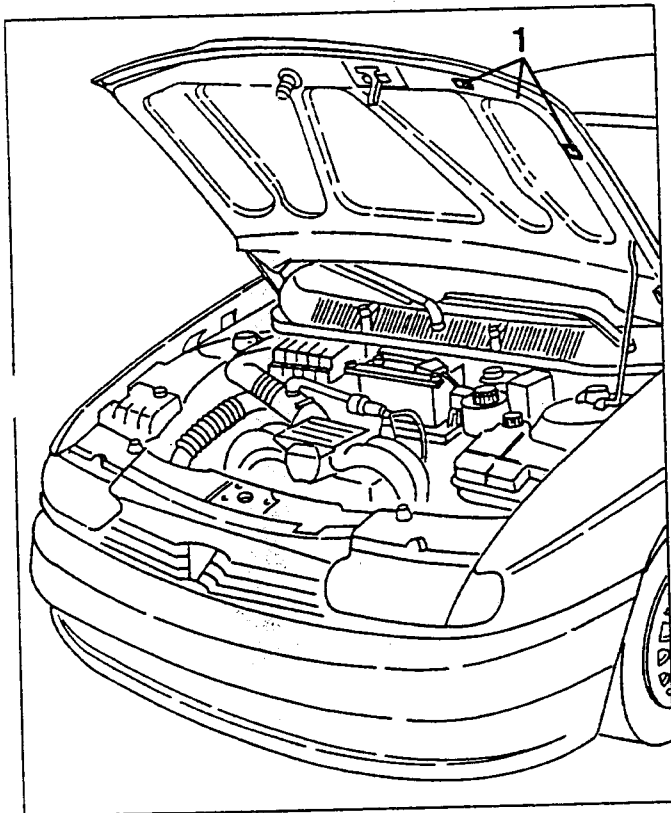
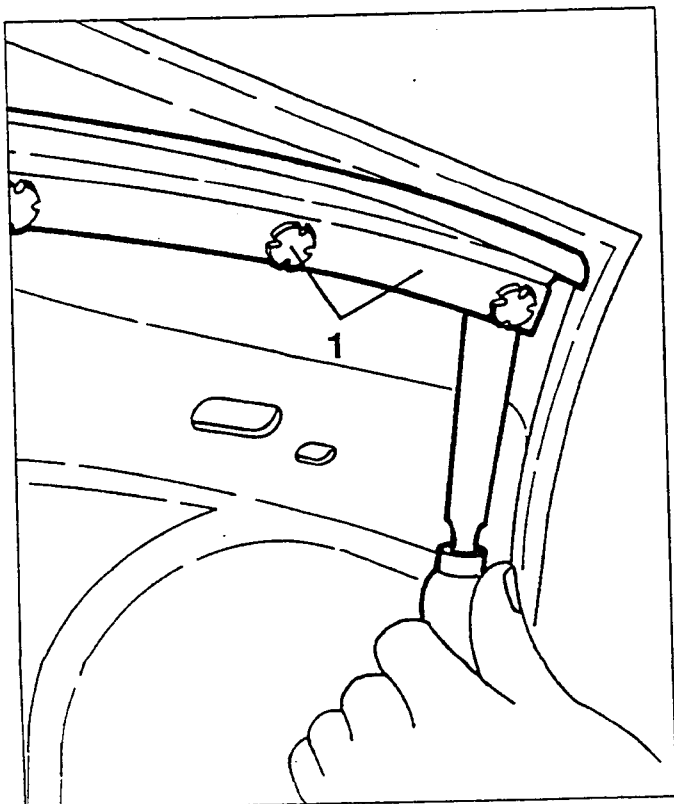


BONNET TRIM**REMOVAL/REFITTING**

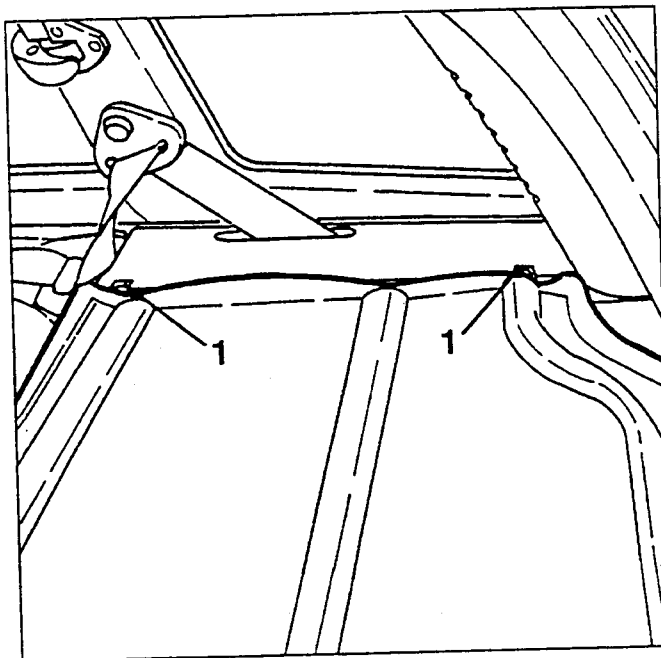
1. Working from the engine bay, pull off the plastic buttons and remove the bonnet trim.



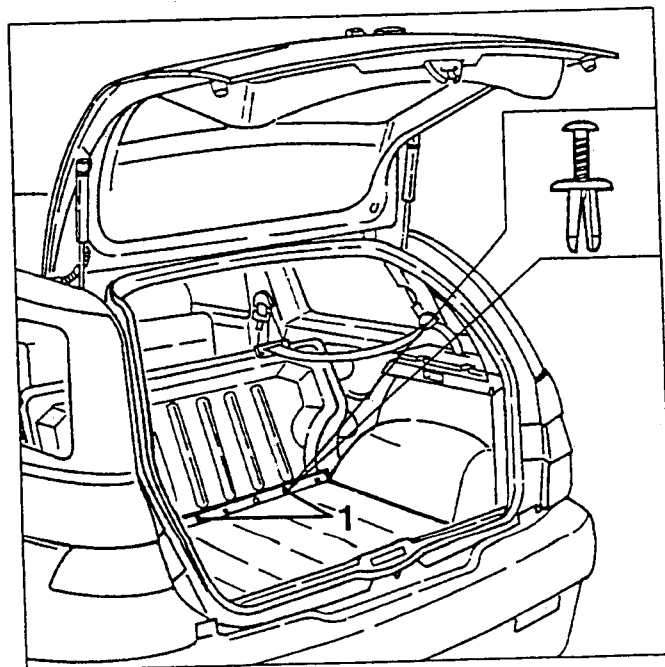
1. If necessary, pull off the plastic buttons and remove the front seal strip.

**HATSELF****REMOVAL/REFITTING**

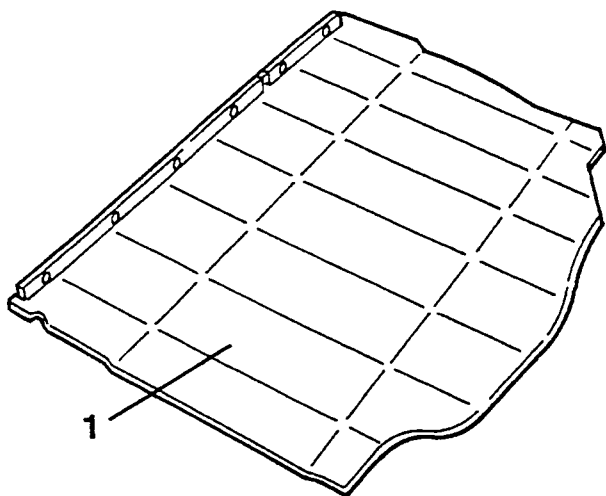
1. Working from the luggage compartment, free the two side hatshelf attachments, wind it up and remove it.

**LUGGAGE COMPARTMENT
LOWER TRIM****REMOVAL/REFITTING**

- Tip the rear seat back-rest forward.
1. Loosen the plastic screws and pull off the buttons the luggage compartment lower trim.



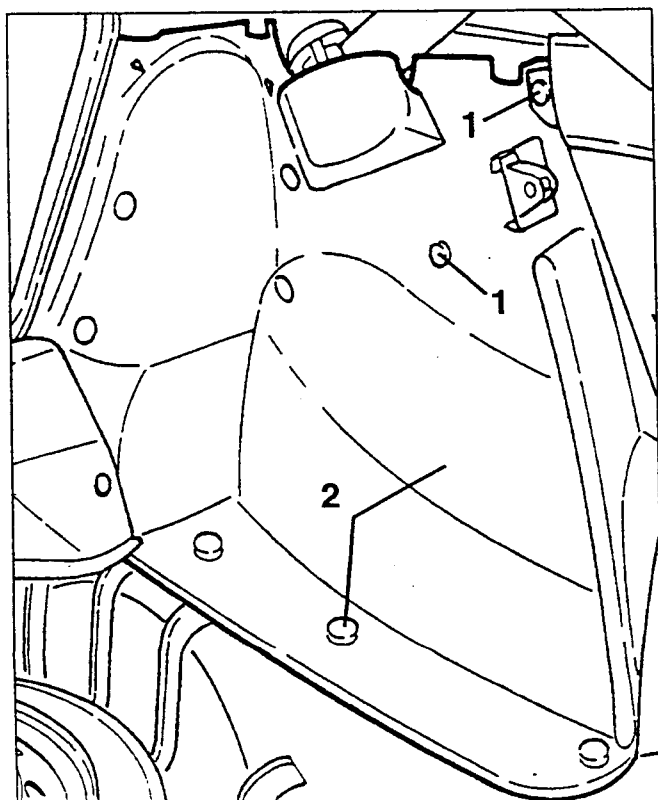
1. Remove the luggage compartment lower trim.



LUGGAGE COMPARTMENT SIDE TRIM

REMOVAL/REFITTING

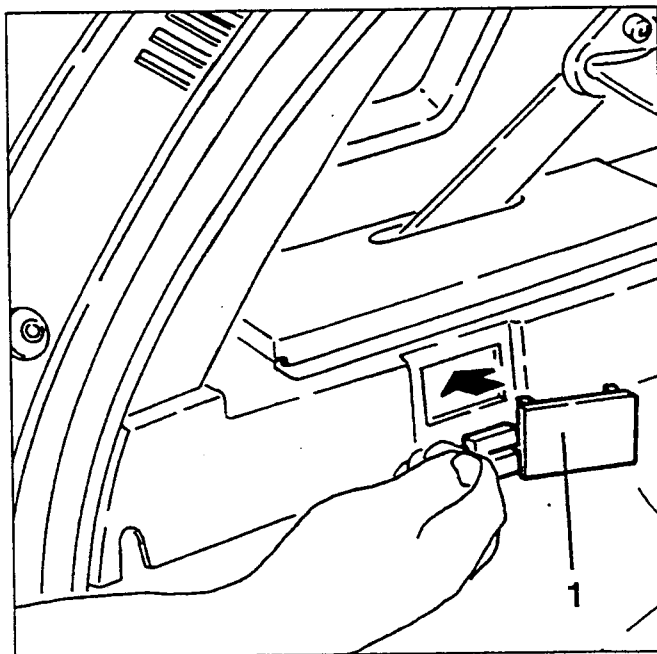
- Remove the side shelves supporting the hatshelf (see specific paragraph).
 - Tip the luggage compartment lower trim forward.
1. Loosen the two screws securing the luggage compartment side trim.
 2. Pull off the plastic buttons and remove the luggage compartment side trim.



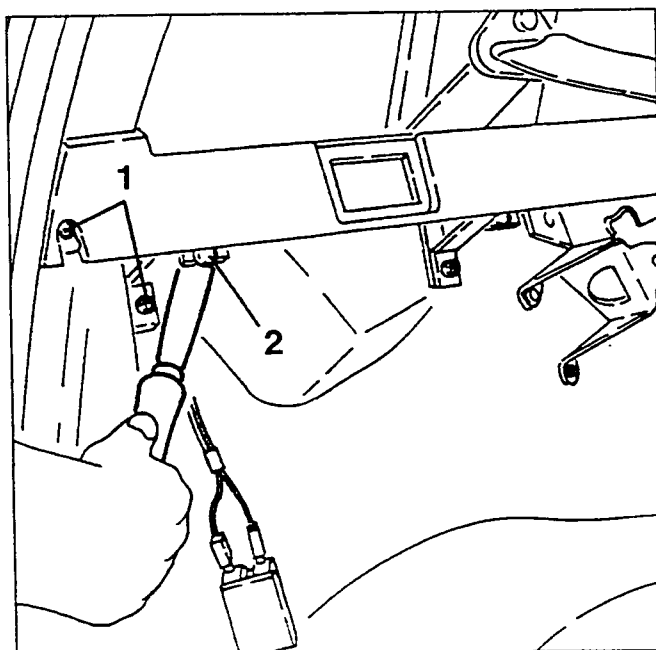
SIDE SHELVES SUPPORTING THE HATSHLF

REMOVAL/REFITTING

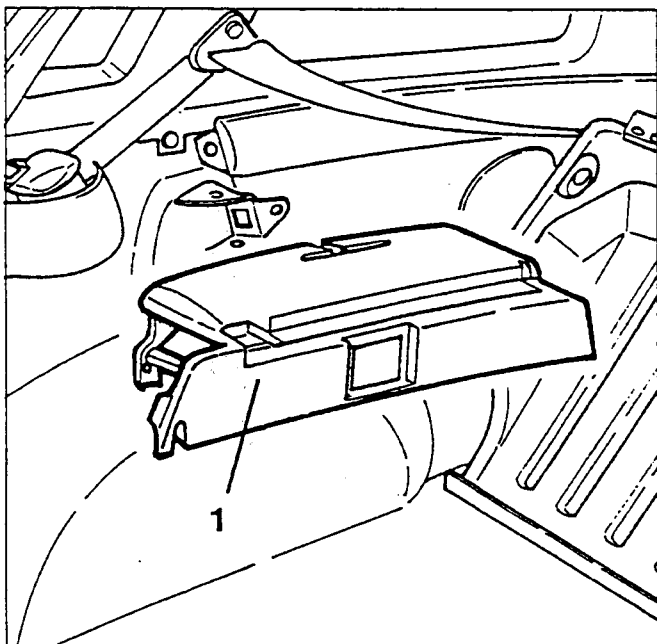
- Remove the hatshelf (see specific paragraph).
 - Tip the rear seat back-rest forward.
1. Pull the roof light from its seating and without disconnecting the electrical connections, replace it in the attachment hole freeing it from the shelf.



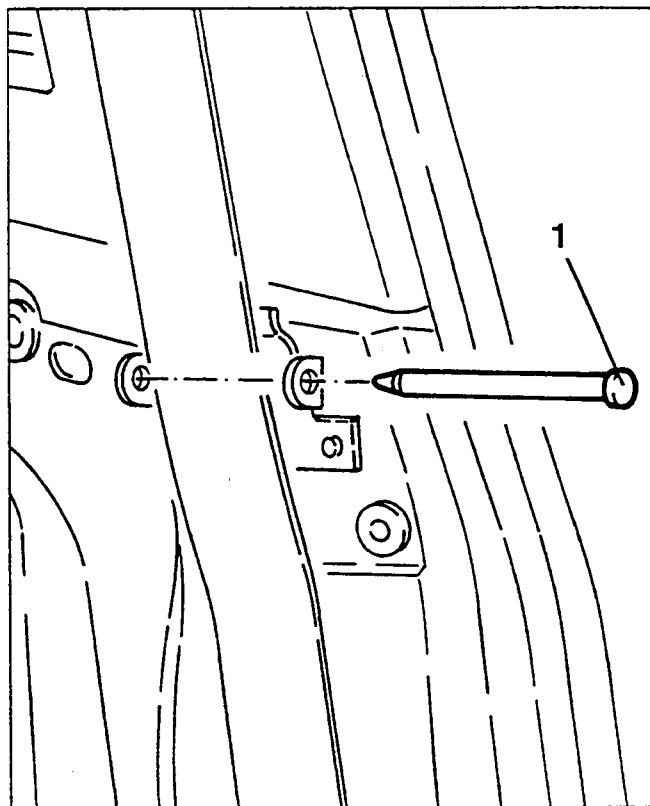
1. Loosen the three screws securing the shelf.
2. Pull off the two plastic buttons securing the shelf.



1. Remove the side parcel shelf support bracket withdrawing the safety belt from its housing.



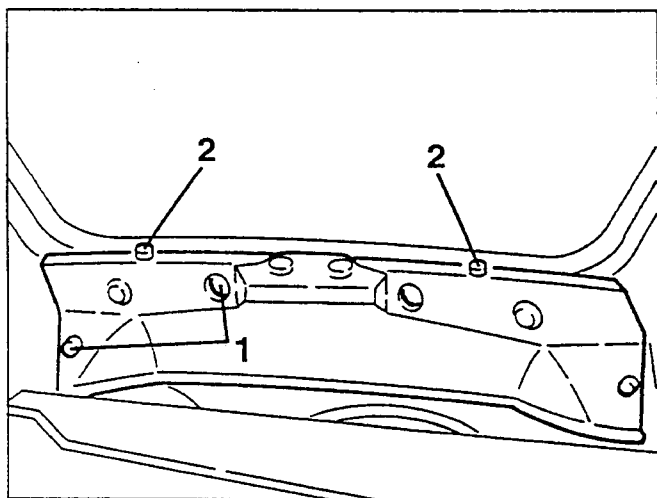
1. Withdraw the belt holder bracket guide pin.



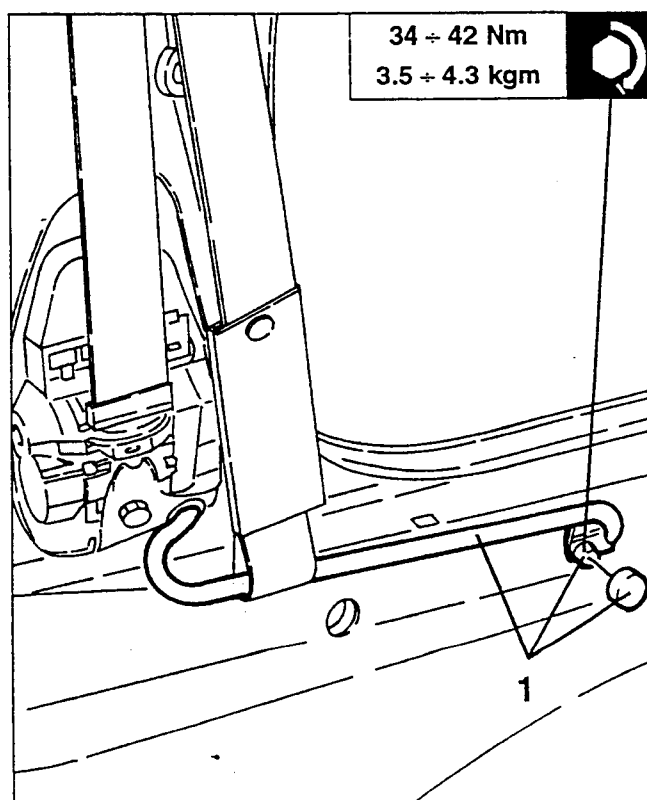
LUGGAGE COMPARTMENT PROTECTIVE TRIM

REMOVAL/REFITTING

1. Working from the luggage compartment, remove the four plastic nails fastening the protective trim.
2. Slacken the two screws fastening the luggage compartment protective trim and remove it.



1. Remove the cap, slacken the fastening screw, then remove the lower seat belt slider connection.

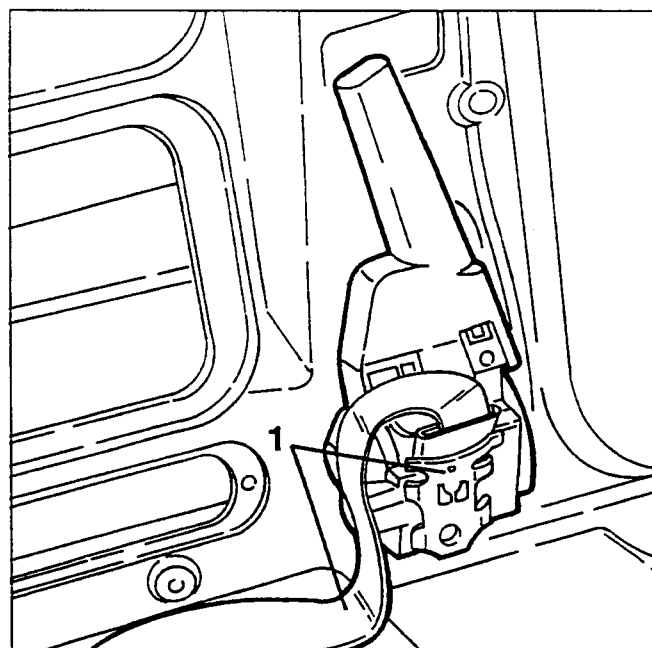
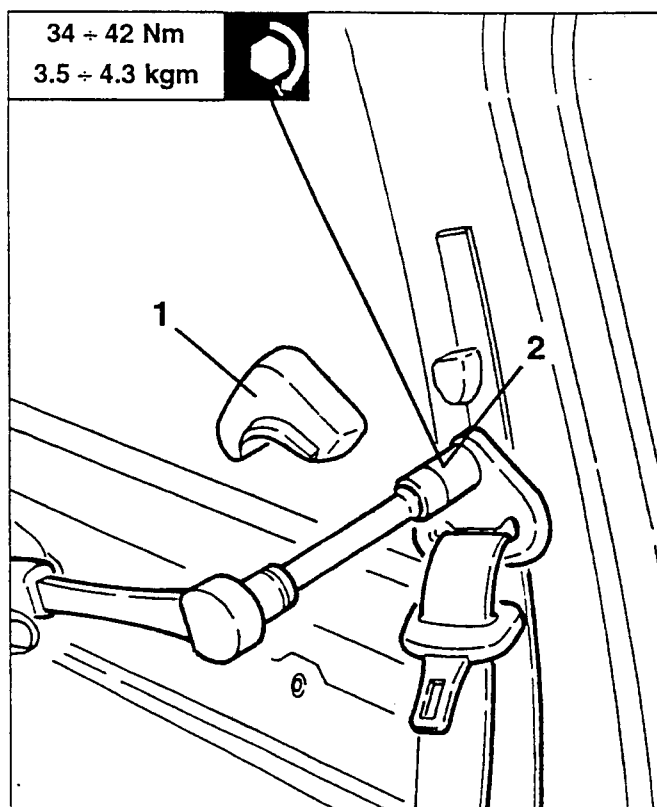


FRONT SEAT BELTS

REMOVAL/REFITTING

- Unarm the pre-tensioning device as described in "Removing/Refitting the arming rod".

1. Remove the seat belt runner cover.
2. Slacken the seat belt runner screw.



For refitting, reverse the sequence described for removal taking care to install the arming rod. For this operation follow the cautions given in "Removing/refitting the arming rod".

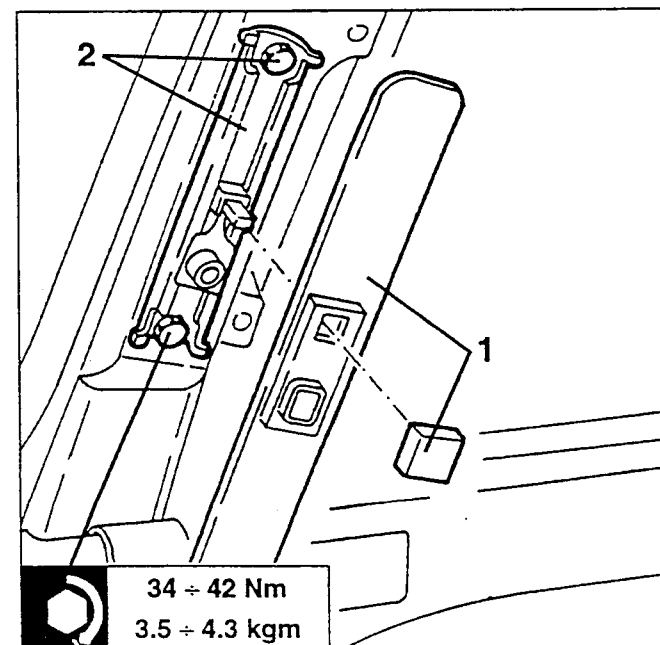
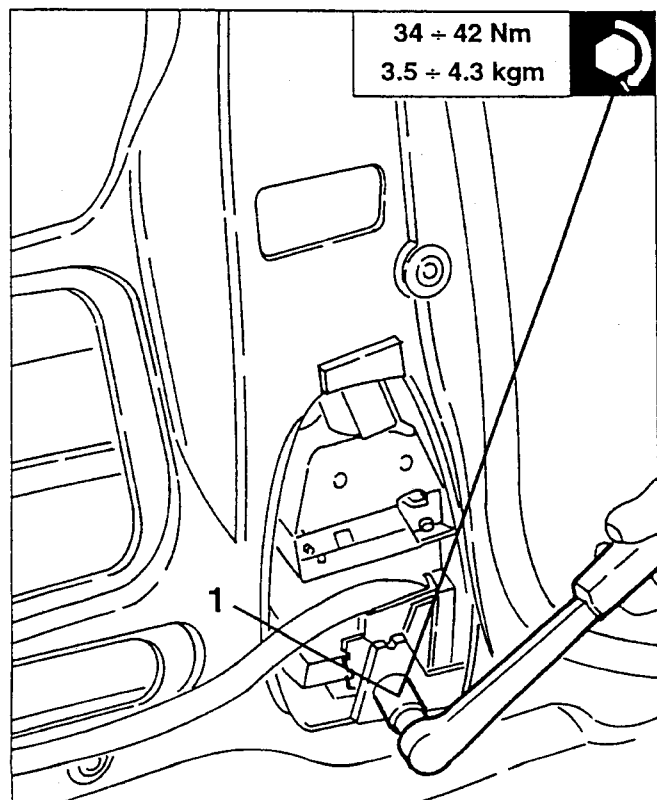
FRONT SEAT BELTS HEIGHT ADJUSTMENT DEVICE

REMOVAL/REFITTING

- Remove the window winder moulding (see specific paragraph).

1. Remove the seat belt height adjustment device knob and retrieve the corresponding plate.
2. Slacken the two fastening screws and remove the front seat belt height adjustment device.

1. Slacken the seat belt pre-tensioner fastening screw.



1. Remove the seat belt pre-tensioner withdrawing it from its housing.

REAR SEAT BELTS**REMOVAL/REFITTING**

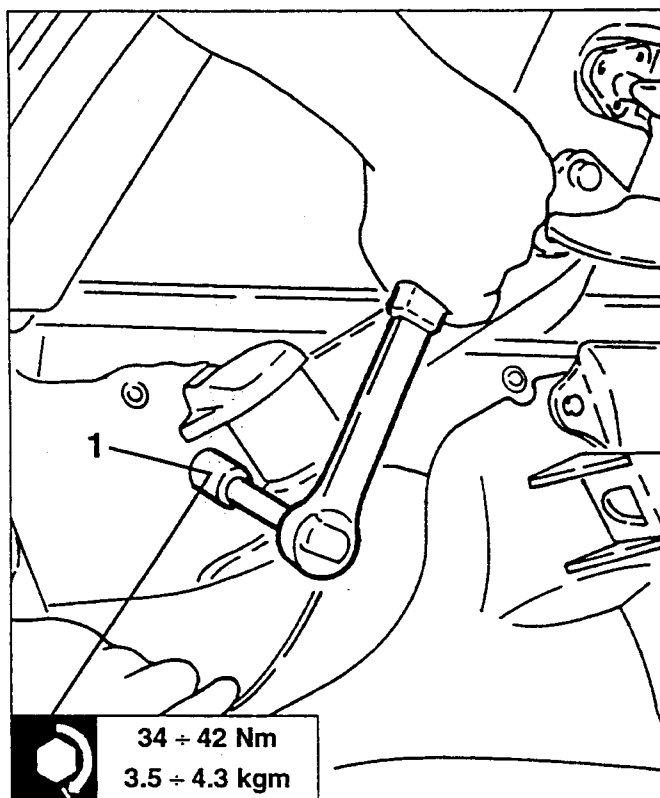
- Remove the side shelves supporting the haltsheft (see specific paragraph).

1. Lower the covering and loosen the re-winding mechanism attachment screw.

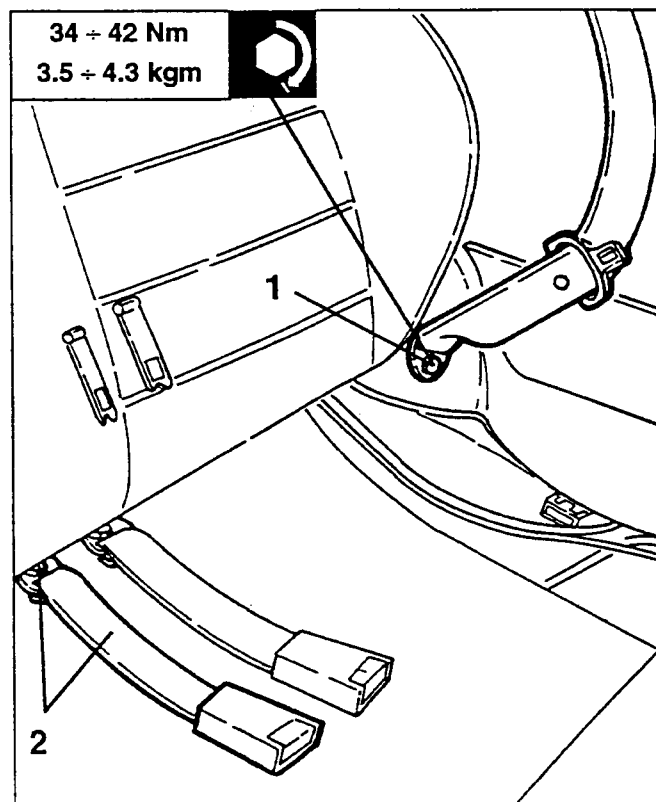
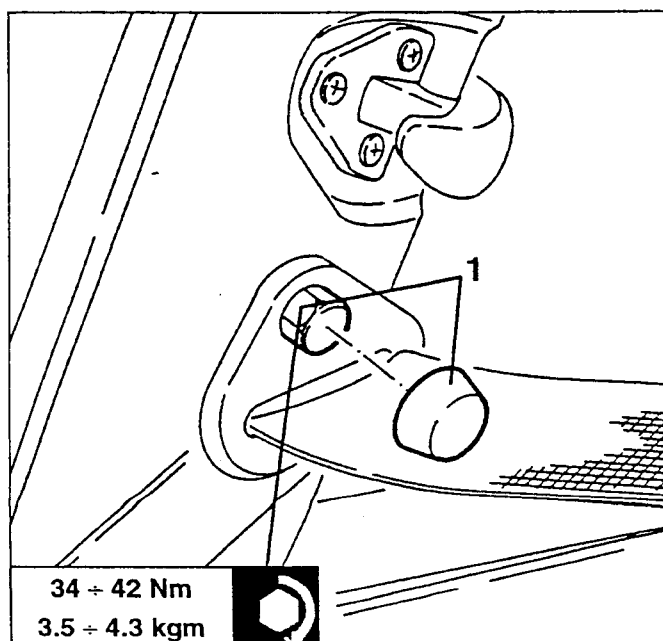
- Return the rear seat backrest to the vertical position.
- Tip the rear seat cushion forwards.

1. Loosen the screw on the seat belt lower attachment and remove the screw.

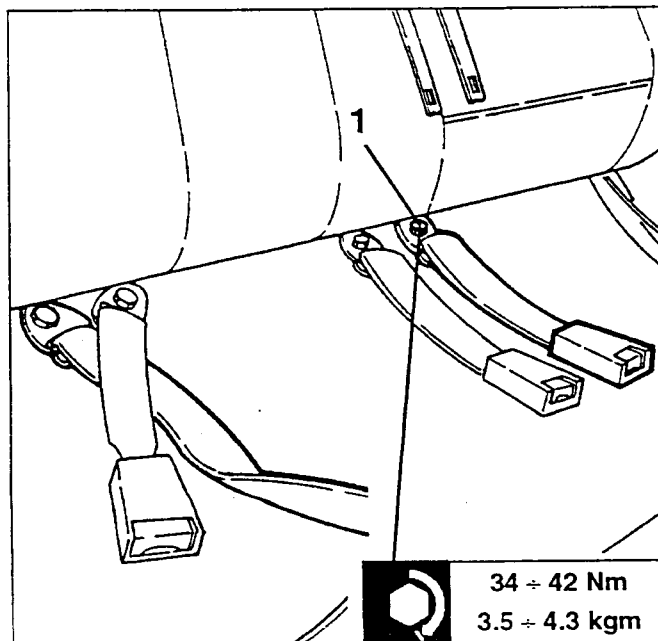
2. Loosen the screw and remove the seat belt stalk.



1. Pull off the cover from the rear seat belt runner attachment screw and then loosen the screw.

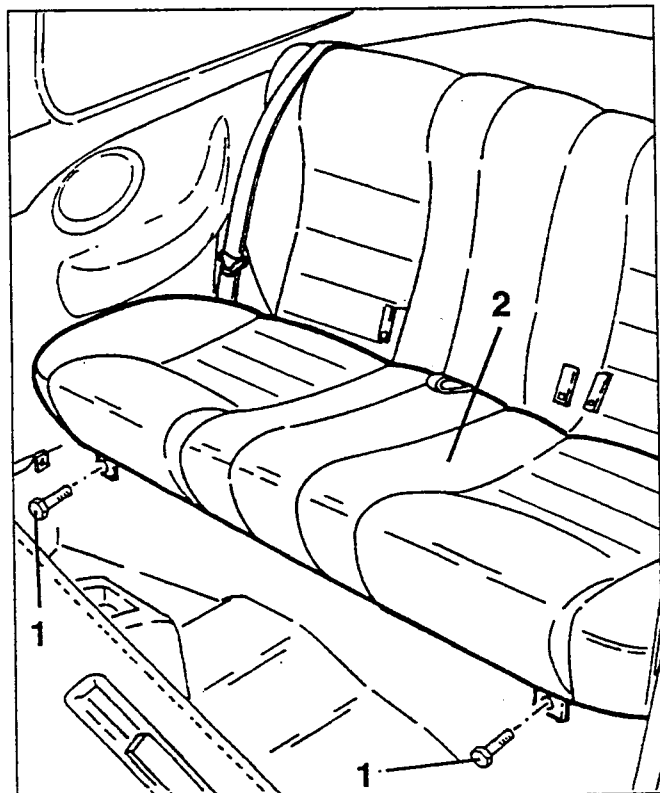


1. Loosen the screws and remove the lap-belt from the central rear seat position.



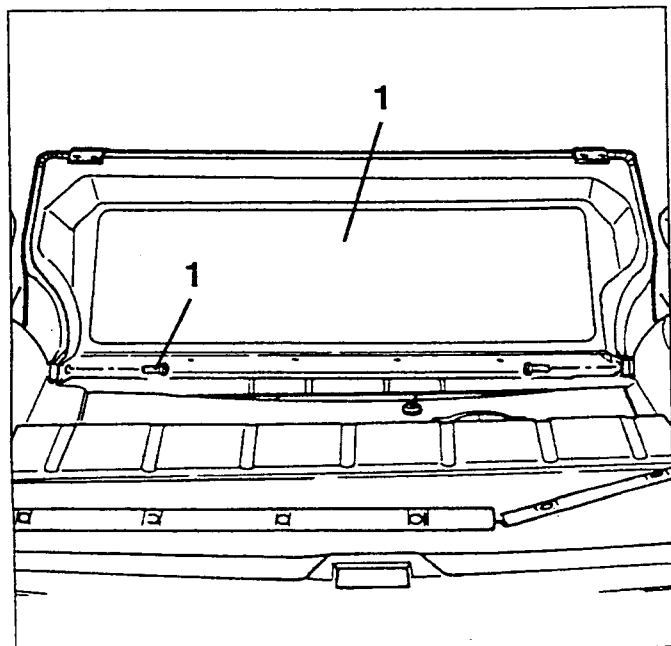
REAR SEAT (bench type)**REMOVAL/REFITTING**

1. Loosen the two screws securing the seat to the floor of the vehicle.
2. Lift up and remove the rear seat.



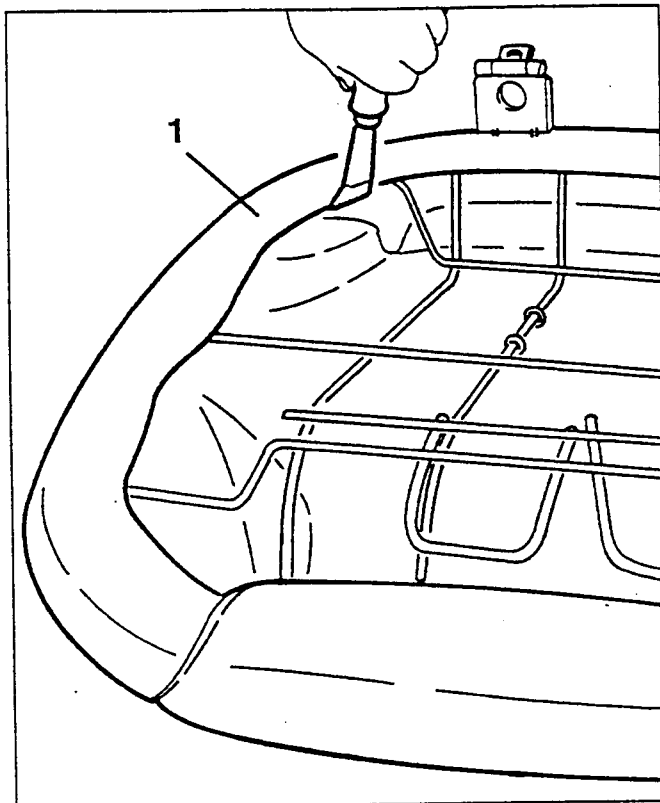
- Remove the lower trim from the luggage compartment (see specific paragraph).

1. Tip the backrest forwards, loosen the two screws and remove the backrest freeing it from the seat belts.

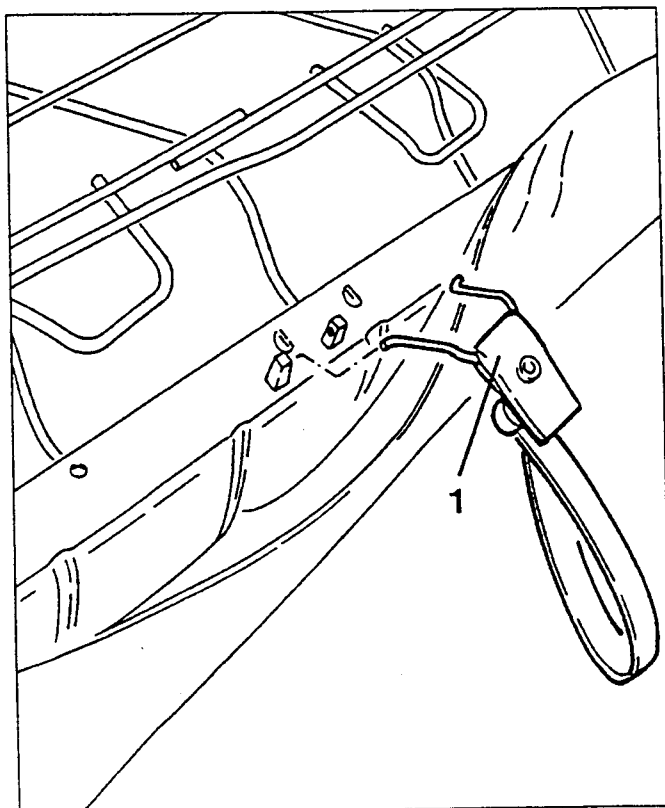
**DISASSEMBLING/REFITTING THE SEAT**

- Pull off the plastic buttons and remove the rear seat covering.

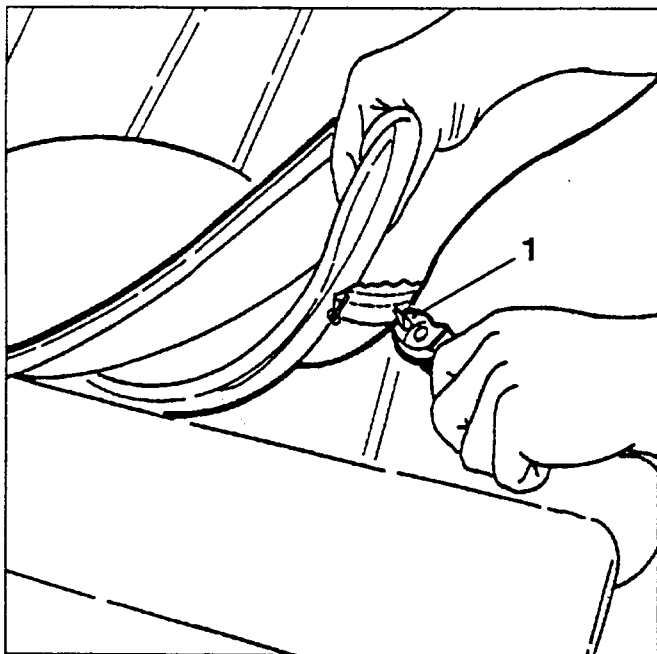
1. Pull the covering from the seat.



1. When pulling off the trim in the area around the handle used for tipping the seat forward, this handle must be removed by freeing the retaining clip.

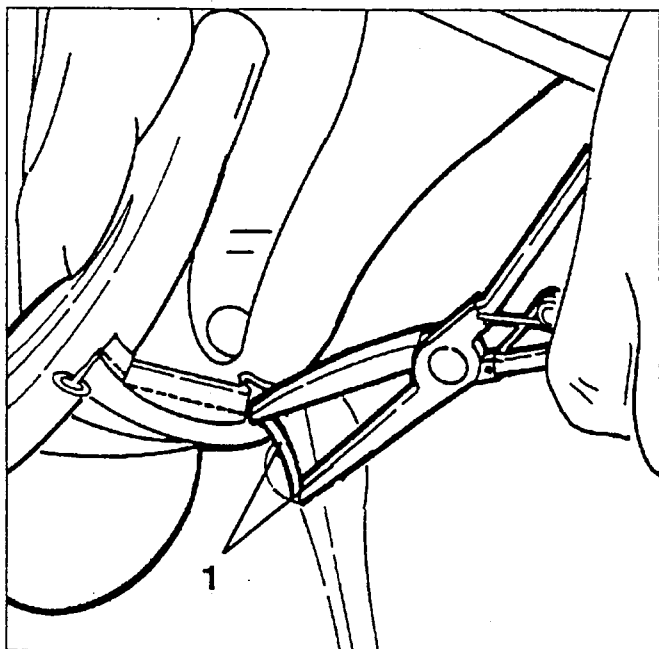


1. Using a pair of shears cut the clips securing the cover to the seat and remove the cover.



Refit by reversing the procedure followed for removal and note the following:

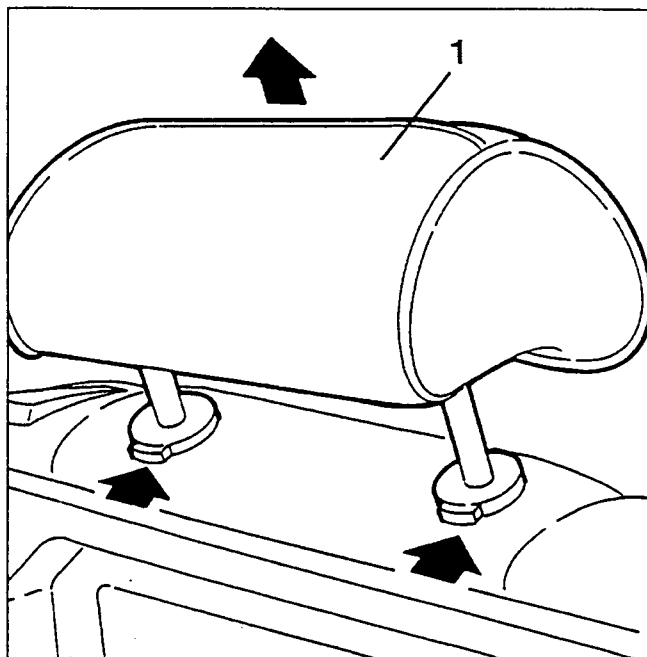
1. Secure the covering with the clips using the appropriate pliers supplied as a spare part.



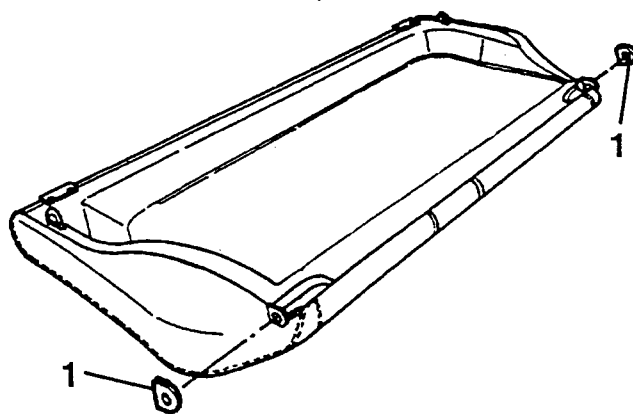
- Using a plastic mallet clinch the edge of the covering attachment.

DISASSEMBLING/REASSEMBLING THE BACKREST

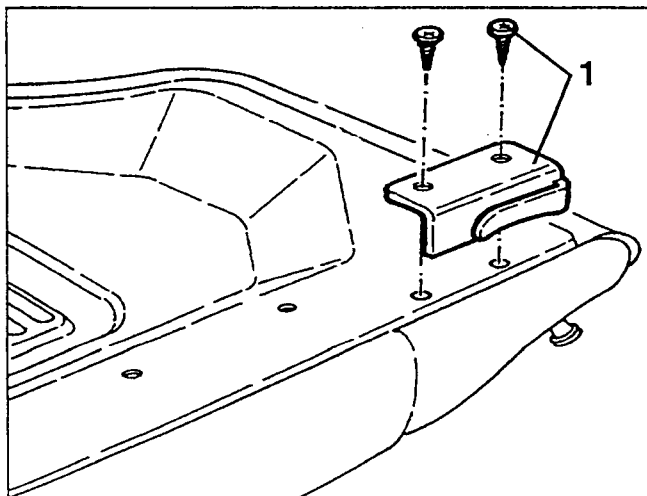
1. Remove the headrest by pressing the clips and at the same time pulling the headrest upwards.



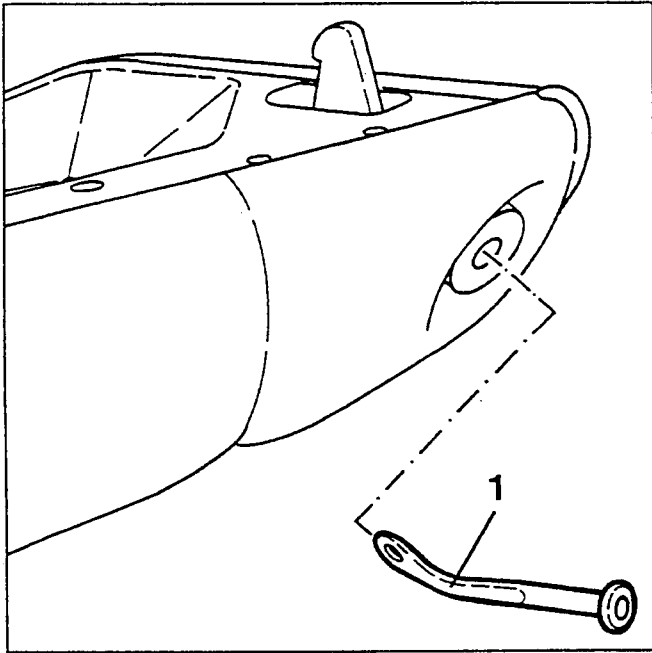
1. Remove the two plastic trim pieces from the backrest hinge.



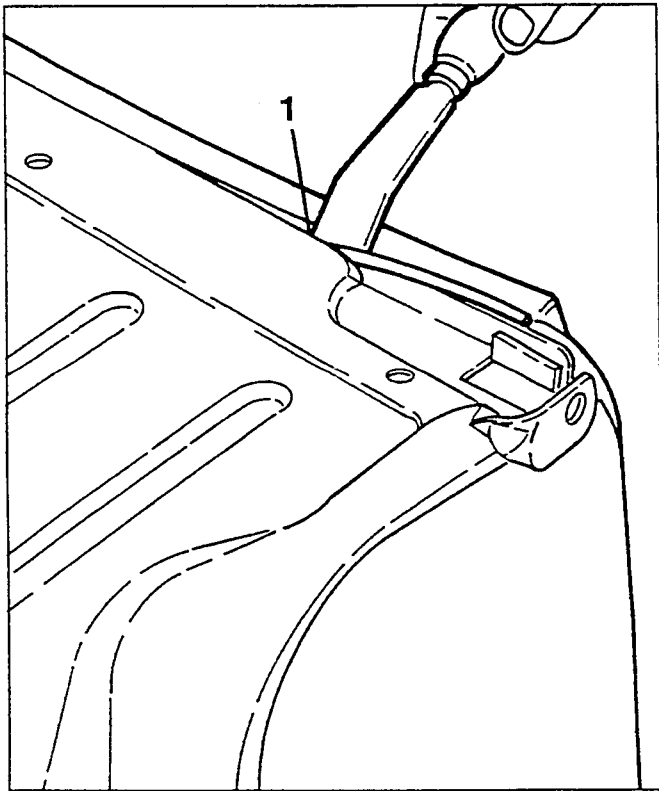
1. Loosen the two screws and remove the seat belt runners.



1. Remove the pins releasing the backrest catch.

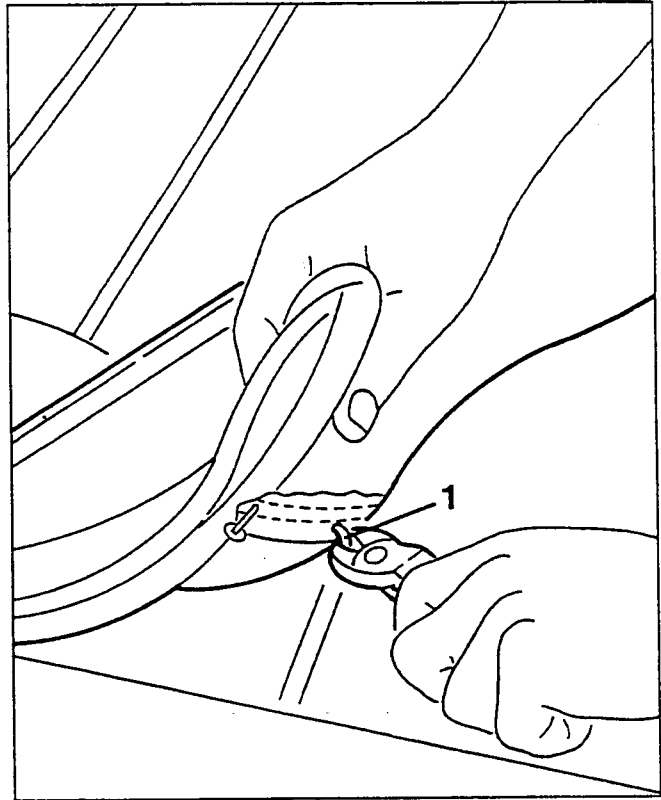


1. Working as shown in the diagram, pull the covering from the backrest.

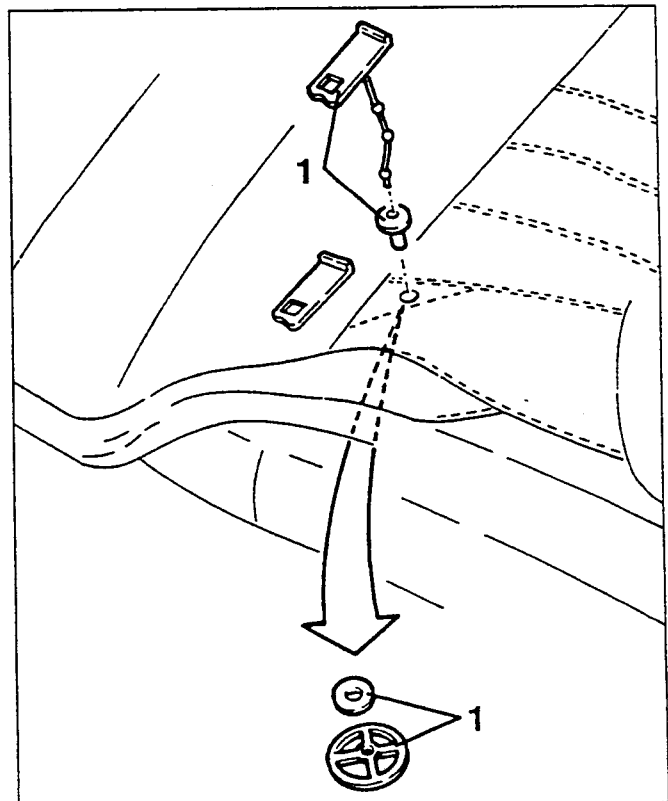


NOTE:
Care should be taken when removing the covering from the backrest release pins trim.

1. Using a pair of shears, cut the clips securing the backrest covering.



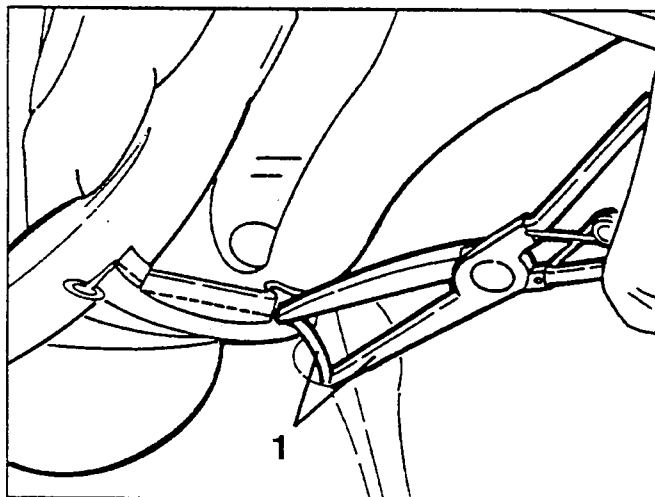
1. Remove the seat belt support attachments from the backrest and remove the covering.





Refit by reversing the procedure followed for disassembly and note the following:

1. Fix the covering with the clips using the appropriate pliers supplied as a spare part.

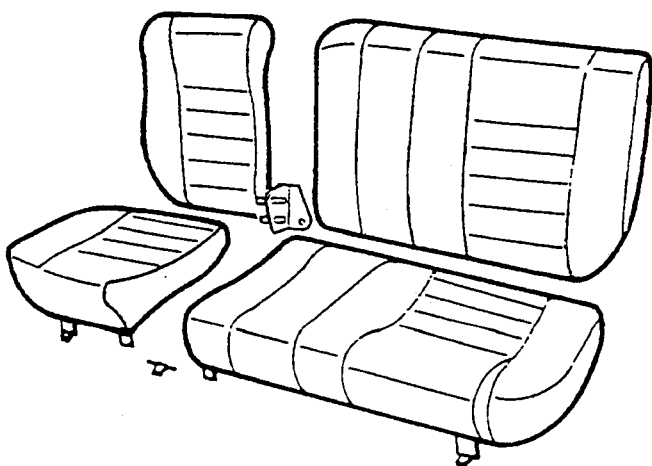


- Using a plastic mallet, clinch the edge of the covering.

REAR SEATS (split version)

REMOVAL/REFITTING

- Remove the seats as described in the section relative to the bench-type seats ensuring that the screws securing the central hinges are loosened and that the backrests and cushions are withdrawn from their pins.



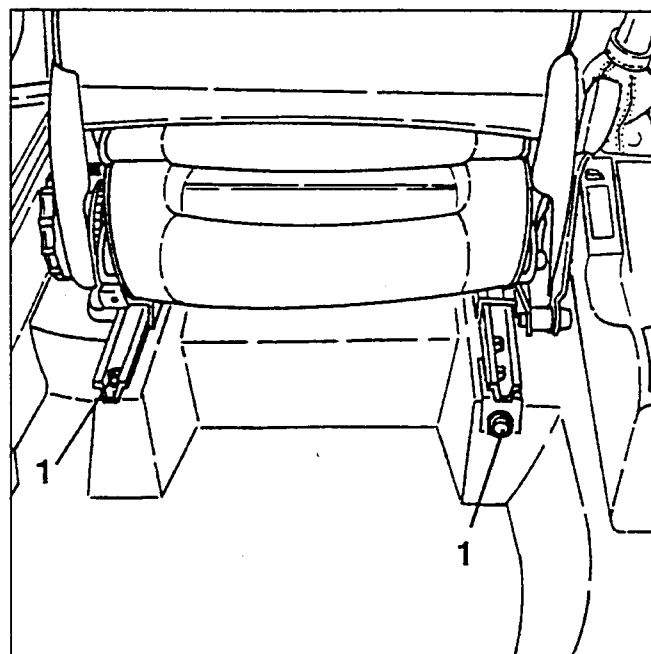
DISASSEMBLY/REASSEMBLY

- Proceed as described for the bench-type seat and make the modifications required by the shape of the seat.

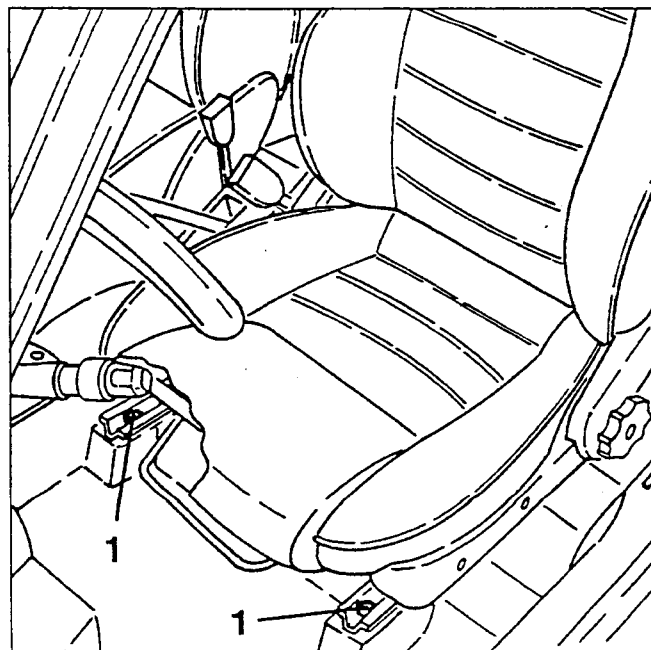
FRONT SEATS

REMOVAL/REFITTING

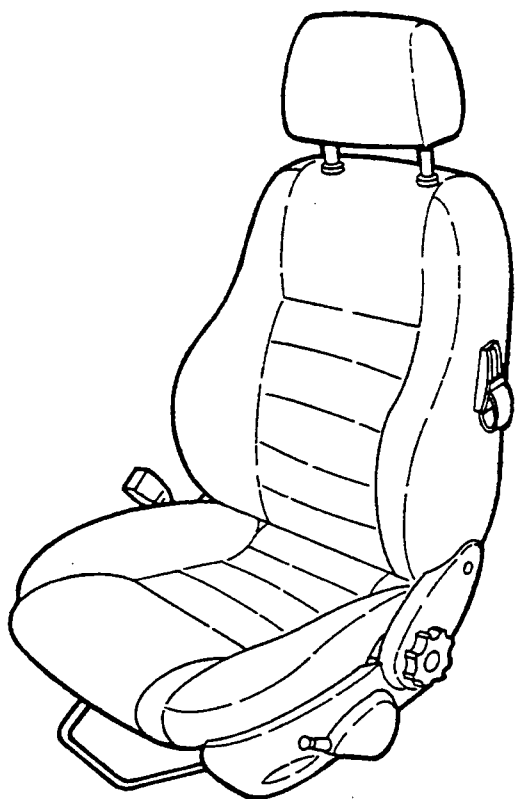
- Slide the seat fully forwards.
1. Loosen the two rear screws securing the runner to the floor.



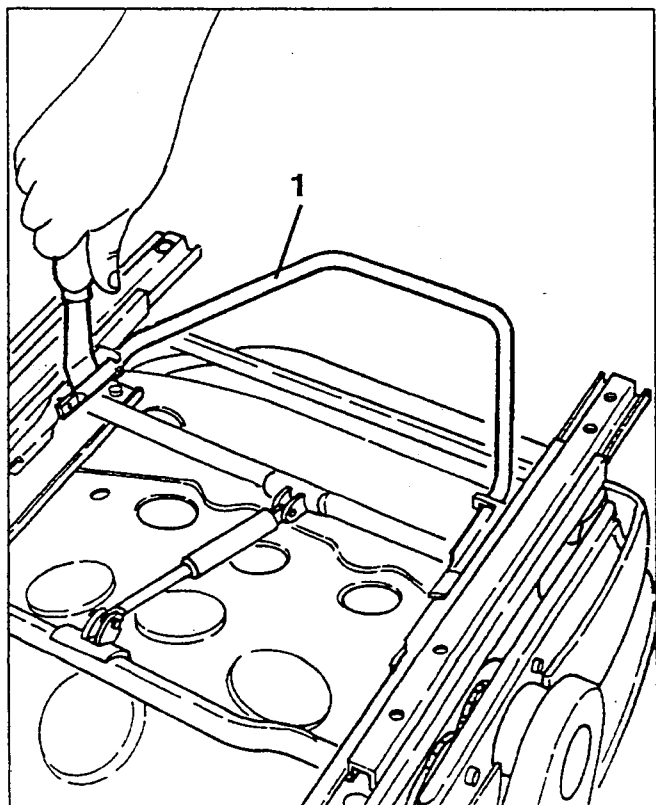
1. Slide the seat fully backwards, loosen the two front screws securing the runners to the floor and remove the seat.



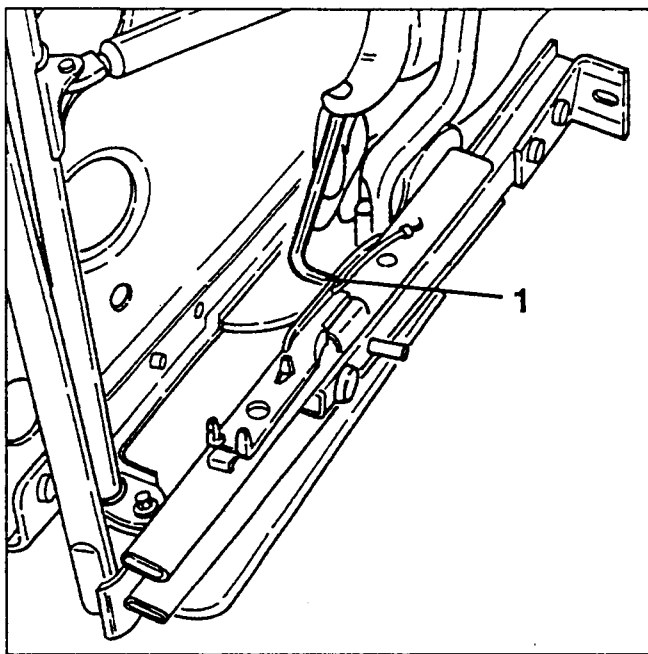
DISASSEMBLING/REASSEMBLING THE DRIVER'S SEAT (WITH HEIGHT ADJUSTMENT)



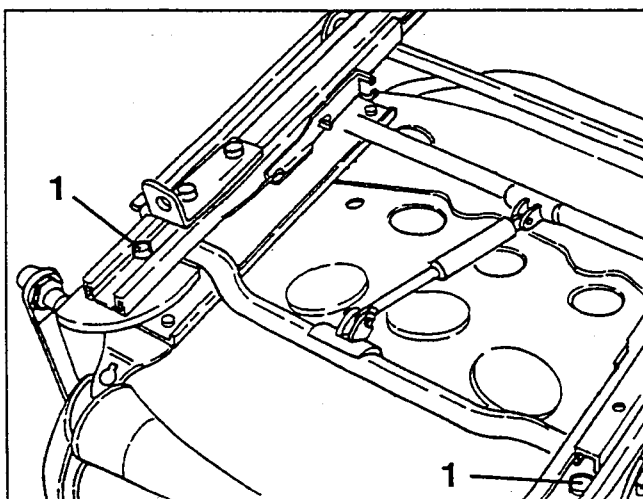
1. Remove the seat sliding control lever as shown in the diagram.



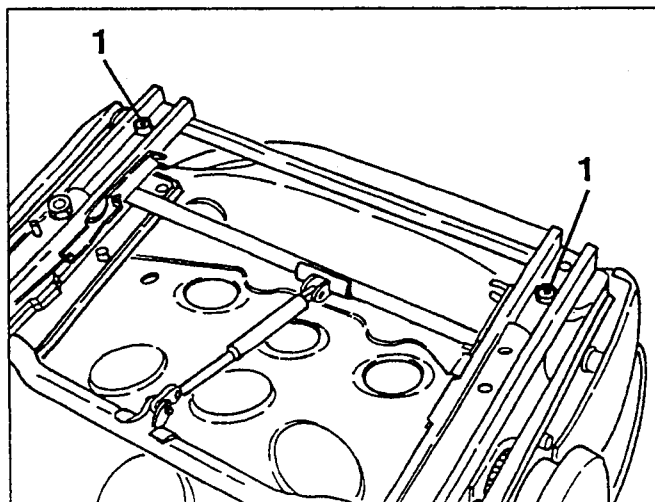
1. Loosen the upper screw securing the right-hand runner.



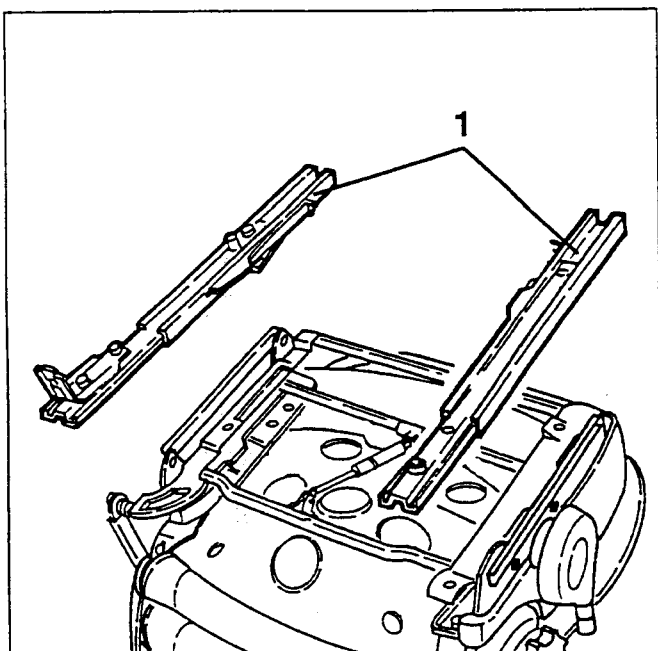
1. Move the guides forward and loosen the rear retaining screws.



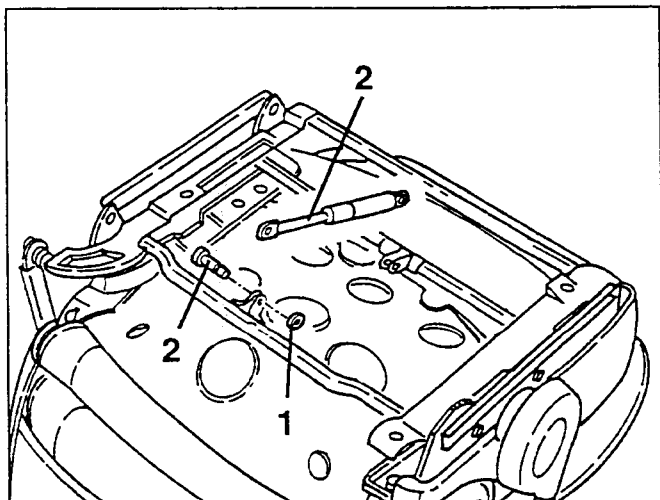
1. Move the guides backwards and loosen the front retaining screws.



1. Remove the seat runners.



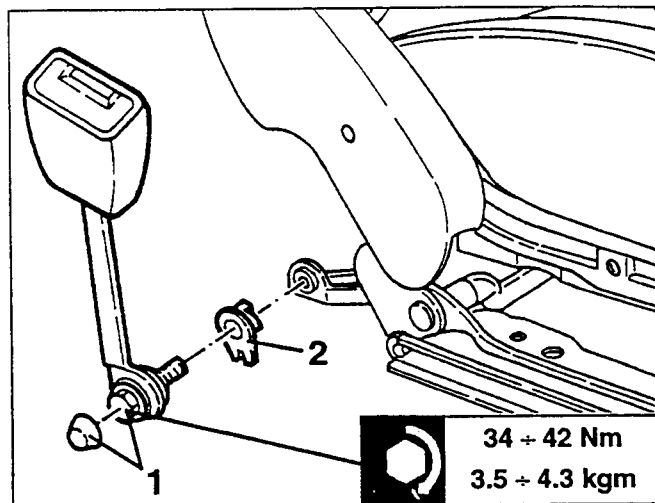
1. Remove the two clips securing the seat height adjustment device shock absorber.
2. Withdraw the pins and remove the seat height adjustment device telescopic support.



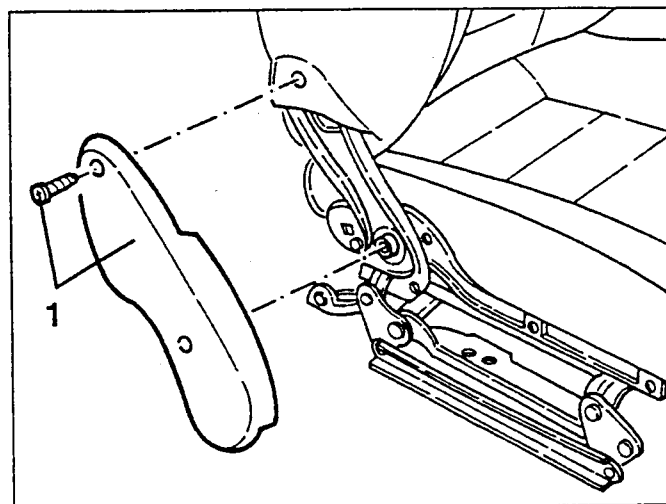
NOTE:

Before removing the telescopic support, fully raise the seat regulation device to prevent the telescopic support from leaping free during removal.

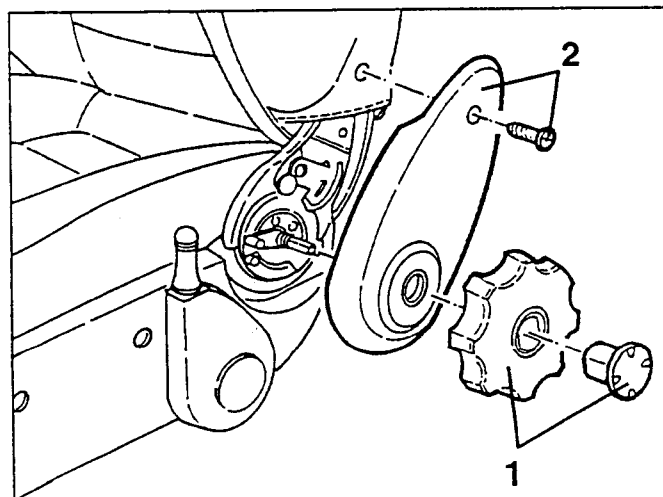
1. Remove the protective cover, loosen the screw and remove the seat belt attachment.
2. Remove the spacer.



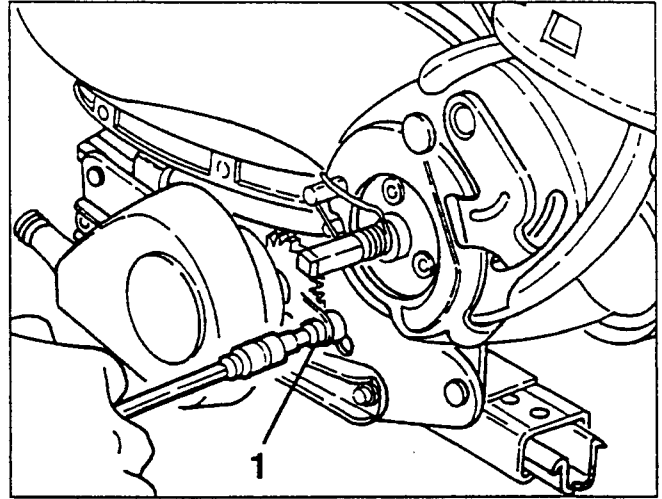
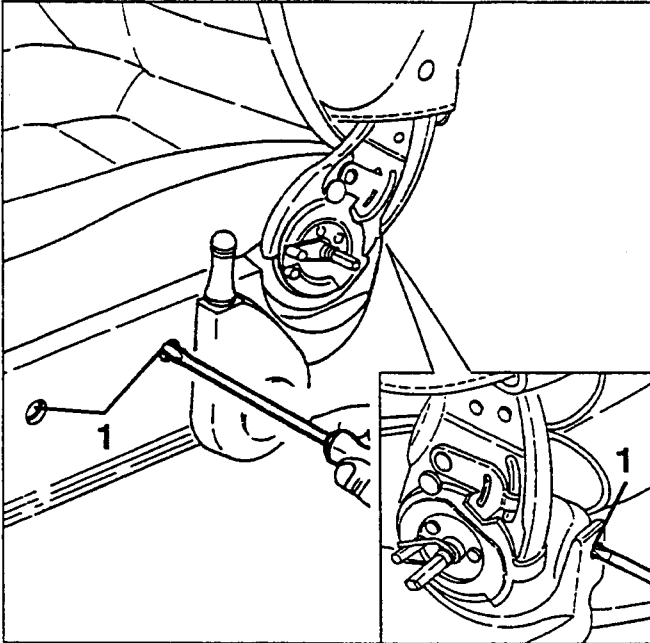
1. Loosen the two screws and remove the right-hand hinge moulding by pulling it away from the clips.



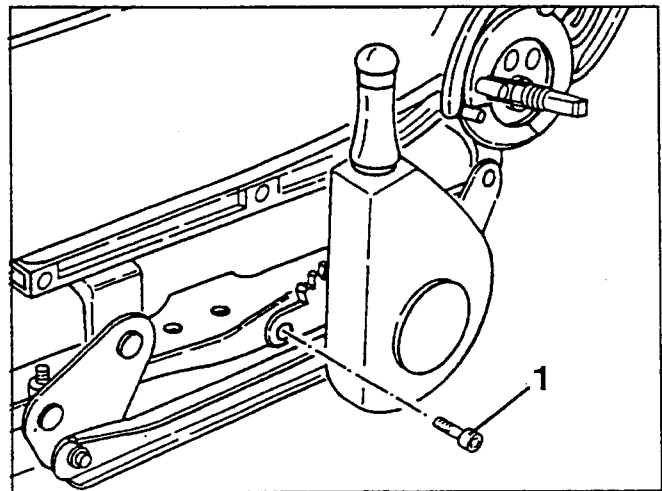
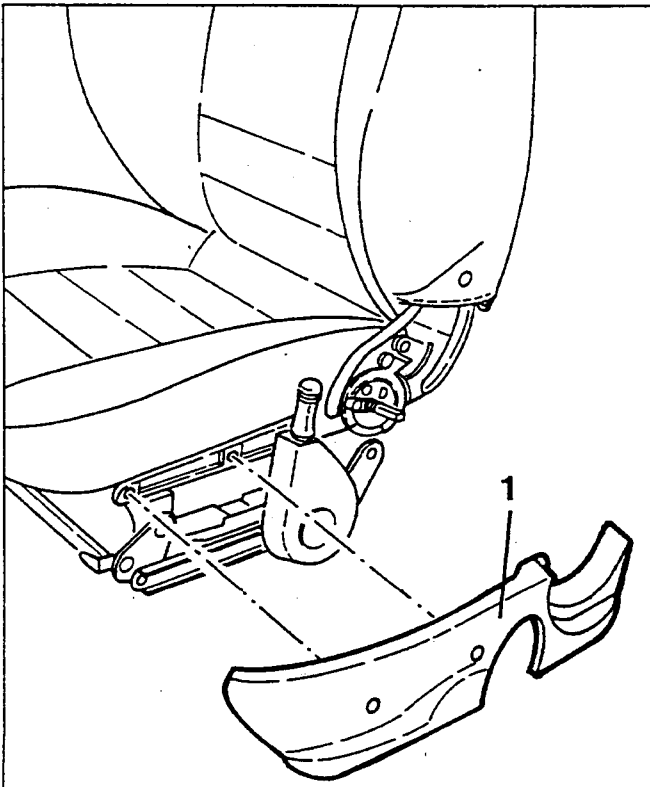
1. Pull off the cap and remove the backrest tilt handle.
2. Loosen the screw and remove the left-hand hinge moulding by pulling it away from the clips.



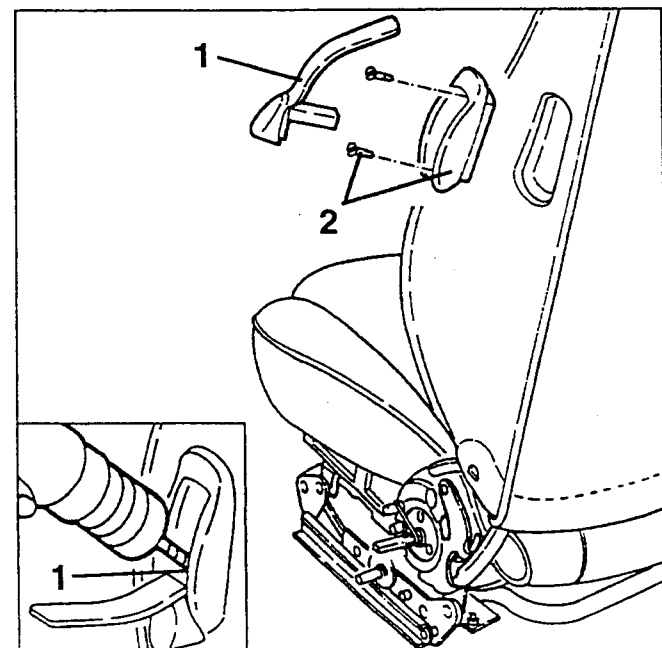
1. Loosen the three screws securing the cushion lower moulding.



1. Remove the lower cushion moulding.

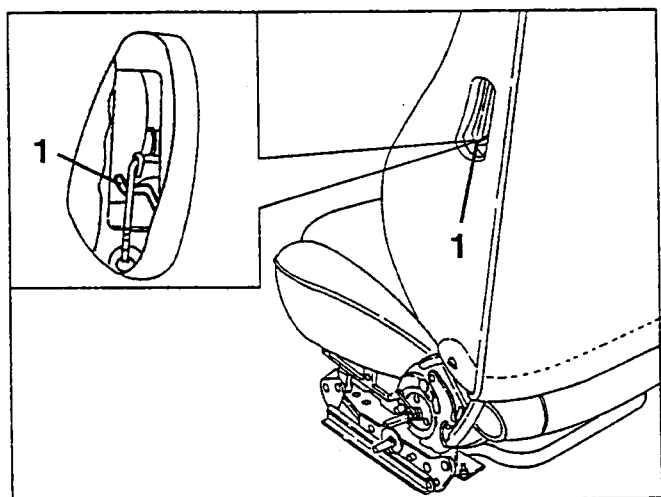
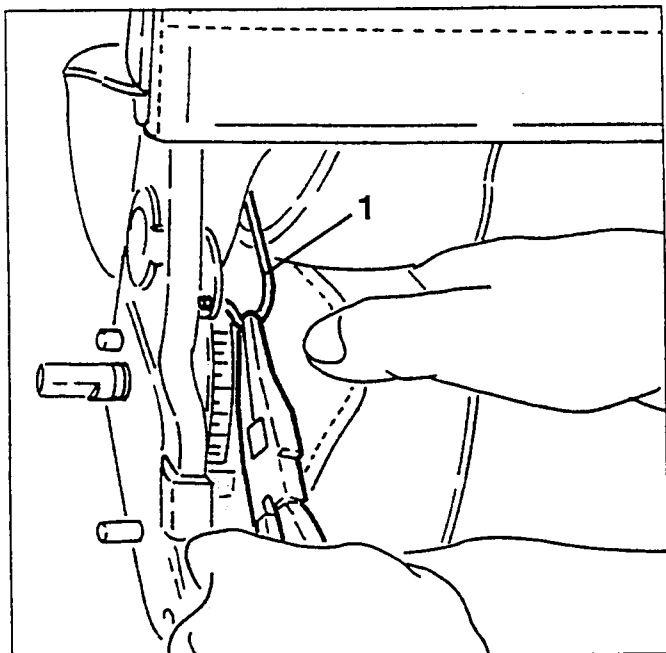


1. Remove the moulding and using a drill remove the rivet securing the handle used for tipping the backrest. Remove the handle.
2. Loosen the two screws and pull off the trim moulding.

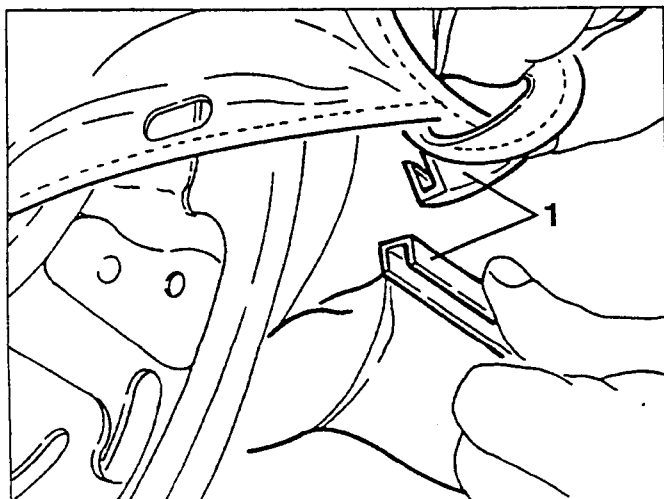


1. Suitably rotating the height regulation device of the seat, loosen the two screws and remove the device.

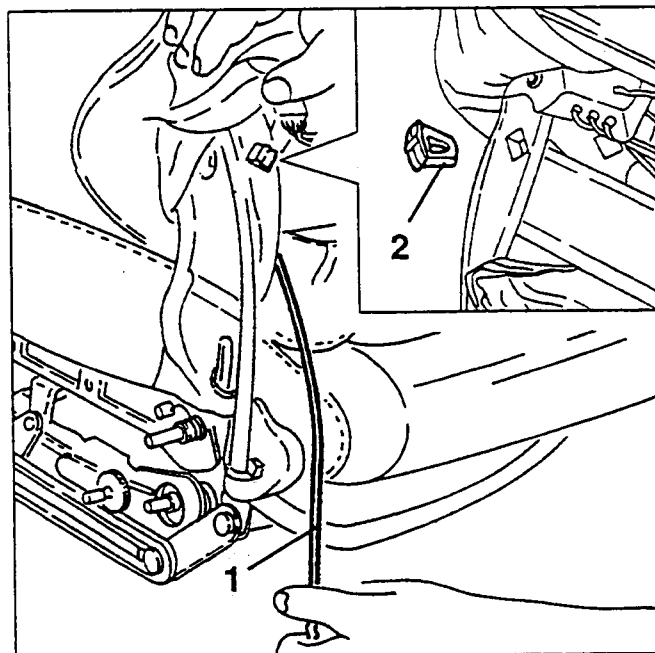
- Tip the backrest forwards to expose the recess.
1. Disconnect the the backrest tilt recess from the relative attachments.



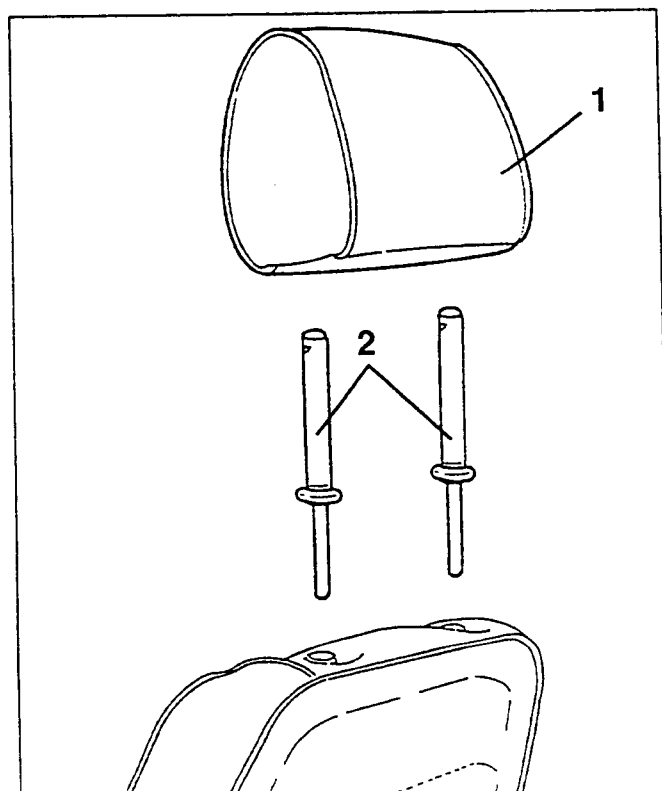
1. Open the backrest covering as shown in the diagram.



1. Remove the backrest tilt recess withdrawing it from the retaining clip.
2. Remove the backrest tilt recess passage clip.

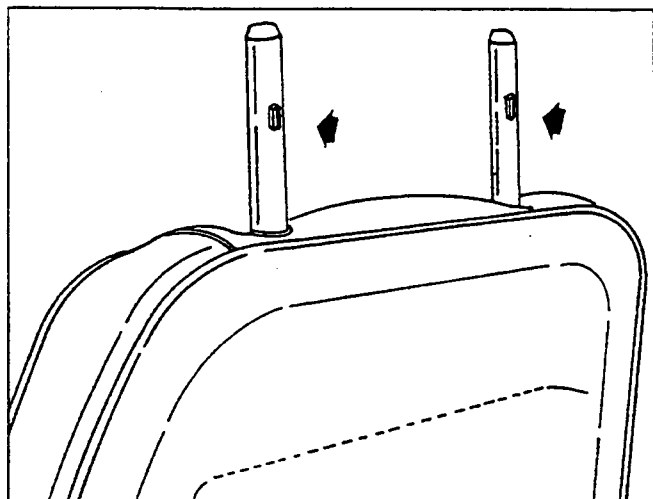


- Fully raise the headrest.
1. Rotate the support pins 90° anticlockwise and remove the headrest.
 2. Withdraw the two headrest support pins.

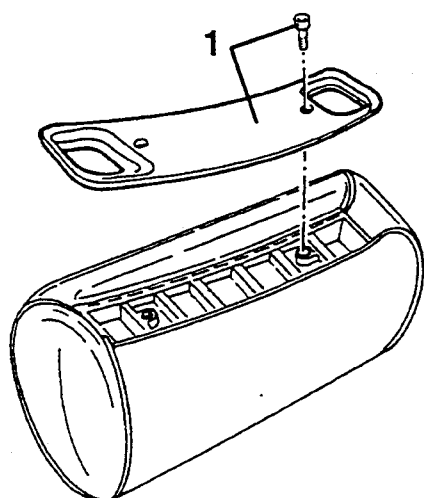




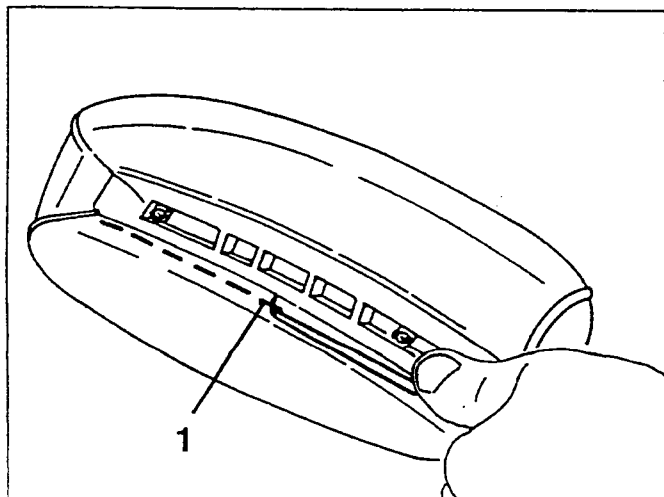
When refitting the headrest ensure that the two teeth on the pins of the headrest support face the rear of the seat.



1. Loosen the two screws and remove the headrest lower trim.

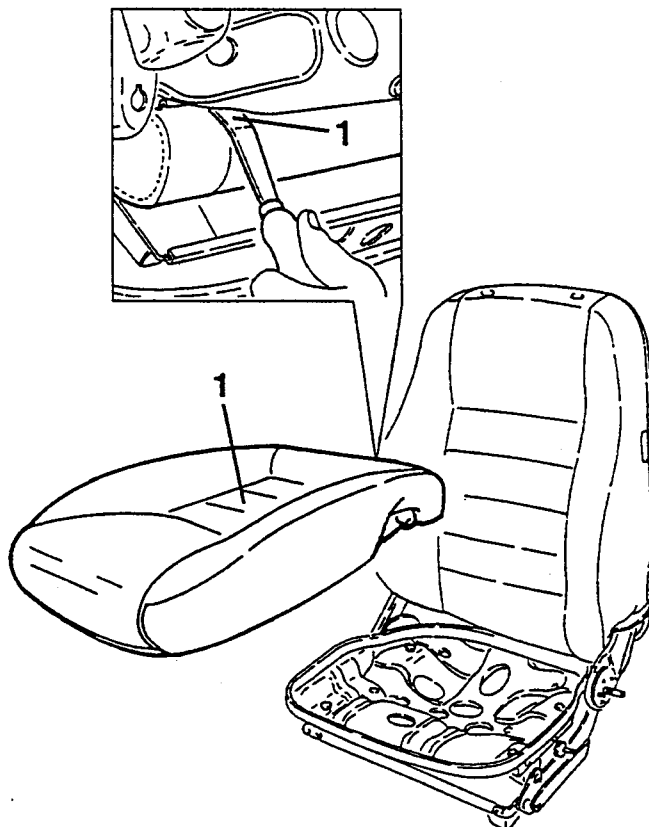


1. Remove the clips and pull off the headrest trim.

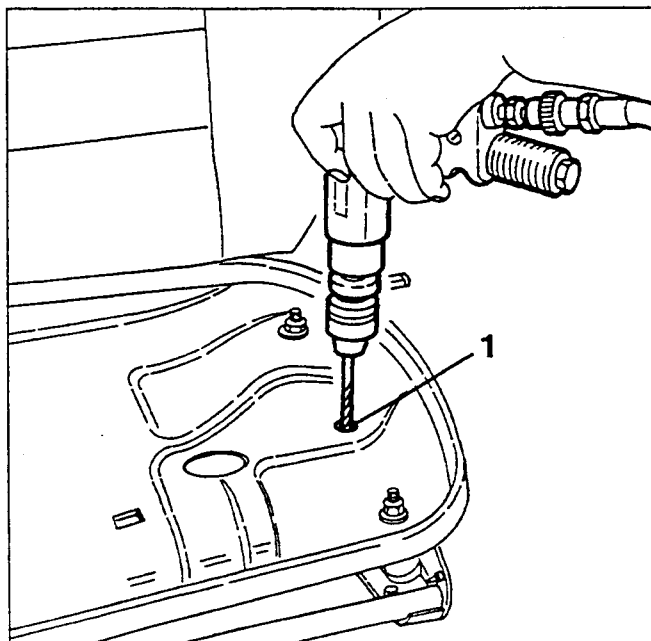


To make it easier to refit the trim onto the headrest use the appropriate material (non-woven fabric) which facilitates the sliding action and correct positioning of the covering itself.

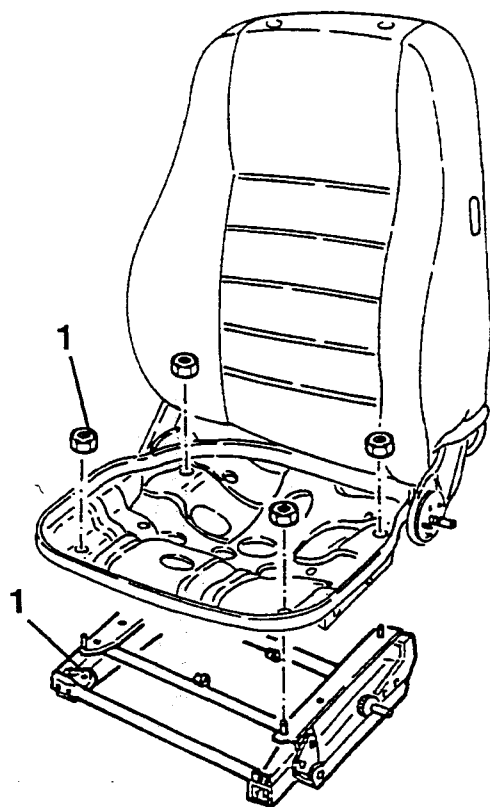
1. Pull off the cushion covering and remove the cushion complete with covering.



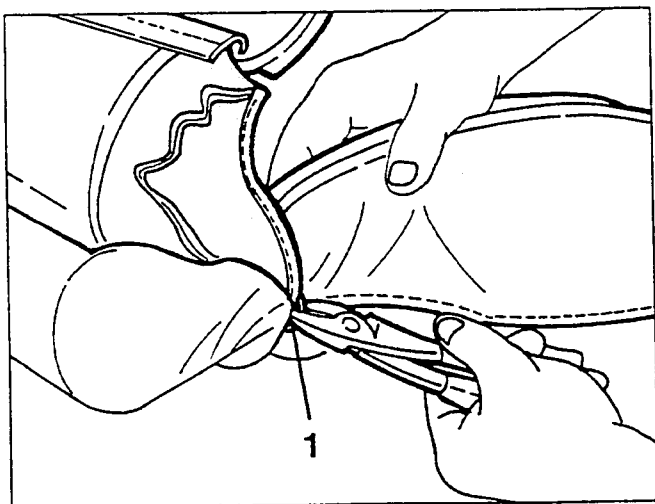
1. Using a drill, remove the two rivets securing the seat raising device.



1. Loosen the four nuts and remove the seat raising device.

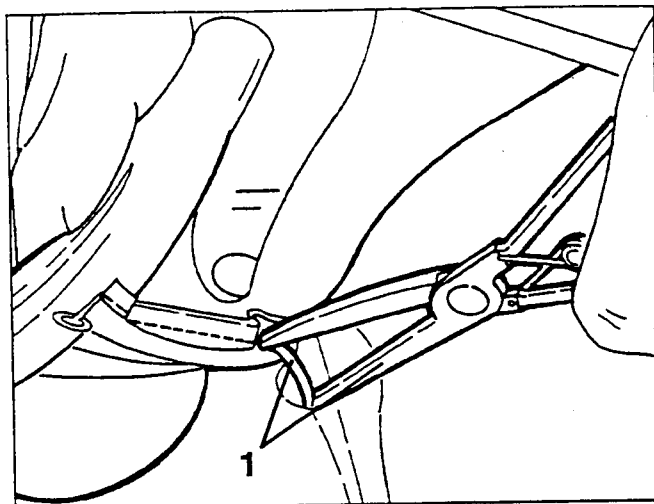


1. Using a pair of shears, cut the clips securing the cushion covering and remove the covering.

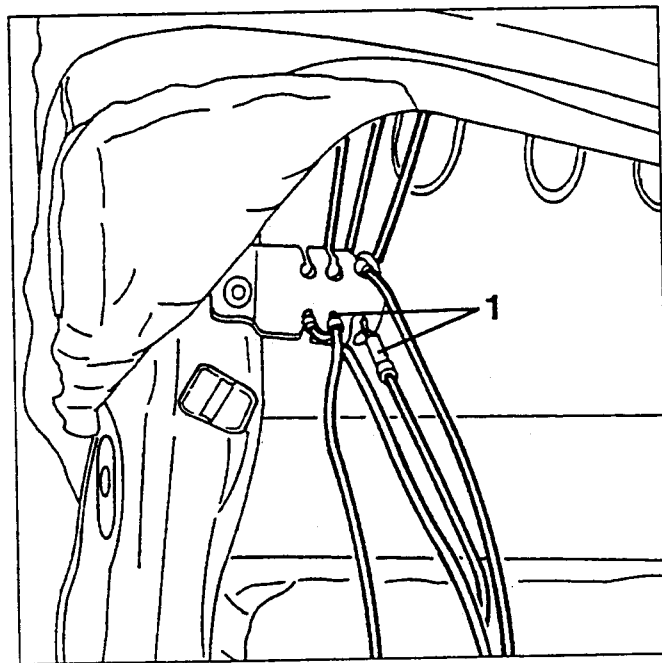


Refit by reversing the procedure followed for disassembly and note the following:

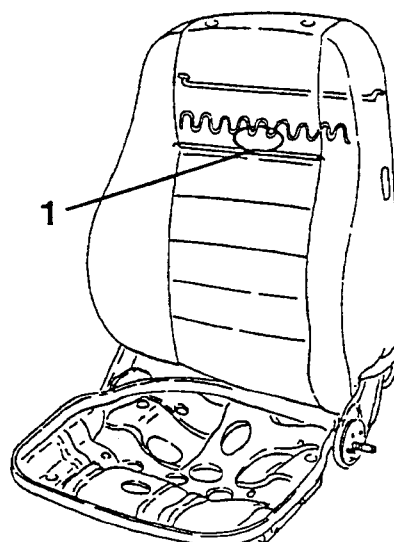
1. Fix the covering with the clips using the appropriate pliers supplied as a spare part.
- Clinch the edge of the covering using a plastic mallet.



1. Unhook the tensioning/adaptation wires of the backrest covering from the brackets.



1. Remove the covering from the backrest after freeing the rear frame tensioning tie-rod and the front rubber ring.



NOTE:

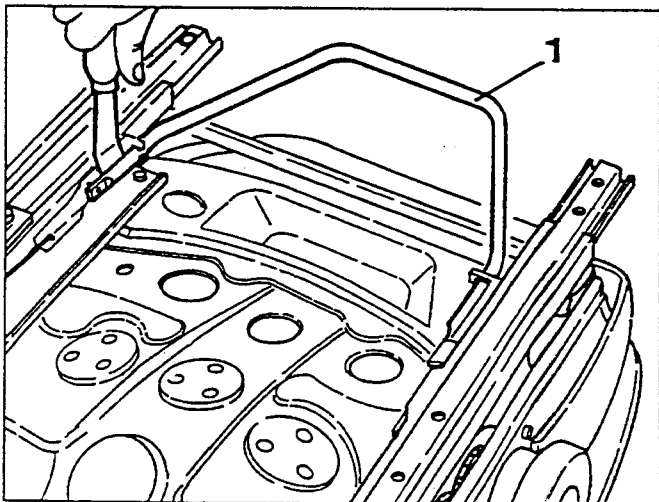
The following components can be removed/refitted from/to the seat whilst it is in the vehicle by following the operations described in the section relative to the bench disassembly of the seat and extrapolating the relative operations:

- Headrest
- Height adjustment device
- Backrest tilt handle.

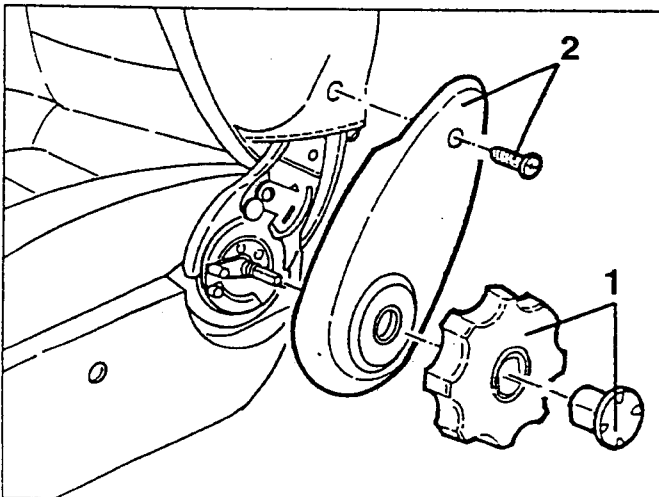
DISASSEMBLING/REASSEMBLING DRIVER'S SEAT (WITHOUT HEIGHT ADJUSTMENT)

Disassemble as described for the seat with height adjustment except for the procedure relative to the removal of the guide runners which is described below.

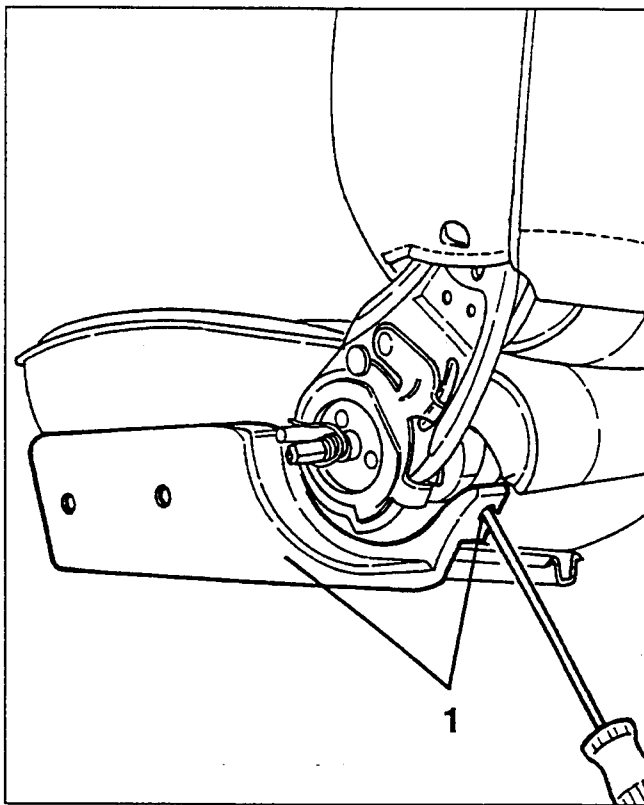
1. Remove the seat runner lever and pull it away from its attachments.



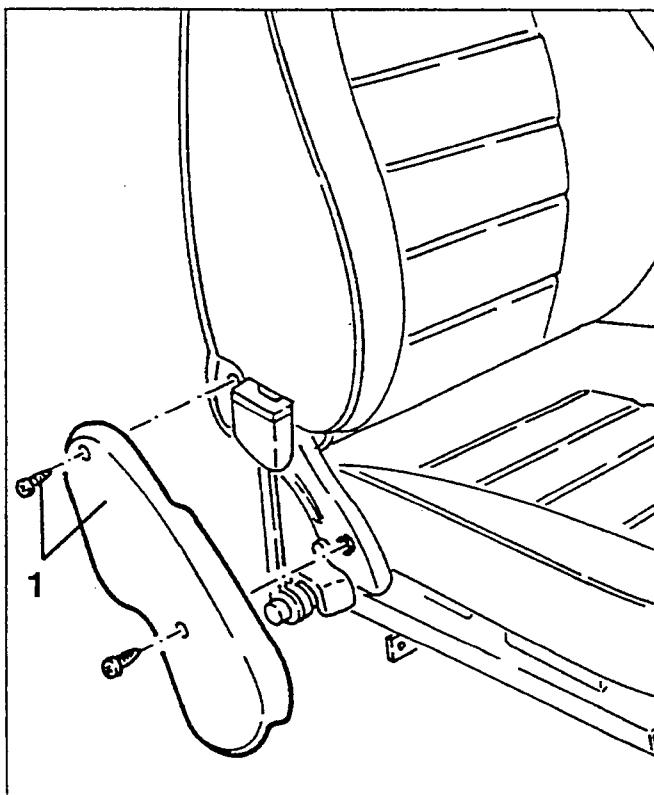
1. Pull off the cap and remove the backrest tilt handle.
2. Loosen the screw and remove the left-hand hinge moulding pulling it away from the clips.



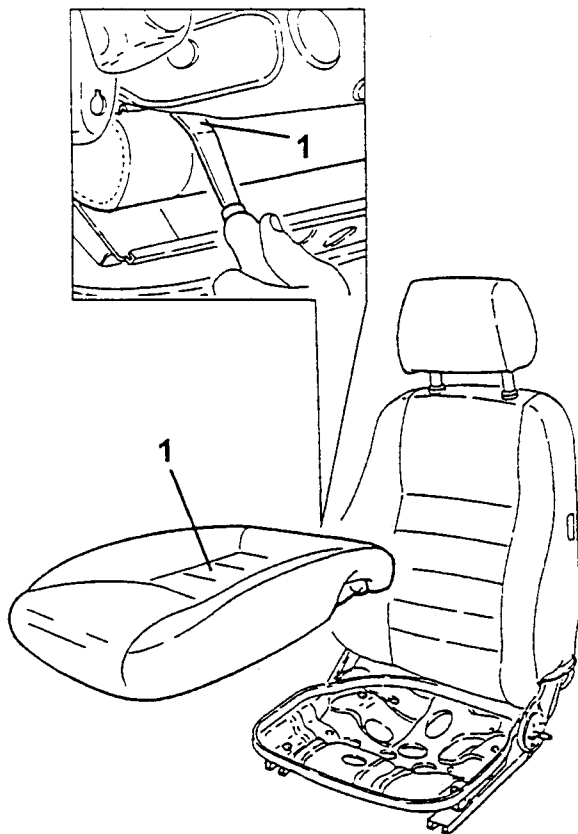
1. Loosen the three screws and remove the lower moulding from the cushion.



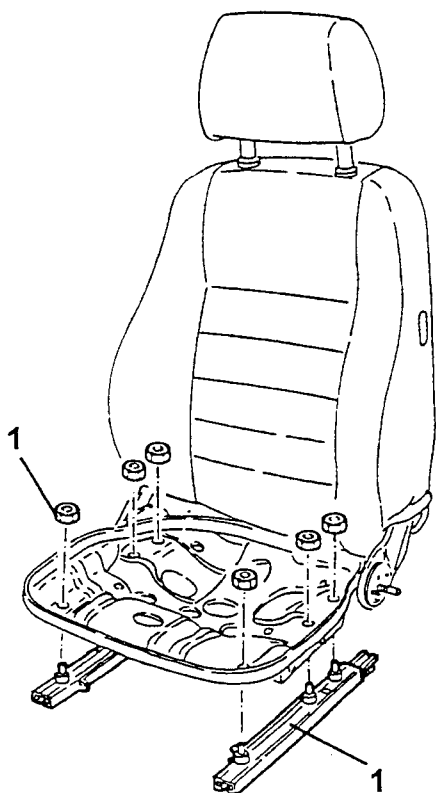
1. Loosen the two screws and remove the right-hand hinge moulding pulling it away from the clips.



... Remove the cushion cover, then remove the cushion complete with cover.



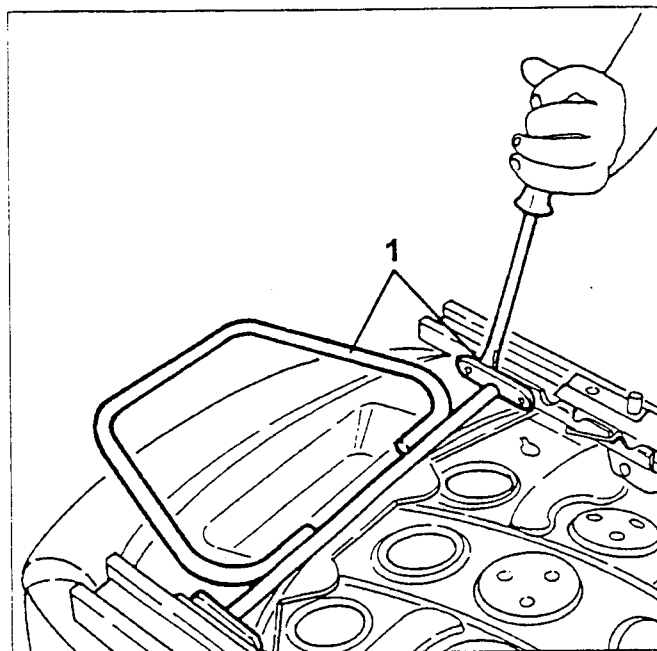
1. Undo the six fixing bolts and remove the seat runners.



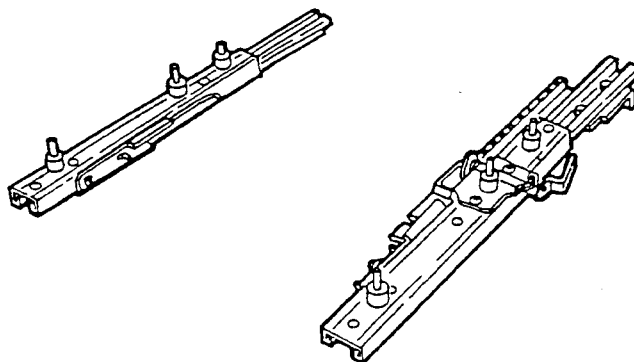
DISMANTLING/REASSEMBLING PASSENGER SEAT

Proceed with the dismantling, working in the same way as described for the driver's seat without height adjustment, making the following changes.

1. Fully retract the runners, then remove the seat sliding lever, releasing it from the side fastenings.



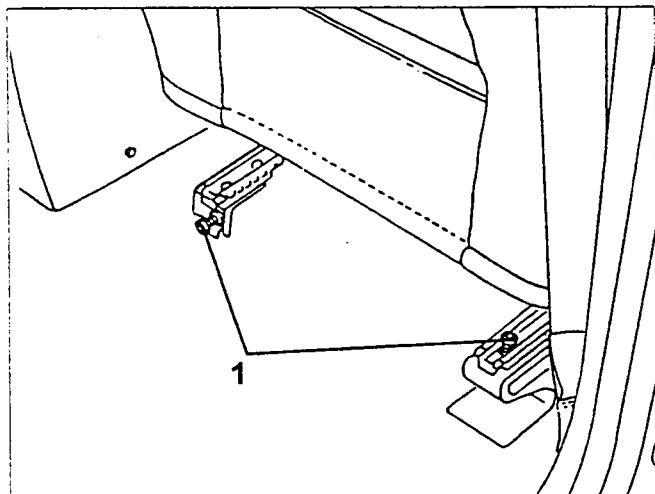
- The seat guides in question do not have a seat height adjustment device, but another device which allows the side to slide forwards and then return to its original position.
- For the removing-refitting, follow the instructions for the driver's seat.



FRONT SEATS (for versions with Side Bag)

REMOVING

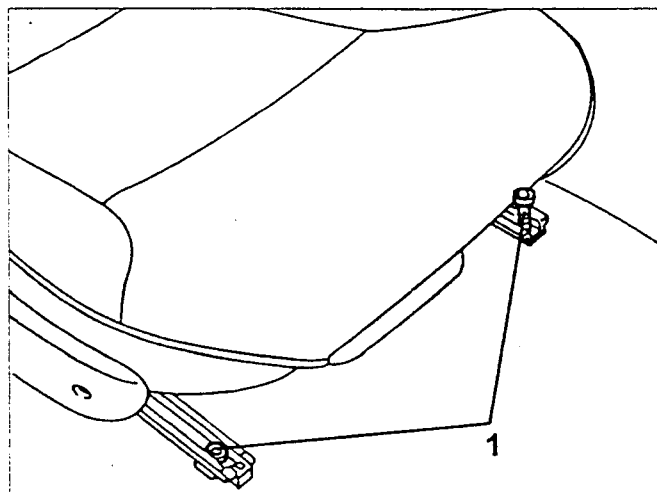
1. Place the seats in the end of travel forwards position and undo the bolts fixing the guides to the floor.



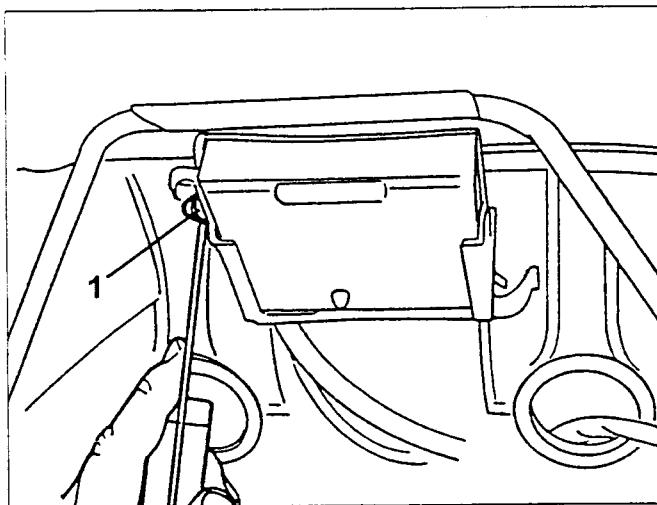
1. Place the seat in the end of travel backwards position and undo the bolts fixing the guides to the floor.

NOTE: Before removing the seat:

- disconnect the battery terminals;
- wait for at least 10 minutes before disconnecting the electrical connection for the passenger presence sensor (for vehicles up to June '99) and for the Side Bag, then proceed as described below.

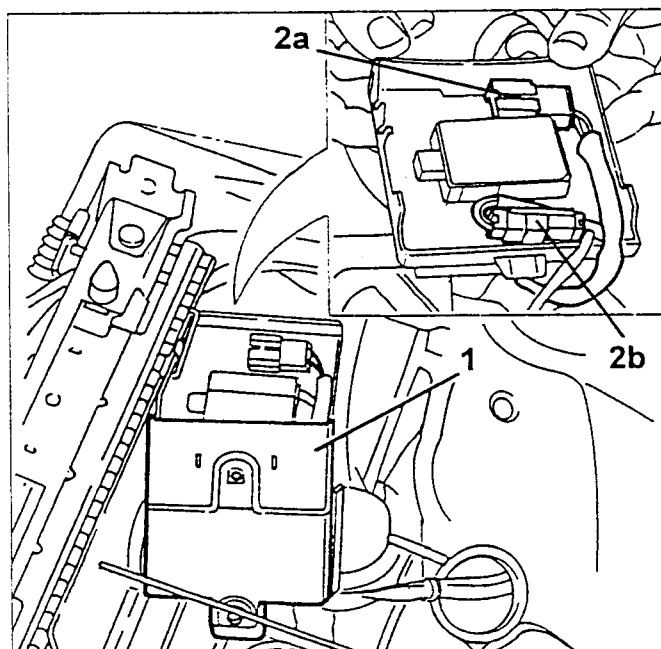


1. Fold the seat backwards and remove the connector box safety plug.



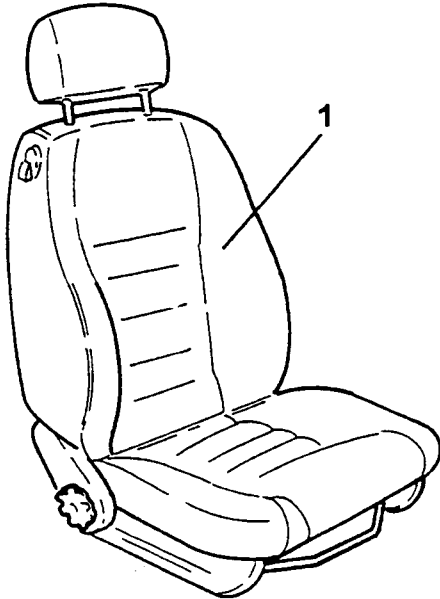
1. Extract the connector box flap.
2. Disconnect the electrical connection (2a) for the Side Bag and the electrical connection (2b) for the passenger presence sensor (for vehicles up to June '99).

NOTE: There are two connections on the passenger seat, one for the Side Bag and one for the passenger presence sensor (for vehicles up to June '99), whilst on the driver's seat there is only the connection for the Side Bag.



1. Remove the seat from the vehicle.

NOTE: Do not extract the seat from its housing using the seat lever shown by the arrow in the diagram or else the guides will not be aligned.

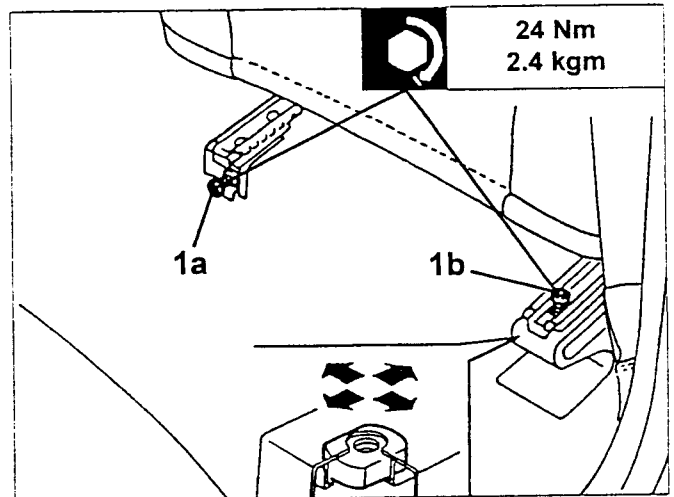


1. Tighten the rear fixing bolts starting from the one on the inside (1a) and continuing with the one on the outside (1b).



The seat should be fixed to the floor without the guides being distorted; if necessary, adjust the nuts shown in the diagram making sure that they are free.

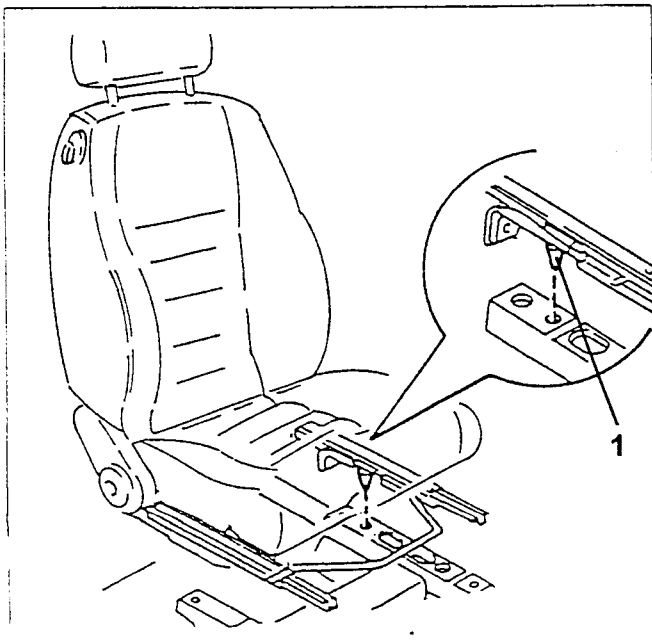
NOTE: During this stage do not lift up the seat to fit the fixing bolts.



REFITTING

- Place the seat in its housing in the vehicle.
- Connect the electrical connections.
- 1. Check that the centering pin on the seat guide is correctly positioned.

NOTE: Check that the carpet does not interfere with the seat guide support areas.

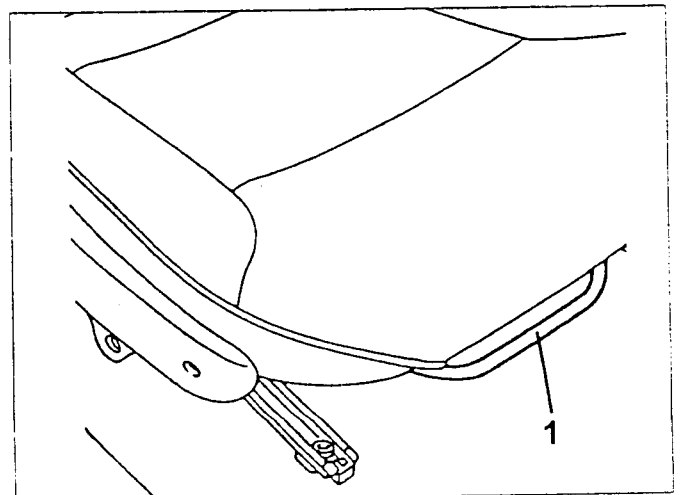


1. Place the seat in the fully retracted end of travel position using the guide control lever.



Always make sure that the guide control lever is correctly attached.

NOTE: For 145 version avoid folding the backrest when sliding the seat in order not to free the guides and prevent them from being out of alignment.

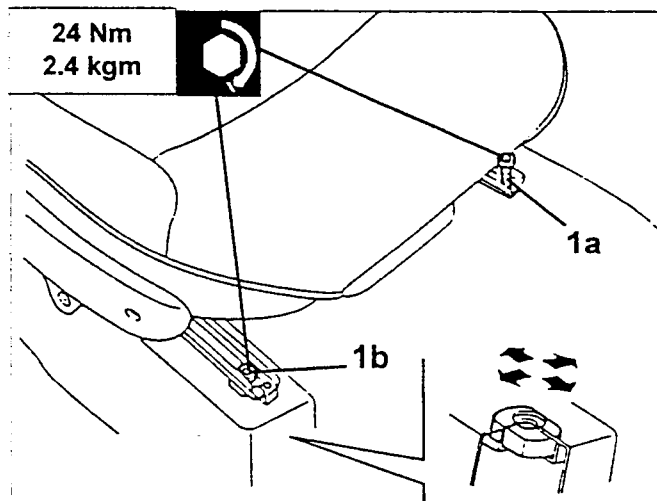


1. Tighten the front fixing bolts, starting from the one on the inside (1a) and continuing with the one on the outside (1b).



The seat should be fixed to the floor without distorting the sliding guides; if necessary, adjust the nuts shown in the diagram making sure that they are free.

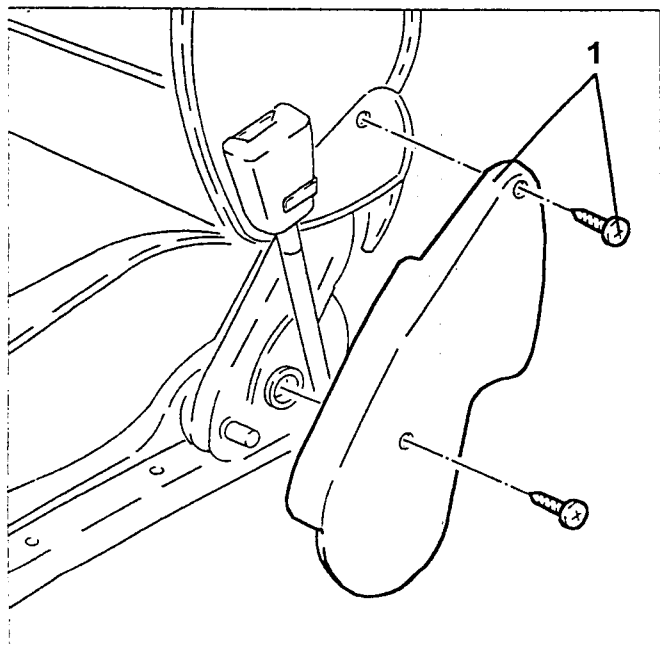
NOTE: Each time operations are carried out on the Air Bag system the operation of the system **MUST** be checked using the diagnostic equipment.



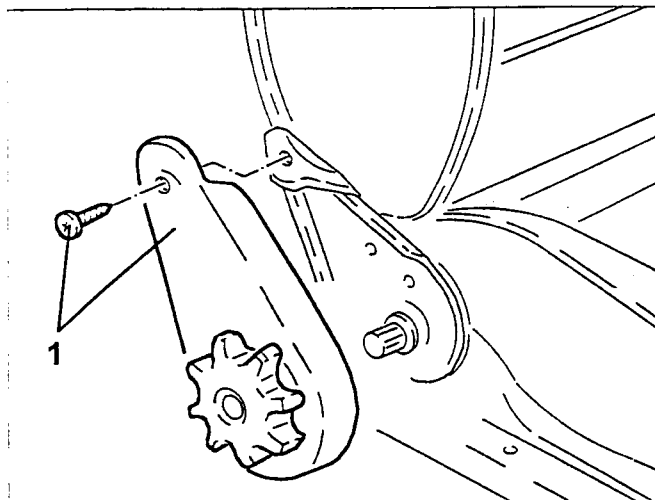
DISMANTLING-REASSEMBLING FRONT SEAT BACKREST UPHOLSTERY

- Remove the front seat (see specific procedure).

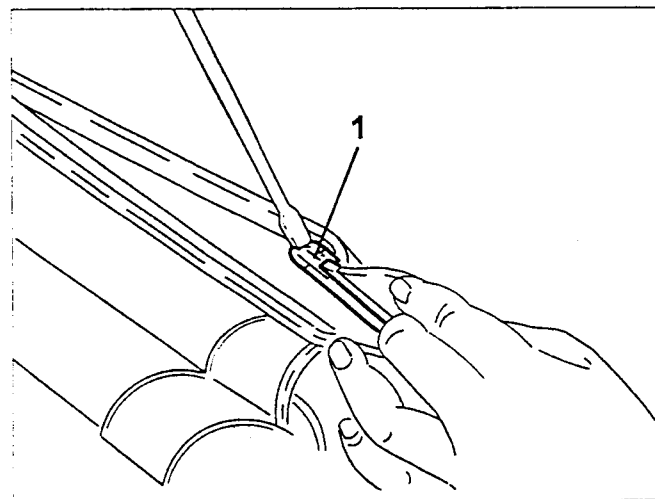
1. Undo the two fixing bolts and remove the hinge trim releasing it from the fastening springs.



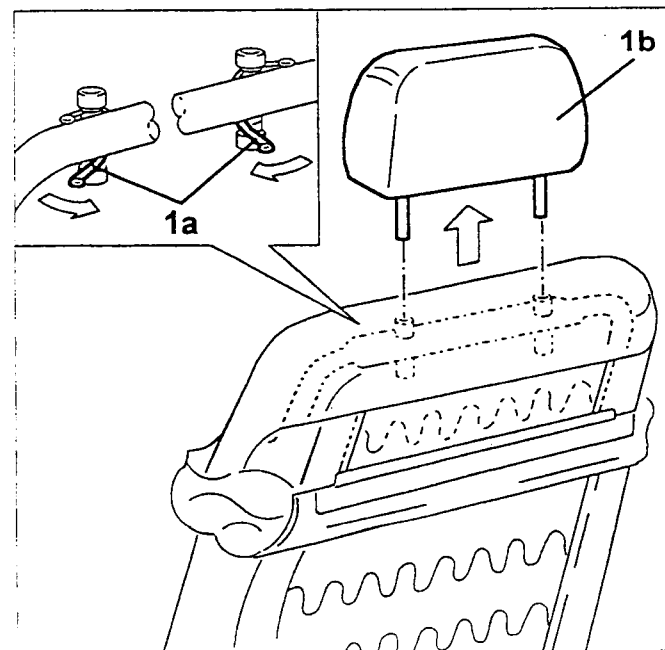
1. Undo the fixing bolt and remove the hinge trim complete with knob releasing it from the fastening springs.



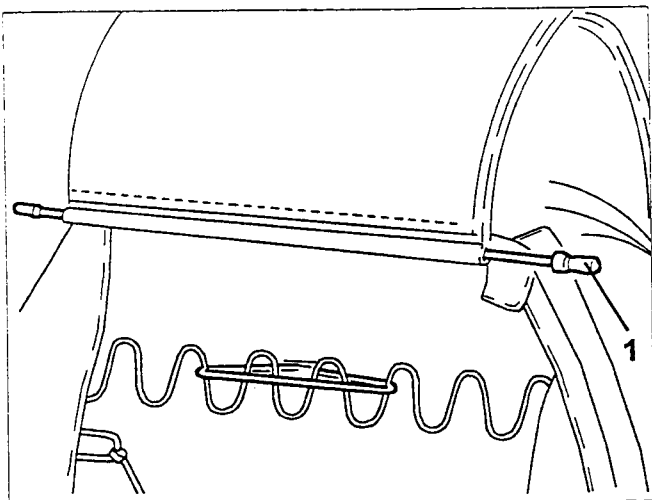
1. Remove the two side profiles for the rear backrest fabric.



1. Rotate the springs (1a) and remove the head restraint (1b).

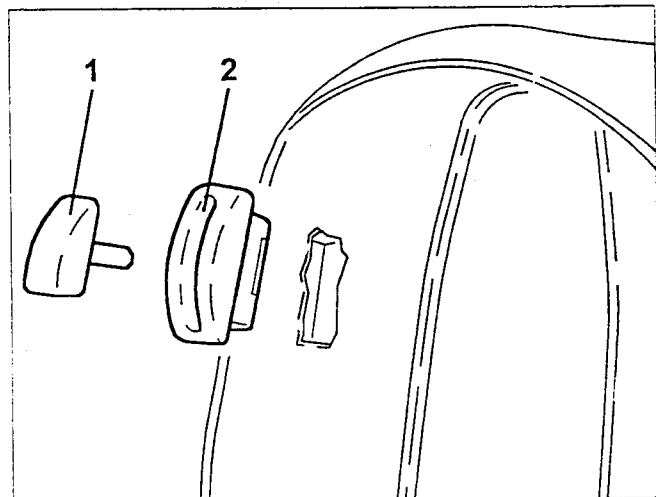


1. Remove the upper backrest cover retaining rod.

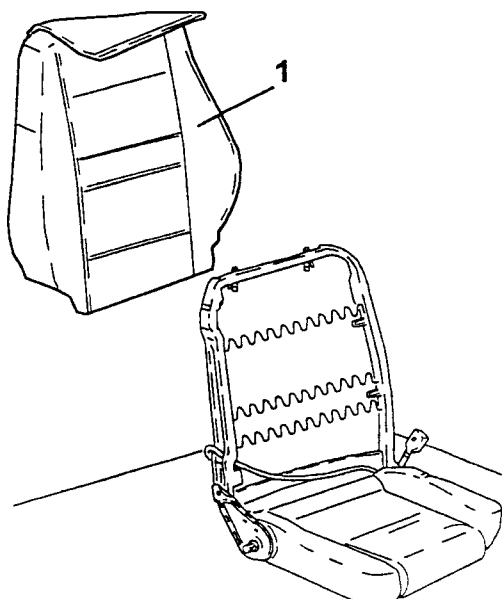


1. Remove the seat folding lever.
2. Remove the trim.

NOTE: When refitting, replace the trim.



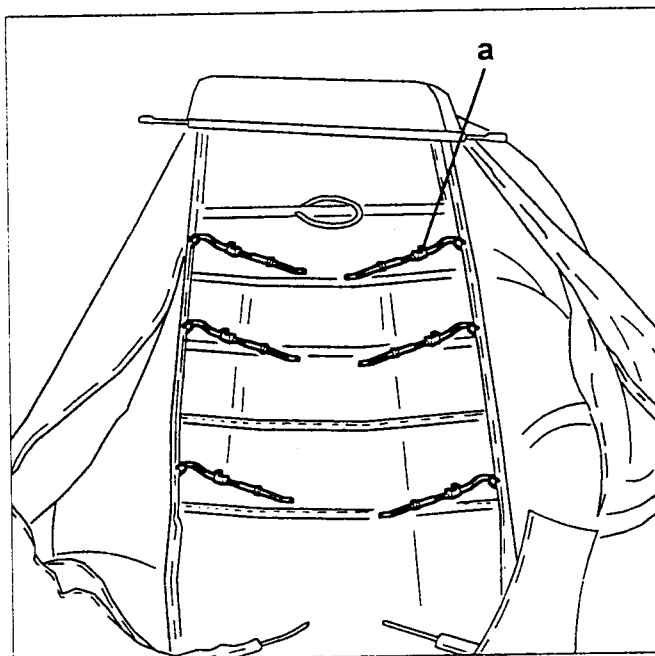
- 1: Remove the front seat backrest cover complete with upholstery.



NOTE: When refitting, check that the seat rods are correctly positioned.



If the rods (a) are incorrectly fitted this will adversely affect the operation of the Side Bag.

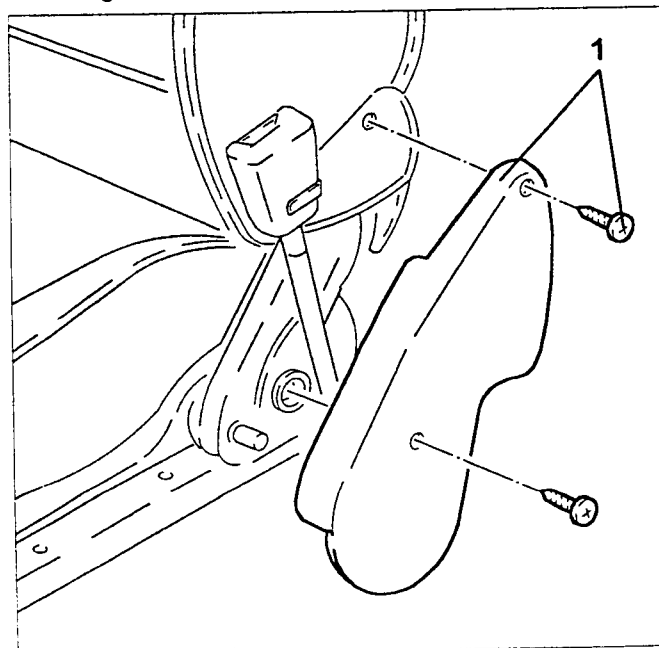


NOTE: Before fitting a new backrest cover on the seat, make the openings for the head restraint pins and the folding lever.

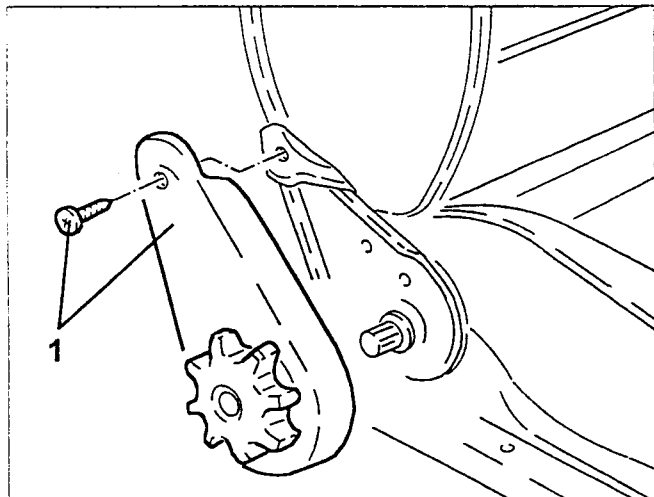
DISMANTLING/REASSEMBLING FRONT SEAT CUSHION COVER

- Remove the front seat (refer to the specific procedure).

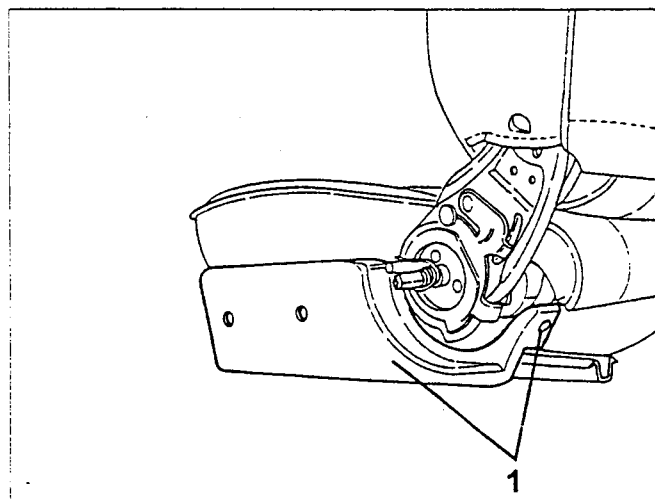
1. Undo the two fixing bolts and remove the hinge trim releasing it from the fastening springs.



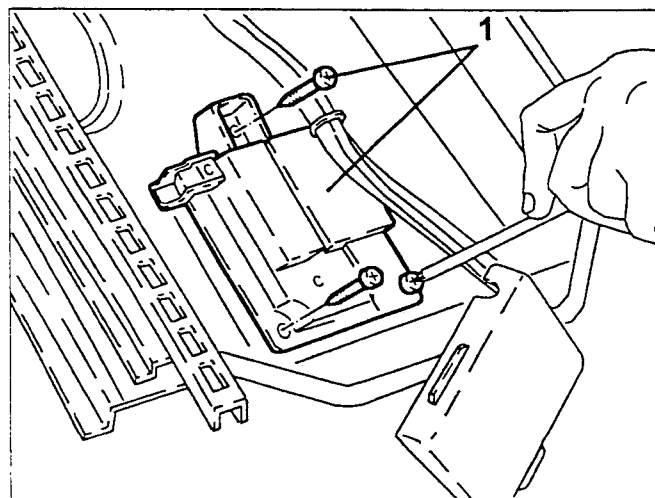
1. Undo the fixing bolt and remove the hinge trim complete with knob releasing it from the fastening springs.



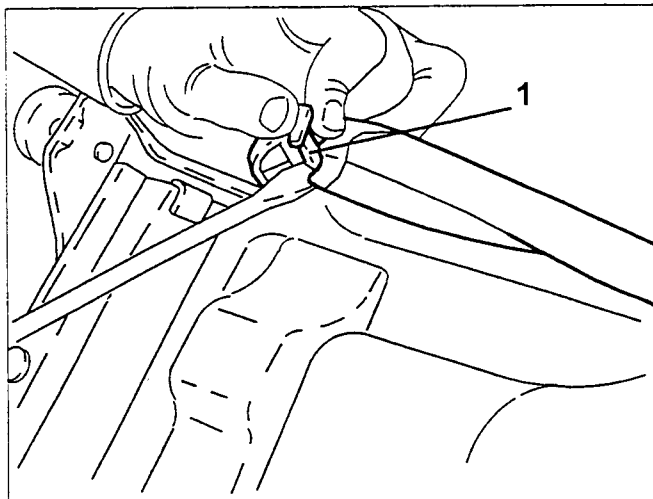
1. Undo the fixing bolts and remove the right and left hinge trim.



1. Remove the connector box fastened to the base of the seat.



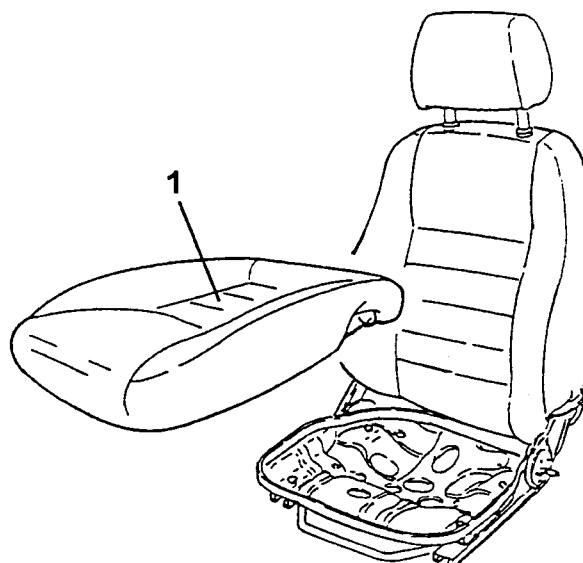
1. Release the seat cover from the base of the rear of the seat.



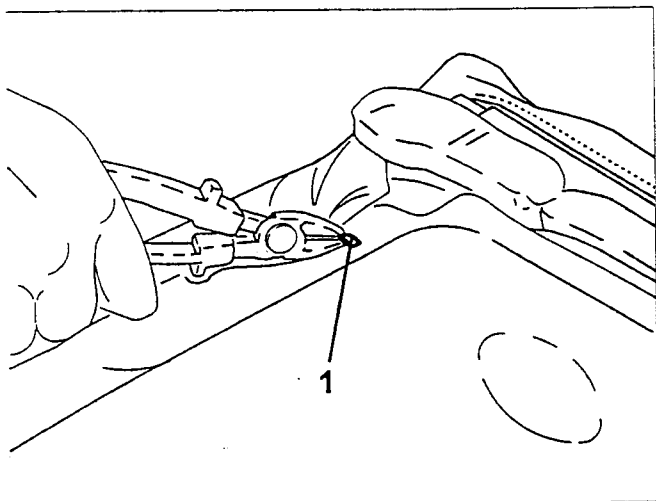
1. Release the seat cover from the base of the seat on the right and left sides.



1. Remove the cushion.



Cut the metal points fixing the seat cover to the seat upholstery.

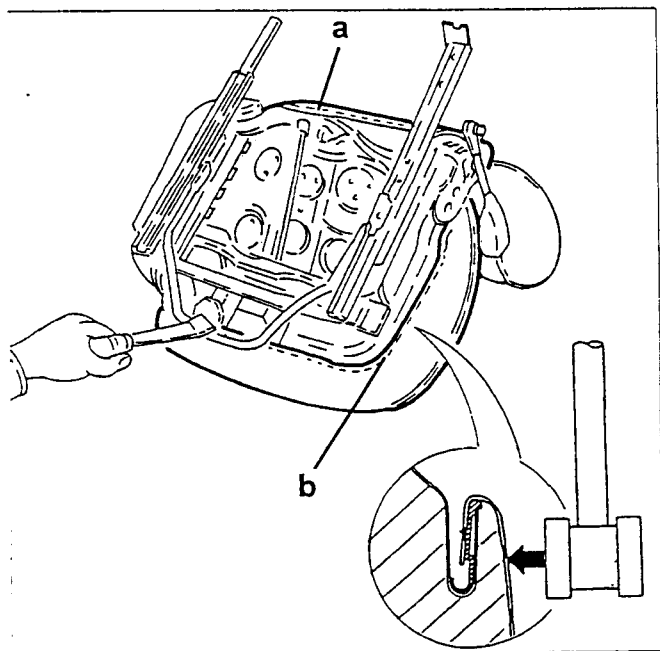


Remove the remaining metal points connected to the upholstery to avoid damaging the cover.

- Proceed with the refitting, reversing the order of the operations carried out for the removal, taking care to observe the following.
- Fit the cushion on the seat frame, attaching the profiles (a) and (b) using a spatula, starting at the centre front area.
- Stake the drip channel using a rubber hammer as illustrated in the diagram.



The use of other tools could damage the cover.



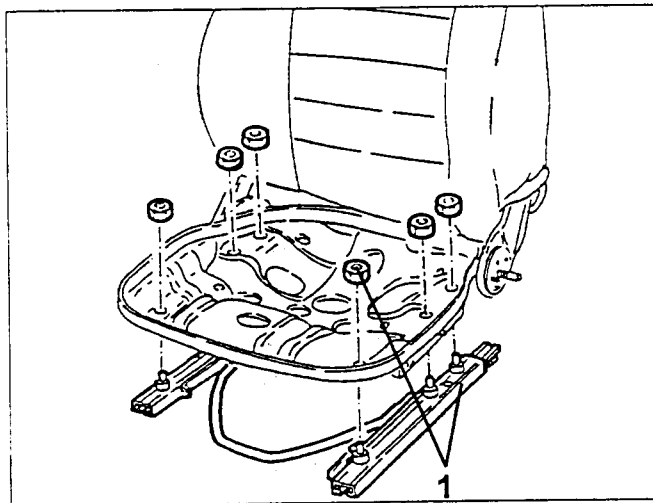
DISMANTLING/REASSEMBLING PASSENGER SEAT GUIDES

- Remove the cushion from the seat (see "Dismantling/Reassembling front seat cushion cover" procedure).

1. Undo the fixing nuts and remove the guides complete with runner.

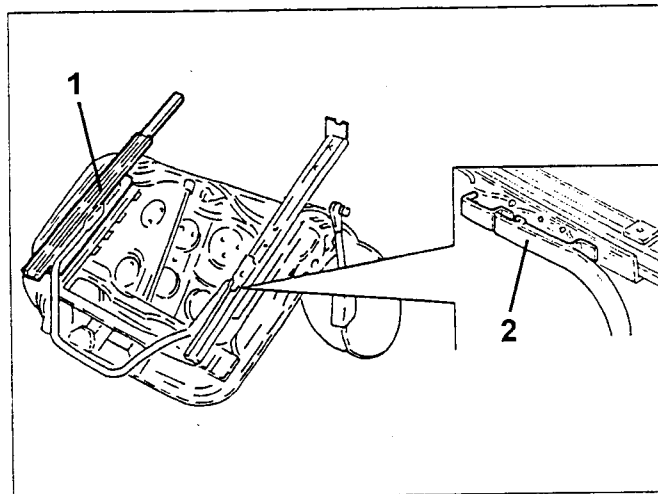


The runner should not be removed before dismantling the guides in order to prevent distortions which could adversely affect operation.



- Proceed with the refitting, reversing the order of the operations carried out for the removal, taking care to observe the following.

1. Position the guide with the memory on the base and fasten it without tightening the two nuts.
 2. Position the runner on the remaining guide taking care to centre the ratchet gears.
- Fit the guide complete with runner and fasten it without tightening the two nuts.



- Place the guides forwards until they are heard to lock.
- Tighten the nuts fixing the guides to the recommended torque.

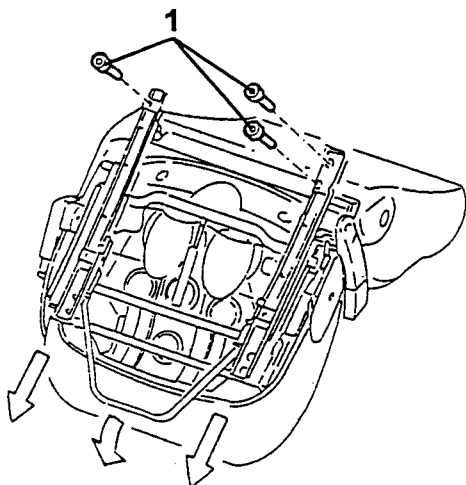


24 Nm
2.4 Kgm

DISMANTLING/REASSEMBLING DRIVER'S SEAT GUIDES

- Remove the front seat (see specific procedure).
- At the bench, move the guides forwards with the runner.

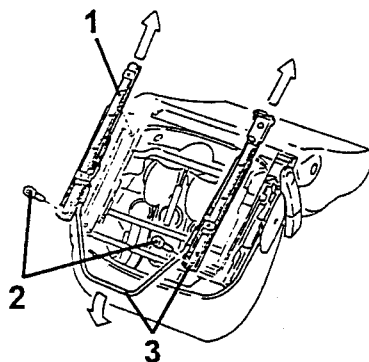
1. Undo the rear guide fixing bolts.



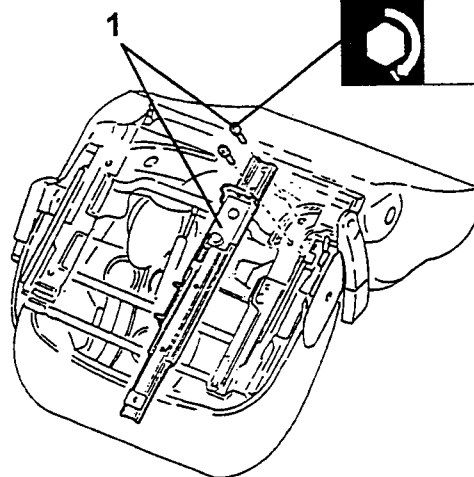
1. Retract the guides with the runner.
2. Undo the front guide fixing bolts.
3. Remove the guides complete with runner.



The runner should not be removed before dismantling the guides to prevent distortions which could adversely affect operation.

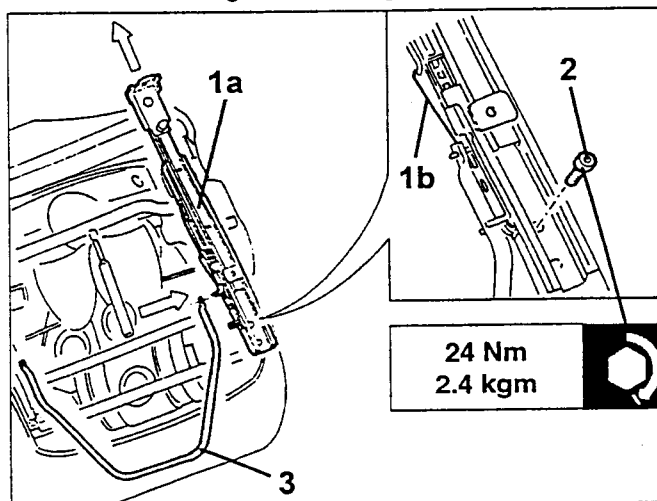


1. Position the inner guide and secure it tightening the rear bolts to the recommended torque.



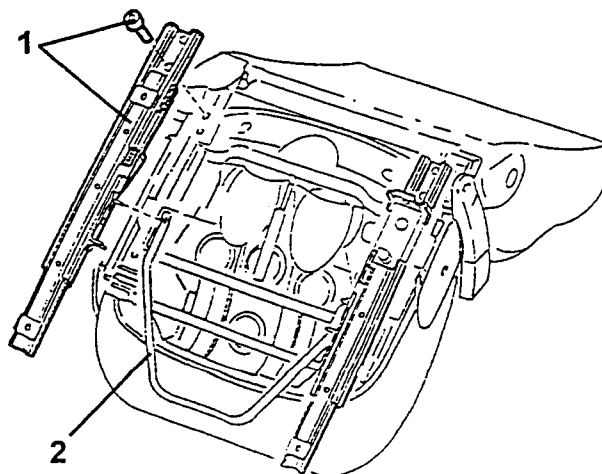
24 Nm
2.4 kgm

1. Retract the inner guide (1a) manually using the bolt (1b).
2. Tighten the front bolt fixing the guide to the recommended torque.
3. Place the runner back in its housing, taking care to centre the ratchet gears on the guide.



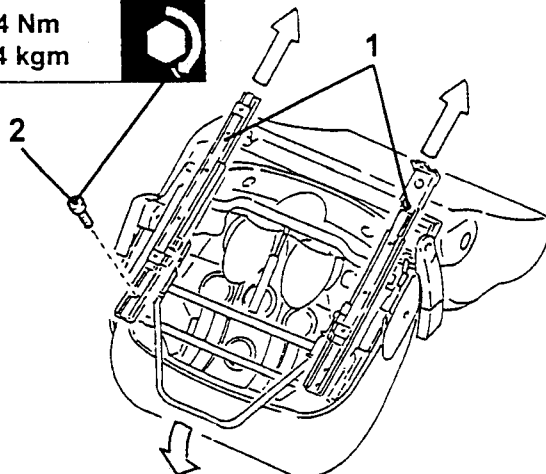
24 Nm
2.4 kgm

1. Fit the outer guide and secure it without tightening the rear bolt.
2. Attach the runner.

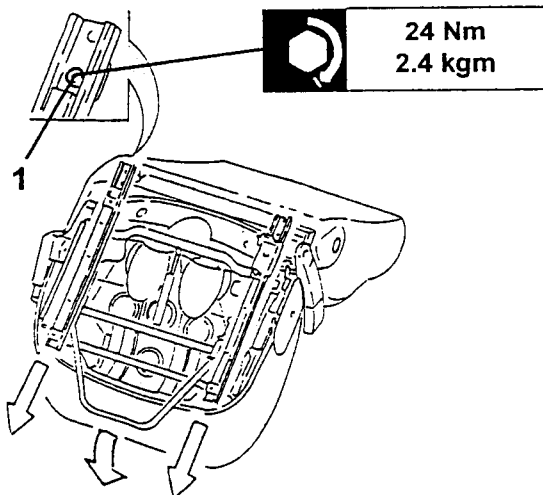


- Retract the guides using the runner.
- 2. Tighten the front bolt fixing the outer guide to the recommended torque.

24 Nm
2.4 kgm



- Move the guides forwards using the runner.
- 1. Tighten the rear bolt fixing the outer guide to the recommended torque.



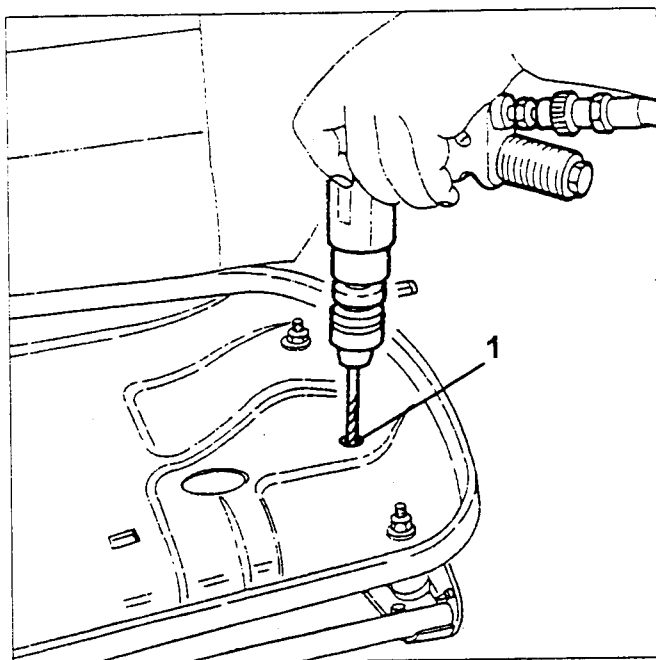
24 Nm
2.4 kgm

- Fit the front seat (refer to the specific procedure).

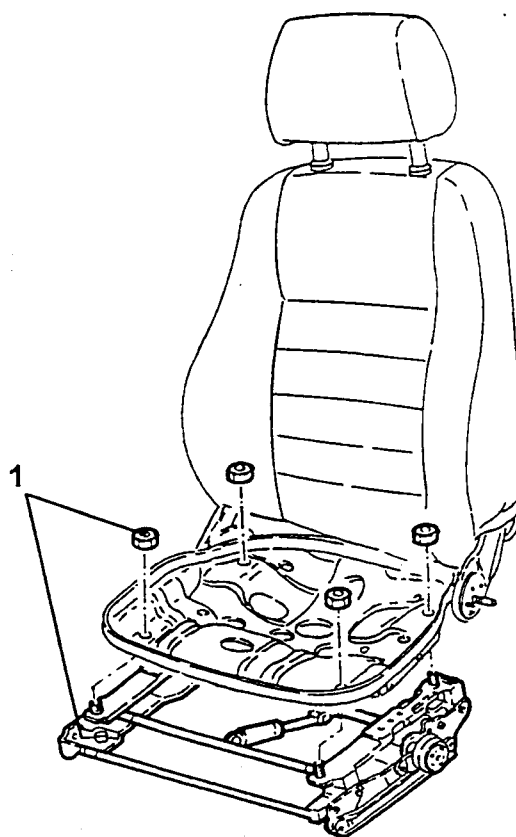
DISMANTLING/REASSEMBLING SEAT LIFTING DEVICE

- Remove the seat guides after having place the seat in the highest position (see "Dismantling/Reassembling driver's seat guides").

1. Using a drill, remove the two rivets fixing the seat lifting device.



1. Undo the four fixing nuts and remove the seat lifting device.
- Recover the seat lifting lever.



DISMANTLING/REASSEMBLING DRIVER'S SEAT LIFTING DEVICE GAS SPRING

- Remove the front seat (see specific procedure).
- Place the seat in the completely raised position.
- 1. Fit tool N° 1.870.666.000 on the gas spring as shown in the diagram.
- 2. Tighten the nut for the tool (2a) to compress the gas spring until the gas spring pin (2b) is released from the housing (2c) of the housing.

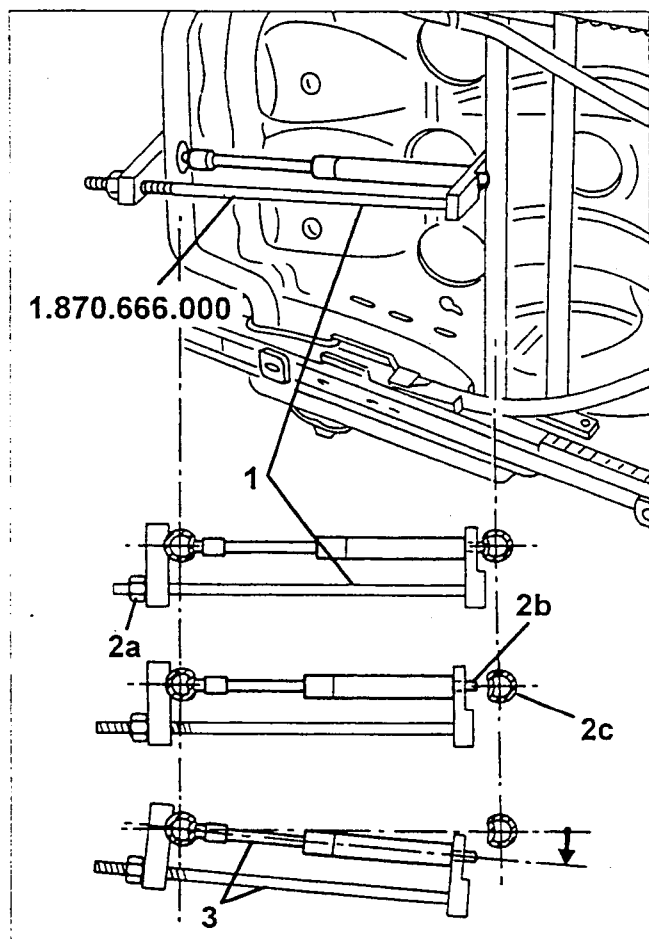


Whilst tightening the nut, keep the tool in position and carry out the operation very carefully.

- 3. Rotate the tool assembly with the gas spring, as necessary, then undo the nut for the tool until the gas spring is completely removed.



Whilst undoing the nut, keep the tool in position.



- Check that the gas spring is not damaged and provides a suitable load.

- 1. Rest the head (1a) of the gas spring (1b) in its housing in the tube, then fit tool No. 1.870.666.000 as illustrated in the diagram.
- 2. Tighten the nut (2a) for the tool to compress the gas spring in order to be able to align the device pin (2b) with the housing (2c) in the tube.

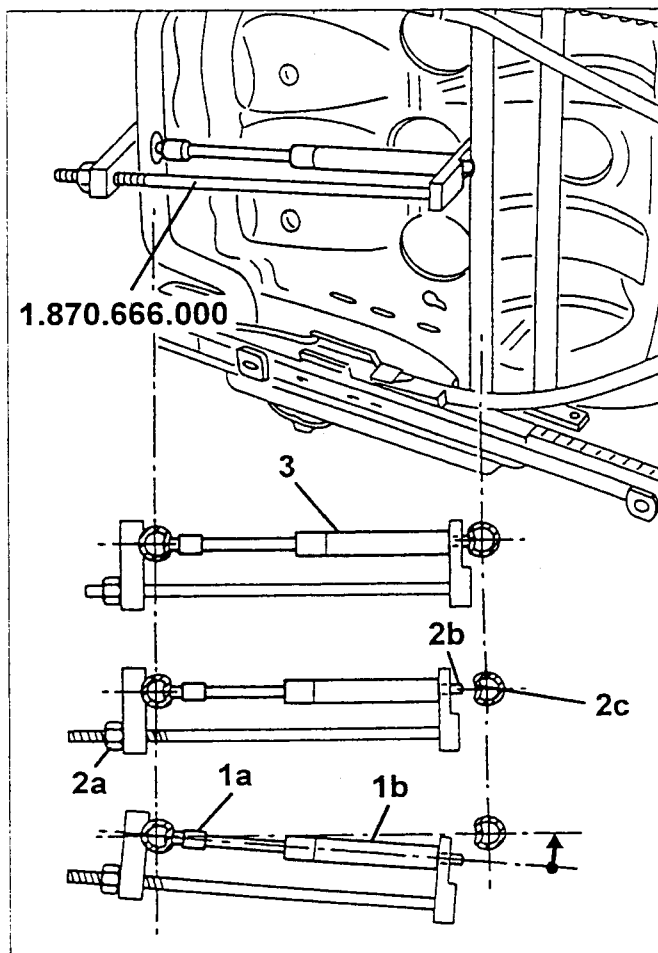


Whilst tightening the nut, keep the tool in position and carry out the operation very carefully.

- 3. Undo the nut for the tool until the gas spring is completely inserted in the housing.



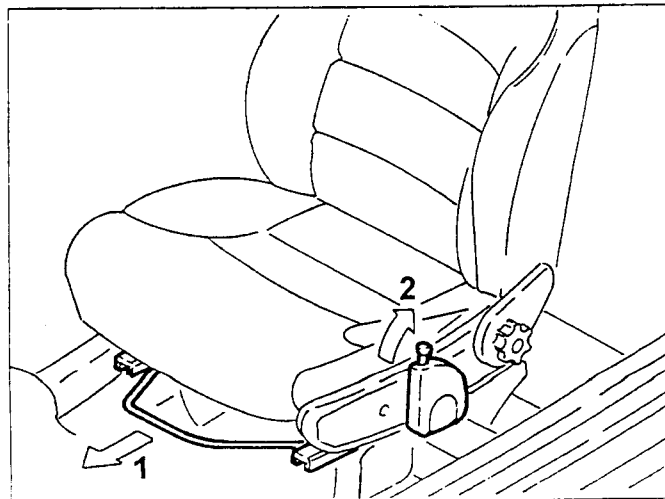
Whilst undoing the nut, keep the tool in position.



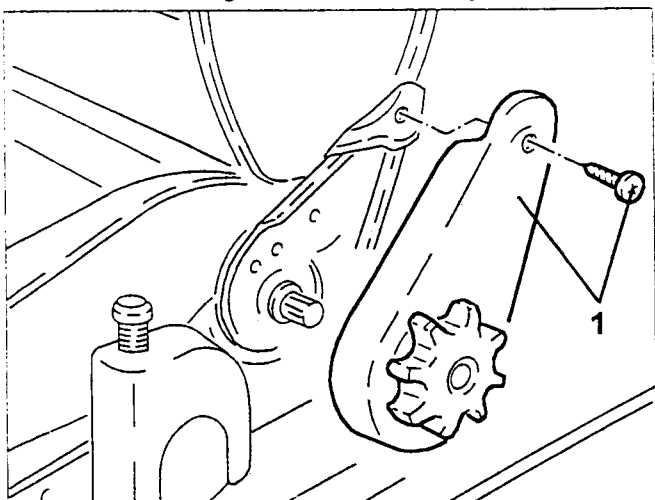
- Fit the front seat (see specific procedure) and check the operation of the device.

REMOVING/REFITTING SEAT LIFTING CLUTCH IN VEHICLE

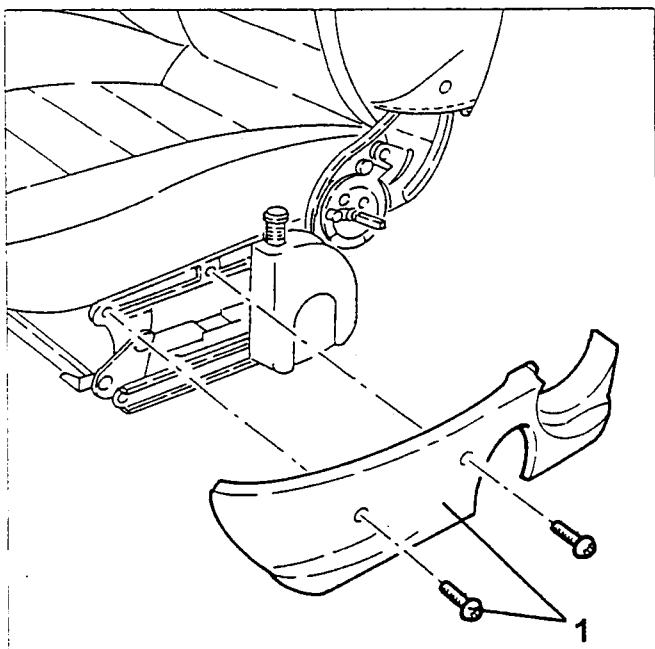
- 1. Position the seat completely forwards.
- 2. Position the seat lifting device completely upwards.



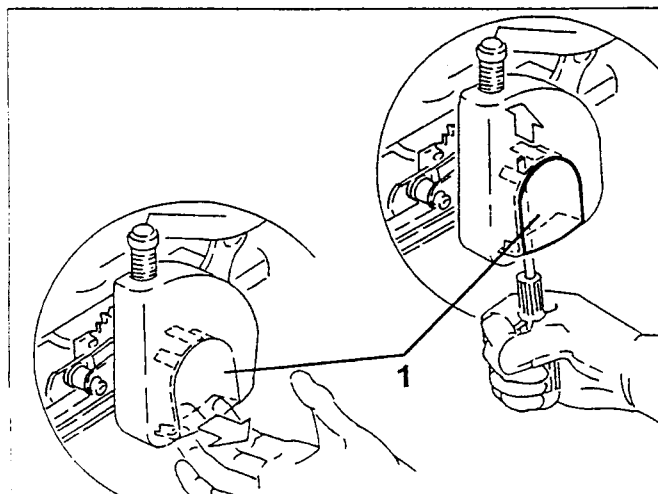
Undo the bolt and remove the hinge trim, complete with knob, releasing it from the fastening springs.



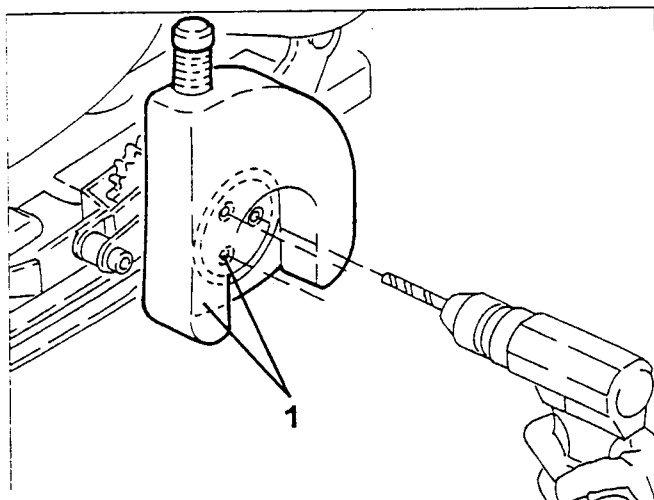
Undo the fixing bolts and remove the right hinge trim.



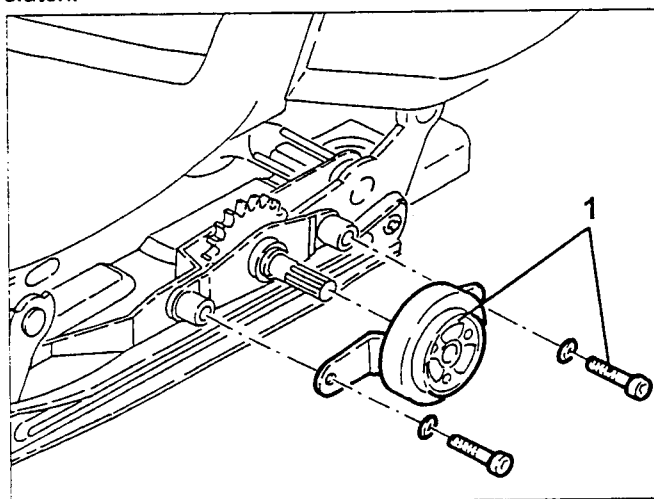
1. Remove the seat lifting lever trim, firstly detaching the lower part by hand and then using a screwdriver on the upper tab.



1. Remove the head of the rivets using a drill with a 4 mm bit and remove the lifting device.

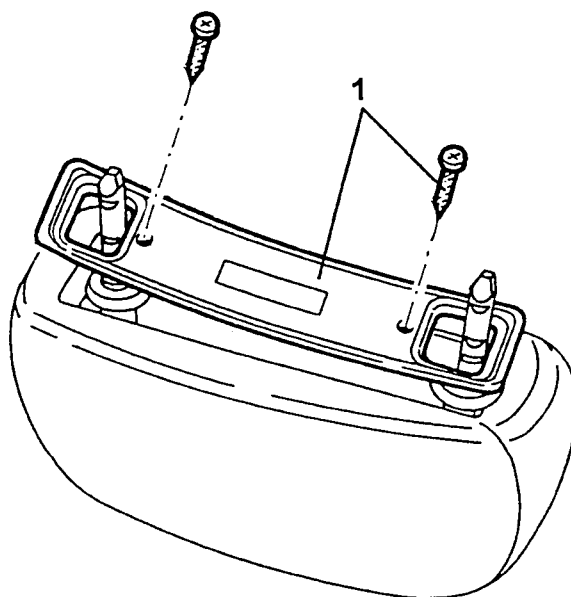


1. Undo the fixing bolts and remove the seat lifting clutch.

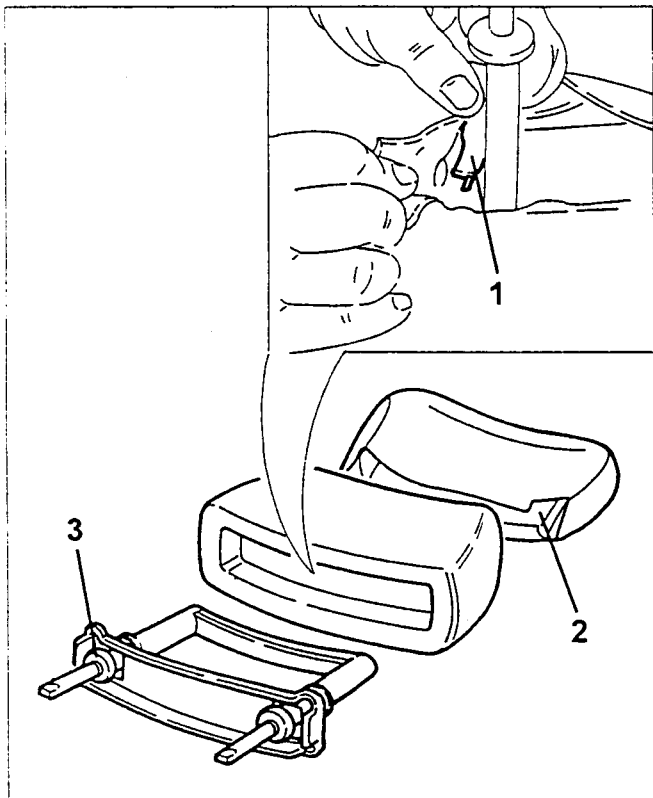


DISMANTLING/REASSEMBLING HEAD RESTRAINT

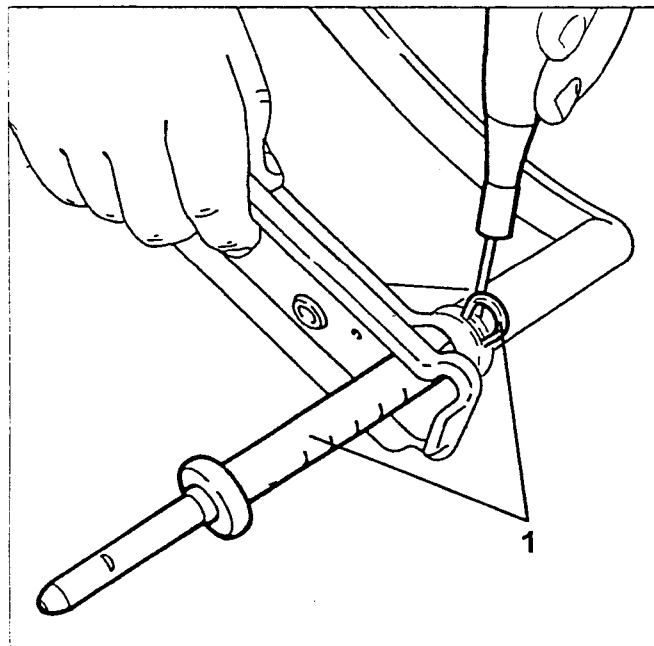
1. Undo the bolts and remove the trim.



- Remove the metal points fixing the fabric to the structure.
- 1. Remove the ends of the strengthening wire from the upholstery.
- 2. Remove the fabric from the head restraint upholstery.
- 3. Remove the structure from the head restraint upholstery.



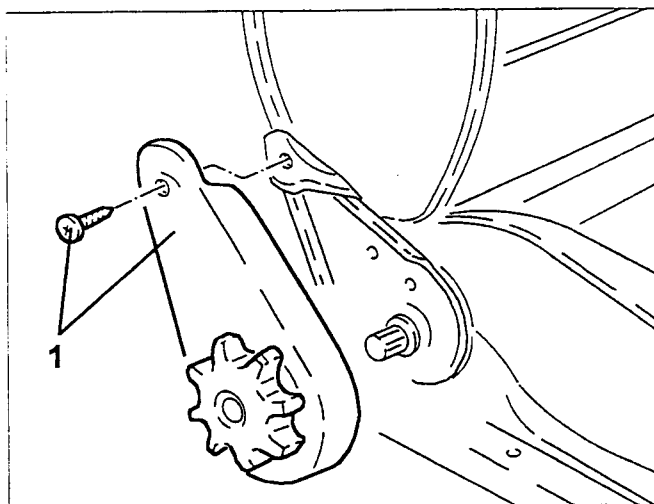
- 1. Remove the retaining springs and remove the pins from the structure.



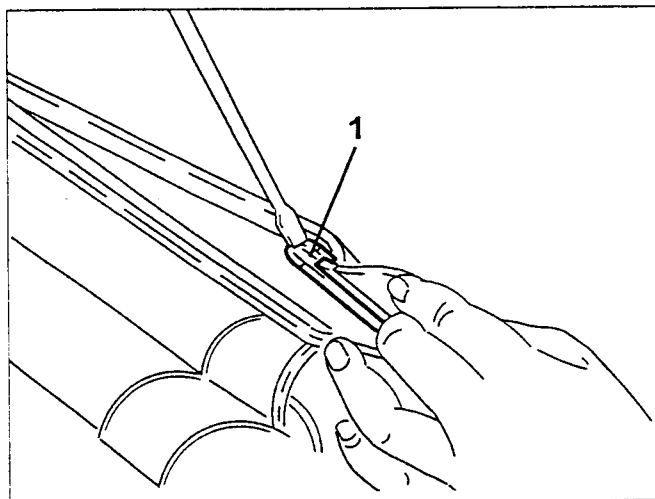
REMOVING/REFITTING BACKREST FOLDING CABLE ON VEHICLE

- 1. Undo the fixing bolt and remove the hinge trim, complete with knob, releasing it from the fastening springs.

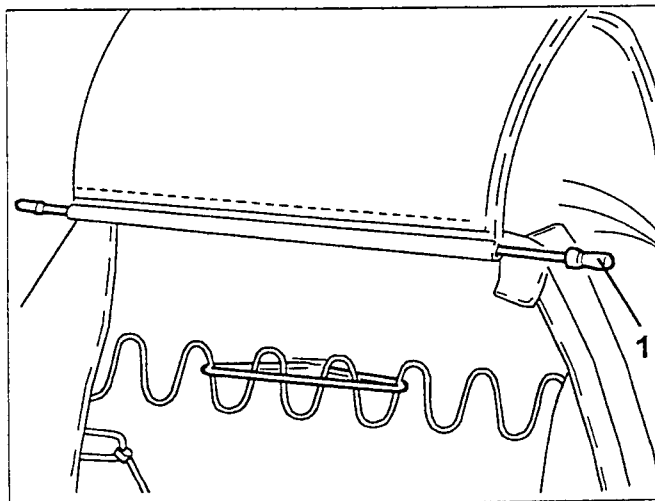
PA493000000013



- 1. Remove the two side profiles for the backrest rear fabric.

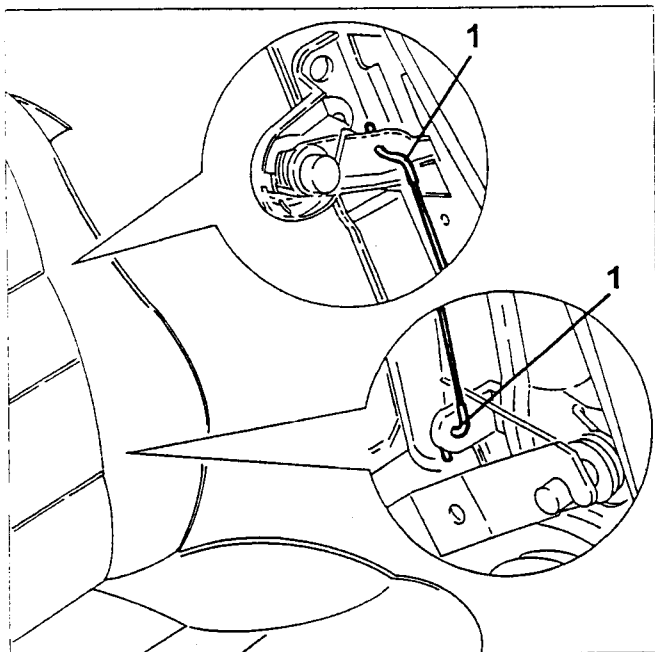


- 1. Remove the upper backrest cover retaining rod.



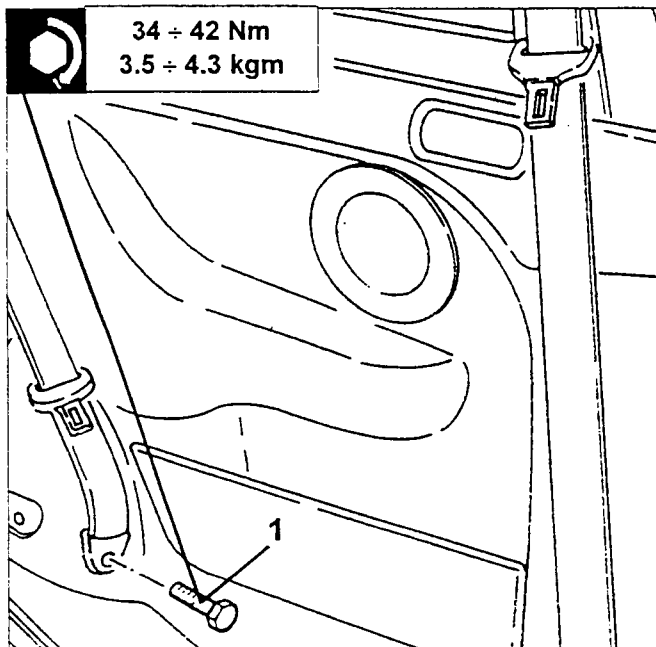
- Fold the backrest forwards.

1. Release the two ends of the backrest folding cable and remove it.

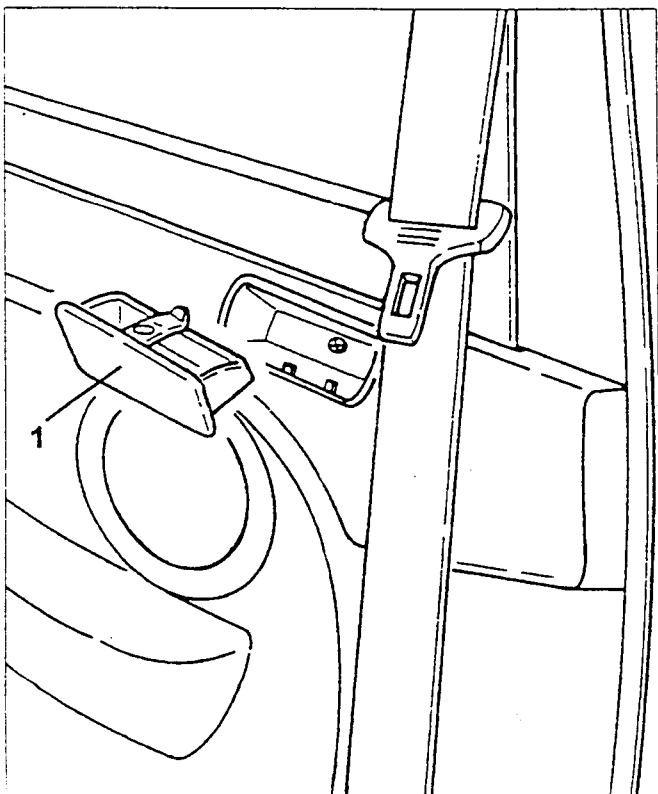


SIDE PANELS**REMOVING/REFITTING**

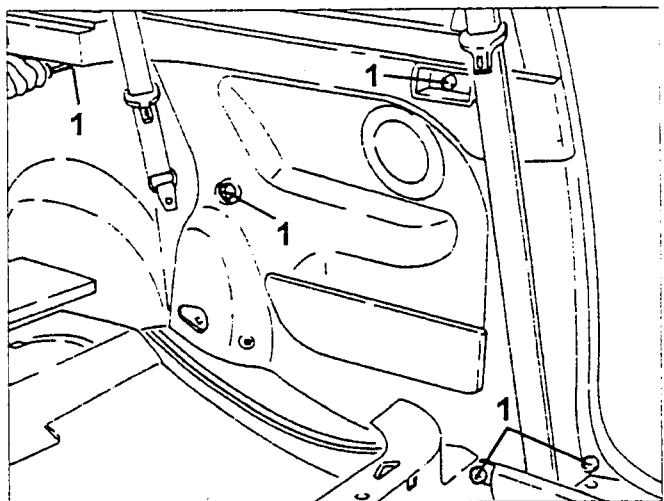
- Remove the rear seats (see specific paragraph).
- 1. Undo the bolt fixing the rear seat belt lower mounting.



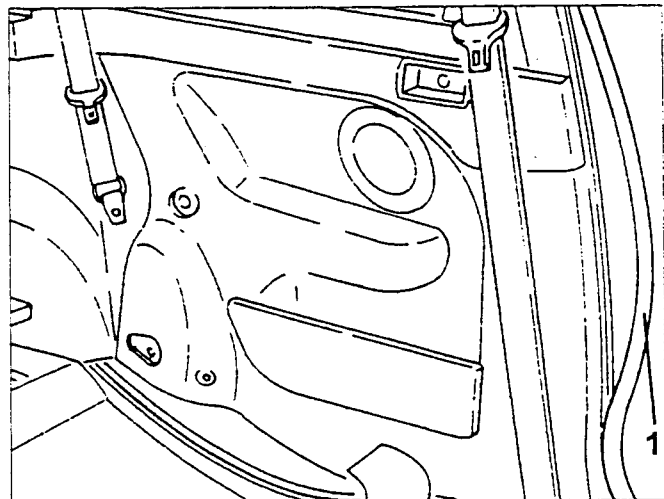
1. Release and remove the ashtray from the housing.



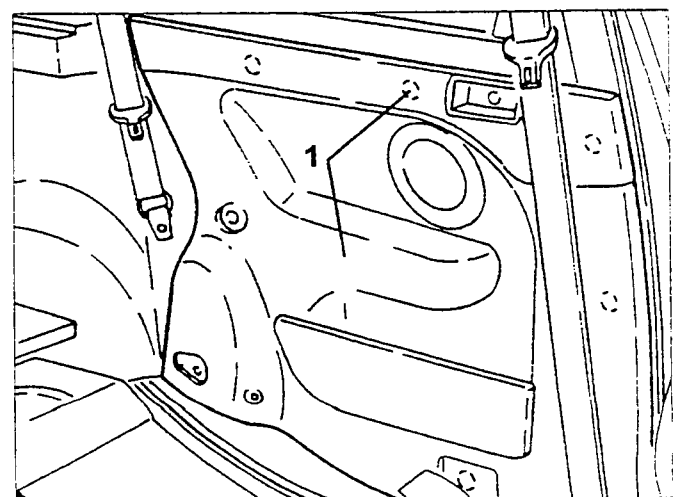
1. Undo the five bolts fixing the panel to the bodyshell.



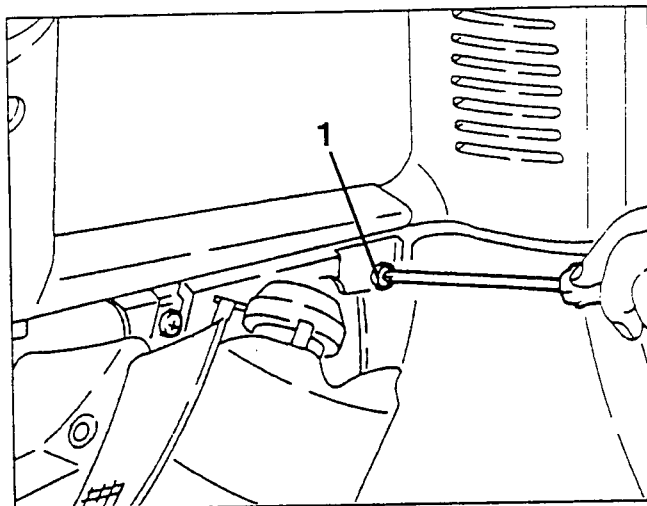
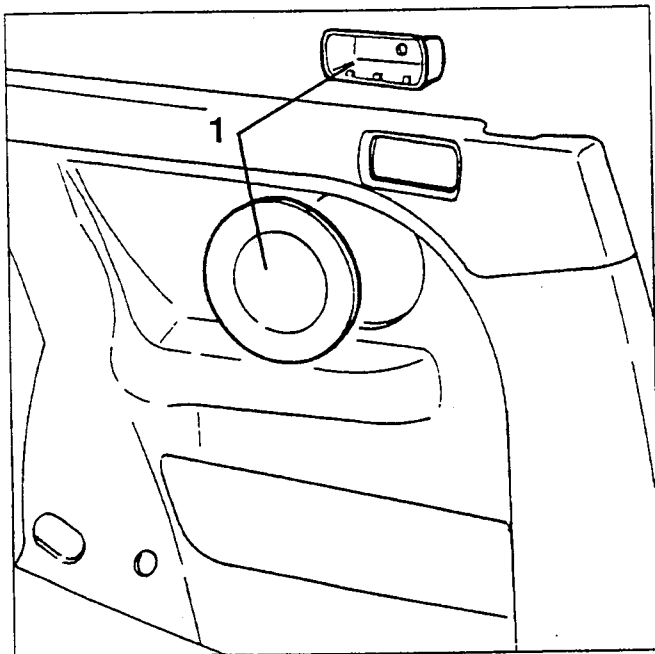
1. Remove the door trim, as necessary.



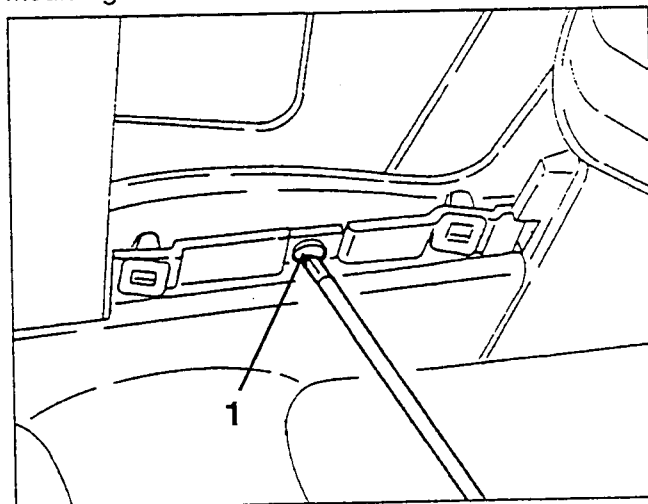
1. Remove the five plastic nails positioned as illustrated in the diagram and remove the side panel.



1. On the bench, if necessary, remove the ashtray support and speaker grille.



- Remove the rear roof lining (see specific paragraph).
1. Slacken the upper screw fastening the window moulding.

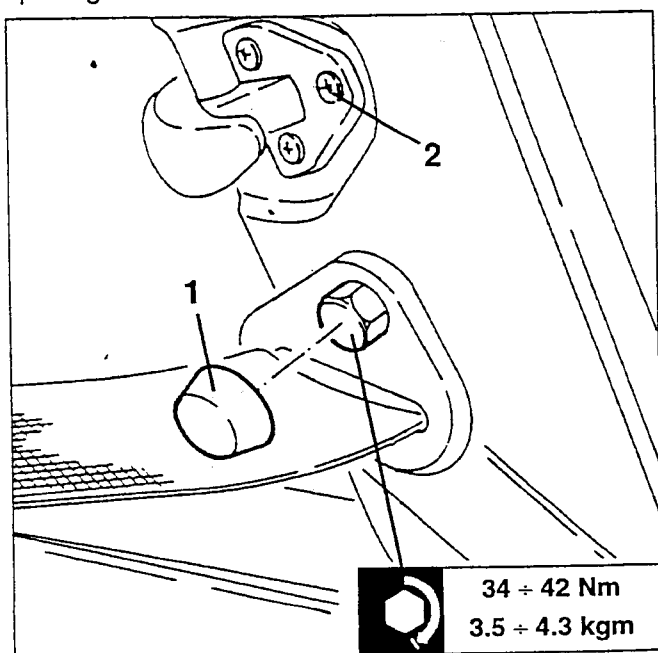


WINDOW MOULDING

REMOVING/REFITTING

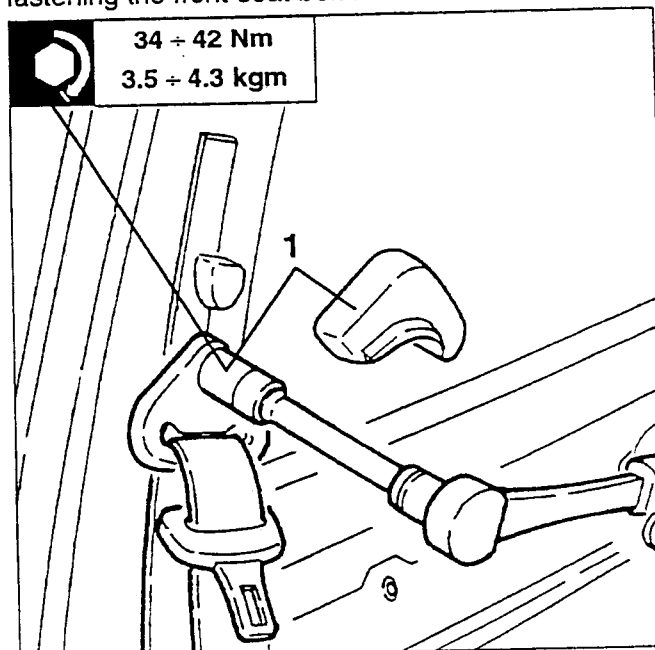
- Remove the parcel shelf side support (see specific paragraph).

1. Remove the cap and slacken the screw fastening the rear seat belt runner.
2. Slacken the three screws fastening the quarter light opening device.

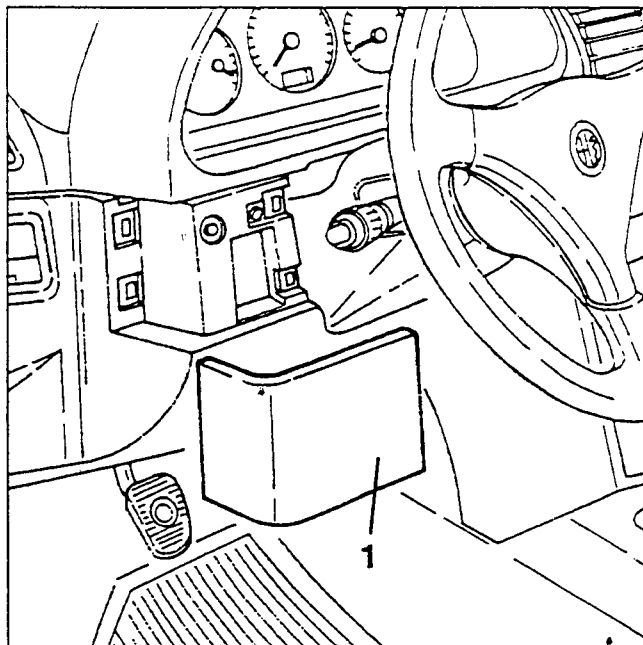
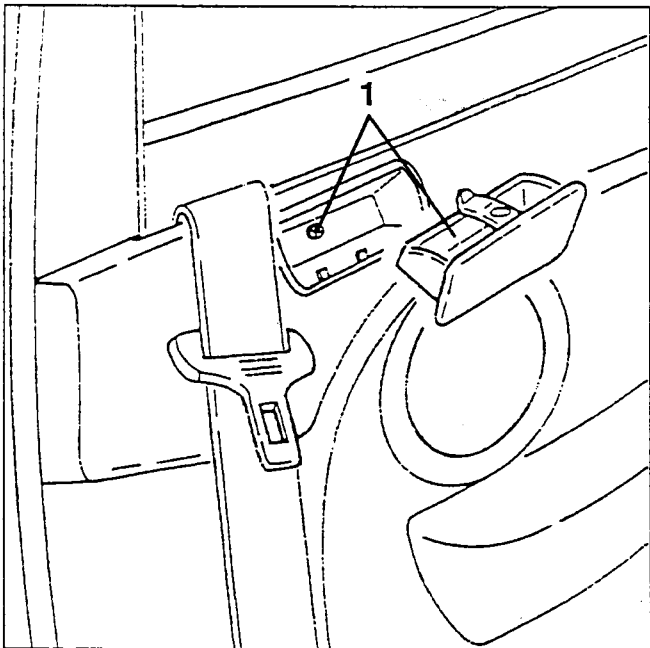


1. Slacken the three lower screws fastening the window moulding.

1. Remove the trim plate and slacken the screw fastening the front seat belt runner.

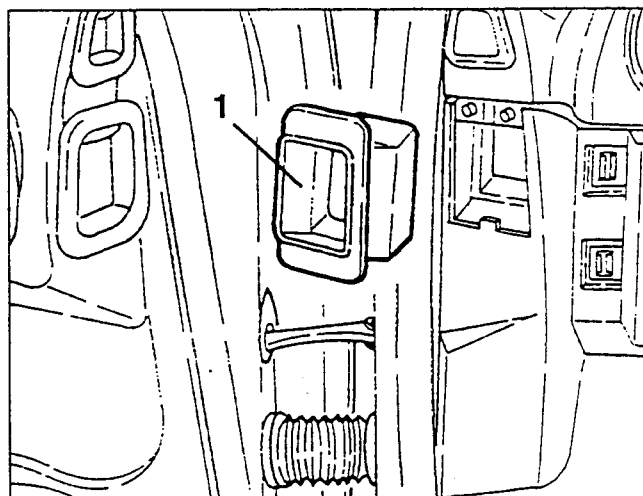
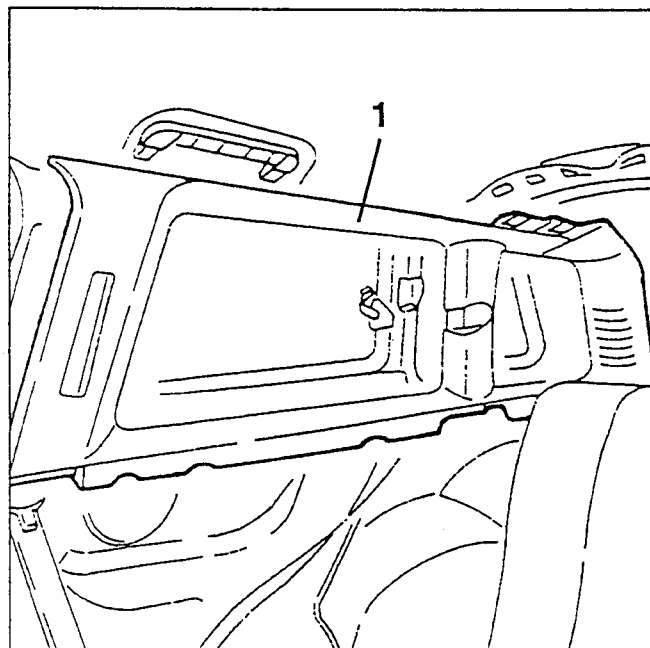


- Prise off the door surround moulding as necessary.
- 1. Prise and remove the ashtray from its housing, then slacken the screw below fastening the window moulding.

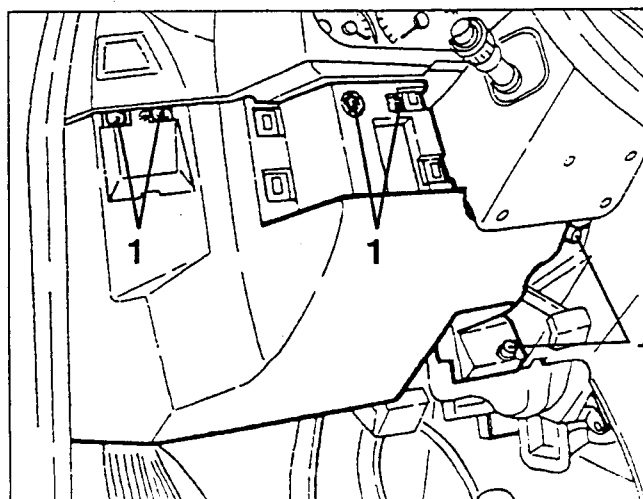


1. Remove the driver's air vent from the dashboard.

1. Prise the upper part of the side panel, then remove the window moulding prising it off the plastic rivets.



1. Slacken the six fastening screws and remove the fusebox trim.

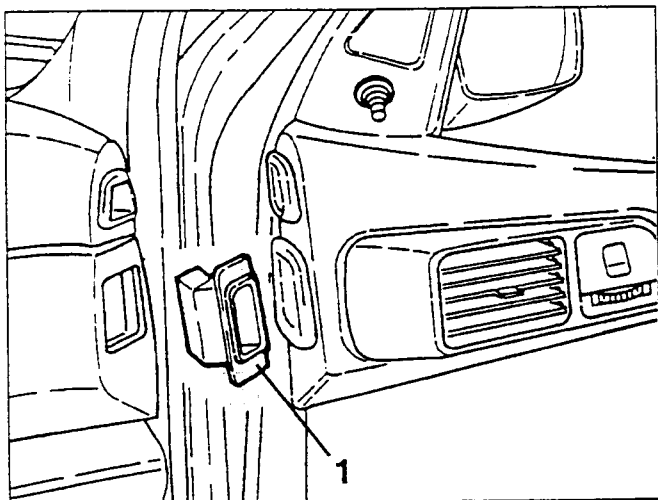


DASHBOARD

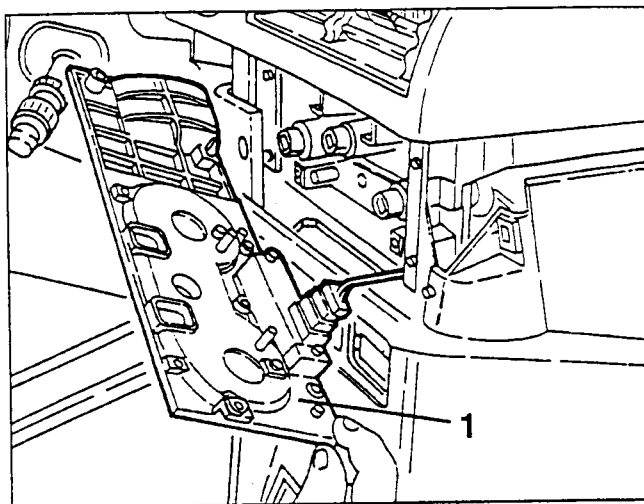
REMOVING/REFITTING

- Disconnect the battery (-) terminal.
- Remove the centre console (see specific paragraph).
- 1. Prise and remove the lefthand side dashboard trim.

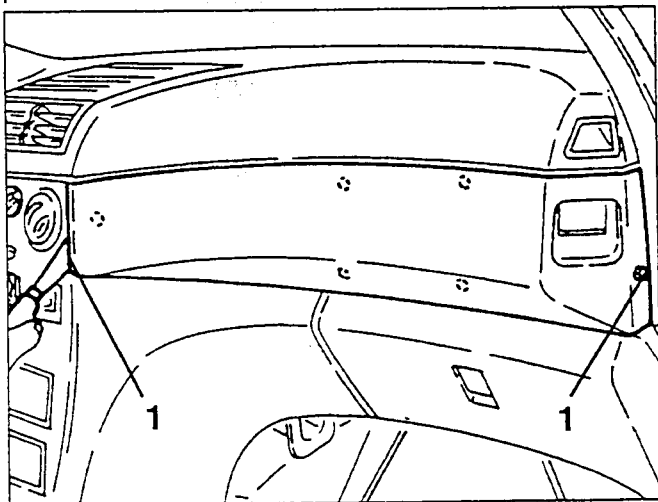
1. Remove the passenger air vent from the dashboard.



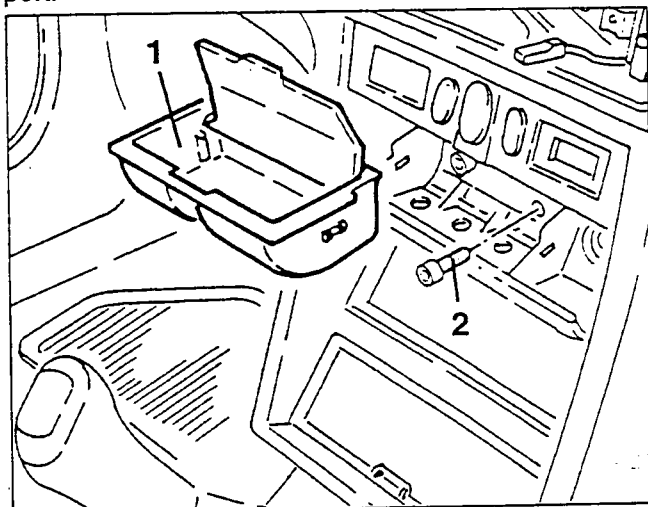
1. Prise the climate control system controls trim from the plastic rivet, then remove it after disconnecting the electrical connection for recirculation control.



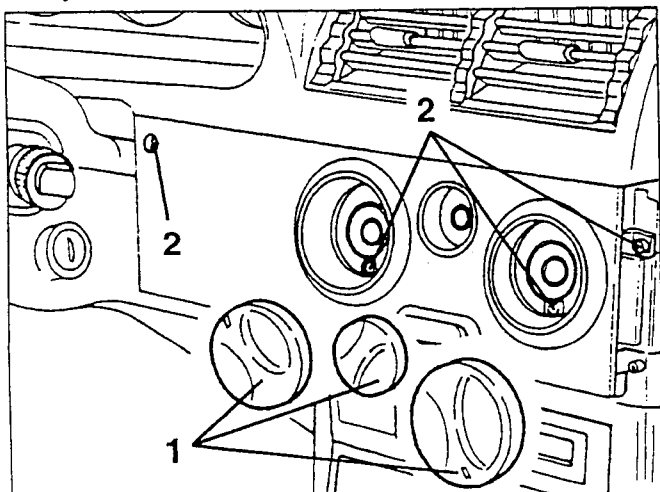
1. Slacken the fastening screw then remove the right hand dashboard trim prising it off the plastic rivets positioned as illustrated.



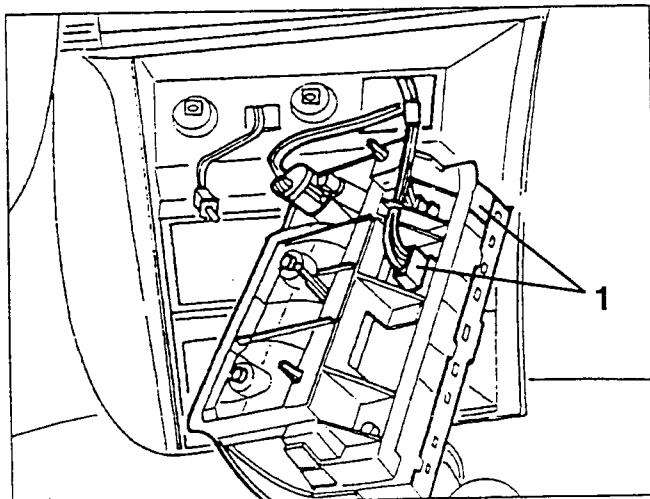
1. Remove the ashtray.
2. Slacken the two screws fastening the ashtray support.



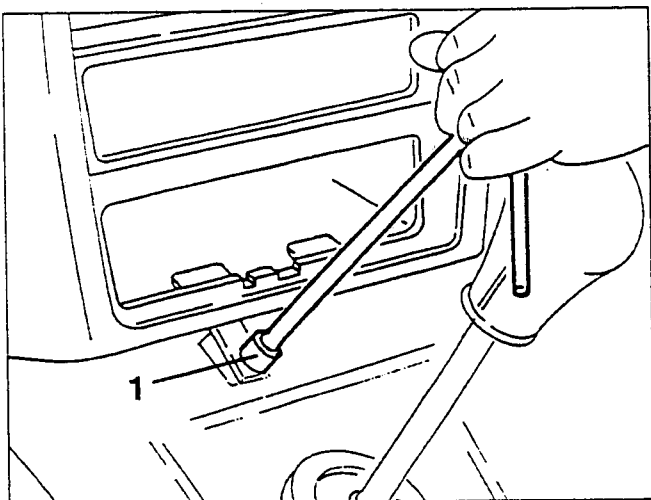
1. Prise and remove the climate control knobs.
2. Slacken the four screws fastening the climate control system controls.



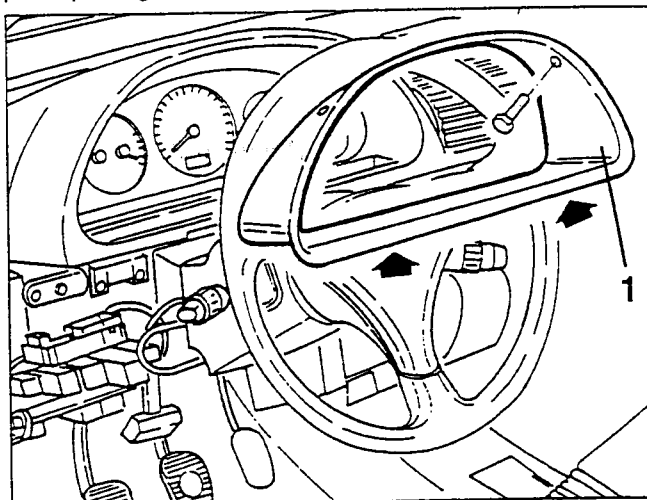
1. Remove the ashtray support complete with the services control unit and remove it after disconnecting the electrical connections.



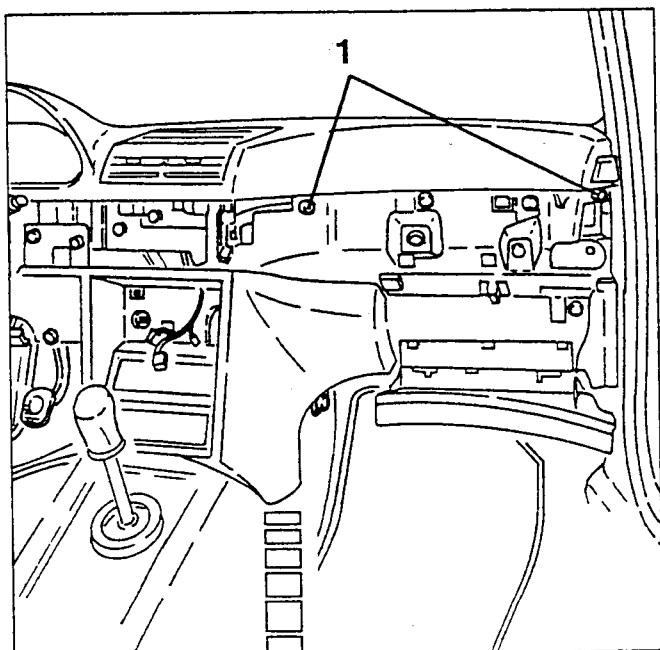
1. Slacken the lower screw fastening the centre console.



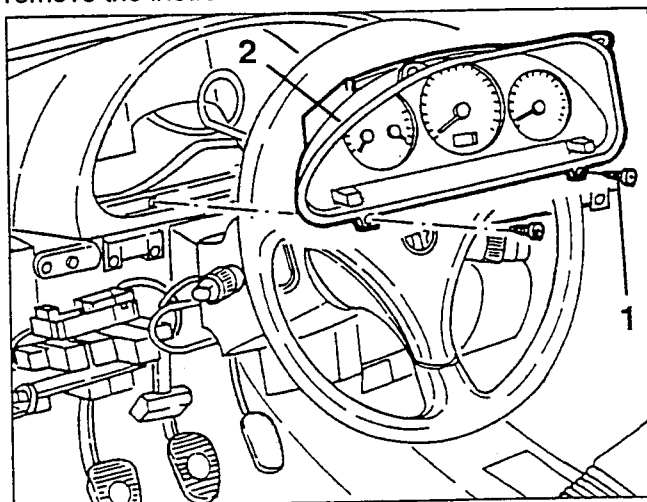
1. Slacken the two fastening screws and remove the plate prising in the points shown by the arrows.



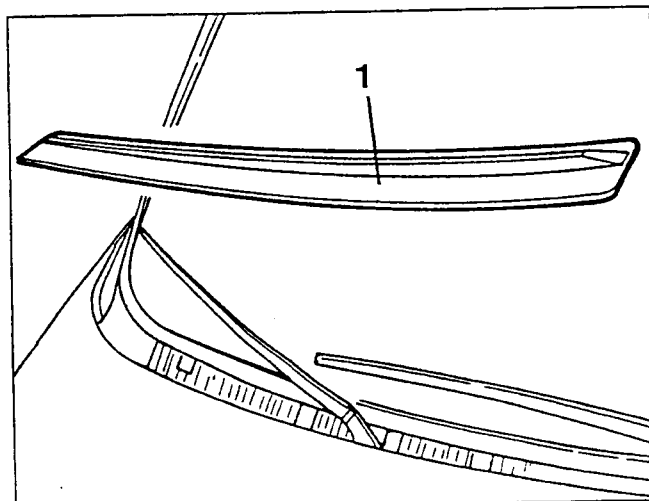
1. Slacken the screws fastening the lower part of the dashboard and remove it.



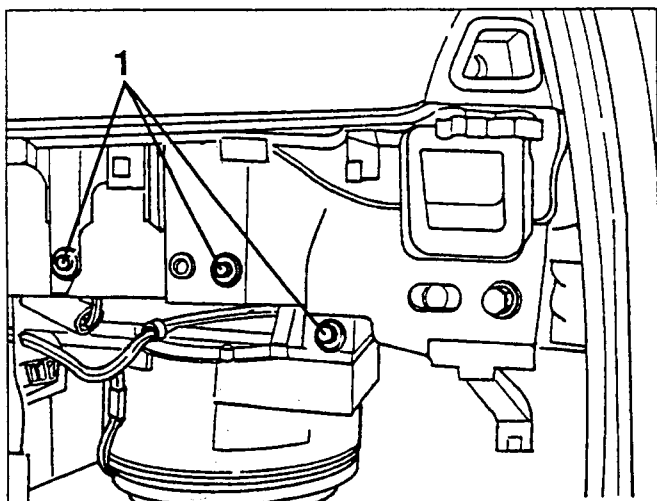
1. Slacken the four screws fastening the instrument cluster.
2. Disconnect the two side electrical connections and remove the instrument cluster.



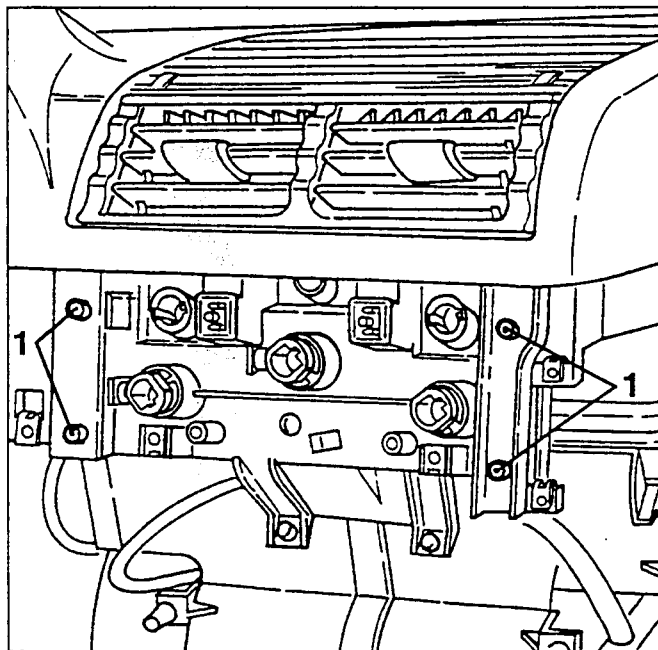
1. Prise and remove the windscreen air grille.



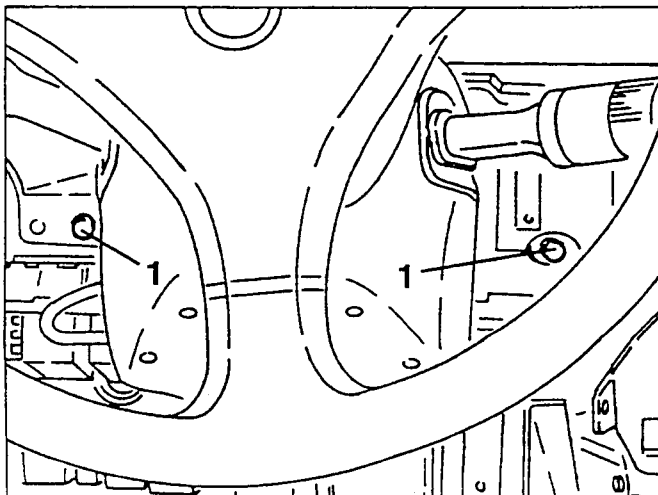
1. Loosen the screws on the passenger side securing the dashboard.



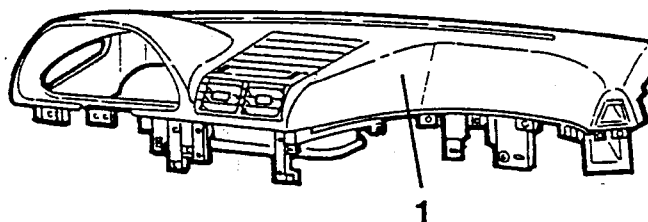
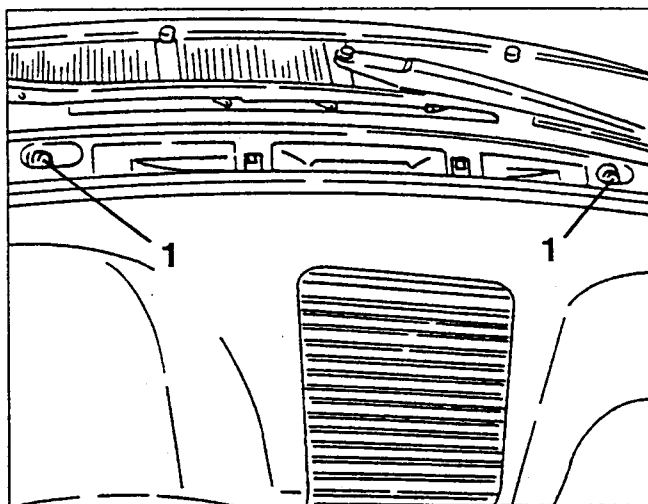
1. Loosen the four central screws securing the heating-ventilation controls.



1. Loosen the two screws on the driver's side securing the dashboard.

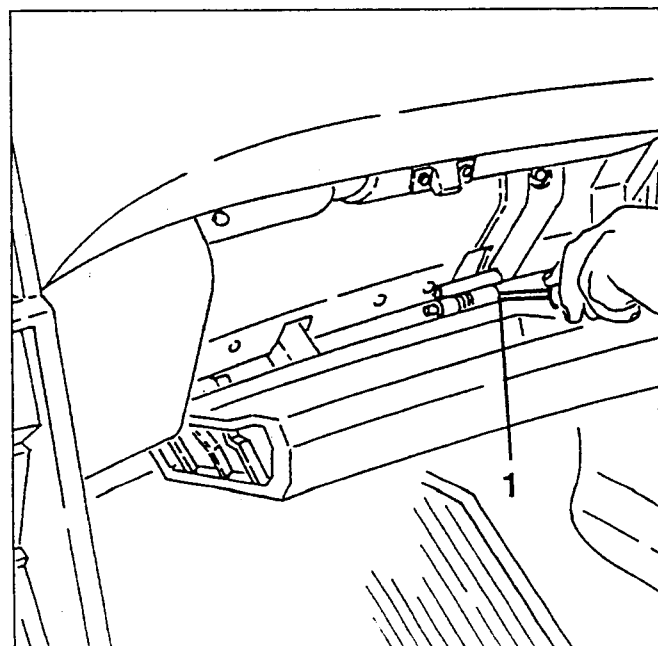


1. Loosen the two screws securing the dashboard shown in the diagram and remove the upper part of the dashboard.

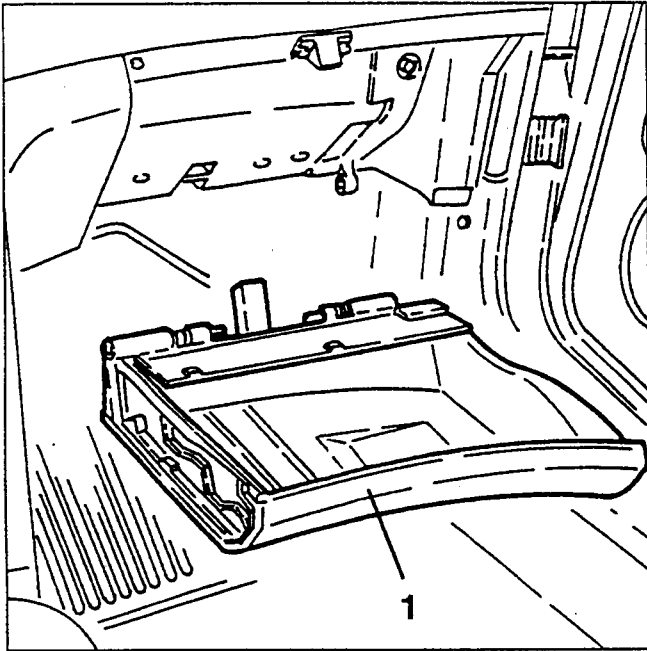


GLOVE COMPARTMENT REMOVAL/REFITTING

1. Open the glove compartment and holding the spring flap downwards use a screwdriver as a lever to free it from the attachments.

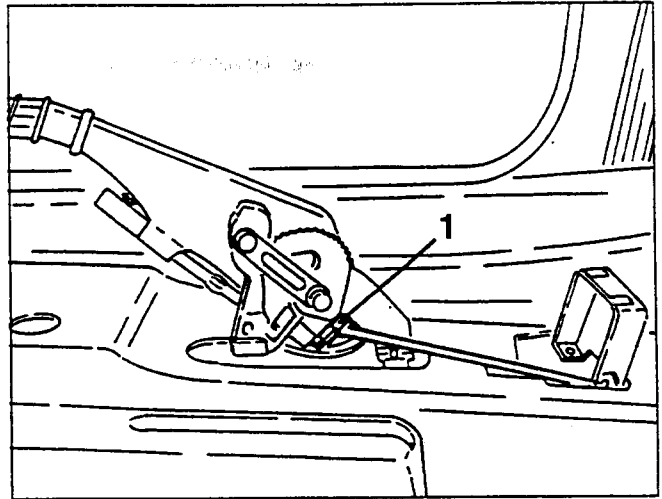


1. Remove the glove compartment.

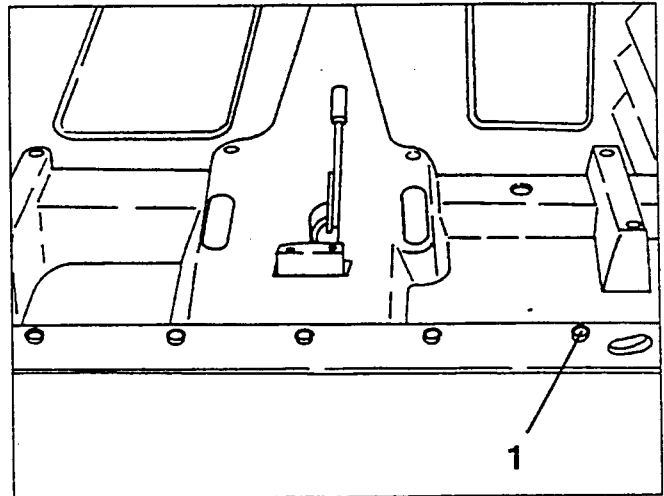


- Remove the gear lever cover and the central console (see specific paragraphs).

1. Disconnect the electrical connections from the handbrake switch.



1. Pull off the five plastic nails securing the rear floor trim.

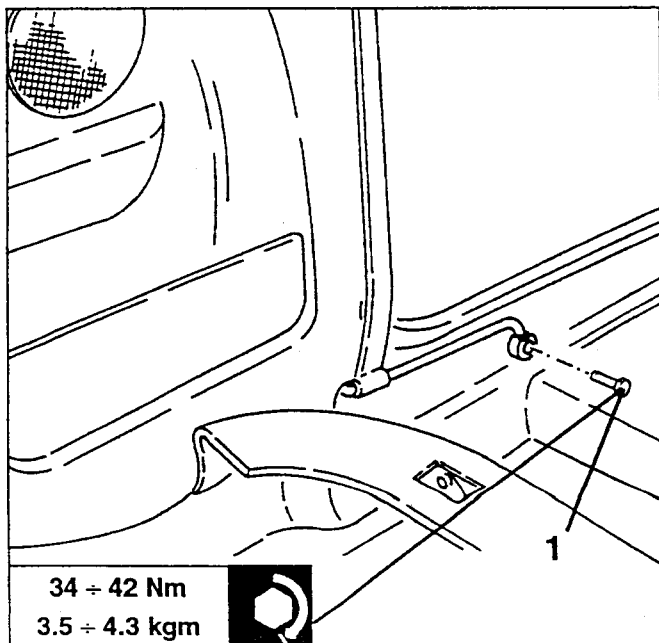


FLOOR TRIM

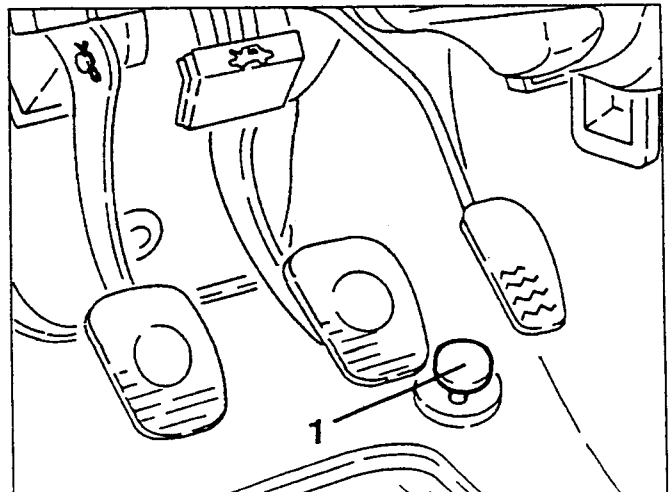
REMOVAL/REFITTING

- Remove the front seats (see specific paragraph).
- Remove the rear seat cushion (see specific paragraph).
- Remove the heel pads (see specific paragraph).
- Remove the lower part of the dashboard (see specific paragraph).

1. Loosen the front screws securing the front seat belt sliding attachments.

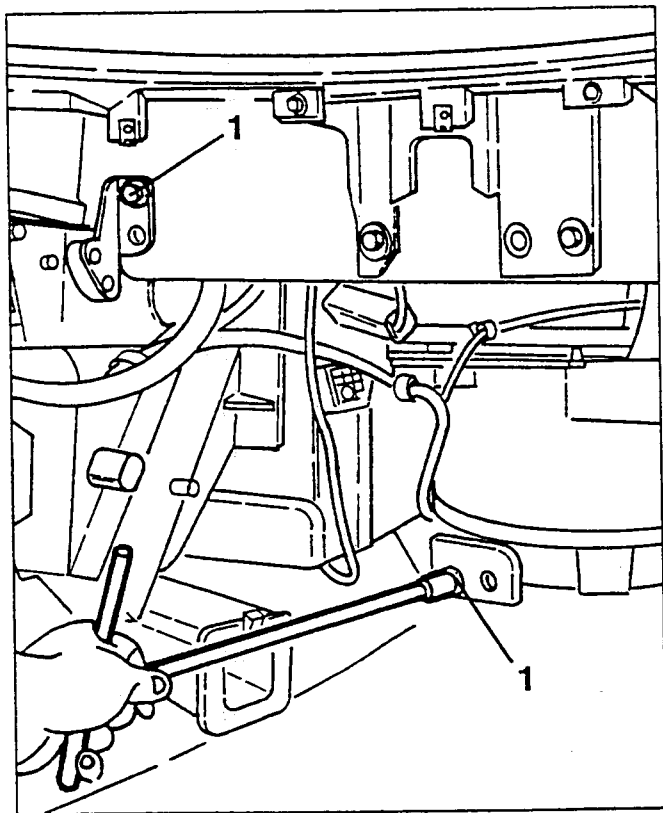


1. Unscrew and remove the accelerator pedal stop limit.

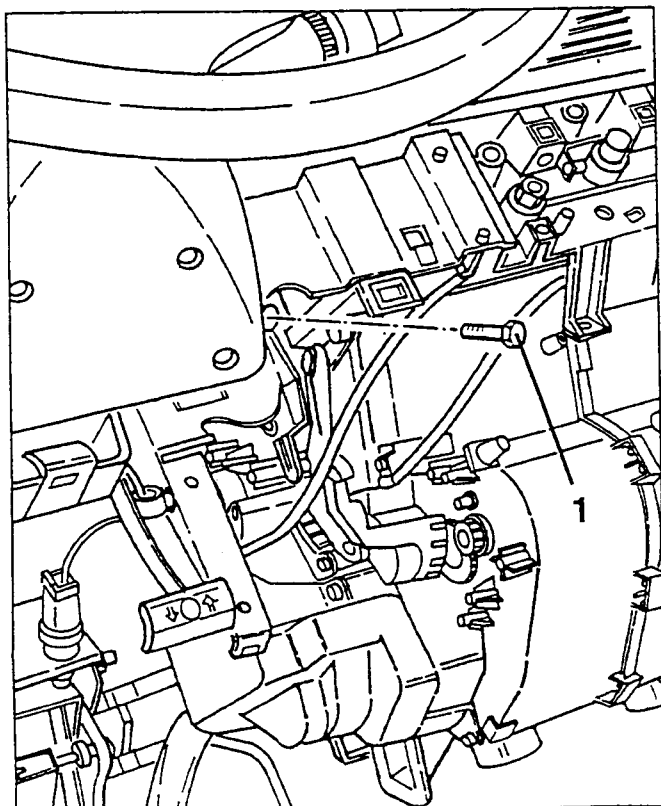


- For vehicles with air conditioning remove the vents delivering air to the floor of the rear part of the passenger compartment (see specific paragraph).

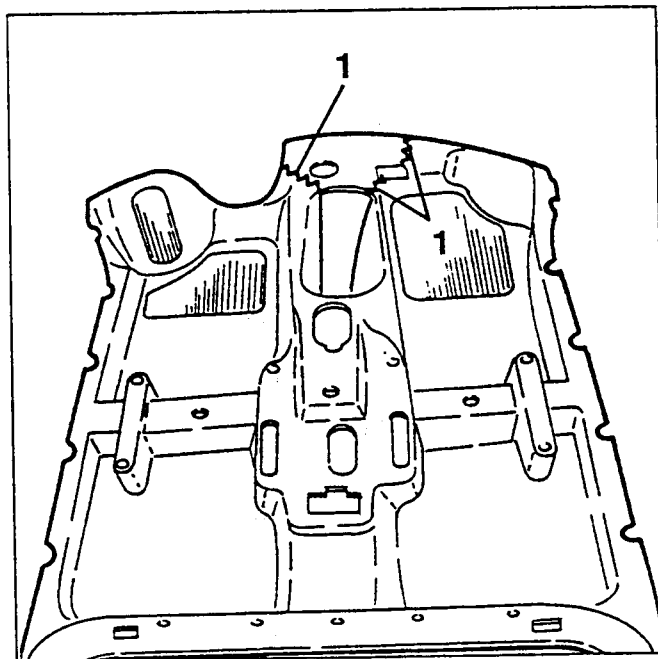
1. Loosen of the four screws securing the heating-ventilation group right side.



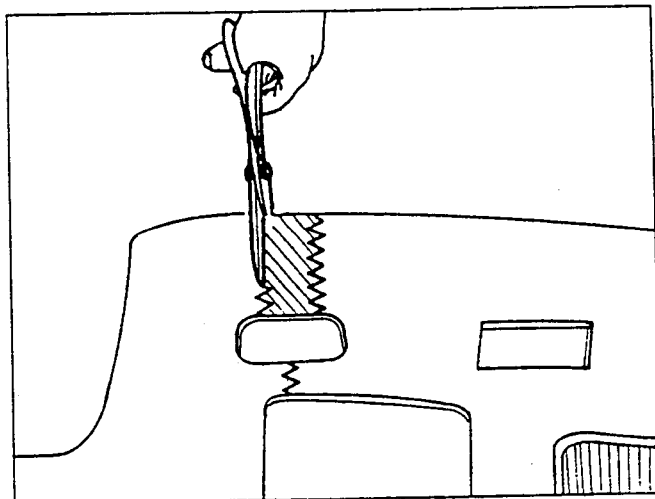
1. Loosen the screw securing the heating-ventilation group left side.



1. Cut the front part of the floor trim as shown in the diagram and then remove it together with the cut part from behind the heating-ventilation group.



Cut the new floor trim as shown in the diagram and fit it on behind the heating-ventilation group and then refit by reversing the procedure followed for removal.

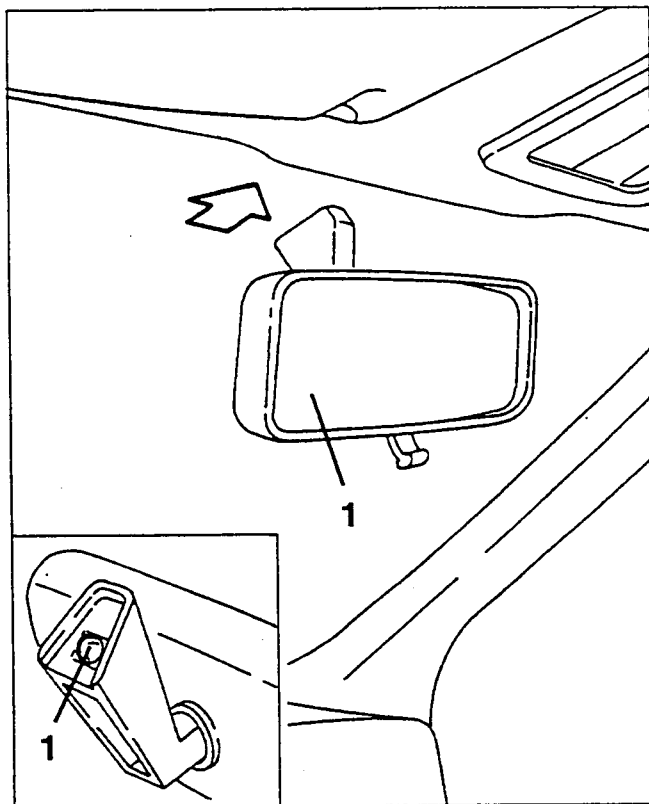
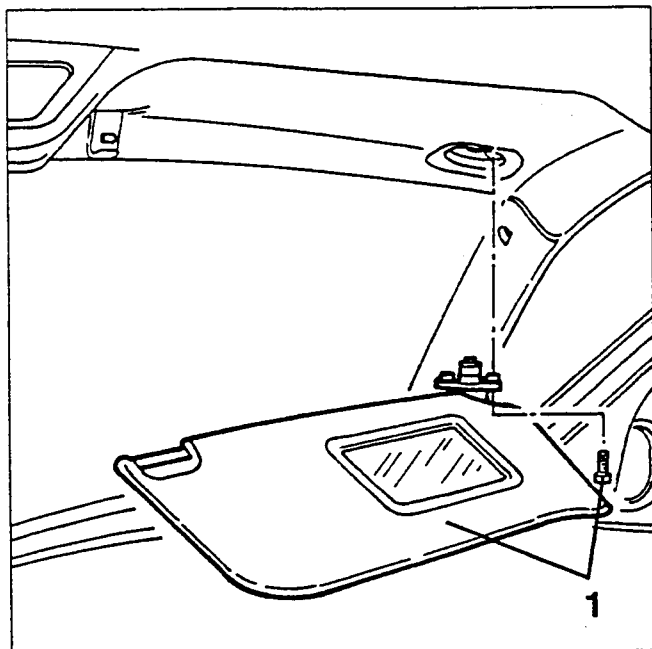


SUN VISORS

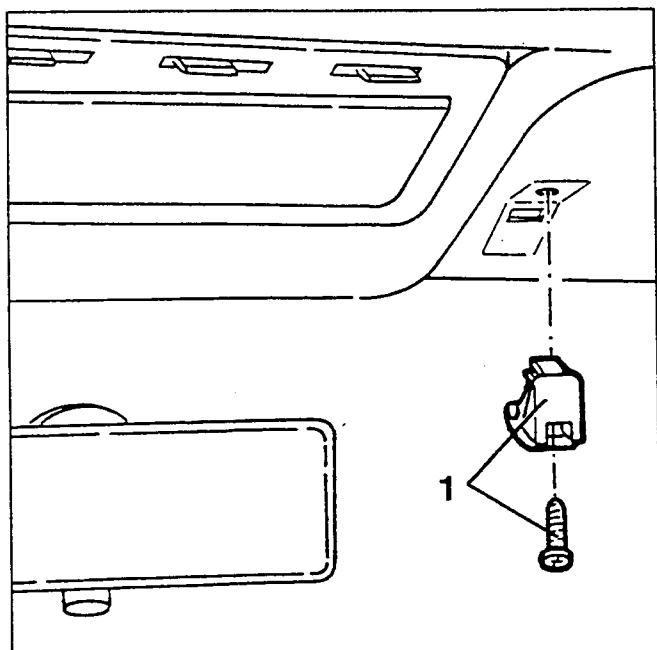
REMOVAL/REFITTING

- Tip the sun visor down to gain access to the relative screws.

1. Loosen the two screws and remove the sun visor.



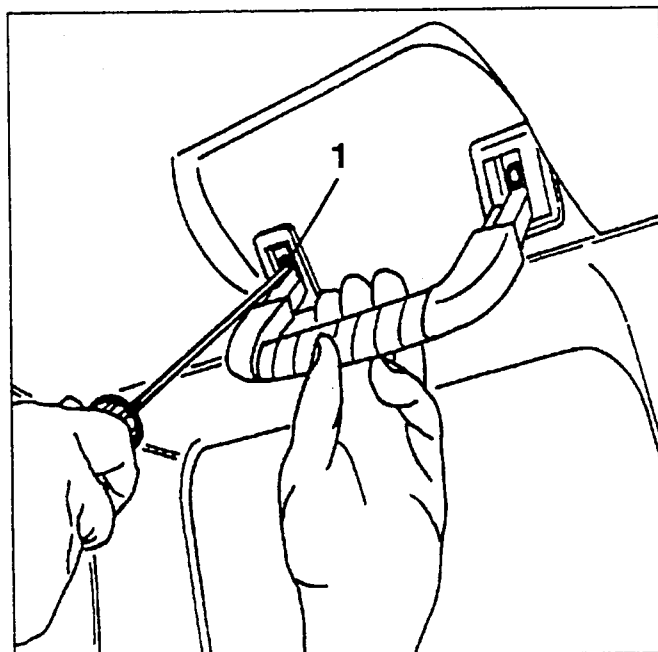
1. Pull off the cover, loosen the screw and remove the sun visor support.



PASSENGER GRAB HANDLES

REMOVAL/REFITTING

1. Lower the passenger grab handle, loosen the two screws and remove it.



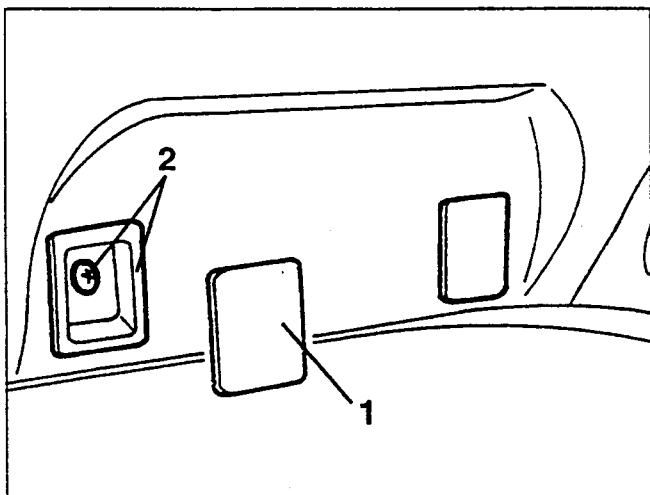
REAR-VIEW MIRROR

REMOVAL/REFITTING

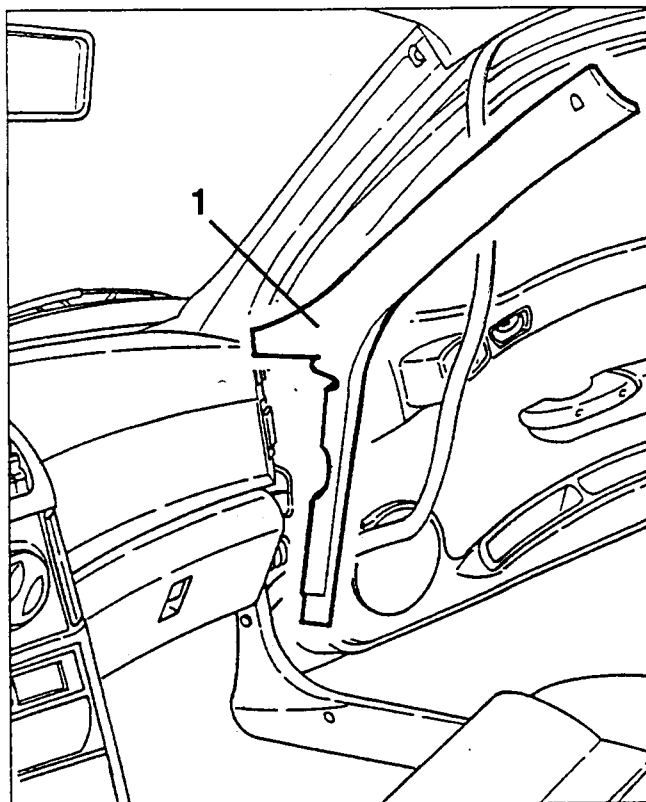
1. Remove the rear-view mirror by pushing it upwards overcoming the force exerted by the locking ball.

CAPS ON DRIVER'S SIDE**REMOVAL/REFITTING**

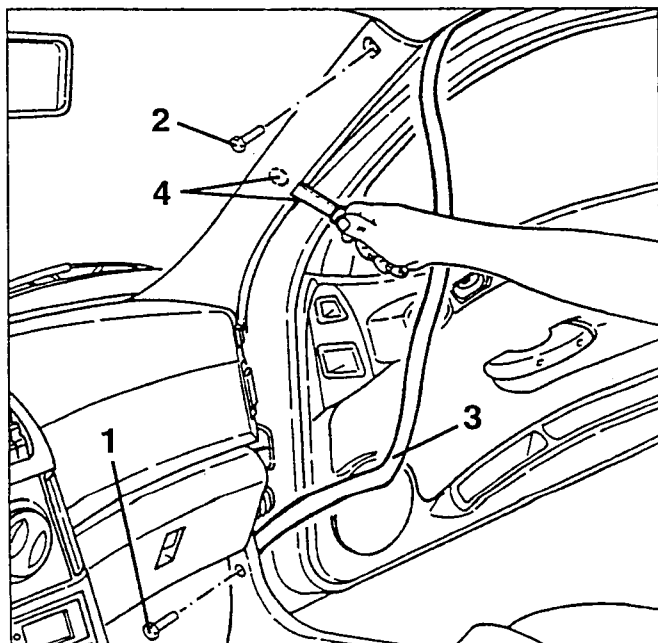
1. Pull off the protective cap.
2. Loosen the screw and remove the cap for the handle on the driver's side.



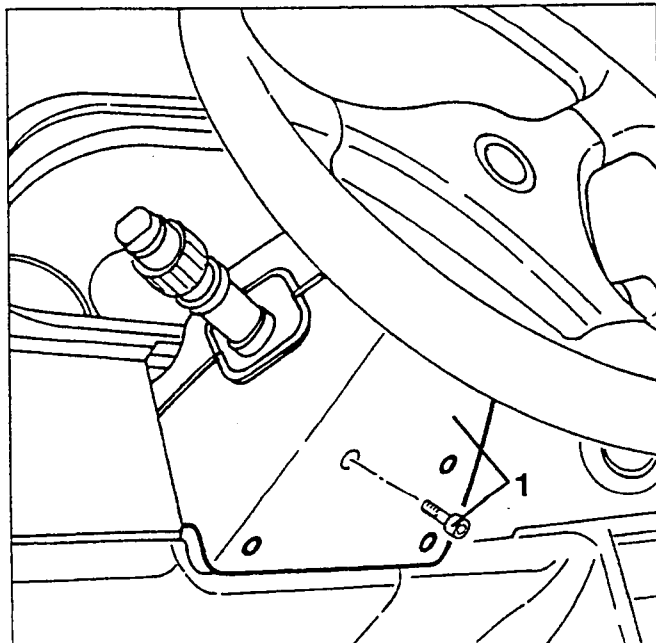
1. Remove the trim from the front pillar.

**TRIM ON FRONT PILLARS****REMOVAL/REFITTING**

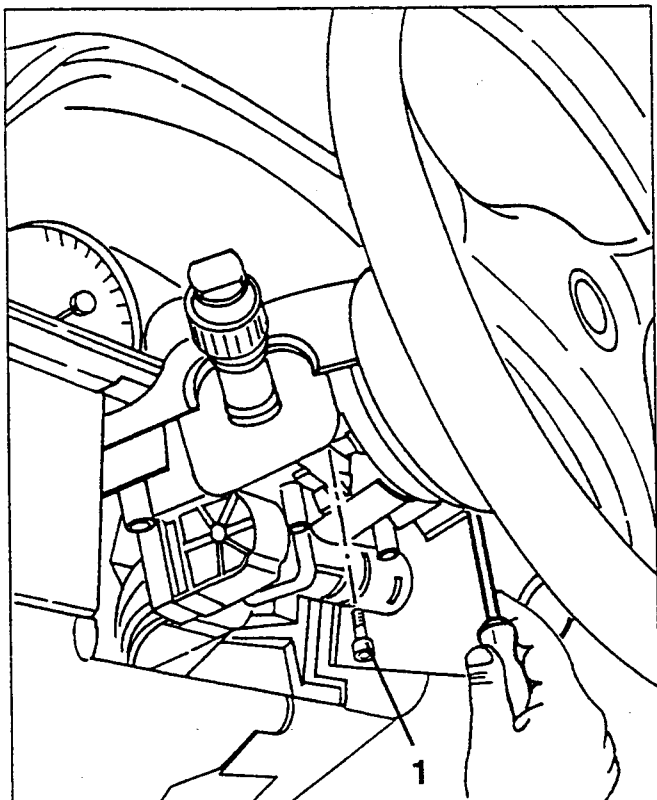
1. Loosen the screw securing the heel rest as shown in the diagram.
2. Loosen the screw securing the trim to the front pillar.
3. Pull the door seal from its seating as required.
4. Pull the on the front pillar away from the plastic nail.

**STEERING COLUMN CASING HALF****REMOVAL/REFITTING**

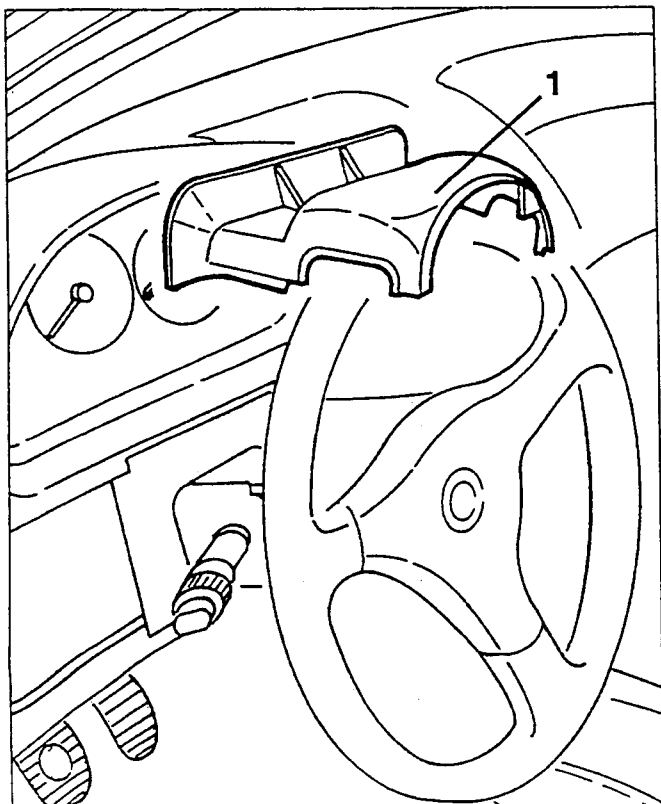
1. Loosen the four screws and remove the steering column lower casing half.



1. Loosen the two screws securing the steering column upper casing half.



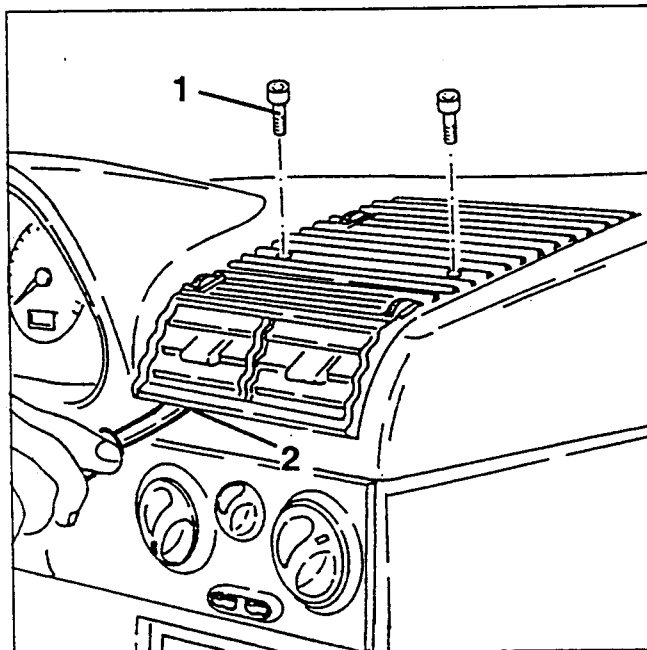
1. Remove the steering columns upper casing half.



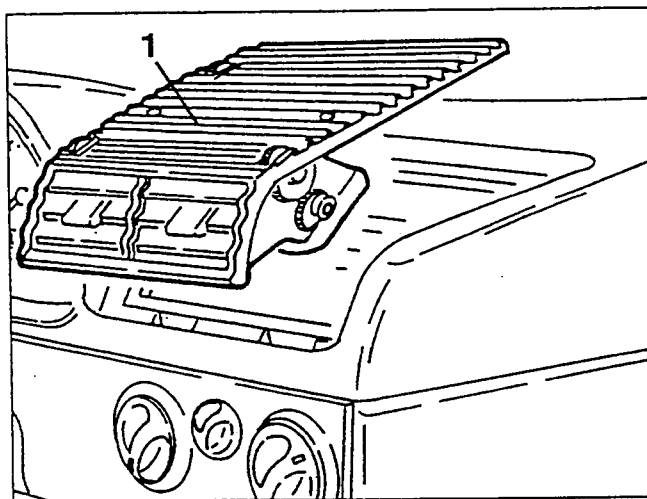
AIR VENT ON DASHBOARD

REMOVAL/REFITTING

1. Loosen the two screws securing the air vent to the dashboard.
2. Pull the air vent from the dashboard as shown in the diagram.



1. Remove the air vent from the dashboard.

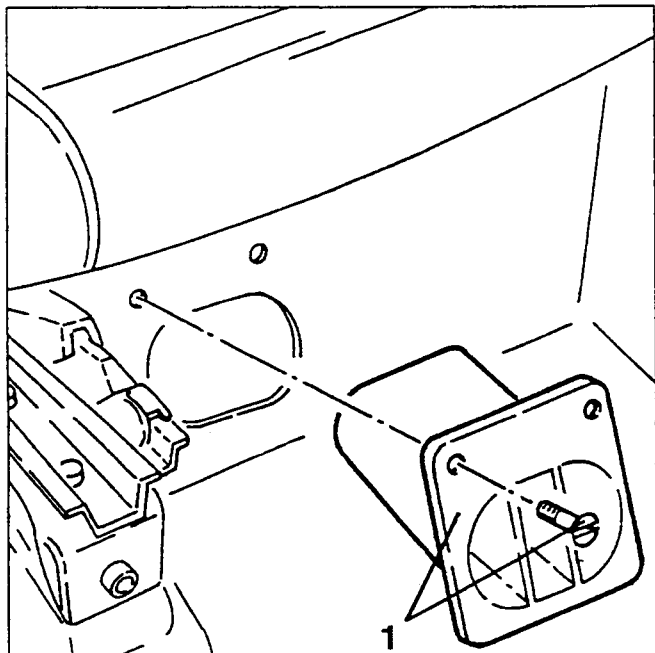


REAR FLOOR AIR VENTS

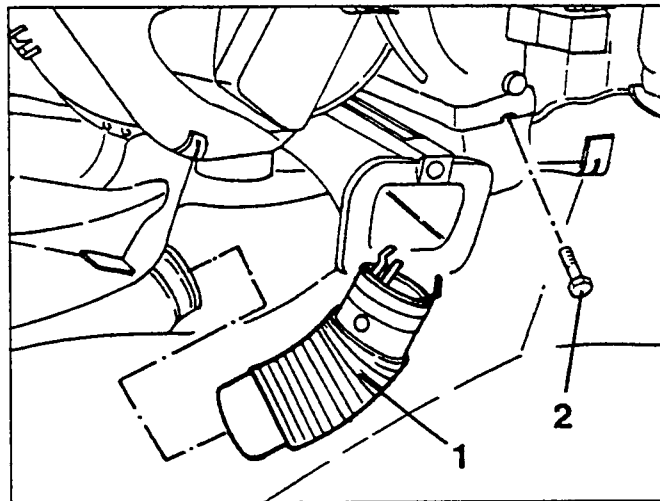
REMOVAL/REFITTING

- Slide the front seat forwards on the relative side.

1. Loosen the two screws securing the air vent and remove it.



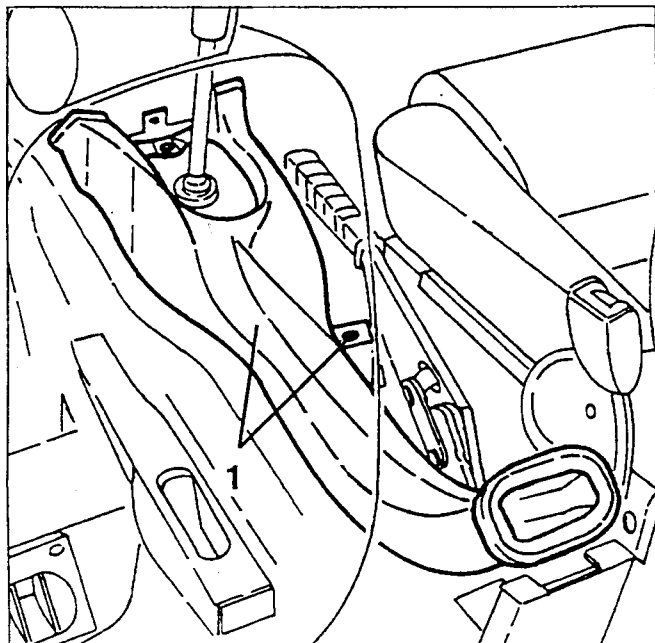
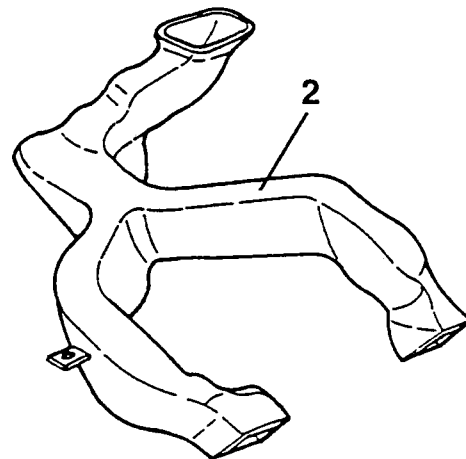
1. Remove the right air delivery elbow to the rear passenger feet from the climate control unit.
2. Slacken the fastening screw and remove the front section of the air delivery duct to rear passenger face level.



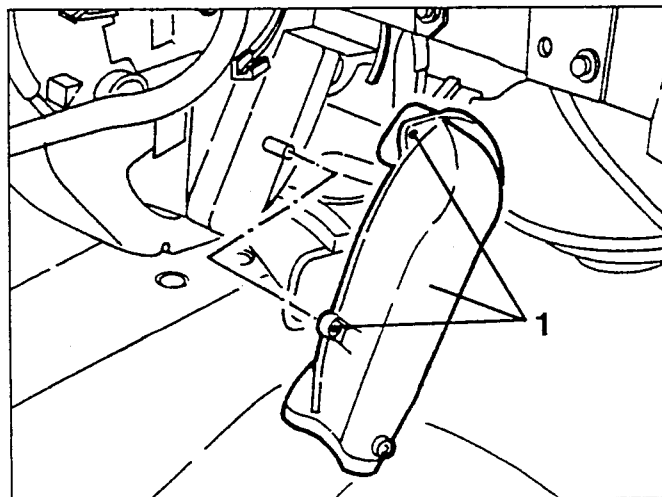
AIR DELIVERY DUCTS

REMOVAL/REFITTING

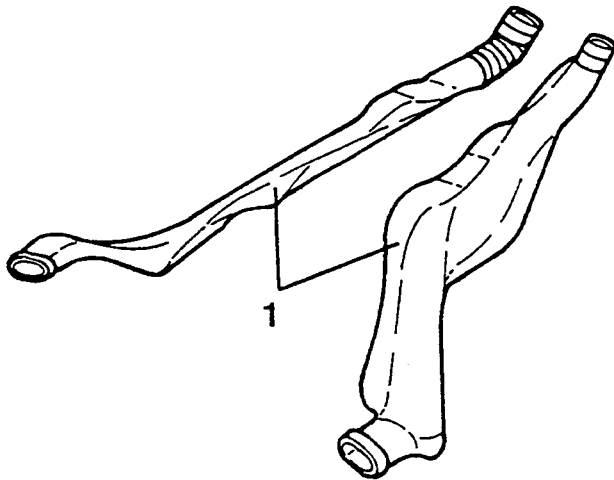
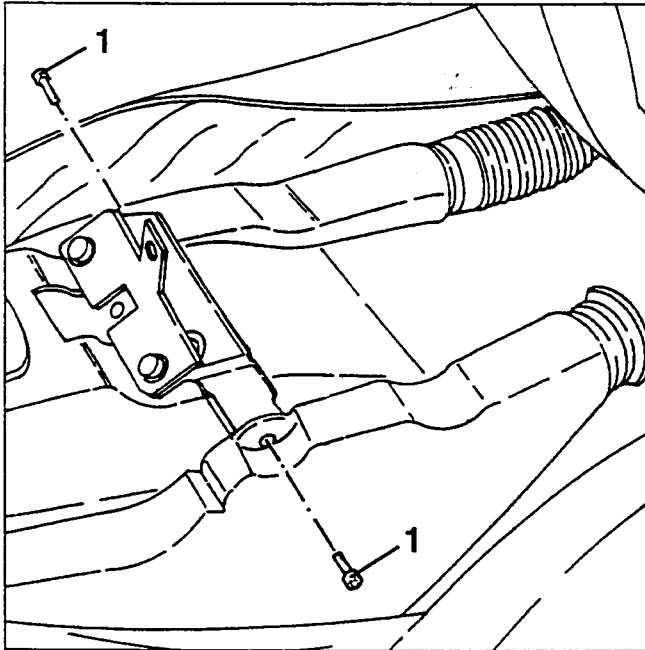
- Remove the centre console (see specific paragraph).
 - Remove the lower dashboard (see specific paragraph).
1. Slacken the fastening screws and remove the air delivery duct to rear passenger face level.



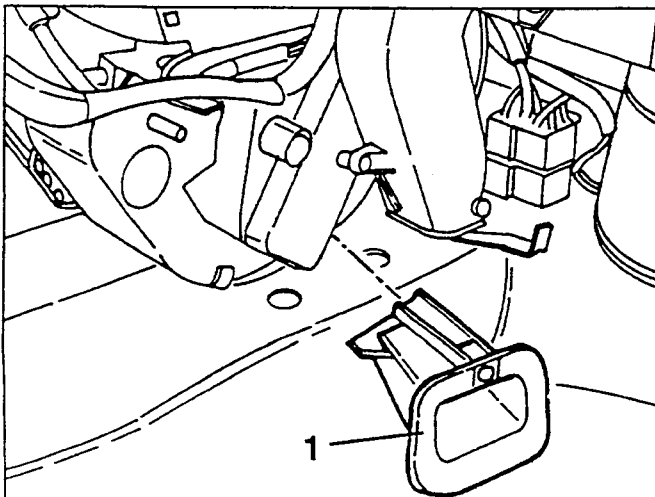
1. Slacken the remaining fastening screw and remove the air delivery duct to rear passenger face level from the climate control unit.



1. Slacken the screw at each side and remove the two air delivery ducts to the rear passenger feet area.



1. Slacken the fastening screws and remove the air flow vents driver and front passenger feet area.



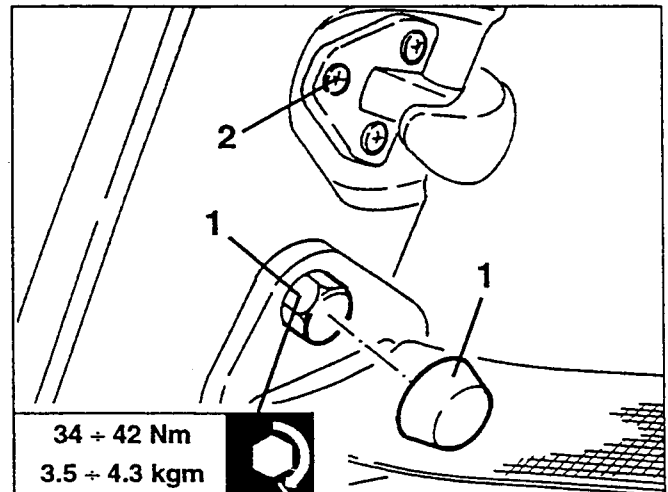
ROOF PANEL (FOR VERSIONS WITH SUNROOF)

REMOVAL/REFITTING

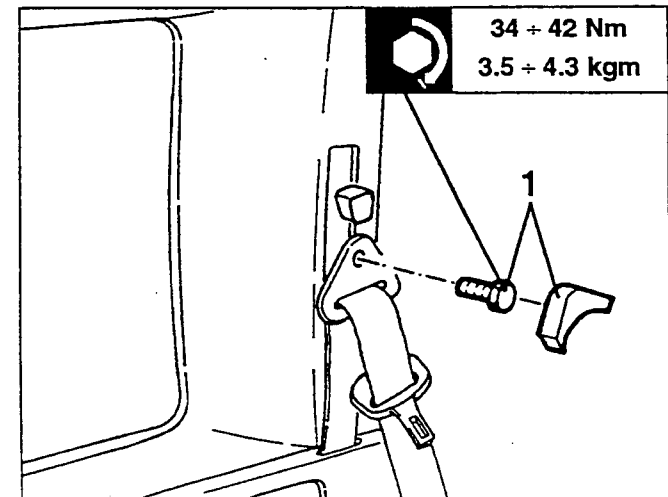
- Disconnect the negative cable from the battery.
- Remove the passenger grab handles and the caps on the driver's side (see specific paragraphs).
- Remove the rear trim from the roof panel (see specific paragraph).
- Remove the sun visors (see specific paragraph).
- Remove the front roof light (see GROUP 55).
- Remove the trim from the front pillars (see specific paragraph).

1. Pull off the covers and unscrew the screws securing the rear seat belt runners.

2. Loosen the screws securing the quarterlight opening catches on the rear windows.

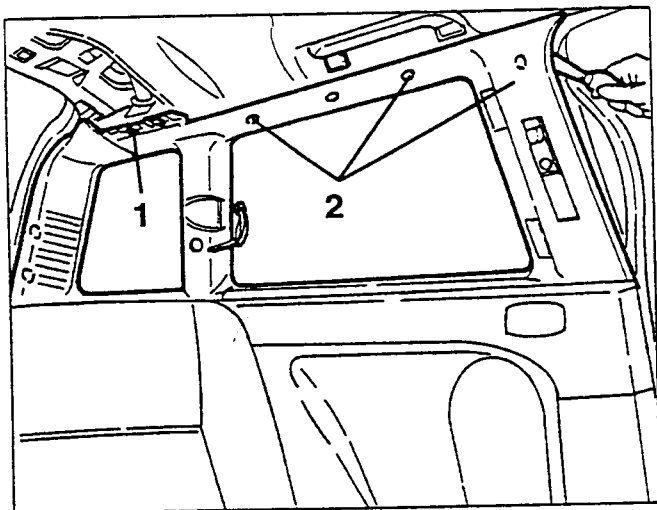


1. Remove the trim and loosen the screws securing the front seat belt runners.

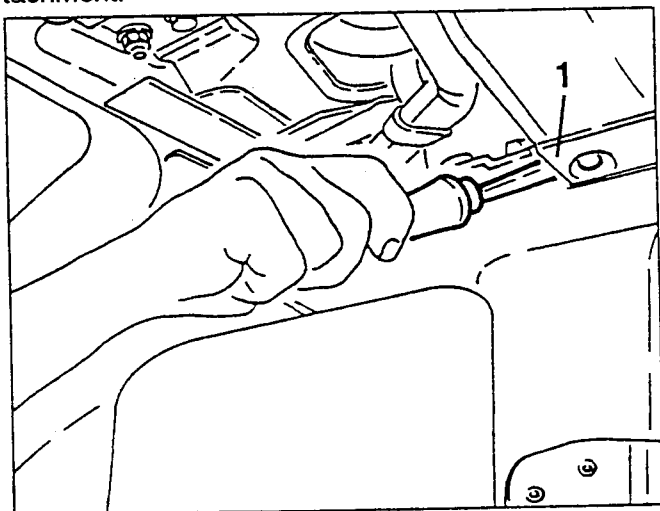


- Pull the door and boot seals away from their seatings as required.

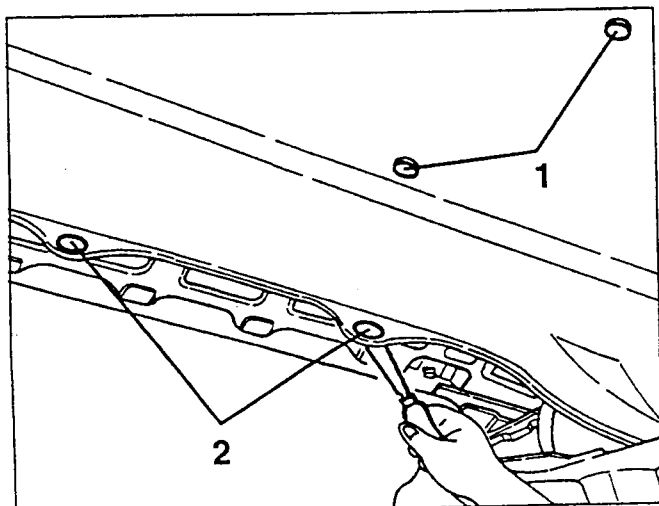
1. Loosen the screw securing the window surround.
2. Pull the window mouldings away from the plastic nails positioned as shown in the diagram.



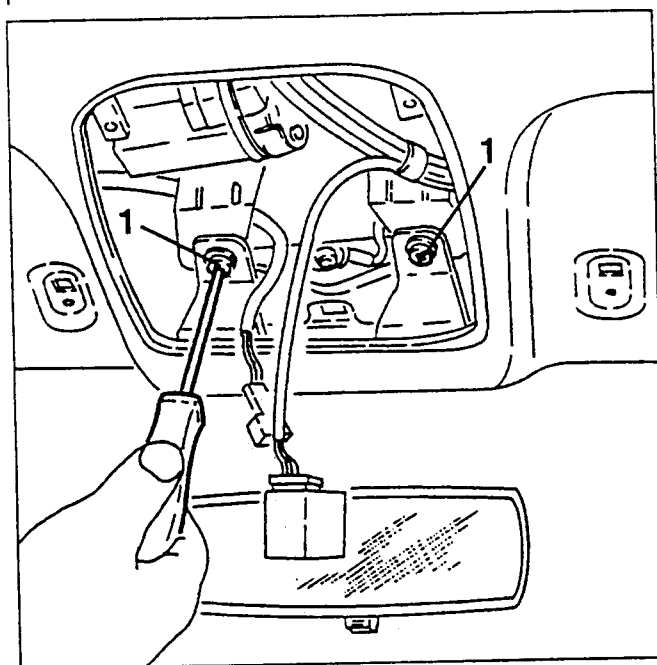
1. Pull off the button on the roof panel rear attachment.



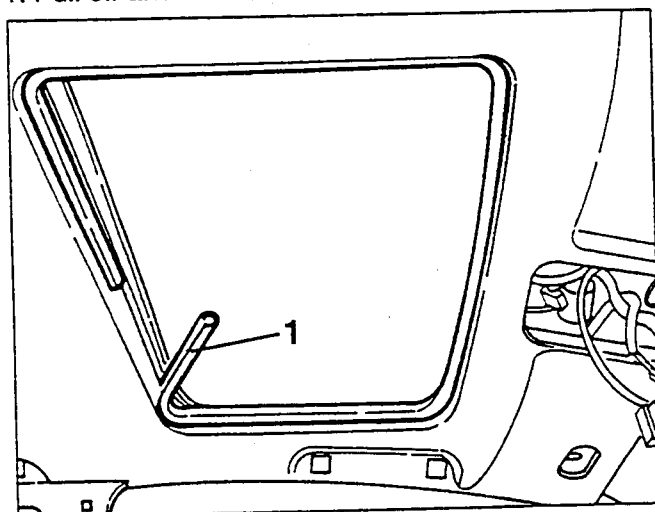
1. Loosen and remove the two central buttons.
2. Pull off and remove the two rear buttons.



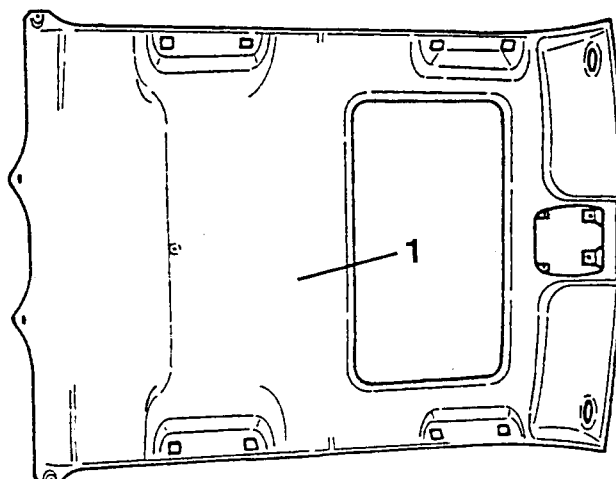
1. Loosen the two front screws securing the roof panel.



1. Pull off and remove the sun roof seal strip.

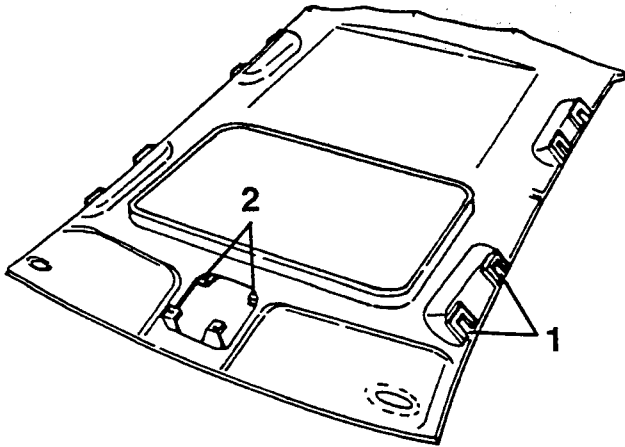


1. Remove the roof panel moving it first to one side to free it and then to the other and remove from the vehicle through the right-hand door.





When refitting check that the gaskets (1) and the clip (2)s for the front screws, indicated in the diagram, are present on the roof panel.



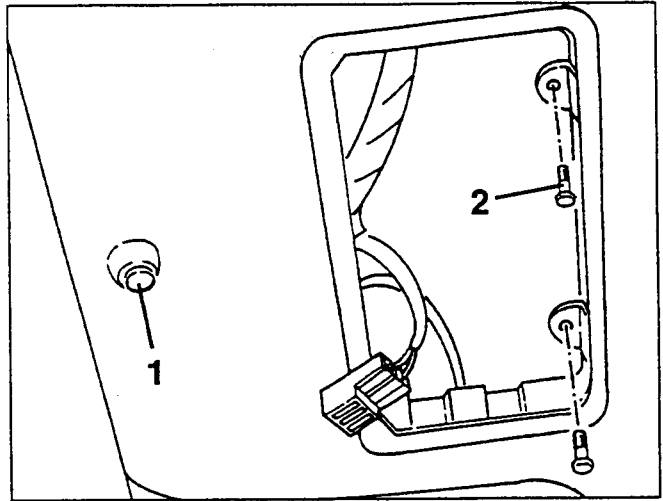
GLUED ROOF PANEL (FOR VERSIONS WITHOUT SUNROOF)

REMOVAL/REFITTING

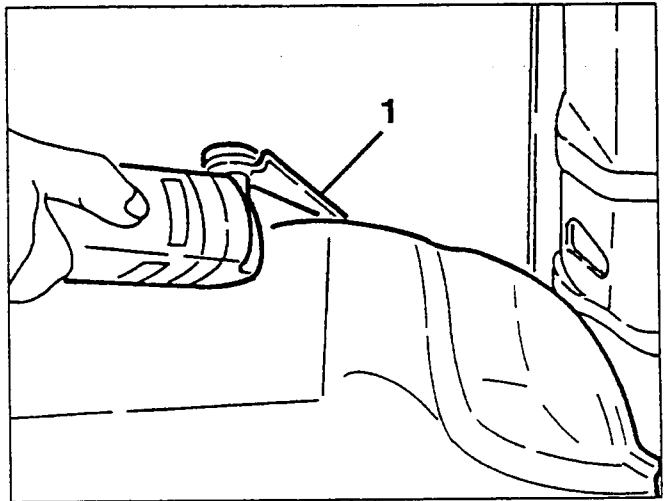
- Disconnect the negative cable from the battery.
- Remove the front and rear seats (see specific paragraphs).
- Remove the rear window mouldings (see specific paragraph).
- Remove the front roof light (see GROUP 55).
- Remove the passenger grab handles and the caps on the driver's side (see specific paragraphs).
- Remove the sun visors (see specific paragraph).
- Remove the trim from the front pillars (see specific paragraph).

1. Remove the four plastic nails securing the rear part of the roof panel.

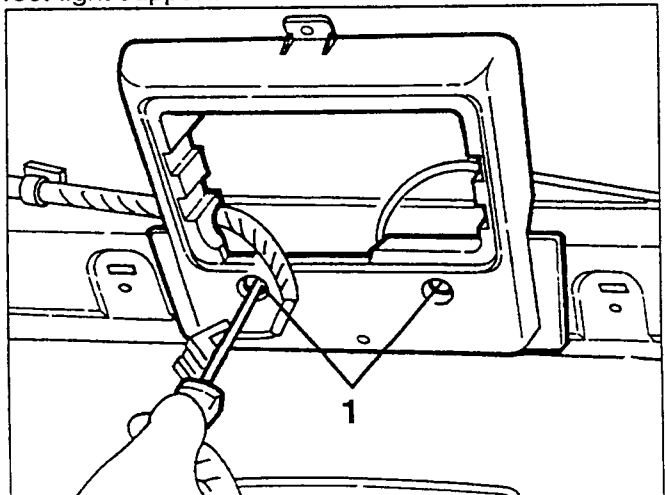
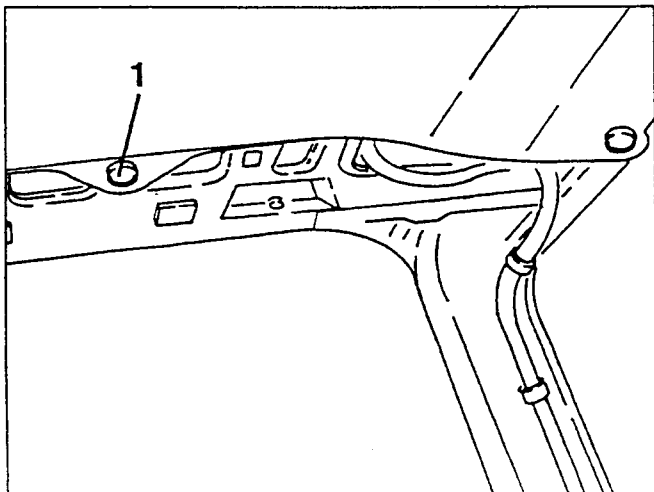
1. Remove the plastic nail securing the front part of the roof panel.
2. Loosen the two screws securing the front of the roof panel.



1. Lower the rear part of the roof panel just enough to permit the glue to be cut as shown in the diagram.



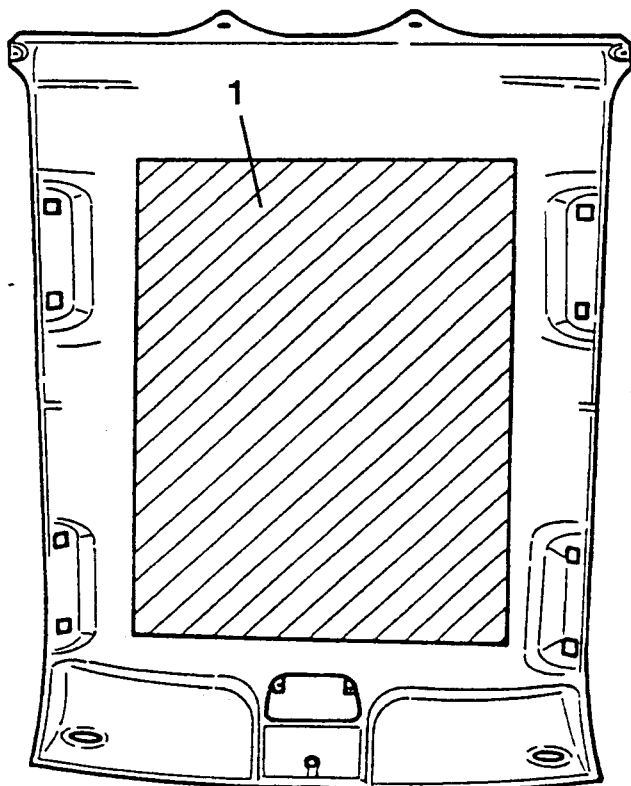
1. If necessary loosen the two screws and remove the roof light support.



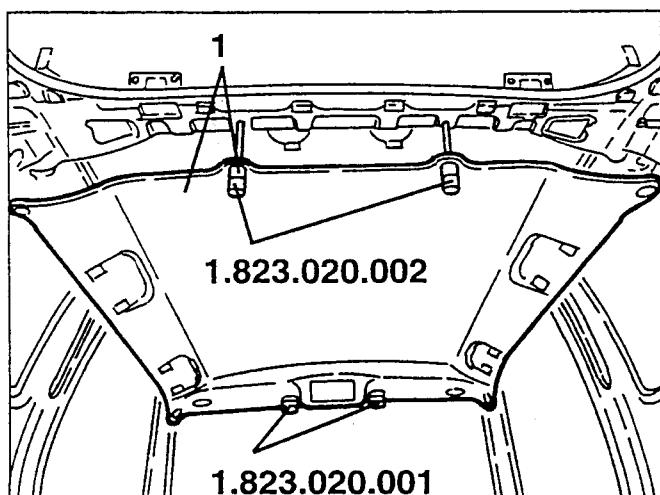


Refit the roof panel by reversing the procedure followed for removal and note the following:

1. Apply the specified glue to the new inner and outer roof panels as shown in the diagram.



1. Position the roof panel using guide pins 1.823.020.002 and 1.823.020.001 as shown in the diagram and press it using your hand around the glued parts.

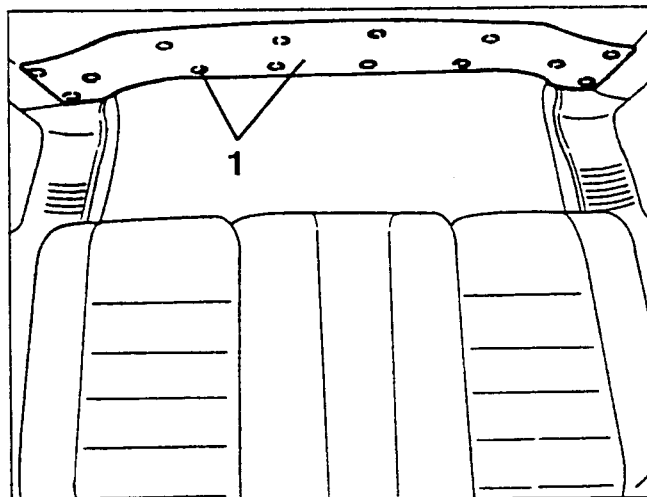


- Remove the centering pins and install the plastic nails in their place to secure the roof panel.

ROOF PANEL REAR TRIM

REMOVAL/REFITTING

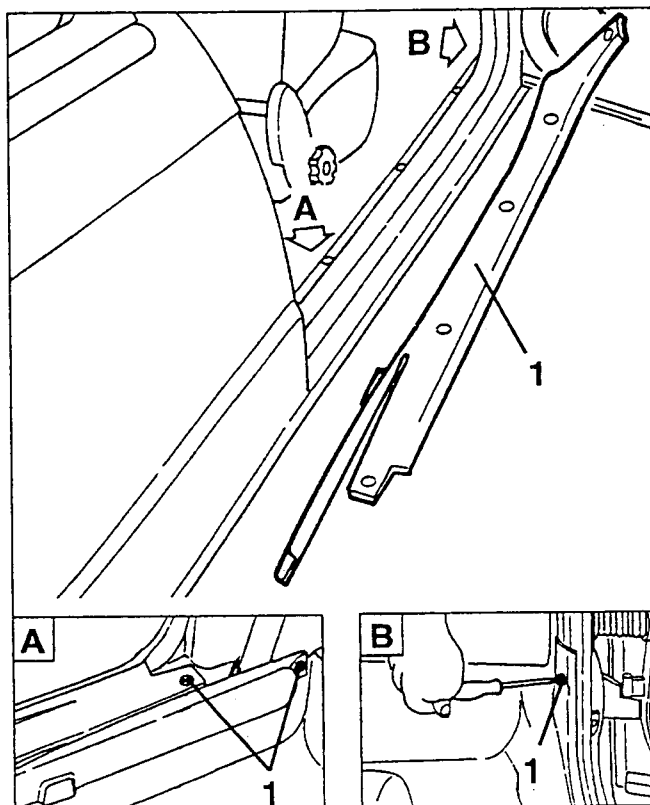
1. Pull the rear trim on the roof panel away from the plastic nails positioned as shown in the diagram and remove.



HEEL REST

REMOVAL/REFITTING

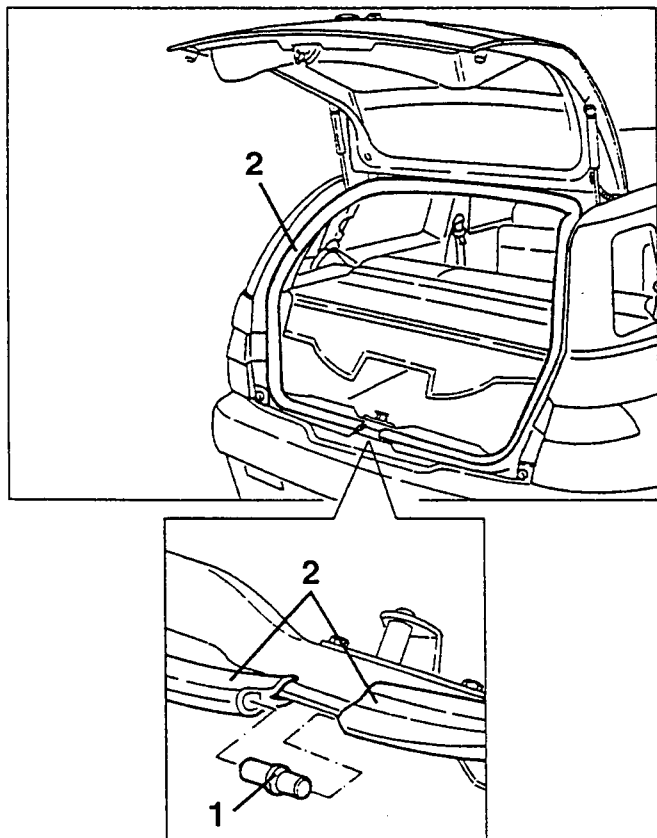
1. Loosen the six screws securing the heel rest and remove.



LUGGAGE COMPARTMENT SEAL**REMOVAL/REFITTING**

- Remove the protective covering (see specific paragraph).

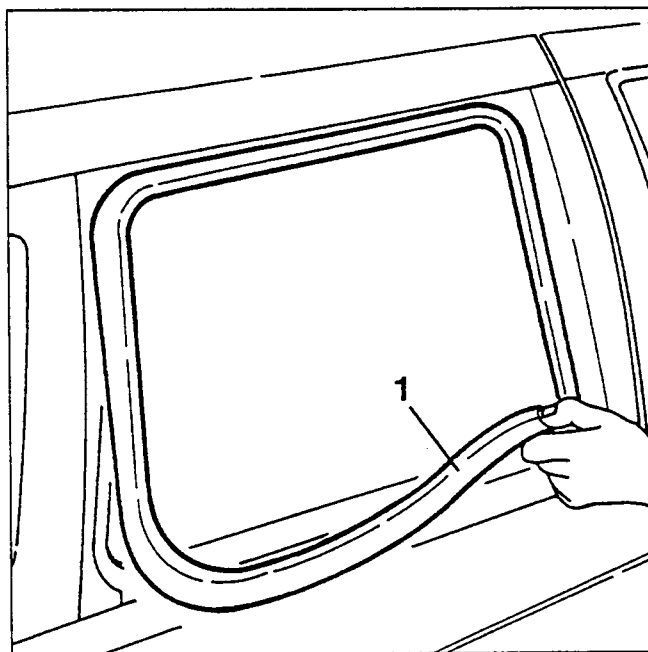
1. Remove the joins from the ends of the seal.
2. Pull away the seal beginning from the join.

**SEAL ON QUARTERLIGHT WINDOW****REMOVAL/REFITTING**

- Remove the window mouldings (see specific paragraph).

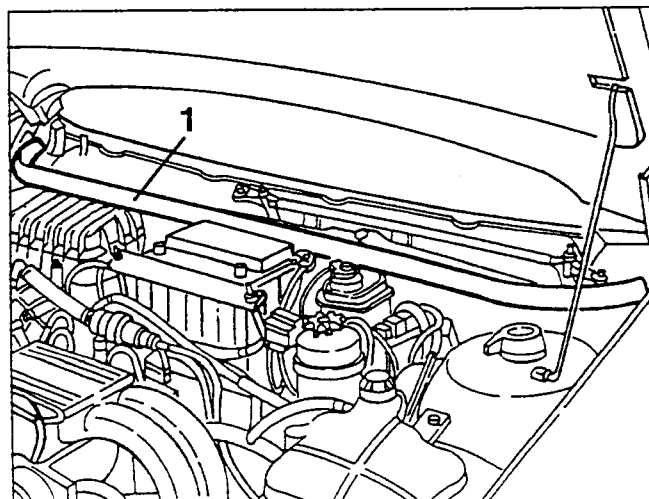
- Remove the quarterlight window (see specific procedure).

1. Pull off and remove the quarterlight seal.

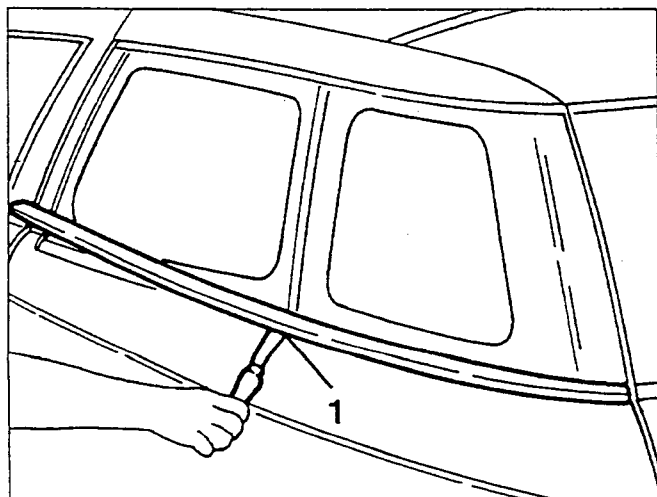
**SERVICES TANK SEAL****REMOVAL/REFITTING**

- Remove the air intake grille (see specific procedure).

1. Pull off and remove the services tank seal.

**SIDE WINDOW LOWER SEAL****REMOVAL/REFITTING**

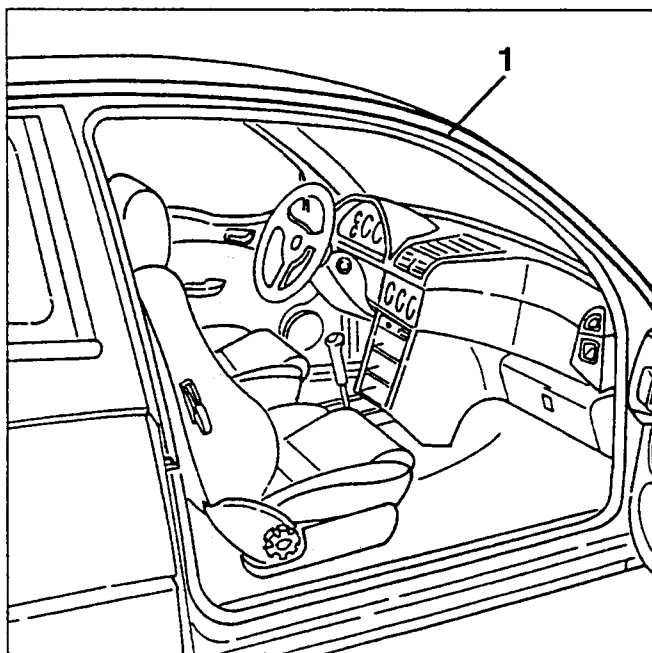
1. Pull off and remove the side window lower seal.



ROOF PANEL SIDE SEALS**REMOVAL/REFITTING**

- Remove the upper window strip (see specific procedure).

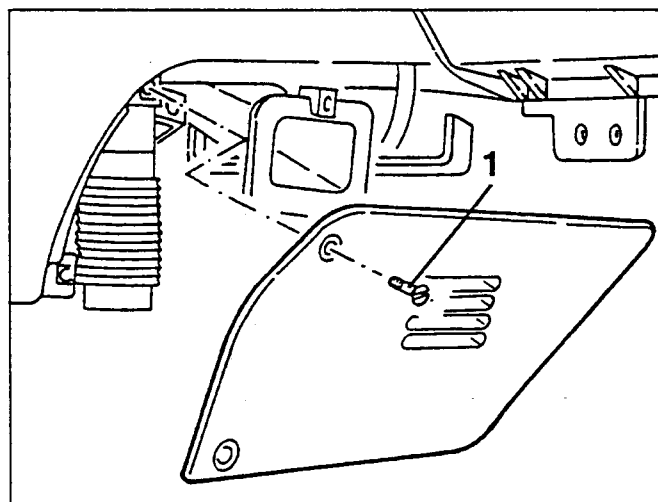
1. Pull off and remove roof panel side seal.



Refit by reversing the procedure followed for removal ensuring that the inner edge of the seal covers the internal trim.

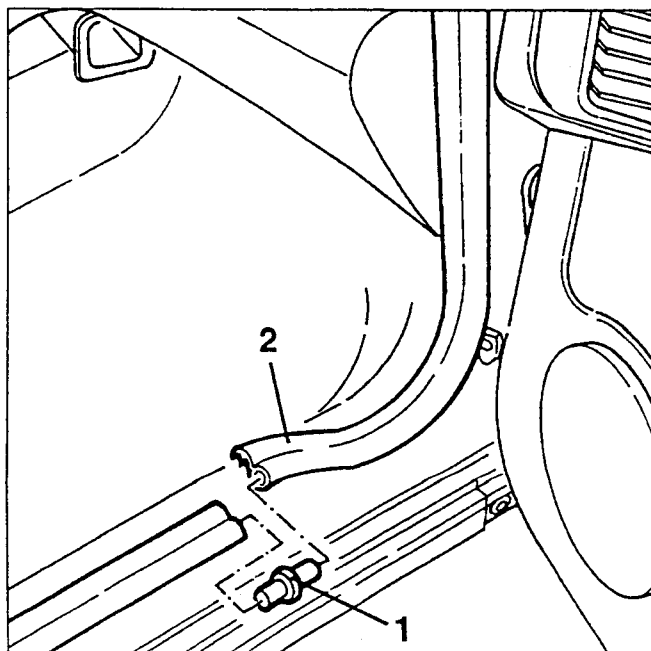
FRONT FLOOR VENT MOULDINGS**REMOVAL / REFITTING**

1. Loosen the two screw and remove the floor vent moulding by backing it off from the retaining bracket.

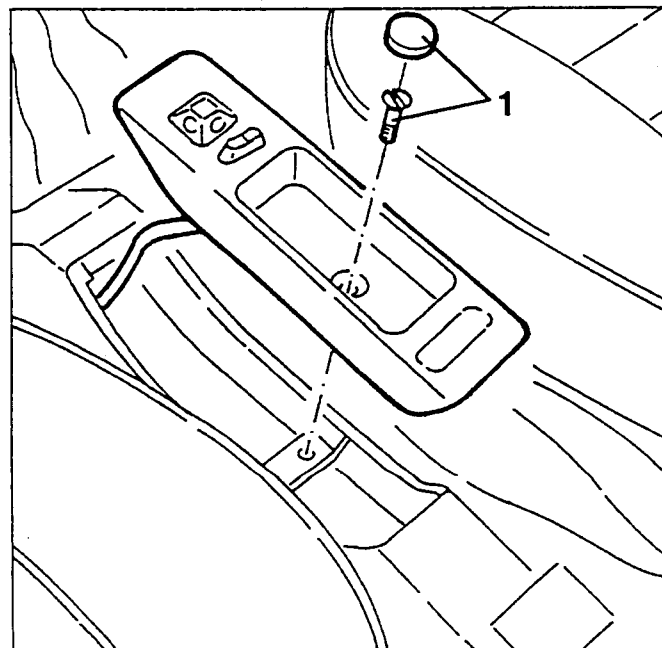
**DOOR SEALS****REMOVAL/REFITTING**

- Remove the heel rest (see specific paragraph).

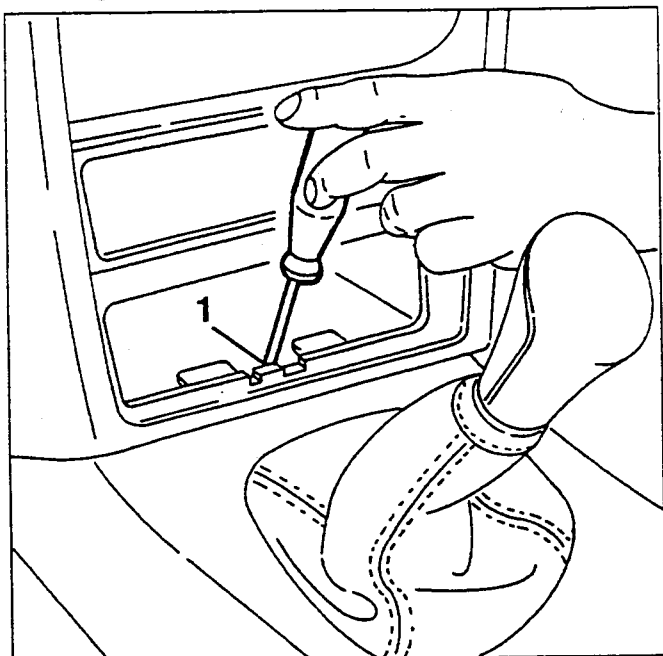
1. Remove the join from the ends of the seal.
2. Pull off the seal starting from the join.

**CENTRAL CONSOLE****REMOVAL / REFITTING**

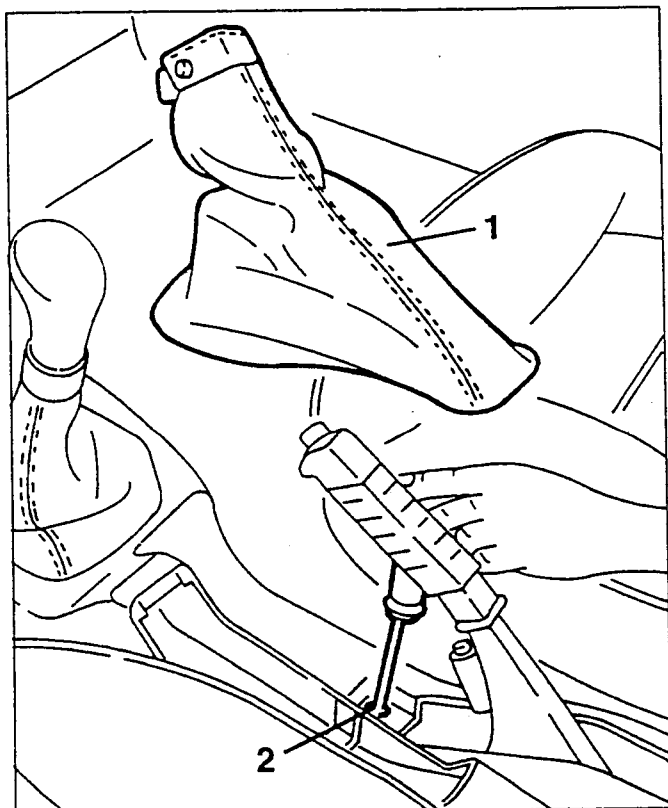
- Disconnect the negative (-) cable from the battery .
1. Pull off the plastic cap, loosen the screws and lift the moulding just enough to allow the electrical connection of the electric mirrors to be removal .



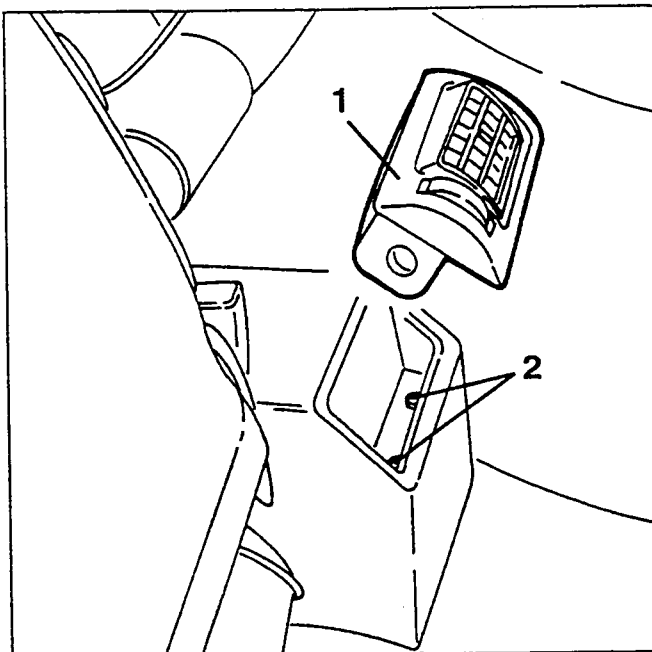
1. Remove the object tray and loosen the front screw securing the central console .



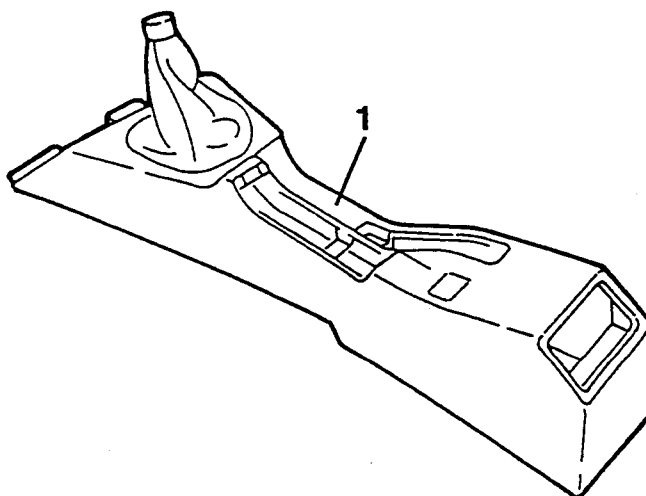
1. Pull off and remove the covering from the hand brake .
2. Loosen the central screw securing the central console .



1. Pull and remove the rear air distribution vent from the console .
2. Loosen the two rear screws securing the central console .



1. Withdraw and remove the central console .



AIR BAG

DESCRIPTION

The AIR BAG is a passive safety device consisting of:

- twin front Air Bags, driver and passenger (where fitted) for front protection;
- side bags (where fitted).

The system operates:

- the driver and passenger Air Bags in the case of a frontal impact of a certain severity.
- on the other hand, in the case of a side impact of a certain severity, the corresponding side bag is operated (only on the side where the impact occurred).

The system consists of the following components:

- electronic control unit (1);
- driver's Air Bag (2);
- passenger Air Bag (3);
- passenger side automatic disabling sensor (only up to June '99) (4);
- side impact sensors in the left door pillar (5);
- side impact sensors in the right door pillar (6);
- right Side Bag (7);
- left Side Bag (8);
- diagnostic socket for checking the system using the Examiner or other diagnostic equipment (9).

An electronic control unit manages the entire system checking all the components and activating the appropriate systems (pretensioners and Air Bags) when necessary.

Operation in the case of a frontal impact

Inside the control unit there is an accelerometric sensor whose signal, appropriately processed by a microprocessor, allows the severity of an impact to be assessed and, as a result, the operation of the Air Bags to be decided upon.

A second sensor with safety functions gives the go ahead to activate the Air Bags. The control unit only detects frontal impacts. No intervention takes place in the case of side impacts, shunts or if the vehicle overturns.

Operation in the case of a side impact

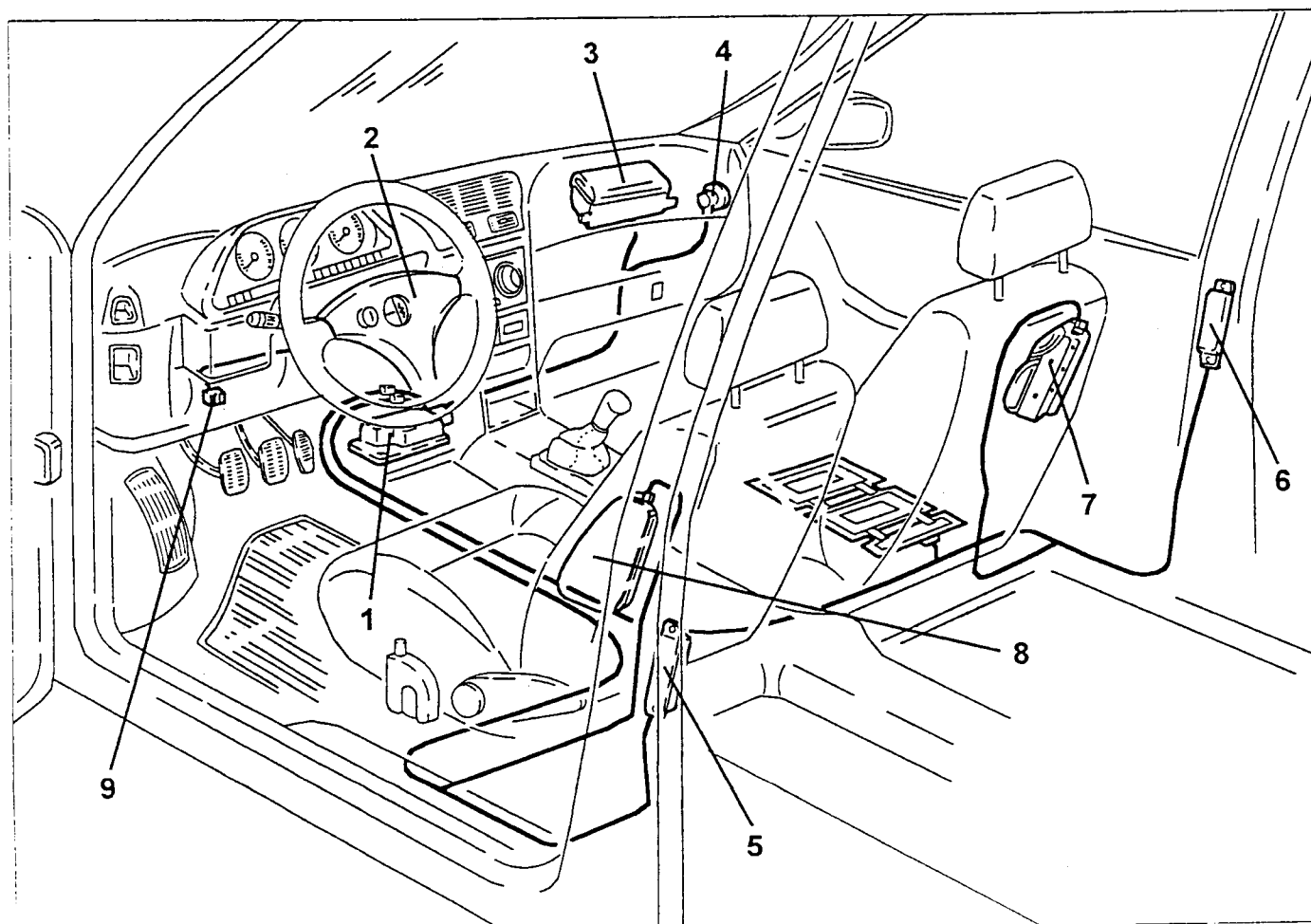
There is an accelerometric sensor in the two front door pillars which detects side impacts and transmits a signal to the control unit.

This signal, suitably processed by a microprocessor inside the control unit, makes it possible to assess the severity of a side impact and, as a result, decide upon the operation of the Side Bag on the side where the impact has taken place, but only if the safety sensor gives the go ahead.

NOTE: The Side Bags are activated independently of one another and the front Air Bags.

WARNING: On vehicles with Side Bags:

- do not wash the seat backrest with water or pressurized steam in automatic car washes for seats;
- do not cover the front seat backrests with loose covers.



SAFETY REGULATIONS TO BE OBSERVED DURING OPERATIONS ON VEHICLES EQUIPPED WITH AIR BAG SYSTEMS

Below are several rules which **SHOULD**, **UNDER ALL CIRCUMSTANCES**, BE OBSERVED when carrying out an operation on vehicles equipped with Air Bags.

PRELIMINARY INSTRUCTIONS

It should be remembered that Air Bag modules are devices which should be handled with caution. Their use, transportation and storage are governed by the procedures for handling these components illustrated below.

Before starting to carry out:

- bodywork repairs;
- welding operations;
- work for which the Air Bag modules or the control unit have to be removed.

Remove the ignition key.

Always disconnect the battery, i.e. disconnect the two terminals from the poles and insulate them by taping them carefully.

Disconnect the control unit connector waiting at least **10 minutes** after having disconnected the battery.

If one of the Air Bag modules is being removed, observe the following procedure scrupulously:

1. Wait at least **10 minutes** after having disconnected the battery before starting to remove the module.
2. Undo the fixing bolts.
3. Disconnect the connector for the inflation devices.
4. Place the devices, with the cover facing upwards, in a locked metal cupboard. This cupboard, designed exclusively for this purpose, should not, under any circumstances, be used to store other types of material, especially if they are inflammable. The cupboard should meet the specifications for storing pyrotechnic charges (metal, impact-resistant cupboard with grilles to allow natural ventilation inside) and should have notices as laid down by the laws in force (**DANGER EXPLOSIVES - NO NAKED FLAMES - NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL**).

All the connectors used in Air Bag modules contain a shortcircuit clip: until the Air Bag modules are connected to a suitable energy source via a suitable connector there is no possibility of their accidental activation.

A system component which has not been activated in the case of an accident should be considered as still "active" therefore components which are unexploded because they are defective or have reached the end of their warranty period or for other reasons have to be replaced and returned to the special centre following the procedure described below.

The assembly and dismantling of safety system components should **ONLY** be carried out by suitably trained and authorized personnel.

The failure to respect the above instructions could lead to the undesired activation of the system resulting in personal injury or unnecessary repairs to the system.

THE AIR BAG MODULES MUST NOT BE DISMANTLED, UNDER ANY CIRCUMSTANCES, INTO THEIR COMPONENTS.

All the system components have been specifically designed to work on a particular marque and type of vehicle, therefore Air Bags should not be adapted, reused or fitted on other vehicles, but only on these for which they were designed and produced. Any attempt to reuse, adapt or fit one on a different type of vehicle could result in serious injury or even be fatal for the occupants of the vehicle in the case of an accident.

Replacing an Air Bag (because of defects or the expiry of the warranty)

If an Air Bag module is being replaced because it is defective or the warranty period has expired it is necessary to:

1. Remove the new adhesive label from the module, placing it in a special file with the vehicle data (chassis no., registration date, model, etc.) and add the serial number of the old module. The file with the recorded data should be kept for future checks.
2. Before being stuck on top of the existing plate, the plate should be perforated by the month and ten years after the date when the module is being fitted (e.g. 2007 for 1997).
3. Connect the module to the appropriate connector.
4. Fit the Air Bag module in the appropriate housing checking that the connecting cable is correctly routed and tighten the bolts to the recommended torque.

Replacing the control unit

The electronic control unit should **ALWAYS** be replaced in the case of an impact involving the activation of the system.

Do not, under any circumstances, attempt to reuse the electronic control unit.

If the control unit is being replaced the adhesive label must be replaced and stuck in the above mentioned file.

For the withdrawal from and depositing in the storage area an incoming and outgoing register must be kept.

Fragile. Handle with extreme caution. Do not drop.

If the Air Bag control unit is accidentally dropped it must be checked over with the ALFA TESTER cancelling the error messages where necessary. If the unit has been dropped from a height above 75 cm it must be replaced.

The loaded AIRBAG module, after disassembly must immediately be placed in the appropriate cabinet.

2) ASSISTANCE INTERVENTION

Do not use tools like hammers or percussion screw-drivers which could transmit shock waves to the inflation device. Do not cut or puncture the AIRBAG module.

Do not tamper with any part of the AIRBAG. Any attempt at tampering with the module could provoke the activation of the system and result in personal injury.

Handle the AIRBAG module with extreme caution. If the inflation device is broken materials which are extremely dangerous may be projected from the device:

The surface of an AIRBAG which has detonated inside the vehicle may be covered with a dust residue. This dust contains some sodium compounds which are a by-product of the reaction which generated the gas used to inflate the cushion. The sodium compounds are, for the most part composed of sodium carbonate and trace quantities of sodium hydroxide.

This dust is slightly alkaline but is not held to be toxic. In addition to the dust there may be a small quantity of unused sodium azide and potassium nitrate inside the gas generator. These components are dangerous. In the even of contact with these substances, refer to the "FIRST AID" section.

Never use naked flame near the AIRBAG module.

Do not allow the module to come into contact with acids, water, other liquids or sprays as this could cause the chemical elements within the module to react dangerously.

First aid

In the event of contamination by one of the components involved in the production of the gas, the following first aid procedures should be applied:

INGESTION:

Induce vomiting if the subject is conscious. Do not provoke vomiting in an unconscious patient. Consult a doctor.

CONTACT WITH SKIN:

Immediately wash the area with neutral soap and running water. Remove contaminated items of clothing and wash them before putting them on again. Seek the advice of a doctor.

CONTACT WITH THE EYES:

Immediately rinse with copious quantities of running water for at least 15 minutes. Remove contact lenses to ensure complete washing. Seek the advice of a doctor.

INHALATION:

Help the accidented patient into the fresh air. Treat any irritation on the basis of the symptoms. Seek the advice of a doctor.

A DOCTOR SHOULD ALWAYS BE CONSULTED AFTER EXPOSURE TO THE COMPONENTS USED IN THE PRODUCTION OF THE GAS.

3) AFTER THE ASSISTANCE INTERVENTION

Following each service operation concerning the Air bag the operation of the entire system should be checked using the ALFA TESTER.

If the intervention did not require the substitution of the AIRBAG module, check that the specific labels are present and restore them if necessary.

If the intervention required the substitution of the AIRBAG module, a new label showing the new date of expiry (month and year) written in indelible ink should be applied.

4) TRANSFER OF OWNERSHIP, DEMOLITION

The vehicle must not be demolished when the AIRBAG module is still intact or when the module is out of its seating. If the vehicle is to be demolished the personnel charged with this operation must be informed of the presence of the AIRBAG so that the appropriate measures and precautions can be taken (see also relative paragraph below). The detonated modules must be destroyed in accordance with the regulations in force in the each country.

The detonated modules should be kept in sealed plastic bags ready for disposal.

If the vehicle is to be sold, the new owner must be informed of the presence of the AIRBAG module.

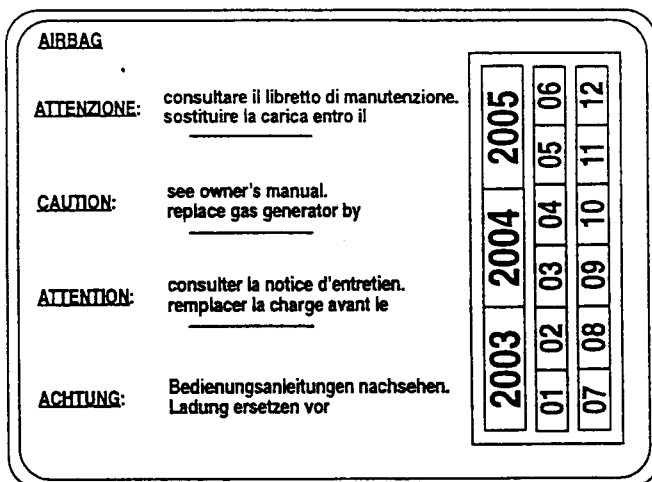
Check the labels and if necessary have them replaced.

5) DURATION OF THE AIRBAG SYSTEM

The AIRBAG module should last for 10 years (see expiry date on specific label). It must be replaced when this period expires and a new label showing the new date of expiry (month and year) written in indelible ink should be applied.

6) IDENTIFICATION LABELS

On vehicles fitted with an AIRBAG two adhesive labels are present which warn the owner of the presence of the device and its date of expiry.



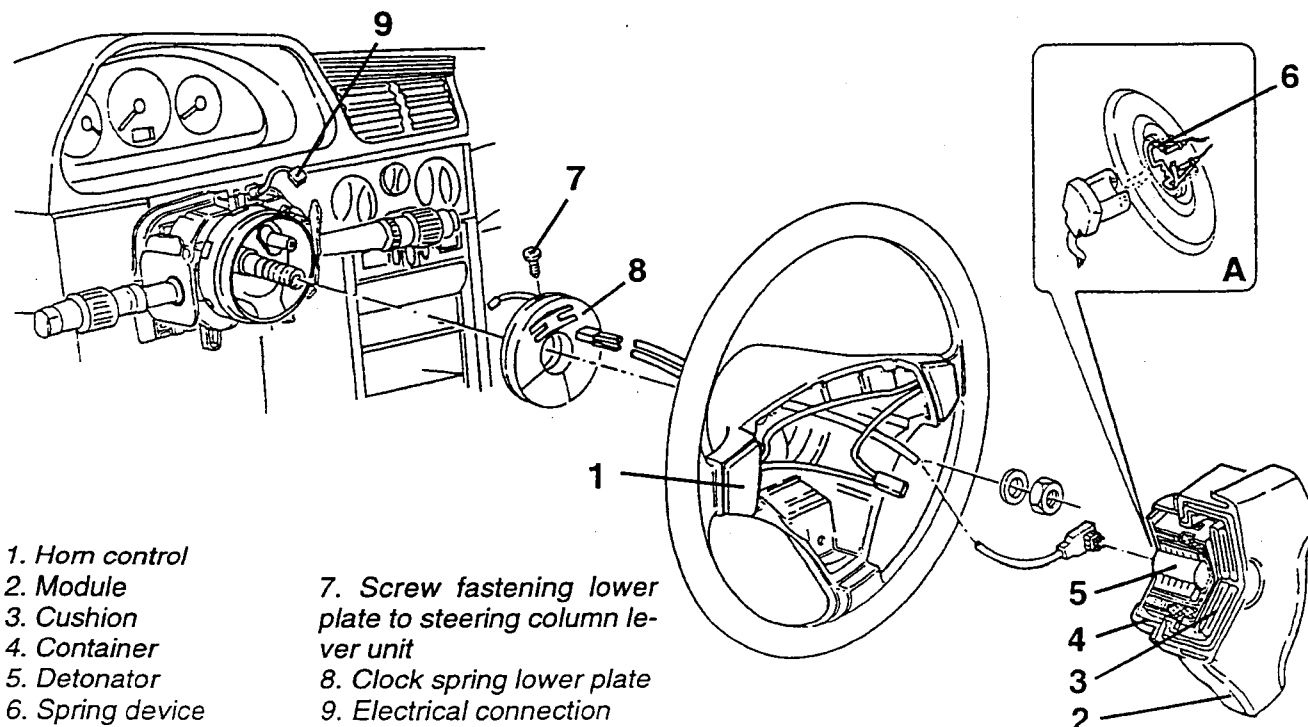
WARNING !

The operators authorized to handle the AIRBAG modules, in addition to scrupulously respecting the indications given above, must be extremely attentive and informed regarding the potential danger resulting from the involuntary intervention of the module.

AIR MBAG MODULE ON DRIVERS'S SIDE

The new type of steering wheel is fitted with lateral commands for the horns. The centre of the steering wheel houses the AIR BAG module. It is fixed with three screws to the rear part of the steering wheel. The module is composed of a steel plate covered with a plastic container which forms the hub of the steering wheel.

The container holds a folded cushion and the inflation device. The inflation device contains a detonator which is activated electrically producing a chemical compound (sodium azide) forming nitrogen gas. The rear part of the cushion has holes of a suitable size to allow the cushion to deflate immediately after inflation.



DRIVER'S AIR BAG MODULE

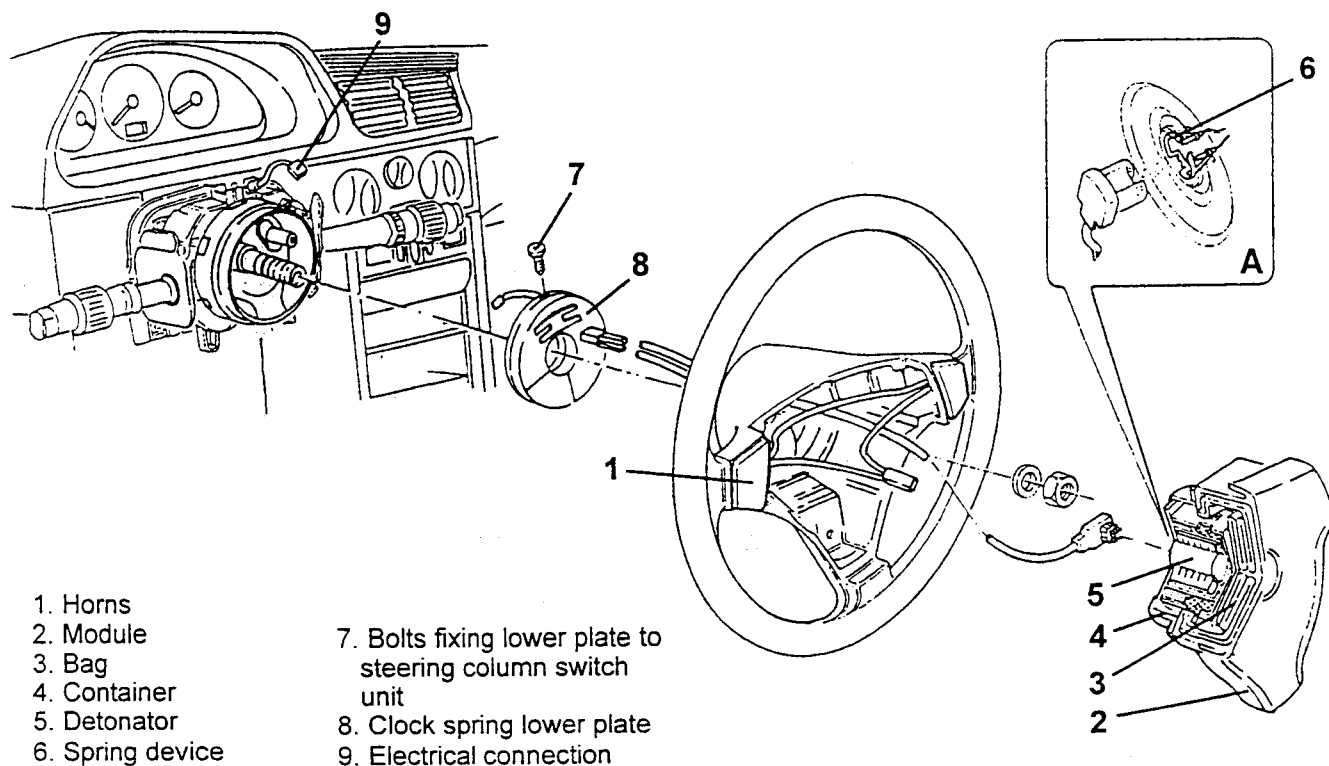
The new type steering wheel has side controls for the horns and the centre section contains the housing for fitting the module.

It is secured by three bolts to the rear of the steering wheel.

The module is made up of a steel plate covered by a plastic container which constitutes the centre of the steering wheel.

The container houses the suitably folded bag and the inflation device. The inflation device contains a detonator which can be electrically activated and a chemical compound (sodium nitride) for the formation of the gas (nitrogen).

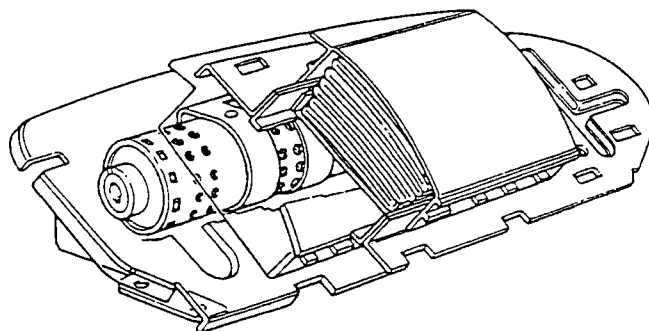
The rear of the bag houses suitable sized openings for deflating the bag immediately after it has been inflated.

**AIR BAG MODULE
PASSENGER SIDE**

The passenger AIR BAG module is also enclosed in a container which is fixed to a metal fram. The composition and operating principle is the same as for the one on the driver's side.

When the connector is disconnected from the Air Bag modules, they are shortcircuited: a special spring device incorporated in the module connectors joins the two terminals. In this way they cannot be activated by means of a direct supply.

NOTE: Air Bag modules should be replaced 10 years after fitting, the date is given on the label.



CLOCK SPRING

The clock spring (1) is a device which is fitted on the steering column switch unit and is designed to allow the Air Bag module cables fitted on the steering wheel to follow the rotation of the latter without danger of breaking.

The device consists of two plates, the lower one fixed to the steering column switch unit by means of bolts (2), the upper one attached by means of two elements on the upper section.

Inside the two plates, the connecting cables for the module and the horn buttons are wound around to allow the movements of the steering wheel to be followed.

The clock spring is fitted with a device which automatically stops it from rotating when the steering wheel is removed.

This operation is designed to prevent the upper plate, no longer attached to the steering wheel, from rotating freely causing the cables to be unwound or wound, with the possibility of them breaking.

When fitting the steering wheel the device is automatically locked.

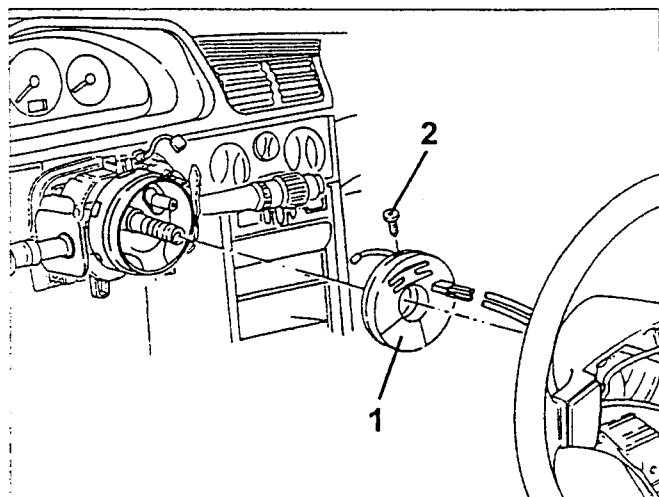
NOTE: When removing-refitting the clock spring, make sure that it is refitted on the steering column switch unit in the same position in which it was removed.

If, for any reason, the upper clock spring plate should rotate in relation to the lower one so that its position during removal is not known, the **CLOCK SPRING MUST BE REPLACED.**

When replacing, if the clock spring is supplied as spares separately from the steering column switch unit, it should be fitted with the wheels straight because this is the corresponding position for the new device.

The new device is fitted with a safety tab which keeps it locked.

This tab should be removed when fitting the steering wheel to allow the system to rotate correctly.

**SIDE BAGS****Impact sensors**

There is an accelerometric sensor on the two front doors which, in the case of a side impact, transmits a signal to the control unit.

This side is also processed inside the control unit which, as a result, decides to operate the Side Bag on the side the impact has occurred on.

In effect, the control unit is equipped with a second safety sensor, which detects side impacts, in exactly the same way as the sensor which detects frontal impacts, and gives the go ahead for the activation of the Side Bag on the side where the impact has occurred.

This sensor is positioned so that it only detects impacts on the side on which it is located: e.g. the sensor in the driver's pillar only detects impacts which occur on the left and does not detect impacts on the right side.

NOTE: The sensor should be fitted with the arrow pointing in the direction of travel.

Side Bag module

The Side Bag is housed in the outer part of the front seats towards the window.

It consists of a container, incorporated in the seat backrest, which houses the gas generator and the folded bag.

The container is fixed to the backrest frame by means of a special bracket.

The gas generator can be electrically activated by means of a signal coming from the electronic control unit.

In this way a propellant charge is triggered which releases a compressed gas (argon) which expands in the bag, which is smaller than the front bags.

The bag deflates immediately after inflation thanks to an opening in the rear.

The seat cover stitching has predetermined rupture lines which allow the bag to come out completely.

Disabling passenger Side Bag (device fitted up to June '99)

When the "no passenger" condition is detected, constantly for at least thirty seconds, the control unit excludes the activation of the passenger Air Bag and the Side Bag.

If the sensor then detects the "passenger present" condition, the control unit immediately reactivates the passenger Air Bag and the Side Bag.

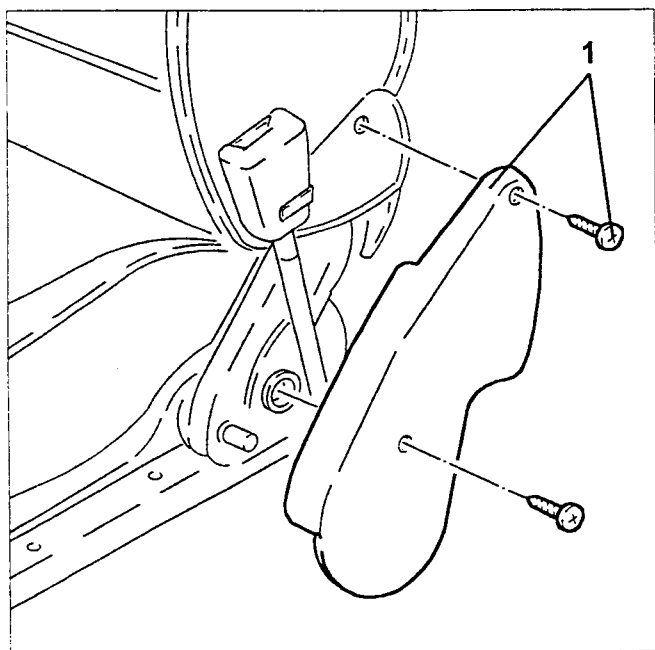
REMOVING-REFITTING AIR BAG MODULE SIDE

Operations on Air Bag components should be carried out by suitably trained personnel **SCRUPULOUSLY** following the safety measures listed below.

- During removal or replacement operations, polythene gloves and protective goggles must be worn.
- Before removing the Air Bag, disconnect the battery terminals, insulate them and wait for 10 minutes.
- Do not use naked flames in the vicinity of Air Bags or system components.
- Damaged or defective individual components should not be repaired or tampered with, but replaced in their entirety.
- For further clarifications on the safety instructions, see "Safety Measures" at the beginning of this chapter.

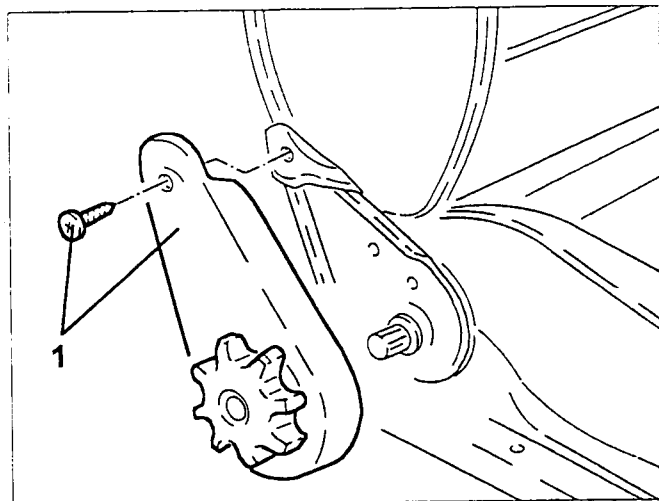
- Remove the front seat (see specific procedure).

1. Undo the fixing bolts and remove the hinge trim, releasing it from the fastening springs.

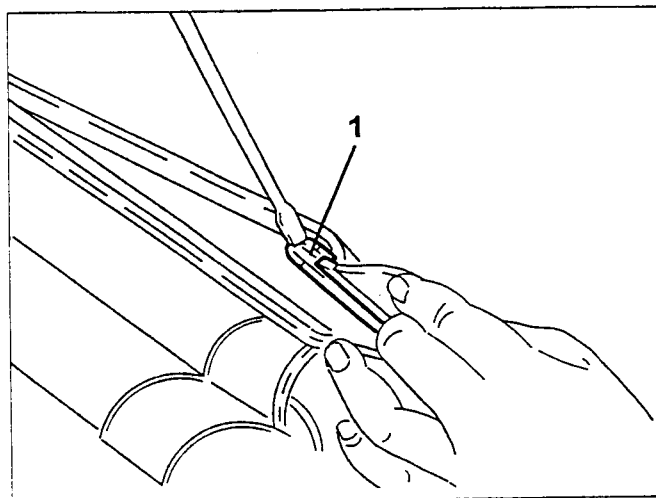


1. Undo the fixing bolts and remove the hinge trim complete with knob, releasing it from the fastening springs.

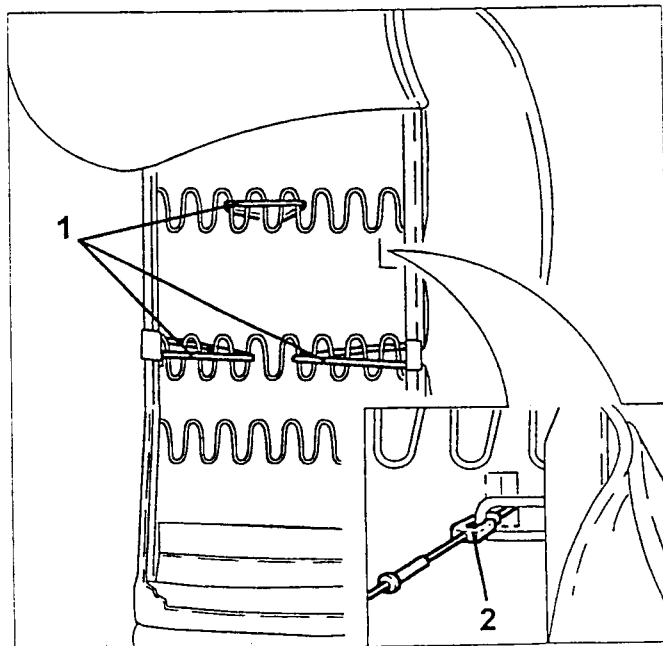
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1. Remove the two side profiles for the backrest rear cloth.

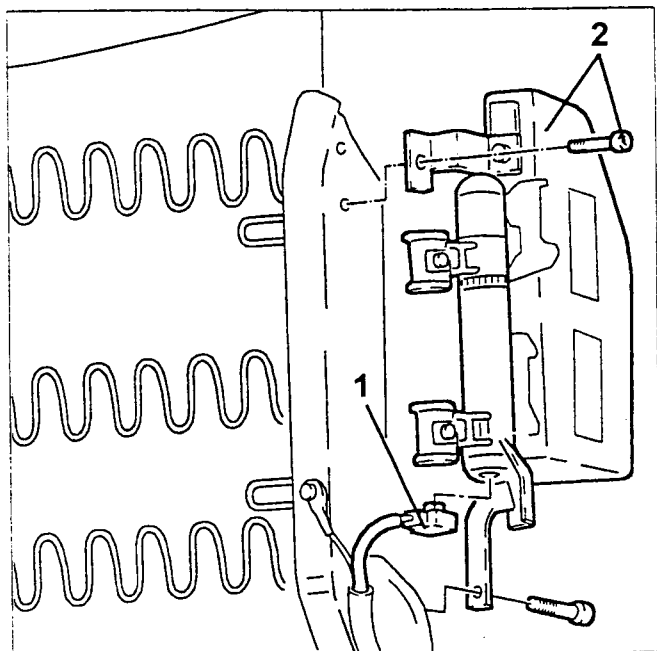


1. Release the three upholstery flexible bands.
2. Release the three right and left upholstery rods.



- Lift up the backrest fabric and remove the upholstery in the area of the Side Bag module.

1. Disconnect the electrical connection from the Side Bag module.
2. Undo the fixing bolts and remove the Side Bag module.

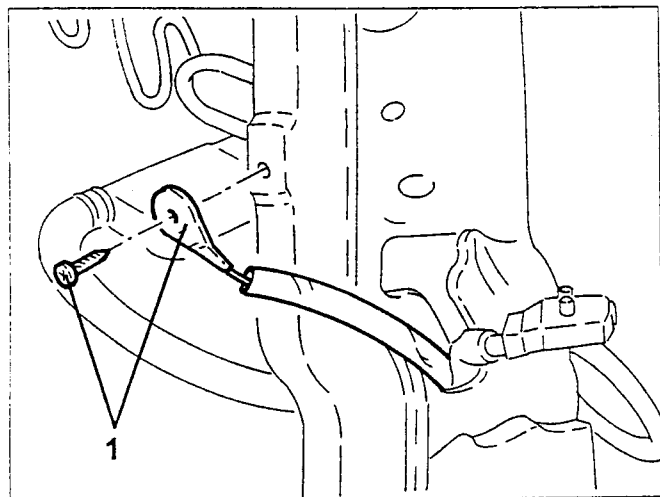


DISMANTLING/REASSEMBLY SIDE BAG SUPPLY CABLE

- Remove the front seat (see specific procedure).
- Remove the Side Bag module (see specific procedure).

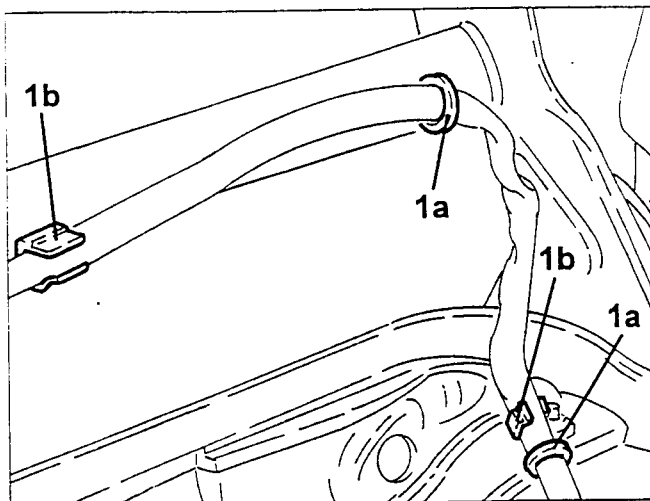
- Remove the cushion from the seat (see "Dismantling-Reassembling front seat cushion" procedure).

1. Disconnect the earth lead from the backrest frame.

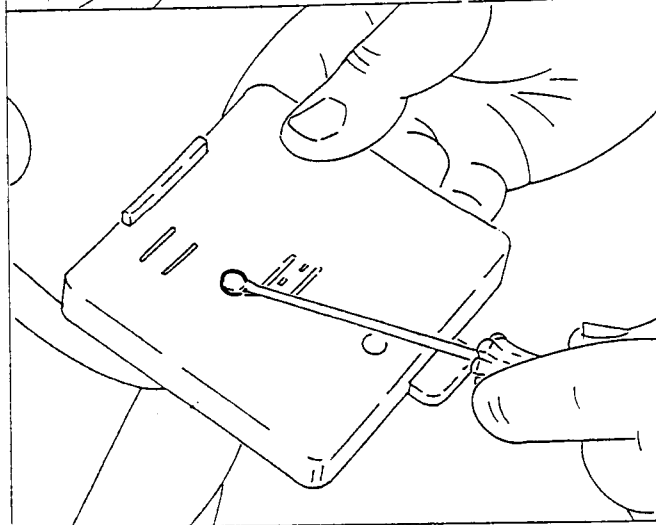
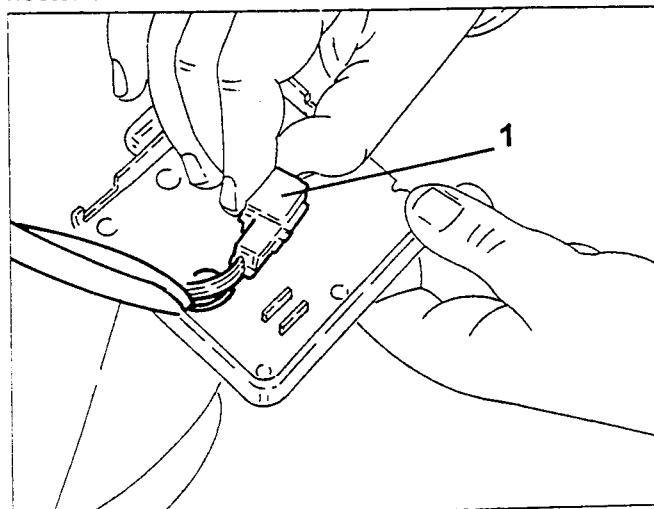


1. Remove the bands (1a) and the springs (1b) fixing the Side Bag supply cable.

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1. Release the electrical connections from the connector box.

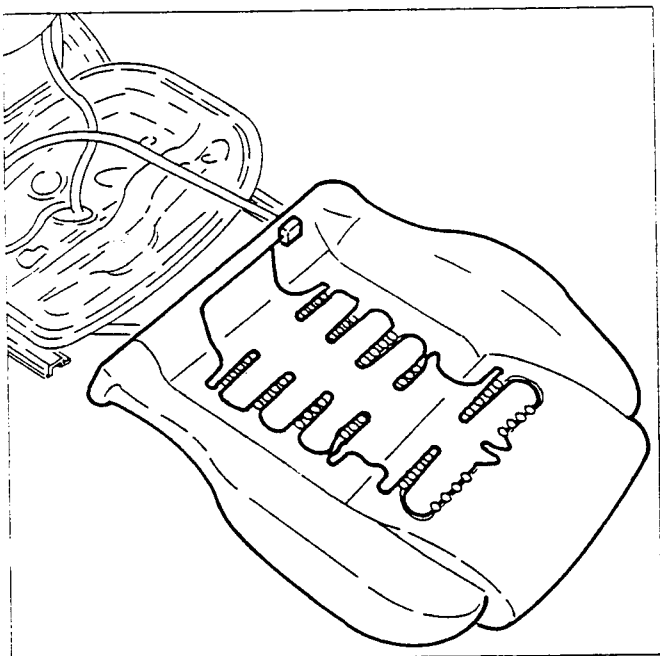


- Remove the Side Bag supply cable, releasing it.

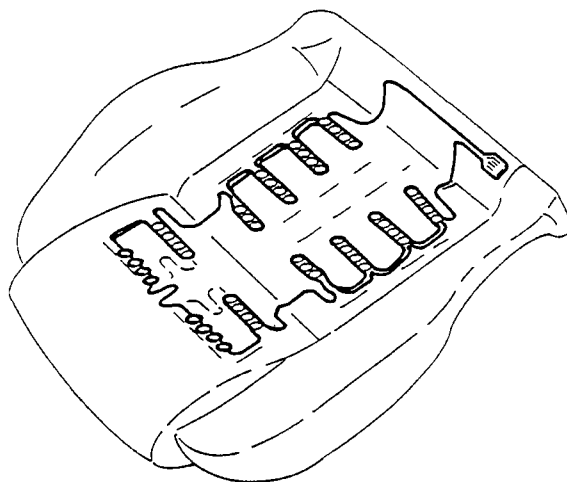
DISMANTLING/REASSEMBLY PASSENGER PRESENCE SENSOR (Device present until June '99)

- Remove the front seat (see specific procedure).

- Remove the front seat cushion upholstery (see specific procedure).



- When refitting, position the passenger presence sensor with the adhesive part facing the upholstery.

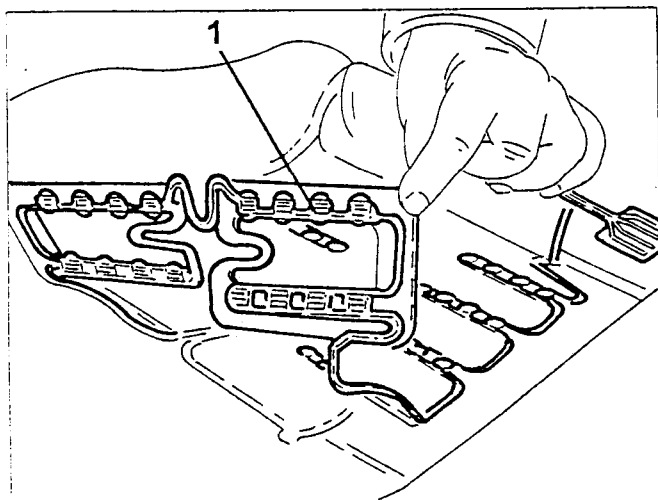


- Disconnect the electrical connection for the passenger presence sensor fixed to the connector box under the base.

1. Remove the passenger presence sensor from the cushion upholstery.



Work carefully so as not to damage the connections and the structure of the sensor.

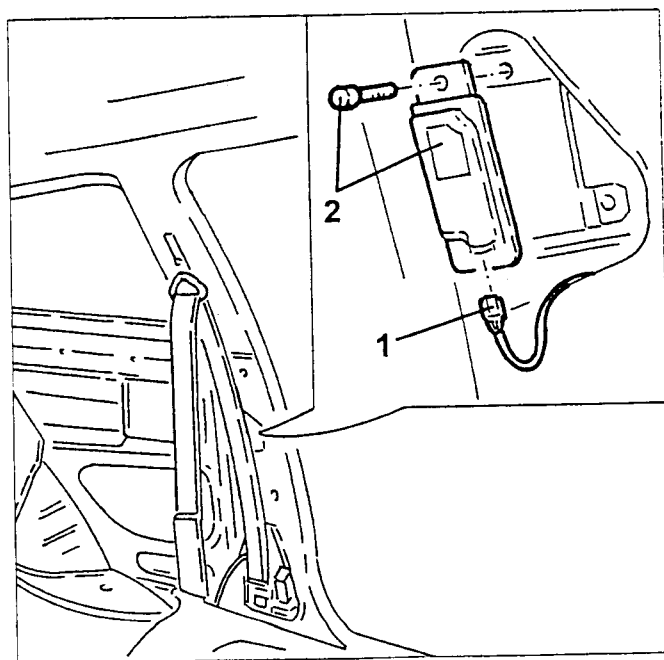


REMOVING-REFITTING IMPACT SENSORS FOR SIDE BAGS

- Remove the side panel (see specific procedure).

1. Move the seat belt and disconnect the electrical connection from the Side Bag impact sensor.
2. Undo the two bolts and remove the Side Bag impact sensor.

NOTE: The sensor should be fitted with the arrow pointing in the direction of travel.



WHITE

REMOVING THE DRIVER'S SIDE AIR BAG MODULE - CLOCK SPRING DEVICE

Operations on Air Bag components must be carried out by suitably trained personnel, **CLOSELY** adhering to the safety instructions given below.

- For removal or replacement operations it is always necessary to use polyethylene gloves and protective goggles.

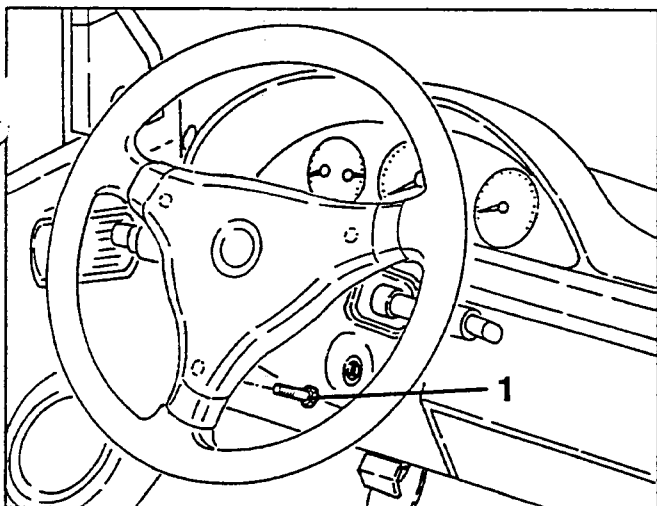
- Before disconnecting the Air Bag, disconnect the battery terminals, isolate them suitably and wait for 10 minutes.

- Non usare fiamme libere nelle vicinanze del dispositivo Air Bag e dei relativi componenti del sistema.

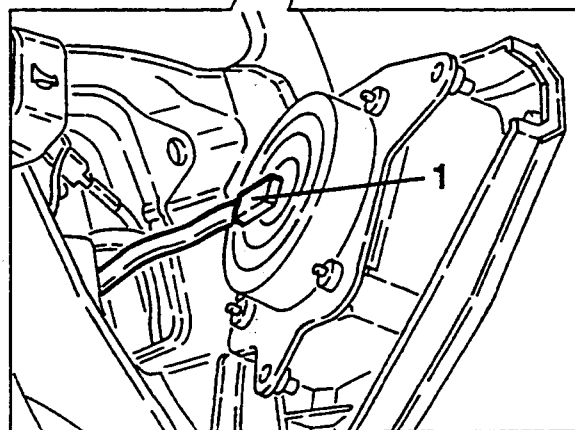
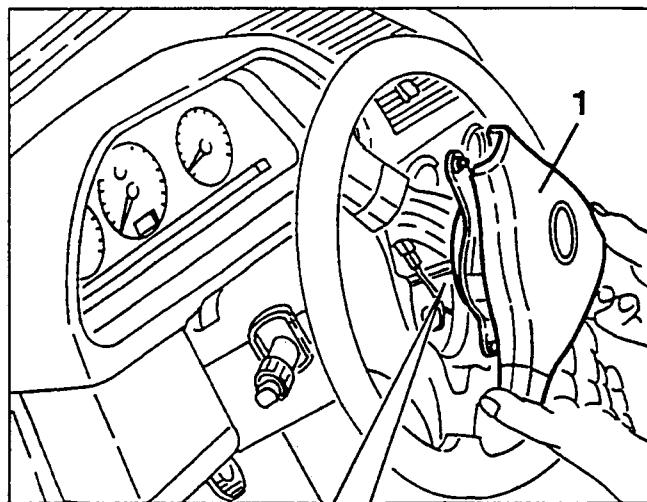
- The single damaged or faulty components must not be repaired or tampered with in any way, they must be wholly replaced.

For further explanations on the safety instructions, see "Safety Measures" at the beginning of this chapter.

1. Slacken the the 5mm hexagon socket screws a 5 mm in the rear of the steering wheel.



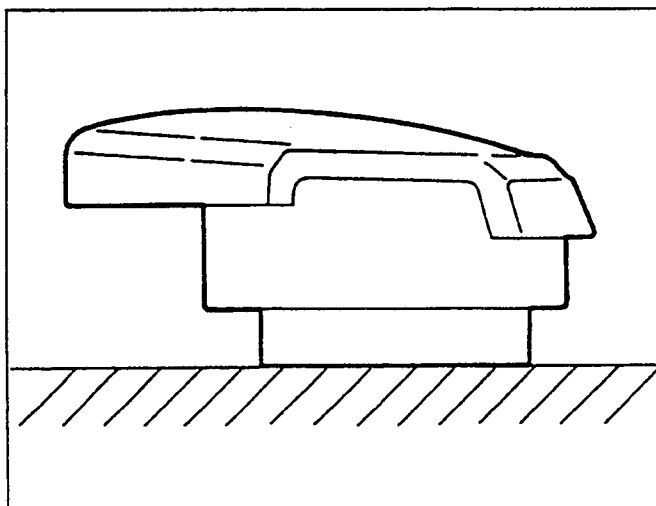
1. Withdraw the Air Bag module just enough to disconnect white, two-way electrical connection, then move it.



WARNING:

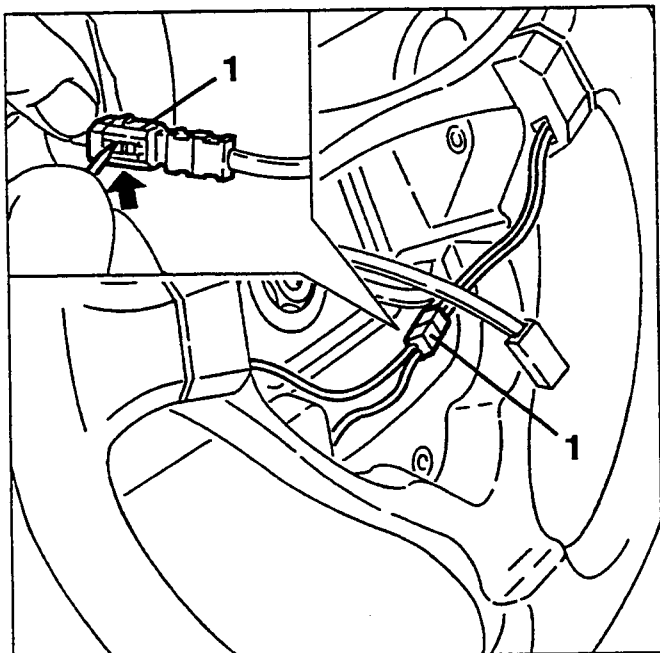
Air Bags not deployed after removal, should be immediately placed in a special cabinet, suitably identified and key-locked.

The figure below shows how to place the module with the metal part resting on the shelf.



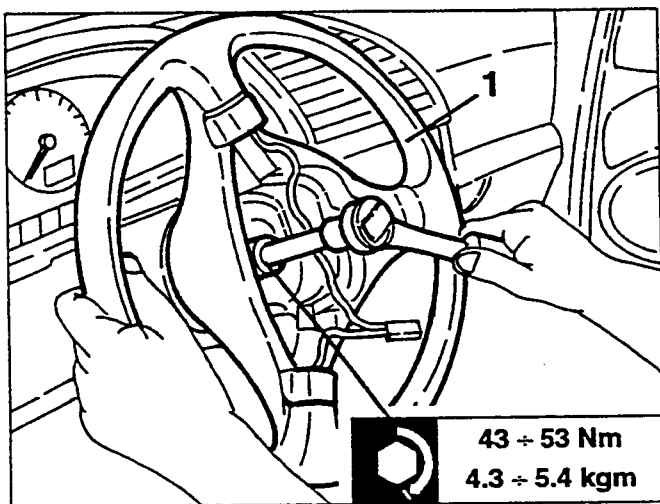
Remove the clock spring device after removing the driver's side Air Bag module proceeding as follows.

1. Disconnect the two-way black electrical connection for supplying the horns working on the tab as illustrated.

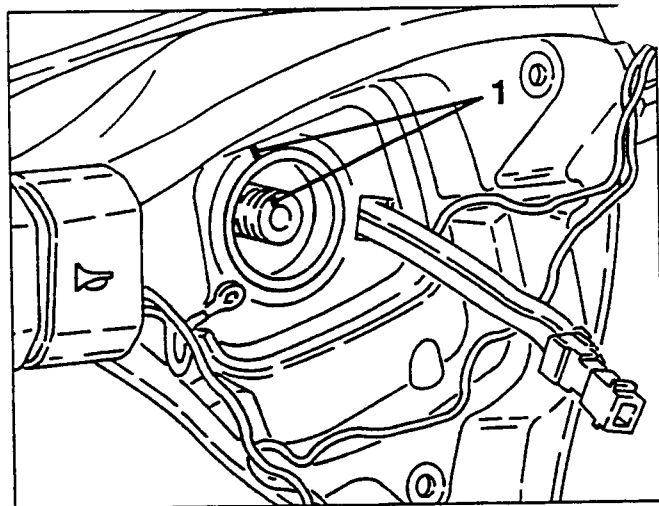


WARNING:
Set the car with the wheels **STRAIGHT** and check that, during the whole operation they remain in this position.

1. Completely back off the nut fastening the steering wheel to the steering column.



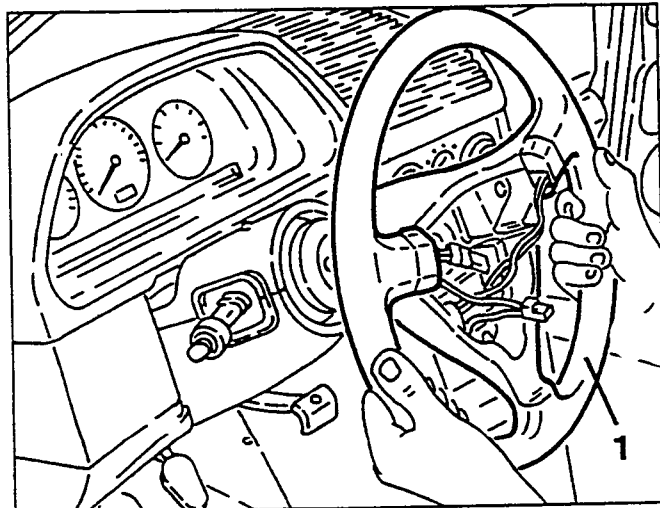
1. Still with the car with the wheels **STRAIGHT**, mark the reciprocal position between the steering wheel hub and the steering column.



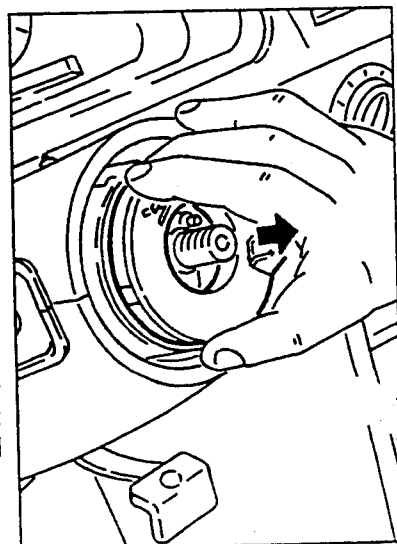
1. Completely remove the steering wheel with the Air Bag module and horn supply cables.



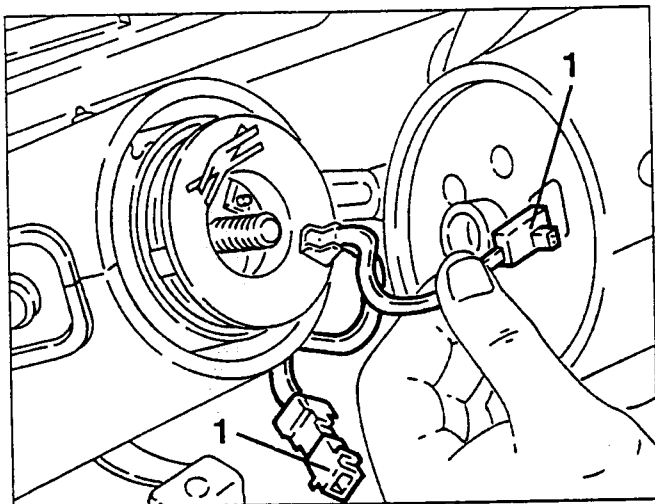
WARNING:
During removal operations take care not to knock the steering wheel violently.



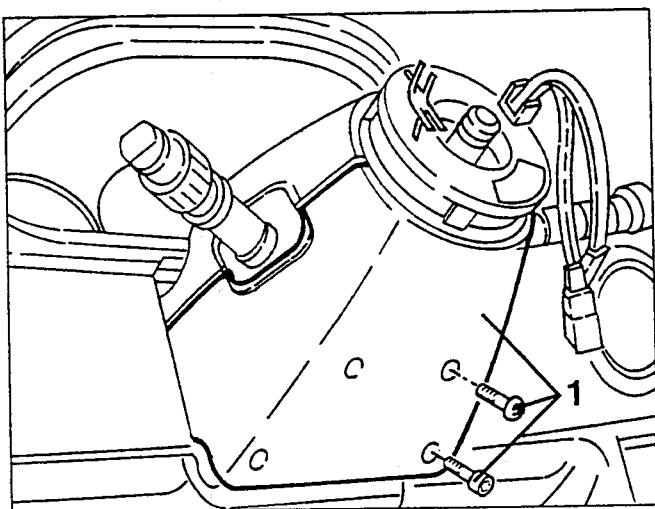
- Make sure that the removal of the steering wheel has raised the upper ring of the clock spring device. If the clock spring device upper spring turns, it is necessary to grasp it diametrically and pull it upwards as illustrated: a click will be heard upon locking.



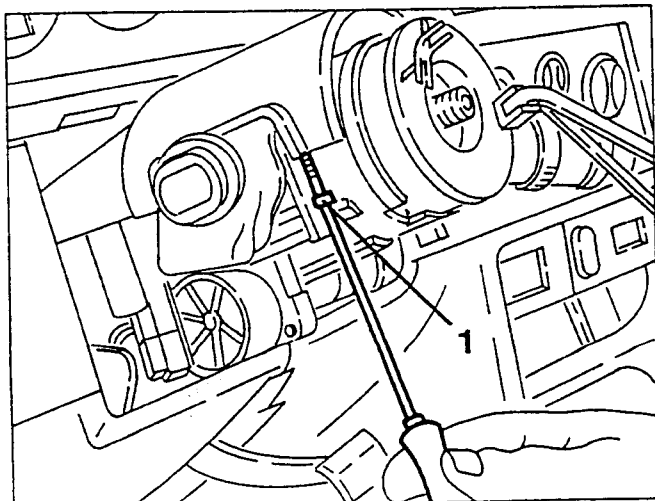
1. From the slot on the steering wheel hub, carefully remove the horn and Air Bag module supply cables.



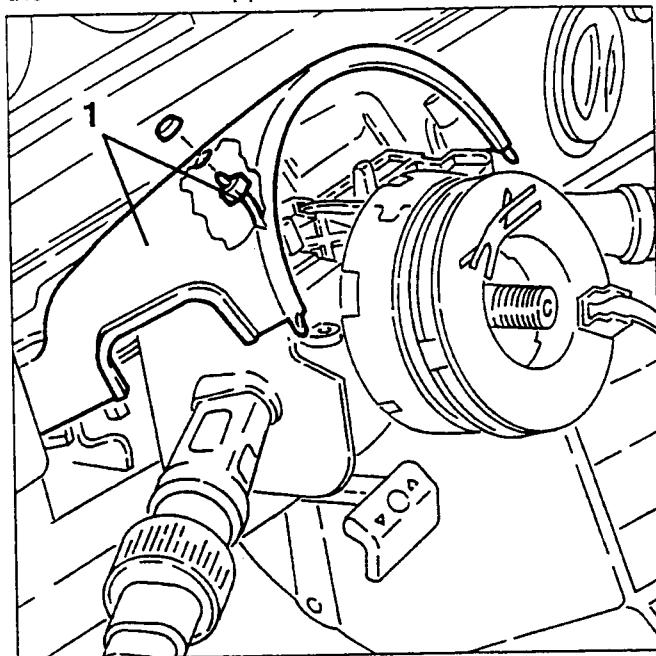
1. Raise the steering column as far as possible, slacken the four fastening screws (the two at the front of the car are 3mm hexagon socket screws, the two at the rear are cross-slotted) and remove the lower half cover.



1. Lower the steering column as far as possible and slacken the two upper half cover fastening screws.



1. Disconnect the upper half cover just enough to slacken the locknut fastening the alarm system led, then remove the upper half cover.

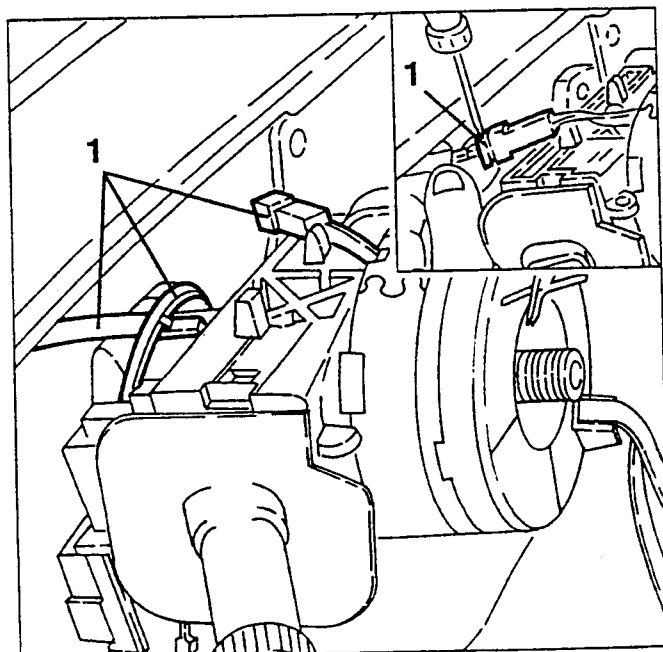


1. Cut the fastening clamp and disconnect the electrical connection of the cable with yellow sheath connecting the Air Bag control unit to the clock spring device.

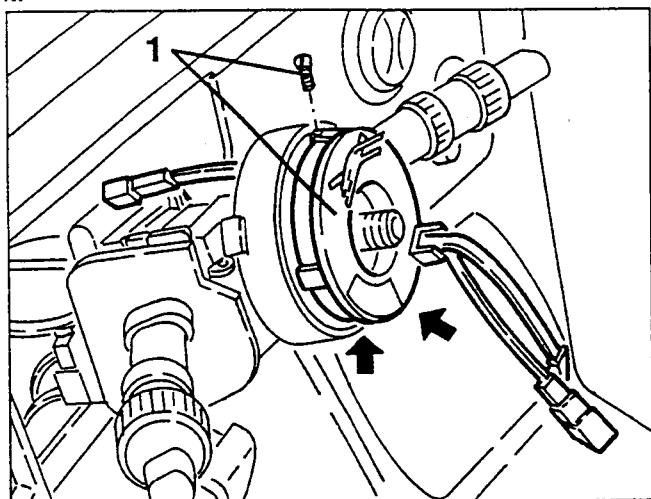


WARNING:

To disconnect the electrical connection always work on the tab and never on the electric cable.



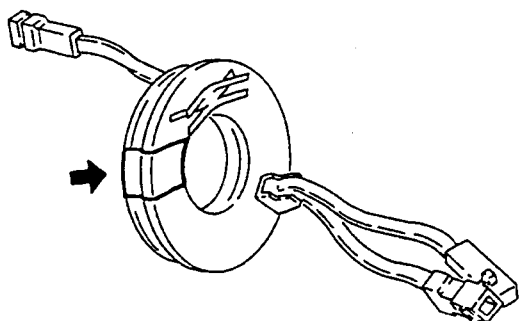
1. Slacken the three screws fastening the clock spring device to the steering column lever unit then remove it.



WARNING:

The clock spring device is fitted with a device which automatically prevents it from turning when the steering wheel is removed.

It is necessary to remove the clock spring device without turning the upper ring and, for further safety, holding it in place, with a clamp or adhesive tape.



REFITTING THE DRIVER'S SIDE MODULE - CLOCK SPRING DEVICE

NOTE: For the illustrations not given here, refer to those given in the removal procedure.



WARNING:

Make sure that the wheels are **STRAIGHT**.

- If it is not necessary to change the clock spring device, assemble it, after removing the adhesive tape or clamp used previously, without turning the upper ring, then tighten the three fastening screws.



WARNING:

Should the upper ring of the clock spring device release during assembly, it is sufficient to pull it upwards until it clicks meaning that it has locked.

- When fitting a new clock spring device, after fastening it to the steering column lever unit, tear the plastic tab to lock the upper ring and check that it does not turn; if it does turn, pull the ring upwards until it clicks.

- Completely remove the red guarantee adhesive tape.

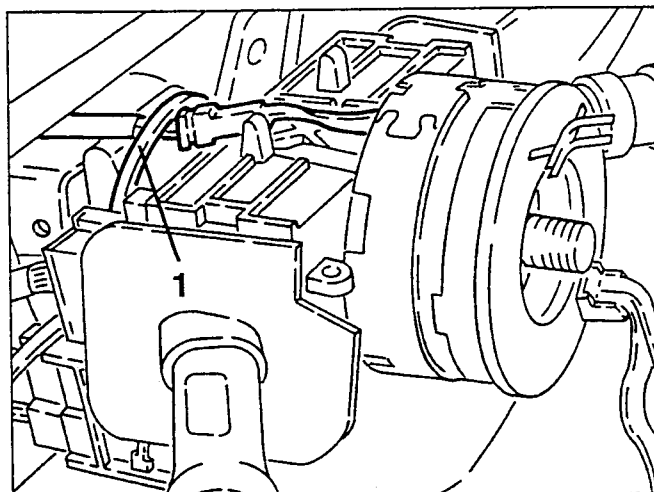


WARNING:

The failure to or incomplete removal of this tape may cause noise due to interference with the upper section of the steering column lever unit when the steering wheel is turned.

- Connect the electrical connection of the cable with the yellow sheath for connecting the Air Bag control unit to the clock spring device and check that it has coupled.

1. Fasten the above cable to the steering column using a suitable clamp.



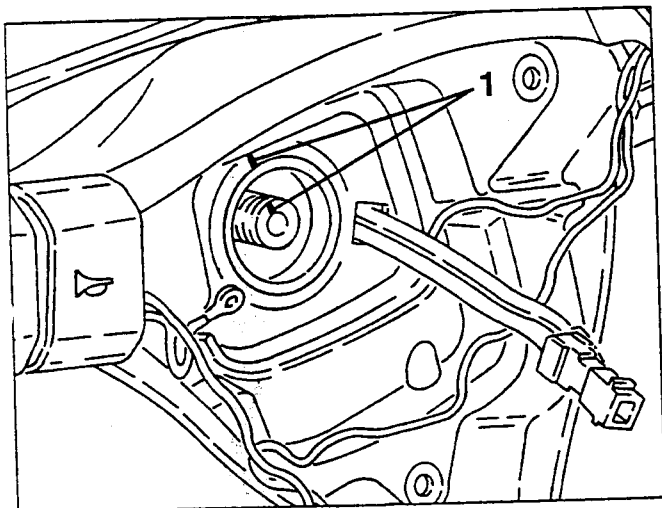
- Assemble the steering column half covers and fasten them with the special screws..

- Through the special slot on the steering wheel hub, carefully insert first the cable with the white connection for supplying the Air Bag module and then the cable with the black connection for supplying the horns.

Engage the ignition key and turn it to prevent the steering lock from engaging.

1. Turn the steering wheel to make the references marked previously coincide.

NOTE: Before assembling the steering wheel, position the direction indicator return bushes so that the tooth on it corresponds to the special notch on the steering wheel.



- Push the steering wheel in the taper housing; it will automatically lock the upper ring of the clock spring device.
- Tighten the steering wheel fastening nut to the specified torque.
- Connect the electrical connection for supplying the horns.

NOTE: Pass horn cable in the special notches on the edges of the steering wheel to avoid any interferences.

- Reconnect the battery terminals, on the white Air Bag module supply connector, assemble the electrical resistance (2 Ohm), supplied with the Alfa Tester, then using the Tester check that the system is working properly.
- After testing, disconnect the electrical resistance, remove the battery terminals and wait for 10 minutes.

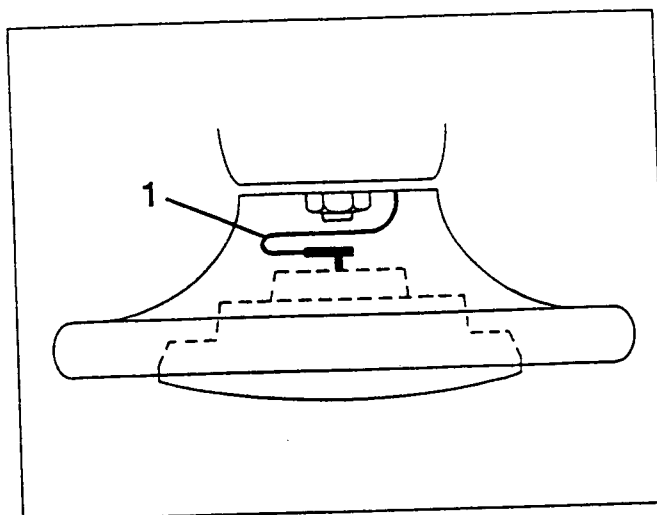
1. Connect the electrical connection to the Air Bag module, then assemble it in its housing checking that the cable follows the routing illustrated.



WARNING:

Before making the electrical connection of the Air Bag the ignition key must be in the OFF position.

- Fasten the Air Bag module tightening the three fastening screws



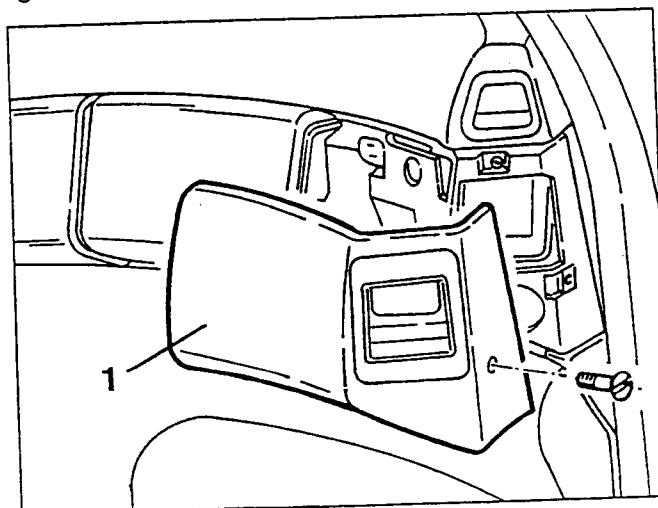
REMOVING/REFITTING THE PASSENGER'S SIDE MODULE

Work on components of the Air Bag must be carried out by suitably trained personnel, CLO-SELY adhering to the safety instructions given below.

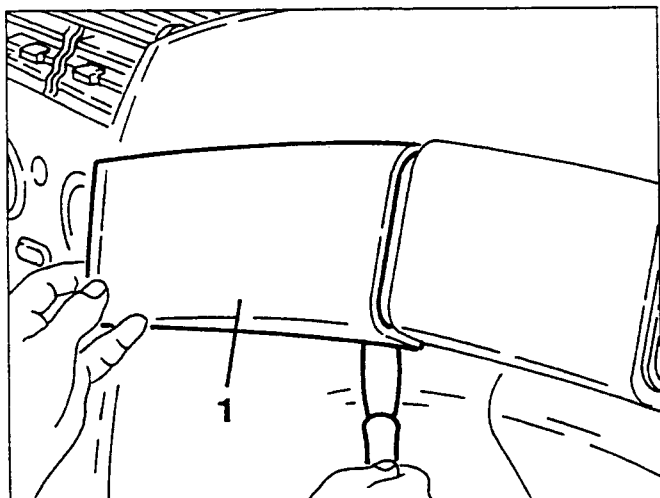
- For removal or replacement operations polyethylene gloves and protective goggles must be used.
- Before removing the Air Bag device, disconnect the battery terminals, suitably isolate them and wait for 10 minutes.
- Do not use naked flames in the vicinity of the Air Bag and other components of the system.
- Single damaged or faulty components must not be repaired or tampered with, they must be changed wholly.

For further explanations on the safety instructions see "Safety Measures" at the beginning of this chapter

1. Slacken the fastening screw, then remove the right-hand trim.

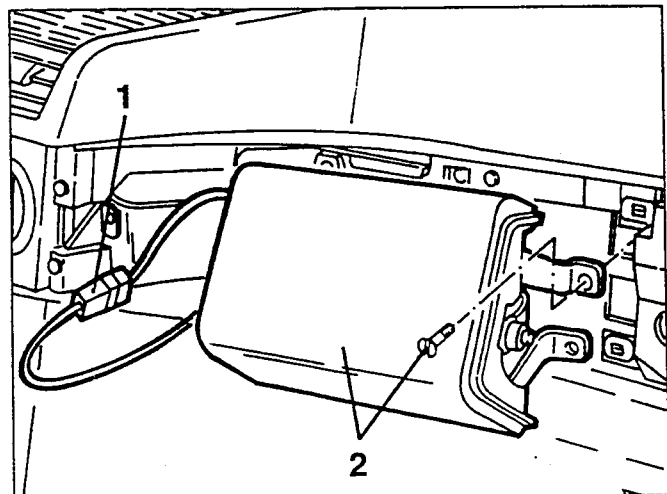


1. Prise and remove the left-hand trim.



1. Disconnect the electrical connection of the passenger side Air Bag module.

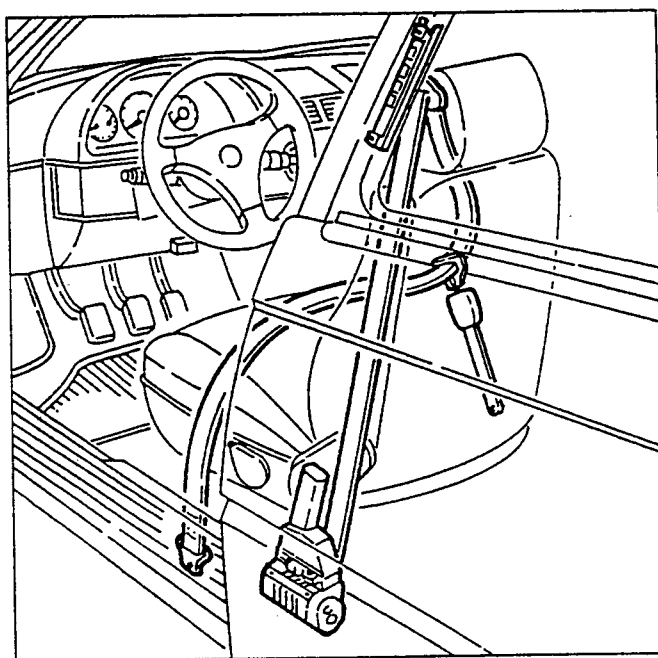
2. Slacken the fastening screws and remove the passenger side Air Bag module.



The seat belts must adhere as closely as possible to the wearer in order to gradually absorb the kinetic energy to which he is subject during impact. The main reasons for which the seat belts may not always press the wearer towards the seat back during an impact are mainly due to:

- a delay in the intervention of the inertial locking device;
- stretching of the fibers in the seat belt;
- spooling effect;
- clothes of a certain thickness which create an excessive space between the belt and the thorax.

Combining all these causes it can easily be seen that the seat belt may only become effective as a restraining device after the wearer has moved some distance forwards.



FRONT SEAT BELT PRE-TENSIONING DEVICES

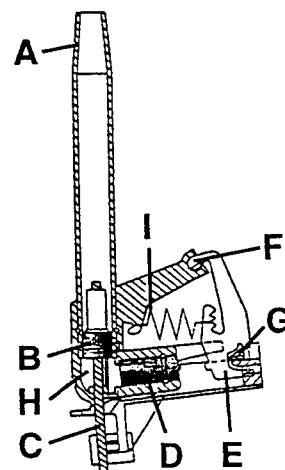
DESCRIPTION

The seat belt pre-tensioners are devices which are integrated in the rewinding mechanisms and which, during an impact, take up the slack caused by the weight of the wearer so that he or she is pressed firmly against the back of the seat. A second device makes it possible to activate the pretensioner only when the seat belt is fastened. Knocks (other than those caused by irregularities in the road surface of bumping over kerb stones etc.), vibration or heat applied to the pre-tensioners may cause their activation.

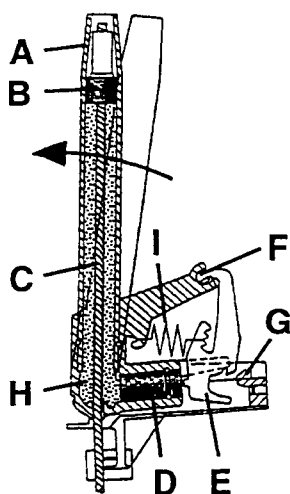
Seat belt pre-tensioners are pyrotechnical devices which are commanded mechanically to intervene during impact, to take up the slack in the seat belt caused by the pressure of the wearer's body.

PRINCIPLES OF OPERATION

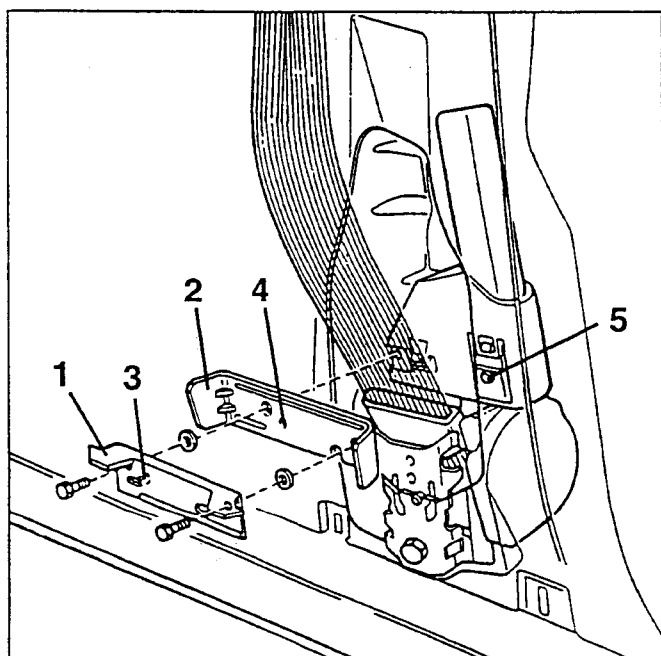
The operation of these devices is based on the inertia force which arises during deceleration on the vehicle in relation to the mass of the cylinder-piston assembly. Lever A is hinged onto the piston-cylinder assembly on pin F. When in the rest position this lever is subject to the tension exercised by spring I and locked by tooth G. When, following impact, the force of inertia acting on the mass of the assembly A overcomes force I, the assembly rotates slightly and frees the lever E from tooth G.



The lever, pulled by spring I acts as a percussion head to trigger charge D. The gas freed by combustion, which is for the most part harmless nitrogen, pushes piston B along tube A. The piston pulls the steel cable C behind it which is fixed to the other end of the seat belt rewinding device, causing it to rewind to a degree suited to the variable factors of vehicle type and speed of impact. Following its intervention the seat belt is locked thus signalling that the device has in fact intervened.



To prevent the device from being triggered if an inertia reel is removed, it is fitted with a security or arming system which locks the deceleration sensor/trigger mechanism.



1. Outer arming bracket
2. Inner bracket
3. Centering pin
4. Centering hole
5. Inner bracket retainer pin

REMOVING/REFITTING ARMING BRACKET

When removing/refitting the arming bracket, the sequence given below must be strictly adhered to.



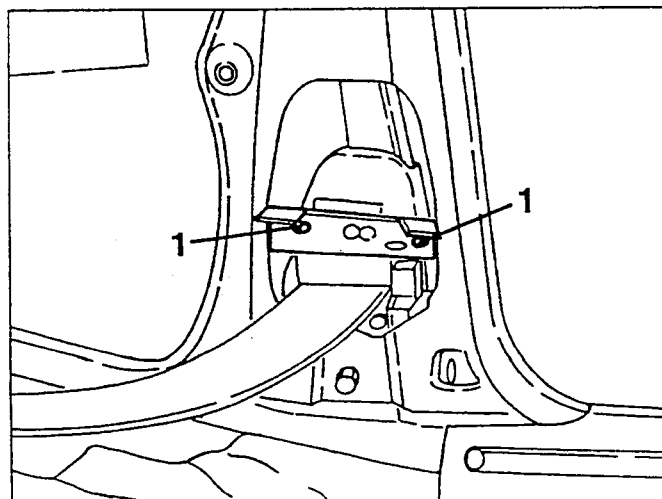
WARNING:

The removal of the arming bracket is the only way to prevent the pyrotechnic device from being triggered accidentally. This procedure must therefore be carried out every time mechanical or body servicing operations on the car might cause the device to be operated by accident; the arming rod must absolutely be removed to obtain the necessary security conditions before proceeding with removal of the inertia reel - belt pretensioner unit, and also when handling and refitting. The arming bracket must **ALWAYS** be refitted **ONLY WITH THE INERTIA REEL - PRETENSIONER UNIT FITTED ON THE CAR**, in order to prevent any harm to personnel.

NOTE: The arming bracket comprises an inner bracket and an outer arming bracket which improve fastening the inertia reel - pretensioner unit to the pillar.

- Remove the sill (see specific paragraph).
- Remove the side panel (see specific paragraph).
- check that the paint applied to the inertia reel/pretensioner unit is intact meaning that the components have been installed correctly; check the way this paint is applied to restore the same conditions after assembly of the arming bracket.

1. Slacken the two fastening screws and remove the outer arming bracket.



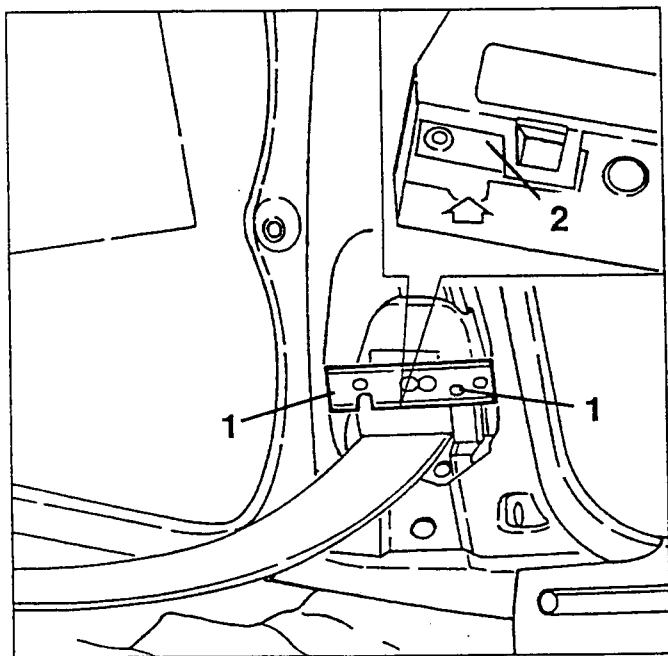
1. Separate the inner bracket from the retainer pin on the reel, then take it off the pillar.

2. Through the special window, make sure that the safety device has been engaged, checking that the spring indicated by the arrow has returned to the rest position against the pretensioner cover; if not, suspend the procedure and be very careful because the device might be triggered.

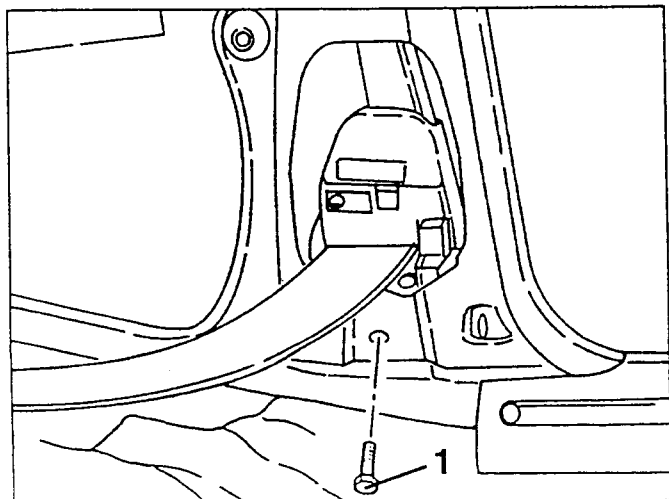


WARNING:

The operator must be suitably protected (polyethylene gloves, safety goggles and ear muffs), never go close to the device with the face and he must keep as far away as possible when carrying out the operation.

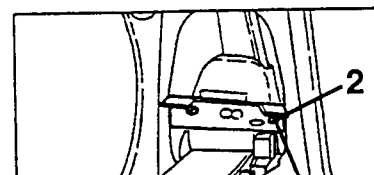
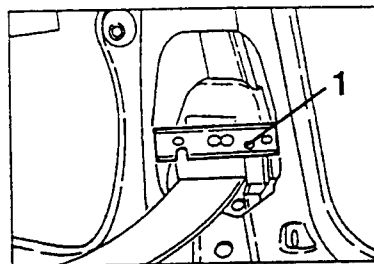


1. Slacken the screw fastening the inertial reel - pretensioner unit to the pillar.



1. Position the inner bracket in its housing in the pillar, inserting it in the retainer pin.

2. Working from outside the pillar, couple the arming bracket on the inner bracket, so that the centering pin is correctly inserted on the corresponding hole, then tighten the outer arming bracket fastening screws to the specified torque.



3.5 Nm



WARNING:

Never use percussion screwdrivers.

- Tighten the screw fastening the inertia reel - pretensioner unit slackened previously to the specified torque of 34 to 42 Nm (3.5 to 4.3 kgm).
- Restore the original seal conditions of the inertia reel - pretensioner unit, suitably painting the areas concerned to warrant that the device is intact and correctly assembled.
- Complete refitting operations reversing the sequence followed for removal.

SAFETY RULES TO BE FOLLOWED FOR SAFETY BELTS WITH PRETENSIONERS

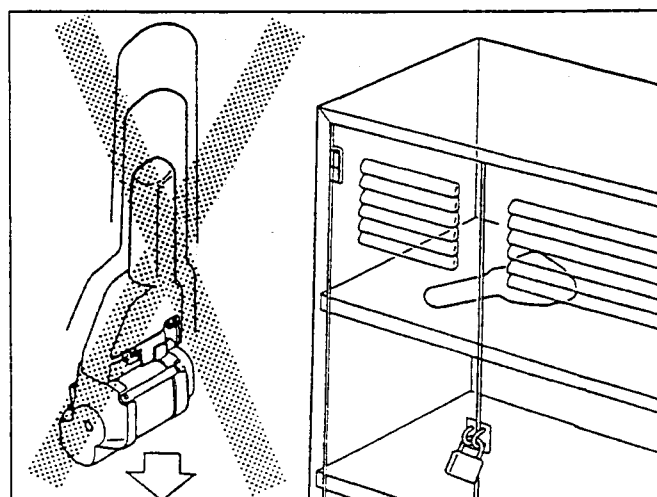
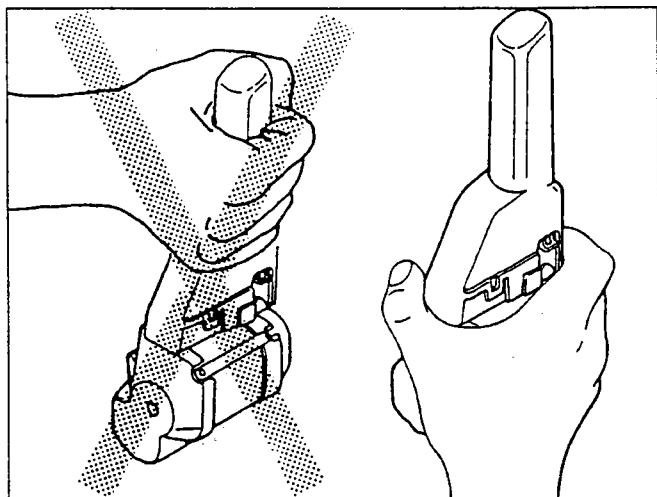


WARNING:

The following rules must **ABSOLUTELY** be adhered to for the safety of operators, the integrity of the belt unit with pretensioner and in observance of the law explosives.

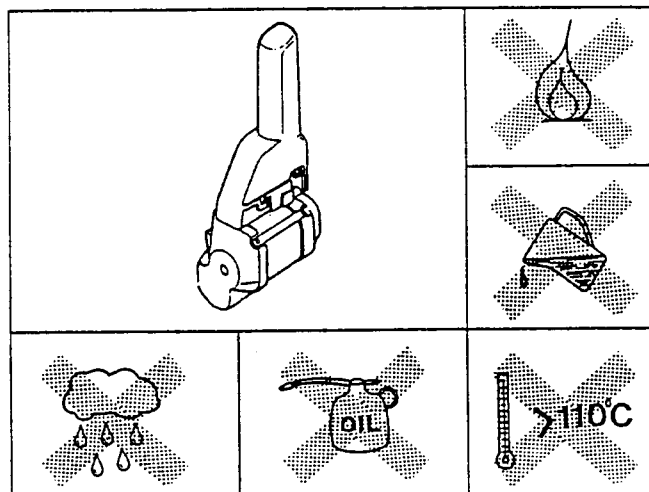
- When handling a safety belt unit with pretensioner, hold it as shown in the figure.
- NEVER hold the unit by the lever.
- ALWAYS remove the arming lever before dis-assembly.
- Never drop the unit or subject it to shocks.
- When operations on the car require its temporary removal, the unit should be stored in a key-lockable metal cabinet as required by law.

- Do not carry out repairs on the pretensioner, apply only to the Service Network for its replacement.



WARNING:

If due to exceptional events (floods, sea storms, etc.) water and mud reach such a level as to involve the components of the device, it must absolutely be replaced.



WARNING:

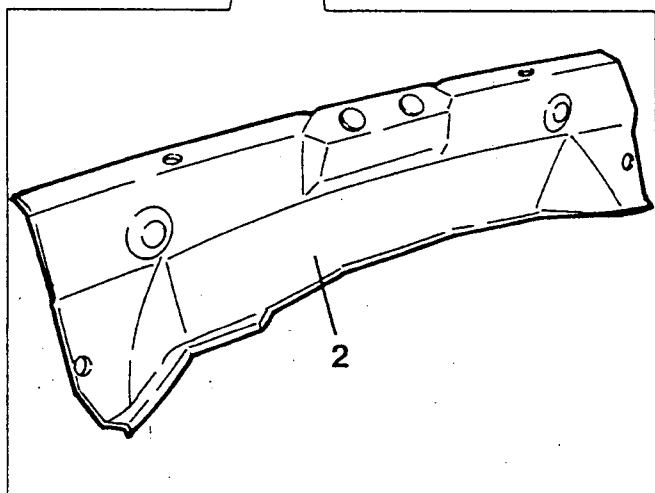
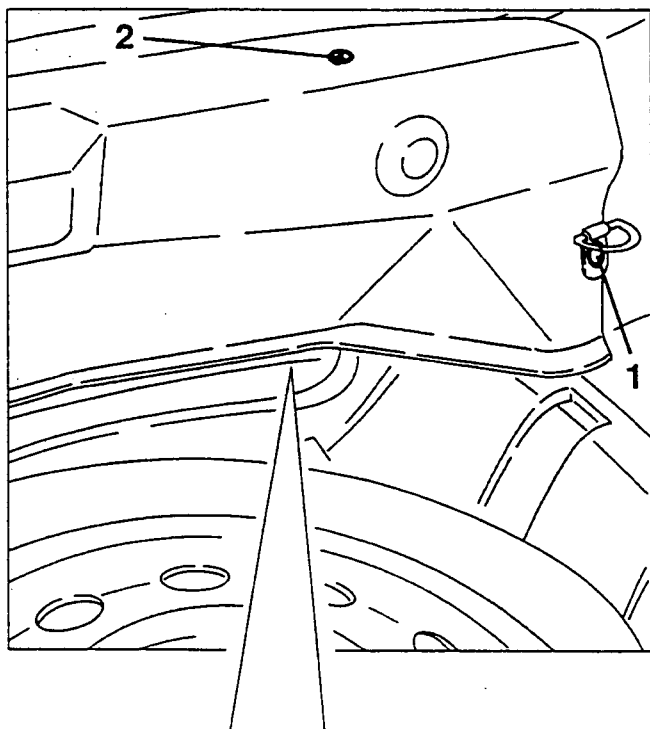
The pretensioner requires no maintenance whatsoever and must absolutely never be lubricated.

Any attempt to change its original conditions will invalidate its efficiency.

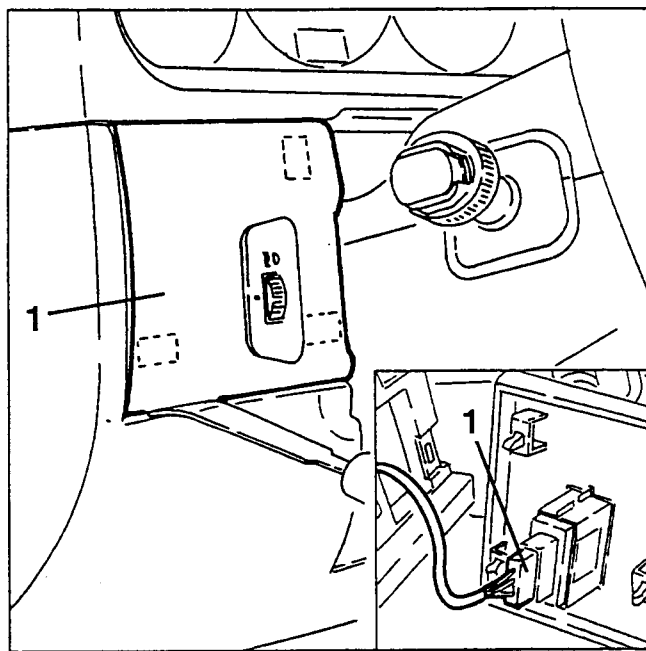
- Never allow naked flames, fluids, solvents or lubricants near the device.
- Do not expose it to temperatures above 110°C.
- When needing to handle a device that has been triggered, use polyethylene gloves and protective goggles.
- If the device has been triggered, ALWAYS wait for at least 30 minutes from activation before doing any type of work on it.
- Wash your hands with soap and water after handling the device.

LUGGAGE GUARD**REMOVING/REFITTING**

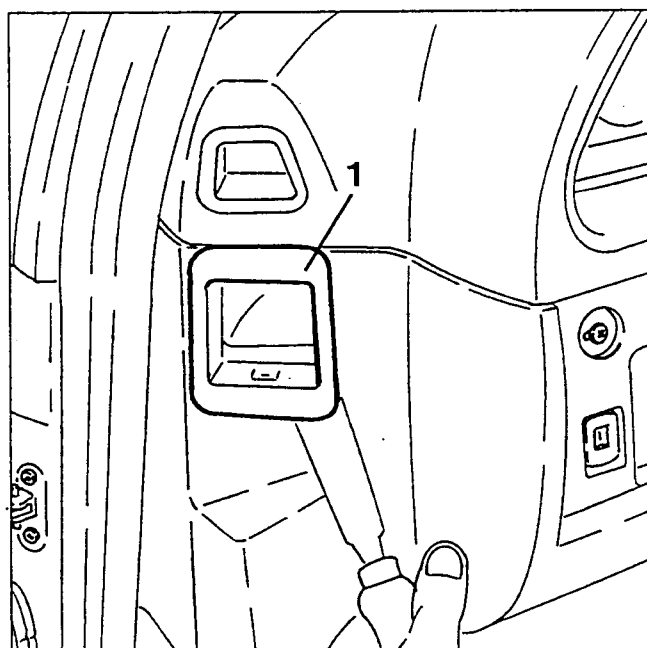
1. Working from the luggage compartment, prise the two plastic rivets fastening the luggage check strap.
2. Slacken the two fastening screws and remove the luggage guard.

**FUSEBOX COVER TRIM****REMOVING/REFITTING**

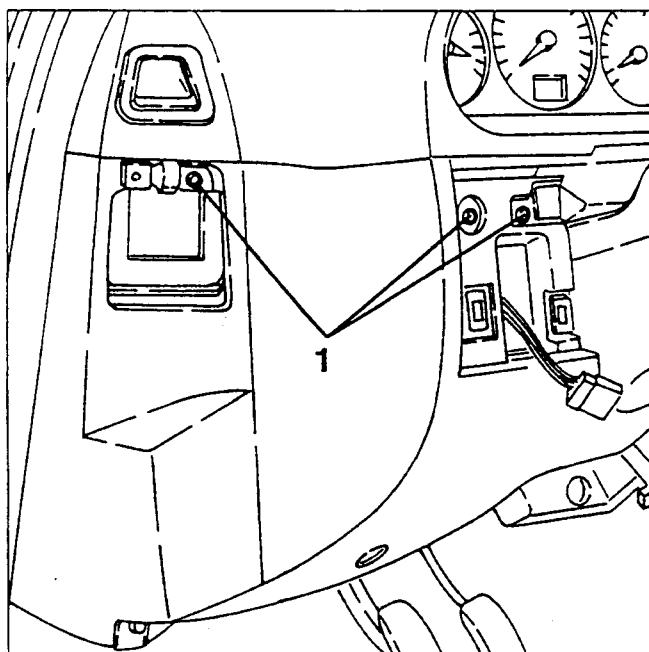
- Disconnect the battery (-) terminal.
- 1. Prise the dashboard left hand trim and move it back just enough to disconnect the electrical connection from the headlamp aiming device switch, then remove it.



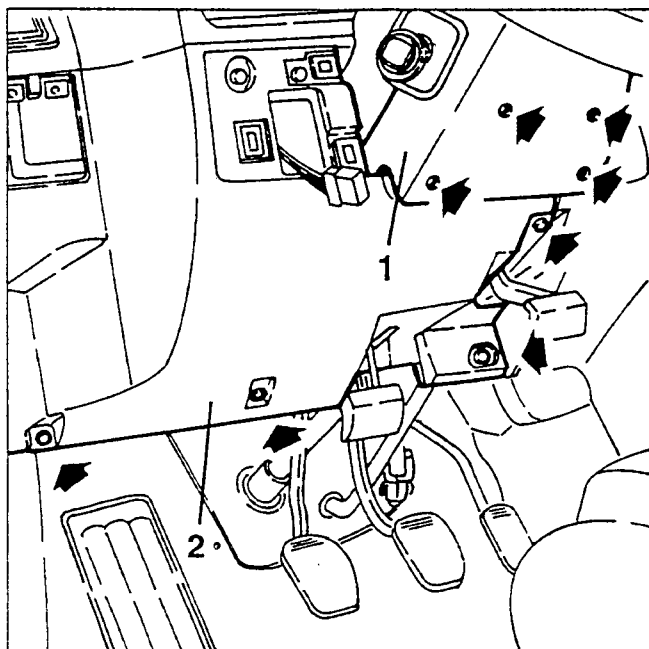
1. Remove the air delivery vent to the driver's door from the dashboard.



1. Slacken the three upper screws fastening the fuse-box cover trim.



1. Slacken the four fastening screws and remove the steering column lower half box.
2. Slacken the four lower screws fastening the fuse-box cover trim and remove it.

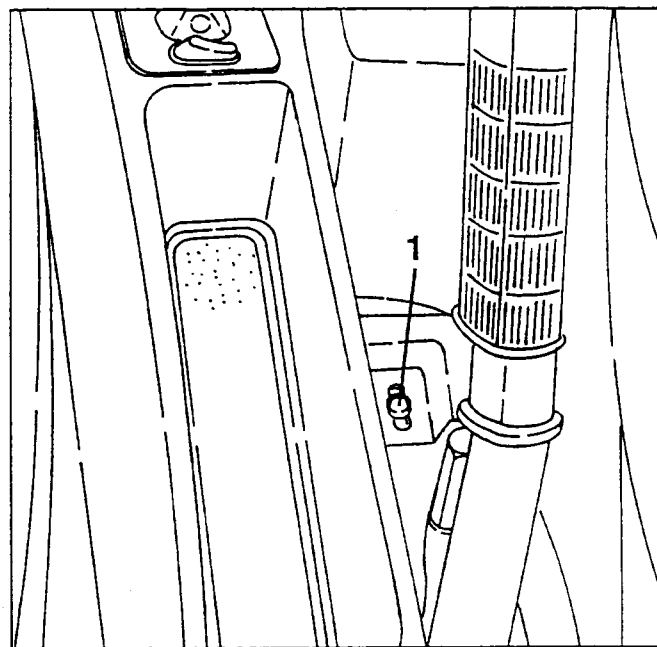


CENTRE CONSOLE

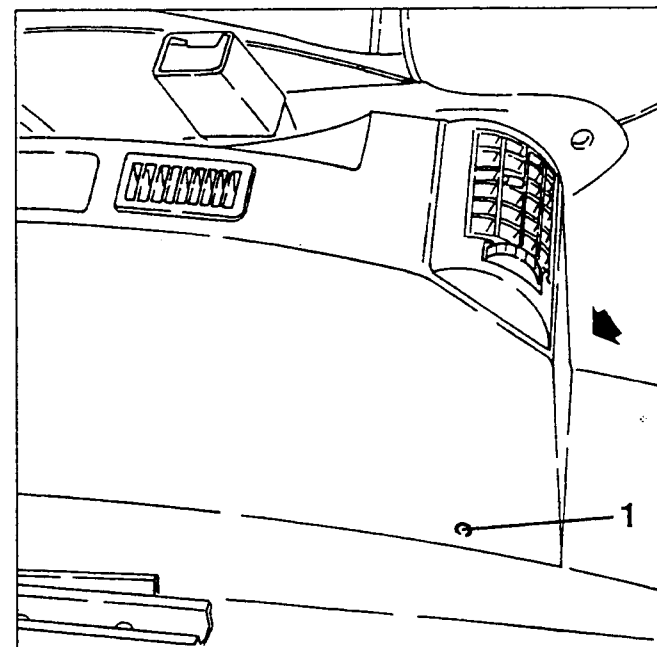
REMOVING/REFITTING

- Disconnect the battery (-) terminal.

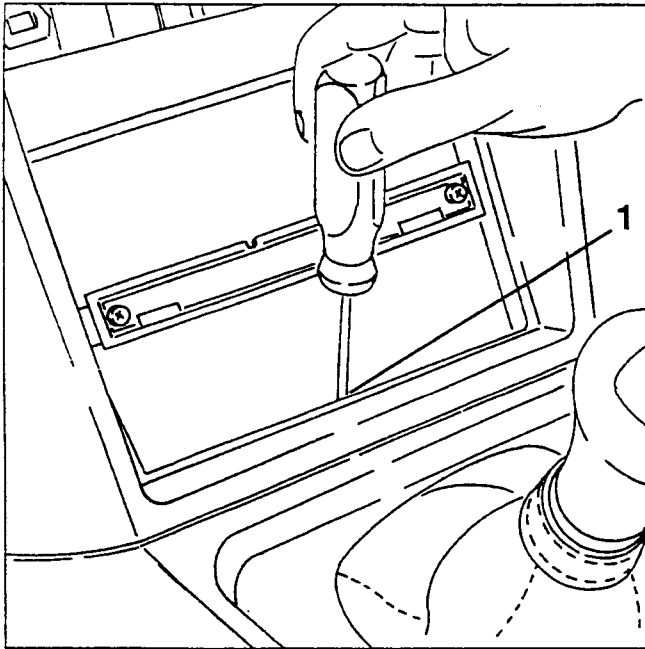
1. Remove the protective cover from the handbrake lever, then slacken the screw below fastening the centre console.



1. Slacken the two rear screws fastening the centre console.

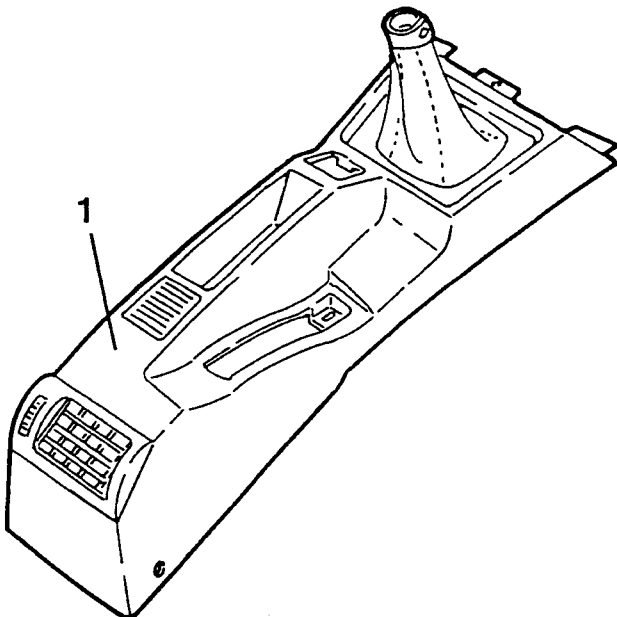


1. Remove the glovebox from the lower part of the dashboard and slacken the centre console front screw.



- Remove the wing mirror adjustment switch from the centre console, then remove it after disconnecting the associated electrical connection.

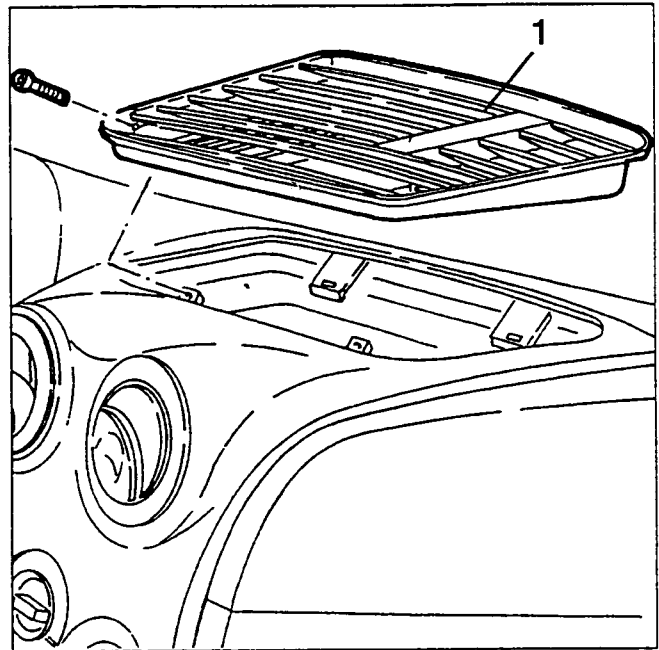
1. Release the gearshift lever from its protective cover and remove the centre console.



AIR VENT ON DASHBOARD

REMOVING/REFITTING

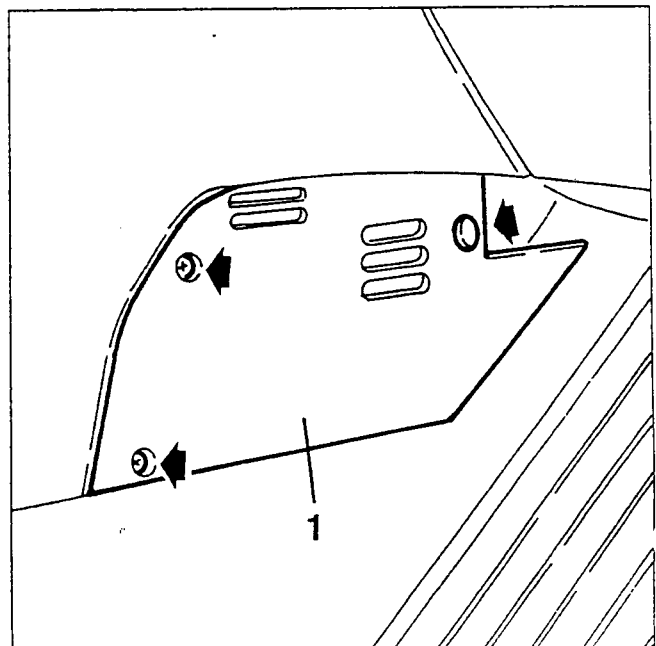
1. Slacken the two fastening screws, then prise and remove the air vent from the dashboard.



FOOT LEVEL AIR VENT TRIMS

REMOVING/REFITTING

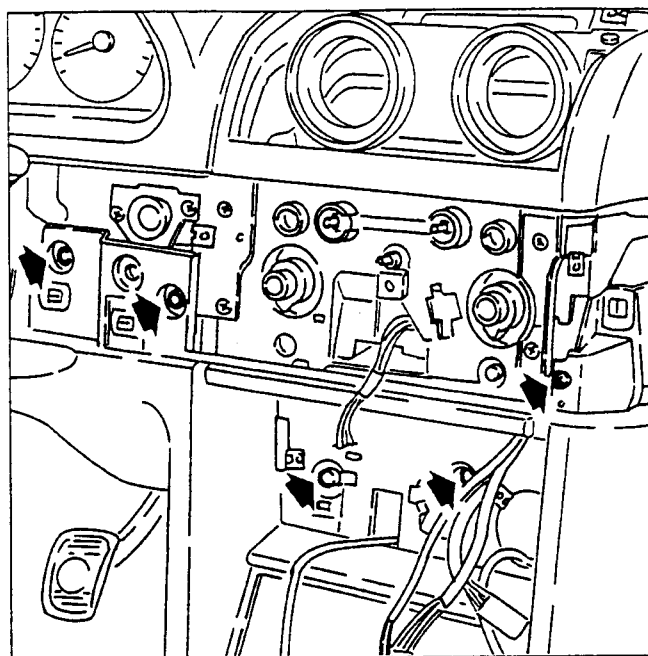
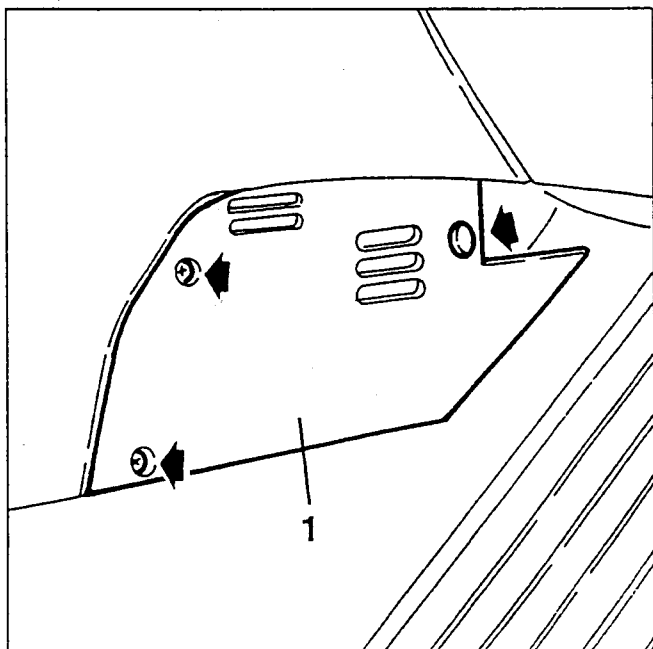
1. Slacken the two fastening screws, prise the plastic rivet, then remove the foot level air vent trims.



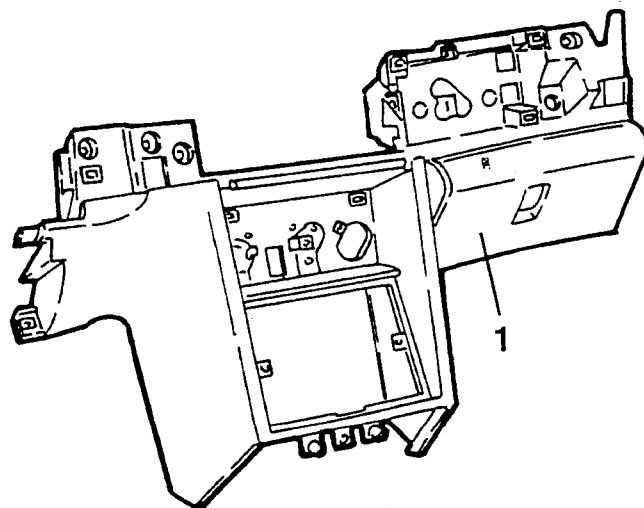
DASHBOARD**REMOVING/REFITTING**

- Disconnect the battery (-) terminal.
- Remove the centre console (see specific paragraph).
- Remove the fusebox cover trim (see specific paragraph).
- Remove the climate control system controls module (see GROUP 50).

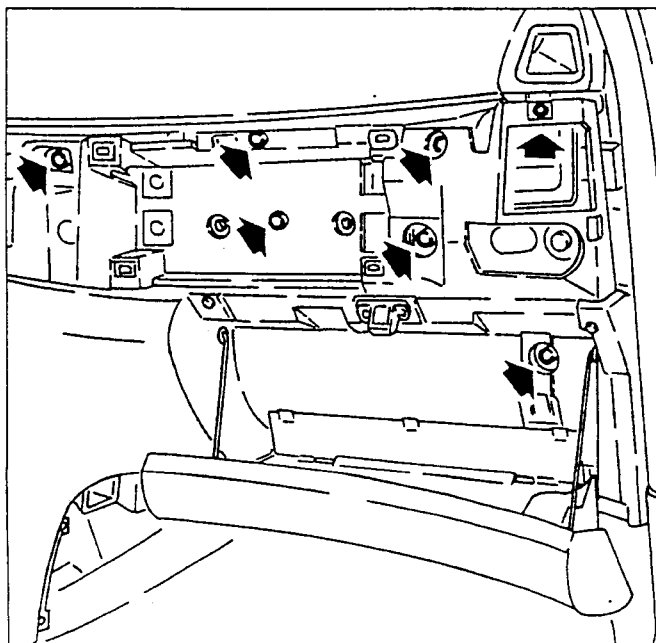
1. Slacken the two fastening screws, prise the plastic rivet, then remove the foot level air vent trims.



1. Remove the lower part of the dashboard.



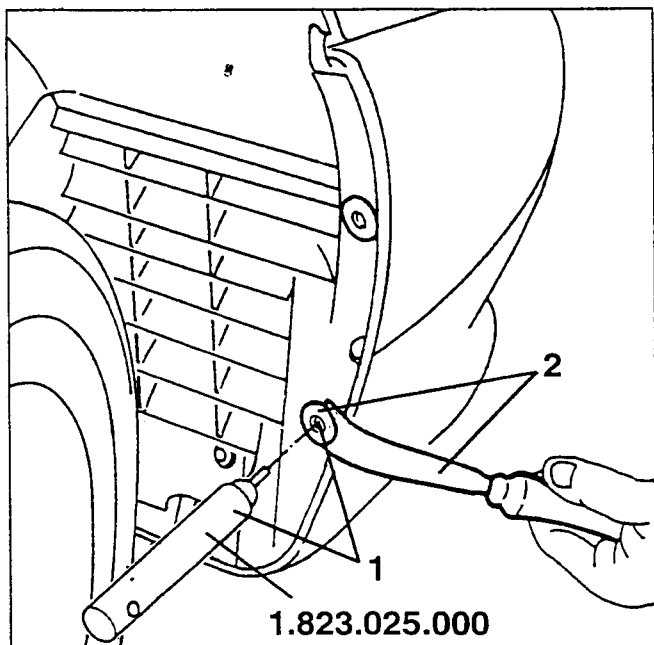
- Slacken the screws fastening the lower part of the dashboard.



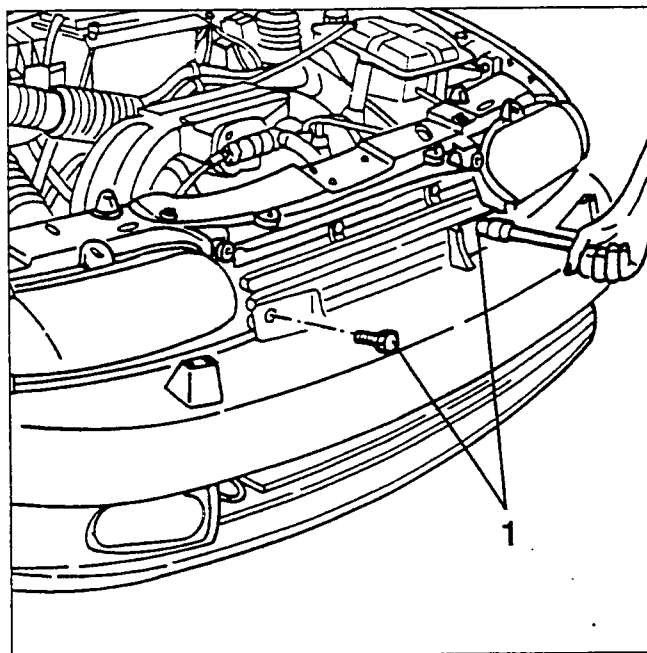
Complete removal of the dashboard (upper part), proceeding as described in the procedure "DASHBOARD - Removing/Refitting" for the previous versions.

FRONT BUMPER**REMOVING/REFITTING**

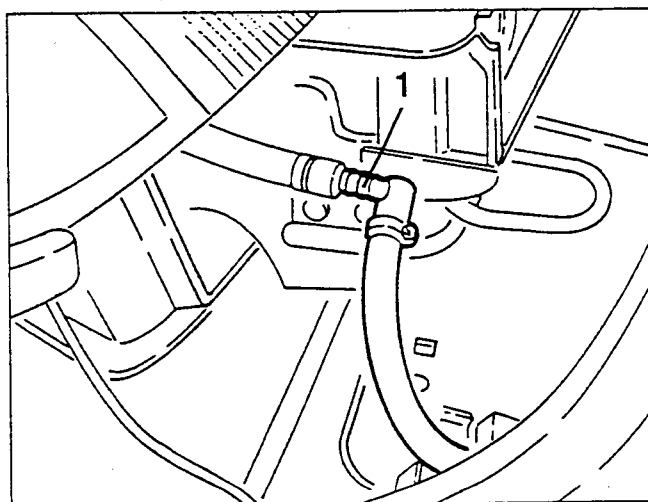
- Disconnect the battery (-) terminal.
 - Remove the radiator grille (see specific paragraph).
1. Using tool no. 1.823.025.000 release the catches of the centre part from the plastic rivets fastening the side bumper to the gravel guard.
 2. Remove the above-mentioned rivets using the special tool.



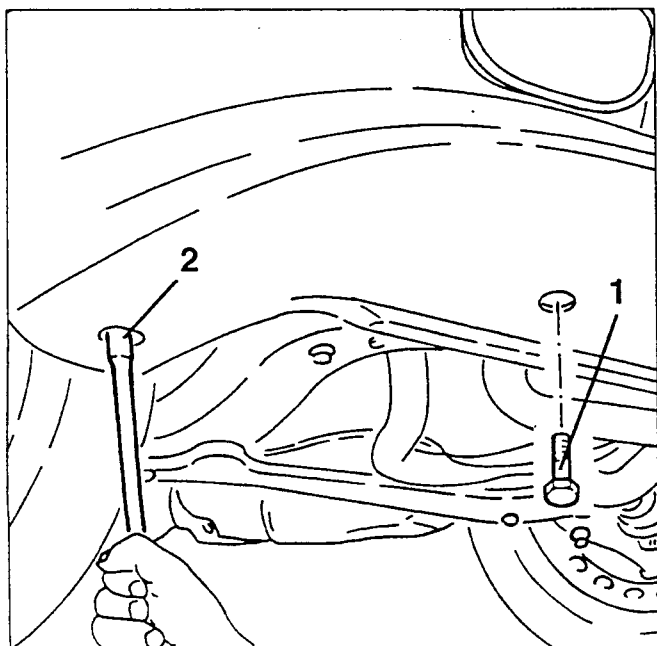
1. Slacken the two upper bumper fastening screws.



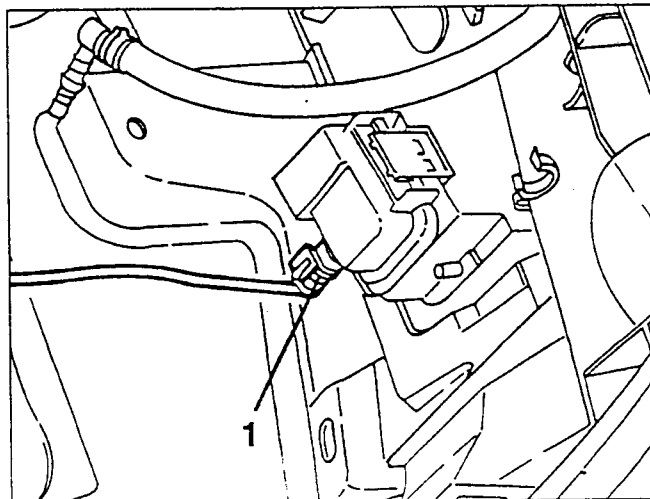
1. Move away the bumper just enough to disconnect the headlamp washer pipe connection.



1. Slacken the two lower fastening screws illustrated.
2. Slacken the two lower bumper fastening screws illustrated.



1. Disconnect the electrical connections from the fog lamps.



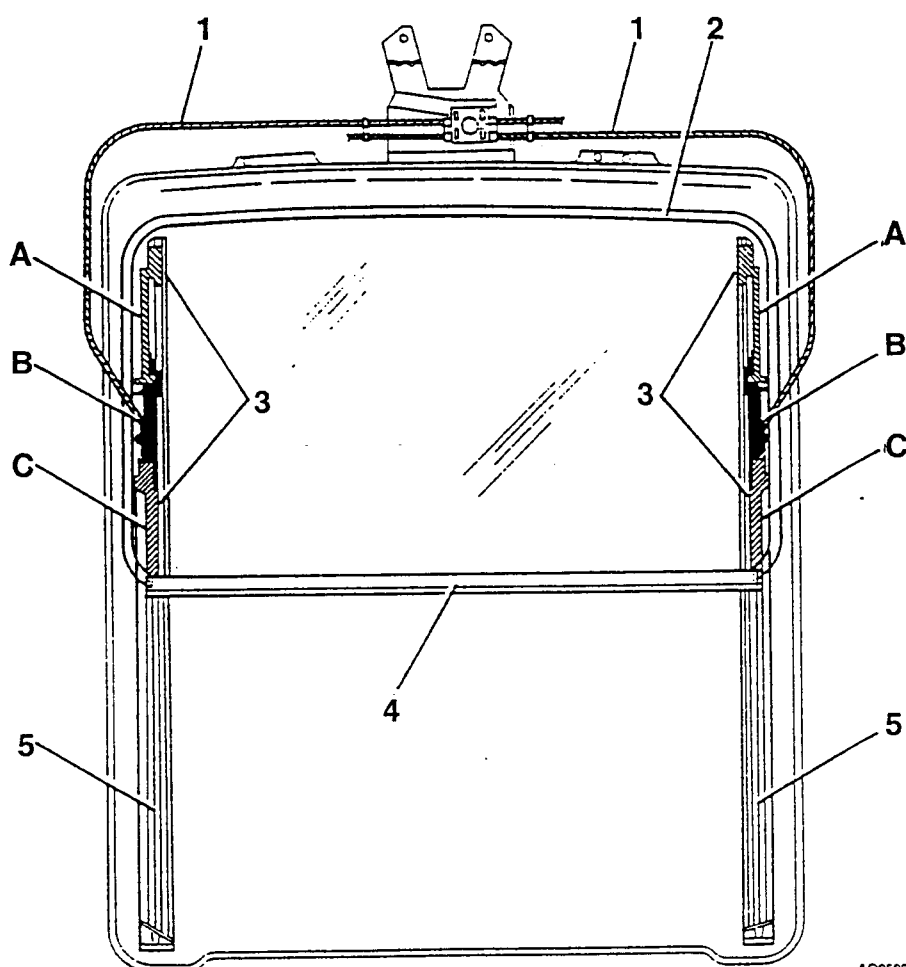
The sliding guides (5) are fastened at the two sides of the glass holder frame. Three runners are inserted in each guide: a front one (A), an intermediate one (B) and a rear one (C). The intermediate runners are connected to the flexible racks (1) and their purpose is to draw the entire kynematism; the brackets (3) carrying the sunroof are fastened to the front and rear runners; therefore, the

brackets are the interconnection between runners A and C.

The rear runners cause "quarterlight" opening of the sunroof and move the mobile rib (4) during complete opening and closing.

During the latter the rib opens the sunshade, if this has been closed.

- A. Front runner
- B. Intermediate runner
- C. Rear runner
- 1. Flexible rack
- 2. Glass holder frame
- 3. Bracket fastening points
- 4. Mobile rib
- 5. Guide



AQ95900

Location of main components

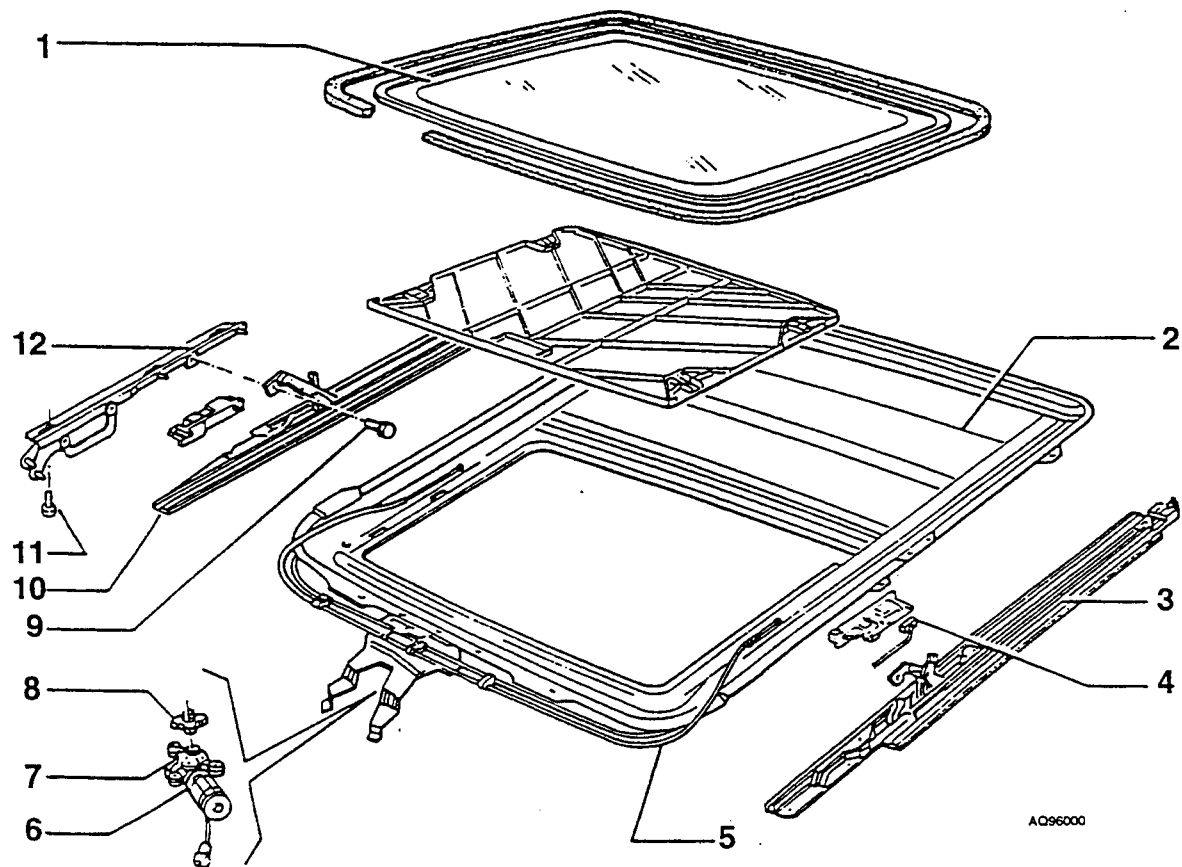
Fastened to the glass holder frame (1) there are two carrier brackets (12) which enable connection with the front and rear runners; the screws (11) fastening the brackets to the glass holder frame are those for lengthwise adjustment of the sunroof position, while the screws (9) fastening the brackets to the runners enable height adjustment.

Under the roof lining, concealed from view, we find the

support frame (2) for guides (3 and 10).

The movement device mainly comprises two flexible racks (5) which pull the runners; the motion is transmitted by the motor (6) to the racks through a driving gear (7) and a gear (8) keyed onto the motion output shaft.

On the left-hand guide (3) there is the stroke limit microswitch (4) which determines the roof closed position by stopping the motor.



- | | |
|-------------------------|-----------------------------------|
| 1. Glass holder frame | 7. Driving gear |
| 2. Guides support frame | 8. Gear |
| 3. Left-hand guide | 9. Bracket/runner fastening screw |
| 4. Microswitch | 10. Right-hand guide |
| 5. Flexible rack | 11. Frame bracket fastening screw |
| 6. Motor | 12. Carrier bracket |

Sunroof components

The cam (1) for connecting the carrier bracket (3) is machined on the front of the runner (A), and the puller pins (4 and 5) which run respectively in cams (6 and 15) are located on the rear.

The runner is connected to the bracket (3) by pin (2) and its movements are determined through this connection. The end of the flexible rack (8) engages on the intermediate runner (B) which draws the complete kynematism.

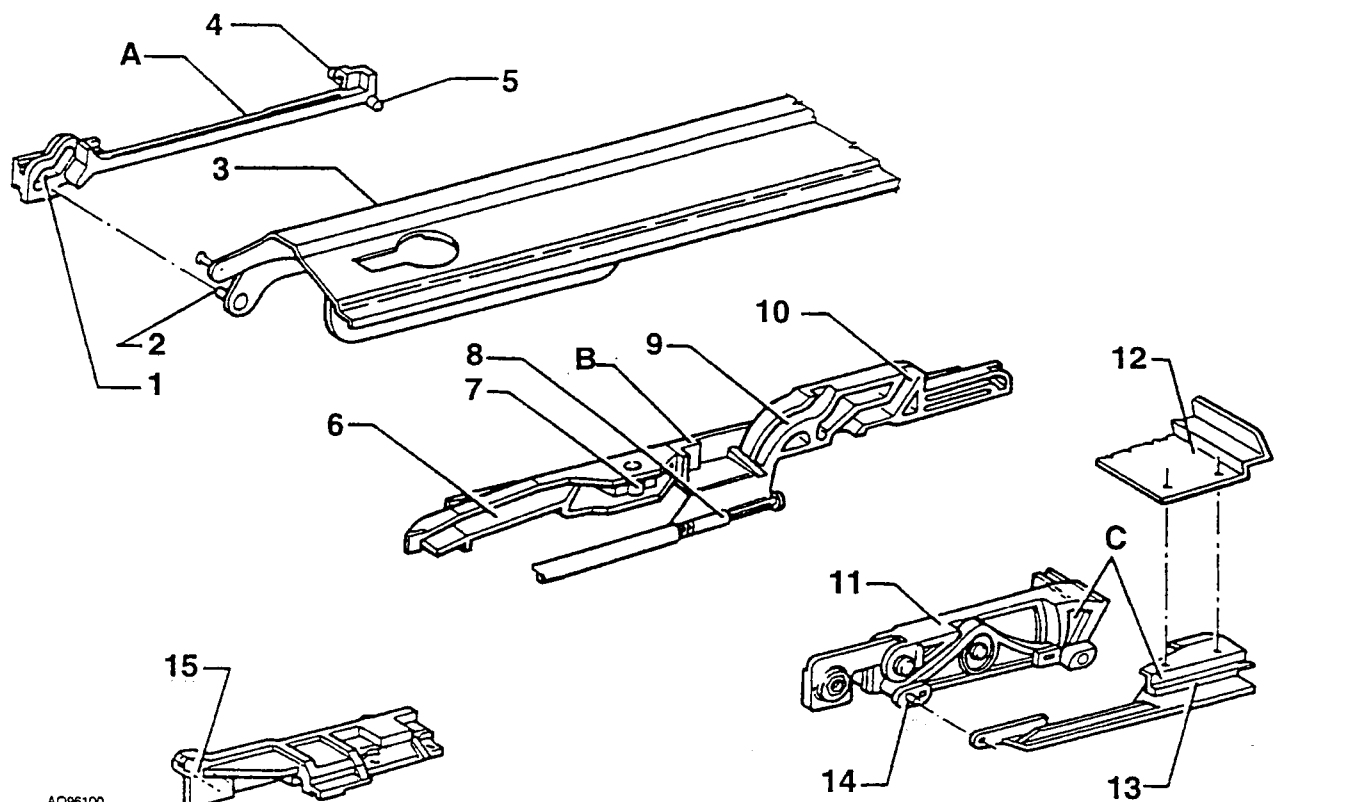
The element (7) for operating the microswitch is positioned

on the left centre runner.

Cams (9 and 10) are machined on the rear section of the runner. These cams determine the movement of the pantograph device (11) located on the rear runner.

The rear runner (C) comprises two components (11 and 13) which are strictly inter-connected by pin (14).

The front section (11) consists of the pantograph device which enables "quarterlight" opening of the sunroof, the rear section (13) is the support for the mobile rib (12) and it is the piece which counters the rear stroke limit.



AQ96100

- | | | |
|---|------------------------------|-------------------------------------|
| A. Front runner | 4. Runner "A" inner pin | 10. Pantograph rear cam |
| B. Intermediate runner | 5. Runner "A" outer pin | 11. Pantograph (Runner "C") |
| C. Rear runner | 6. Runner "B" front cam | 12. Mobile rib |
| 1. Cam on runner "A" | 7. Reference for microswitch | 13. Mobile rib support (Runner "C") |
| 2. Pin connecting bracket to runner "A" | 8. Flexible rack | 14. Connection pin |
| 3. Carrier bracket | 9. Pantograph front cam | 15. Microswitch support cam |

Runners

The opening of the roof to the completely open position makes it possible to raise the spoiler (1) which in this position suitably diverts the flow of air.

The spoiler is kept in the lowered position by the sunroof itself when it is closed or in the "quarterlight position", while it is raised by two reaction springs coupled with two shock dampers.

Any water that drips through the glass seal is suitably drained by gutters obtained on the three fixed sides of the frame and on the mobile rib; the gutters are connected to hoses (3) by unions (2) set at the four corners of the

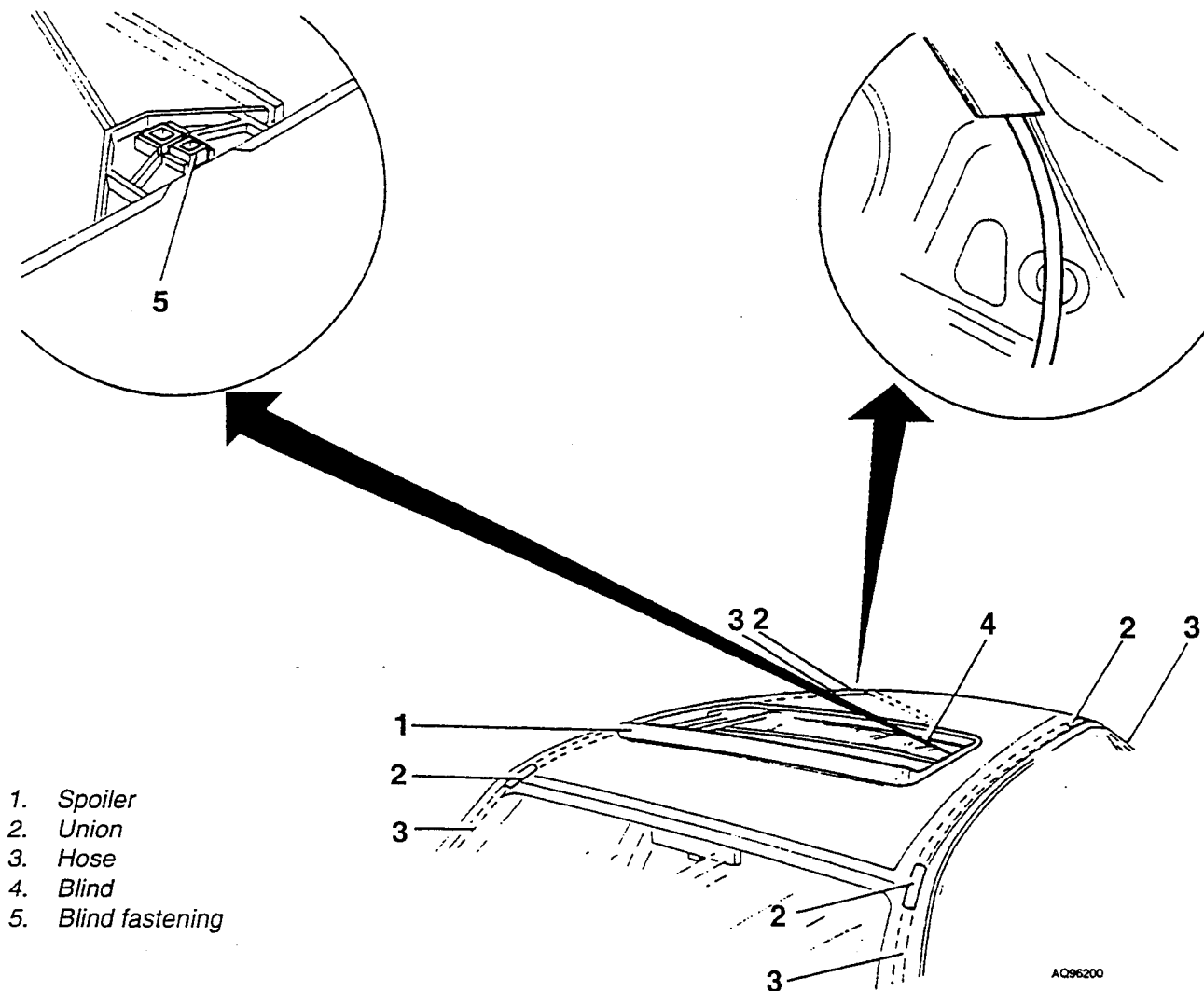
frame.

The hoses drain at the front and rear through the engine compartment and boot drains respectively.

The inner sun blind (4) is connected to the frame by four spring fasteners (5); these fasteners act as pads for the running in the guide formed on the frame.

When the sunroof is closed the blind can be drawn by hand.

When the sunroof is opened to the "quarterlight" position, the blind is pulled by the mobile rib into the space between the body and the roof lining.



Drenaggio

OPERATION

As mentioned previously, the possible movements of the sunroof are two closing strokes and two opening strokes, for the two "quarterlight" and completely open "concealed" conditions the device makes possible.

The following paragraphs illustrate and describe the positions of the system during the complete operating cycle, starting from the sunroof completely open position up to return to the same position through the sunroof

closed and "quarterlight" open positions.

NOTA: because of the complexity of the device it is advisable to follow the description of how it works observing it directly on the car.

Pressing the pushbutton, the sunroof moves from the completely open "concealed" position to the closed position.

Section T0 - T1

During this phase the intermediate runner (B) moved by the rack fastened in (3) pulls the rear runner (C) via pins (6 and 8); the rear runner in turn pushes the front runner (A) by pin (1) of the carrier bracket (2).

Pins (6 and 8) do not run along the profiles of cams (5 and 7) as the counter piece (4), inserted in the guide only allows longitudinal translation of the kynematism.

Section T1 - T2

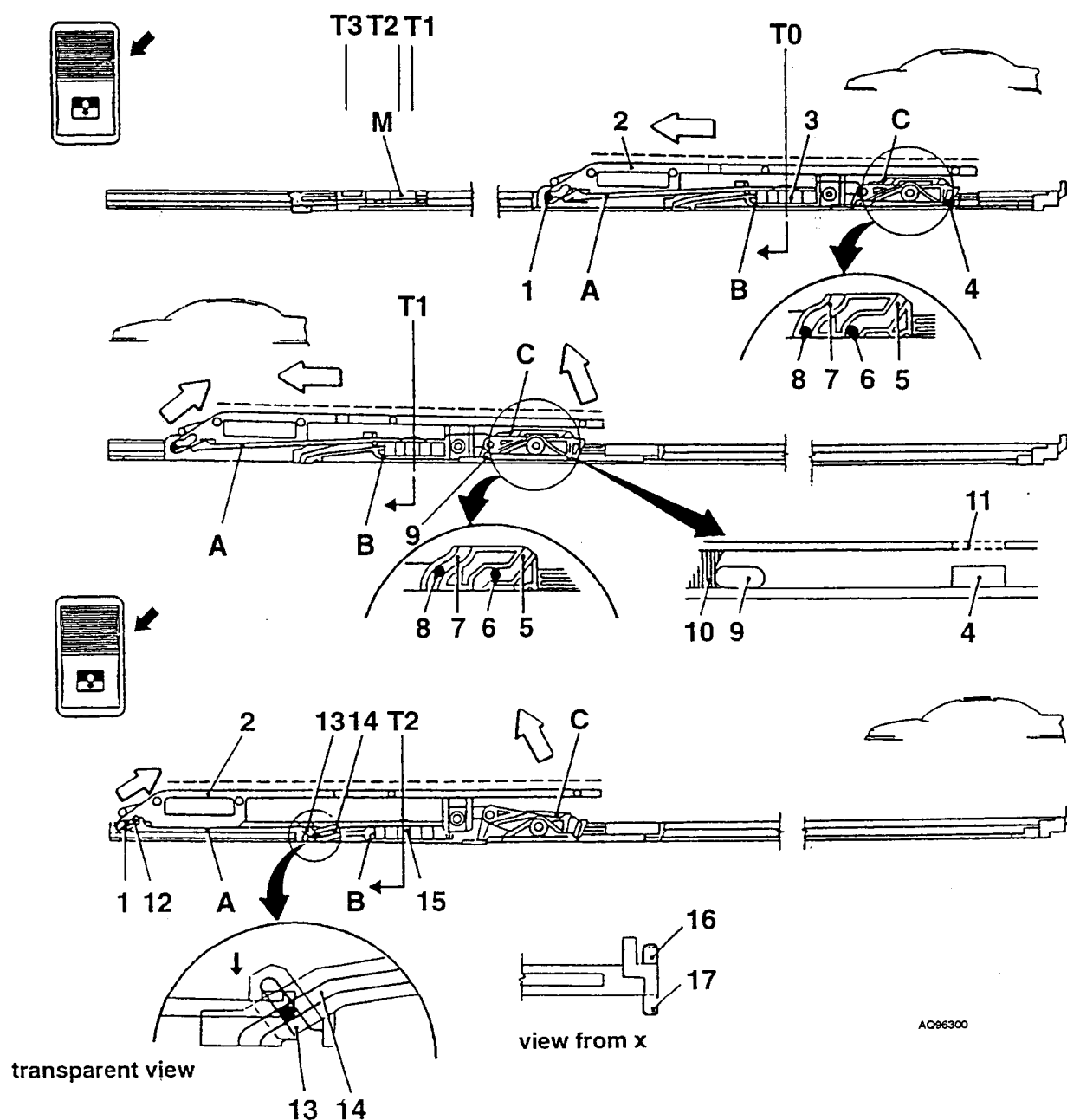
In position T1 the reference (9) of the rear runner (C) reaches its front stroke limit stopping against the stopper (10) on the guide and the counter piece (4) is in

correspondence of slott (11); this way the pantograph device is released, allowing pins (6 and 8) to run respectively along the profile of cams (5 and 7).

The intermediate runner (B) moves along the guide until piece (15) sets itself on the microswitch (M), position T2, causing the motor to stop.

During this section the intermediate runner (B) which pushes the front runner (A) through the combined action of the two cams (14 and 15) on pins (16 and 17).

The motion of the front runner causes the movement of the connection pin (1) of the carrier bracket (2), along the profile of the front cam (12); the action of the pantograph device and the running along the front cam enable the raising of the sunroof which reaches the position flush with the body (roof closed).



Pressing the pushbutton again, the sunroof passes from the closed position to the "quarterlight" open position.

Section T2 - T3

The intermediate runner (B) goes through the last section of its movement completing the raising of the pantograph. At the front, pin (1) reaches the upper stroke limit in cam (12) of the front runner (A).

Once the pantograph stroke limite has been reached, an overcurrent relay stops the motor.

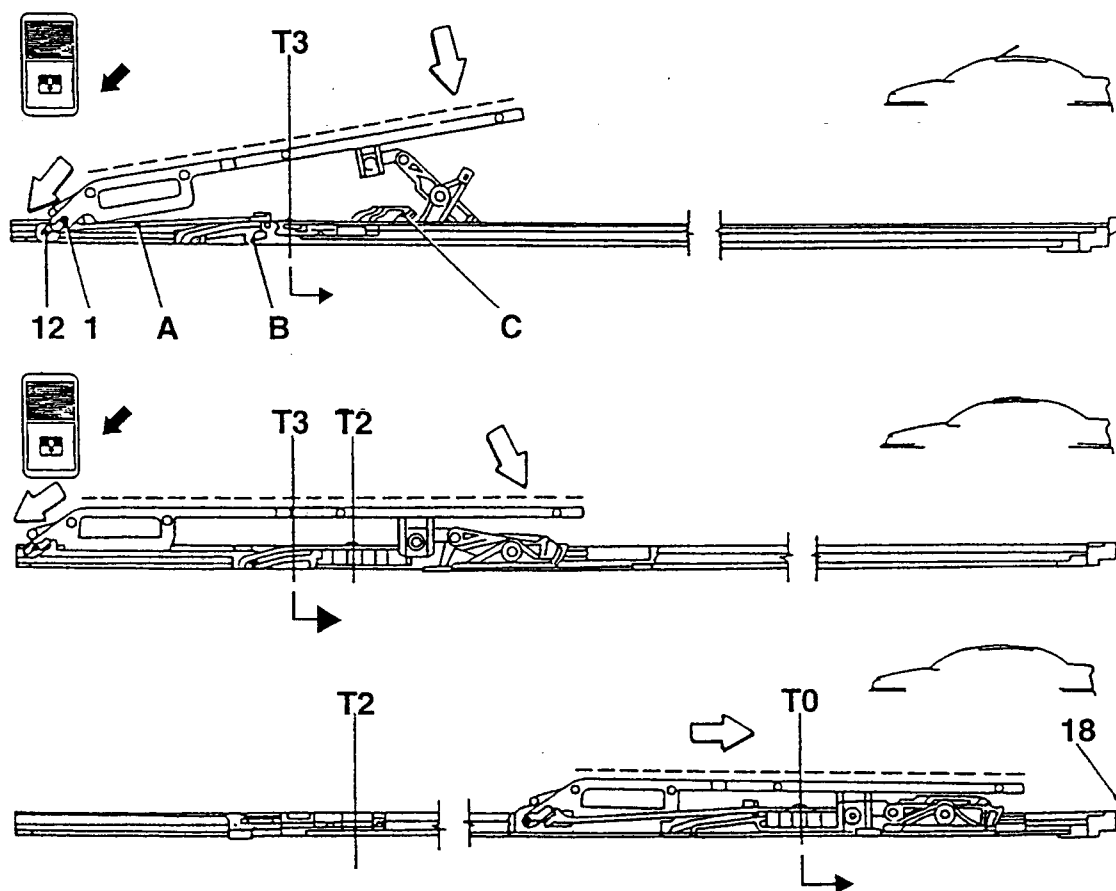
At this point, to complete the cycle it is necessary to press the pushbutton again to invert the direction of rotation of the motor.

Section T3 - T2

The sunroof goes back along the closing section from the "quarterlight" open position until the microswitch stops it.

Section T2 - T0

After lowering to make access possible in the space between the roof panel and the roof lining (section T2 - T1), it runs along the guides until it reaches the rear stroke limit (18), where the overcurrent relay stops the motor (sunroof completely open in the "concealed" position).

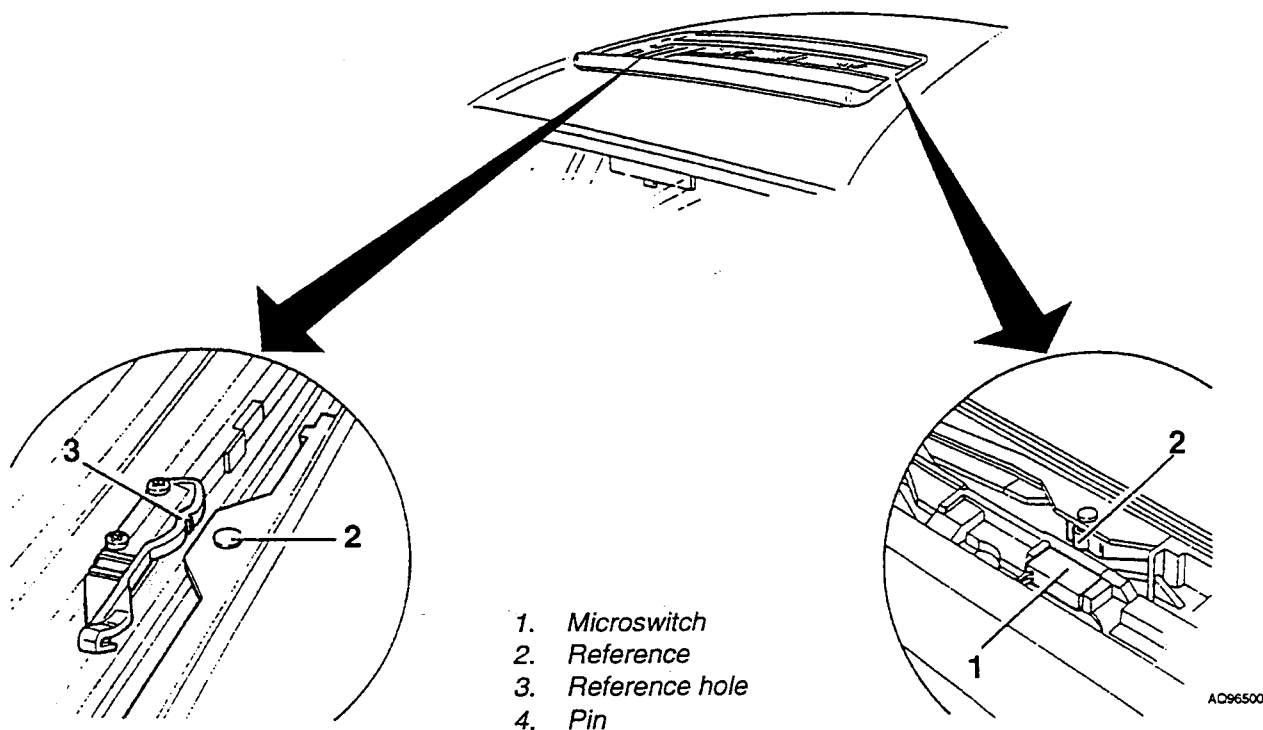


AQ96400

NOTA: if after servicing operations, it is necessary to adjust the coupling of the racks, the system must be positioned in a determinate point of the cycle.

The position is shown in the diagram by the correspondence of the microswitch (1) with

the reference (2) for the left-hand guide, and the reference pin (4) placed on the rack locking cover with the hole (3) on the intermediate runner for the right-hand guide. Refitting of the electric motor may begin starting from this position.

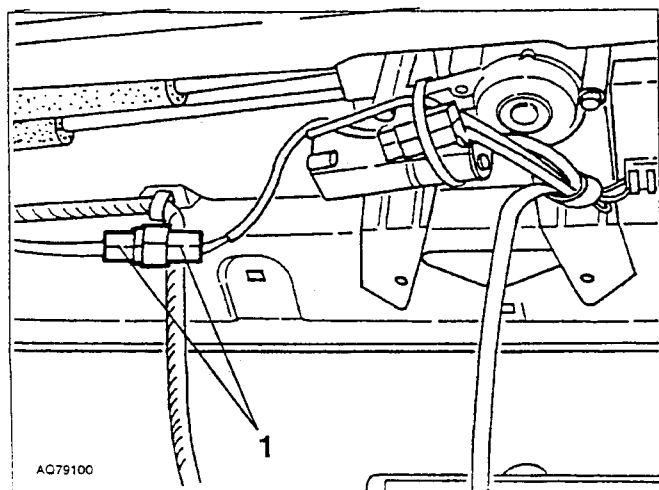


Positioning of runners

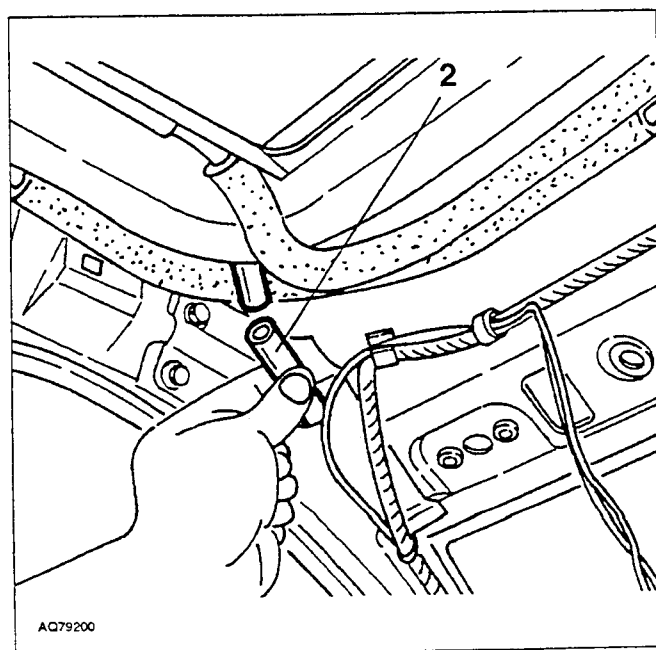
REMOVAL/REFITTING

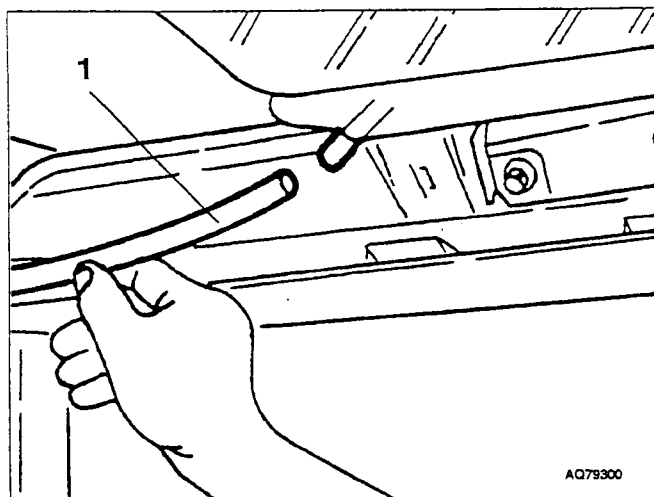
- Disconnect the battery negative pole (-).
- Remove the roof lining (see specific paragraph).

1. Disconnect the sunroof motor electrical connection.

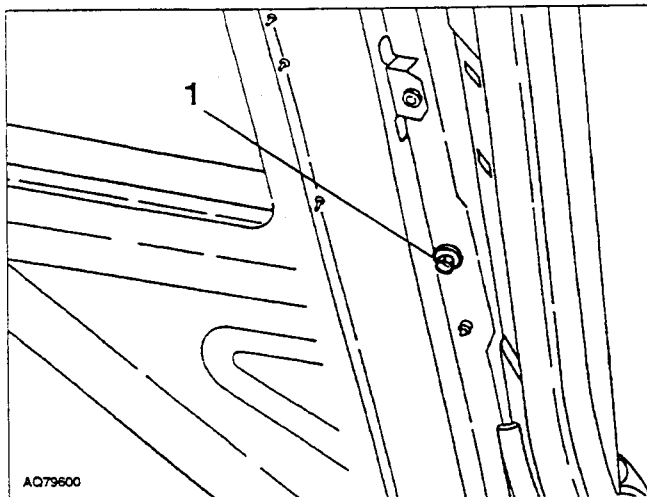


1. Disconnect the front and rear water drain pipes.

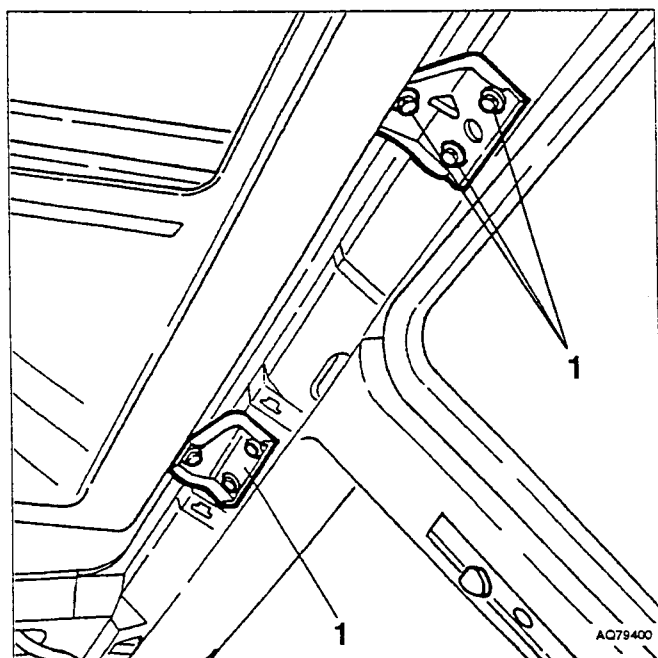




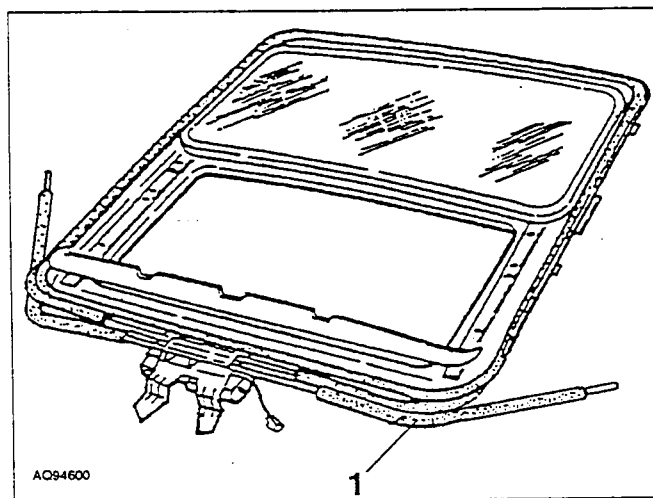
1. Slacken and remove the screws fastening the brackets to the sunroof and then remove the brackets.



1. Remove the sunroof complete, withdrawing it through the front door.



1. Slacken the six screws fastening the sunroof to the roof panel.



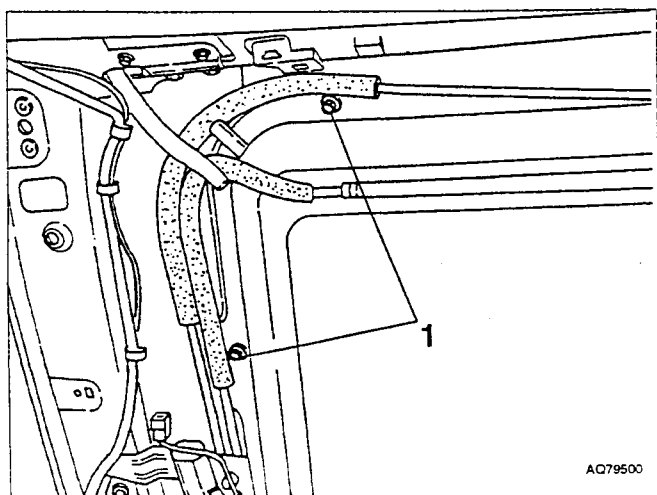
When refitting the sunroof check the presence of the perimeter seals, the tubular ones on the rack guide pipes and the vibration damper caps on the centering pins; for refitting, reverse the sequence followed for removal.

After refitting, check the alignment of the roof and that it works properly.

SUNROOF ELECTRIC MOTOR

REMOVAL/REFITTING

NOTA: in the event of a failure to the electric motor, the sunroof can be moved to the position required, operating the motor by hand (see: EMERGENCY MANUAL OPERATION OF THE ELECTRIC SUNROOF)





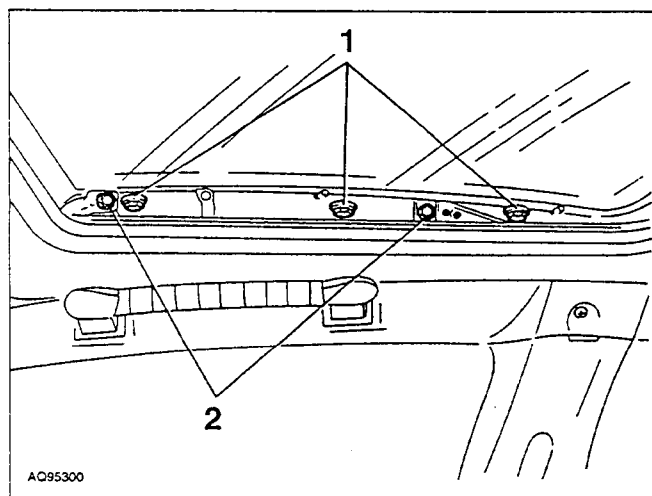
After refitting adjust the vertical and crosswise position.

ADJUSTING THE POSITION THE SUNROOF GLASS

NOTA: To adjust the position of the sunroof glass two operators are required, one operating inside the vehicle and one outside.

The operator on the outside centres the glass in relation to its housing on the car roof and flush with the roof surface; the operator on the inside tightens the adjustment screws.

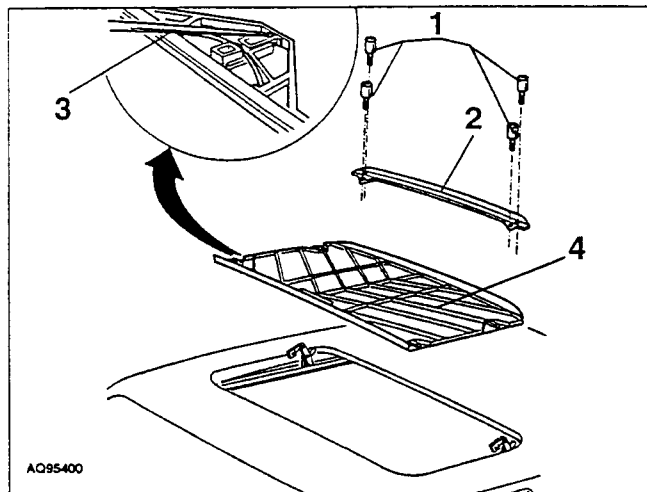
- Open the roof to the "quarterlight" position.
- Remove the plates protecting the sliding mechanism.
- Close the roof.
- 1. Slacken the six crosswise adjustment nuts.
- Position the glass correctly.
- Tighten the six nuts.
- 2. Slacken the four vertical roof adjustment screws.
- Position the glass so that it is flush with the car roof surface.
- Tighten the four screws.



SLIDING BLIND

REMOVAL/REFITTING

- Remove the sunroof (see specific paragraph).
- Set the blind to the closed position.
- 1. Slacken the four rear screws fastening the rib.
- 2. Remove the rib.
- 3. Using a screwdriver release two of the four clips fastening the blind to the sunroof guides (on the same side of the vehicle).
- 4. Remove the sliding blind.



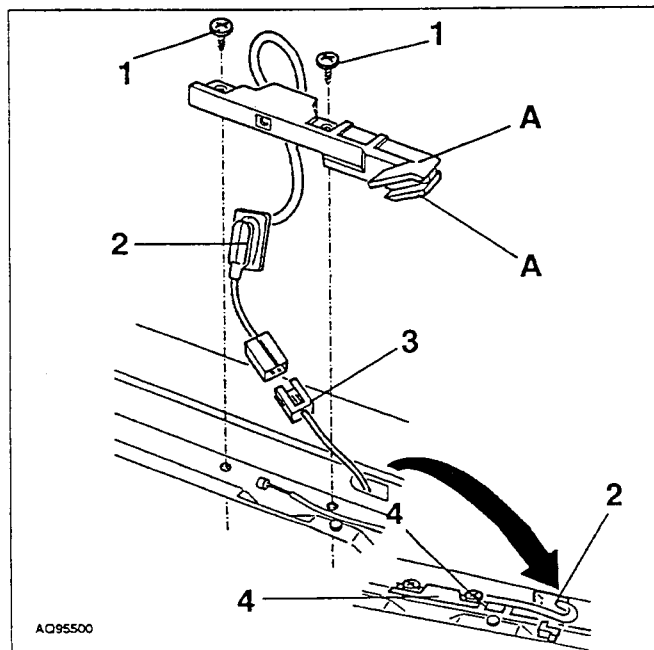
STROKE LIMIT MICROSWITCH

REMOVAL/REFITTING

- Completely open the sunroof to the "concealed" position.
- Disconnect the battery negative pole (-).
- 1. Slacken the two screws fastening the microswitch to the left-hand guide.
- 2. Remove the rubber protection from the cable fastened to the guide.
- 3. Withdraw the cable and disconnect the microswitch connector.
- 4. Remove the microswitch.



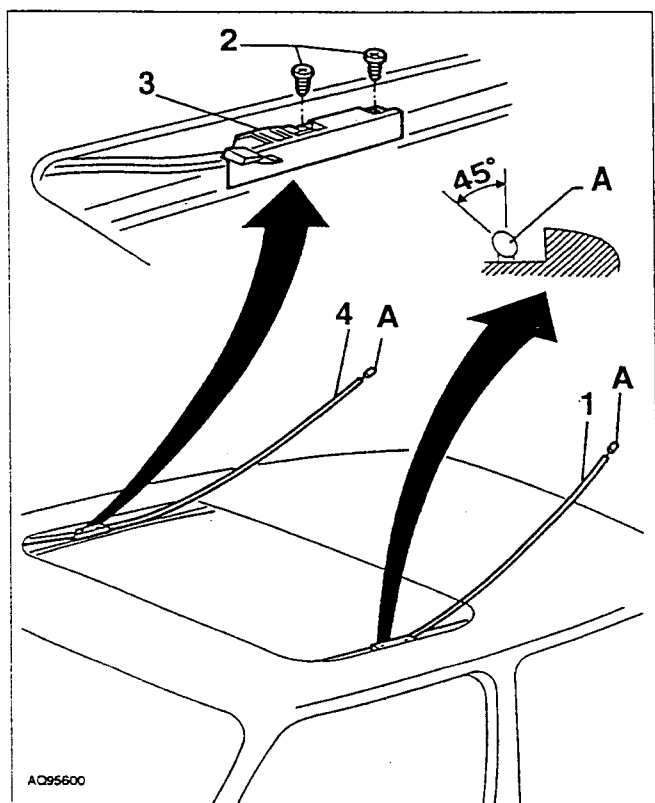
When refitting correctly position the cable so that it fits in the housing without hindering the movement of the flexible rack drawing the sunroof. Correctly couple the guide (A) on the microswitch to the pin of the sliding guide.



FLEXIBLE RECKS DRAWING THE SUNROOF

REMOVAL

- Remove the sunroof motor (see specific paragraph).
 - Remove the sunroof (see specific paragraph).
 - Remove the sliding blind (see specific paragraph).
 - Remove the stroke limit microswitch (see specific paragraph).
1. Withdraw the left rack from the guide sheath.
 2. Slacken the two screws fastening the rack stop plate.
 3. Remove the rack stop plate from the right guide.
 4. Withdraw the right rack from the guide sheath.



- Position the rack stop plate and fasten it with the two screws.
- Repeat the operation for the left rack, then complete refitting reversing the sequence described for removal.
- Position the control system (see specific paragraph).

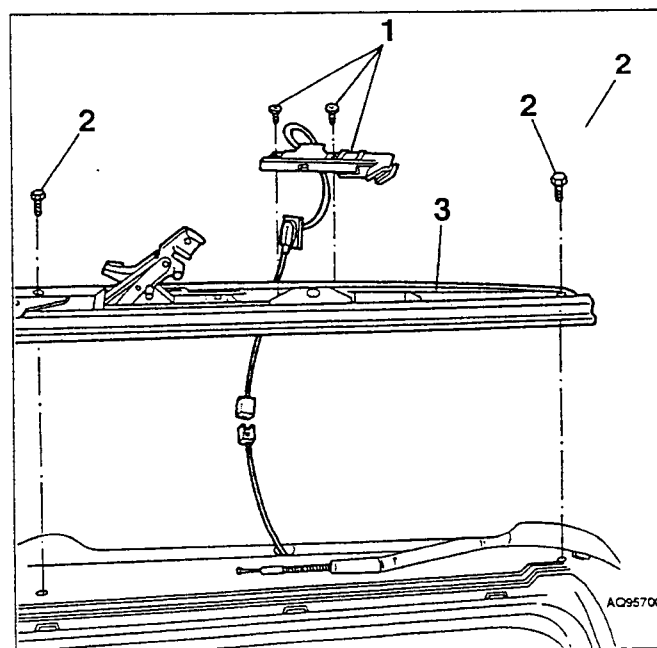
POSITIONING THE SUNROOF CONTROL SYSTEM

- Move the front runner to the foremost position.
- Position the rear runner so that the pin of the safety microswitch (left guide) or the hole (right guide) coincide respectively with the switch or reference pin; this way the two guides will correspond perfectly.

GUIDES

REMOVAL/REFITTING

- Disconnect the battery negative pole (-).
 - Remove the sunroof glass (see specific paragraph).
 - Remove the sliding blind (see specific paragraph).
1. Slacken the two screws fastening the microswitch to the guide and remove it releasing the left rack.
 - Slacken the two screws fastening the cable clamp plate.
 2. Slacken the four screws fastening the guide to the frame.
 3. Remove the guides releasing them from the retainer clips of the centering device fastened behind the frame.



REFITTING

- Insert the right rack in the guide sheath.

NOTA: When the end of the rack is level with the drawing gear housing, check that it centres the second section of the guide. Once it is completely inserted, check that the elliptical head (A) is positioned in its housing sloping 45° towards the inside of the car.

1. Using a screwdriver, lever on the rail and release the mechanical stop limit blocking the runner located on the end part of the guide.
2. Withdraw the entire quarterlight lever unit from the guide and dis-assemble it.
3. Withdraw the mechanical quarterlight references.

