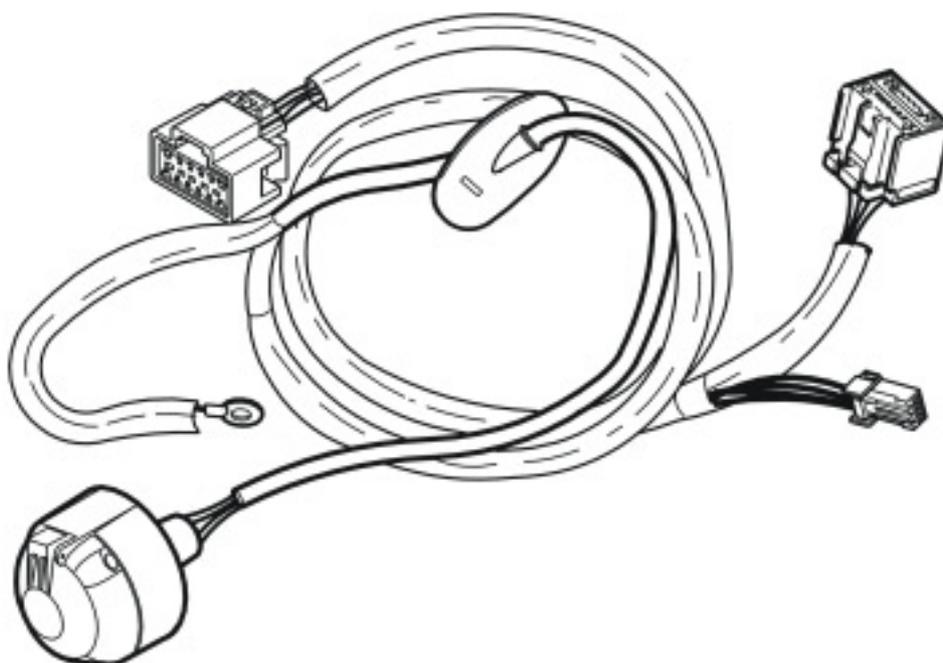
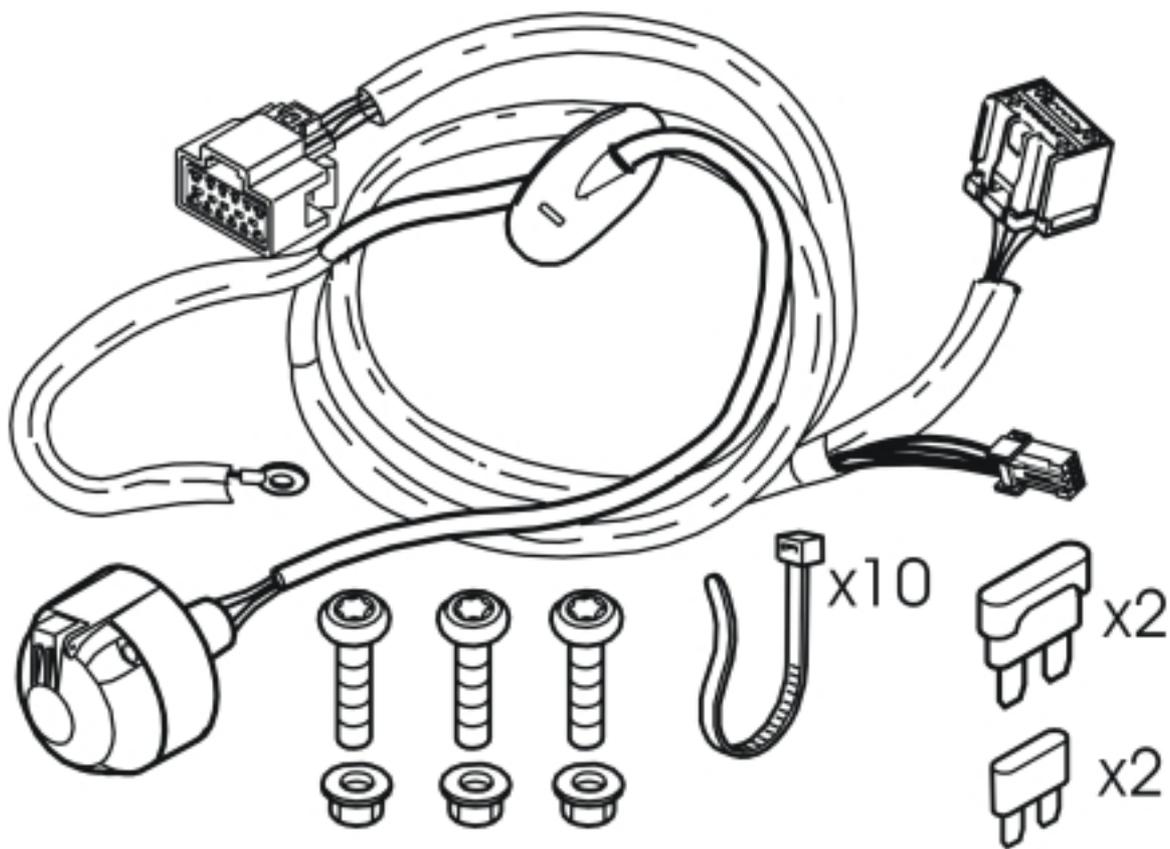
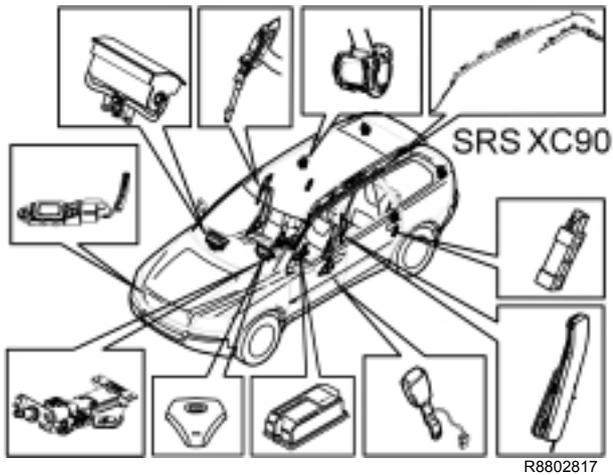


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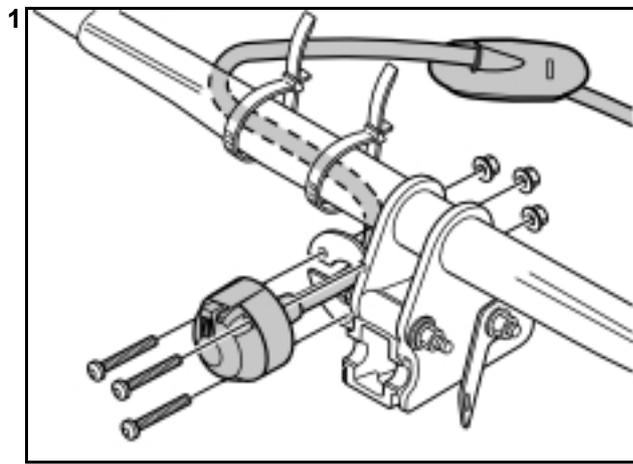
Tow bar wiring, 13-pin



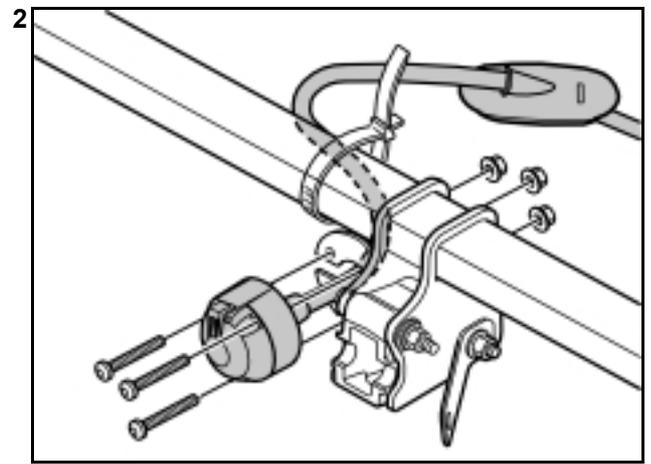
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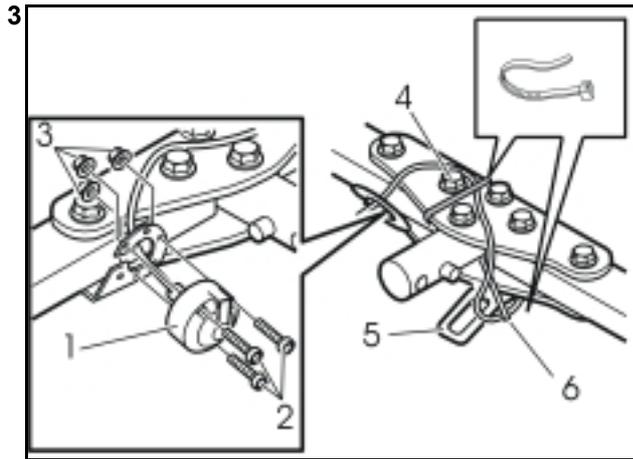
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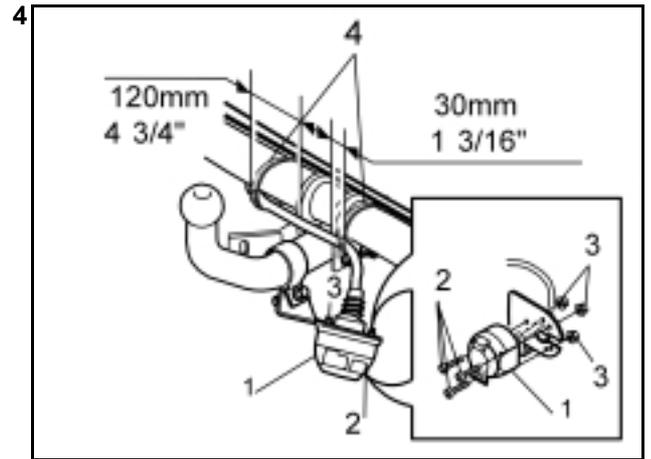
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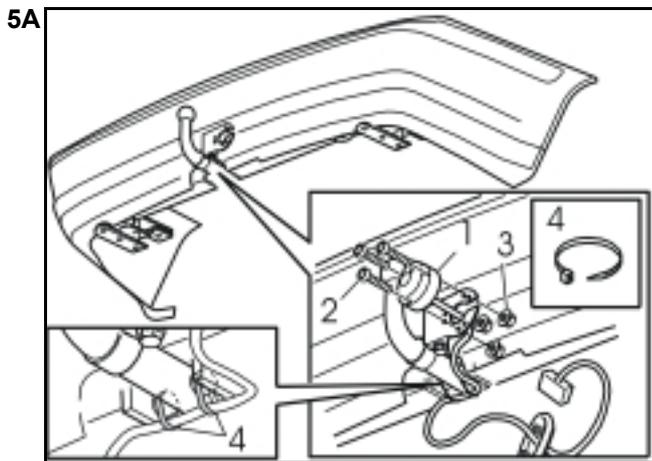
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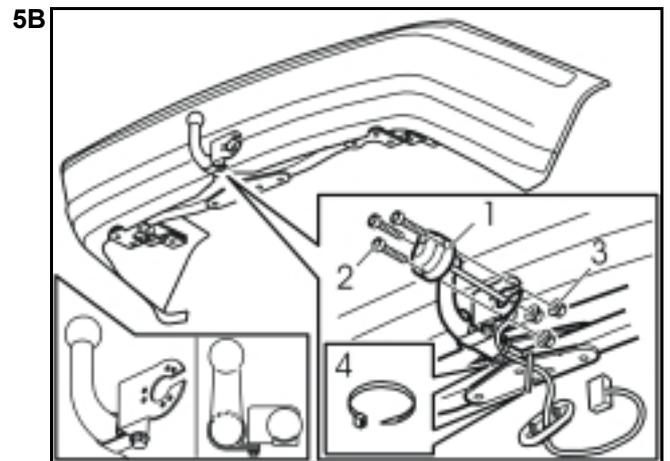
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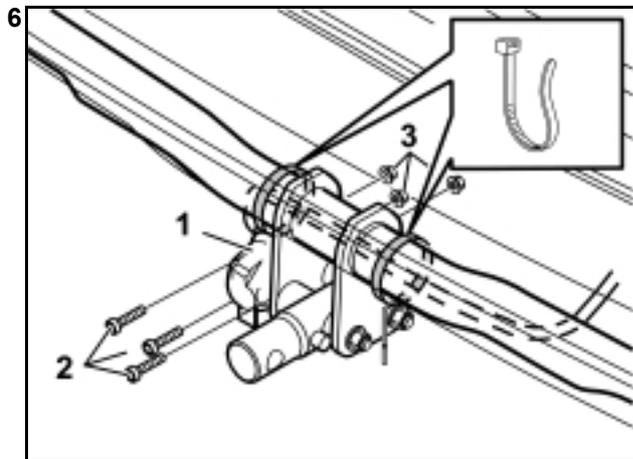
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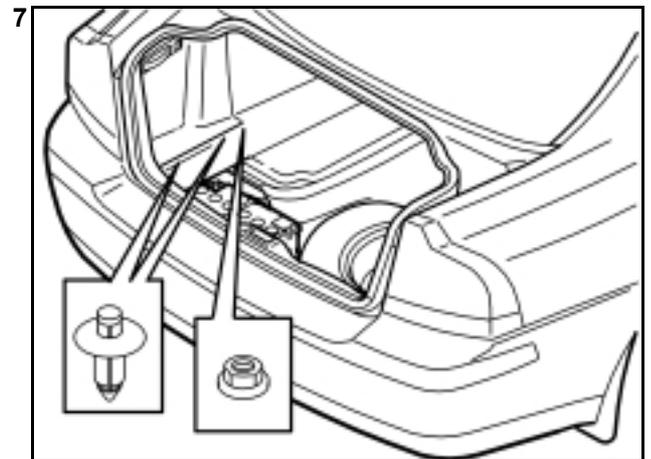
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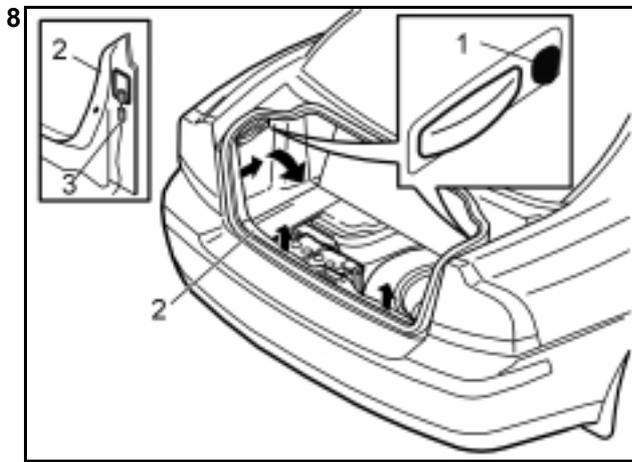
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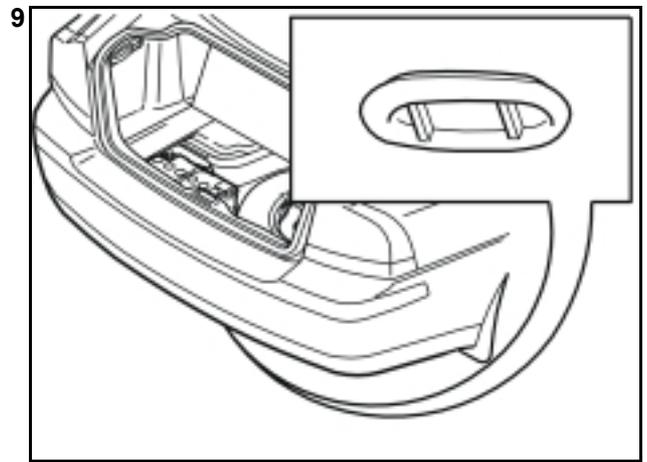
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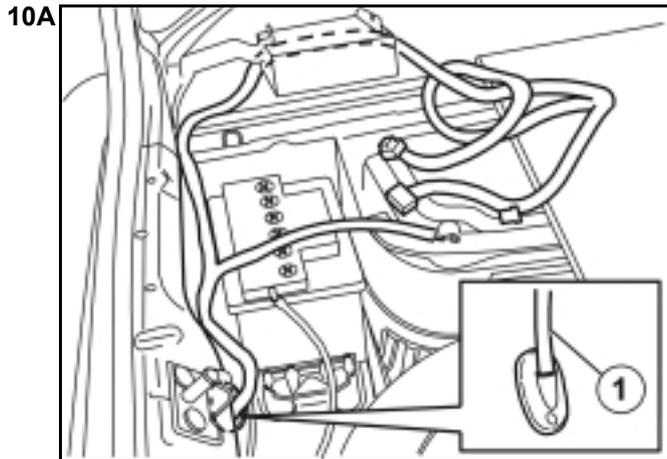
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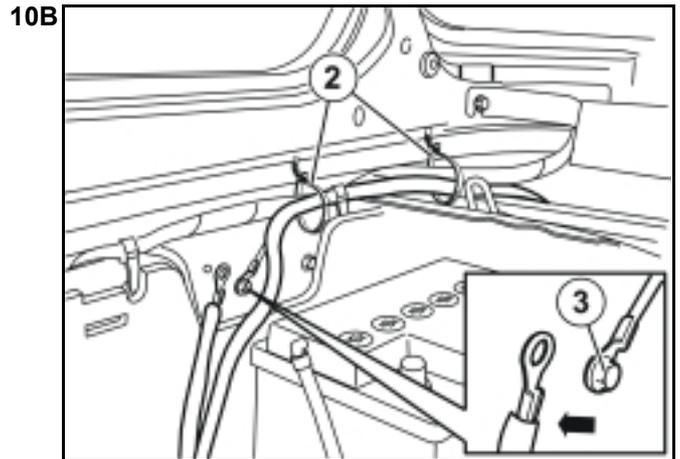
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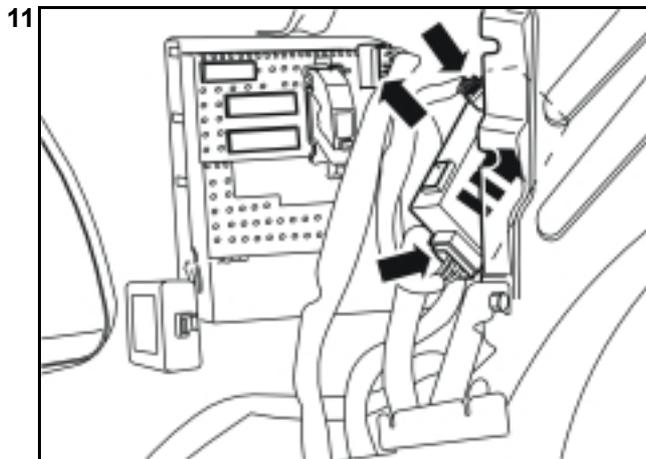
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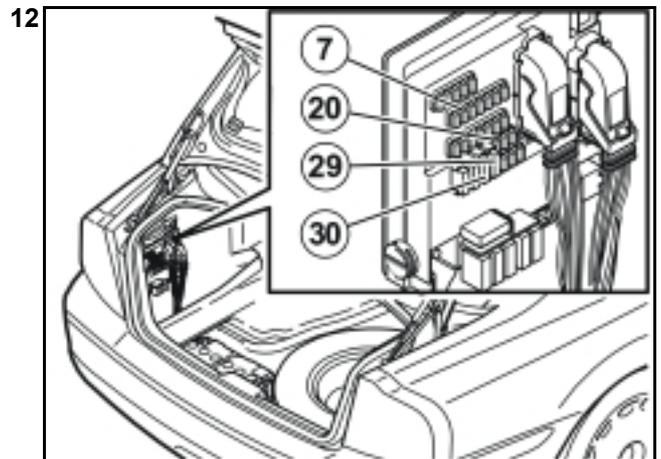
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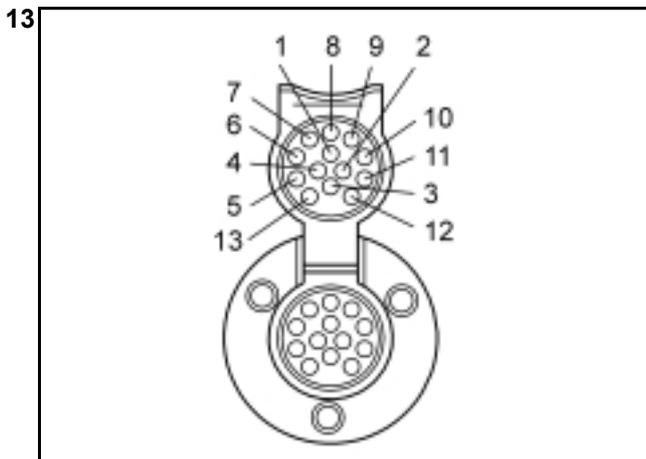
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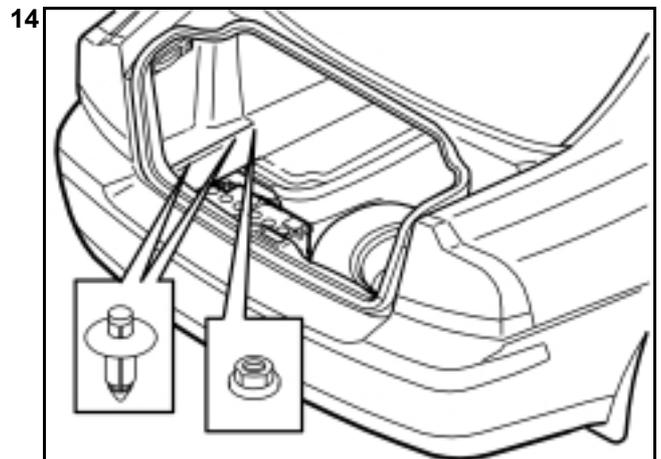
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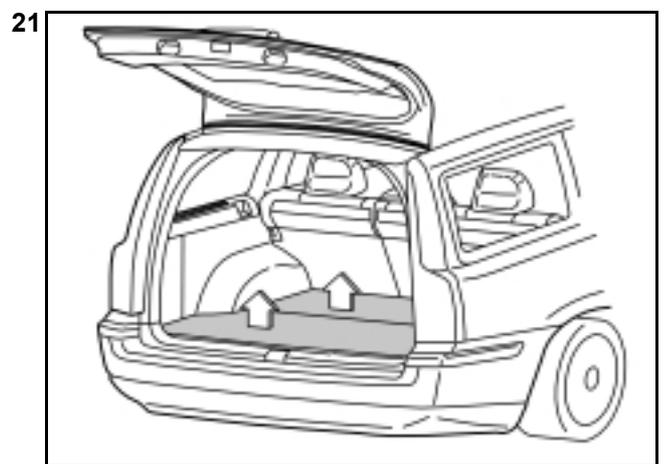
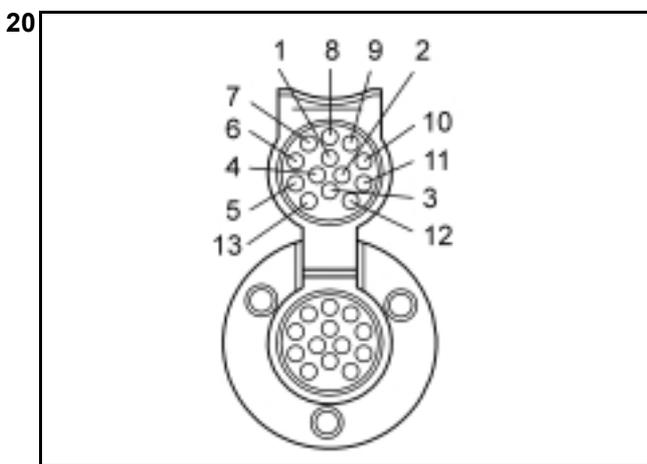
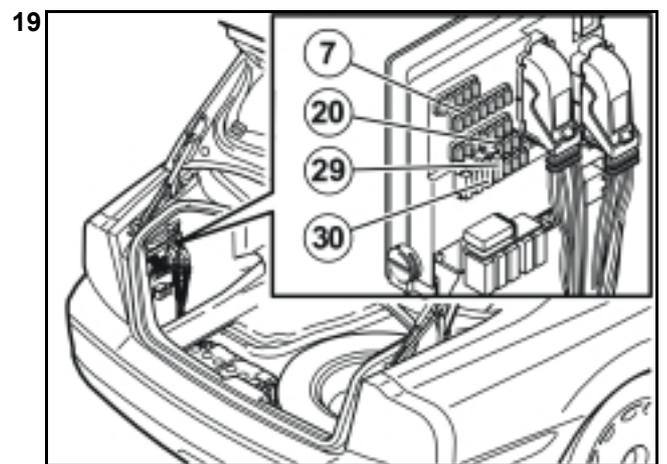
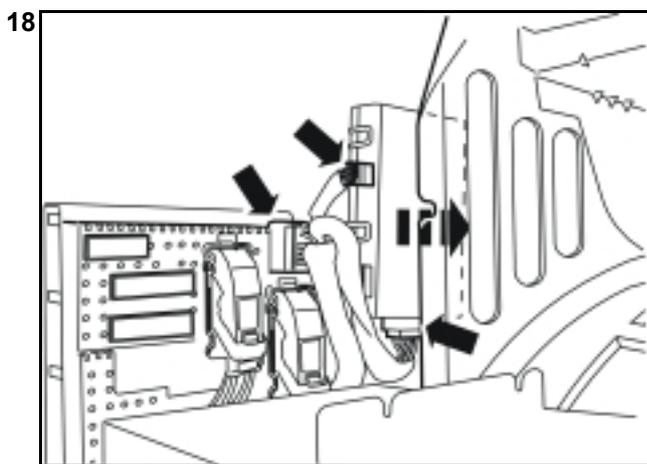
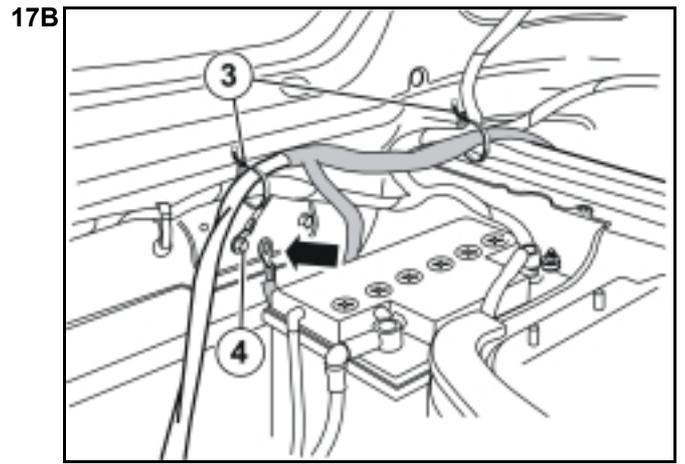
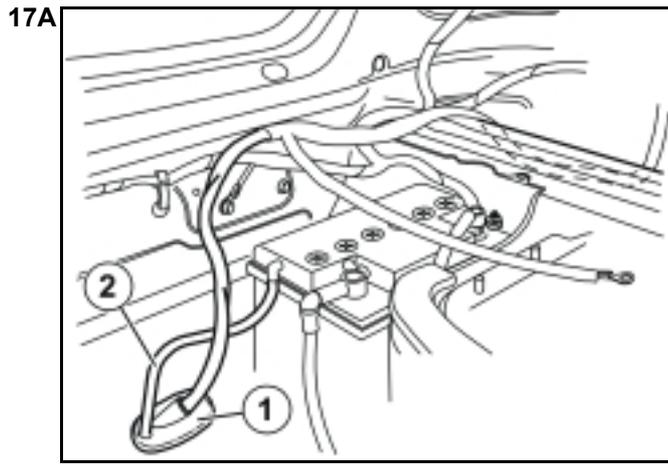
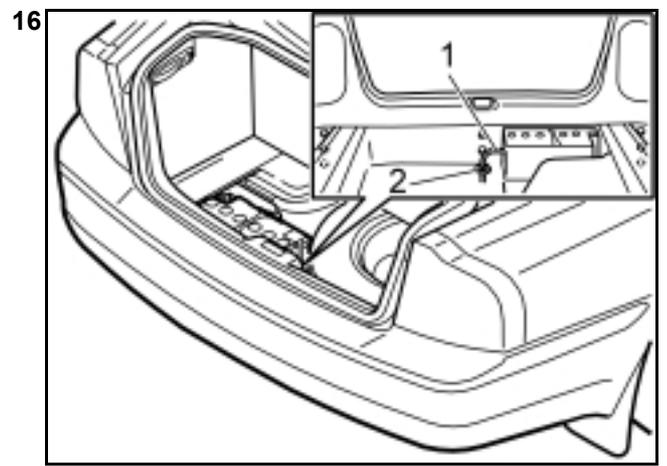
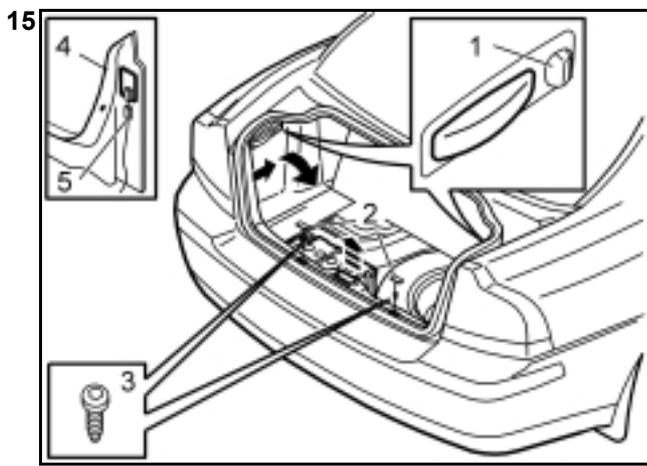
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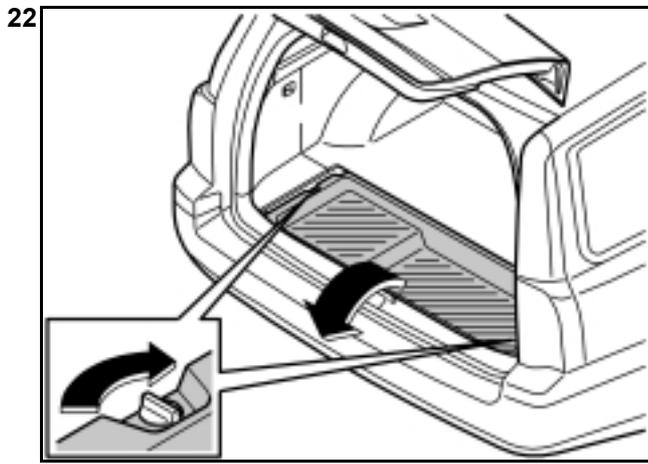


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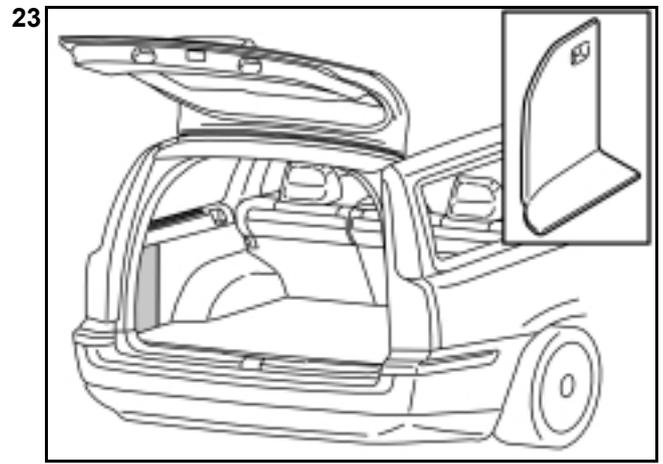


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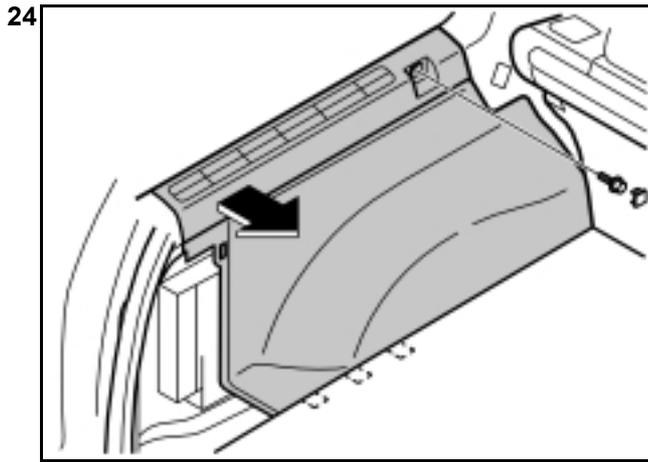




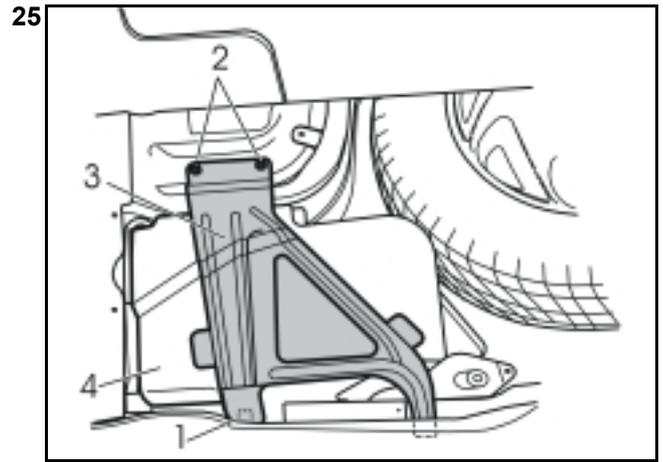
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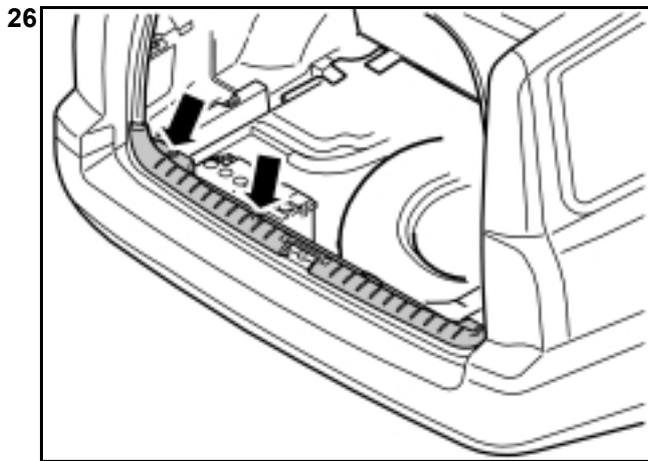
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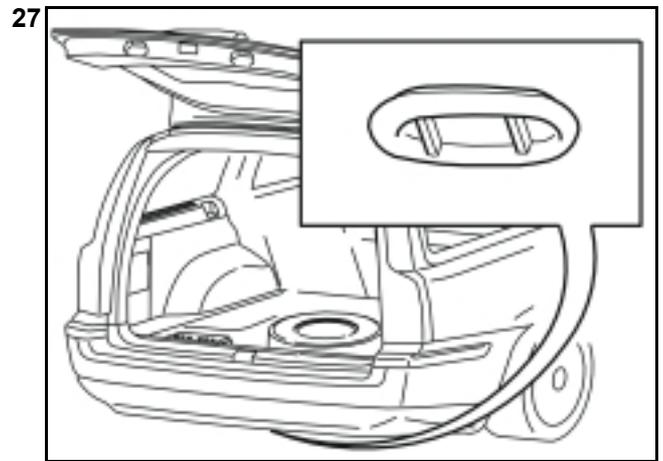
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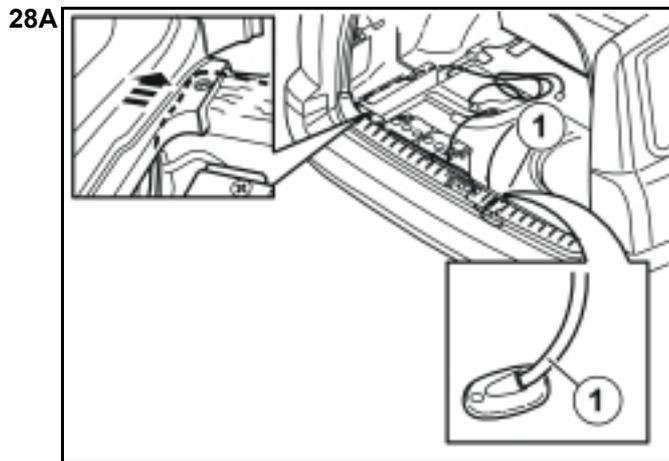
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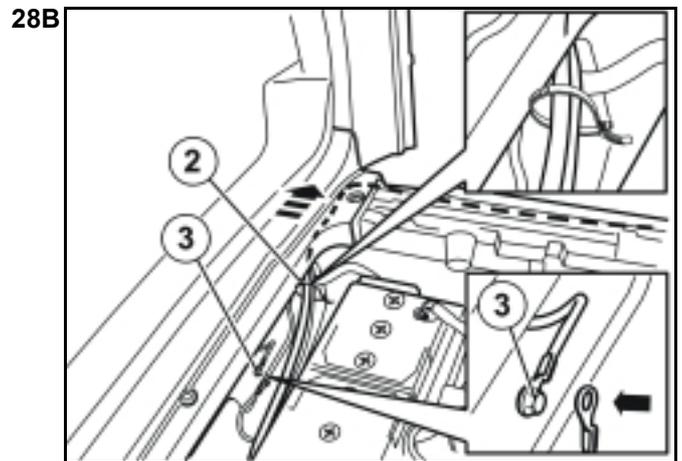
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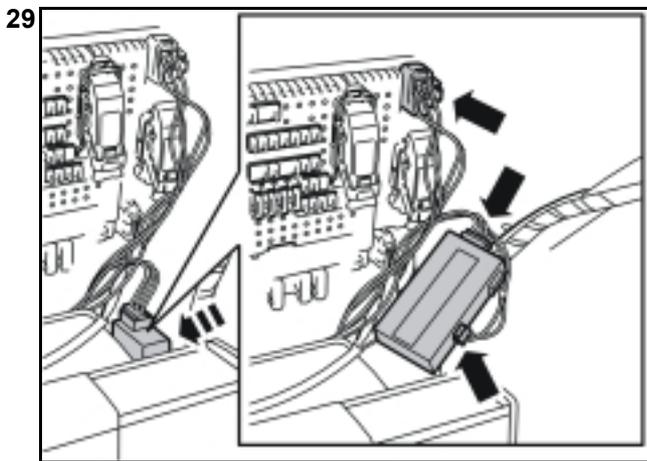
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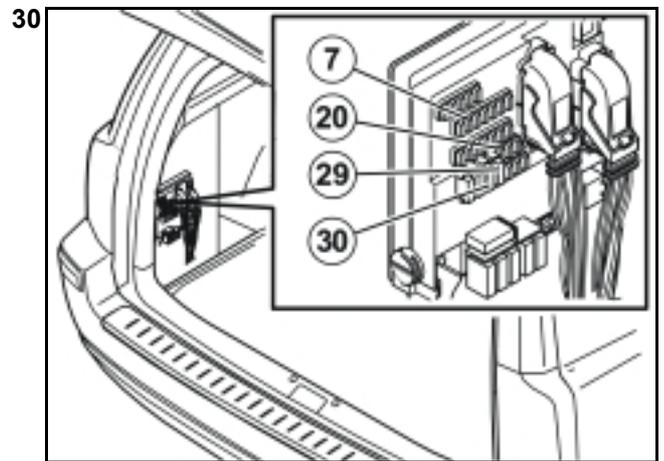
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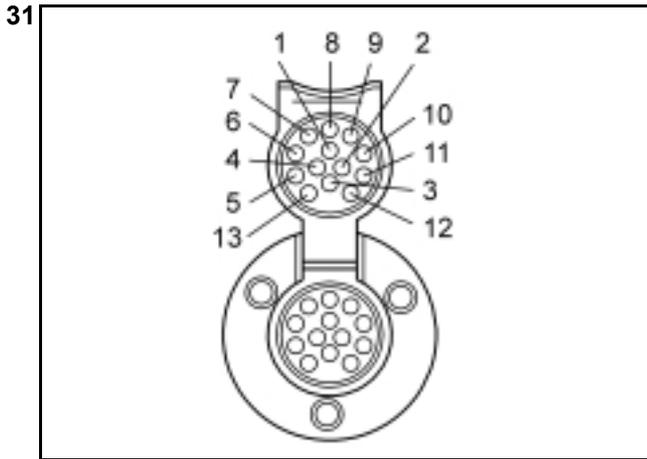
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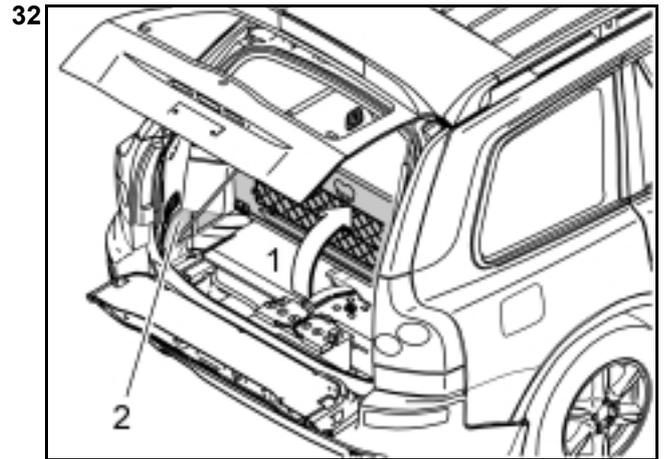
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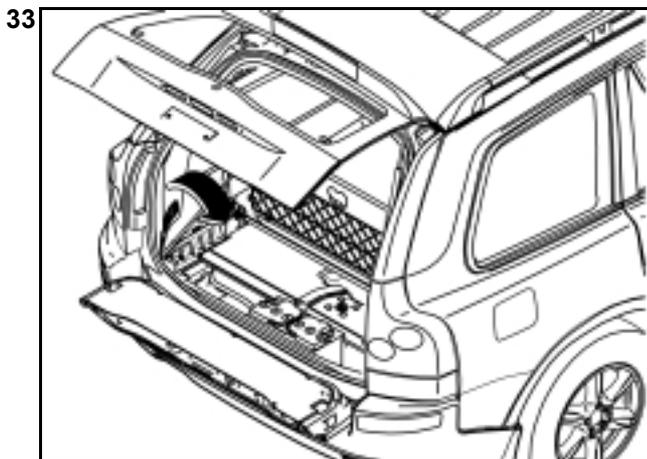
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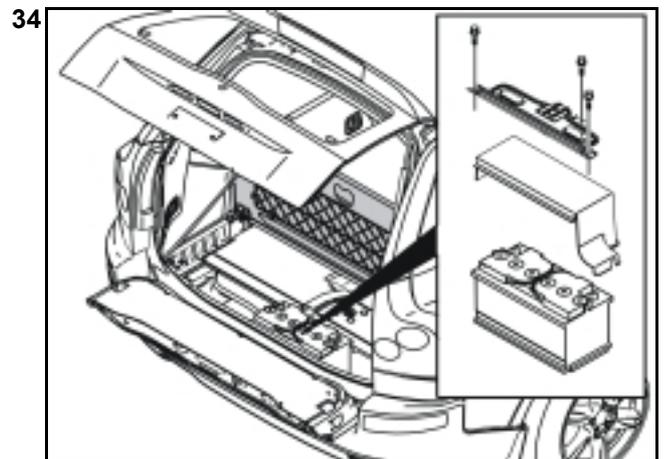
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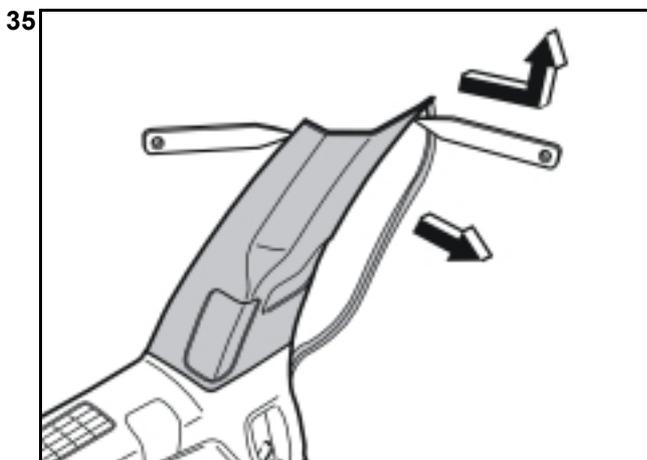
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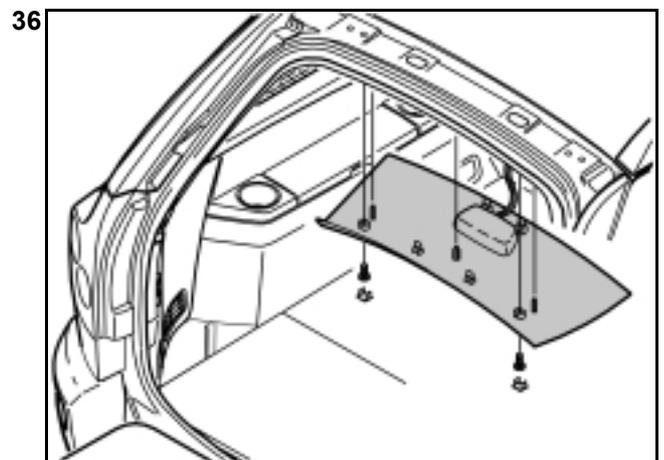
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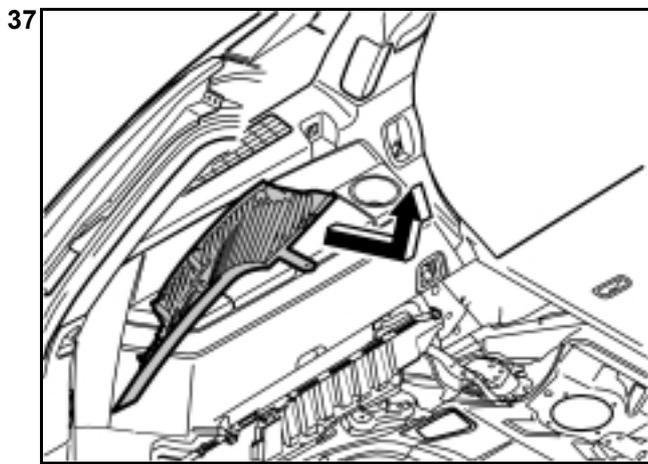
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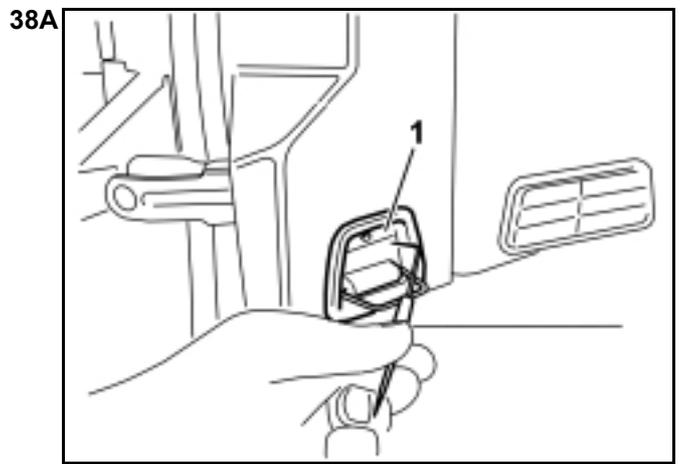
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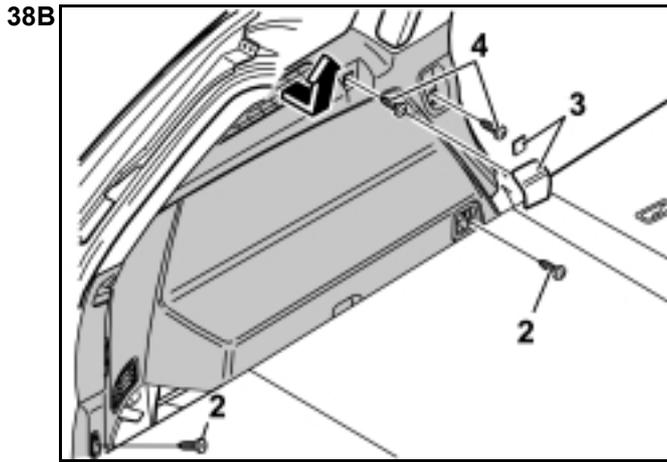
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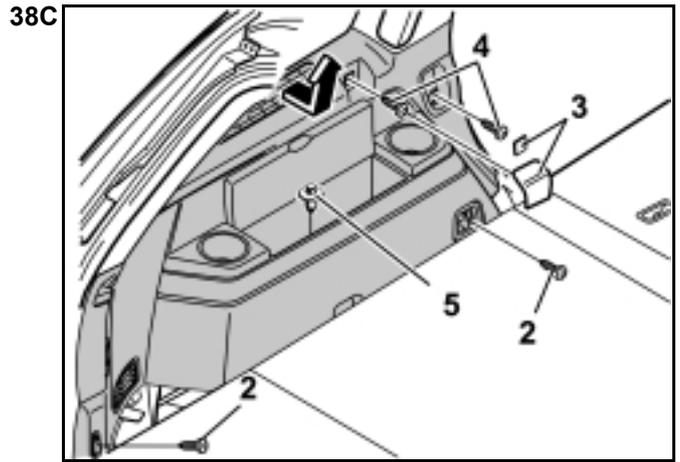
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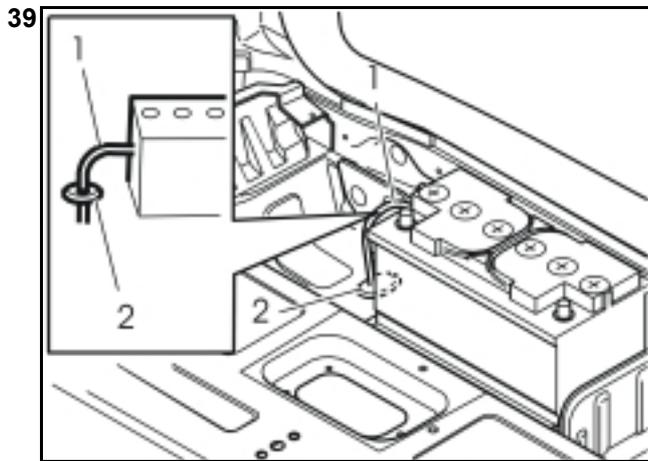
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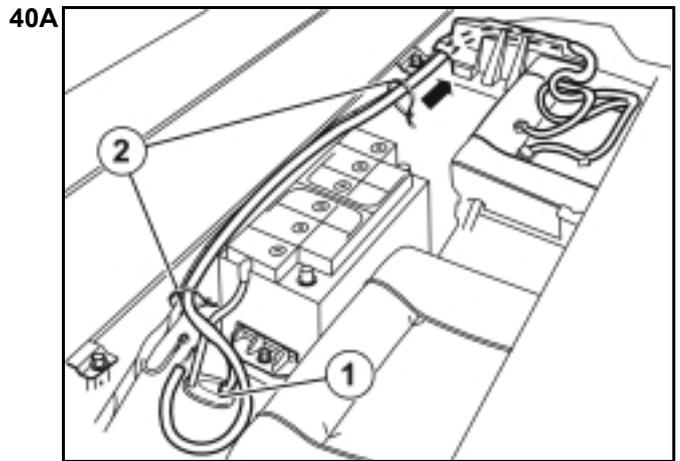
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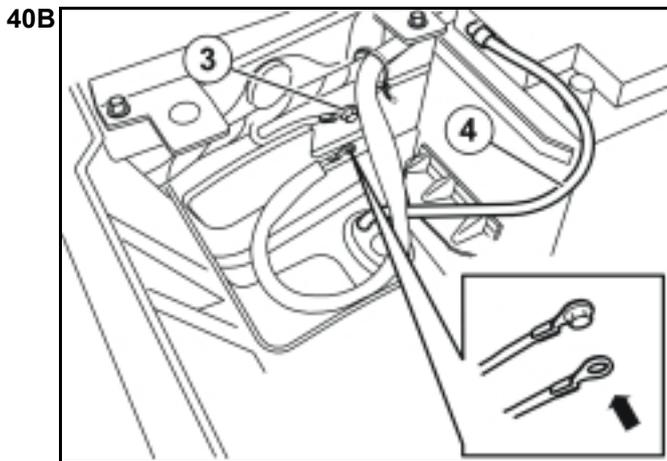
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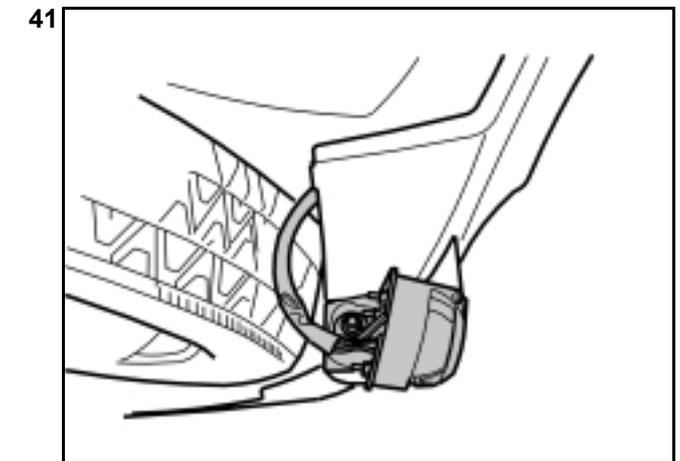
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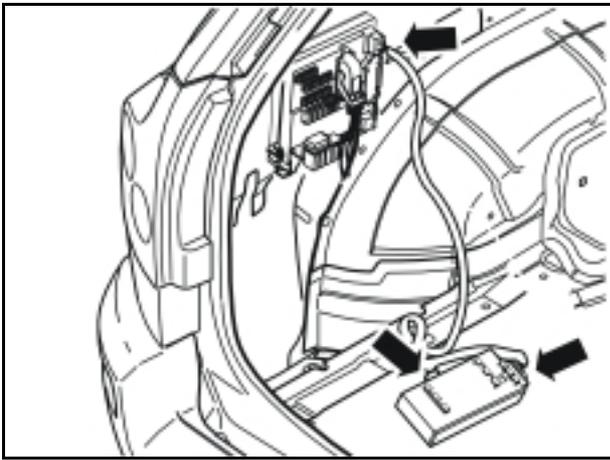


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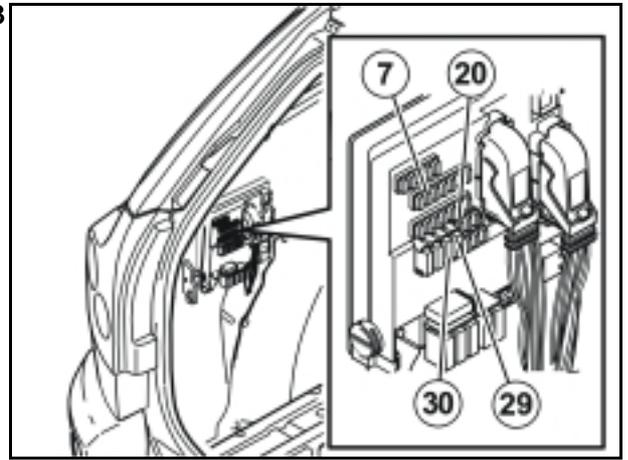
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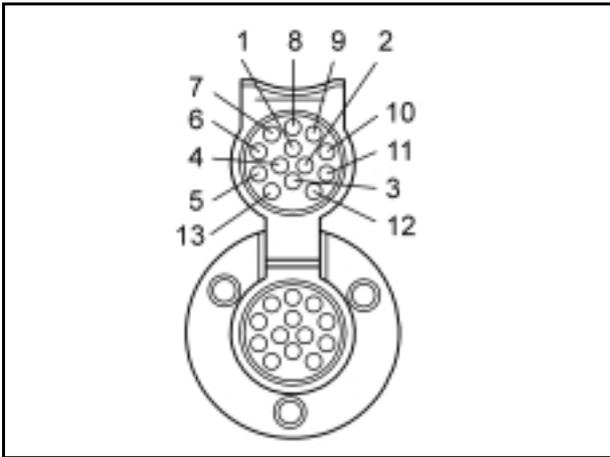
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English

INTRODUCTION

- **NOTE! Read through the entire text before carrying out any work.**
- The front page gives the date of this edition and the edition it replaces
- The second page shows the tools needed for the installation and the contents of the installation kit
- The illustrations display the procedure in order of operation. The order of operation is repeated in the text section
- Cut out the text page in order to follow the illustrations and text at the same time.

Cars equipped with SRS/SIPS (Airbag)

WARNING! Extra care must be taken when working on cars equipped with SRS/SIPS air bags. This is important to prevent:

1. Personal injury
2. Damage to or malfunction of the SRS/SIPS system.

Work on the SRS/SIPS systems or related components must always be carried out by an authorised Volvo workshop.

Is the car equipped with SRS (supplemental restraint system)?

Cars equipped with a driver's airbag have the letters "SRS" imprinted on the centre panel of the steering wheel. Cars equipped with driver's and passenger airbags are marked with "SRS" on both the steering wheel centre panel and also on the dashboard close to the airbag.

If the car is equipped with SIPS (side impact protection system) a "SIPS" decal is marked on both the front seats.

Cars equipped with inflatable curtains have the marking "SRS" on one of the panels along the posts on the inside of the car.

Cars equipped with SRS (supplemental restraint system) also have an "SRS" decal on the front windscreen.

WARNING! The air bag inflation areas must not be obstructed. Never place any objects, such as upholstery or accessories, within these areas. The panels must be able to open in the correct manner at the right time, otherwise there is an increased risk of personal injury in the event of a collision.

Do not damage the SRS wiring!

Do not trap, chafe, pierce or damage the SRS wiring. SRS wiring has orange casing and/or is plaited.

Steering and front suspension

The contact reel in the SRS system can easily be damaged when working on the steering wheel, steering shaft or steering gear. Refer to the SRS (supplemental restraint system) Service Manual or service instructions in VIDA for information on carrying out such work. This is to prevent damage.

SRS warning lamp

If the SRS warning lamp lights after repairs have been carried out, take the car to an authorised Volvo workshop.

S40(04-)/V50/S60/C70(06-)/V70(00-)/S80/XC90 Supplemental Restraint System Module (SRS)

The supplemental restraint system module (SRS) is located on the tunnel under the centre console, in front of the parking brake.

WARNING! The ignition must be in position "0" and the key removed from the ignition switch if any connector in the SRS system is to be unplugged. Then wait at least three minutes and disconnect the battery negative lead before unplugging any of the connectors. When work is completed, the ignition key must be turned to position "II" before reconnecting the battery negative lead.

Tow bar wiring, 13-pin

NOTE!

- Steps 1, 4, 7-13 apply to the S60.
- Steps 3, 5, 14-20 apply to the S80.
- Steps 2, 5, 21-31 apply to the V70.
- Steps 6, 32-45 apply to the XC90.

Installing the connector for detachable tow bars

1 Applies to the S60

- Turn the ignition switch to position 0.
- Install the trailer connector with the three screws and the nuts. Tighten.
- Route the cable along the underneath of the tow bar member as illustrated.
- Secure the cable using two tie straps.

2 Applies to the V70

- Turn the ignition switch to position 0.
- Install the trailer connector with the three screws and the nuts. Tighten.
- Ensure that the cable harness is as close to the centre mounting on the tow bar member as possible. This is important to prevent the cable harness from being caught in the cut-out bumper.
- Secure the cable with a tie strap.

3 Applies to the S80

- Turn the ignition switch to position 0.
- Install the trailer connector (1). Use the three screws (2) and the nuts (3). Tighten.
- Route the cable harness behind the screw (4) on top of the tow bar. Then route the cable harness down past the bracket (5).
- Clamp the cable harness at the bracket. Tighten the clamps (6).

Installing the connector for fixed tow bars

4 Applies to the S60

- Install the trailer connector (1). Use the three screws (2) and the nuts (3). Tighten.
- Leave the bracket hanging down as illustrated
- Secure the cable harness at the tow bar member with a tie strap (4) on both sides of the tow bar.
- Position the tie straps according to the listed dimensions.
- Do not tighten the clamps fully yet.

5 Illustration A applies to the V70

Illustration B applies to the S80

- Install the trailer connector (1). Use the three screws (2) and the nuts (3). Tighten.
- Clamp the cable harness at the tow bar. Tighten the clamp(s) (4).

Installing the connector for fixed/detachable tow bars

6 Applies to the XC90

- Install the trailer connector (1). Use the three screws (2) and the nuts (3). Tighten.
- Pull the cable harness out towards the right along the front edge of the tow bar member.
- Secure the cable harness with a tie strap on all sides of the tow bar member brackets.

Steps 7-13 apply to the S60

- 7
 - Fold back the carpet.
 - Remove the clips on the lower edge of the folding panel (on both the right-hand and left-hand sides) by pressing in the centre of the clip until an audible snap is heard.
 - Remove the clips.
 - Unscrew the front clips.
- 8
 - Turn the knob (1) on the right-hand and left-hand sides 90°.
 - Fold the panels inwards. Lift the panels out.
 - First, pull the bootlid sill trim panel (2) forwards until the two clips on the right-hand and left-hand sides release. Pull forcefully but carefully since the panel is fitted tightly. Pull the panel straight up until the four clips in the lower edge release.
 - Remove the wiring (3) for the cargo compartment lighting.
 - Lift out the sill trim panel.

- 9
 - Remove the dummy plug from the hole in the body, see the illustration (battery draining is not affected).

10 Illustration A

- Route the cable harness from the tow bar connector through the hole in the floor.
- Adjust the position of the rubber seal (1) so that there is not excessive cable slack under the car.
- Install the rubber seal in the hole.
- Route the cable harness as shown in the illustration over the rear edge of the left-hand side member to the fuse holder.

Illustration B

- Secure the cable harness to the cable harness behind the battery with tie straps (2) from the kit.
- Connect the routed ground cable to the grounding point (3) behind the battery and tighten the grounding screw securely.

- 11
 - Detach the trailer module (TRM) from the Velcro fastener on the back side of the plate in front of the fuse holder.
 - Plug in the tow bar wiring connectors:
 - green (GN) and grey (GR) connectors to the control module.
 - black (SB) connector to the fuse holder.
 - Reinstall the control module.
 - Secure the excess cable with a tie strap from the kit.

- 12
 - Insert fuses from the kit in the following positions in the fuse holder (REM):
 - 15A in position 7 (mini fuse) if the power supply function will be used
 - 20A in position 20 (mini fuse) if the charging function will be used
 - 25A in position 29
 - 25A in position 30.
 - Plug in the connectors for sill trim panel lighting and reinstall the panel.
 - Reinstall the folding panels.
 - Reinstall the cargo compartment carpet.

Applies to connection of the function for automatic rear fog lamp deactivation

–

NOTE! The function requires car-specific software. Program the software according to the service information described in VIDA.

13 Checking the 13-pin connector:

- 1 Left indicator lamps
- 2 Rear fog lamps
- 3 Ground
- 4 Right indicator lamps
- 5 Right parking lamps
- 6 Brake lamp
- 7 Left parking lamps
- 8 Reversing lamp
- 9 Power supply
- 10 Charging
- 11 Not used
- 12 Not used
- 13 Ground

Steps 14-20 apply to the S80

- 14** – Fold back the carpet.
- Remove the clips on the lower edge of the folding panel (on both the right-hand and left-hand sides) by pressing in the centre of the clip until an audible snap is heard.
 - Remove the clips.
 - Unscrew the front clips.
- 15** – Turn the knob (1) on the right-hand and left-hand sides 90°.
- Fold the panels inwards. Lift the panels out.
 - Remove the two covers (2) and the underlying screws (3).
 - First, pull the bootlid sill trim panel (4) forwards until the two clips on the right-hand and left-hand sides release. Pull forcefully but carefully since the panel is fitted tightly. Pull the panel straight up until the four clips in the lower edge release.
 - Remove the wiring (5) for cargo compartment lighting.
 - Lift out the sill trim panel.
- 16** – Remove the drain hose (1) from the battery.
- Remove the rubber seal (2). It will not be re-used.
 - Pull off the small, thin rubber strap on the new rubber seal.
 - Insert the old drain hose through the new rubber seal. Make sure the hose is not obstructed and that it is not folded.

17 Illustration A

- Route the cable harness from the tow bar connector through the hole in the floor.
- Adjust the position of the rubber seal (1) so that there is not excessive cable slack under the car.
- Install the rubber seal in the hole.
- Connect the drainage hose (2) to the battery.
- Route the cable harness as shown in the illustration over the rear edge of the left-hand side member to the fuse holder.

Illustration B

- Secure the cable harness to the cable harness behind the battery with tie straps (3) from the kit.
- Connect the routed ground cable to the grounding point (4) behind the battery and tighten the grounding screw securely.

- 18** – Detach the trailer module (TRM) from the Velcro fastener on the back side of the plate in front of the fuse holder.
- Plug in the tow bar wiring connectors:
 - green (GN) and grey (GR) connectors to the control module.
 - black (SB) connector to the fuse holder.
 - Reinstall the control module.
 - Secure the excess cable with a tie strap from the kit.
- 19** – Insert fuses from the kit in the following positions in the fuse holder (REM):
- 15A in position 7 (mini fuse) if the power supply function will be used
 - 20A in position 20 (mini fuse) if the charging function will be used
 - 25A in position 29
 - 25A in position 30.
- Plug in the connectors for sill trim panel lighting and reinstall the panel.
 - Reinstall the folding panels.
 - Reinstall the cargo compartment carpet.

Applies to connection of the function for automatic rear fog lamp deactivation

–

NOTE! The function requires car-specific software. Program the software according to the service information described in VIDA.

20 Checking the 13-pin connector:

- 1 Left indicator lamps
- 2 Rear fog lamps
- 3 Ground
- 4 Right indicator lamps
- 5 Right parking lamps
- 6 Brake lamp
- 7 Left parking lamps
- 8 Reversing lamp
- 9 Power supply
- 10 Charging
- 11 Not used
- 12 Not used
- 13 Ground

Steps 21-31 apply to the V70

- 21** – Remove the two floor hatches in the cargo compartment.
- 22** – Remove the storage compartment under the rear floor hatch by turning the clips on the right-hand and left-hand sides 90°. Lift out the compartment.
- 23** – Remove the left-hand folding panel in the cargo compartment.
- 24** – Remove the left-hand side panel by first removing the cover and screw from the front edge.
– Pull the top edge of the panel out until the clips release.
– Fold the panel inwards. Lift the panel out.
- 25** **Applies only to cars with the extra seat or subwoofer accessories**
– Remove the screw (1), the nuts (2) and then the bracket (3) (pull the bracket forwards).
– Lift off the protective cover (4).
- 26** – Remove the two screws in the tailgate sill trim panel.
- 27** – Remove the dummy plug from the hole in the body, see the illustration (battery draining is not affected).
- 28** – Route the cable harness from the tow bar connector through the hole in the floor.
– Adjust the position of the rubber seal (1) so that there is not excessive cable slack under the car.
– Install the rubber seal in the hole.
– Route the cable harness as shown in the illustration. Pull up the sill trim panel on the left-hand side and place the cable harness in the space along the rear edge of the left-hand floor support. Make sure the cable harness is not pinched before reinstalling the sill trim panel.
– Tighten the sill trim panel securely.
- Illustration B**
– Secure the cable harness to the cable harness behind the battery with a tie strap (2) from the kit.
– Connect the routed ground cable to the grounding point (3) behind the battery and tighten the grounding screw securely.
- 29** – Detach the trailer module (TRM) from the front edge of the cover on the ventilation opening along the rear edge of the left-hand rear wheel housing.
– Plug in the tow bar wiring connectors:
 green (GN) and grey (GR) connectors to the control module.
 black (SB) connector to the fuse holder.
– Reinstall the control module.
– Secure the excess cable with a tie strap from the kit.
- 30** – Insert fuses from the kit in the following positions in the fuse holder (REM):
 15A in position 7 (mini fuse) if the power supply function will be used
 20A in position 20 (mini fuse) if the charging function will be used
 25A in position 29
 25A in position 30.
– Reinstall the side panel.
– Reinstall the folding panel.
– Reinstall the battery cover and bracket if applicable.
– Reinstall the storage compartment and floor hatches.

Applies to connection of the function for automatic rear fog lamp deactivation

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NOTE! The function requires car-specific software. Program the software according to the service information described in VIDA.

31 **Checking the 13-pin connector:**

- 1 Left indicator lamps
- 2 Rear fog lamps
- 3 Ground
- 4 Right indicator lamps
- 5 Right parking lamps
- 6 Brake lamp
- 7 Left parking lamps
- 8 Reversing lamp
- 9 Power supply
- 10 Charging
- 11 Not used
- 12 Not used
- 13 Ground

Steps 32-45 apply to the XC90

32 **Applies to cars with two rows of seats**

- Fold up the centre rear floor hatch (1). If the floor hatch is equipped with a carrier bag holder, the holder is secured with a strap on both ends of the storage compartment. Detach the straps.
- Remove the underlying storage compartment.
- Remove the floor hatch by folding it almost completely closed then pulling it backwards from its mountings until it releases.

Applies to cars with three rows of seats and integrated carrier bag holder on the underside of the centre floor hatch

- Fold up the centre rear floor hatch (1).
- Detach the two straps on the underlying panel. Lift up the rear edge of the panel, fold the floor hatch back towards the panel and lift out the floor hatch with the panel.

Applies to cars with three rows of seats without an integrated carrier bag holder

- Fold up the rear edge of the centre rear floor hatch (1) and lift it out.

Applies to all models

- Remove the left-hand side floor hatch (2).

- 33 – Remove the folding side panel from the left-hand side in the cargo compartment.

- 34 – Remove the three screws in the battery holder. Lift the battery holder out.
– Remove the battery cover.

- 35 – Pull off the rubber strip at the rear edge of the door opening for the left-hand rear door opposite the left C-post panel.
– Carefully pry off the left-hand C-post panel sides at the top. Use a plastic weatherstrip tool. Then pull until the three clips on the inside release. Do not damage the headlining or the panel.
– Remove the panel by pulling upwards slightly and unhooking it from the side panel.

- 36 – Remove the rear roof panel covers and the screws beneath them.
– Carefully pry off the panel at the rear edge. Use a plastic weatherstrip tool.
– Pull the rear edge of the panel downwards until the four clips on the top release.
– If the car is equipped with lighting in the panel, unplug the connector from the panel.
– Pull the panel backwards to release it.

- 37 – Carefully pull off the D-post panel. Start at the top edge then pull down until the three clips on the inside release. Do not damage the panel.
– Disconnect the connector on the D-post panel (if the car has a loudspeaker in the D-post, the connector is in the loudspeaker).
– Remove the panel by pulling upwards slightly and unhooking it from the side panel.

38 **Illustration A shows the removal of the cover for the load securing eyelets**

- Fold out the load securing eyelet.
- Insert a scribe with an angled tip into the hole in the top of the cover.
- Turn the scribe so that the angled tip engages in the reverse of the cover (1). Pull the cover off.

Illustration B applies to cars with two rows of seats

Illustration C applies to cars with three rows of seats

- Fold up the seats in the third row (applies to cars with three rows of seats).
- Remove the screws (2) for the load securing eyelets in the left-hand side panel.
- Remove the covers (3) over the front mountings for the left-hand side panel. Pry the covers off. Use a plastic weatherstrip tool or a small screwdriver.
- Remove the screws (4).
- Remove the clip (5) at the bottom of the storage compartment in the panel (applies to cars with three rows of seats).
- Remove the panel by pulling up the upper edge slightly so that the clips on the inside release. Pull the panel straight up.

- 39** – Remove the drain hose (1) from the battery.
- Remove the rubber seal (2). It will not be re-used.
 - Pull off the small, thin rubber strap on the new rubber seal.
 - Insert the old drain hose through the new rubber seal. Make sure the hose is not obstructed and that it is not folded.

40 Illustration A

- Route the cable harness from the tow bar connector through the hole in the floor.
- Adjust the position of the rubber seal (1) so that there is not excessive cable slack under the car.
- Install the rubber seal in the hole.
- Route the cable harness as shown in the illustration. Insert it through the hole along the rear edge of the left-hand cargo floor support.
- Secure the cable harness to the cable harness behind the battery with a tie strap (2) from the kit.

Illustration B

- Connect the routed ground cable to the grounding point (3) behind the battery and tighten the grounding screw securely.
- Reconnect the drain hose (4) to the battery.

41 –

NOTE! If the cable harness is stretched too tightly, it can scrape against the lower edge of the bumper and become damaged.

Make sure the cable harness curves around the lower edge of the bumper as shown in the illustration.

- 42** – Detach the trailer module (TRM) from the Velcro fastener on the floor along the rear edge of the left-hand rear wheel housing.
- Plug in the tow bar wiring connectors:
 - green (GN) and grey (GR) connectors to the control module.
 - black (SB) connector to the fuse holder.
 - Reinstall the control module.
 - Secure the excess cable with a tie strap from the kit.

- 43** – Insert fuses from the kit in the following positions in the fuse holder (REM):
- 15A in position 7 (mini fuse) if the power supply function will be used
 - 20A in position 20 (mini fuse) if the charging function will be used
 - 25A in position 29
 - 25A in position 30.

44 Reinstall:

- the left-hand side panel using the screws and cover. Tighten the screws in the load securing eyelets. Tighten to **24 Nm (18 lbf ft)** .
- the covers for the load securing eyelets.
- D-post panel with connector.
- the connector for the rear roof lighting (if applicable).
- the rear roof panel.
- C-post panel.
- protective cover and bracket for the battery.
- side floor hatch and folding panel.
- storage compartment and floor hatch.

Applies to connection of the function for automatic rear fog lamp deactivation

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NOTE! The function requires car-specific software. Program the software according to the service information described in VIDA.

45 Checking the 13-pin connector:

- 1 Left indicator lamps
- 2 Rear fog lamps
- 3 Ground
- 4 Right indicator lamps
- 5 Right parking lamps
- 6 Brake lamp
- 7 Left parking lamps
- 8 Reversing lamp
- 9 Power supply
- 10 Charging
- 11 Not used
- 12 Not used
- 13 Ground