

Volvo Car Corporation Gothenburg, Sweden

Instruction No 31428063

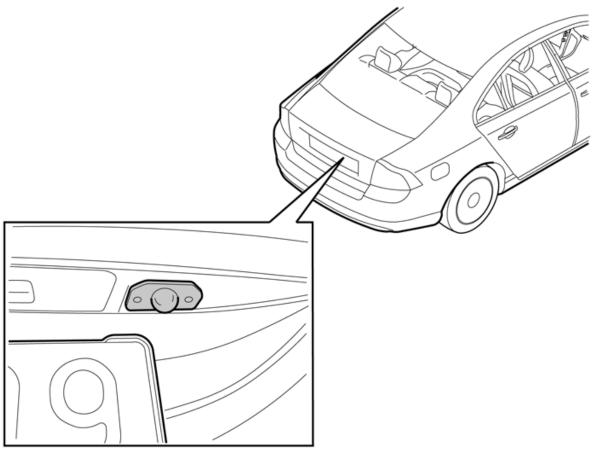
Version

Part. No.

1.0

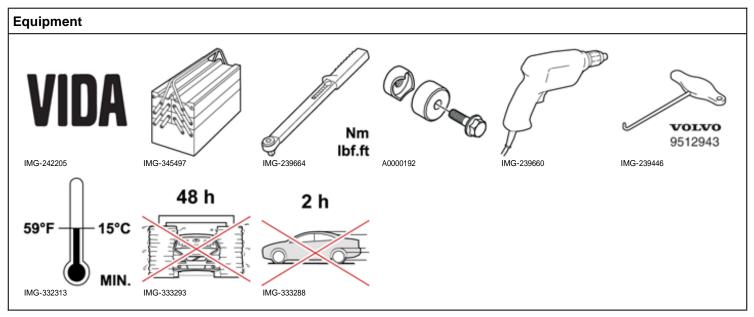
31428061, 31428882

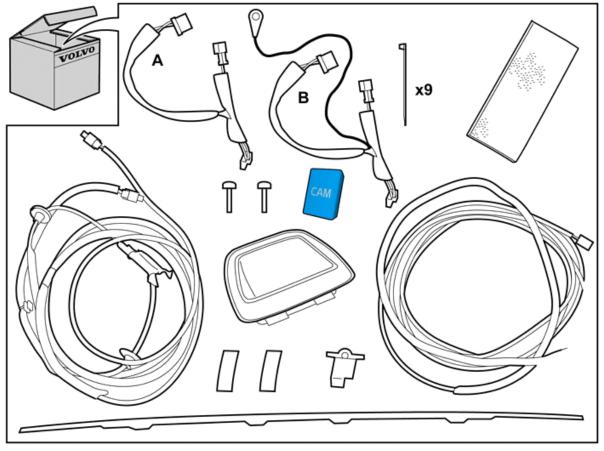
# Parking assistance, camera, rear





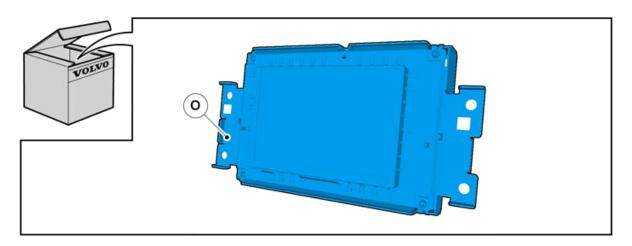
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### INTRODUCTION

Read through all of the instructions before starting installation.

Notifications and warning texts are for your safety and to minimise the risk of something breaking during installation.

Ensure that all tools stated in the instructions are available before starting installation.

Certain steps in the instructions are only presented in the form of images. Explanatory text is also given for more complicated steps.

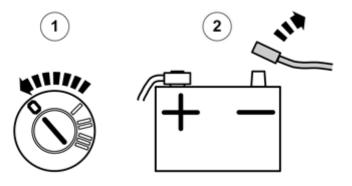
In the event of any problems with the instructions or the accessory, contact your local Volvo dealer.

#### Note!

Some steps in these installation instructions are presented with illustration only.

#### **Preparations**

1



#### **Preparations**

Place the left front seat in its rearmost position.

Set the ignition key to position 0.

Disconnect the battery negative lead.

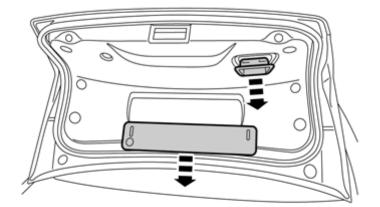
#### Note!

Wait at least one minute before unplugging the connectors or removing other electrical equipment.



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2



Remove the warning triangle from the trunk lid panel.

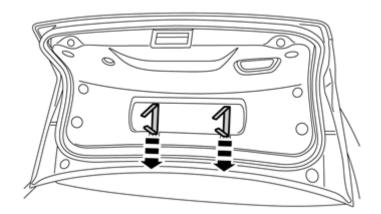
Remove the trunk lid's inner handle by first sliding it upwards and then bending it out at the lower edge using a weatherstrip tool.

#### Note!

The inner handle will no longer be used, there is a new handle in the kit.

IMG-254043

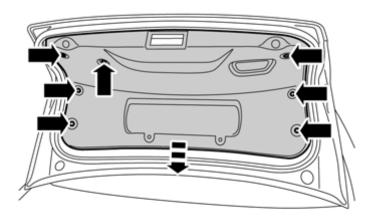
3



Pull out the central pin from the clips for the warning triangle's holder and remove them.

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4

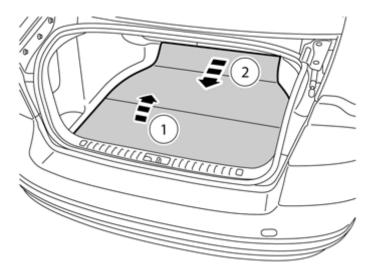


Remove the clips from the trunk lid's panel and remove the panel.



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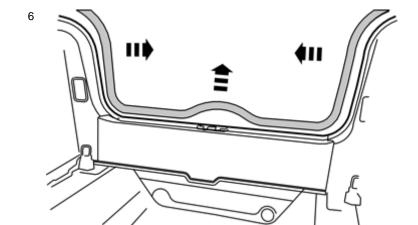
5



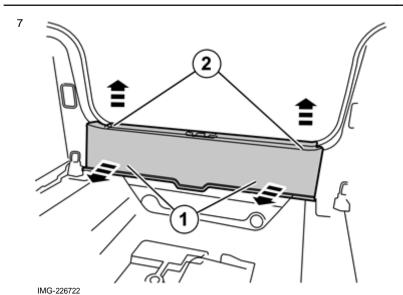
Fold together the cargo compartment carpet (1, 2) and remove it.

IMG-249177

IMG-226721



Detach the rubber weatherstrips from the trunk lid opening.



Remove the trunk lid's sill trim panel. It is secured by two clips at the front edge (1) and two at the upper edge (2).

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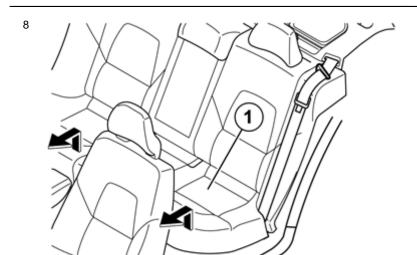
Parking assistance, camera, rear- 31428063 - V1.0



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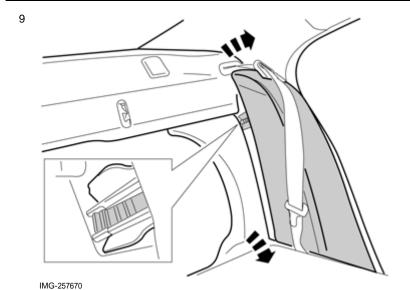
### Installation instructions, accessories

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Remove the seat cushion (1) by pulling up its front edge, pulling it forwards and then lifting it out.

Detach the two connectors for seat heating underneath the seat cushion.



Fold the backrest forward.

Remove the seatbelt from the guide (1) on the side bolster.

Insert a hand from the side of the upper section of the side bolster. Press in the catches properly and jerk the upper edge of the bolster so that the two catches on the other side release. Lift the bolster from the mounting at the lower edge.

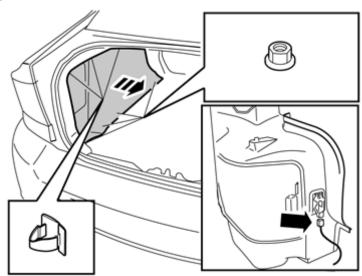


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IMG-254105

### Installation instructions, accessories

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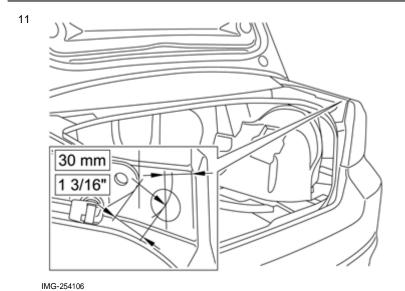


Remove the three clips at the upper edge of the side panel and the four plastic nuts at the lower edge.

Remove the cargo compartment lighting connector.

Lift out the side panel.

Repeat for the other side.



Measure a distance of **30 mm (1 3/16 ")** from the rear edge of the rear fender and mark out a short line parallel to the rear edge. Use a piece of tape to make the markings on.

Measure 30 mm (1 3/16 ") from the rear edge of the gas cylinder's bracket to the previously drawn line. Mark out the middle of the hole that is to be drilled where the lines cross each other.

Pre-drill the hole using a Ø3 mm (1/8") bit.

#### Note!

Use a 5 mm (3/16 ") drill stop.

Drill out the hole to Ø8 mm (5/16") and then to Ø12 mm (15/32") to be able to insert the pull screw through for the hole making tool.

### Note!

Do not damage surrounding painted surfaces.

Remove any swarf.



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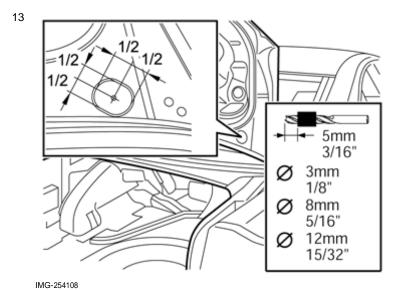
IMG-254107

Use holesaw bit, part.no 9997241 (Ø28.6 mm (1 1/8")), and enlarge the hole.

File down the edges of the holes.

Remove any swarf.

Apply primer **part no. 9437350** around the hole edges and allow to dry.



Measure for making holes for the rubber grommets in the trunk lid's front right-hand corner according to the diagram and mark out the middle.

Pre-drill the hole using a Ø3 mm (1/8") bit.

#### Note!

Use a 5 mm (3/16 ") drill stop.

Drill out the hole to Ø8 mm (5/16 ") and then to Ø12 mm (15/32 ") to be able to insert the pull screw through for the hole making tool.

### Note!

Do not damage surrounding painted surfaces.

Remove any swarf.



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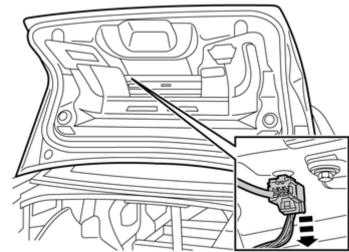
Use holesaw bit part no. 9997241 (Ø28.6 mm (1 1/8")) and enlarge the hole.

File down the edges of the holes.

Remove any swarf.

Apply primer **part no. 9437350** around the hole edges and allow to dry.

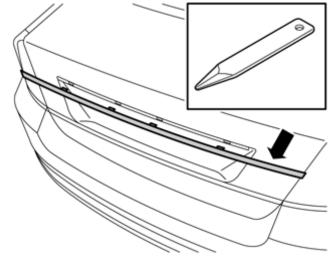




Disconnect the connector for number plate lighting.



IMG-254110



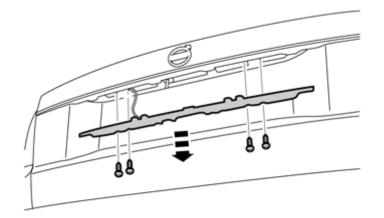
Remove the trunk lid's trim strip by carefully prying it off from the trunk lid and number plate lighting's panel. It is securely fastened and will eventually break. New strip included in the kit.

Remove any tape residue from the trunk lid by heating the steel with a hot air gun. Do not heat above  $80^{\circ}$  C.



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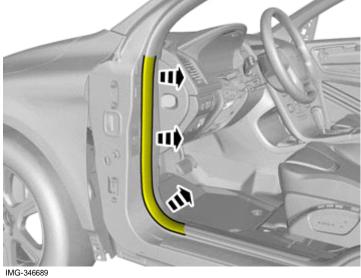


Remove the four screws from the number plate lighting panel and remove it.

Remove the parts of the trim strip if it has broken.

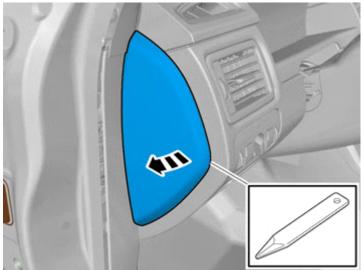
IMG-254112





Remove the rubber strip.

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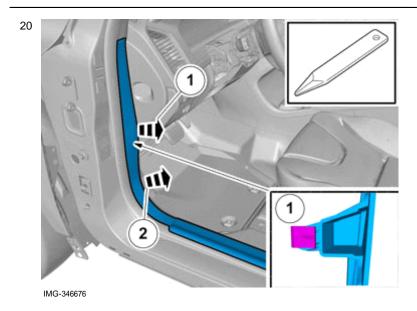


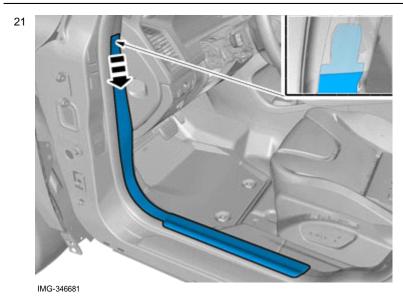
Remove the panel.

IMG-338119 © Volvo Car Corporation



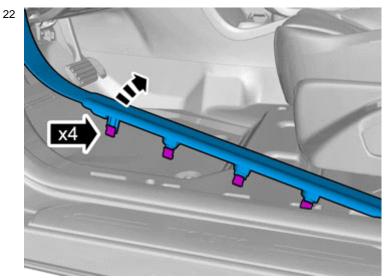
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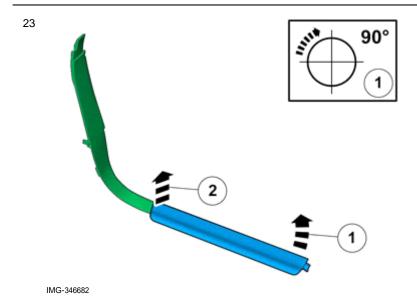


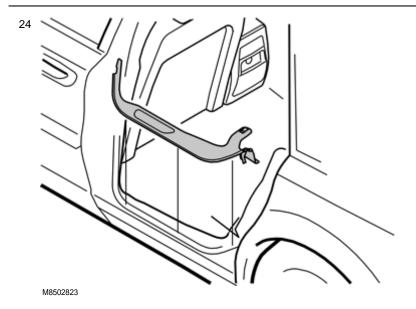


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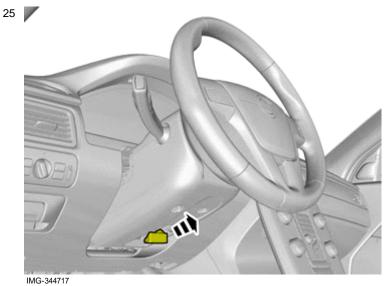




Remove the sill panel in the door opening for the left-hand rear door by carefully pulling it upwards until the four clips release.

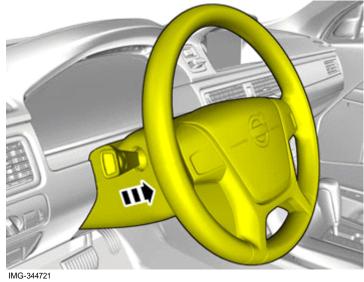


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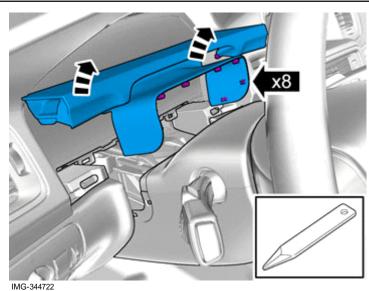


Release the catch.









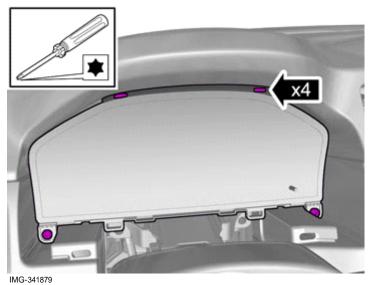
Remove the panel.

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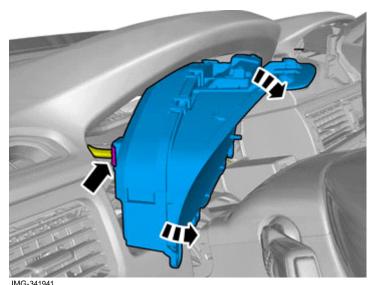
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Remove the screws.

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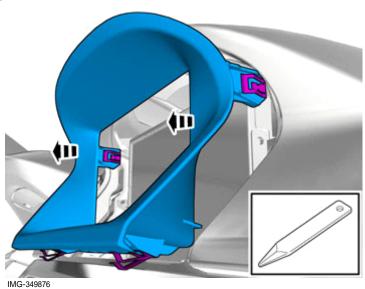


Unplug the connector.



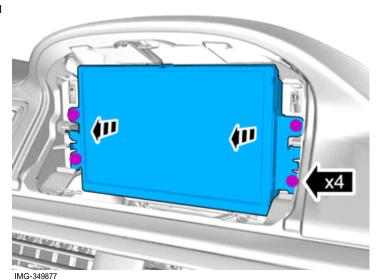
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Remove the panel.

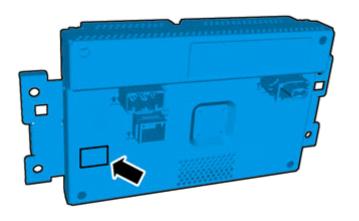
31



Remove the screws.

Remove the panel.

32



### Vehicles with 5 inch ICM display

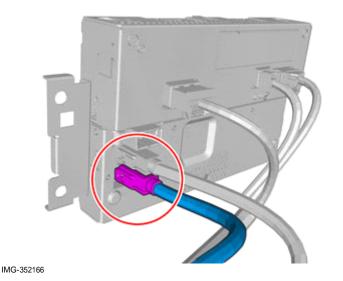
Note!

If there is no connection, replace the display.



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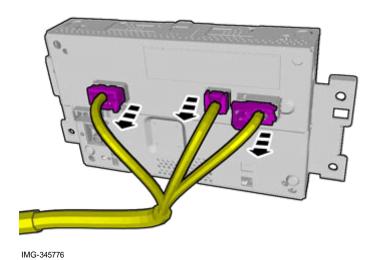


### Vehicles with 7 inch display

Disconnect the connector, if applicable.

Use electrical tape to secure the connector in the existing cable.

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### Note!

The number of connectors, cables and cable ties can vary in the vehicle's equipment level.

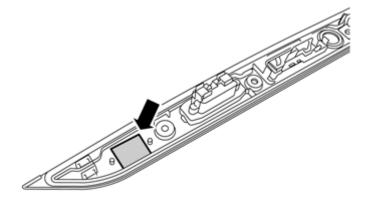
Unplug the connectors.

Installing the parking camera



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### Installing the parking camera

Drill/cut out a hole for the camera in the number plate lighting panel. Then remove the existing markings on the inside of the panel (see image).

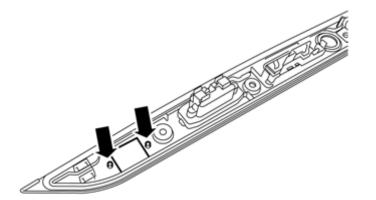
Even off the edges carefully using a fine-toothed file.

#### Note!

Take care not to knock the surface that the camera is to be screwed to or to scratch it so that the seal becomes impaired.

IMG-255733

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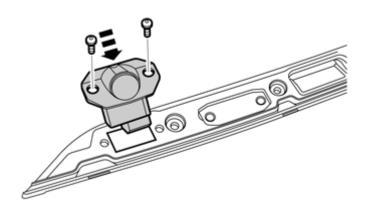


Drill out the holes in the protruding lugs using a **Ø2.5 mm (3/32** ") drill bit.

Remove any swarf.

IMG-255734

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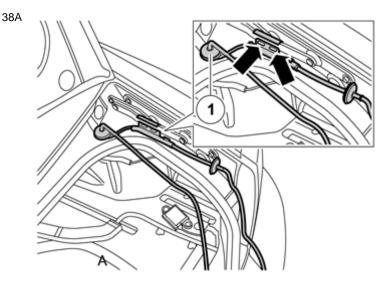
Take two screws and the camera with the seal from the kit.

Screw the screws into the holes on the camera completely so that they rotate freely.

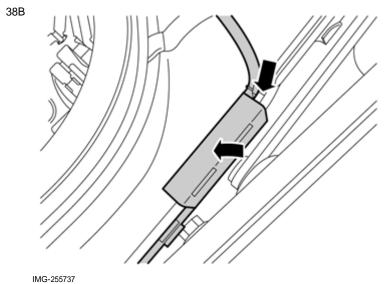
Insert the camera into the hole and screw it into place by tightening the screws crosswise so that the camera is tightened parallel to the panel.



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IMG-255736



#### Illustration A

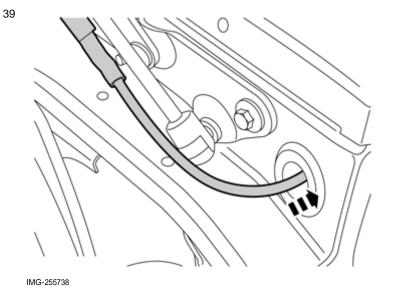
Take the cable harness with the two rubber grommets from the kit. The rubber grommet (1) with the shorter cable end must go through the trunk lid.

Hook the cable holder onto the inner lower edge of the hinge section.

#### Illustration B

Place the cable holder so that the stop in the upper edge locates in the cut-out on the hinge.

Press the cable holder so that the upper section engages in the upper edge of the hinge.



Insert the longer of the cables in the hole on the rear fender and press the rubber grommet securely into place. Ensure that the primer around the hole edges is not damaged.

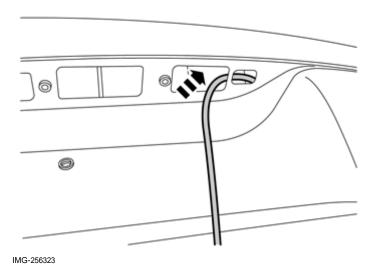
#### Note!

Do not damage the rustproofing agent around the hole edges.



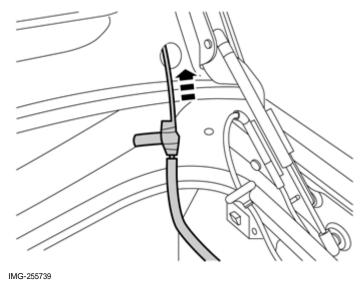
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Insert a wire into the right-hand hole on the trunk lid where the panel for the number plate lighting is, and pull it forwards in the hole on the trunk lid.

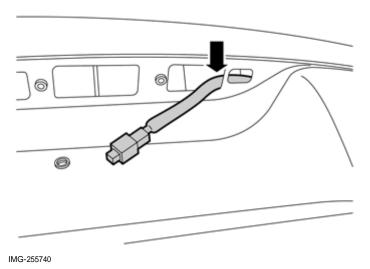
41



Bind the connector to the shorter cable at the routed wire using tape

Pull up the cable through the trunk lid and pull it out through the hole.

42



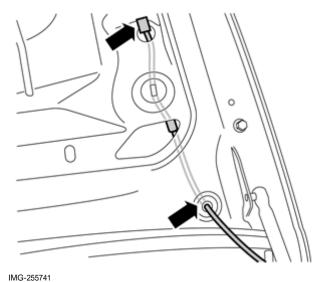
Disconnect the cable from the wire.

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Press the rubber grommet into the trunk lid securely.

#### Note!

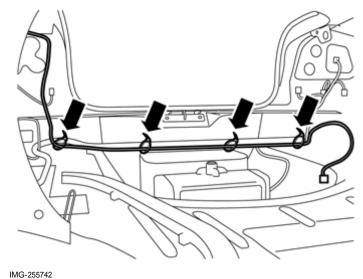
Do not damage the rustproofing agent around the hole edges.

Take the cable with the edge clip from the oval hole in the trunk lid and press the clip onto the hole edge.

### Note!

Check that the cable is not over stretched between the trunk lid and the fender when the trunk lid is full open. Adjust the length of the cable in the rubber grommets.

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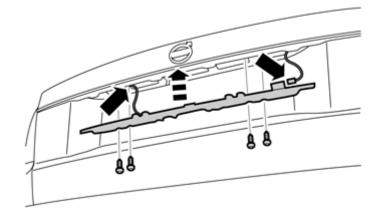
Pull the cable down from the rubber grommet in the rear fender and along the existing cable harness to the left-hand tail lamp.

Clamp the cable using tie straps from the kit as illustrated.



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Take the camera equipped panel for the number plate lighting.

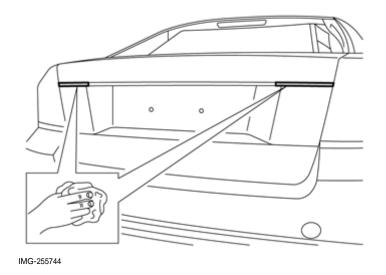
Connect the connector to the routed cable harness for the reversing camera.

Guide the cable for the number plate lighting through the hole in the trunk lid.

Reinstall the panel and tighten. Ensure that the cables for the number plate lighting are not trapped.

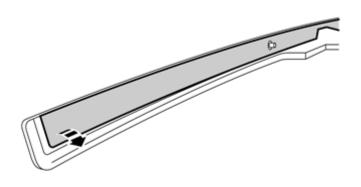
IMG-255743

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Use isopropanol and clean the marked surface on the boot lid where the chrome strip tape will sit. Wipe dry.

47

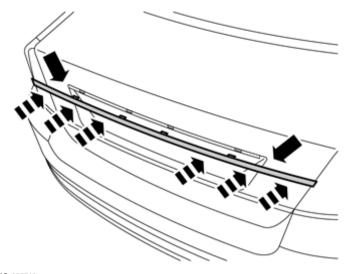


Take the new trim strip from the kit. Remove the protective film from the adhesive tape.



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### Note!

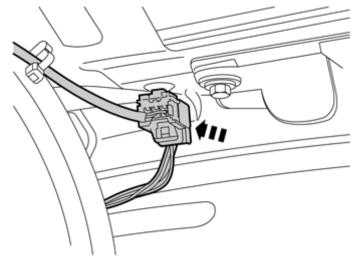
During installation the underlying surface must be kept at a temperature of at least +15°C (59°F).

Insert the trim strip clips in the corresponding holes on the panel. Ensure that the strip's locating pins align with the holes on the trunk lid.

Press the strip firmly along the entire length of the trunk lid and the panel so that the tape adheres.

IMG-255746

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Connect the number plate lighting connector on the inside of the trunk lid.

IMG-255747

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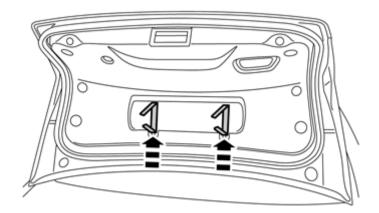
Reinstall the panel on the inside of the trunk lid.

IMG-255748
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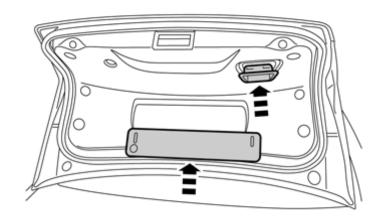
51



Reinstall the warning triangle's holder and press the middle pins of the clips in.

IMG-255749

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Take the new inner handle from the kit and press it onto the boot lid

Refit the warning triangle holder and the warning triangle on the boot lid.

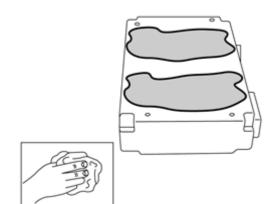
IMG-255750

Installing the parking assistance camera (PAC)



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### IMG-255751

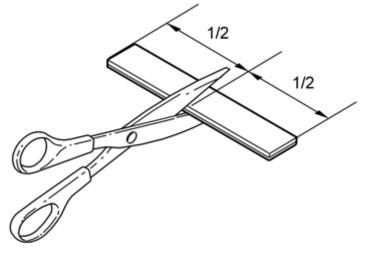
### Installing the parking assistance camera (PAC)

Take the control module from the kit.

Clean the two polished surfaces on the control module using isopropanol.

Wipe dry.

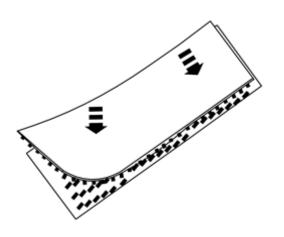




Take two Velcro strips from the kit and cut them in the middle to create four equal parts.

IMG-222282



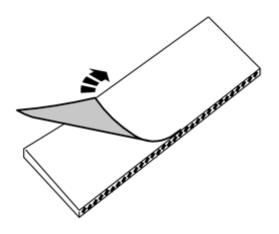


Press the Velcro strips two and two.



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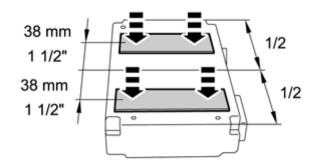
56



Remove the protective film from one side of the two attached Velcro strips.

IMG-222285

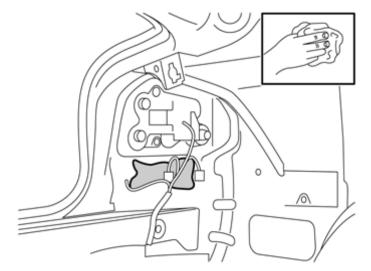
57



Press the Velcro strips onto the cleaned surfaces of the control module.

IMG-255752

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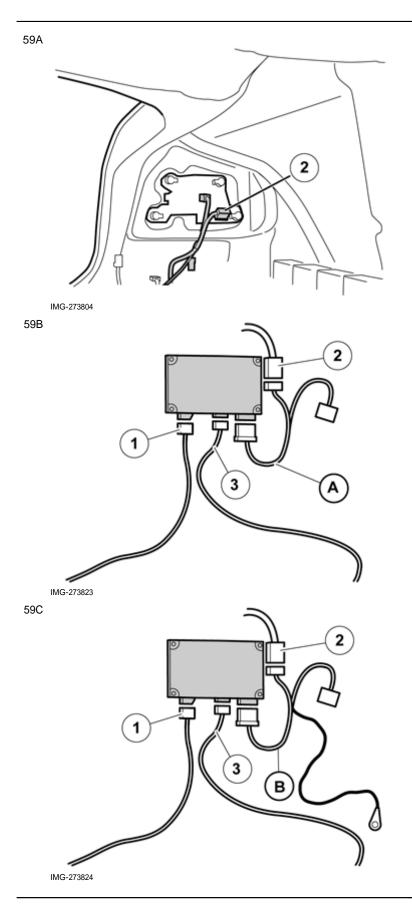


Clean the surfaces under the tail lights with isopropanol. Wipe dry.

IMG-255754
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#### Note!

The adapter cable A was included in a previous version of the kit for the parking camera.

The adapter cable B was included in a later version of the kit for the parking camera.

Both versions are suitable for all cars.

#### Illustration A

Connect the previously routed cable harness connector (1) to the right-hand connector on the control module.

Take the adapter cable A/B from the kit and connect the large green connector to the socket on the control module, as illustrated.

Connect the connector (2) on the pre-routed, taped cable harness for the power supply under the left-hand tail lamp, to the corresponding connector on the adapter cable.

Take the long remaining cable harness from the kit and connect the end with the gray connector (3) to the connector in the middle of the control module.

Clamp the adapter cable's remaining connector using the tie strap from the kit.

Figure B shows adapter cable A

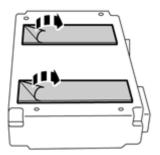
Figure C shows adapter cable B



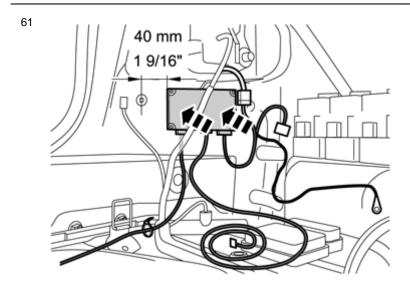
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Remove the protective film from the installed Velcro strips.

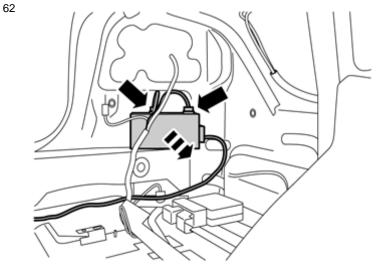


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Press the control module upwards firmly as high as possible on the flat surface under the tail lamp, according to the measurements illustrated.





### Applies to cars with a TRM module.

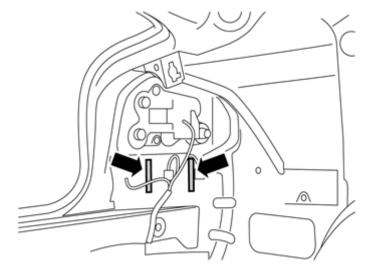
Remove the two connectors from the top of the TRM module.

Remove the TRM module from the Velcro strips on the plate under the rear lamp and place to one side.



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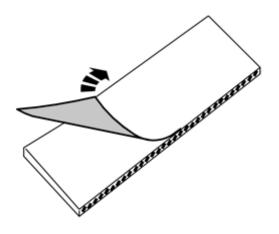
63



Allow the old Velcro strips to remain in the body.

IMG-255758

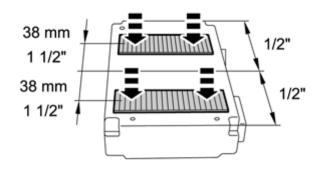
64



Remove the protective film from the Velcro strips.

IMG-222285

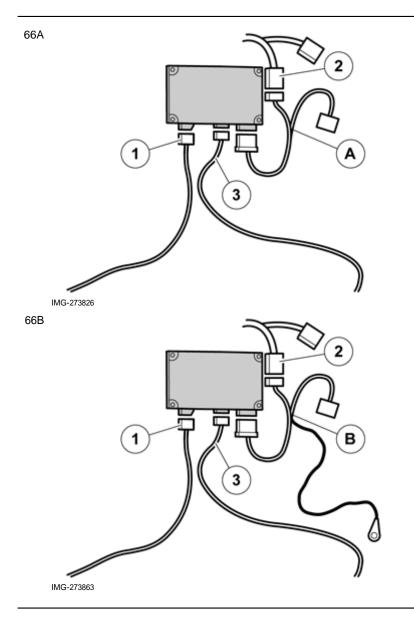
65



Press the Velcro strips on to the cleaned surfaces on the parking assistance camera (PAC).



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#### Note!

The adapter cable A was included in a previous version of the kit for the parking camera.

The adapter cable B was included in a later version of the kit for the parking camera.

Both versions are suitable for all cars.

### Figure A shows adapter cable A

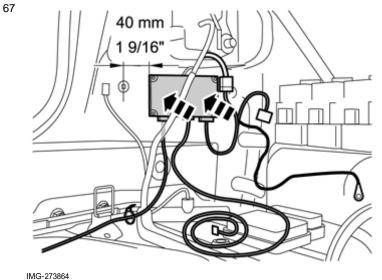
#### Figure B shows adapter cable B

Connect the previously routed cable harness connector to the right-hand connector on the control module (1).

Take the adapter cable A/B from the kit and connect the large green connector to the socket on the control module, as illustrated.

Connect the connector (2) on the pre-routed cable harness for the power supply to the corresponding contact on the adapter cable.

Take the long remaining cable harness from the kit and connect the end with the gray connector (3) to the connector in the middle of the control module.



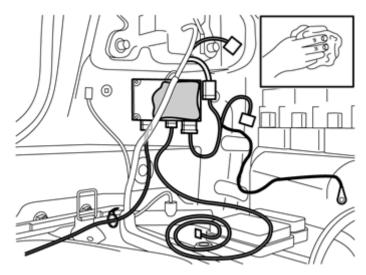
Press the control module firmly onto the existing Velcro straps under the tail lamp.

110-275004



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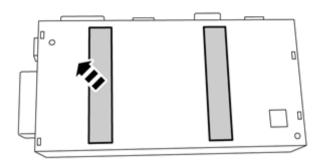
68



Clean the marked surfaces on the control module with isopropanol. Wipe dry.

IMG-273865

69

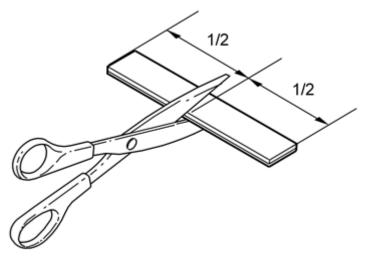


Remove the marked Velcro strip from the TRM module.



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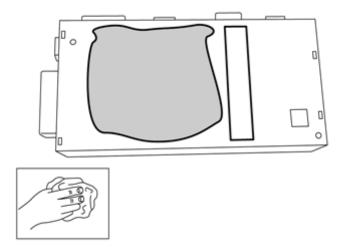
70



Take two Velcro strips from the kit and cut them in the middle to create four equal parts.

IMG-222282

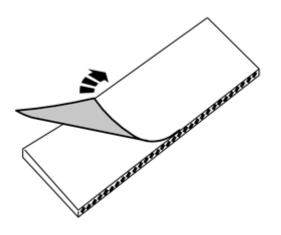
71



Clean the marked surfaces on the TRM module with isopropanol. Wipe dry.

IMG-255764

72

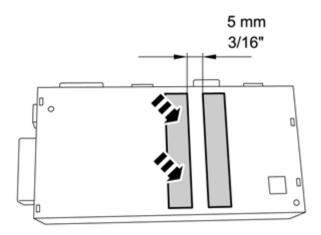


Remove the protective film from one of the Velcro strips.



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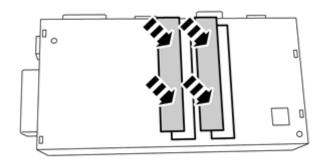
73



Press the Velcro strip on to the TRM module beside the other strip, as illustrated.

IMG-255765

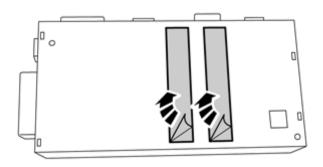
74



Press the two Velcro strips onto the TRM module's two existing Velcro strips.

IMG-255766

75



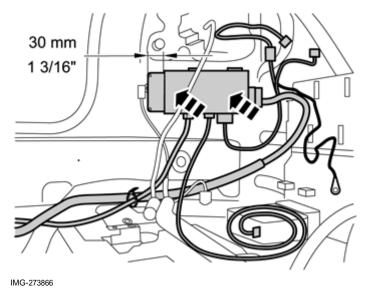
Remove the protective film from the Velcro strips.

IMG-255767
© Volvo Car Corporation



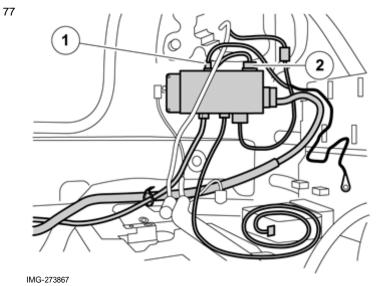
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Press the TRM module onto the control module securely, as illustrated.





Connect the remaining green connector (1) on the adapter cable for the power supply to the corresponding socket in the TRM module

Connect the remaining gray connector (2), which was removed from the TRM module.

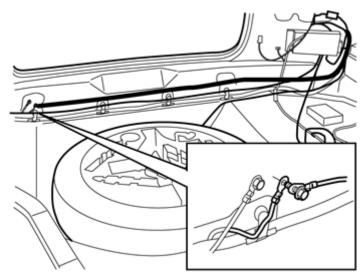


78

IMG-273869

### Installation instructions, accessories

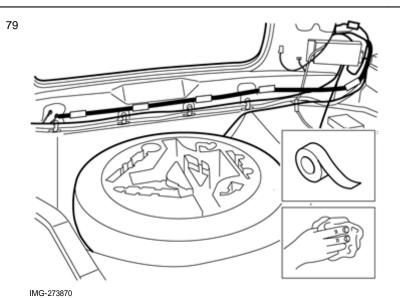
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# Steps 70-71 only apply to cars with adapter cable B for the power supply

Route the long ground lead in the adapter cable to the right-hand side of the rear harness.

Connect the cable to the lower of the ground screws and tighten the screw with 10 Nm (7.5 lbf.ft.)

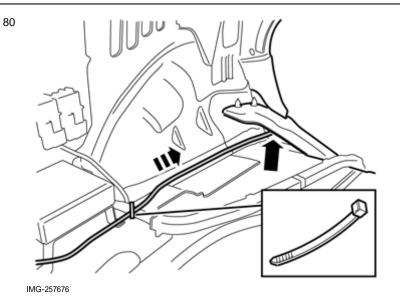


Wash the rear crossmember using isopropanol where the ground lead is to be taped. Wipe dry.

Secure the cable using a wide piece of silver/fabric tape or similar.

#### Note!

The ground lead must only be taped at the rear crossmember, it must not be secured by the thick cable harness.



Route the previously connected cable harness inside the insulation panel at the left-hand rear wheel arch and out through the hole in the body.

Take a tie strap from the kit and secure the cable at the fuse holder's cable harness.

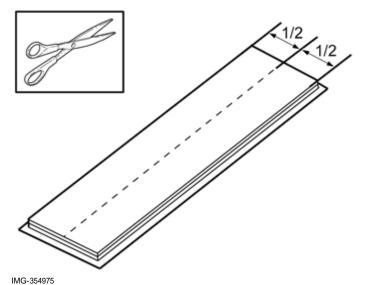
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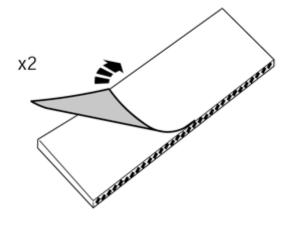
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Remove the foam tape from the kit and split it in the centre.

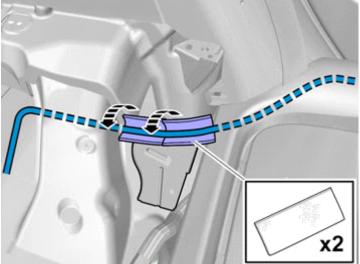
82



Remove the protective film from the foam tape.

IMG-241925





IMG-353731

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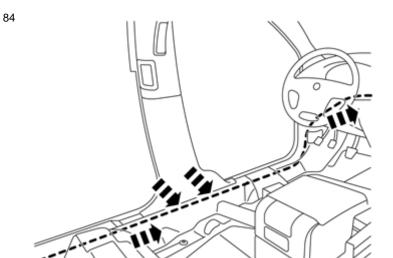
Apply the foam tape around the wiring to protect the cable from sharp edges.



IMG-255771

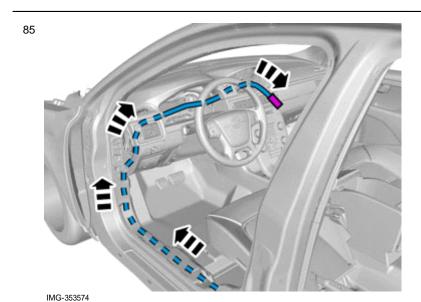
### Installation instructions, accessories

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Pull out the B post panel at the lower edge until the two clips release.

Continue to route the cable harness inside the B post panel and forwards in the car. Route the cable harness along the left-hand side, in front of the floor and insulation panels, up to the front edge of the door opening.



### Only applies to left-hand drive vehicles

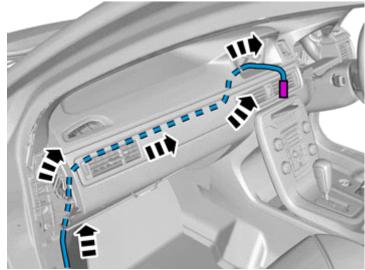
Route the cable harness inside the floor and insulation panels, up on the A pillar slightly, and then at an angle upwards, between the A pillar and the end panel, towards the dashboard. Route the cable harness to the location for the screen in the dashboard.

Place the cable harness so that it does not come into contact with sharp edges or moving parts under the dashboard.



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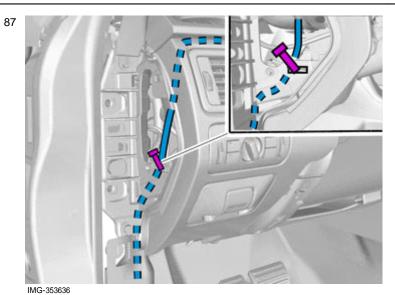
### Only applies to right-hand drive vehicles

Take a piece of wire and insert it by the air ducts through the hole for the screen. Pull it out to the left, above the glove compartment and out through the left-hand end of the dashboard.

Tape the connector on the cable to the screen by the wire.

Pull the cable up to the location for the screen and out through the hole in the dashboard.

IMG-353581

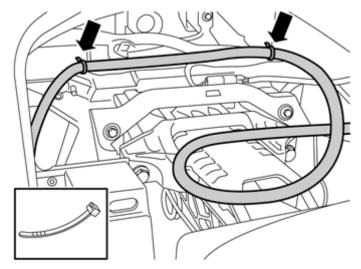


#### Applies to all vehicles

Take a tie strap from the kit and secure the cable in the hole on the end as illustrated.

....

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### Only applies to left-hand drive vehicles

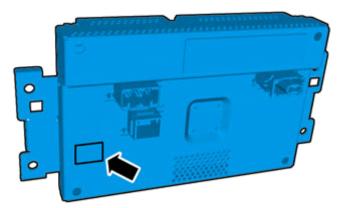
Take two tie straps from the kit and clamp the cable at the existing cable harnesses inside the dashboard as illustrated.



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# Applies to all vehicles with 5 inch ICM display

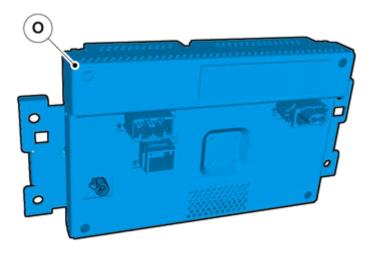


Note!

If there is no connection, replace the display.

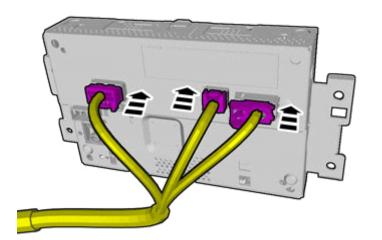
IMG-348526

90



IMG-348747

91



Applies to all vehicles

### Note!

The number of connectors, cables and cable ties can vary depending on the vehicle's equipment level.

Plug in the connectors.

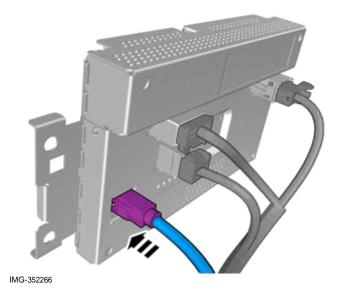
IMG-348748 © Volvo Car Corporation

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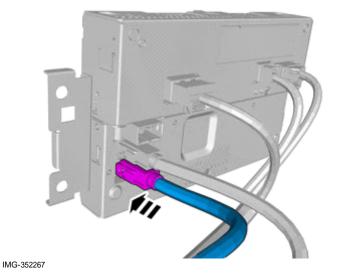
92



### Applies to vehicles with 5 inch ICM display

Plug in the connector.

93



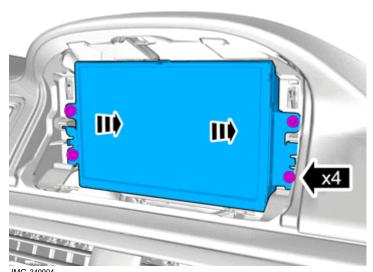
### Applies to vehicles with 7 inch ICM display

Plug in the connector.



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### Applies to all vehicles

Reinstall the panel.

Install the screws.

Reinstall the detached components in reverse order.

### Removal



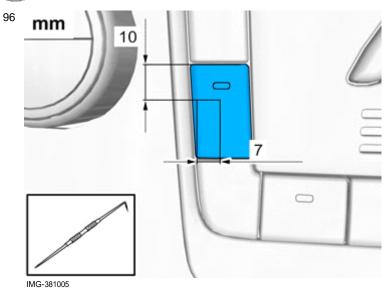
#### Removal

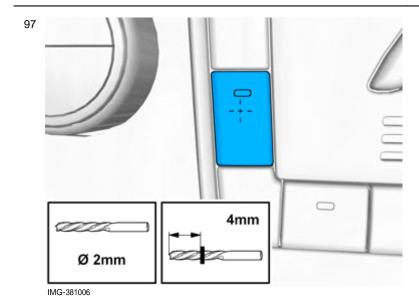
Note!

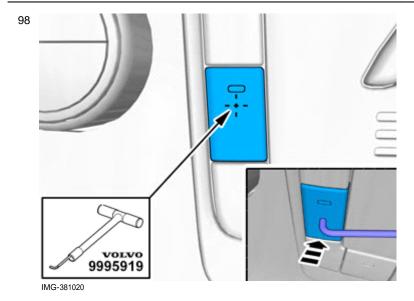
Orientation view



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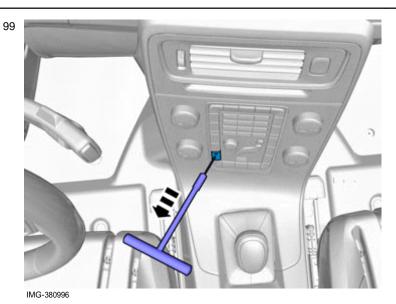




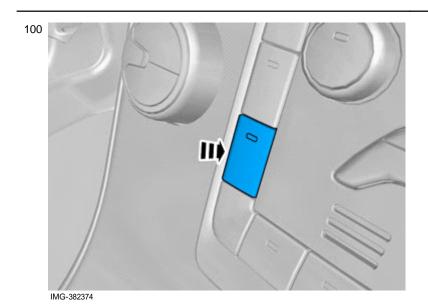




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### Accessory installation



### **Accessory installation**

Install the component from the accessory kit.

### Installation

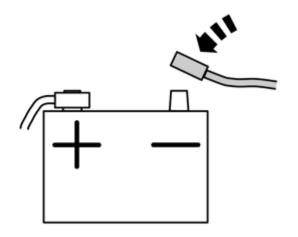


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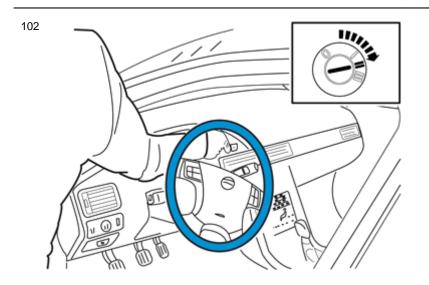
101

#### Installation

Reconnect the battery negative lead



IMG-336901



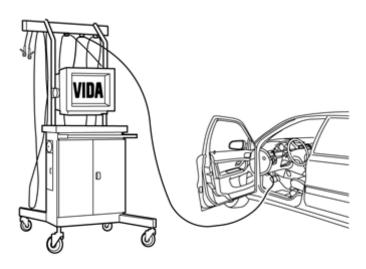
#### Caution!

When the ignition is to be switched on for the first time after the battery has been disconnected, this must be done whilst by standing outside the vehicle, stretching your arm in and avoiding the working area for the airbags.

Set the ignition switch to position  ${f II}.$ 

IMG-336904

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Download software (application) for the accessory's function according to service information in VIDA. See VIDA or accessories catalogue for article number on software.

IMG-242268

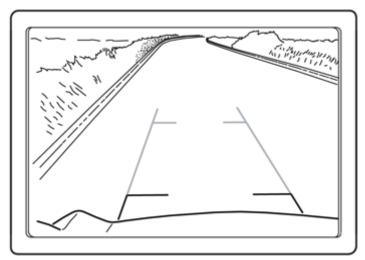
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IMG-354602

Perform a function test as follows:

Engage reverse gear.

The display is activated.

Wait for the message "Update Environment" to appear on the screen.

Follow the on-screen instructions.

Switch off the ignition for at least 10 seconds.

Turn the ignition on.

The display is activated.

Check that the support lines appear on the screen and that these react to steering wheel movements.