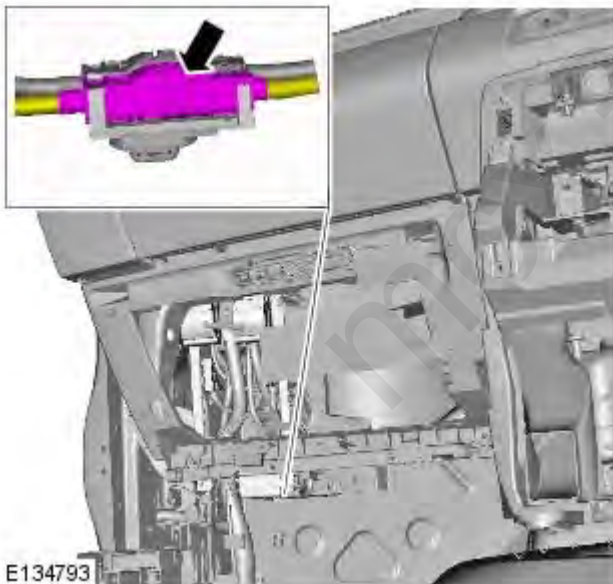
9. NOTE: Some variation in the illustrations may occur, but the essential information is always correct.

Install the connector to the camera overlay wiring harness.

- Remove the protective tape.
- Install the electrical connector.
- Secure the locking tab.



E134007



10. NOTE: The left hand front camera wiring harness connectors are coloured magenta, the right hand front camera wiring harness connectors are coloured blue.

Connect the electrical connector.

E134793

11. NOTE: The left hand front camera wiring harness connectors are coloured white, the right hand front camera wiring harness connectors are coloured green.

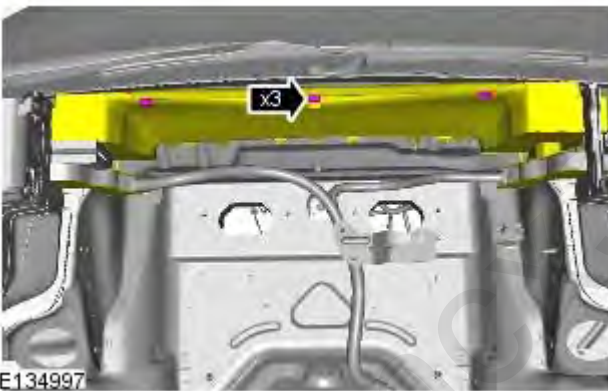
Connect the electrical connector.



12. ⚠ CAUTION: Make sure that excessive force is not used when installing the tie straps to the wiring harness. Failure to follow this instruction may result in damage to the harness.

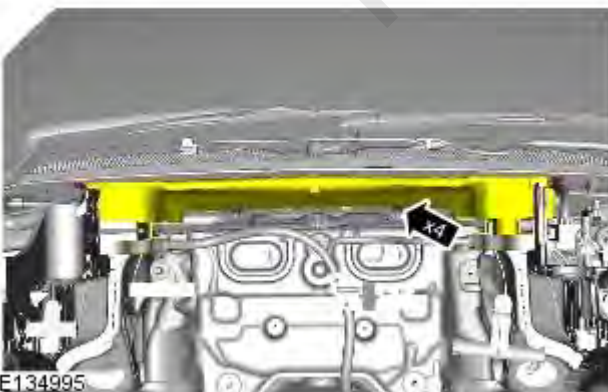
Using suitable tie straps, secure the camera overlay wiring harness to the main body wiring harness.

13. Secure the 3 clips.



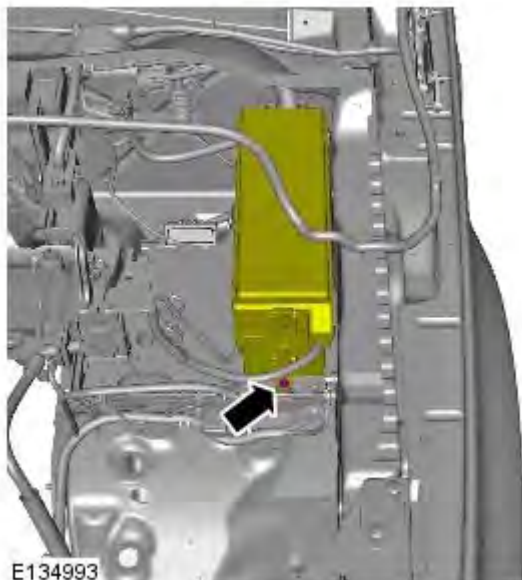
14. Secure the wiring harness carrier.

- Tighten the 4 nuts.



15. Secure the engine compartment fuse box.

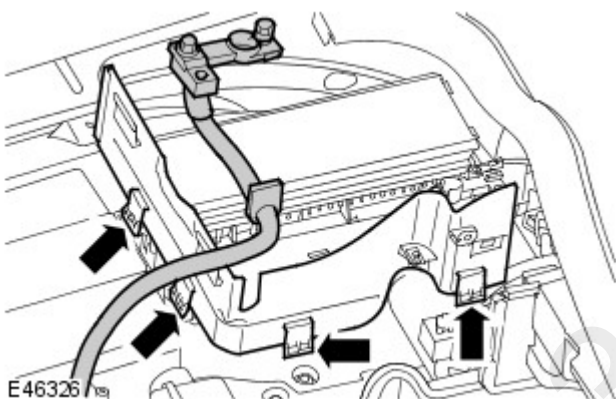
- Tighten the bolt.



E134993

16. Install the battery compartment side wall.

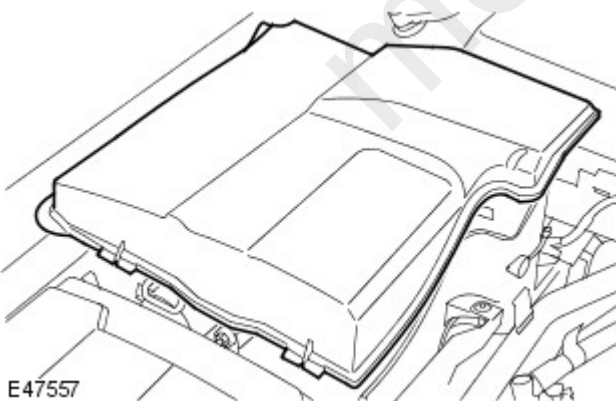
- Secure the 4 clips.
- Install the battery positive cable and grommet.



E46326

17. Install the air cleaner. For additional information, refer to: [Air Cleaner](#) (303-12C Intake Air Distribution and Filtering - V6 4.0L Petrol, Removal and Installation).

18. Install the brake master cylinder cover.



E47557

19. Secure the hood seal.

20. Install the CJB. For additional information, refer to: [Central Junction Box \(CJB\)](#) (418-00 Module Communications Network, Removal and Installation).

21. Install the battery. For additional information, refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).

Wiring Harnesses - Front Parking Aid Camera Wiring Harness - Front

Section LHD AWD

Removal and Installation

Removal



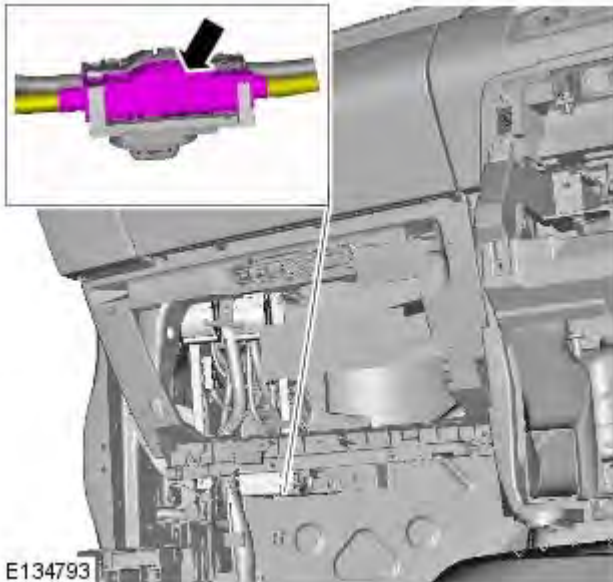
CAUTION: Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

1. Remove the central junction box (CJB). For additional information, refer to: [Central Junction Box \(CJB\)](#) (418-00 Module Communications Network, Removal and Installation).

2. **NOTE:** RHD shown, LHD similar.

- **NOTE:** The left hand front camera wiring harness connectors are coloured magenta, the right hand front camera wiring harness connectors are coloured blue.

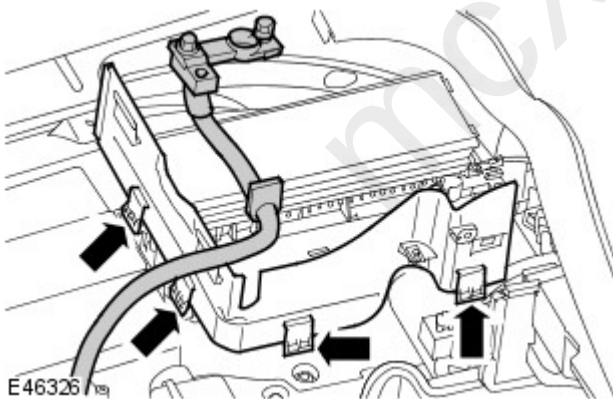
Disconnect the electrical connector.



3. Remove the battery. For additional information, refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).

4. Remove the battery compartment side wall.

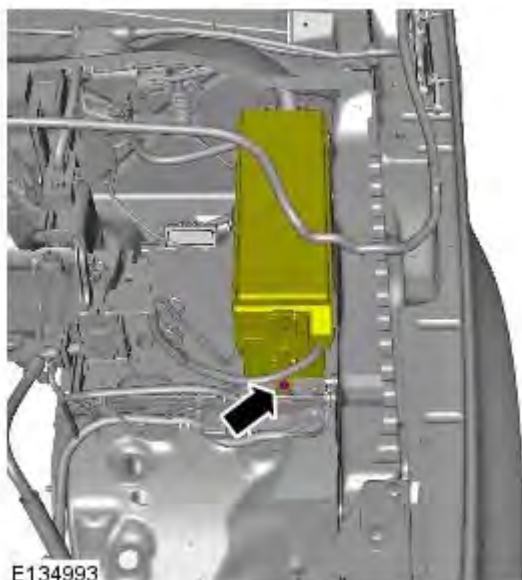
- Release the battery positive cable and grommet.
- Release the 4 clips.



5. NOTE: RHD shown, LHD similar.

Release the engine compartment fuse box.

- Remove the bolt.



E134993

6. Remove the air cleaner. For additional information, refer to: [Air Cleaner](#) (303-12C Intake Air Distribution and Filtering - V6 4.0L Petrol, Removal and Installation).

7. NOTE: The left hand front camera wiring harness connectors are coloured white, the right hand front camera wiring harness connectors are coloured green.

Disconnect the electrical connector.



E134994

Installation



E135323

1.  **CAUTION:** Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

Install the camera overlay wiring harness

2. **NOTE:** Some variation in the illustrations may occur, but the essential information is always correct.

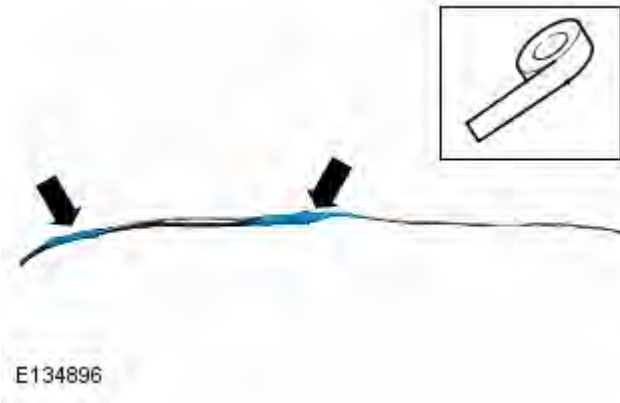
Remove the connector from the camera overlay wiring harness.

- Remove the locking tab.
- Carefully release the clip.
- Apply suitable tape to protect the end of the camera overlay wiring harness.



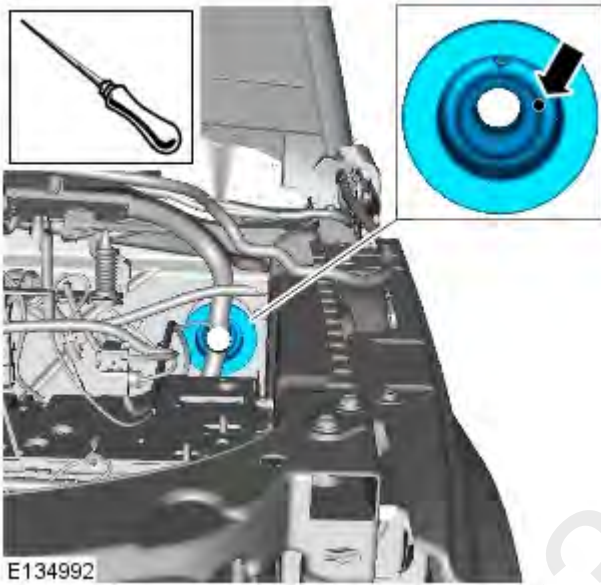
E133998

3. Using suitable tape, secure a suitable rod to the camera overlay wiring harness.



4. NOTE: RHD shown, LHD similar.

Using a suitable tool, make a hole in grommet in the position shown.



5. NOTE: RHD shown, LHD similar.

With the aid of another technician, carefully feed the camera overlay wiring harness through the grommet.



E134899

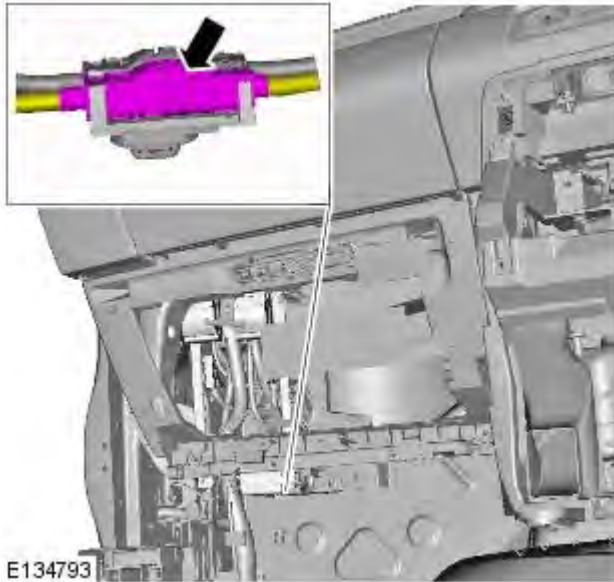
6. NOTE: Some variation in the illustrations may occur, but the essential information is always correct.

Install the connector to the camera overlay wiring harness.

- Remove the protective tape.
- Install the electrical connector.
- Secure the locking tab.



E134007



7. NOTE: RHD shown, LHD similar.

- NOTE: The left hand front camera wiring harness connectors are coloured magenta, the right hand front camera wiring harness connectors are coloured blue.

Connect the electrical connector.



8. NOTE: The left hand front camera wiring harness connectors are coloured white, the right hand front camera wiring harness connectors are coloured green.

Connect the electrical connector.

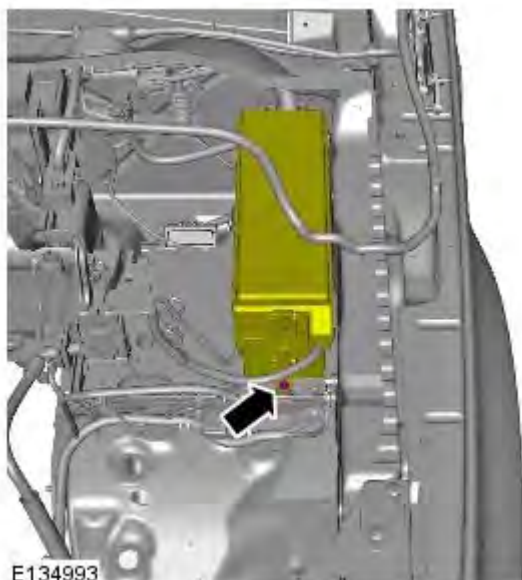
9.  CAUTION: Make sure that excessive force is not used when installing the tie straps to the wiring harness. Failure to follow this instruction may result in damage to the harness.

Using suitable tie straps, secure the camera overlay wiring harness to the main body wiring harness.

10. NOTE: RHD shown, LHD similar.

Secure the engine compartment fuse box.

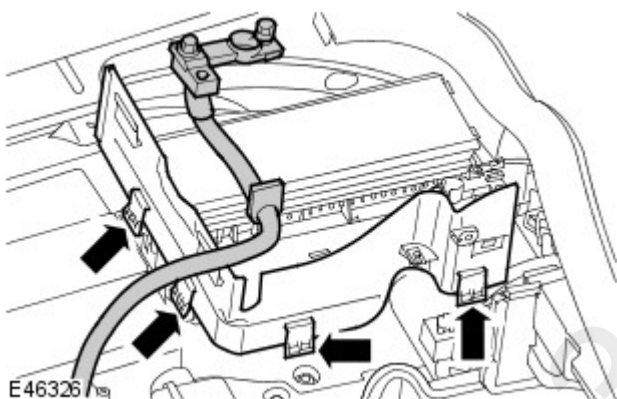
- Tighten the bolt.



E134993

11. Install the battery compartment side wall.

- Secure the 4 clips.
- Install the battery positive cable and grommet.



E46326

12. Install the air cleaner. For additional information, refer to: [Air Cleaner](#) (303-12C Intake Air Distribution and Filtering - V6 4.0L Petrol, Removal and Installation).

13. Install the CJB. For additional information, refer to: [Central Junction Box \(CJB\)](#) (418-00 Module Communications Network, Removal and Installation).

14. Install the battery. For additional information, refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).

Wiring Harnesses - Front Parking Aid Camera Wiring Harness - Main Body

Section RHD AWD

Removal and Installation

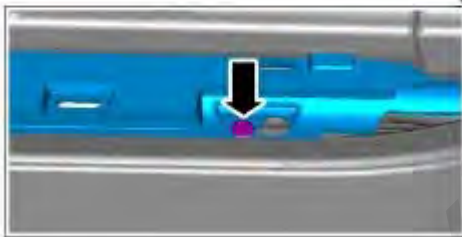
Removal



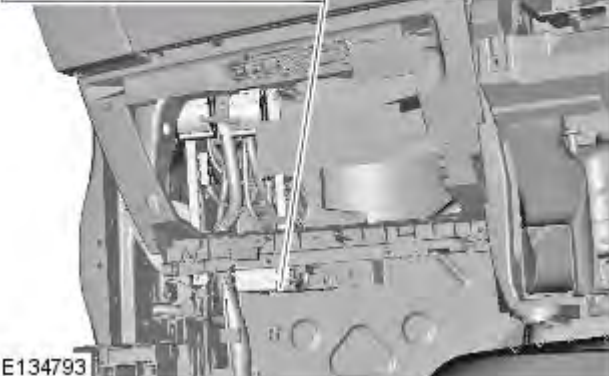
CAUTION: Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

1. Remove the LH front seat. For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).
2. Remove the central junction box (CJB). For additional information, refer to: [Central Junction Box \(CJB\)](#) (418-00 Module Communications Network, Removal and Installation).
3. Remove the LH scuff plate trim panel. For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
4. Release the wiring harness cover.

- Release the 3 clips.



E134771



E134793

5. **NOTE:** The left hand front camera wiring harness connectors are coloured magenta, the right hand front camera wiring harness connectors are coloured blue.

Disconnect the electrical connector.



E134748

6. NOTE: The left hand front camera wiring harness connectors are coloured white, the right hand front camera wiring harness connectors are coloured black.

Disconnect the electrical connector.

Installation

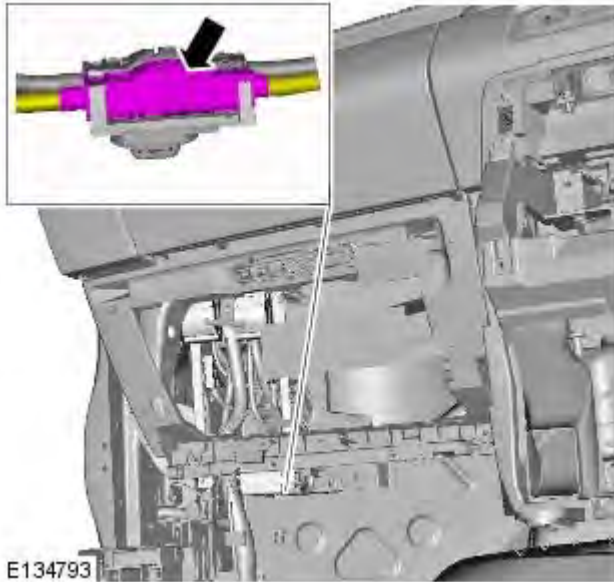


1. ⚠ CAUTION: Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

Install the camera overlay wiring harness



E135323



2. NOTE: The left hand front camera wiring harness connectors are coloured magenta, the right hand front camera wiring harness connectors are coloured blue.

Connect the electrical connector.

3.  CAUTION: Make sure that excessive force is not used when installing the tie straps to the wiring harness. Failure to follow this instruction may result in damage to the harness.

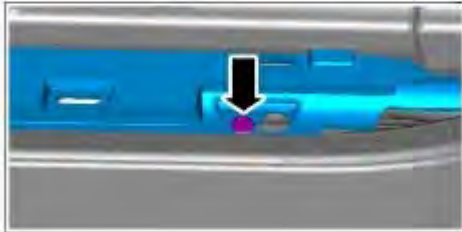
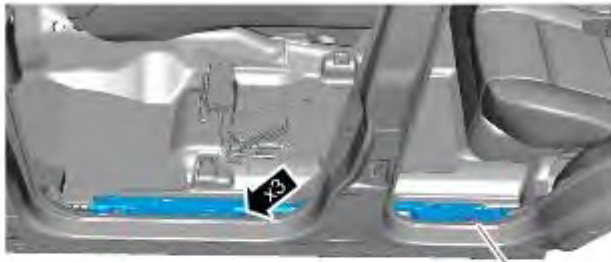
Feed the camera overlay wiring harness along the main wiring harness to the camera module.

- Using suitable tie straps, secure the camera overlay wiring harness to the main body wiring harness.

4. NOTE: The left hand front camera wiring harness connectors are coloured white, the right hand front camera wiring harness connectors are coloured black.

Connect the electrical connector.





E134771

5. Install the wiring harness cover.

- Secure the 3 clips.

- 6. Install the LH scuff plate trim panel.** For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
- 7. Install the CJB.** For additional information, refer to: [Central Junction Box \(CJB\)](#) (418-00 Module Communications Network, Removal and Installation).
- 8. Install the LH front seat.** For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).

Wiring Harnesses - Front Parking Aid Camera Wiring Harness - Main Body

Section LHD AWD

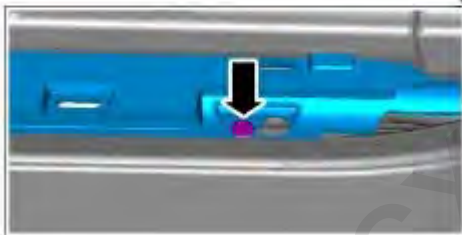
Removal and Installation

Removal



CAUTION: Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

1. Remove the LH front seat. For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).
2. Repeat procedure for the other side.
3. Remove the floor console. For additional information, refer to: [Floor Console](#) (501-12 Instrument Panel and Console, Removal and Installation).
4. Remove the LH scuff plate trim panel. For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
5. Repeat procedure for the other side.
6. Release the wiring harness cover.
 - Release the 3 clips.



E134771

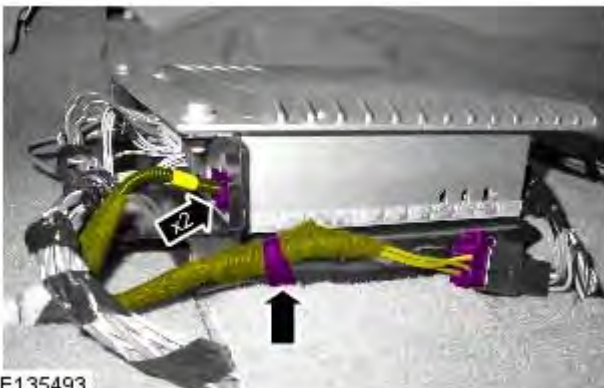
7. Repeat procedure for the other side.
8. Remove the central junction box (CJB). For additional information, refer to: [Central Junction Box \(CJB\)](#) (418-00 Module Communications Network, Removal and Installation).

9. NOTE: RHD shown, LHD similar.

10. Disconnect the 2 electrical connectors:

- Release the 2 clips.
- NOTE: The left hand front camera wiring harness connectors are coloured magenta, the right hand front camera wiring harness connectors are coloured blue.

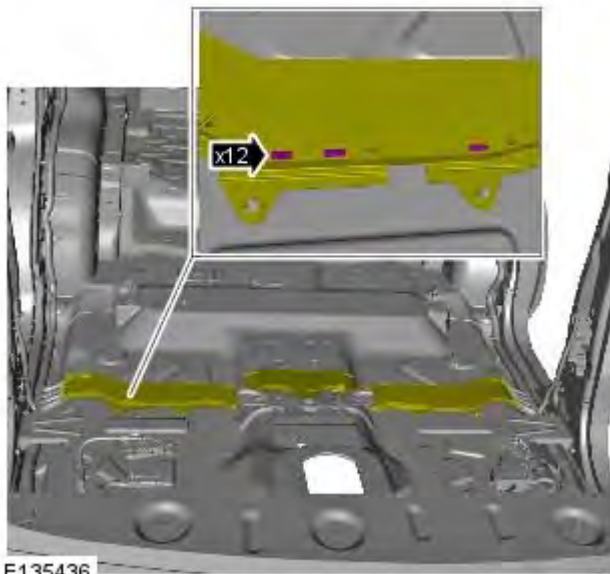
Disconnect the electrical connector.



E135493



E135494



E135436

12. Release the wiring harness cover.

- Reposition the floor covering for access.
- Using a suitable tool, carefully cut through the wiring harness cover retaining tape.
- Release the 12 clips.



E134748

13. NOTE: The left hand front camera wiring harness connectors are coloured white, the right hand front camera wiring harness connectors are coloured black.

Disconnect the electrical connector.

Installation



E135323

1.  **CAUTION:** Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

Install the camera overlay wiring harness

2.  **CAUTION:** Make sure that excessive force is not used when installing the tie straps to the wiring harness. Failure to follow this instruction may result in damage to the harness.

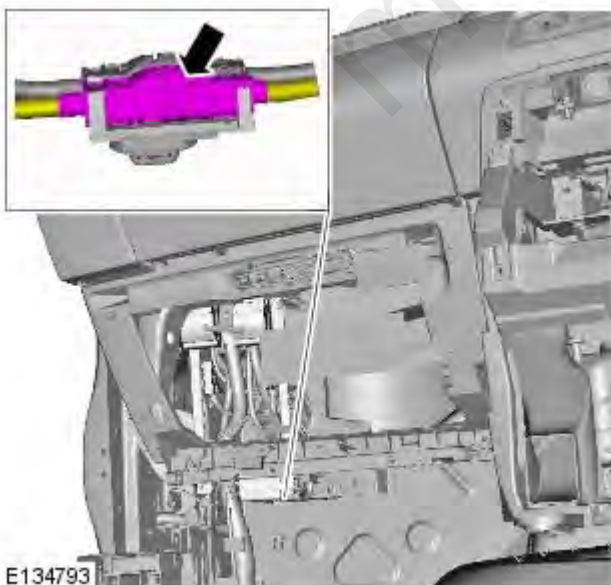
Carefully feed the camera overlay wiring harness along the main body wiring harness from the camera module to the RH A-pillar.

- Using suitable tie straps, secure the camera overlay wiring harness to the main body wiring harness.

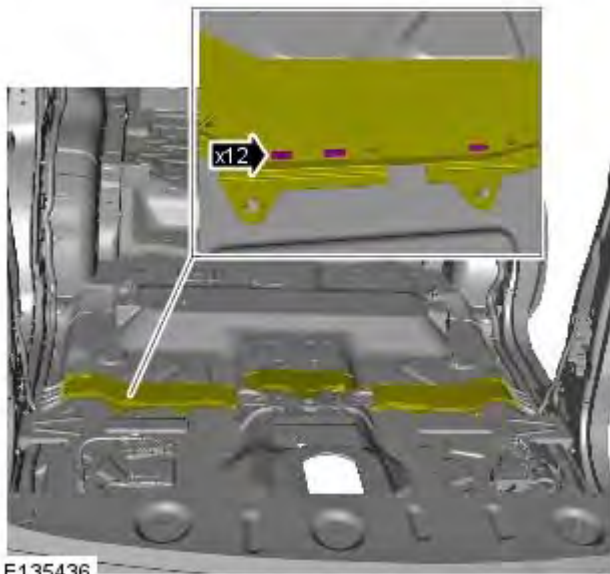
3. **NOTE:** RHD shown, LHD similar.

- **NOTE:** The left hand front camera wiring harness connectors are coloured magenta, the right hand front camera wiring harness connectors are coloured blue.

Connect the electrical connector.



E134793



E135436

4. Secure the wiring harness cover.

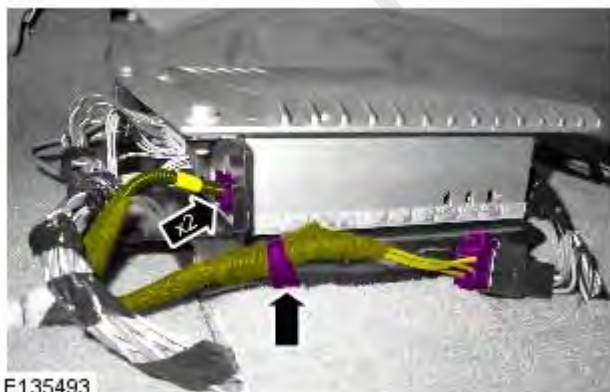
- Secure the 12 clips.
- Re-apply suitable tape to the wiring harness cover in the positions previously secured.
- Install the floor covering.



E135494

5. Connect the 2 electrical connectors.

- Secure the 3 clips.



E135493

6. Connect the 2 electrical connectors.

- Secure the clip.

7. NOTE: The left hand front camera wiring harness connectors are coloured white, the right hand front camera wiring harness connectors are coloured black.

Connect the electrical connector.

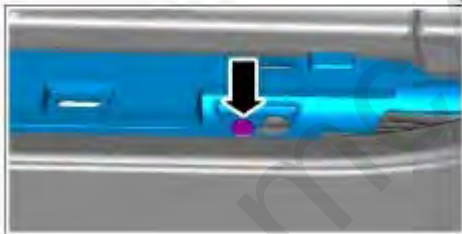


E134748

8. Install the CJB. For additional information, refer to: [Central Junction Box \(CJB\)](#) (418-00 Module Communications Network, Removal and Installation).

9. Install the LH wiring harness cover.

- Secure the 3 clips.



E134771

10. Repeat procedure for the other side.

11. Install the LH scuff plate trim panel. For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

12. Repeat procedure for the other side.

13. Install the floor console. For additional information, refer to: [Floor Console](#) (501-12 Instrument Panel and Console, Removal and Installation).

14. Install the LH front seat. For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).

15. Repeat procedure for the other side.

Wiring Harnesses - Left Hand Parking Aid Camera Wiring Harness

Removal and Installation

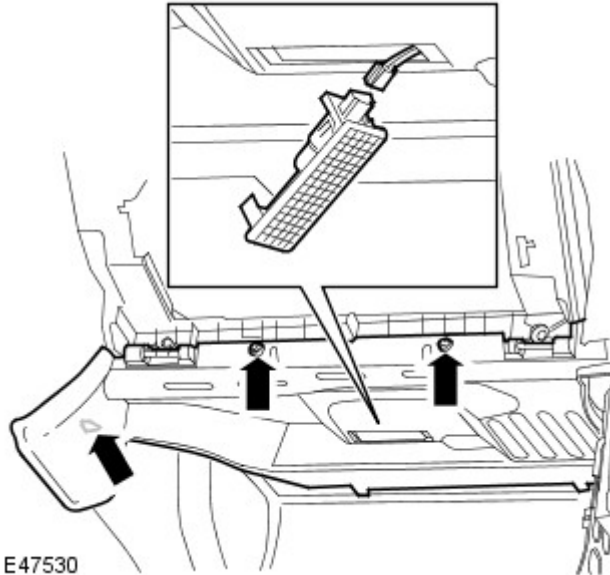
Removal



CAUTION: Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

1. Remove the closing trim panel.

- Release the clip.
- Remove the 2 screws.
- Disconnect the electrical connector.



E47530

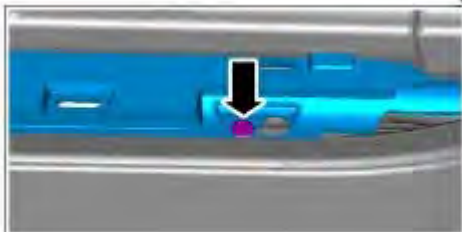
2. Remove the cowl side trim panel. For additional information, refer to: [Cowl Side Trim Panel](#) (501-05 Interior Trim and Oramentation, Removal and Installation).

3. Remove the LH front seat. For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).

4. Remove the LH scuff plate trim panel. For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Oramentation, Removal and Installation).

5. Release the wiring harness cover.

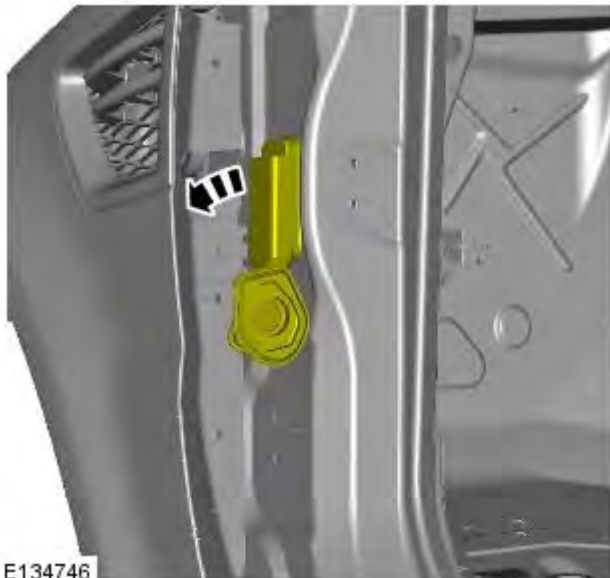
- Release the 3 clips.



E134771

6. NOTE: Door shown removed for clarity.

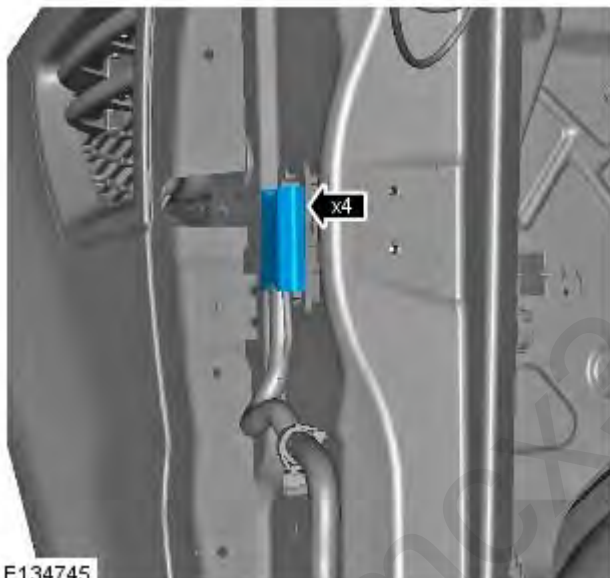
Release the gaiter.



E134746

7. Remove the wiring harness cover.

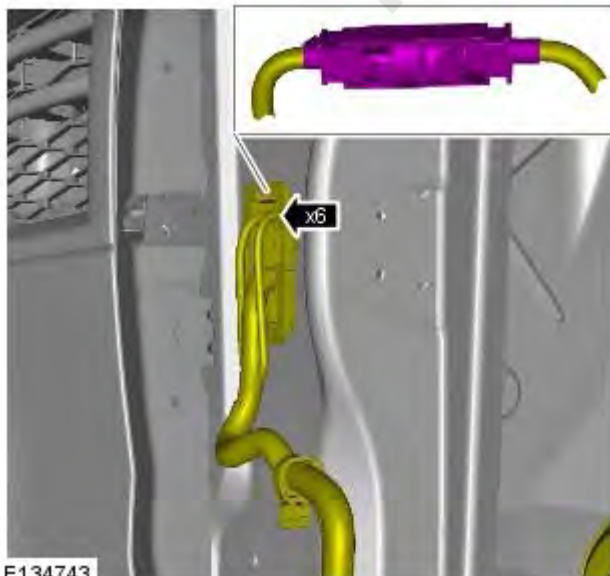
- Release the 4 clips.



E134745

8. Disconnect the electrical connector.

- Release the electrical connector bracket.
- Release the 6 clips.



E134743

9. Disconnect the electrical connector.



E134750

Installation



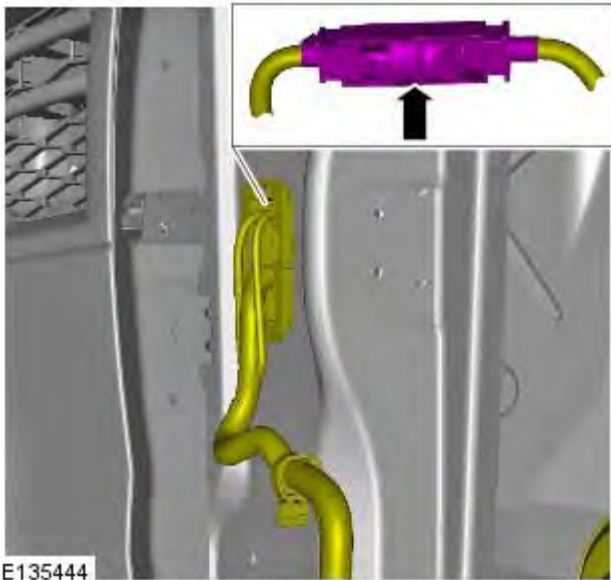
1.  **CAUTION:** Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

Install the camera overlay wiring harness.



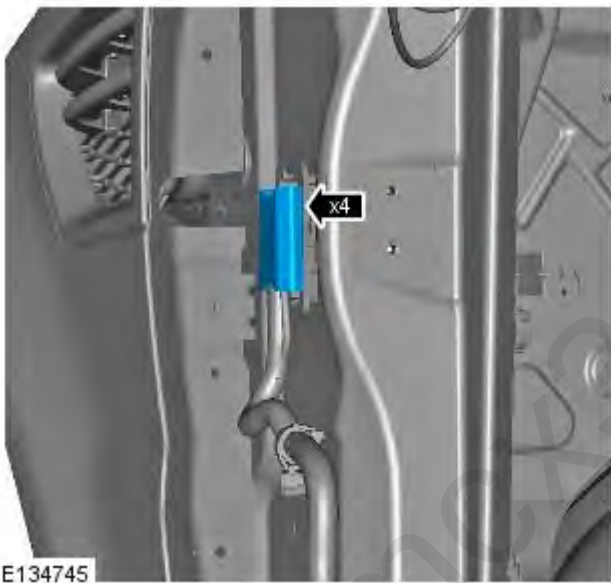
E135323

2. Connect the electrical connector.

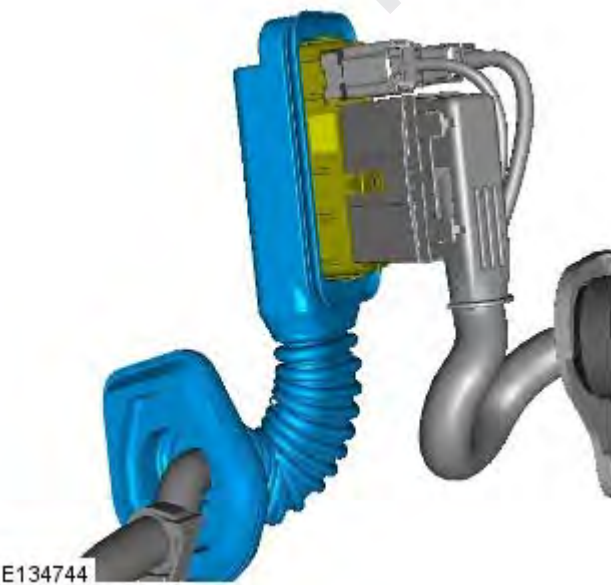


3. Install the wiring harness cover.

- Secure the 4 clips.

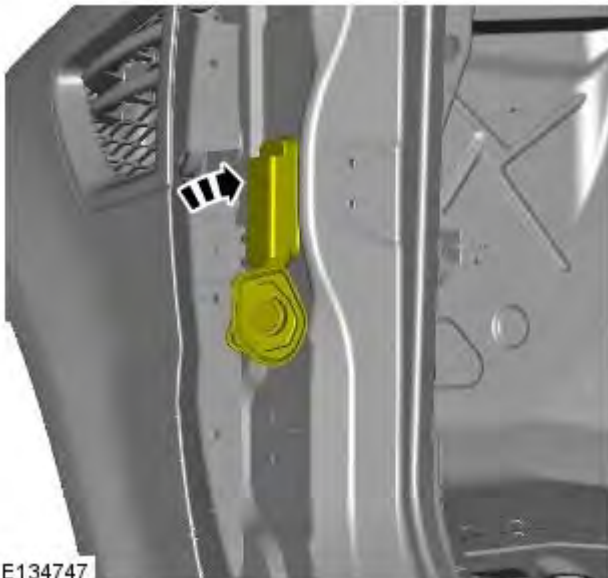


4. Install the gaiter.



5. Secure the bracket.

- Secure the 6 clips.



E134747

6. CAUTION: Make sure that any tie straps used are not tightened excessively on the camera wiring harness and link leads, Failure to follow this instruction may result in damage to the harness.

Feed the camera overlay wiring harness along the main wiring harness to the parking aid camera module.

- Using suitable tie straps, secure the camera overlay wiring harness to the main body wiring harness.

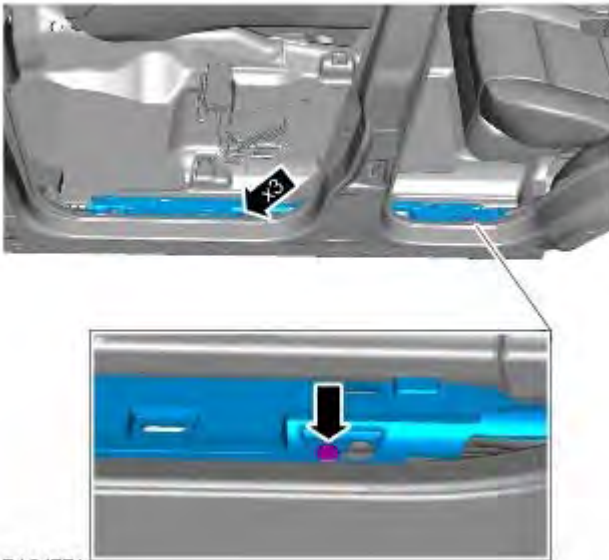
7. Connect the electrical connector.



E134750

8. Install the wiring harness cover.

- Secure the 3 clips.



E134771

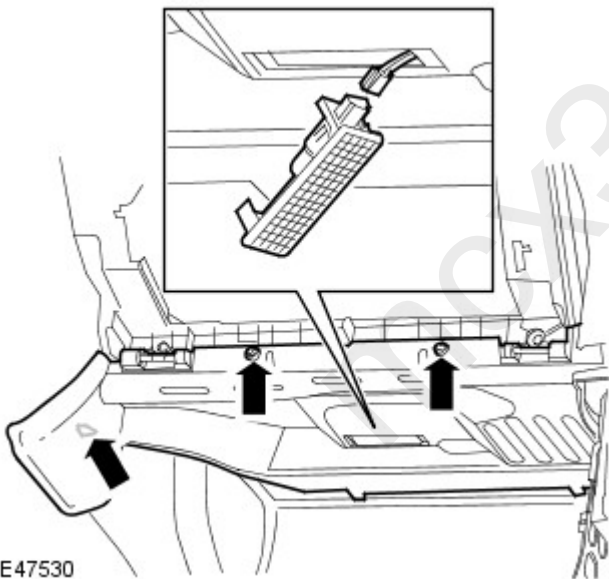
9. Install the LH scuff plate trim panel. For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

10. Install the LH front seat. For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).

11. Install the cowl side trim panel. For additional information, refer to: [Cowl Side Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

12. Install the closing trim panel.

- Connect the electrical connector.
- Secure the clip.
- Tighten the screws.



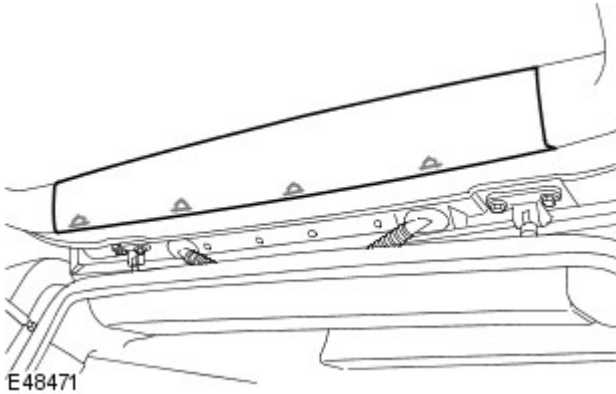
E47530

Wiring Harnesses - Liftgate Wiring Harness

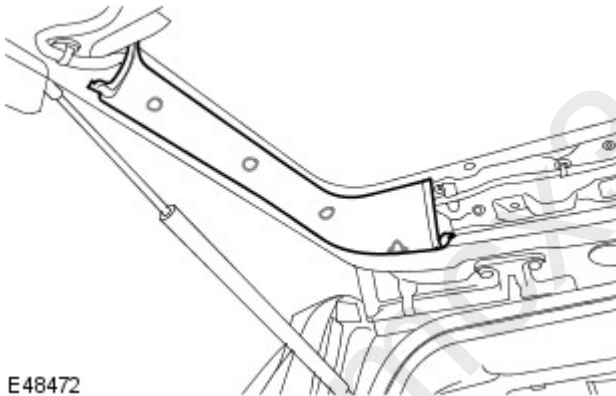
Removal and Installation

Removal

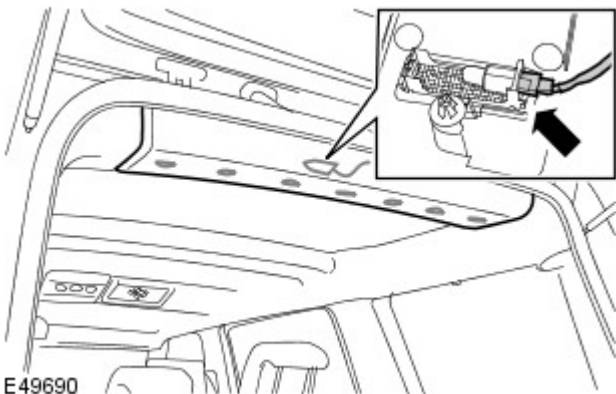
1. Open the liftgate and tailgate.
2. Disconnect the battery ground cable.
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).
3. Remove the liftgate lower trim panel.
For additional information, refer to: [Liftgate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
4. Remove the liftgate upper trim panel.
 - Release the 4 clips.



5. Remove the liftgate side trim panel.
 - Release the 5 clips.
 - Repeat the above procedure for the other side.

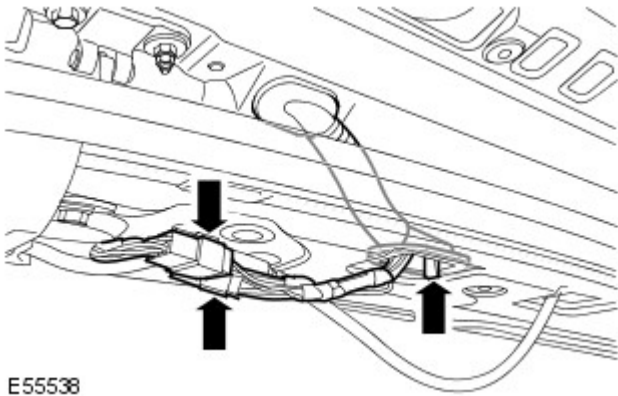


6. Remove the rear headliner trim panel.
 - Release the 7 clips.
 - Disconnect the electrical connector.

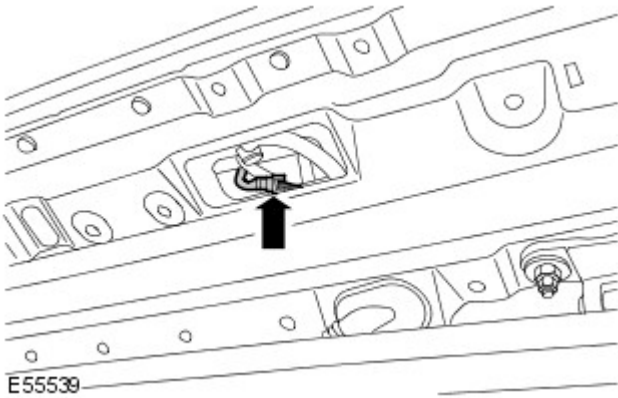


7. Release the liftgate wiring harness.

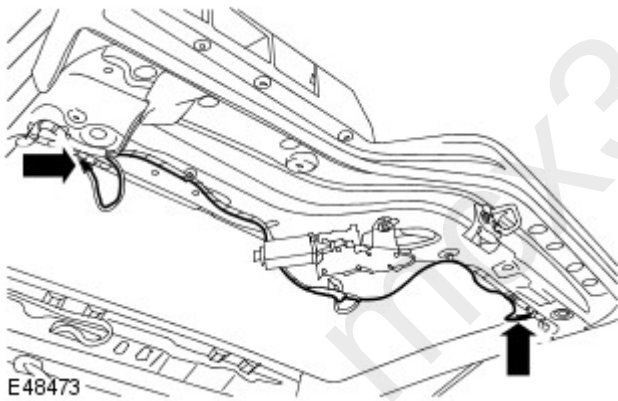
- Disconnect the 2 electrical connectors.
- Release the grommet.



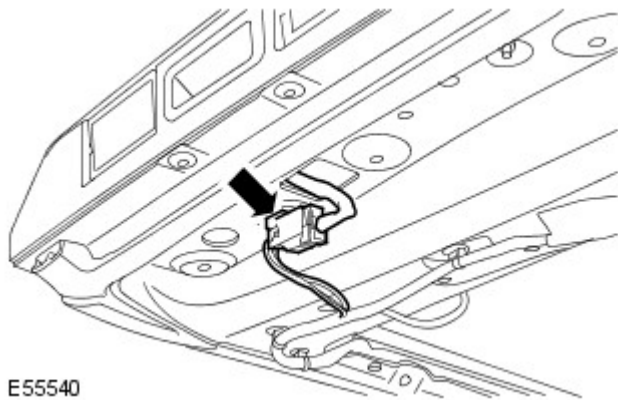
8. Disconnect the high mounted stoplamp electrical connector.



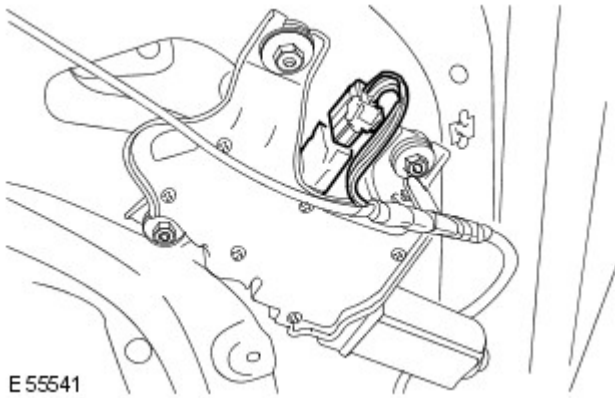
9. Disconnect both heated rear window electrical connectors.



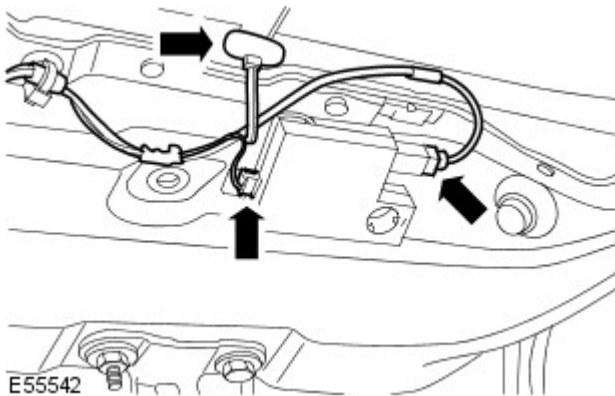
10. Disconnect the license plate lamp electrical connector.



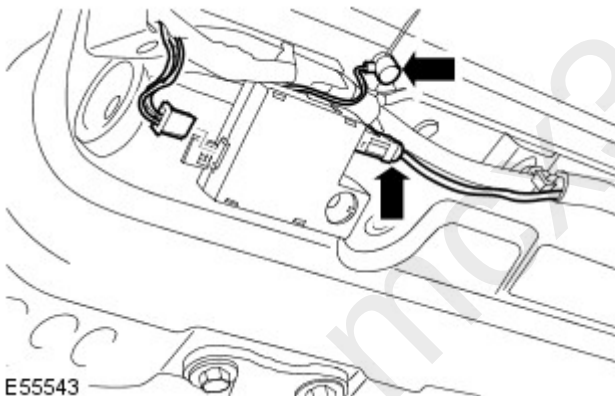
11. Disconnect the wiper motor electrical connector.



12. If installed, disconnect the diversity amplifier electrical connector and antenna cable.

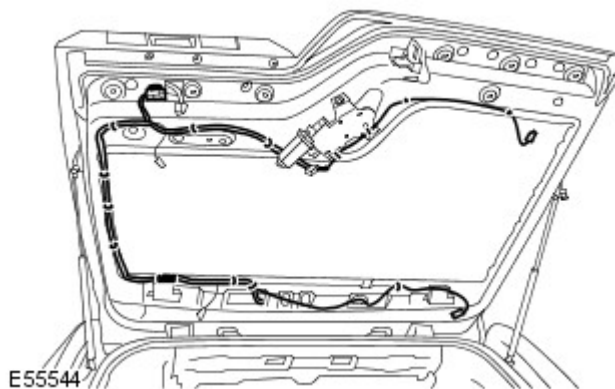


13. If installed, disconnect the navigation system traffic amplifier electrical connector and antenna cable.



14. Remove the liftgate wiring harness.

- Release the 15 clips.



Installation

1. Install the liftgate wiring harness.
 - If installed, connect the navigation system traffic amplifier electrical connector and antenna cable.
 - Secure the clips.

3. If installed, connect the diversity amplifier electrical connector and antenna cable.
4. Connect the wiper motor electrical connector.
5. Connect the license plate lamp electrical connector.
6. Connect the heated rear window electrical connectors.
7. Connect the high mounted stoplamp electrical connector.
8. Attach the liftgate wiring harness.
 - Install the grommet.
 - Connect the electrical connectors.
9. Install the rear headliner trim panel.
 - Connect the electrical connector.
 - Secure with the clips.
10. Install the liftgate side trim panel.
 - Secure with the clips.
 - Repeat the above procedure for the other side.
11. Install the liftgate upper trim panel.
 - Secure with the clips.
12. Install the liftgate lower trim panel.
For additional information, refer to: [Liftgate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
13. Connect the battery ground cable.
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

Wiring Harnesses - Right Hand Parking Aid Camera Wiring Harness

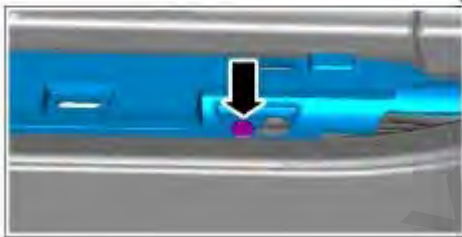
Removal and Installation

Removal



CAUTION: Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

1. Remove the LH front seat. For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).
2. Repeat procedure for the other side.
3. Remove the floor console. For additional information, refer to: [Floor Console](#) (501-12 Instrument Panel and Console, Removal and Installation).
4. Remove the LH scuff plate trim panel. For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
5. Repeat procedure for the other side.
6. Release the wiring harness cover.
 - Release the 3 clips.



E134771

7. Repeat procedure for the other side.
8. Remove the RH cowl side trim panel. For additional information, refer to: [Cowl Side Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
9. Remove the accelerator pedal assembly. For additional information, refer to: [Accelerator Pedal](#) (310-02A Acceleration Control - TDV6 2.7L Diesel, Removal and Installation).



E135435

10. Remove the dynamic response module.

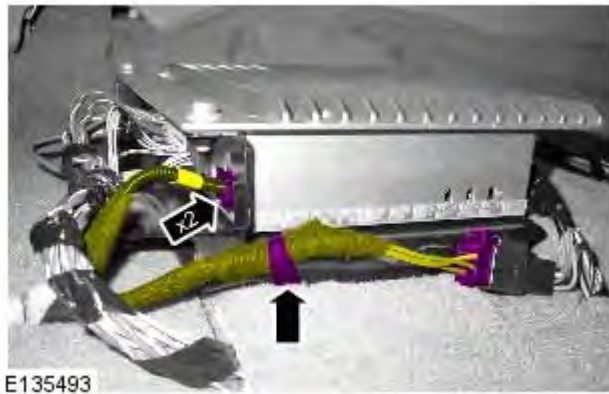
- Remove the 2 bolts.
- Disconnect the 2 electrical connectors.



E135494

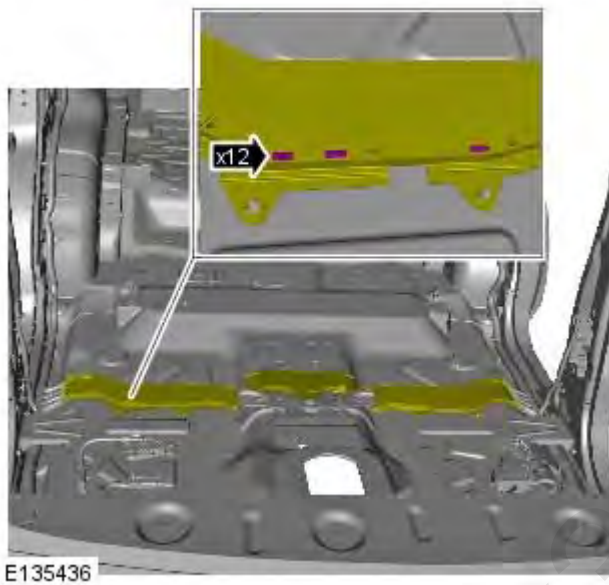
11. Disconnect the 2 electrical connectors.

- Release the 3 clips.



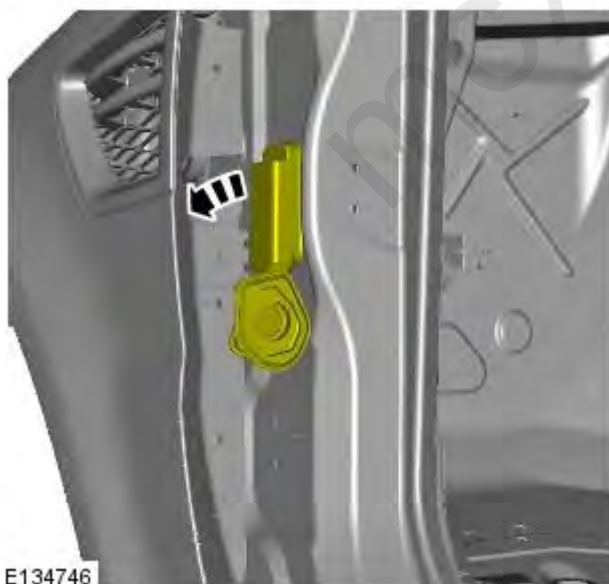
12. Disconnect the 2 electrical connectors.

- Release the clip.



13. Release the wiring harness cover.

- Reposition the floor covering for access.
- Using a suitable tool, carefully cut through the wiring harness cover retaining tape.
- Release the 12 clips.



14. NOTE: Door shown removed for clarity.

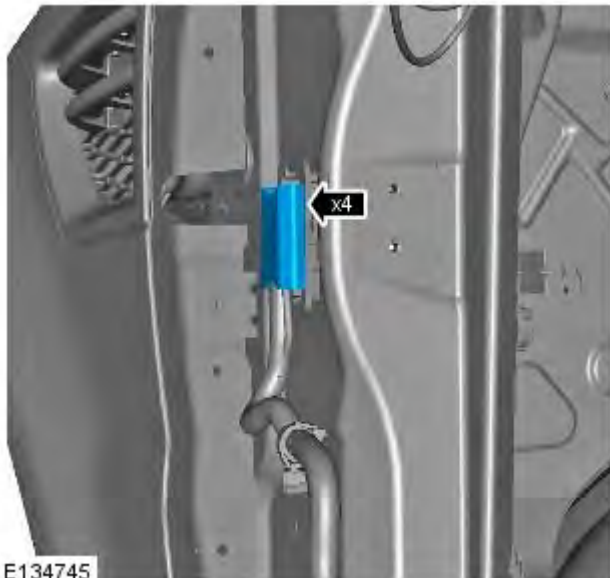
- NOTE: Left-hand shown, right-hand similar.

Release the gaiter.

15. NOTE: Left-hand shown, right-hand similar.

Remove the wiring harness cover.

- Release the 4 clips.

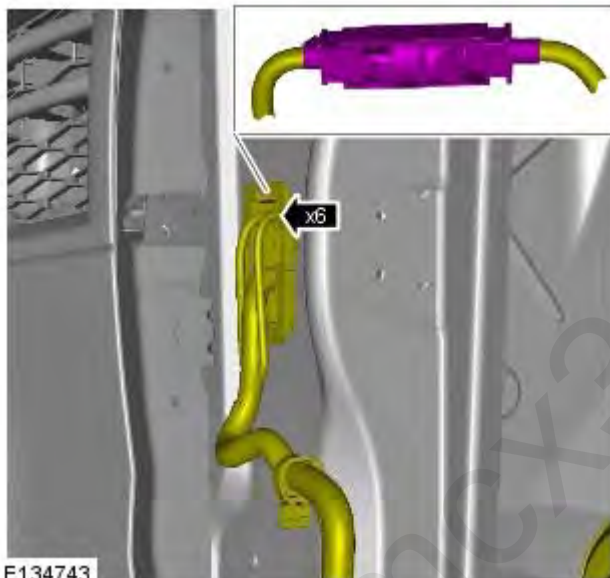


E134745

16. NOTE: Left-hand shown, right-hand similar.

Disconnect the electrical connector.

- Release the electrical connector bracket.
- Release the 6 clips.



E134743

17. Disconnect the electrical connector.



E134752

Installation



E135323

1.  **CAUTION:** Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

Install the camera overlay wiring harness

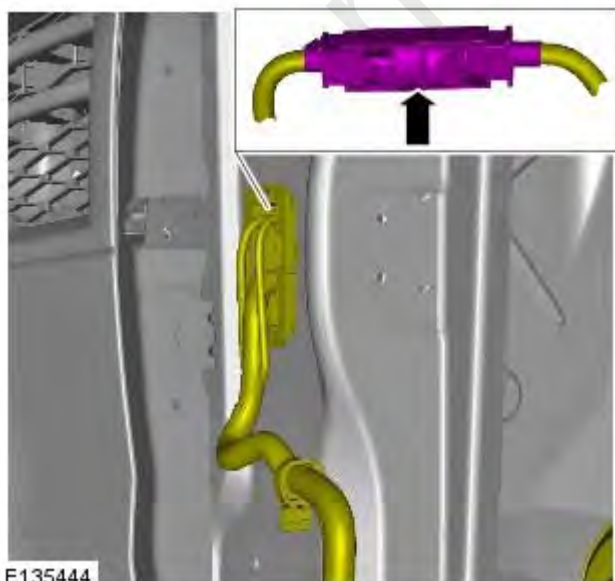
2.  **CAUTION:** Make sure that excessive force is not used when installing the tie straps to the wiring harness. Failure to follow this instruction may result in damage to the vehicle.

Carefully feed the camera overlay wiring harness along the main body wiring harness from the camera module to the RH A-pillar.

- Using suitable tie straps, secure the camera overlay wiring harness to the main body wiring harness.

3. **NOTE:** Left-hand shown, right-hand similar.

Connect the electrical connector.

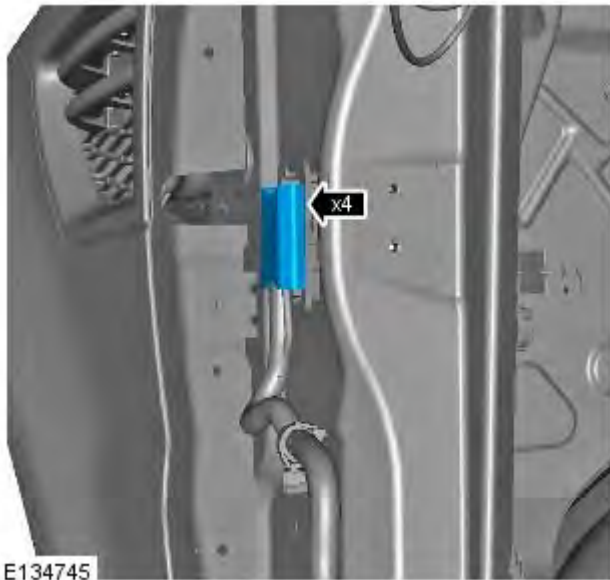


E135444

4. NOTE: Left-hand shown, right-hand similar.

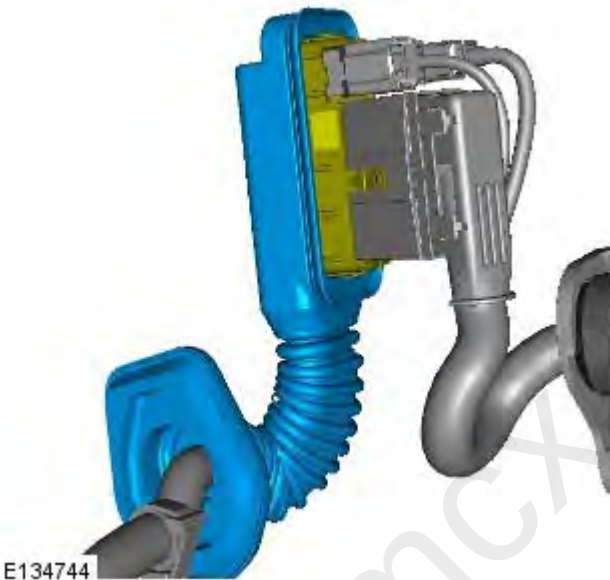
Install the wiring harness cover.

- Secure the 4 clips.



5. NOTE: Left-hand shown, right-hand similar.

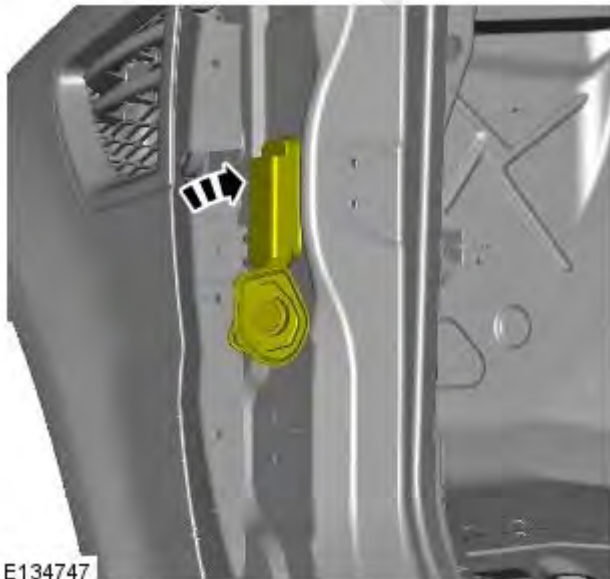
Install the gaiter.

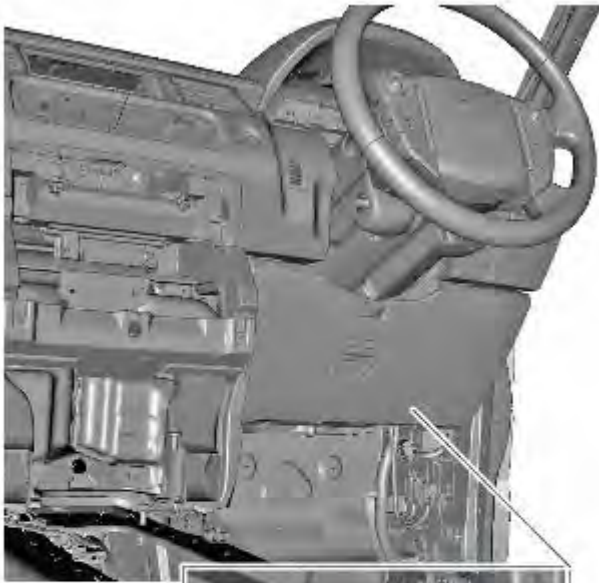


6. NOTE: Left-hand shown, right-hand similar.

Secure the bracket.

- Secure the 6 clips.

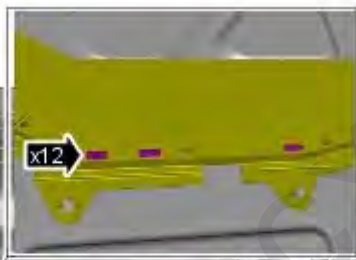
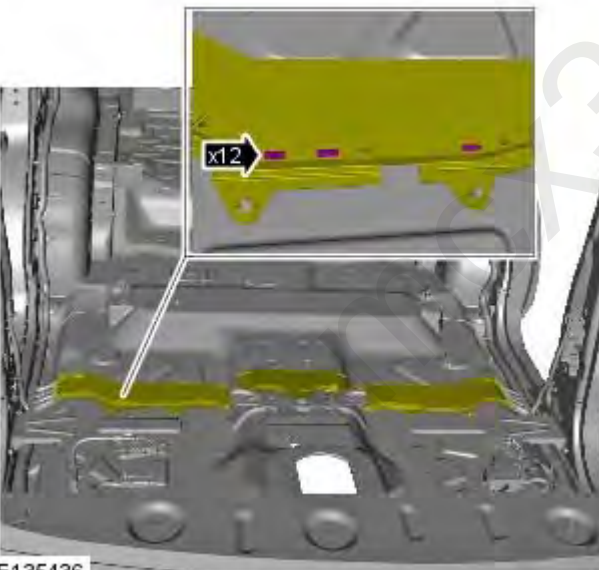




E135435

7. Install the dynamic response module.

- Connect the 2 electrical connectors.
- Tighten the 2 bolts.



E135436

8. Secure the wiring harness cover.

- Secure the 12 clips.
- Re-apply suitable tape to the wiring harness cover in the positions previously secured.
- Install the floor covering.

9. Connect the 2 electrical connectors.

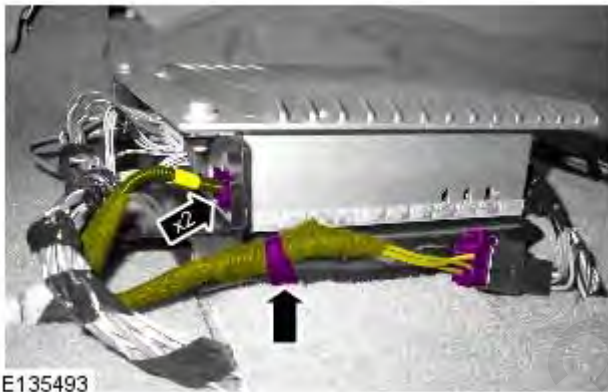
- Secure the 3 clips.



E135494

10. Connect the 2 electrical connectors.

- Secure the clip.



E135493

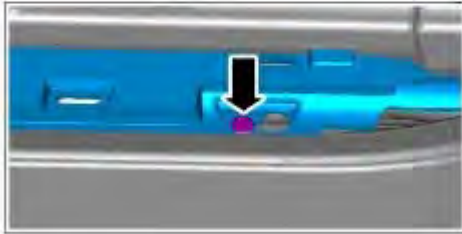
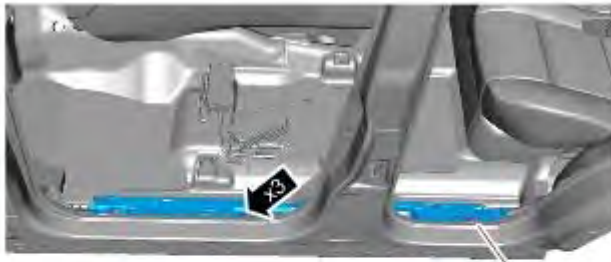
11. Connect the electrical connector.



E134752

12. Install the accelerator pedal assembly. For additional information, refer to: [Accelerator Pedal](#) (310-02A Acceleration Control - TDV6 2.7L Diesel, Removal and Installation).

13. Install the RH cowl side trim panel. For additional information, refer to: [Cowl Side Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).



E134771

14. Install the LH wiring harness cover.

- Secure the 3 clips.

15. Repeat procedure for the other side.

16. Install the LH scuff plate trim panel. For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

17. Repeat procedure for the other side.

18. Install the floor console. For additional information, refer to: [Floor Console](#) (501-12 Instrument Panel and Console, Removal and Installation).

19. Install the LH front seat. For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).

20. Repeat procedure for the other side.

Wiring Harnesses - Rear Parking Aid Camera Wiring Harness

Removal and Installation

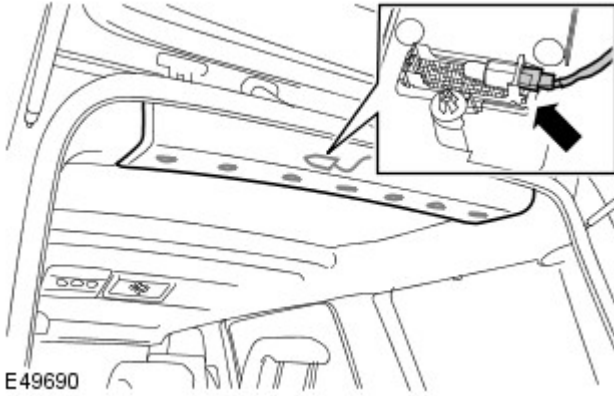
Removal



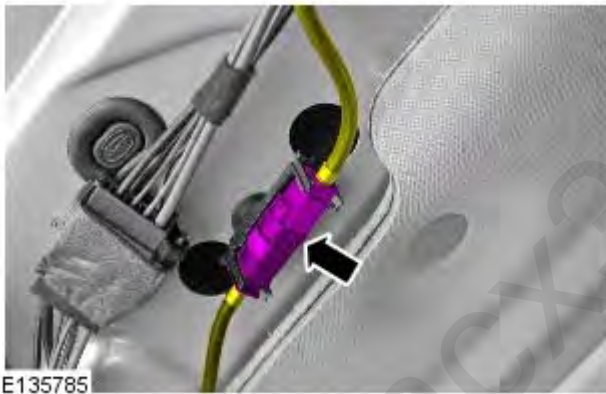
CAUTION: Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

1. Remove the LH D-pillar trim panel.
For additional information, refer to: [D-Pillar Trim Panel](#) (501-05 Interior Trim and Oramentation, Removal and Installation).
2. Remove the rear headliner trim panel.

- Release the 7 clips.
- Disconnect the electrical connector.



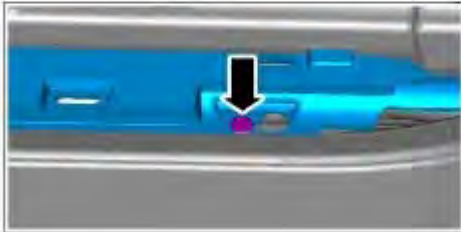
3. Disconnect the electrical connector.



4. Remove the LH front seat.
For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).
5. Remove the LH scuff plate trim panel.
For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Oramentation, Removal and Installation).

6. Release the wiring harness cover.

- Release the 3 clips.



E134771

7. Disconnect the electrical connector.



E134749

Installation



E135323

1.  **CAUTION:** Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

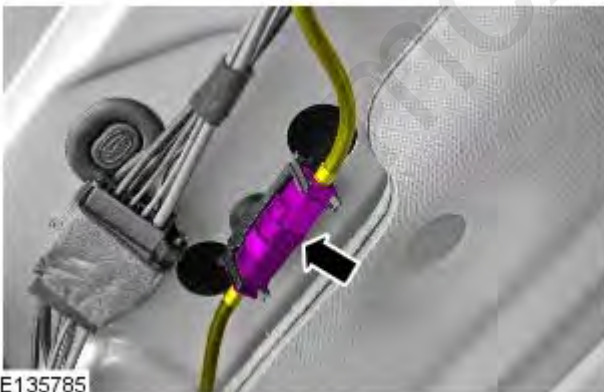
Install the camera overlay wiring harness

2. Feed the camera overlay wiring harness along the main wiring harness to the parking aid camera module.

3.  **CAUTION:** Make sure that excessive force is not used when installing the tie straps to the wiring harness. Failure to follow this instruction may result in damage to the harness.

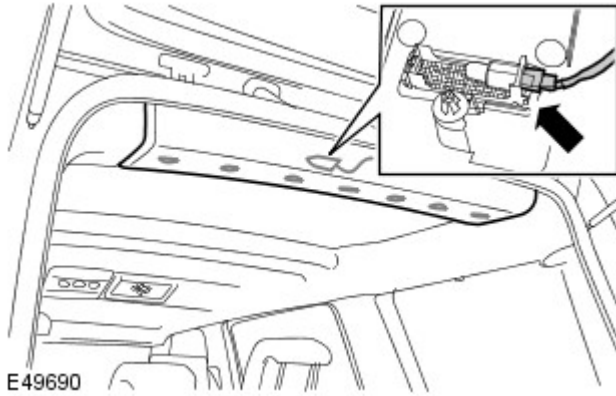
Using suitable tie straps, secure the camera overlay wiring harness to the main body wiring harness.

4. Connect the electrical connector.



E135785

5. Install the LH D-pillar upper trim panel.
For additional information, refer to: [D-Pillar Trim Panel](#) (501-05 Interior Trim and Ornammentation, Removal and Installation).



6. Install the rear headliner trim panel.

- Connect the electrical connector.
- Secure the 7 clips.

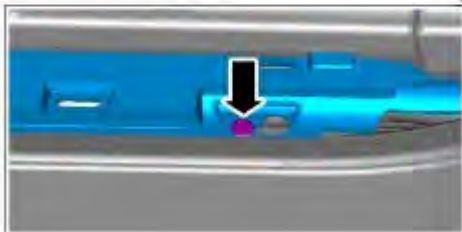


7. Connect the electrical connector.



8. Secure the wiring harness cover.

- Secure the 3 clips.



E134771

9. Install the LH scuff plate trim panel.

For additional information, refer to: [Scuff Plate Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

10. Install the LH front seat.

For additional information, refer to: [Front Seat](#) (501-10 Seating, Removal and Installation).

Wiring Harnesses - Parking Aid Camera Signal Filter

Removal and Installation

Removal

- NOTE: Identify the correct parking aid camera wiring harness:

- The LH front camera has white connectors.
- The rear camera has blue connectors.
- The LH side view camera has green connectors.
- The RH front camera has black connectors.
- The RH side view camera has magenta connectors.

1. Re-position the LH front seat to the full forward and full height position.

2. CAUTIONS:



Make sure that the camera wiring harness and link leads are not bent excessively during these procedures. Failure to follow this instruction may result in damage to the harness.



Make sure that any tie straps used are not tightened excessively on the camera wiring harness and link leads, Failure to follow this instruction may result in damage to the harness.

Take care when handling the wiring harness and link lead.



E135323

3. NOTE: RH front camera shown, other parking aid cameras similar.

- NOTE: LH front seat shown removed for clarity.

Disconnect the appropriate electrical connector.



E134751

Installation

1. NOTE: Make sure that the dual lock tape is adhered to the side of the parking aid camera signal filter that has writing on.

Secure one piece of the dual lock tape to the parking aid camera signal filter.

- Remove the backing strip from the dual lock tape.



2.  CAUTION: Do not remove the backing strip from the second piece of dual lock tape.

Secure another piece of the dual lock tape to the parking aid camera signal filter.



3. NOTE: RH front camera, LH front camera and rear camera only.

Install the link lead to the parking aid camera signal filter.



4. NOTE: RH front camera, LH front camera and rear camera only.

• NOTE: RH front camera shown, LH front camera and rear camera similar.

Connect the parking aid camera signal filter assembly to the camera wiring harness.





5. NOTE: RH front camera, LH front camera and rear camera only.

- NOTE: RH front camera shown, LH front camera and rear camera similar.

Connect the camera wiring harness link lead to the module.



6. NOTE: RH front camera only

- NOTE: Make sure that the parking aid camera signal filter is in the correct position before securing the dual lock tape to the seat base.

Secure the parking aid camera signal filter to the seat base in the position shown.

- Remove the backing strip from the dual lock tape.



7. NOTE: LH front camera only

- NOTE: Make sure that the parking aid camera signal filter is in the correct position before securing the dual lock tape to the seat base.

Secure the parking aid camera signal filter to the seat base in the position shown.

- Remove the backing strip from the dual lock tape.

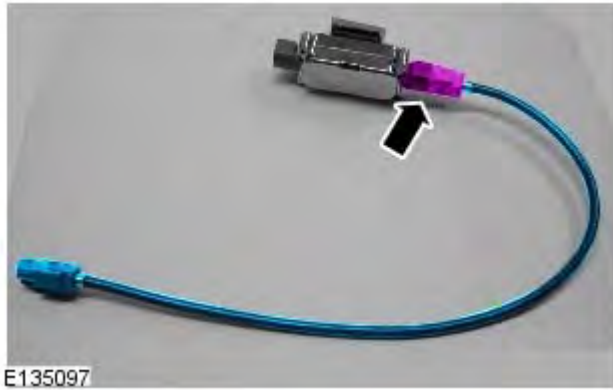


8. NOTE: Rear camera only

- NOTE: Make sure that the parking aid camera signal filter is in the correct position before securing the dual lock tape to the seat base.

Secure the parking aid camera signal filter to the seat base in the position shown.

- Remove the backing strip from the dual lock tape.



9. NOTE: RH side view camera and LH side view camera only

Install the longer link lead to the parking aid camera signal filter.



10. NOTE: RH side view camera and LH side view camera only

- NOTE: RH side view camera shown, LH side view camera similar.

Install the shorter link lead to the camera wiring harness.



11. NOTE: RH side view camera only.

- NOTE: Make sure that the parking aid camera signal filter is in the correct position before securing the dual lock tape to the vehicle.

Install the parking aid camera signal filter assembly.

- Connect the parking aid camera signal filter assembly to the module.
- Connect the parking aid camera signal filter assembly to the camera wiring harness link lead.
- Remove the backing strip from the dual lock tape.
- Secure the parking aid camera signal filter to the vehicle in the position shown.



12. NOTE: RH side view camera only.

Using a suitable tie strap, secure the camera wiring harness to the seat base in the position shown.

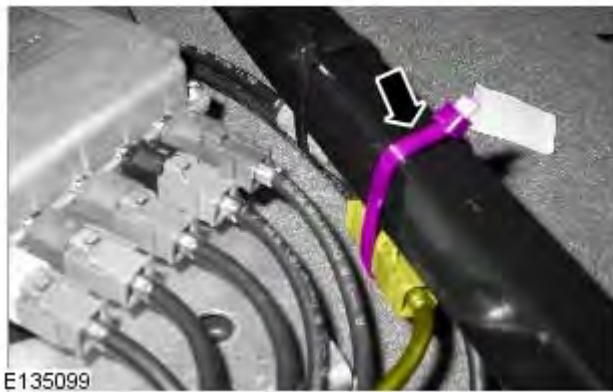


13. NOTE: LH side view camera only.

- NOTE: Make sure that the parking aid camera signal filter is in the correct position before securing the dual lock tape to the vehicle.

Install the parking aid camera signal filter assembly.

- Connect the parking aid camera signal filter assembly to the module.
- Connect the parking aid camera signal filter assembly to the camera wiring harness link lead.
- Remove the backing strip from the dual lock tape.
- Secure the parking aid camera signal filter to the vehicle in the position shown.



14. NOTE: LH side view camera only.

Using a suitable tie strap, secure the camera wiring harness to the seat base in the position shown.



15. NOTE: RH side view camera and LH side view camera only

Make sure that the wiring harness is correctly routed and does not contact against the modules in the positions shown.

Wiring Harnesses - Front Parking Aid Camera Wiring Harness – Bumper Section

Removal and Installation

Removal

1.  **WARNING:** Make sure to support the vehicle with axle stands.

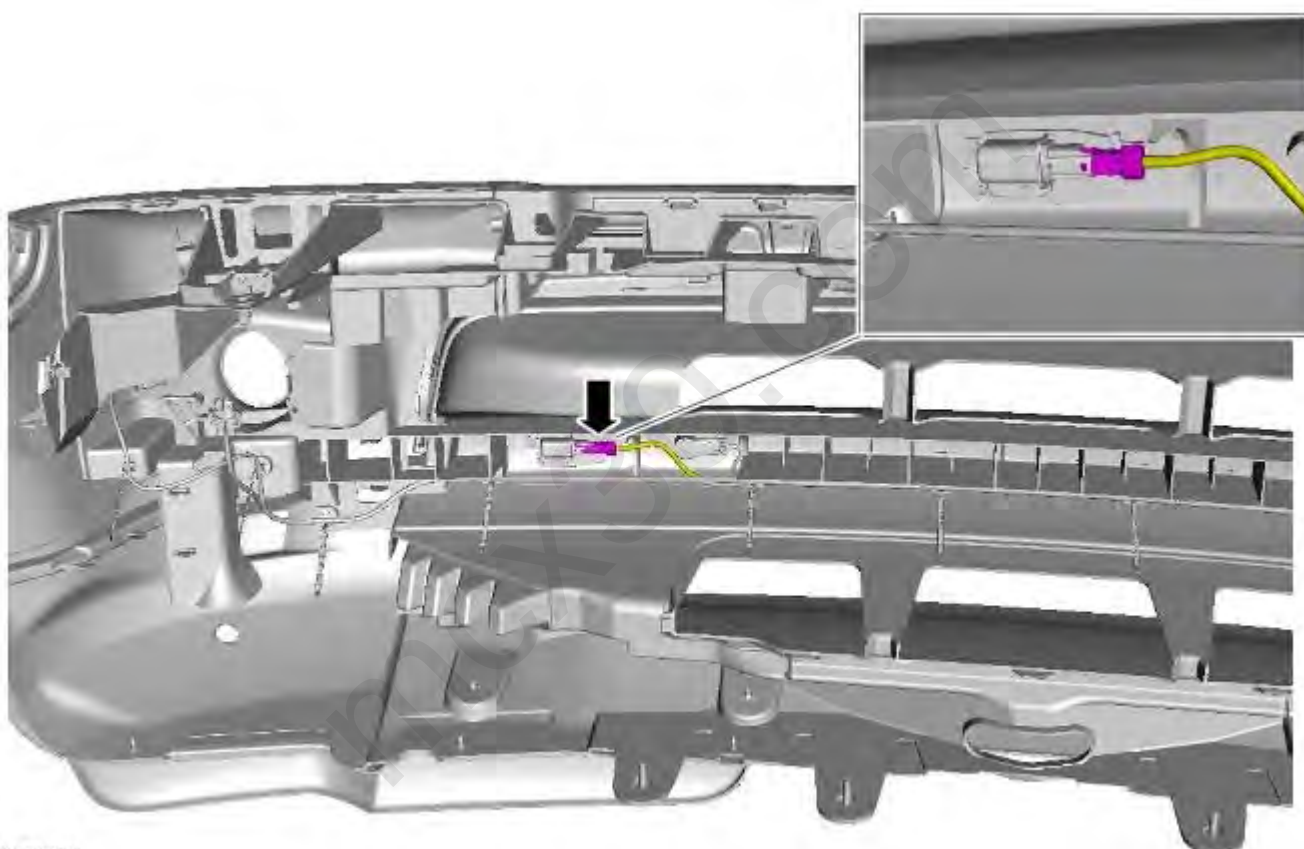
Raise and support the vehicle.

2. Remove the front bumper cover.
For additional information, refer to: [Front Bumper Cover](#) (501-19 Bumpers, Removal and Installation).

3. **NOTE:** Some variation in the illustrations may occur, but the essential information is always correct.

- **NOTE:** Left-hand shown, right-hand similar.

Disconnect the electrical connector.



E136379

Installation



1.  **CAUTION:** Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

Install the wiring harness

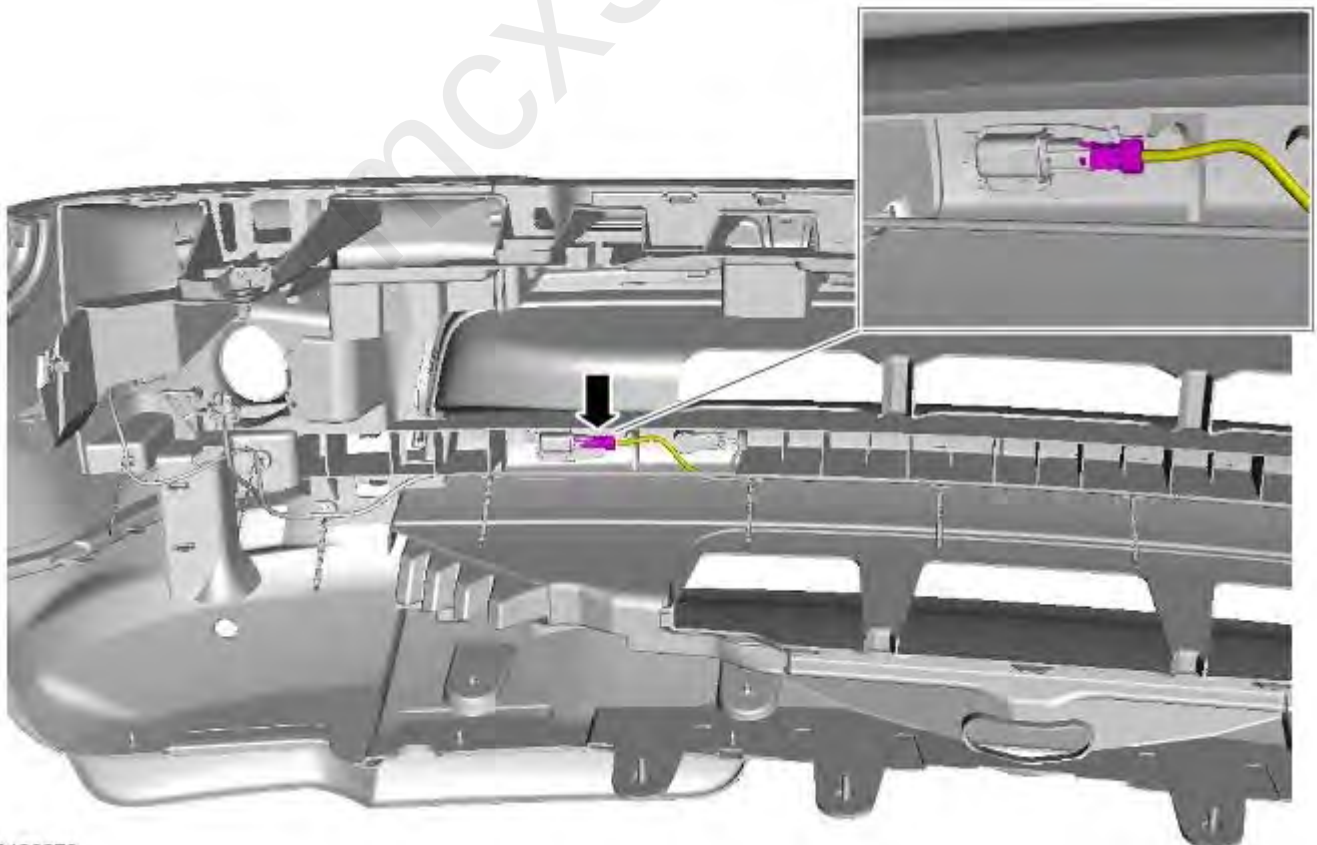


E135323

2. **NOTE:** Some variation in the illustrations may occur, but the essential information is always correct.

- **NOTE:** Left-hand shown, right-hand similar.

Connect the electrical connector.



E136379

3.  CAUTION: Make sure that excessive force is not used when installing the tie straps to the wiring harness. Failure to follow this instruction may result in damage to the vehicle.

Using suitable tie straps, secure the camera overlay wiring harness to the bumper wiring harness.

4. Install the front bumper cover.
For additional information, refer to: [Front Bumper Cover](#) (501-19 Bumpers, Removal and Installation).

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Wiring Harnesses - Rear Parking Aid Camera Wiring Harness – Liftgate

Section

Removal and Installation

Removal



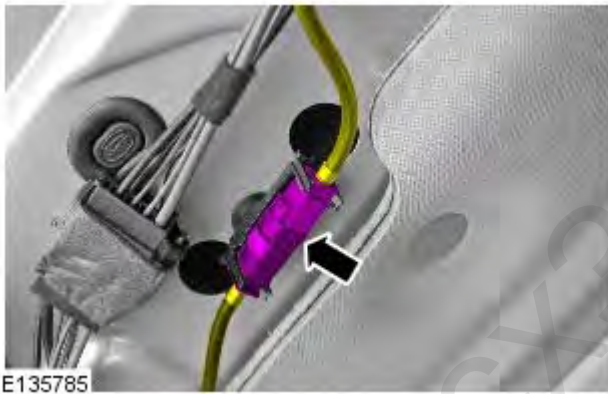
CAUTION: Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

1. Remove the rear headliner trim panel.

- Release the 7 clips.
- Disconnect the electrical connector.



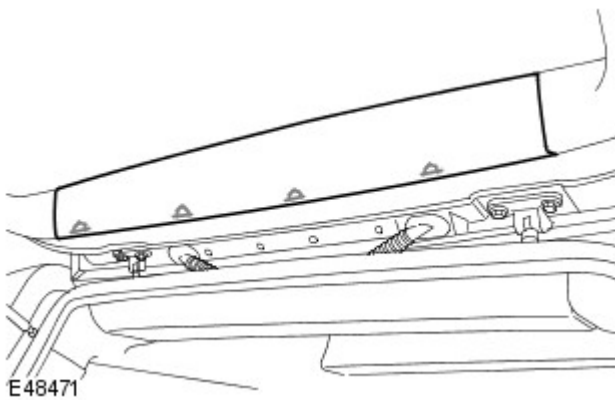
2. Disconnect the electrical connector.



3. Remove the liftgate lower trim panel.
For additional information, refer to: [Liftgate Trim Panel](#) (501-05 Interior Trim and Oramentation, Removal and Installation).

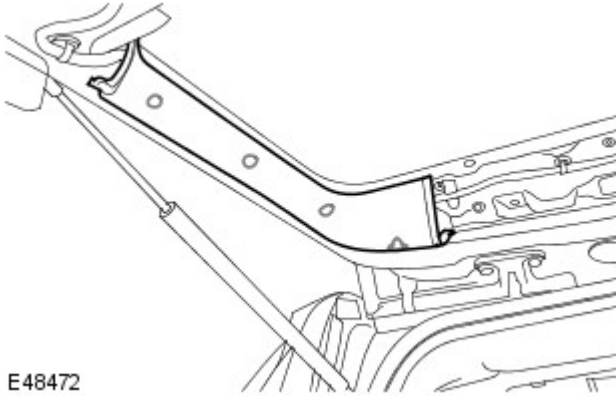
4. Remove the liftgate upper trim panel.

- Release the 4 clips.

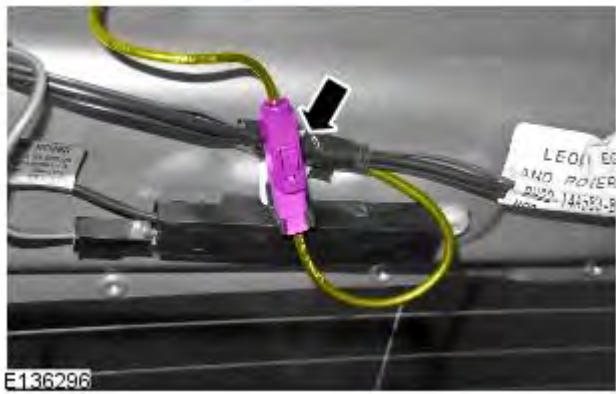


5. Remove the liftgate side trim panel.

- Release the 5 clips.



6. Disconnect the electrical connector.



7. Release the liftgate conduit.



Installation



E135323

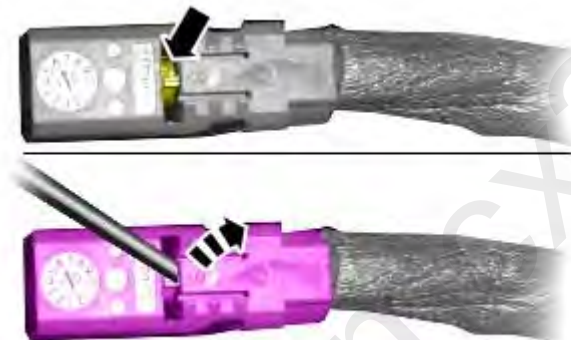
1.  **CAUTION:** Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

Install the camera overlay wiring harness.

2. **NOTE:** Some variation in the illustrations may occur, but the essential information is always correct.

Remove the electrical connector from the camera overlay wiring harness.

- Align the camera wiring harness tang with the electrical connector clip.
- Carefully release the clip.
- Apply suitable tape to protect the end of the camera overlay wiring harness.



E136297

3. Using suitable tape, secure a suitable rod to the camera overlay wiring harness.



E134896



4. Carefully feed the camera overlay wiring harness through the conduit.

5. NOTE: Some variation in the illustrations may occur, but the essential information is always correct.

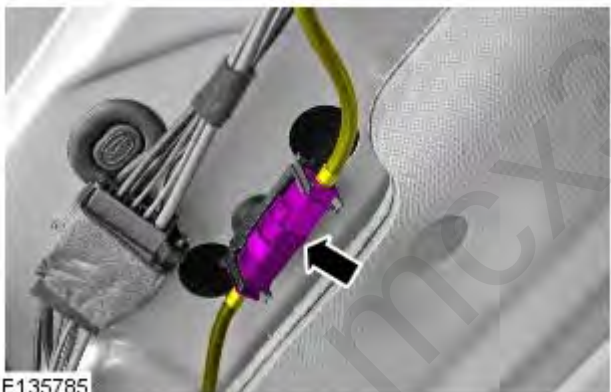
Install the connector to the camera overlay wiring harness.

- Remove the protective tape.
- Align the camera wiring harness tang with the electrical connector clip.
- Install the electrical connector.



E136298

6. Connect the electrical connector.

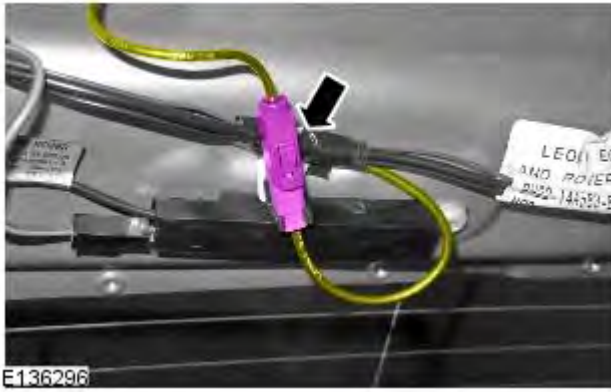


E135785

7.  CAUTION: Make sure that excessive force is not used when installing the tie straps to the wiring harness. Failure to follow this instruction may result in damage to the vehicle.

Using suitable tie straps, secure the camera overlay wiring harness to the tailgate harness.

8. Connect the electrical connector.

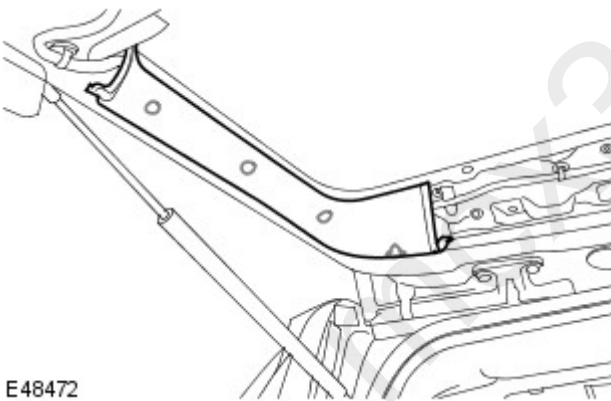


9. Secure the liftgate conduit.



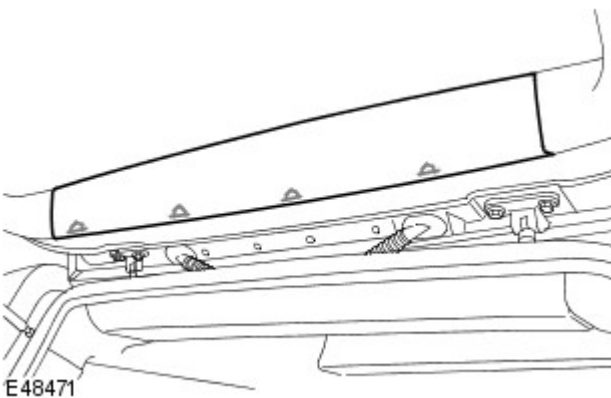
10. Install the liftgate side trim panel.

- Secure the 5 clips.



11. Install the liftgate upper trim panel.

- Secure the 4 clips.



12. Install the liftgate lower trim panel.
For additional information, refer to: [Liftgate Trim Panel](#) (501-05 Interior Trim and Ornammentation, Removal and Installation).

13. Install the rear headliner trim panel.

- Connect the electrical connector.
- Secure the 7 clips.

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Wiring Harnesses - Side Parking Aid Camera Wiring Harness – Front Door

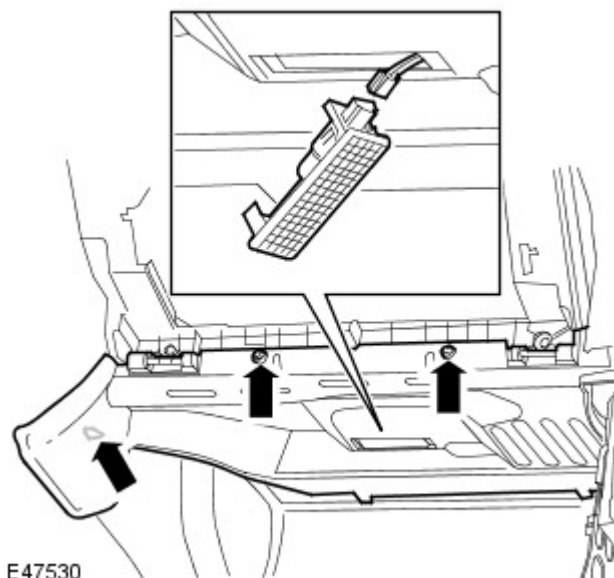
Section

Removal and Installation

Removal

1. Remove the closing trim panel.

- Release the clip.
- Remove the 2 screws.
- Disconnect the electrical connector.



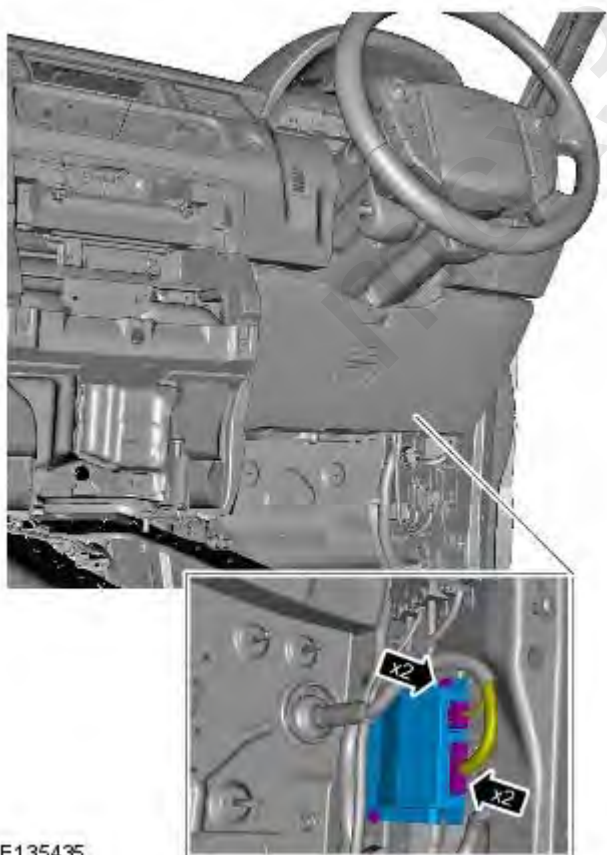
2. Remove the cowl side trim panel.

For additional information, refer to: [Cowl Side Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

3. NOTE: RHD shown, LHD is similar.

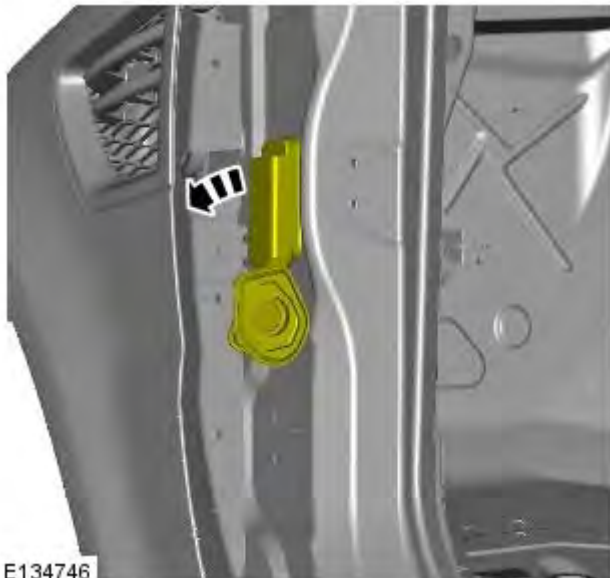
If equipped, remove the dynamic stability control module.

- Disconnect the 2 electrical connectors.
- Remove the 2 bolts.



4. NOTE: Door shown removed for clarity.

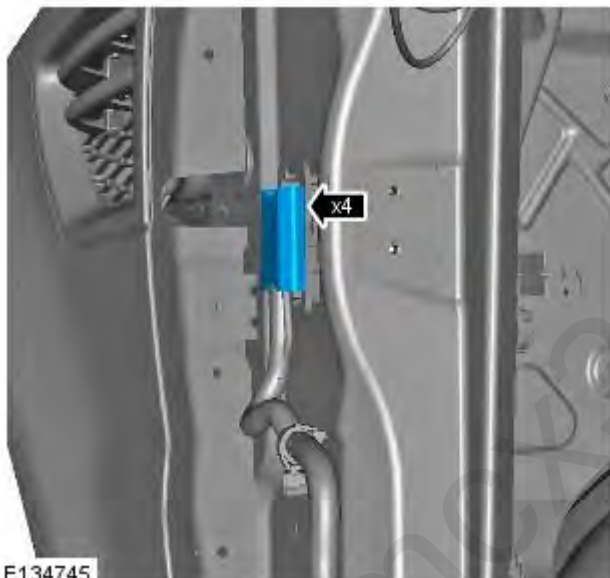
Release the gaiter.



E134746

5. Remove the wiring harness cover.

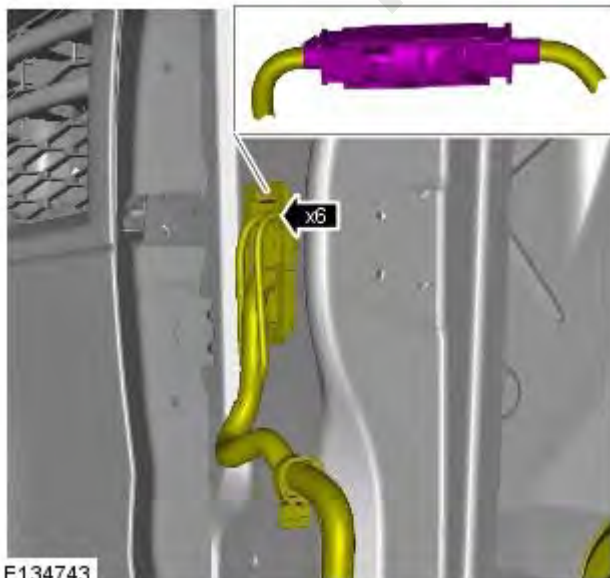
- Release the 4 clips.



E134745

6. Disconnect the electrical connector.

- Release the electrical connector bracket.
- Release the 6 clips.

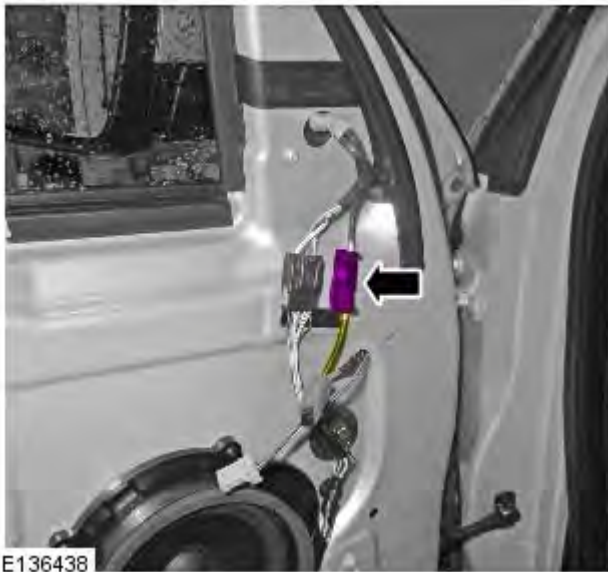


E134743

7. Remove the front door trim panel.

For additional information, refer to: [Front Door Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

8. Disconnect the electrical connector.

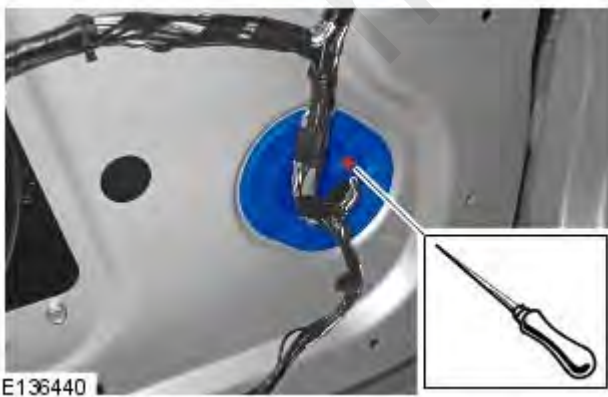


Installation

1. Release the grommet.



2. Using a suitable tool, make a hole in grommet in the position shown.





E135323

3.  **CAUTION:** Make sure that the camera overlay wiring harness is not bent excessively during this procedure. Failure to follow this instruction may result in damage to the harness.

Install the camera overlay wiring harness.

4. **NOTE:** Some variation in the illustrations may occur, but the essential information is always correct.

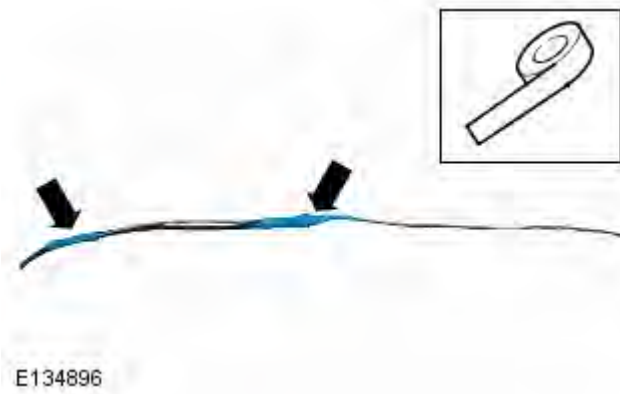
Remove the connector from the camera wiring harness.

- Remove the locking tab.
- Carefully release the clip.
- Apply suitable tape to protect the end of the camera wiring harness.



E133998

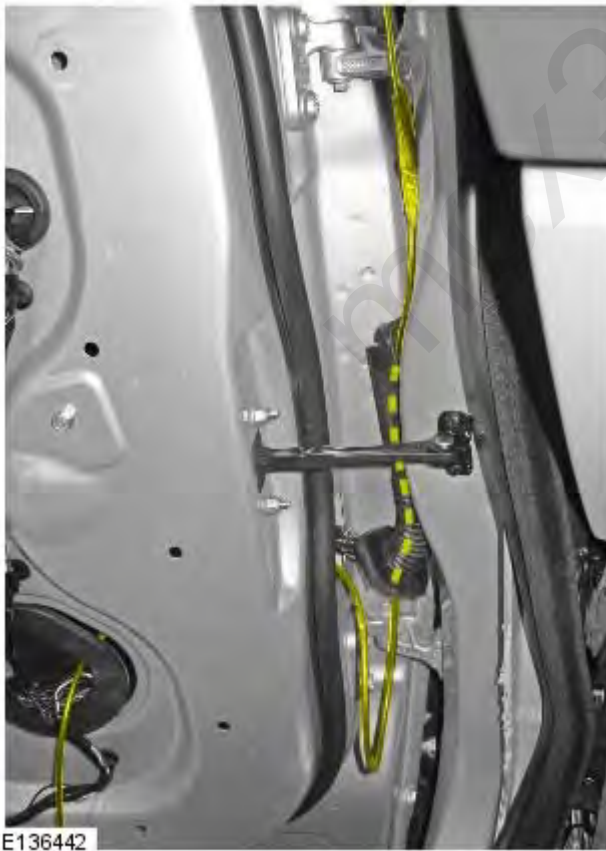
5. Using suitable tape, secure a suitable rod to the camera overlay wiring harness.



6. Carefully feed the wiring harness through the grommet.



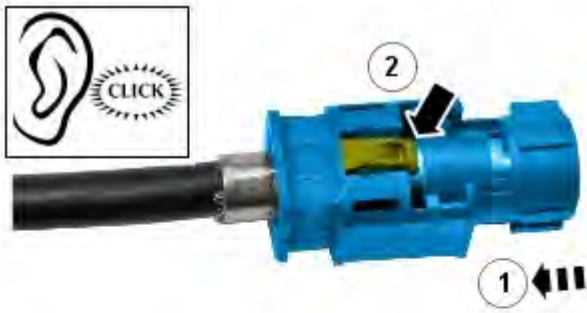
7. Carefully feed the camera overlay wiring harness through the gaiter.



8. NOTE: Some variation in the illustrations may occur, but the essential information is always correct.

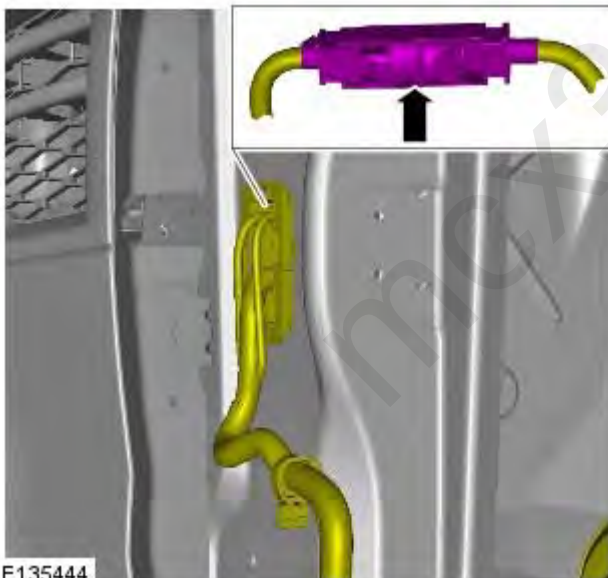
Install the connector to the camera wiring harness.

- Remove the protective tape.
- Install the electrical connector.
- Secure the locking tab.



E134007

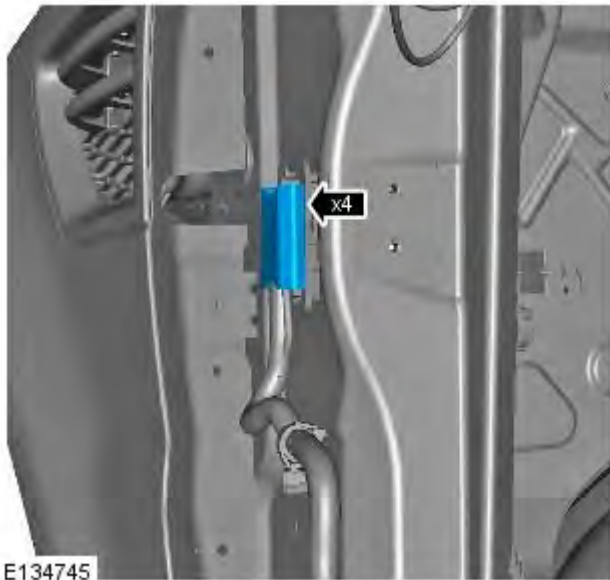
9. Connect the electrical connector.



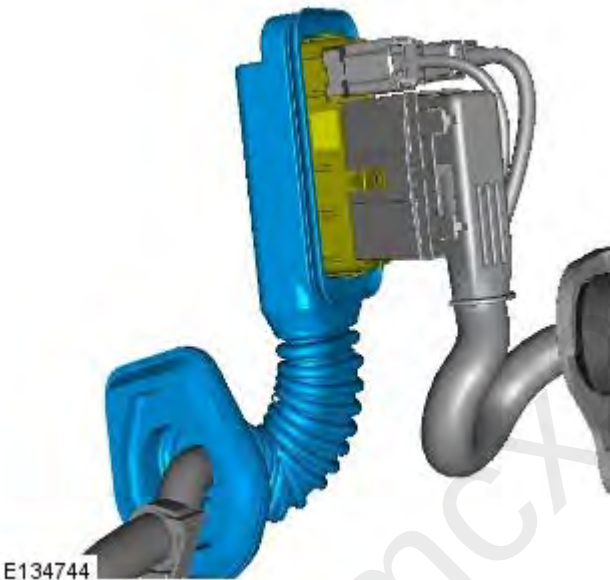
E135444

10. Install the wiring harness cover.

- Secure the 4 clips.

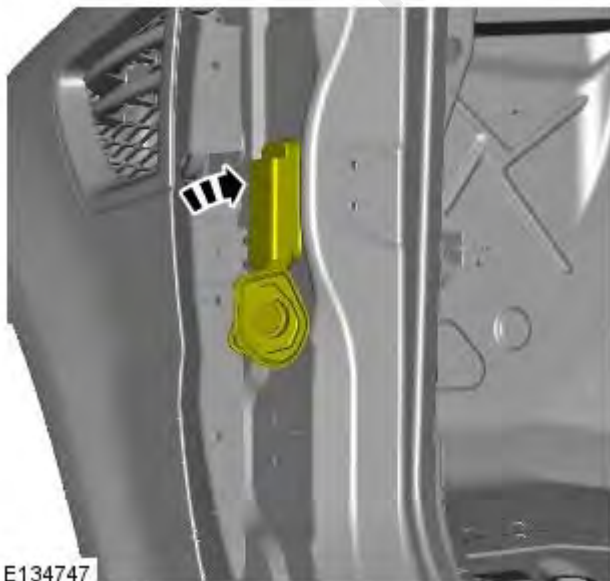


11. Install the gaiter.



12. Secure the bracket.

- Secure the 6 clips.



13. CAUTIONS:

 Make sure that excessive force is not used when installing the tie straps to the wiring harness. Failure to follow this instruction may result in damage to the vehicle.

 Make sure that the camera overlay harness is correctly routed and clear of the front door window regulator and motor. Failure to follow this instruction may result in damage to the vehicle.

Using suitable tie straps, secure the camera overlay harness to the door wiring harness.

14. Secure the grommet.



15. NOTE: RHD shown, LHD is similar.

If equipped, install the dynamic response control module.

- Tighten the 2 bolts.
- Connect the 2 electrical connectors.

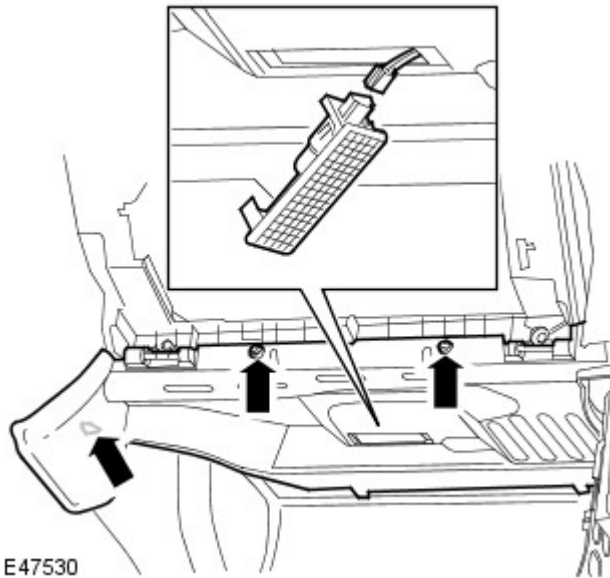


16. Install the cowl side trim panel.

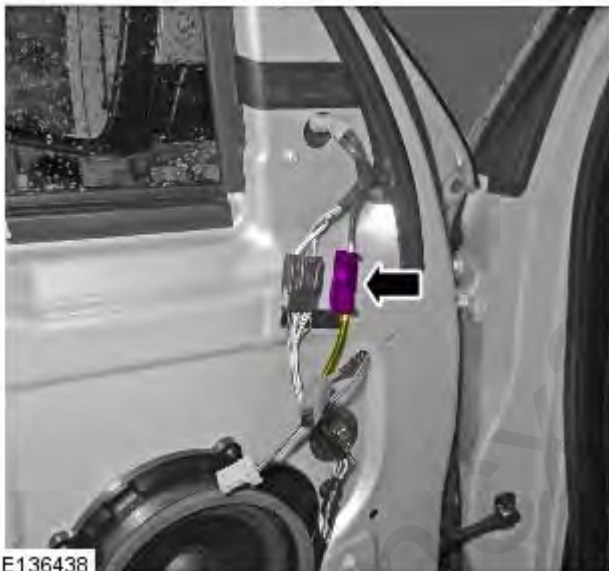
For additional information, refer to: [Cowl Side Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

17. Install the closing trim panel.

- Connect the electrical connector.
- Secure the clip.
- Tighten the screws.



18. Connect the electrical connector.



19. Install the front door trim panel.

For additional information, refer to: [Front Door Trim Panel](#) (501-05 Interior Trim and Oramentation, Removal and Installation).