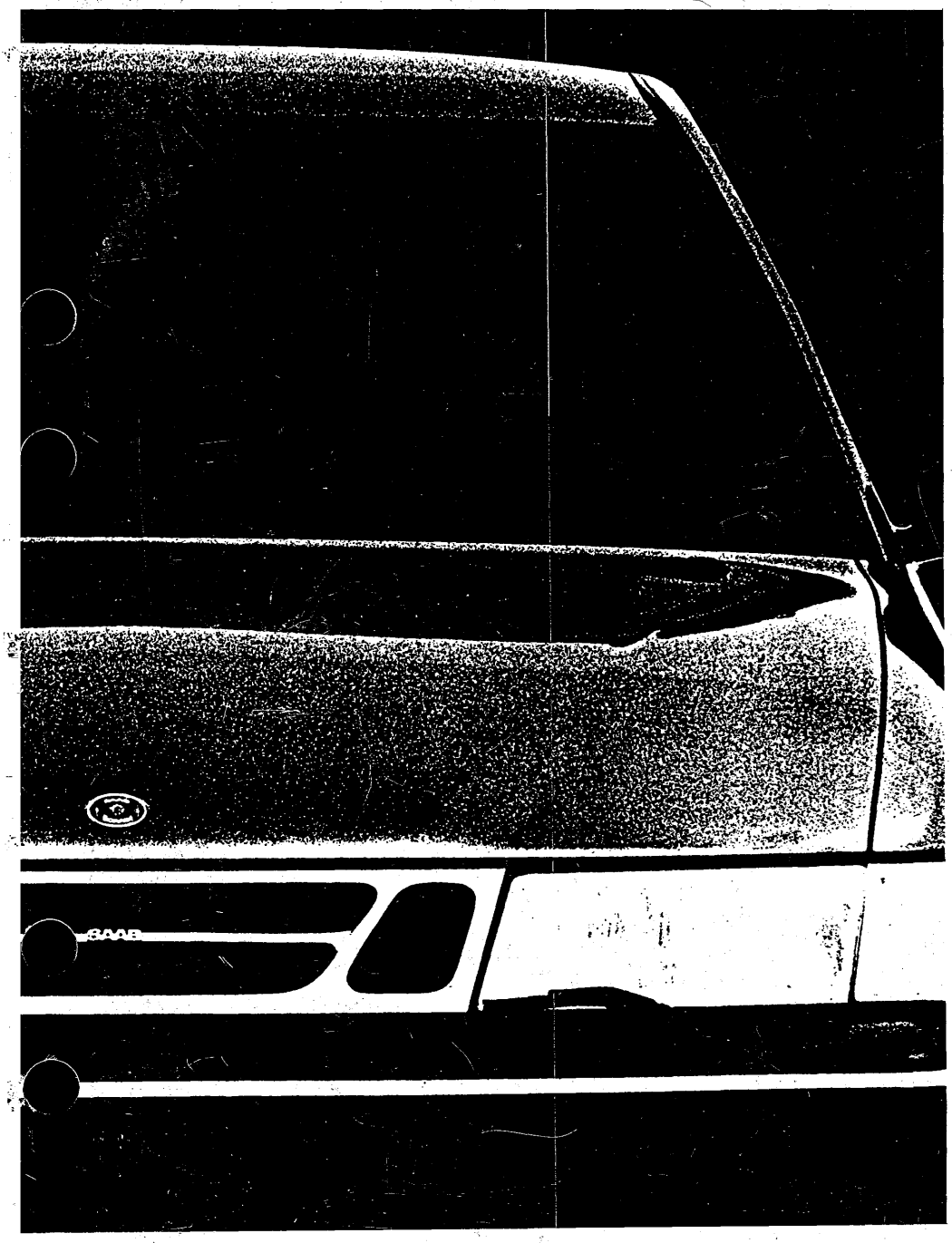
Saab 9000

Service Manual



M 1985-96-

ENG

8:2 Interior equipment

Saab 9000

SERVICE MANUAL

8:2 Interior equipment

M 1985–1996–

Foreword

This service manual replaces:

- Service manual 8:2 Interior equipment M1985–87–
- The text concerning Interia equipment in
  - News 9000 M1988
  - News 9000 CD M1988
  - News 9000 M1988B, 1989
  - News 9000 M1990
  - News 9000 M1991
  - News 9000 M1992
  - News 9000 M1993
  - News 9000 M1994
  - News 9000 M1995
- Service information 852–1360
- Service information 853–1592

All information and illustrations in the service manual are based on the version of the cars prevailing at the time of going to press. Model variants, technical data and equipment vary from market to market and may be subject to change without prior notice.

Saab Automobile AB

Warning, Important and Note

The headings "Warning", "Important" and "Note" occur from time to time in the Service Manual. They are used to draw the attention of the reader to information of special interest and seriousness. The importance of the information is indicated by the three different headings and the difference between them is explained below.

⚠ WARNING

Warns of the risk of material damage and grave injury to mechanics and the driver, as well as serious damage to the car.

Important

Points out the risk of minor damage to the car and also warns the mechanic of difficulties and time-wasting mistakes.

Note

Hints and tips on how the work can be done in a way that saves time and labour. This information is not supplied for reasons of safety.

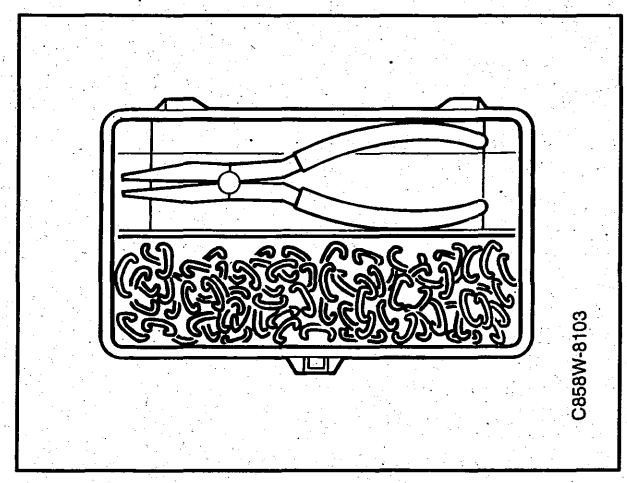
Market codes

The codes refer to market specifications

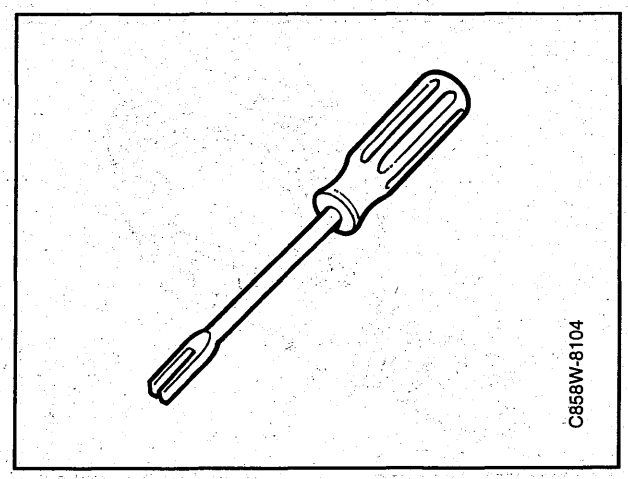
AT	Austria	GB	Great Britain
AU	Australia	GR	Greece
BE	Belgium	IS	Iceland
CA	Canada	IT	Italy
CH	Switzerland	JP	Japan
DE	Germany	ME	Middle East
DK	Denmark	NL	Netherlands
ES	Spain	NO	Norway
EU	Europe	SE	Sweden
FE	Far East	US	USA
FI	Finland	UC	US California
FR	France		

Production: Service Support, Saab Automobile AB, Trollhättan, Sweden

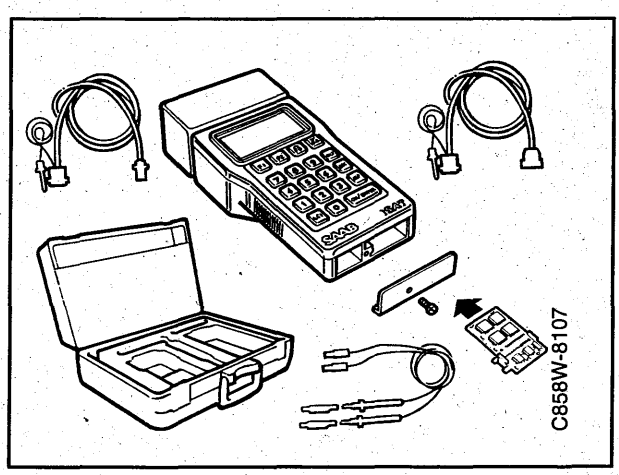
Special tools



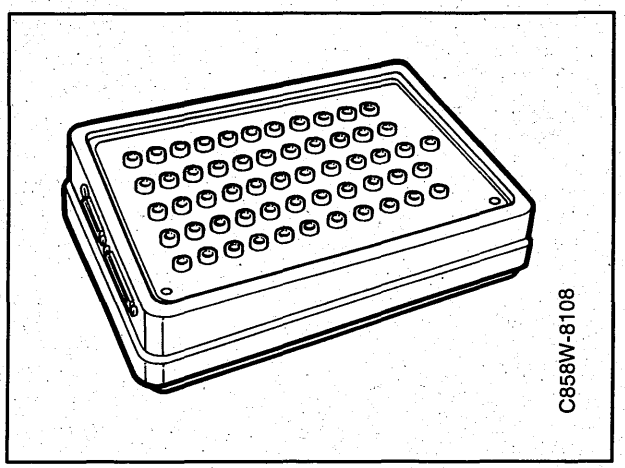
84 71 062 *Fitting kit, seat cover staples*



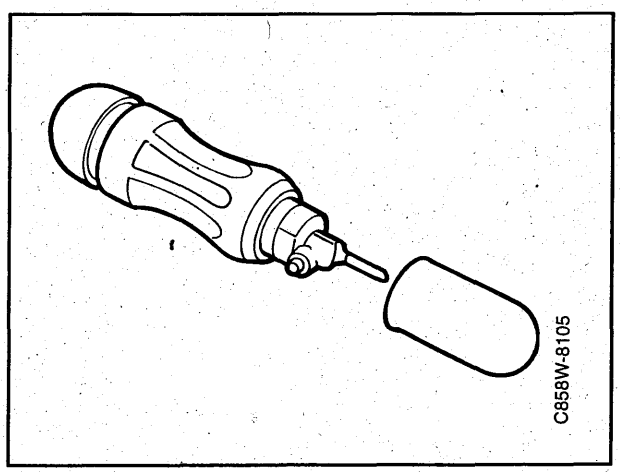
84 71 096 *Fitting tool, upholstery hook, wire*



86 12 012 *ISAT scan tool, kit*

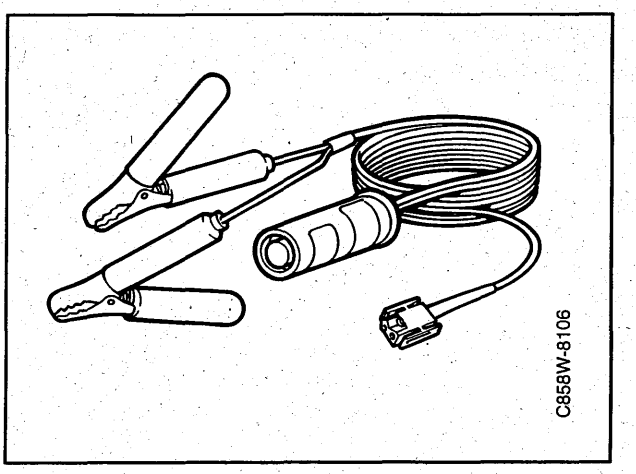


86 11 006 *Break–out–box (BOB)*

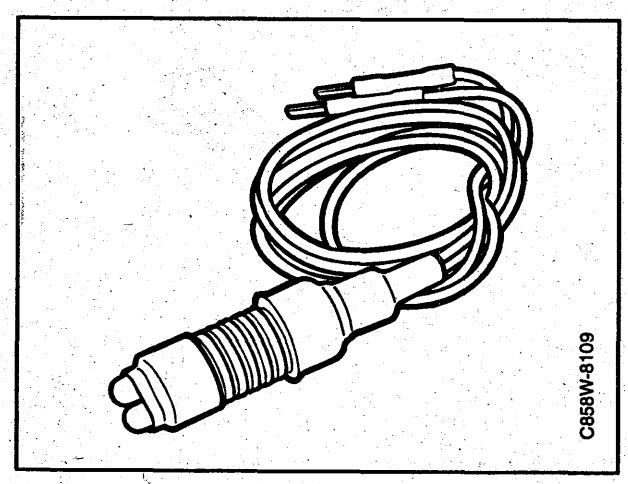


85 80 110 *Removal tool to unplug connectors, 5 piece kit*

85 80 128 *Spare tips*

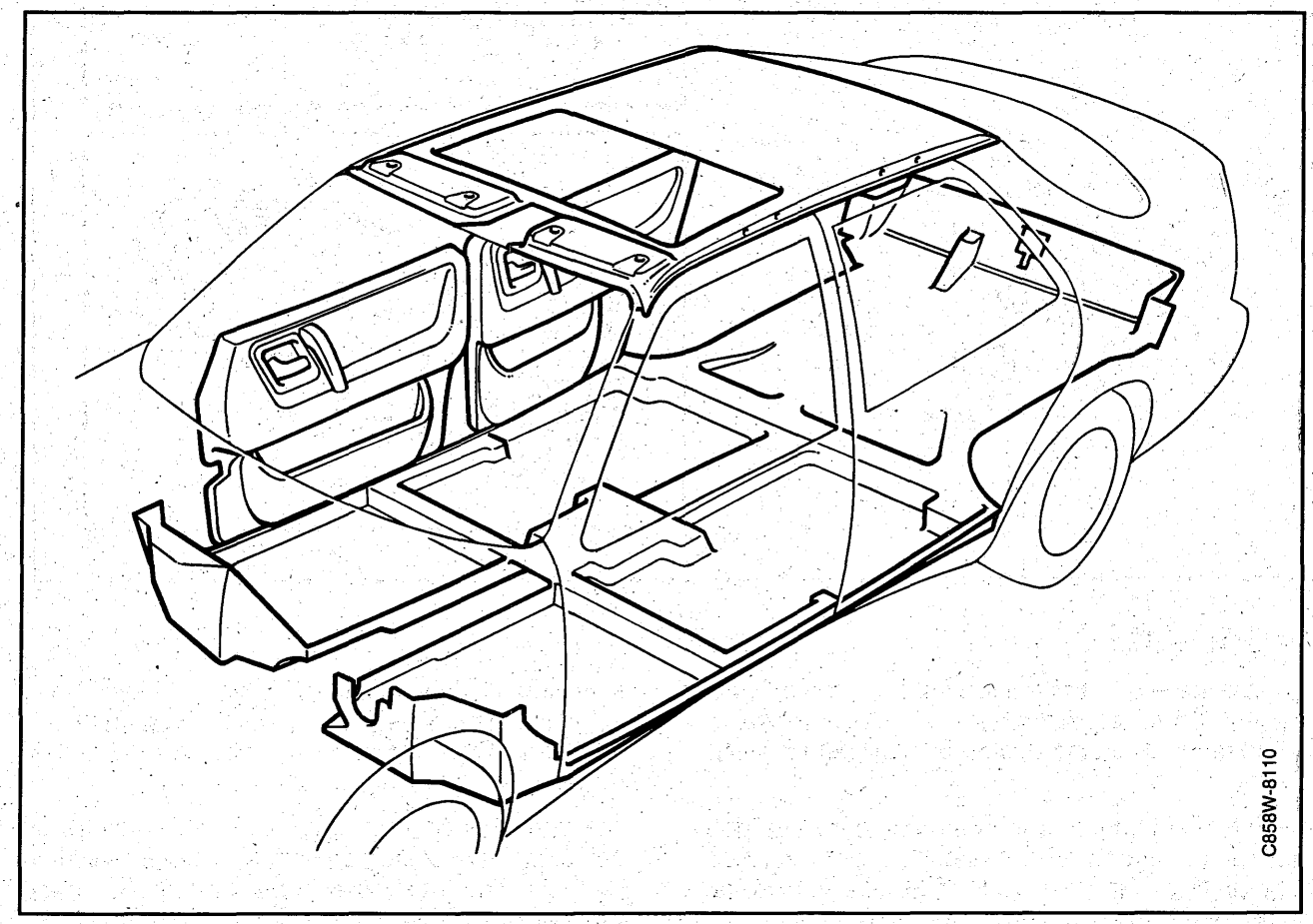


84 71 104 *Manual triggering device for scrapping airbags and seat–belt tensioners*



86 11 857 *Test lamp*

Technical description



Door trim

The door trim is constructed of moulded panels covered with plastic sheeting and fabric or leather.

Storage pockets are incorporated into all doors

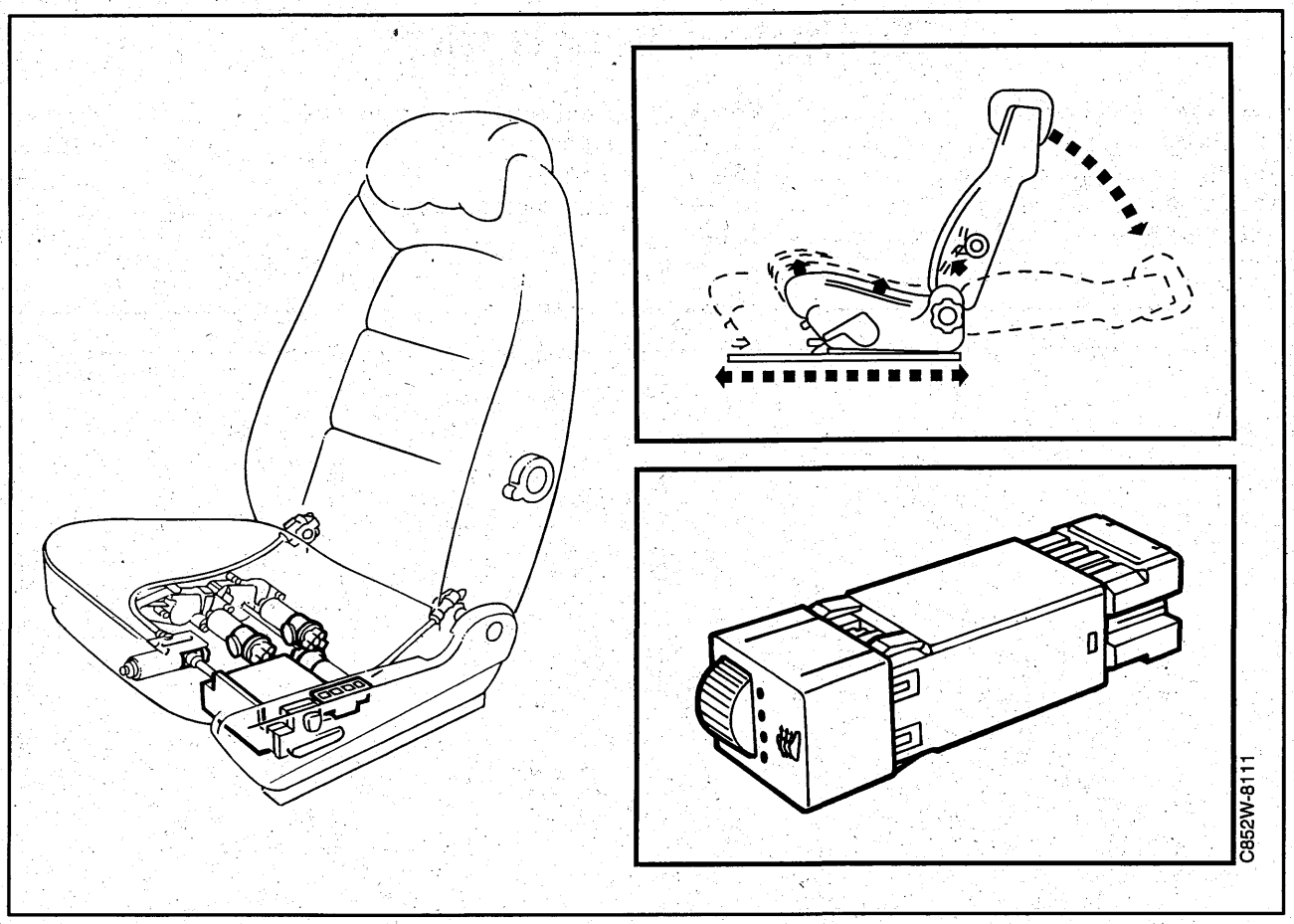
Headlining

The headlining is made of fabric covered fibre glass, that provides not only impact protection but also good thermal and acoustic insulation.

Carpeting

The floor is carpeted with is fitted up against the scuff plates and centre console.

Plastic scuff plates are fitted to the sills in the door openings.



Front seat

The seats are constructed around two pressed steel frames. These consist of a seat and a backrest, joined together by the backrest adjustment mechanism.

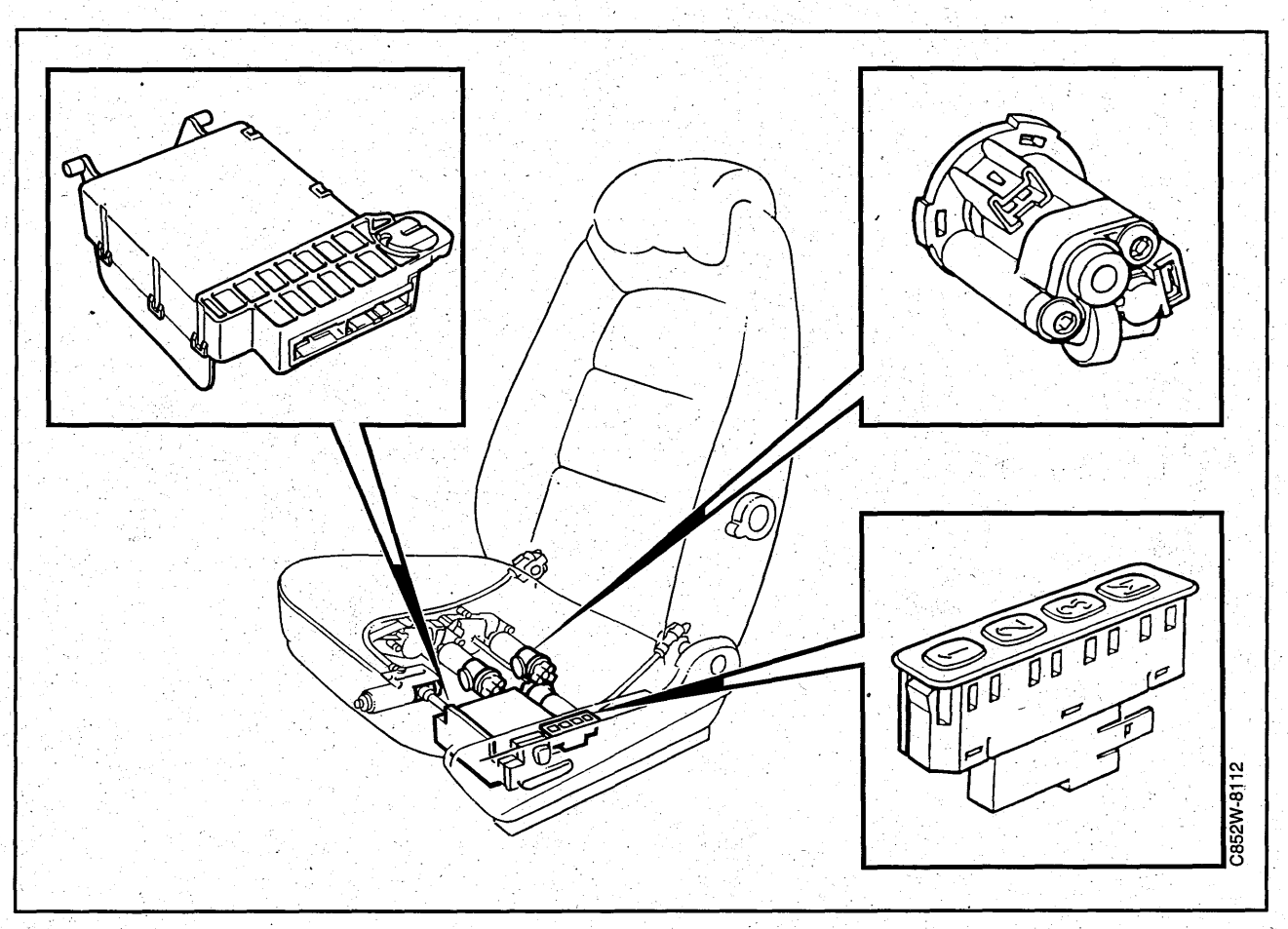
Two cross–members are incorporated in the front seat of the frame to prevent the seat occupant submarining in the event of a collision. Anchorage points for the seat belt are incorporated in the bottom of the seat frame.

The top of the backrest is reinforced to absorb impact forces on the head restraint.

The seat cushions are made of polyurethane polythene, upholstered in plush tricot or leather, and are supported by a flexible steel netting (pullmaflex), suspended from helical coil springs on either side.

The seat cushions and backrest cushions have electric heating pads that are switched on automatically when the temperature falls below +12°C and off at +28°C when the ignition is on.

The heat produced in the front seat, is from and including M87 able to be controlled with a switch on the facia. The thermostat in the cushion has been replaced by a thermistor that senses the temperature in the cushion. The thermistor sends information to the electronic control that has an integrated intergrated ralay responding to suitable temperatures. There are two types of heating pads, one for cars with leather trim and one for cars with fabric trim. The heating pads for leather trim have a longer reactivation time.



The following manual seat adjustments are possible:

Fore–and–aft 212 mm (12.5 mm/step
Elevation 45 mm
Head restraint 80 mm
Back rest inclination
Lumbard support hardness (only driver seat)
Height position for the head restraint (90 mm)
Driver seat front edge elevated/declined separately 18 mm

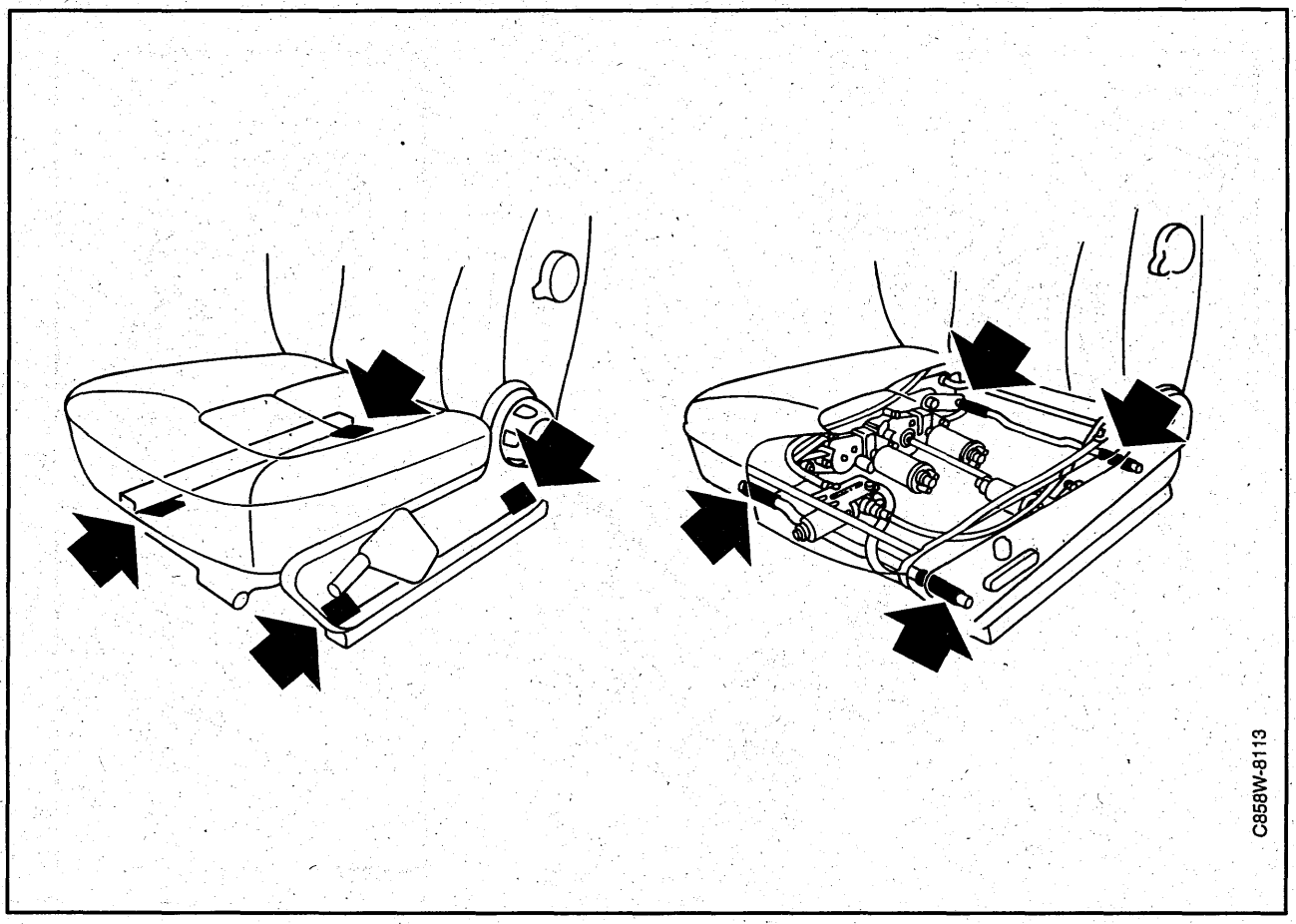
Electrically operated front seat

From and including M89 Saab 9000 can be optionally equipped with electronically operated driver and passenger seat.

From and including M94 it has become possible to operate the front seats without the ignition timing on if the respective front door is open. As a safety measure the seat can not be operated whilst the door is closed and the ignition timing is off. This hinders children possibly playing with the stool.

Electrically operated front seats with memory

Memory function is supplied as factory fitted optional extra for electrically operated front seats. The memory function make it possible to store three different seat position settings that the seat assumes automatically when the button for the particular setting is held in.



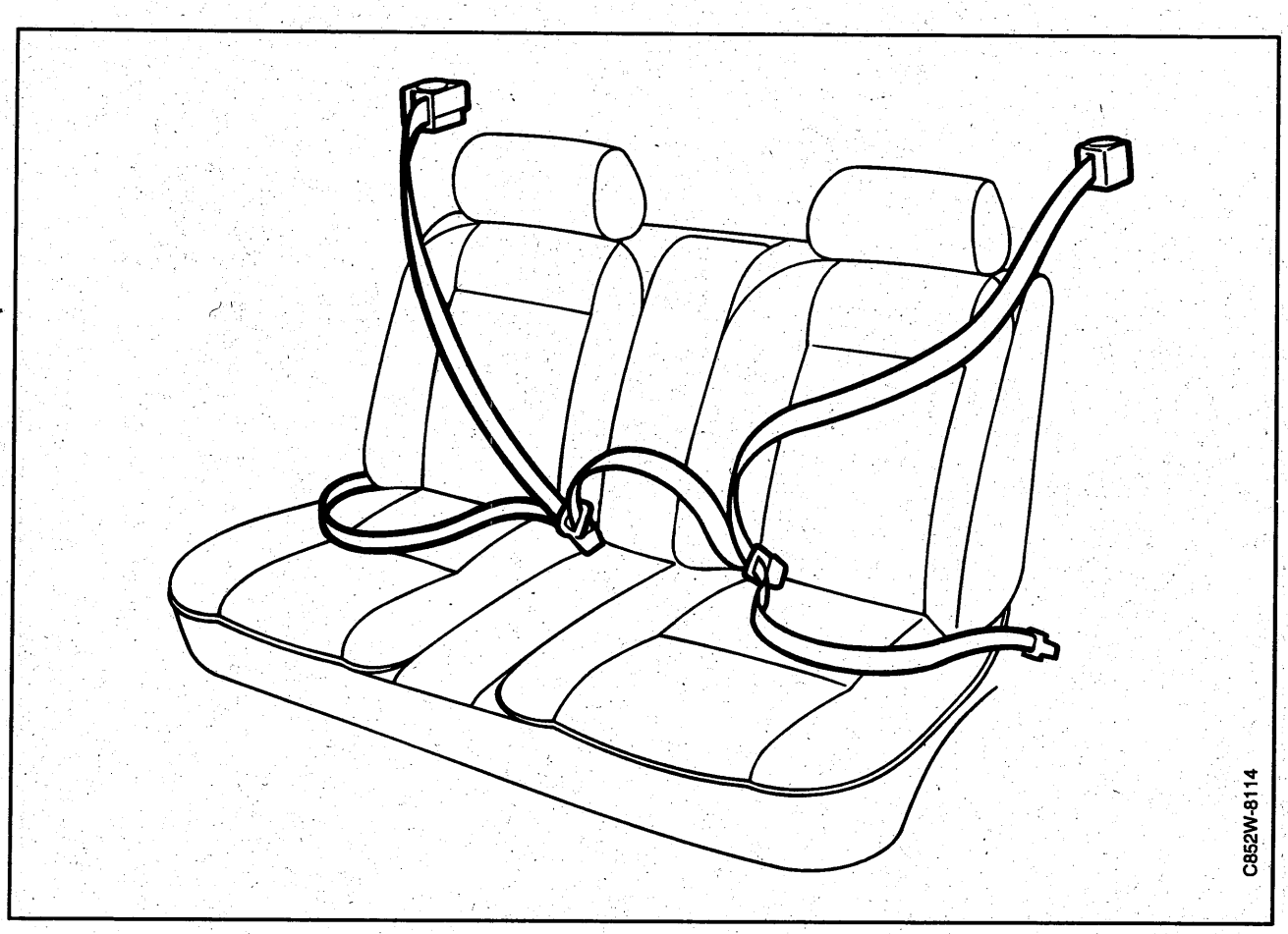
Child seat mounting

From<SP>and<SP>including Saab 9000 M93 all models are equipped with fixing points for child seats. Manually operated seats are equipped with two attachment lugs on each seat rail. On electrically operated seats there are four blue colour markings on the under carriage where the child seats should be fitted.

These fastening points are intended for child seats that are fastened to the seat chassis. Certain countries, as for example Australia and Canada, have special demands regarding the fitting of child seats.

Important

Always pay close attention to the fitting instructions before installing the child seat.



Rear seat

Saab 9000 CS and CC:
The rear seat is designed to allow three seating places. The seat and back cushions have a 60/40% division.

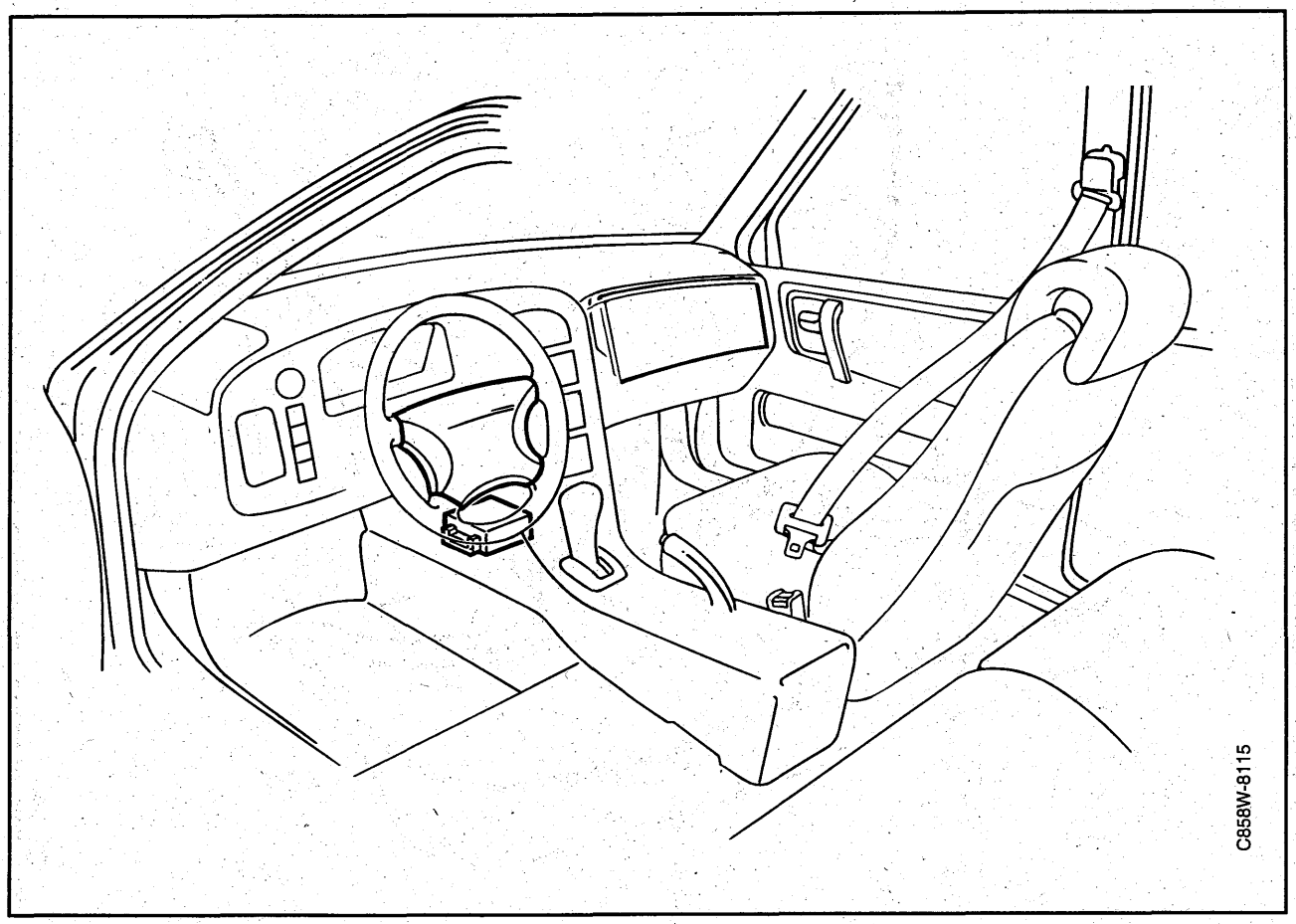
The seat cushions of a metal frame, upholstery bag and seat cushion consisting of a spring housing or polyurethane foam cushion. The back rest cushion units consist of a metal frame, polyurethane foam cushion and an upholstery bag. The 60% part back rest cushion is also with an arm rest and behind that there is a loading hatch integrated into the metal frame.

Saab 9000 CD:
The rear seat is designed to give three seating places. The seat and back cushions have no division.

Double guide points on the seat cushion make it easy to fold forward.

From and including M94 All foam rear seat cushions were introduced instead of spring housings, excluding Aero.

From and including M96 the Aero type rear seat is offered as an optional extra on the CD and CDE.

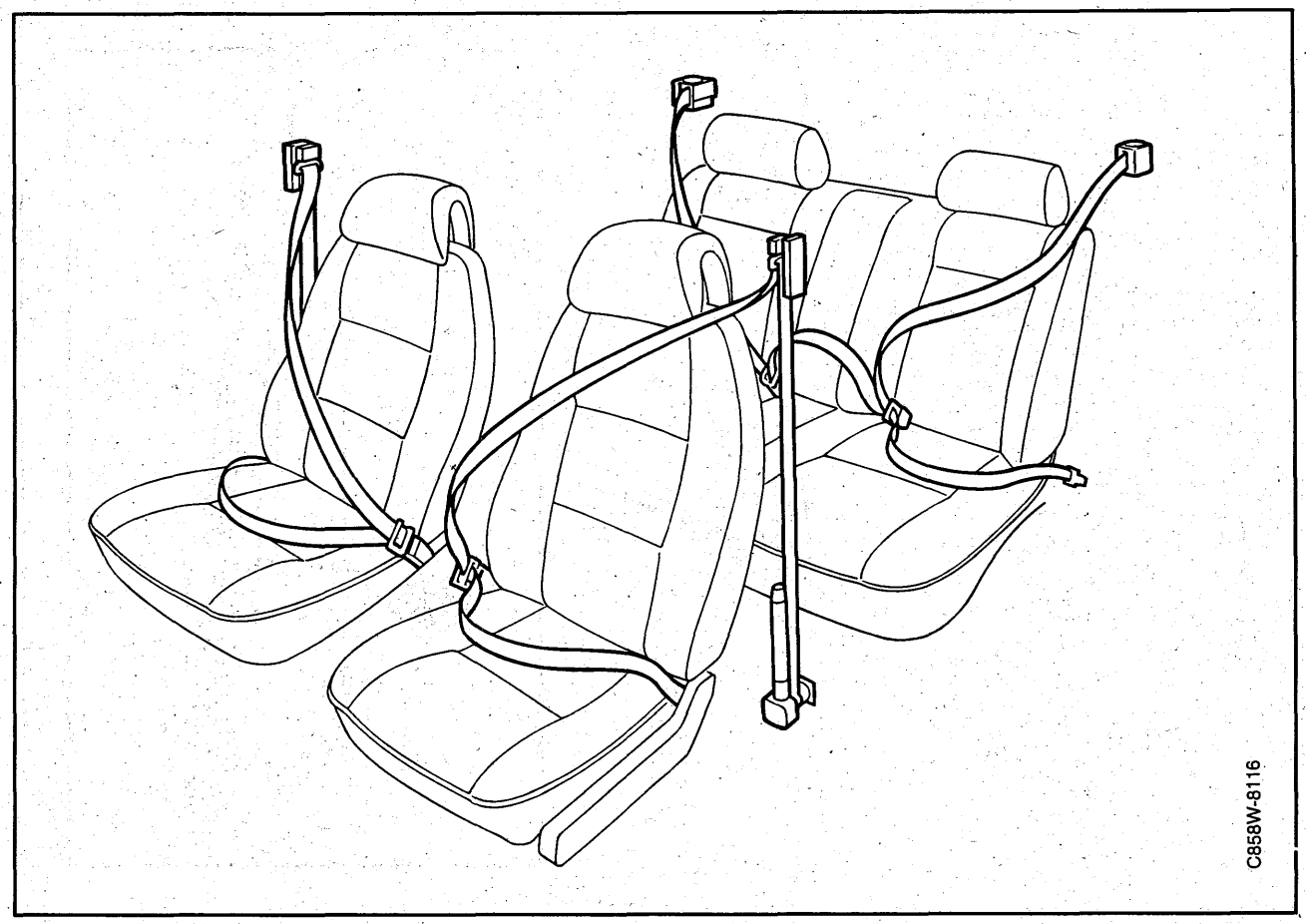


Facia

The facia is constructed on a 0.7 mm thick metal frame. The frame is covered with plastic film. Between the film and the frame polyurethane foam is injected that sets and becomes energy absorbent.

The facia is curved so all the controls and switches are easily accessible from the driver position.

The upper part of the facia can be easily removed for possible service work.



Seat belts

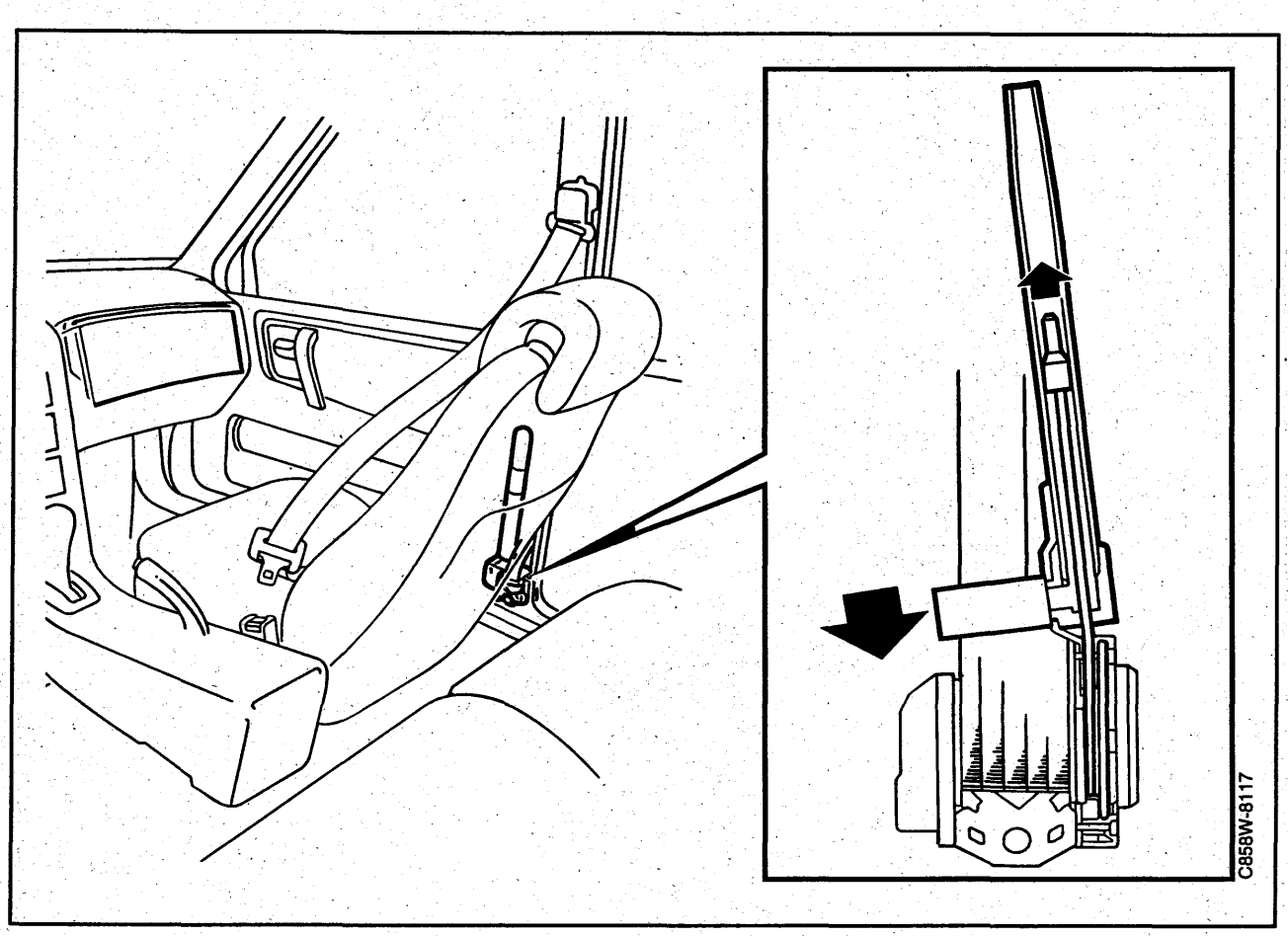
The front three point seat belts are can be operated with one hand.

The front seat belt inertia reels are fitted to the bottom of the B pillars. The top anchorage point (strap guide) on the B pillar has four height adjustment settings, with a range of 100 mm. The advantage of this is that shorter persons have the belt in a comfortable position and not against the kneck.

The anchorage points for the lap strap and the buckle lock are fitted to the seat frame. The buckle is therefore always in the same relative position to the seat, regardless of whether the seat is in the fore or aft position. The advantage of this is the lap strap always maintains in the same position and it decreases the risk for submarining under the strap.

The rear seat belts are of the three point type for the seating positions. The centre seating position has a lap strap.

The belt buckle locks will automatically return to their regular positions when the seat is folded up after being folded down (estate position) to give a greater luggage space.



Seat–belt tensioners

The purpose of the seat–belt tensioner is to take up the slack in the belt in the event of collision, thereby reducing forward movement of the body

The belt tensioner device has an explosive charge, detonated by a sensor. When the charge is detonated, high pressure gas drives a piston up inside a an aluminium tube. The piston is connected by a steel cable to the seat belt reel. The piston has a 180 mm stroke that is the maximum amount of slack that can be taken up in the seat belt.

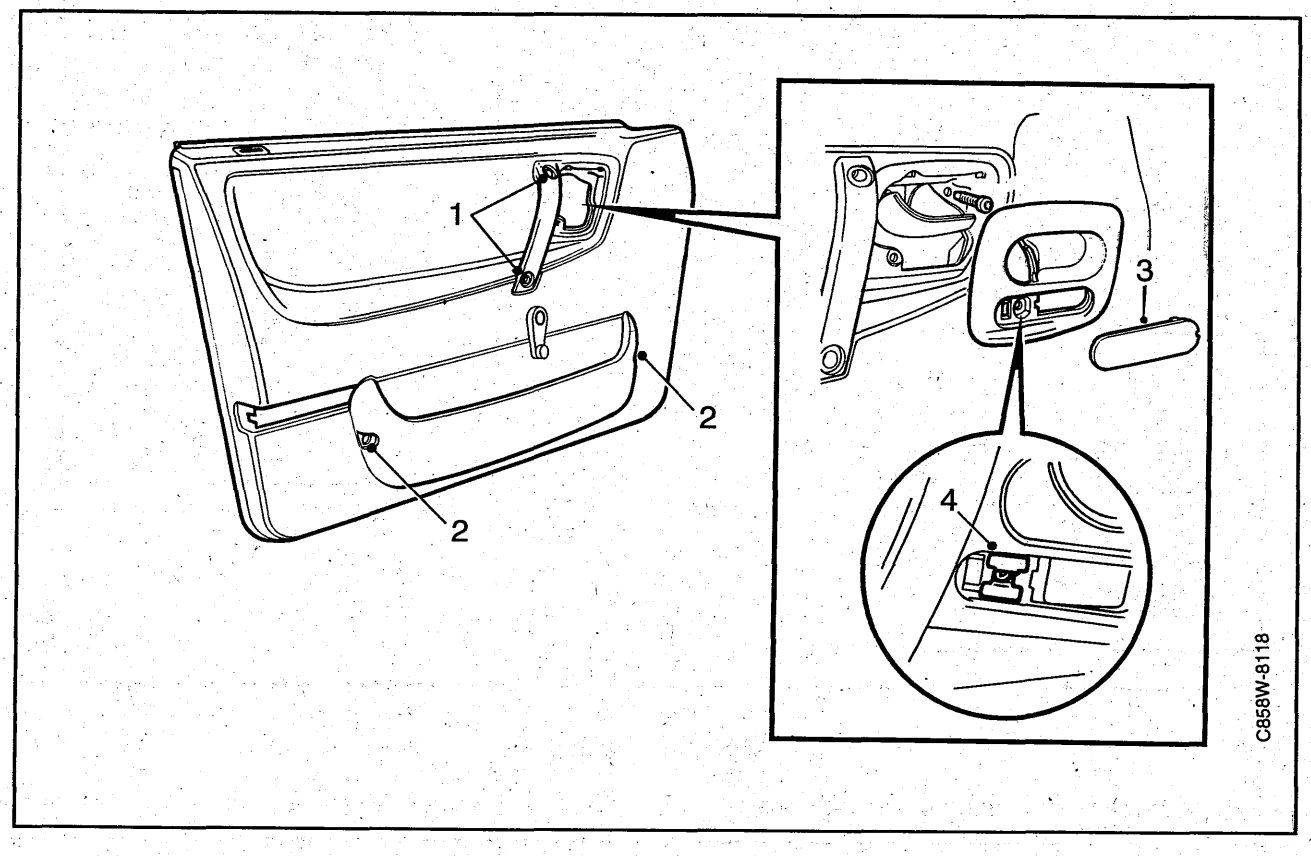
The electronic sensor has been adapted to the Saab 9000 through crash testing.

To activate the seat–belt tensioner a retardation corresponding to a head–on collision with a crash barrier at a speed of 18 km/h is required. If the collision occurs at an angle a higher speed is required for the seat–belt tensioner to be activated. The seat–belt tensioners is not if the car is driven into from the side or back (shunted) or if the car is rolled.

To avoid the seat–belt tensioner activating during removal/fitting and transportation it is fitted with a safety catch operation.

Trim

Door trim, front and rear doors



Removal

1 Remove the rubber plugs and screws at the door pull.

2 Remove the plastic plugs and screws on the door storage pocket.

3 **Front driver side door with electrically operated rear–view mirror:**
Pull the rear–view mirror side selector switch and remove the seal. Insert a screwdriver and press the pawl forwards.

Unfasten the connectors and remove the switches.

Front door with manually operated rear–view mirror, front passenger side door and also the rear door:
Insert a screwdriver in the front edge and prise out the panel.

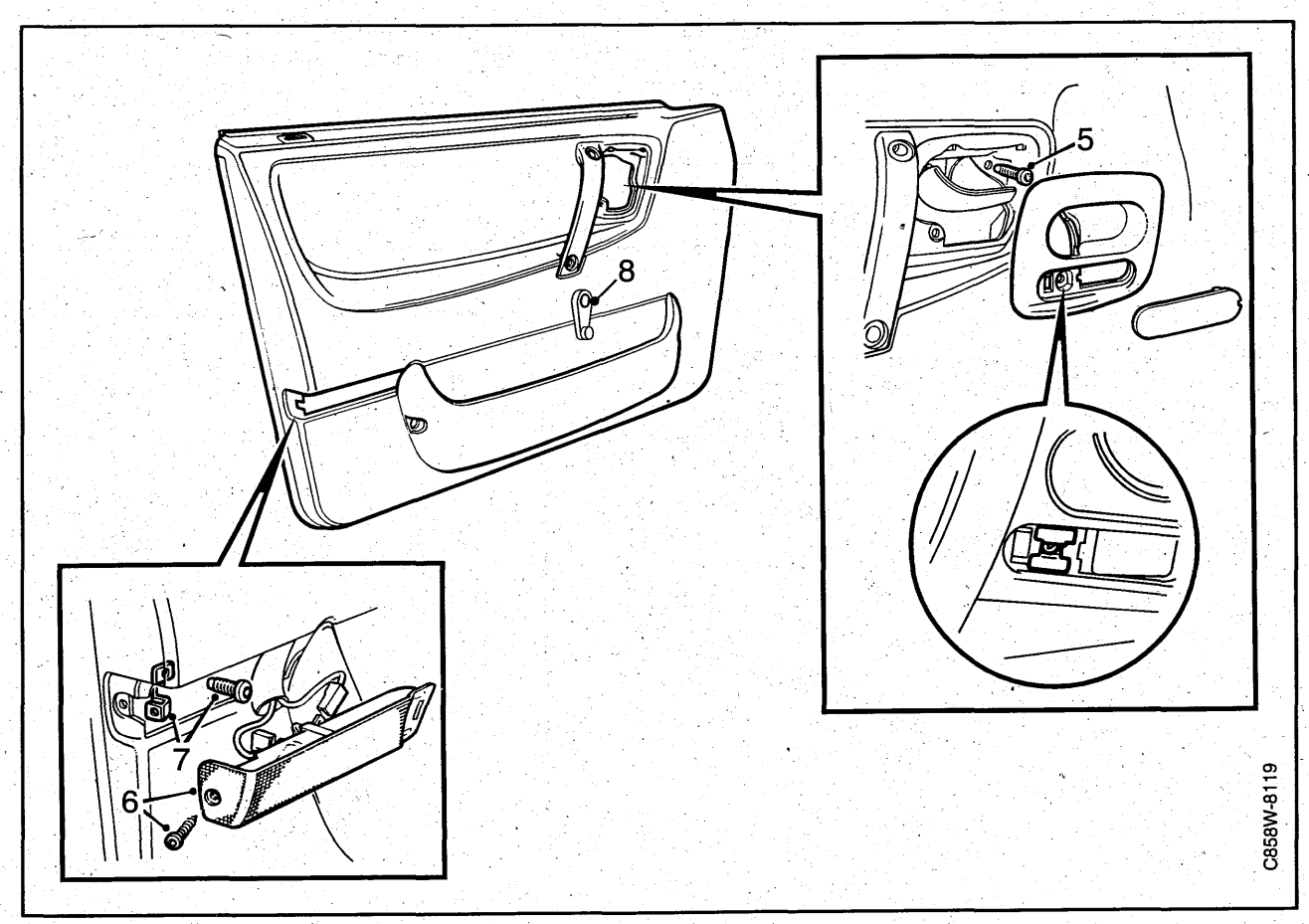
4 Remove the screws located under the panel and lift away the fixing plate.

On cars with electrically operated rear windows the connectors to the electrical operation should be pulled apart.

Important

A washer has been introduced with the M87 to protect the fastening plate of the internal opening handle. The washer can also be fitted on earlier models.

Door trim, front and rear doors (cont.)



5 Remove the bolts located under the plate.

Important

From and including M92 the bolts under the plate have been discontinued.

6 Remove the courtesy light.

7 Remove the fitting bracket from behind the courtesy light

8 **On cars with manually operated window lifts:**
Unfasten the cover washer on the window lift crank. Undo the screw and remove the crank. Keep the spring washer from between the crank and the spindle

9 Remove the plastic clip on the underside of the door panel and lift off the panel together with the clamping strip.

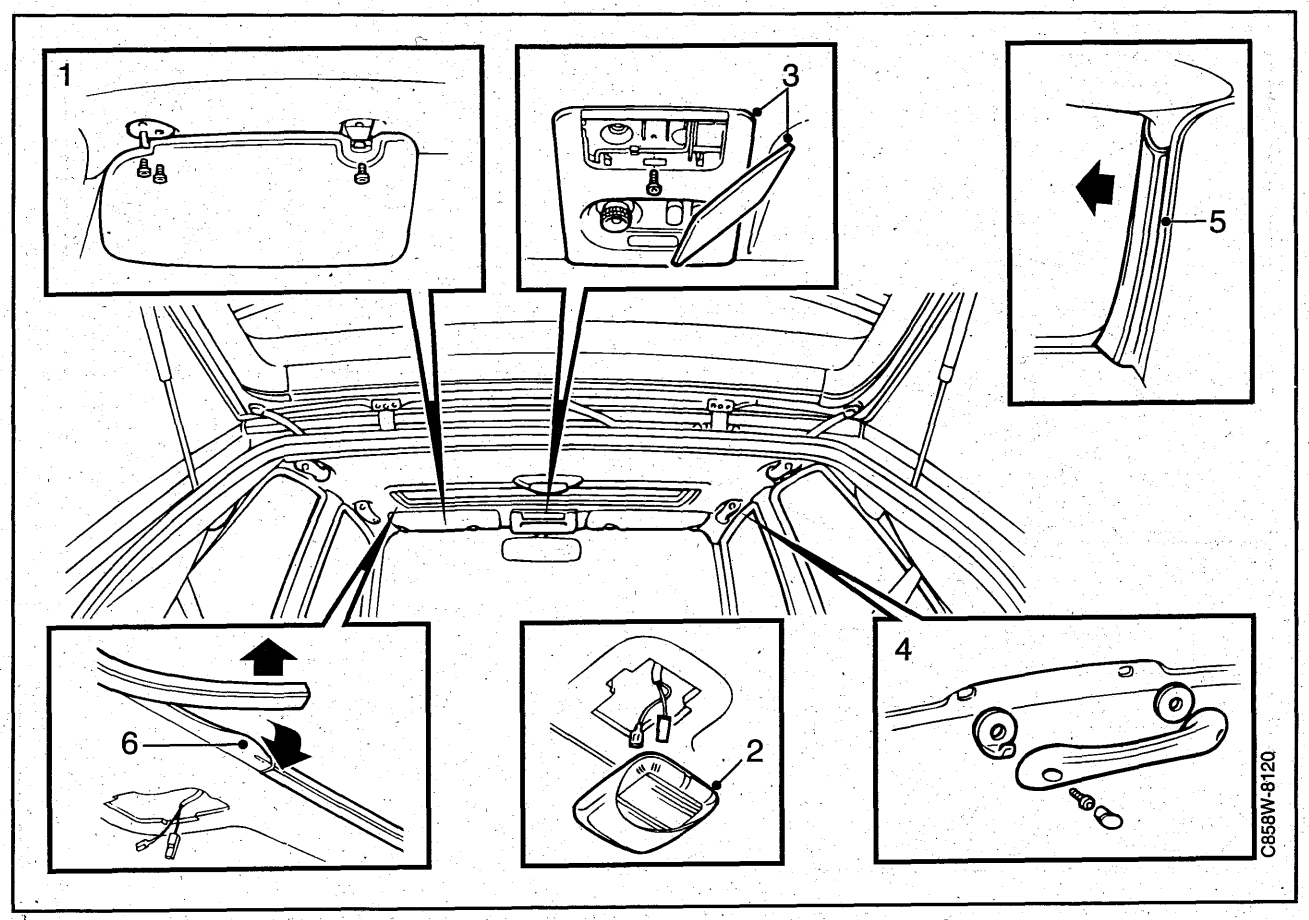
Fitting

Fit in reverse order.

Important

- Before fitting check that the nut piece sits correctly in the door.
- Take care when tightening the screws to the courtesy light, point 6, to avoid cracking the glass.

Headlining



Removal

1 Remove the sun visor and its mounting.

2 **Cars with sunroofs:**
Pull down the roof lighting lamp and pull the connections apart.

Cars without sunroofs:
Remove the cover glass on the roof lighting and unfasten the screws. Pull down the lamp and pull the connections apart.

3 **Cars with sunroofs:**
Remove the sunroof motor access cover from the roof console. Remove the screws and pull the roof console down.

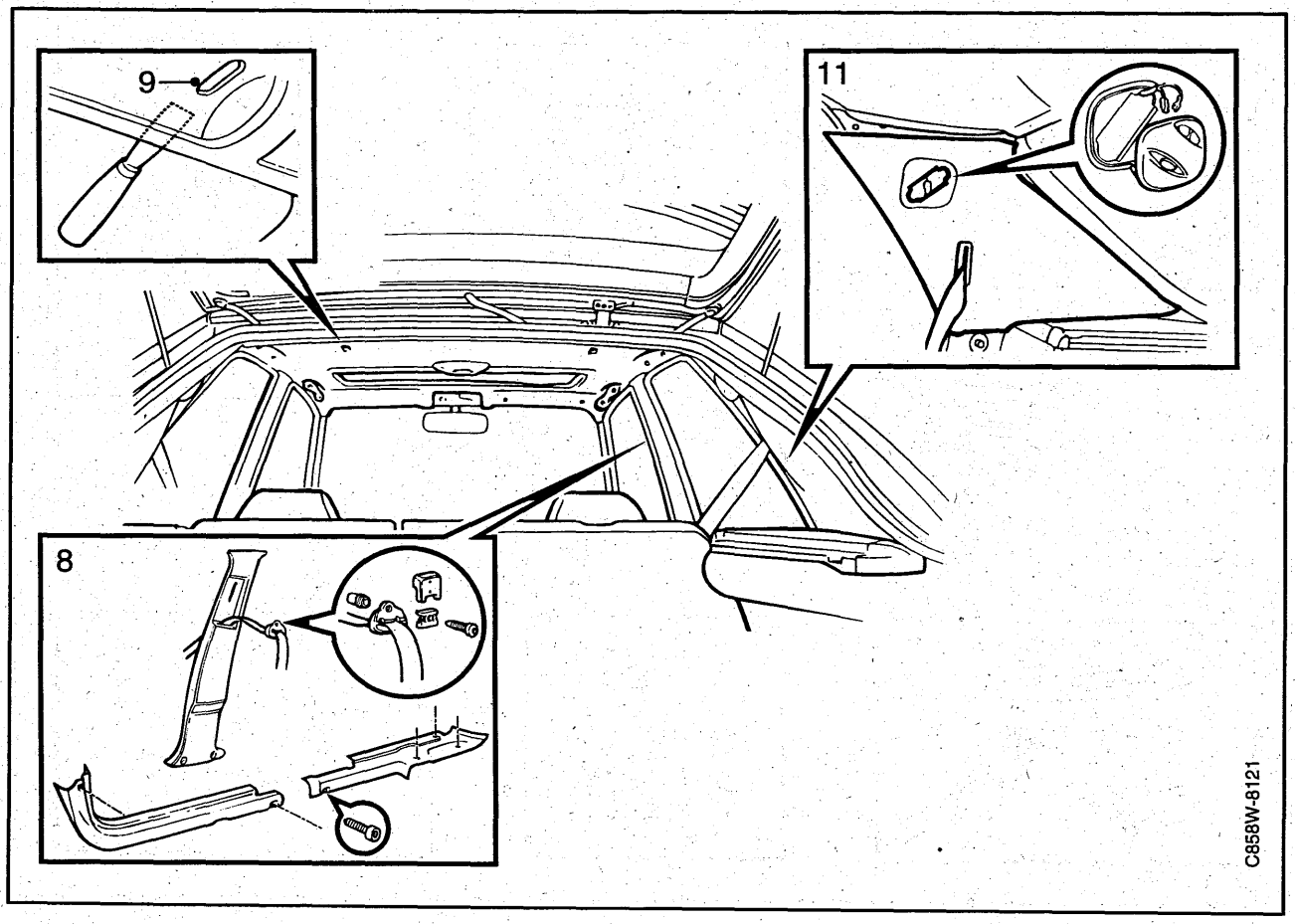
Cars without sunroofs:
Remove the cover and screws from the roof console. Pull the roof console down.

4 Remove the courtesy handles from above the doors and the cover if the courtesy handles are missing.

5 Remove the A pillar trim, see page 851–22

6 **Cars with sunroofs:**
Remove the strip from around the sunroof and unfasten the trim from the opening.

Headlining (cont.)



Note

To be able to change the headlining B and C pillar trims must be removed on one side of the car. In this description this is carried out on the right–hand side, but on right–hand drive cars it must be undertaken on the left–hand side.

7 Slide the right front seat forwards as far as possible and fold the back support forwards.

8 Remove the B pillar trim on the right–hand side, see page 851–22 to and including point 5. It is important that the belt is not removed.

Put the B pillar trim to one side.

9 **Saab 9000 CC and CD:**
Remove the plastic plugs that retain the rear edge of the roof trim.

Saab 9000 CS:
Snip off the clips securing the roof trim at the rear edge.

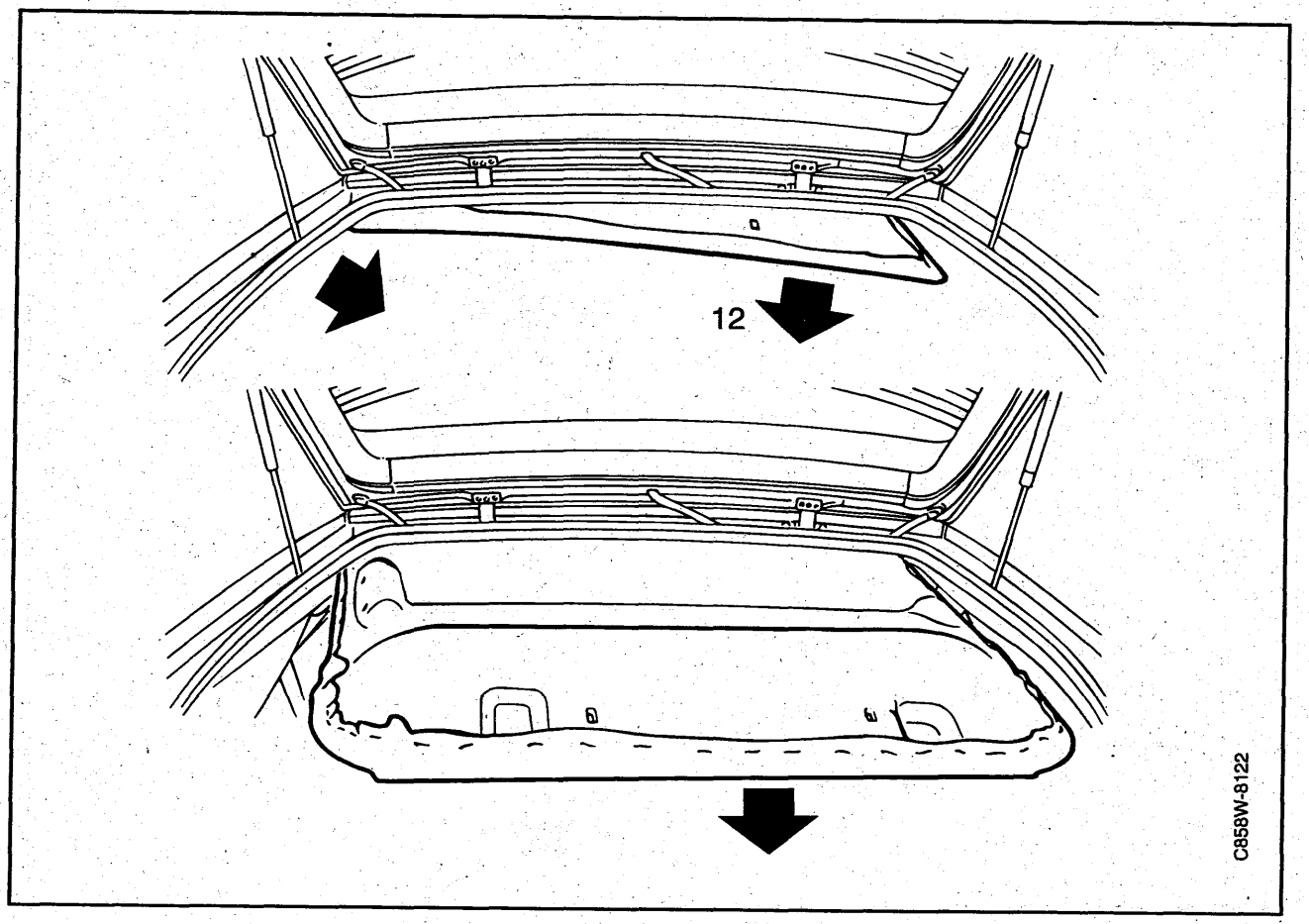
Saab 9000 CC and CS:

10 Liberate the roof trim from the door trim seals on the right–hand side.

11 Remove the C pillar trim on the right–hand side, see page 851–23

It is important that the seat belt mouldings are not unscrewed. The C pillar trim should be drawn long–ways down the safety belt.

Headlining (cont.)



Saab 9000 CC and CD (jatkoa):

12 Carefully bend down the headlining on the right–hand side and free it from the B and C pillar trim on the left–hand side.

13 the headlining out through the luggage compartment hatch.

Saab 9000 CD:

14 Slide the passenger seat back into position. Fold te backrest of the seat backwards.

15 **Cars with manual gearbox:**
Place in first gear.

Cars with automatic transmission:
Place the selector lever in the P–position.

16 Liberate the roof trim from the door trim seals on the right–hand side.

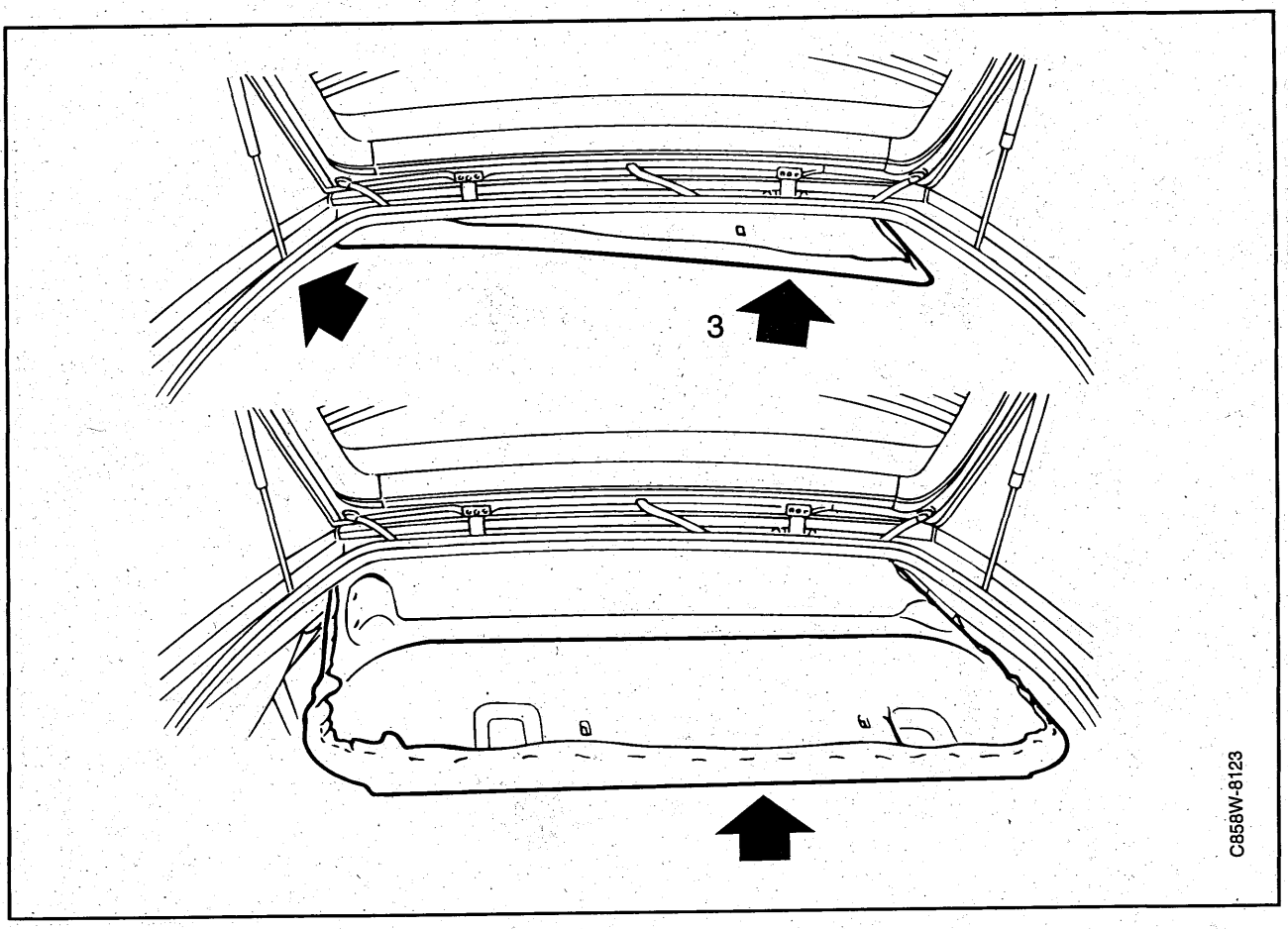
17 Lift out the headlining by unfastening the roof at the spotlight panel and pull down the front edge.

Unfasten the roof from the left–hand B pillar trim. Pull the roof forwards so that it is released from the trim at the C pillar.

A co–worker is needed to assist when the headlining is lifted out of the car.

18 Remove the roof through the front passenger door.

Headlining (cont.)



Fitting

Saab 9000 CC and CS:

1 Lift the headlining into the car and let it rest on the spotlight console.

2 Pull out the electrical cable for the roof lighting.

3 Press in the headlining above B and C pillars and also the door trim seals on the left–hand side.

Saab 9000 CD:

1 Lift in the roof as follows:

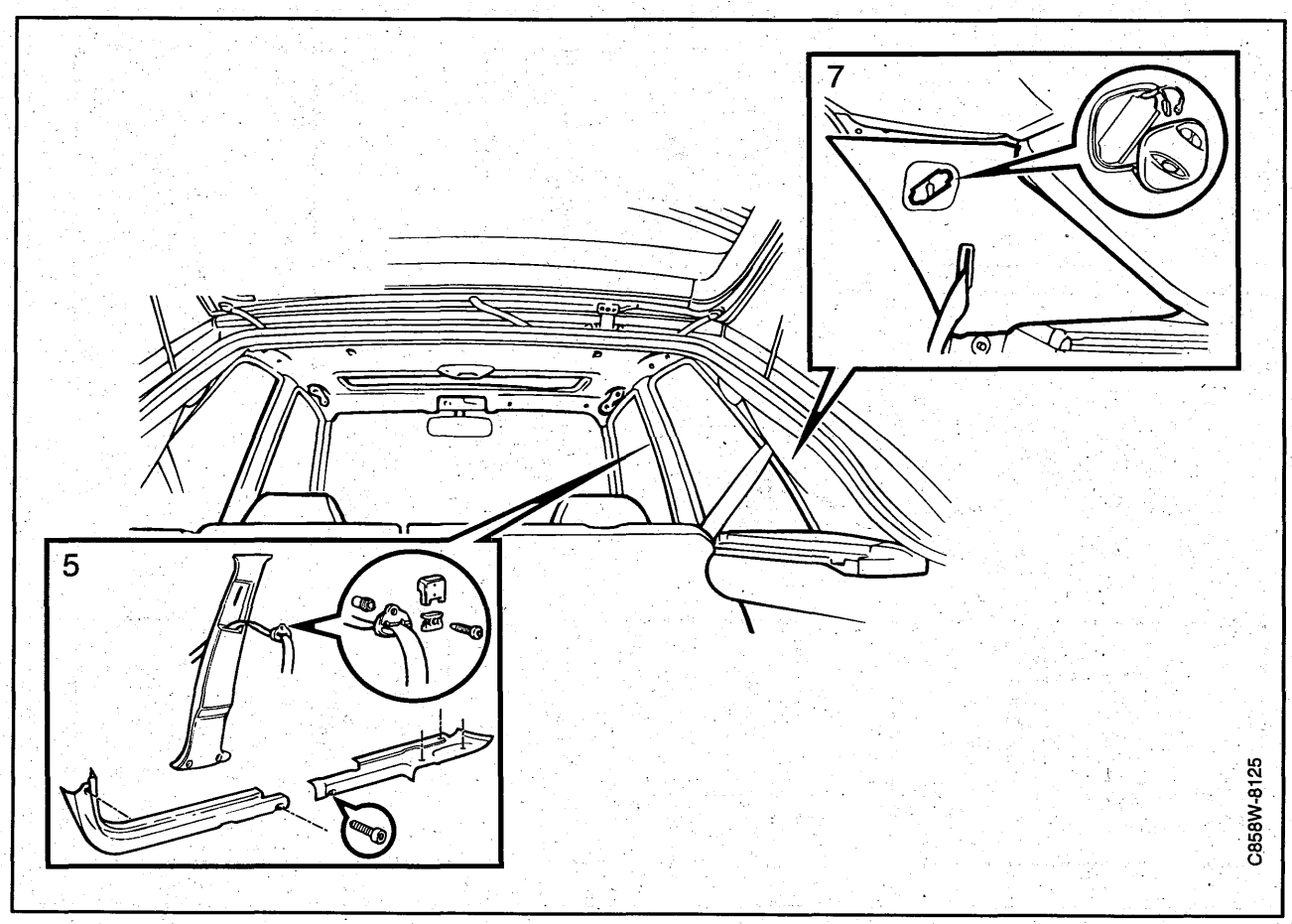
When lifting in the roof the assistance of a co–worker may be necessary.

Lift in the roof through the front passenger door. Slide the roof in position at the C pillar trim. Pull out the electrical cables for the roof lighting.

2 Support the headlining on the left–hand B pillar.

3 Fit the headlining at the overhead switch panel.

Headlining (cont.)



4 **Saab 9000 CC and CD:**
Fit the plastic plugs back into position.

Saab 9000 CS:
Press the back edge of the headlining into place with new clips.

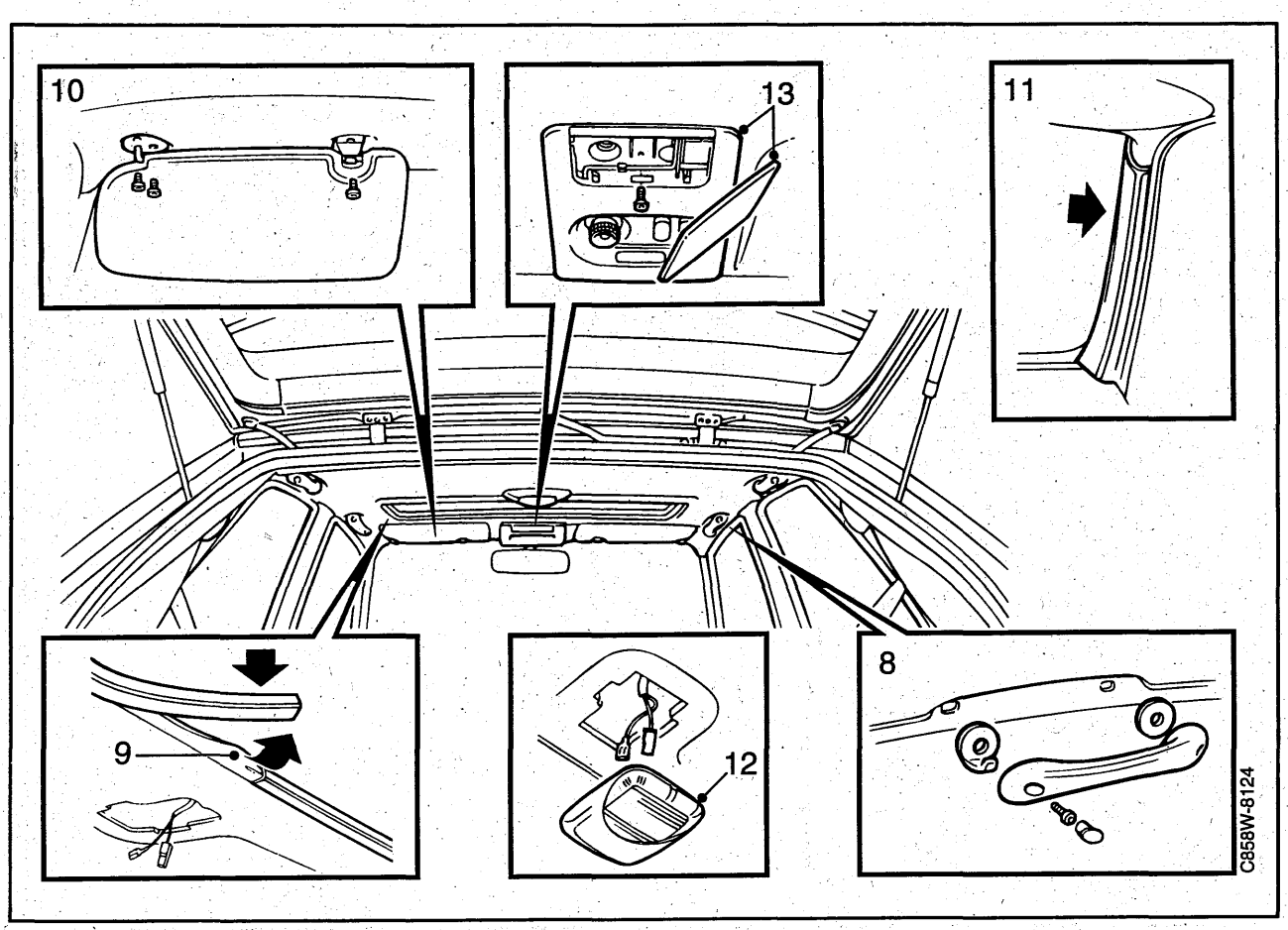
5 Fit the B pillar trim, see page 851–22.

6 Refit the rear courtesy handles.

7 **Saab 9000 CC and CS:**
Fit the C pillar trim, see page 851–23.

Press the luggage compartment seals over the back edge of the headlining.

Headlining (cont.)



8 Refit the front courtesy handles or the covers if the car has no courtesy handles.

9 **Cars with sunroofs:**
Press the strip around the sunroof opening into place. Start in the middle of the rear edge. The moulding should be pressed in place so that the barbs are on the lower side.

Use the strip to lever the roof in around the flange in the roof opening.

10 Refit the sun visors and their mountings.

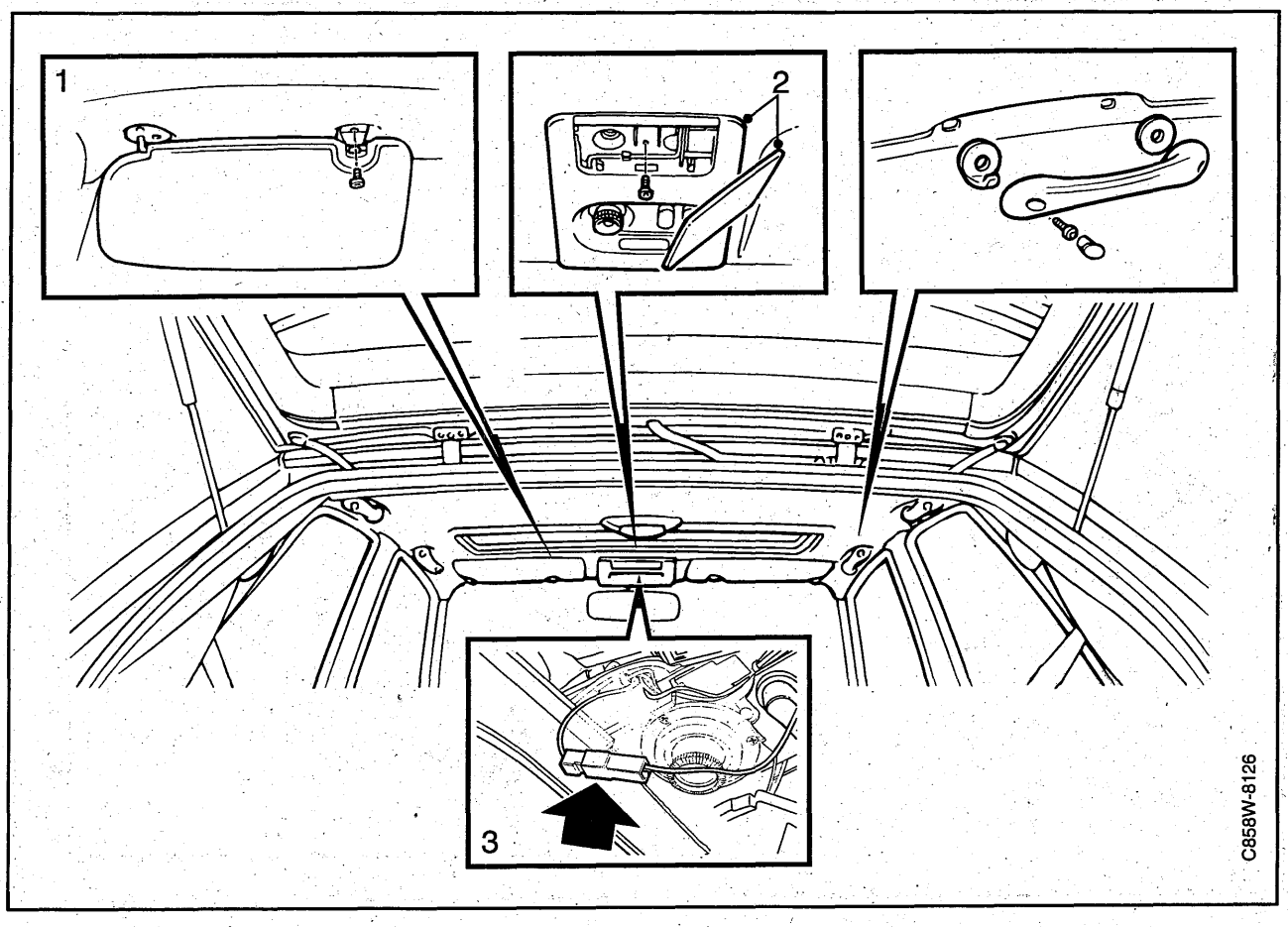
11 Fit the A pillar trims, see page 851–22.

12 Refit the roof lighting.

13 Refit the roof console and cover.

14 Fit the door trim seal.

Sun visor



Removal, courtesy handle

1 rrota tulpat pienen meisselin avulla.

2 Unscrew the retaining screws.

Fitting, courtesy handle

Fit in reverse order.

Removal, sun visor support

1 Move the cover out of the way and undo the screws.

Sun visor support with mirror lighting:

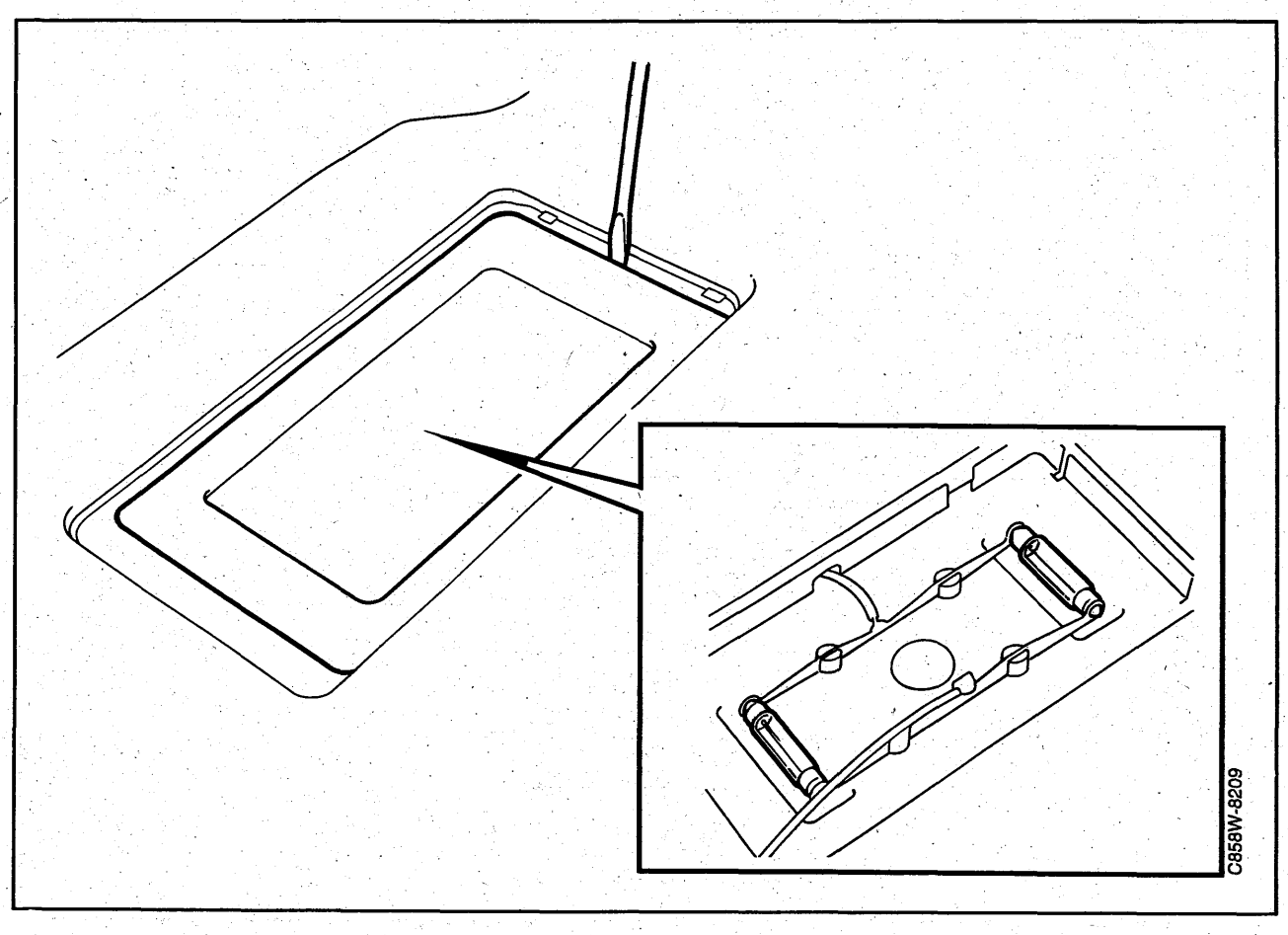
2 Remove the overhead switch panel surround.

3 Part the connectors. Feed through the cable and take away the support.

Fitting, sun visor support

Fit in reverse order.

Sun visor (cont.)



Removal, mirror lighting –M95 to change the bulb.

1 Remove the sun visor.

2 Open the mirror cover.

3 Insert a screwdriver in the plastic frame around the mirror. Carefully force the frame up so the plastic lugs are released from the sun visor.

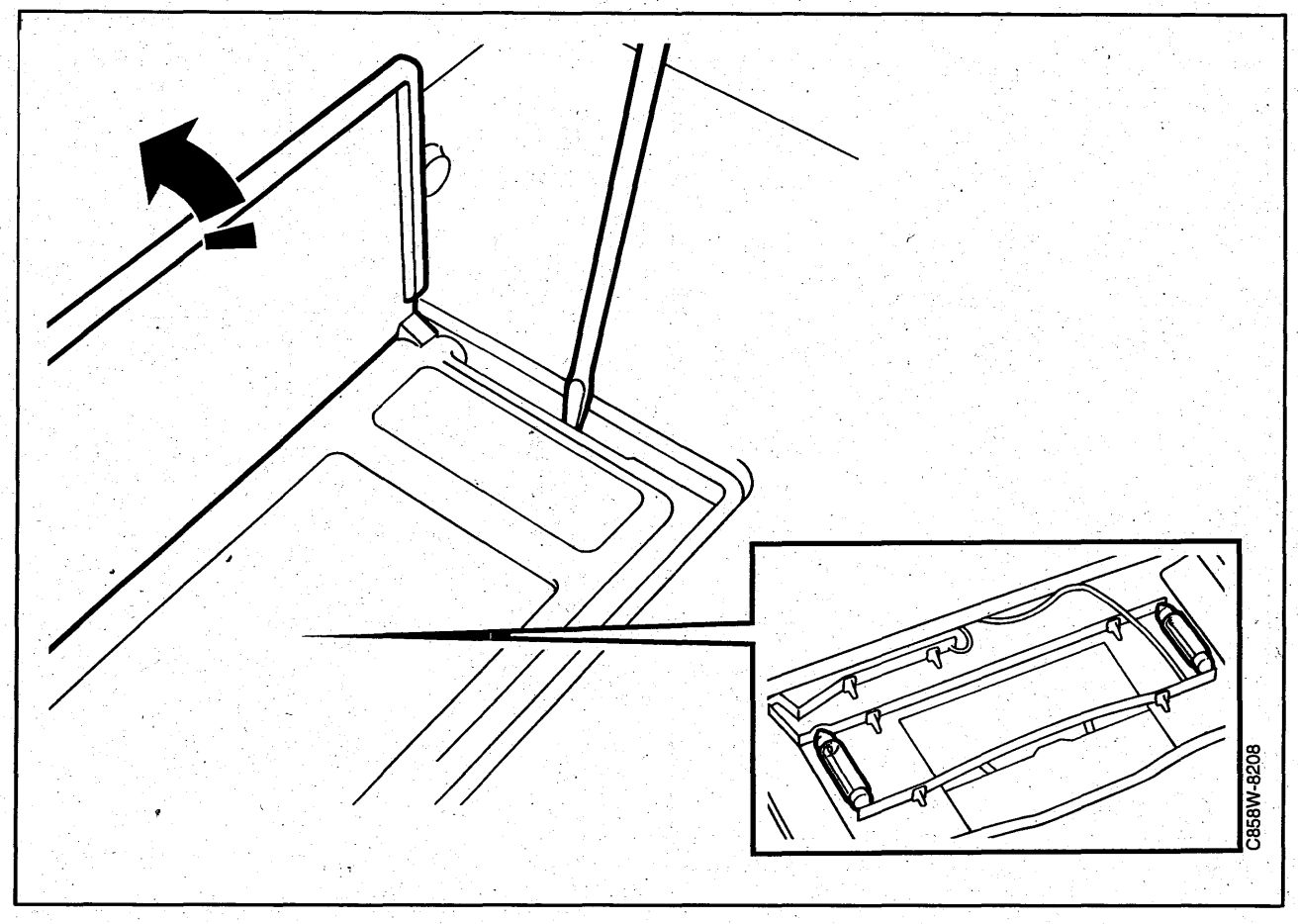
Pull the plastic frame sideways so the remaining plastic guides are released from the sun visor.

4 Change the bulb.

Fitting, mirror lighting –M95

Fit in reverse order.

Sun visor (cont.)



Removal, mirror lighting –M96 to change the bulb.

1 Remove the sun visor.

2 Open the mirror cover.

3 Place a screwdriver in the partition between the mirror frame and the frame on the sun visor.

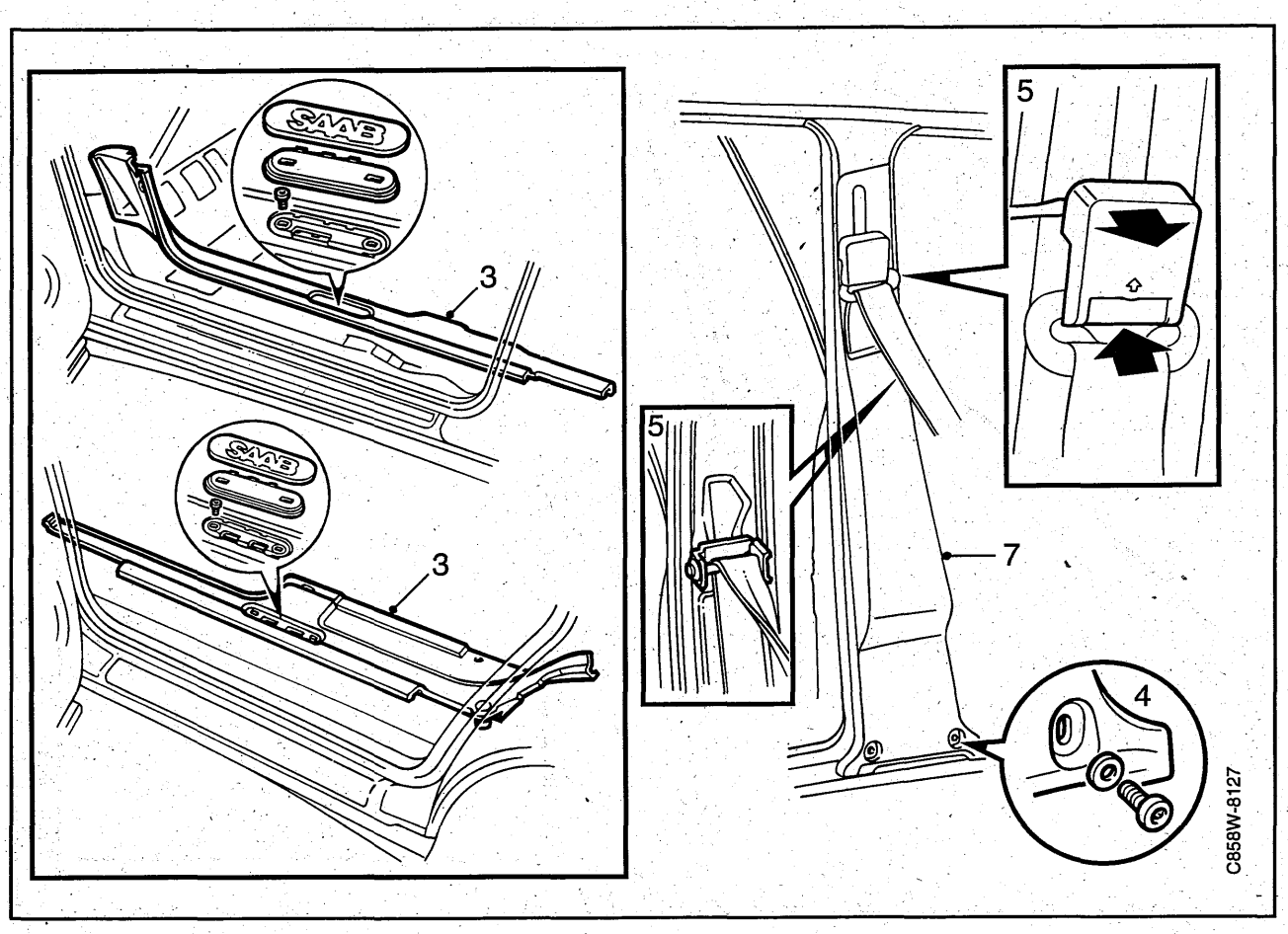
Carefully lever open the mirror frame so that the plastic teeth are released from the catches on the sun visor frame.

4 Change the bulb.

Fitting, mirror lighting –M96

Fit in reverse order.

Pillar trim



Removal, A pillar trim

1 Unfasten the door trim seal.

2 Remove the A pillar trim.

Fitting, A pillar trim

Fit in reverse order.

Removal, B pillar trim

1 Unfasten the door trim seal.

2 Remove the cappings from the front and rear scuff plates.

3 Screw the scuff plates loose and lift them out.

4 Remove the screws for the B pillar trim.

5 Remove the cover for the seat belt height adjustment by pushing it upwards so that the heel on the lower edge become liberated. Carefully lever the cover free with a chisel at the upper edge.

Unfasten the seat belt strap guide from the B pillar.

6 Remove the seat side panels and unfasten the seat belt from the seat.

7 Unfasten the trim from the upper part of the seat belt and thread the strap guide and belt tongue through the hole in the trim. Remove the trim.

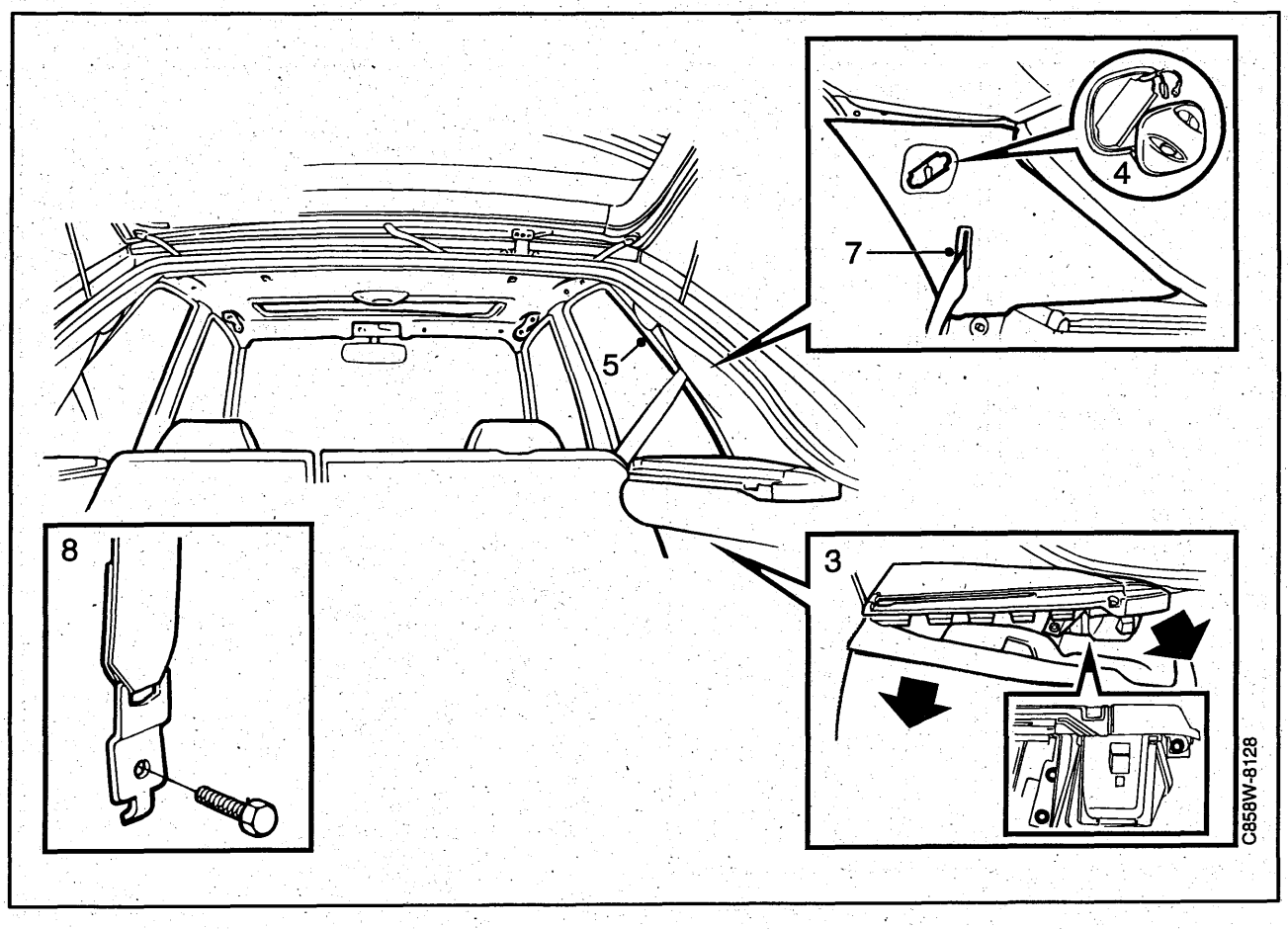
Fitting, B pillar trim

Fit in reverse order.

Important

The cover for the height–adjustment mechanism has two holes. Fit the screw for the seat belt strap guide through the round hole.

Pillar trim (cont.)



Removal, C pillar trim

Saab 9000 CC and CS:

1 Lift out the parcel shelf.

2 Fold down the backrest. Unfasten and fold away the luggage compartment trim covering the parcel shelf support.

3 Remove one nut and four screws. Bend out the parcel shelf support.

All Saab 9000:

4 Remove the reading light from the trim and unfasten the electrical connections.

5 Remove the door trim seal from the C pillar.

6 Unfasten the clips securing the trim.

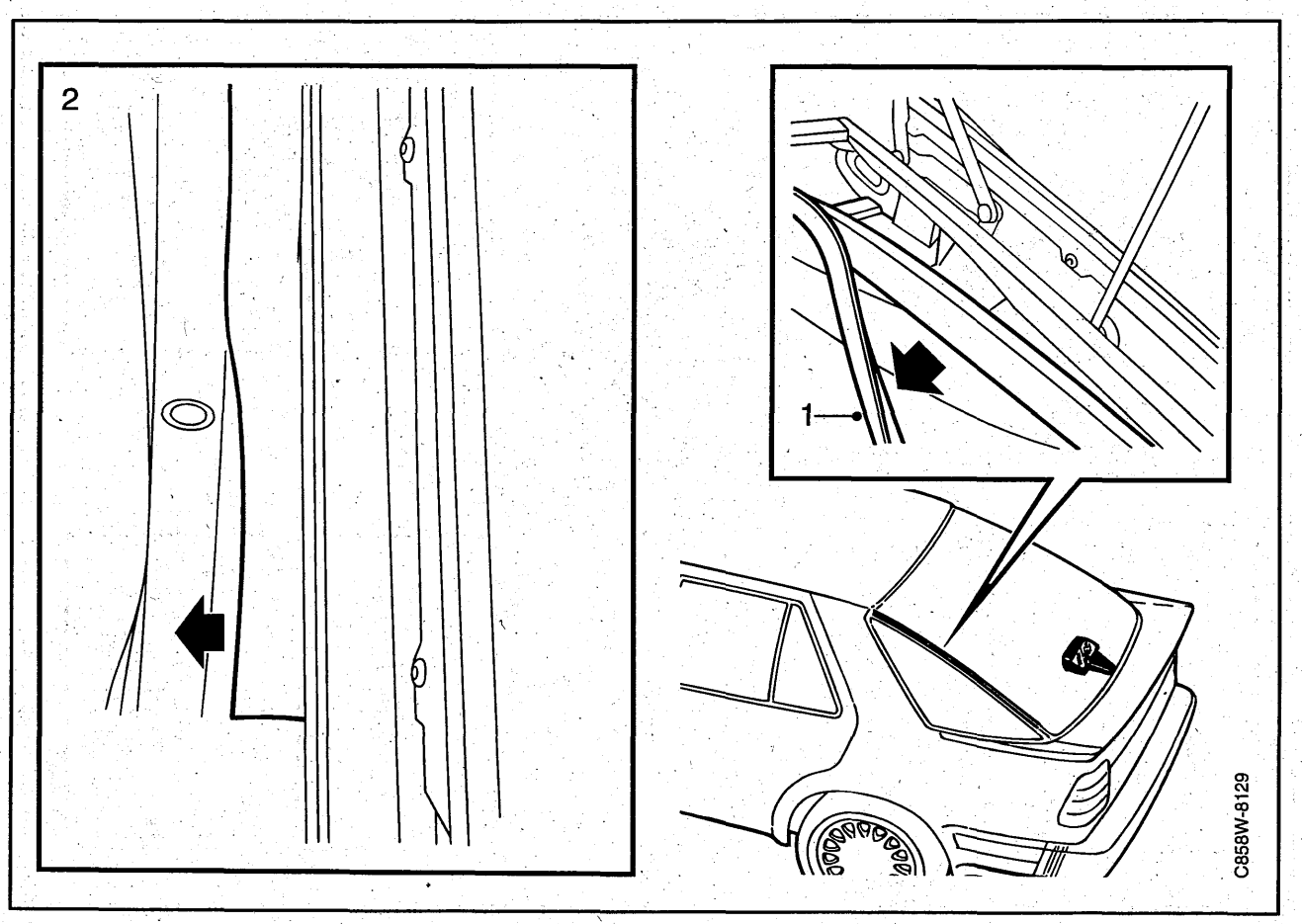
7 Release the clips and remove the seat belt grommet from the trim.

8 Unfasten the lower seat belt anchorage and remove the trim.

Fitting, C pillar trim

Fit in reverse order.

Pillar trim (cont.)



Removal, D pillar trim

1 Unfasten the tailgate weather–strip and save the metal finisher for the luggage compartment trim.

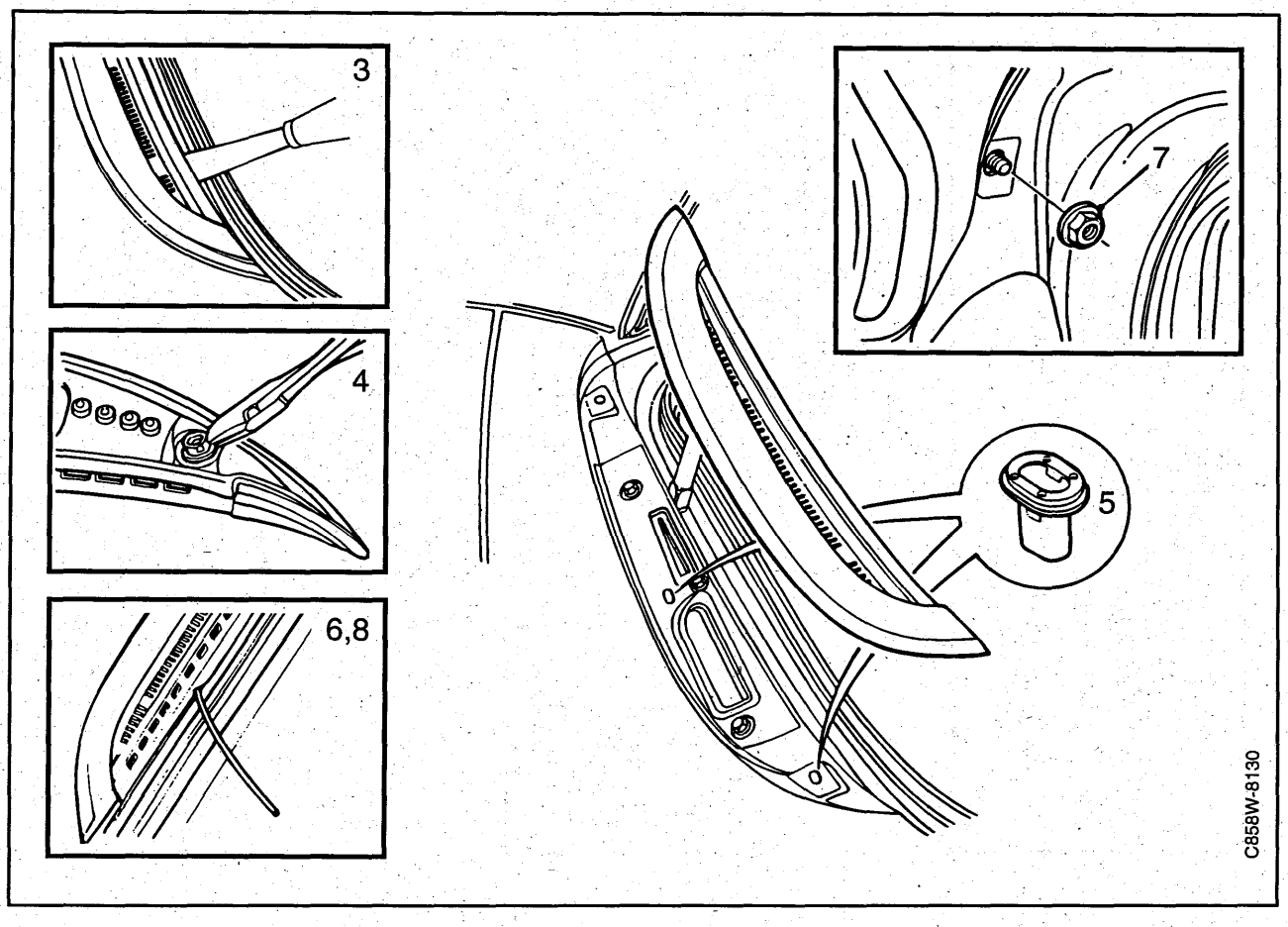
2 Peel back the edge of the trim that is glued to the body.

3 Remove the trim from the clips.

Fitting, D pillar trim

Fit in reverse order.

Pillar trim (cont.)



C pillar air outlet grille, Saab 9000 CS

Removal

1 Remove the C pillar trim, see page 851–23

2 Unscrew the nut at the upper end of the air outlet grille.

3 Carefully release the air outlet grill with a filling knife. Start at the lower end.

4 Remove the fastening clips from the air outlet grille.

Fitting

5 Fit new fastening clips in place on the air outlet grille.

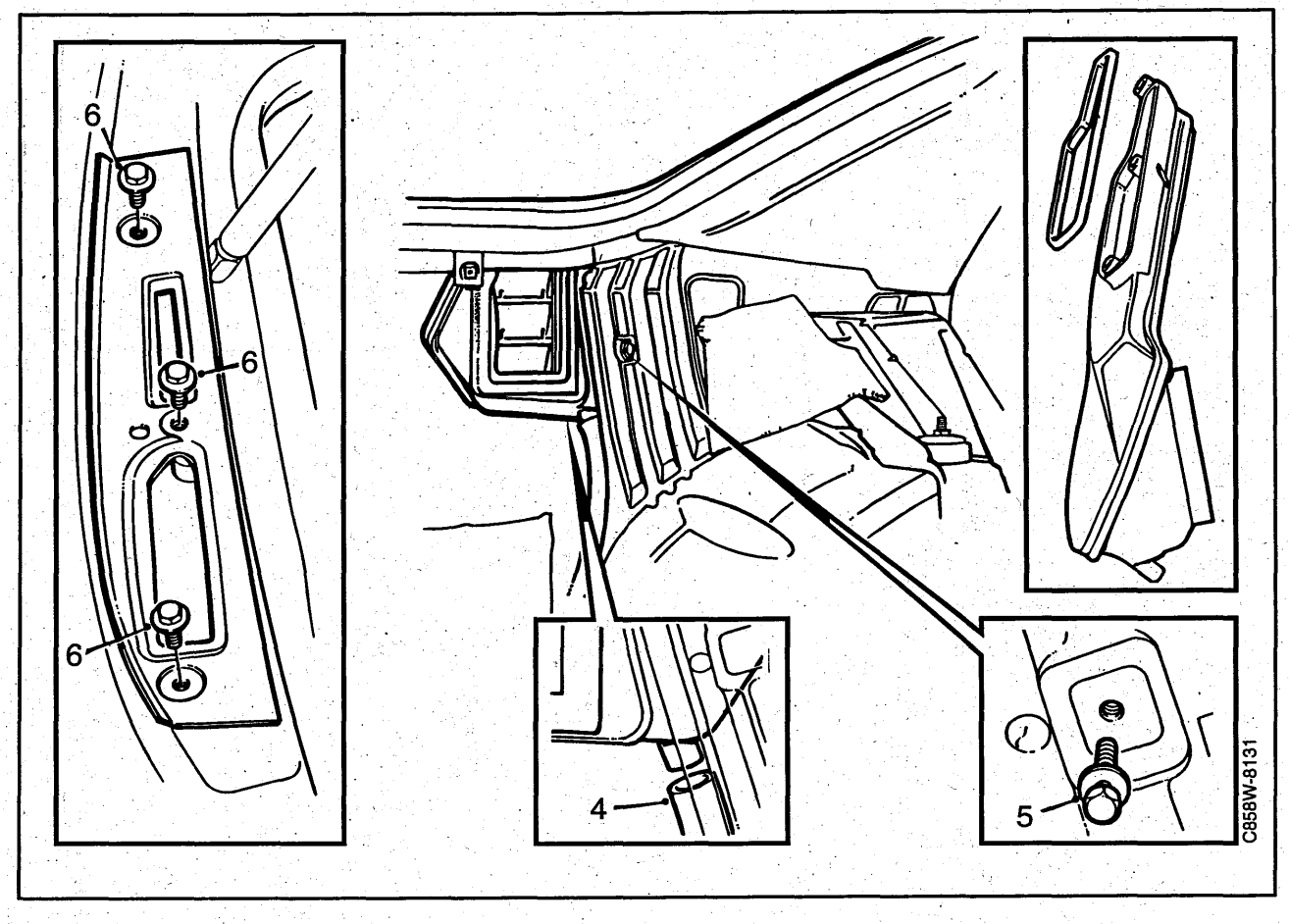
6 Thread a cord around the air intake grill and press the grille in place in the fastening clips. The cord is used to correctly position the grommet around the grille.

7 Tighten the nut for the upper end of the air outlet grille.

8 Pull the cord so the grommet fits over the grille.

9 Fitting the C pillar trim, see page 851–23.

Pillar trim (cont.)



Air outlet passage C pillar,
Saab 9000 CS

Removal

1 Remove the air outlet grille, see page851–25.

2 Remove the parcel shelf support, see page 851–32.

3 If necessary unplug the connections for the speakers and radio antenna.

4 Remove the draining dose.

5 Remove the screws securing the relay bracket and move it out of the way.

6 Remove the screws securing the air outlet passage and pull it downwards, and out of the C pillar.

Fitting

7 Smear Vaseline on the air outlet passage seal. Thread the air outlet passage into the C pillar and tighten the screws securing it in position.

8 Place the relay bracket in position and tighten the screws.

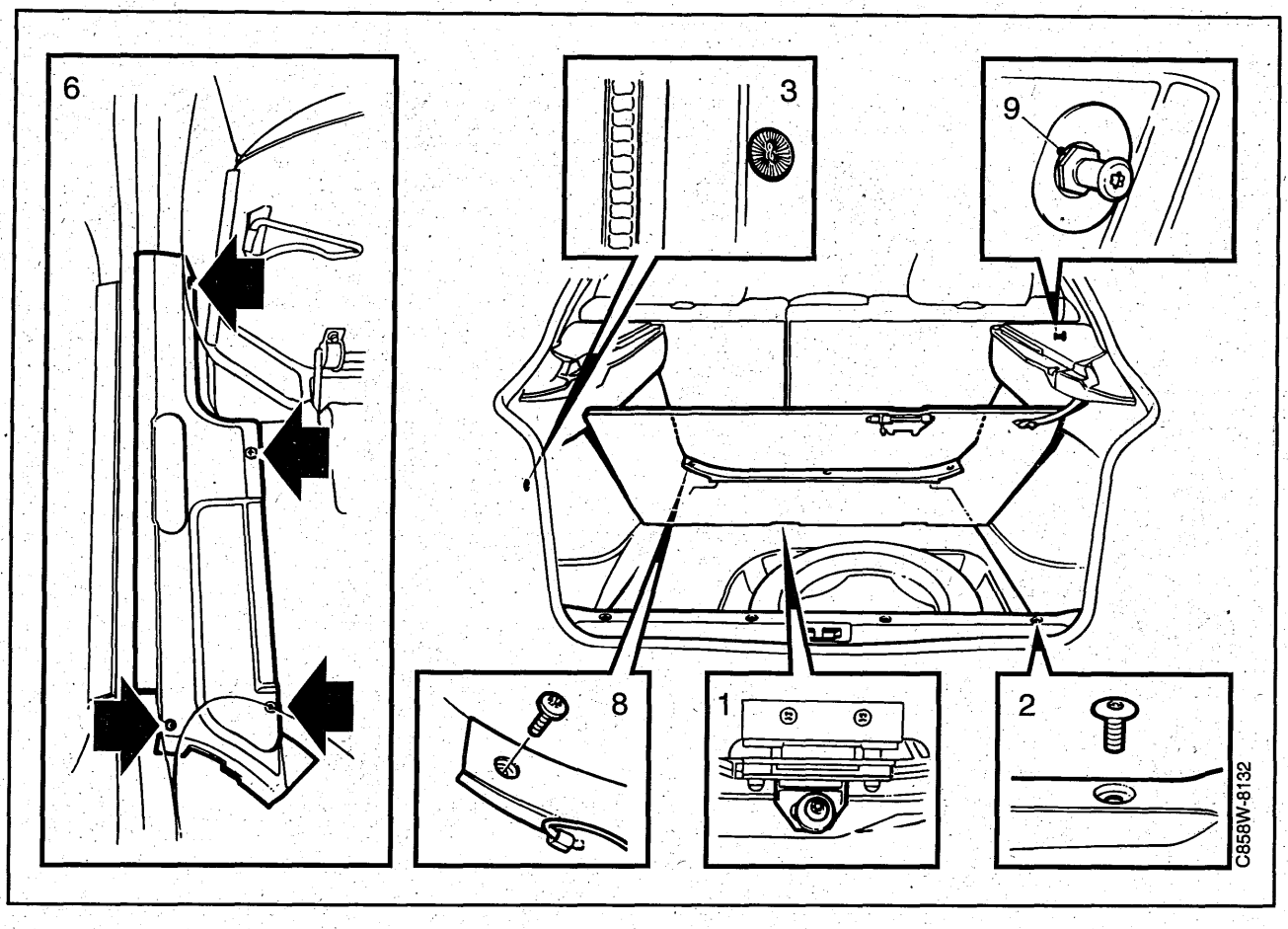
9 Reconnect the draining hose.

10 If necessary plug in the connections for the speakers and the radio antenna.

11 Fit the parcel shelf, see page 851–32.

12 Fitting the air outlet grille, see page 851–25.

Luggage compartment trim



Luggage compartment trim, Saab 9000 CC and CS

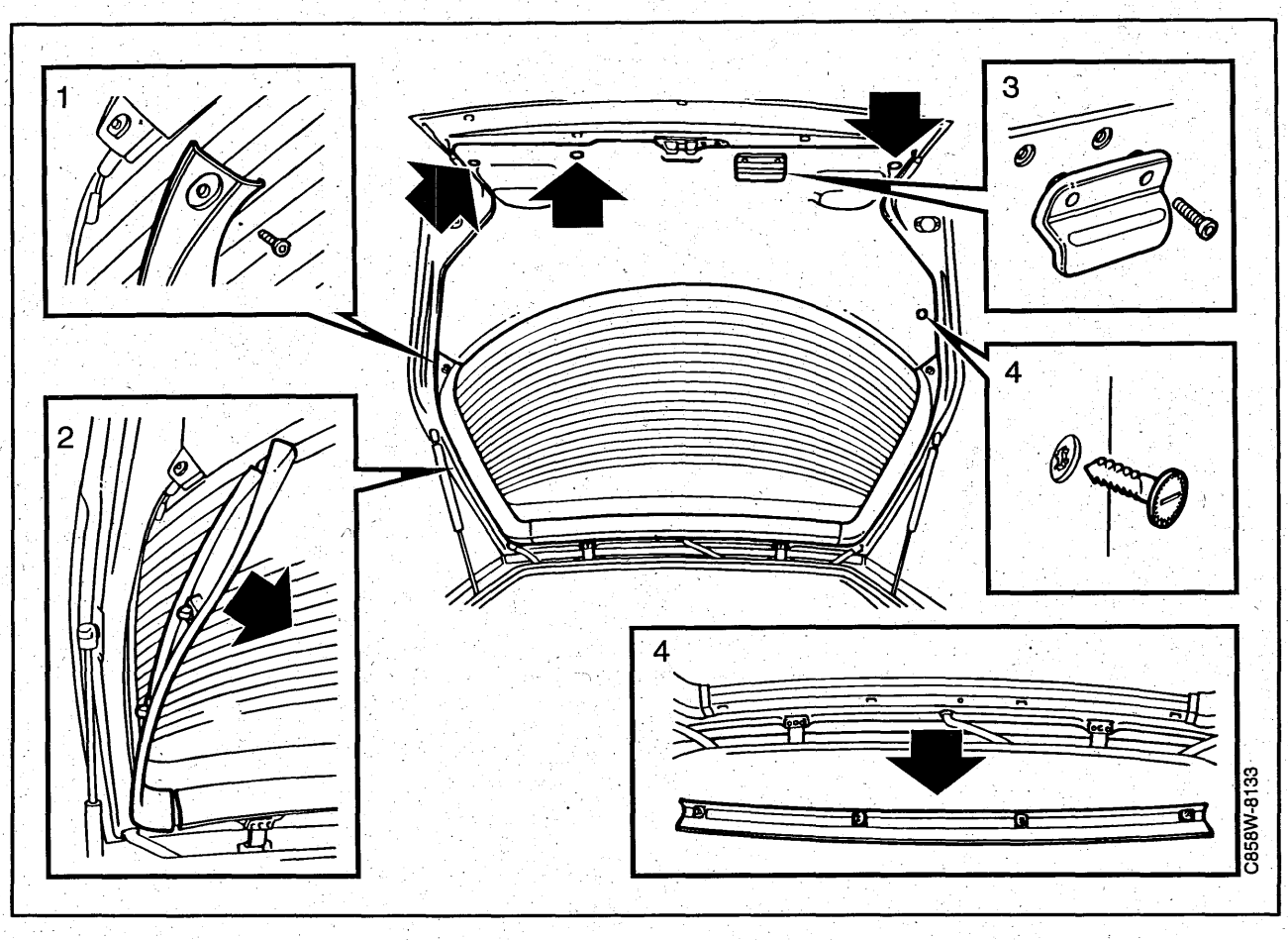
Removal

1 Remove the luggage compartment floor.
2 Remove the sill strips
3 Remove the clip on the rear edge of the luggage compartment trim.
4 Fold the seat cushion up.
5 Unfasten the elastic on the lower corner of the back rest cushion.
6 Remove the inner sill strip.
7 Fold the back rest forwards.
8 Remove the strip on the front edge of the luggage compartment floor.
9 Remove the back rest locking pin.
10 Remove the luggage compartment trim out. Remove the luggage compartment lighting and the tool box, located on the right–hand side..

Fitting

1 Place the trim in position and screw up the locking pin for the back rest. Replace the tool box and the luggage compartment lighting on the right–hand side.
2 Screw the strip for the front edge of the luggage compartment floor in place.
3 Fold the backrest up.
4 Screw the inner sill strip in place.
5 Hook the elastic onto the lower corner of the back rest.
6 Fold the back rest down.
7 Press the clip on the rear edge of the luggage compartment in place.
8 Screw the sill strip in place.
9 Refit the luggage compartment floor.

Luggage compartment trim (cont.)



Tailgate trim, Saab 9000 CC

Removal

1 Open the tailgate. Remove the door pull.

2 Remove the clips securing the trim to the tailgate.

Fitting

1 Place the trim in position and press in the clips.

2 Refit the door pull.

Tailgate trim, Saab 9000 CS

Removal

1 Open the tailgate. Remove the screws on the lower side of the tailgate side decor.

2 Remove the side decor.

3 Remove the door pull.

4 Remove the clips securing the tailgate trim. Remove the decor on the upper edge of the rear window.

Fitting

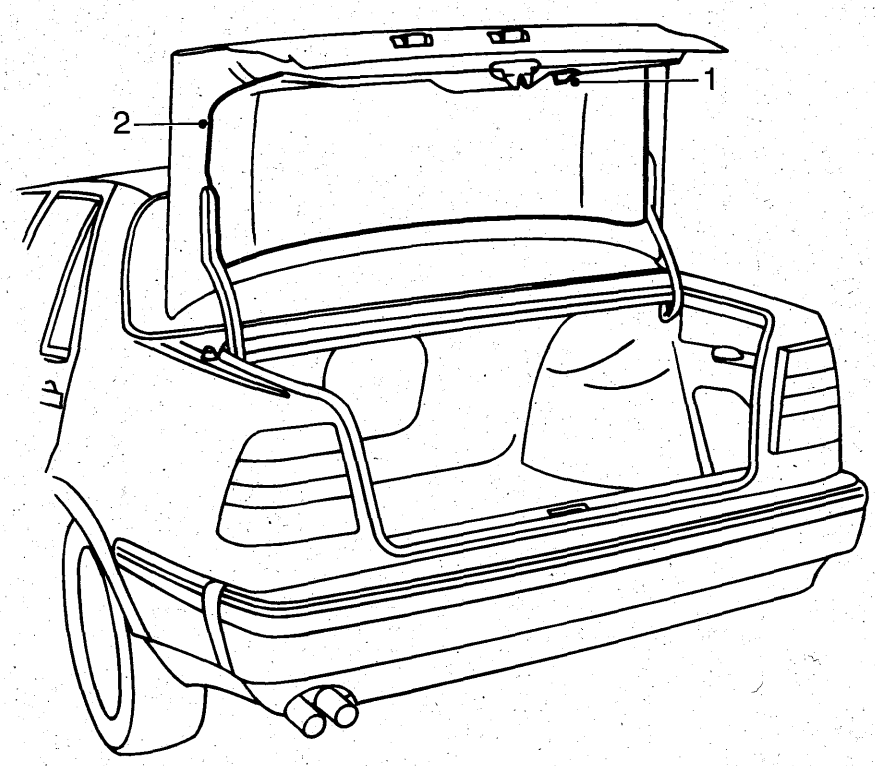
1 Place the trim in position and press in the clips.

2 Refit the door pull.

3 Press the side decor in place..

4 Fasten the screws on the lower edge of the side decor. Press the decor on the upper edge of the rear window into place.

Luggage compartment trim (cont.)



Luggage compartment hatch trim, Saab 9000 CD

Removal

1 Remove the door pull.

2 Unfasten the clips securing the trim and remove the trim.

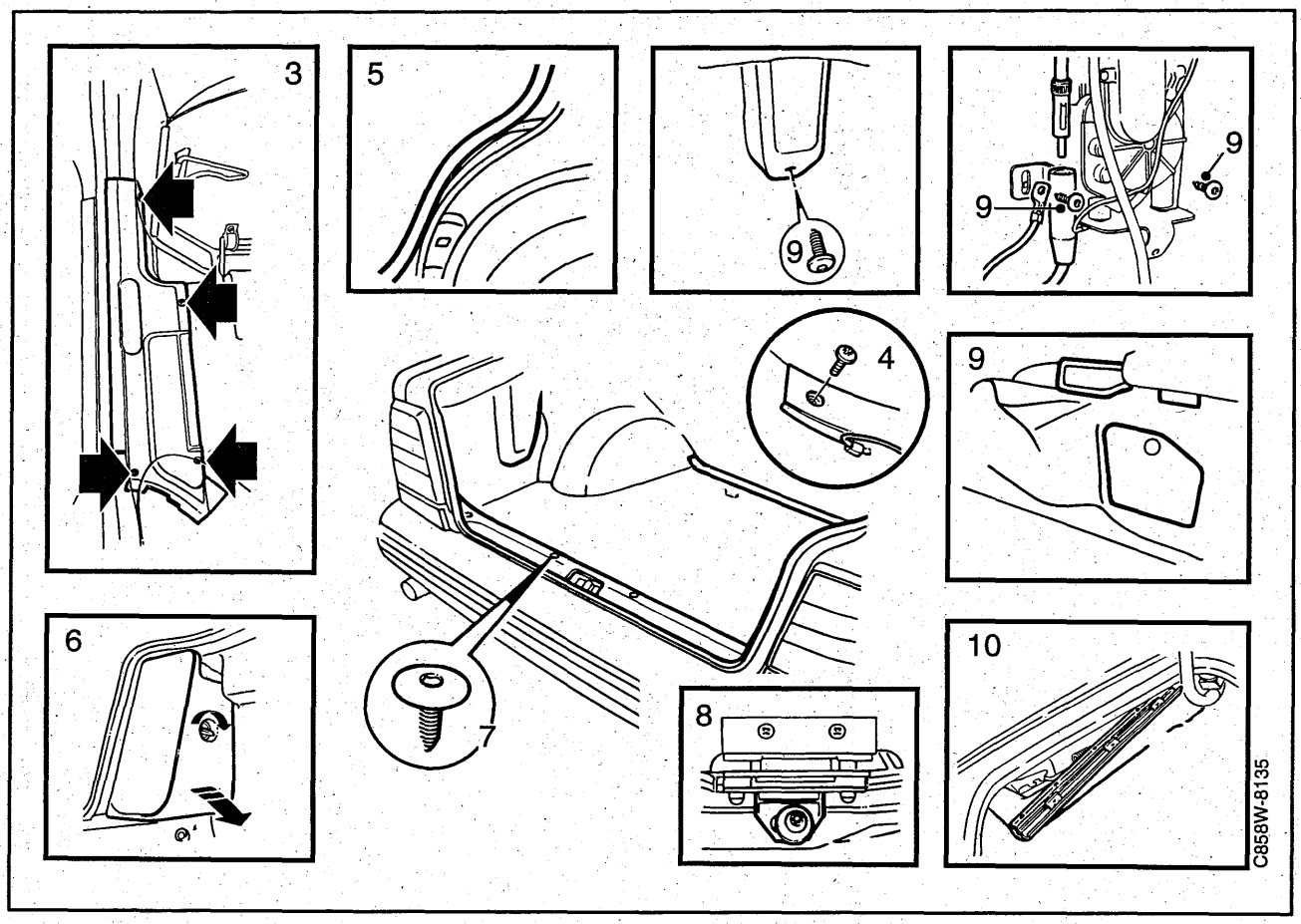
Note

From and including M89 the clips have been replaced by six special screws with nuts.

Fitting

Fit in reverse order.

Luggage compartment trim (cont.)



Luggage compartment side trim, Saab 9000 CD

Removal

1 Fold the seat cushion up.

2 Remove the back rest cushion, see page 852–70.

3 Remove the four rear scuff plate screws and move the side trim to one side.

4 Remove the plastic trim from the forward edge of the luggage compartment.

5 Remove the door trim seal from the front edge of the wheel housing.

6 Remove the rear sections from the right–hand and left–hand rear lights.

7 Remove the luggage compartment scuff plates.

8 Remove the two screws securing the luggage compartment floor and lift the floor out.

9 **Left–hand side trim:**
To and. including M91 take away the electrical antenna cover and remove the antenna.

Remove the three special screws.

Right–hand side trim
Remove the tool box, luggage compartment lighting and air outlet grille, see page 851–25.

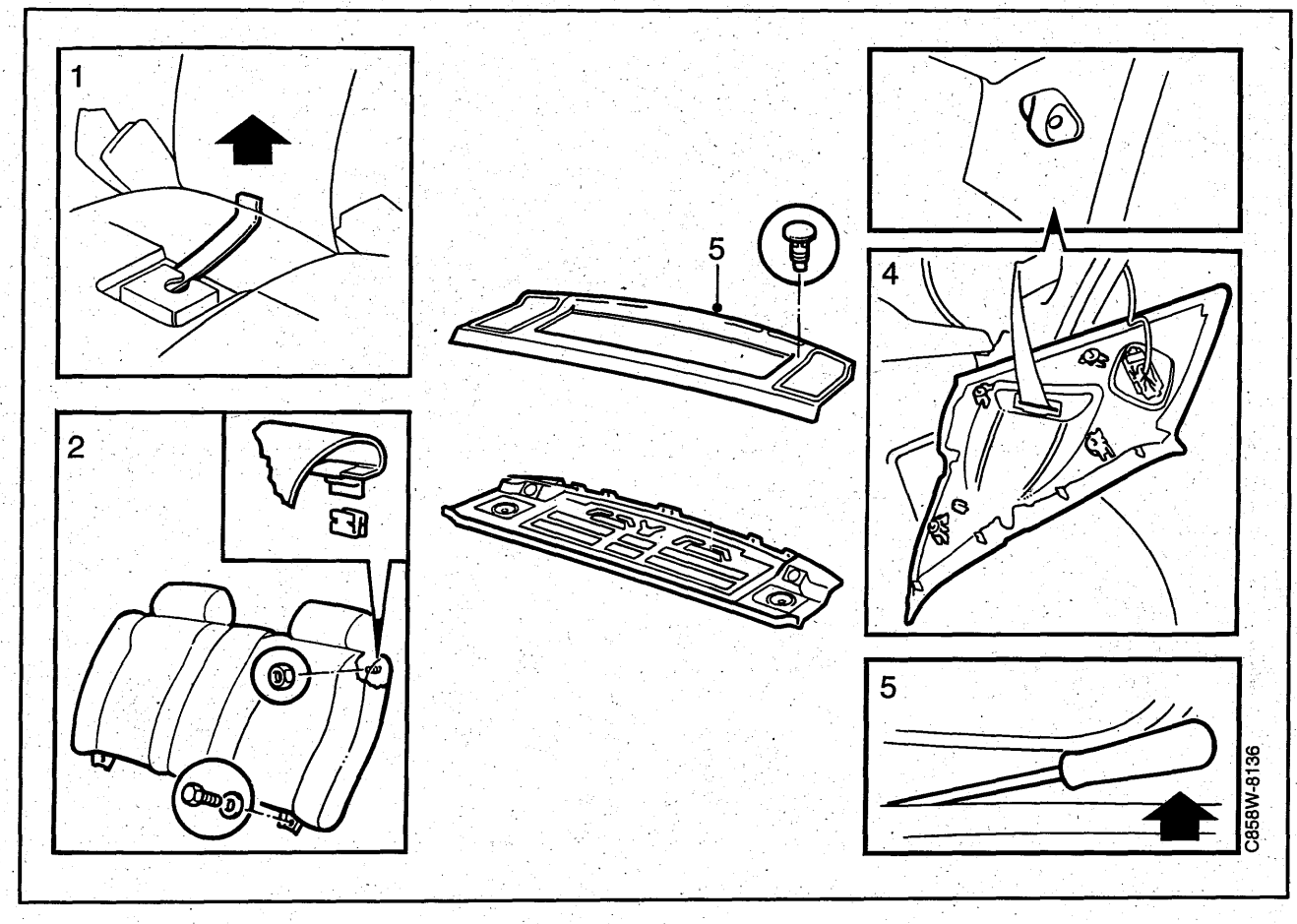
Remove the two special screws.

10 Release the fastening strip from the side plate and lift out the trim.

Fitting

Fit in reverse order.

Parcel shelf



Parcel shelf, Saab 9000 CD

Removal

1 Fold the seat cushion up.

2 Remove the back rest cushion, see page 852–70.

3 Unfasten the door trim seal from the C pillar.

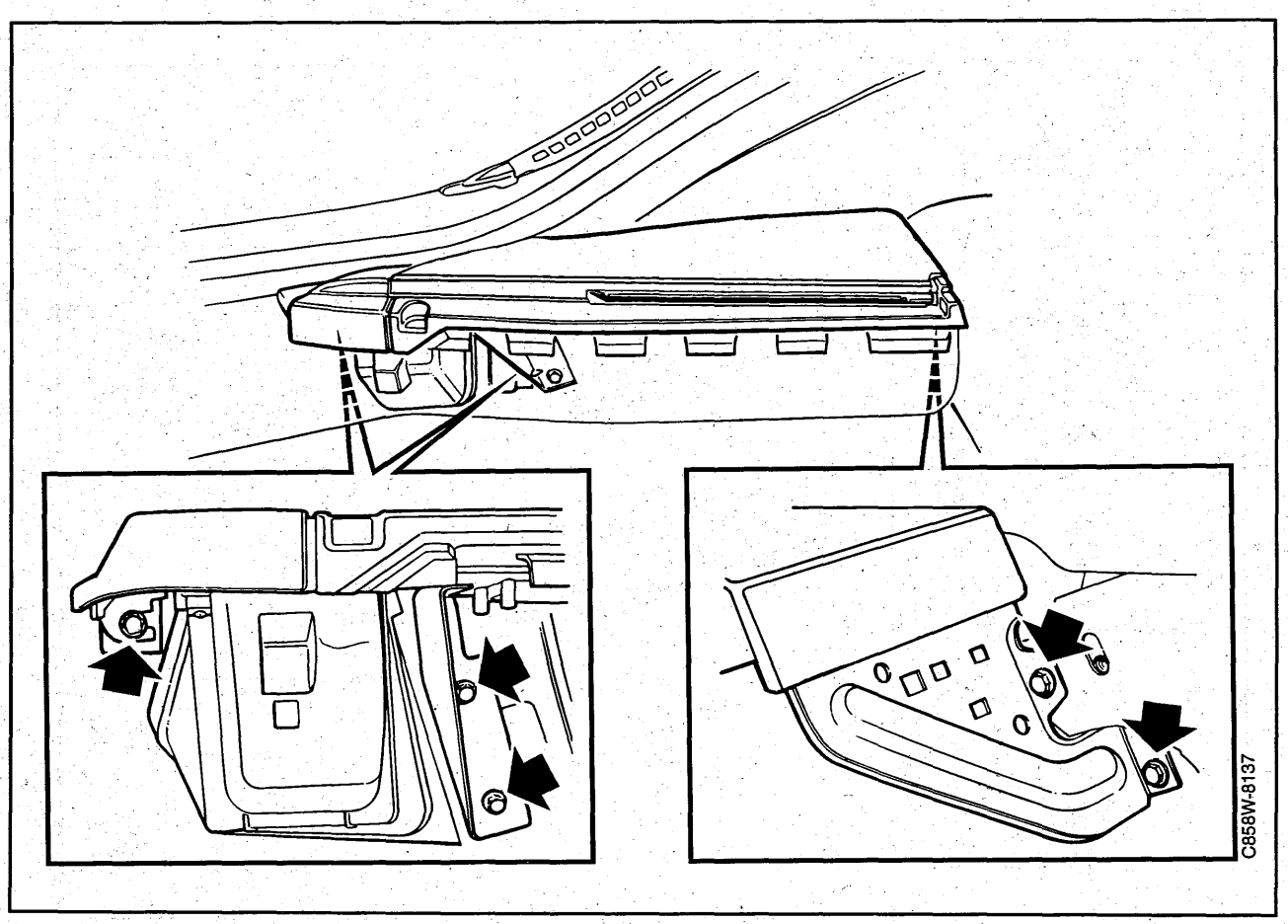
4 Unfasten the clips securing the C pillar trim and lift the trim to one side.

5 Unfasten the parcel shelf fastening clip and lift it away.

Fitting

Fit in reverse order.

Parcel shelf (cont.)



Parcel shelf support, Saab 9000 CC and CS

Removal

1 Fold up the rear seat cushion and fold the back rest forwards.

2 Remove the back rest locking pin.

3 Release the side trim from the parcel shelf support and fold the trim down. On the right–hand side the luggage compartment lighting and the tool box must be removed.

4 Remove the screws and nuts supporting the parcel shelf.

Lift away the parcel shelf.

Fitting

1 Refit the parcel shelf support and tighten the retaining screws and nuts.

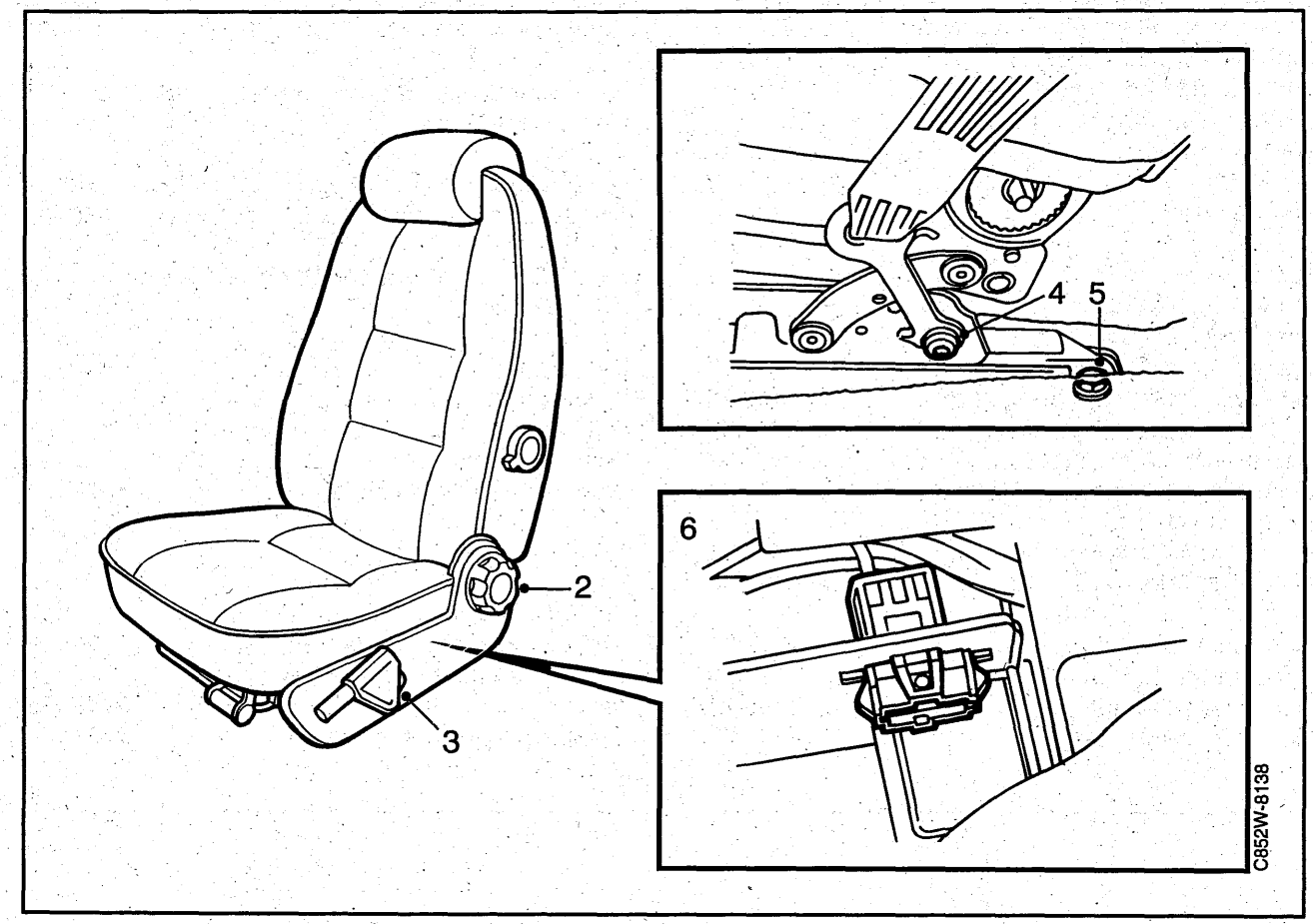
2 Press in the over edge of the side trim under the parcel shelf support.

3 Screw the back rest locking pin into place. Replace the tool box and the luggage compartment lighting on the right–hand side.

4 Fold up the back rest and fold the seat cushion down.

Seats, seat cushions and carpeting

Front seat, manual



Removal

Important

For removal of electrically operated seats, see page 852–35.

1 Place the seat in its highest position.

2 Unfasten the cover for the backrest adjustment wheel. Screw out the screw and remove the wheel.

3 Remove the two covers (on sits behind the height–adjustment lever) and unscrew the seat side panel.

4 Unscrew the seat belt from the seat.

5 Unscrew the seat rail from the floor.

6 Fold back the carpeting and unplug the connectors for the electrical operations.

7 Lift out the seat.

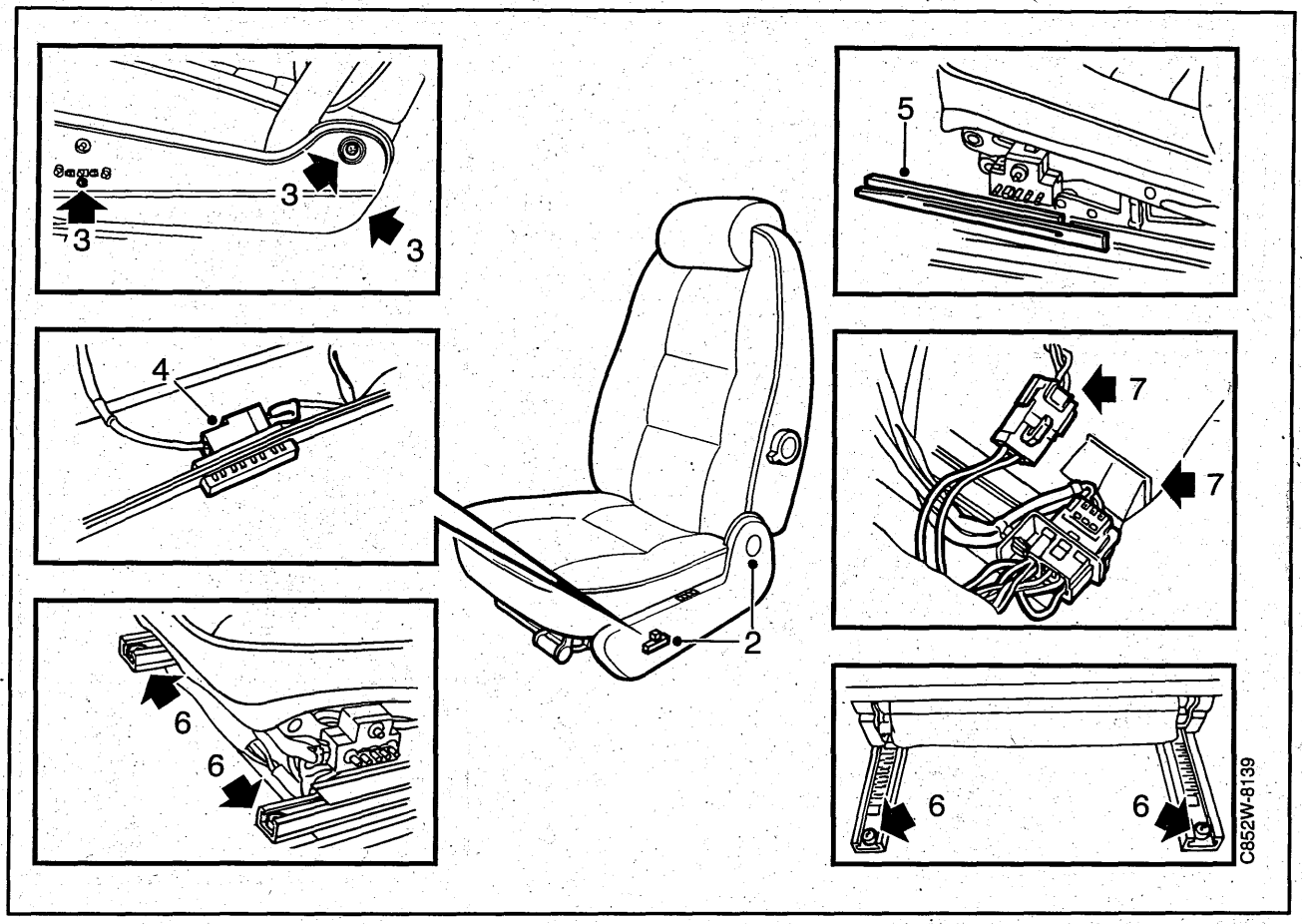
Fitting

Fit in reverse order.

Tightening torque for seat and floor screws:

30 ± 9 Nm (22 ± 7 lbf ft)

Front seat, electrically operated



Removal

1 Place the seat in its highest position.

2 Pull away the control buttons and remove the cover.

3 Unscrew the seat side panel (three screws).

4 **Electrically operated seat with memory:** Pull apart the connectors for the memory and memory setting operations. Let the switch remain on the seat side panel.

5 Pull the plastic cover forwards so it is released from the rail. Unscrew the seat belt from the seat.

6 Push the seat forwards and remove the rear nuts. Push the seat backwards and remove the front screws.

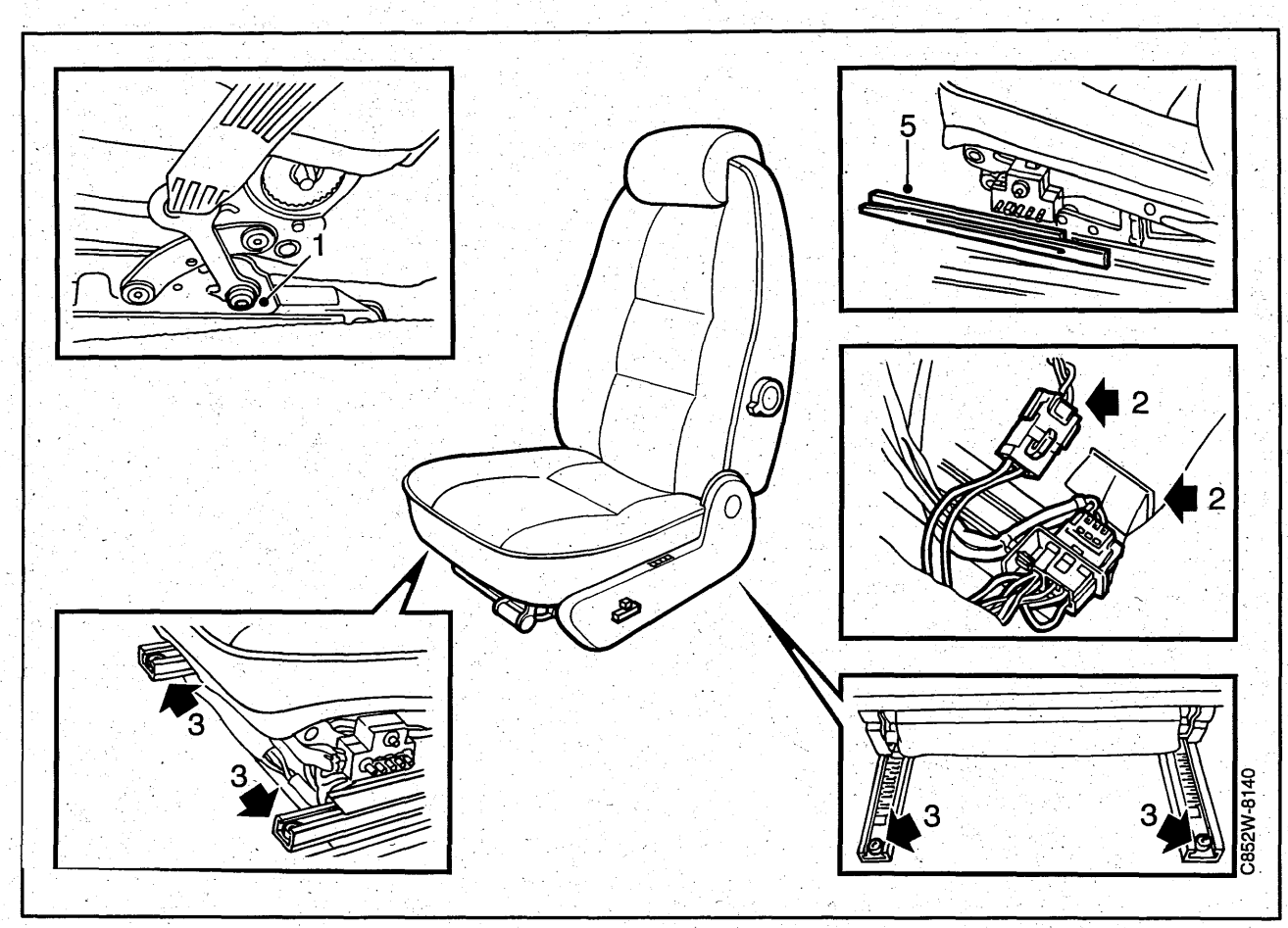
7 Tip the seat backwards and pull apart the 2–pole connectors. Release the wiring harness and pull apart the 8–pole connectors.

Important

Note the slack pull of the wiring harness on electrically operated seats.

8 Lift out the seat..

Front seat, electrically operated (cont.)



Fitting

1 Lift the seat into the car and fasten the seat belt to the seat. Check that the belt is correctly folded and not twisted.

> ⚠ **WARNING**
>
> If the seat belt anchorage is pulled harder than 60 Nm (44 lbf ft), the seat rail is damaged and must be changed.

40 Nm (29.5 lbf ft)

2 Fit together the connectors. Fast the wiring harness with the plastic clip.

3 **To and including M90:**
Lift the seat into position on the rear studs. Ensure that the carpeting lays freely and does not twist.

Fasten the front screws.

Fasten the rear nuts.

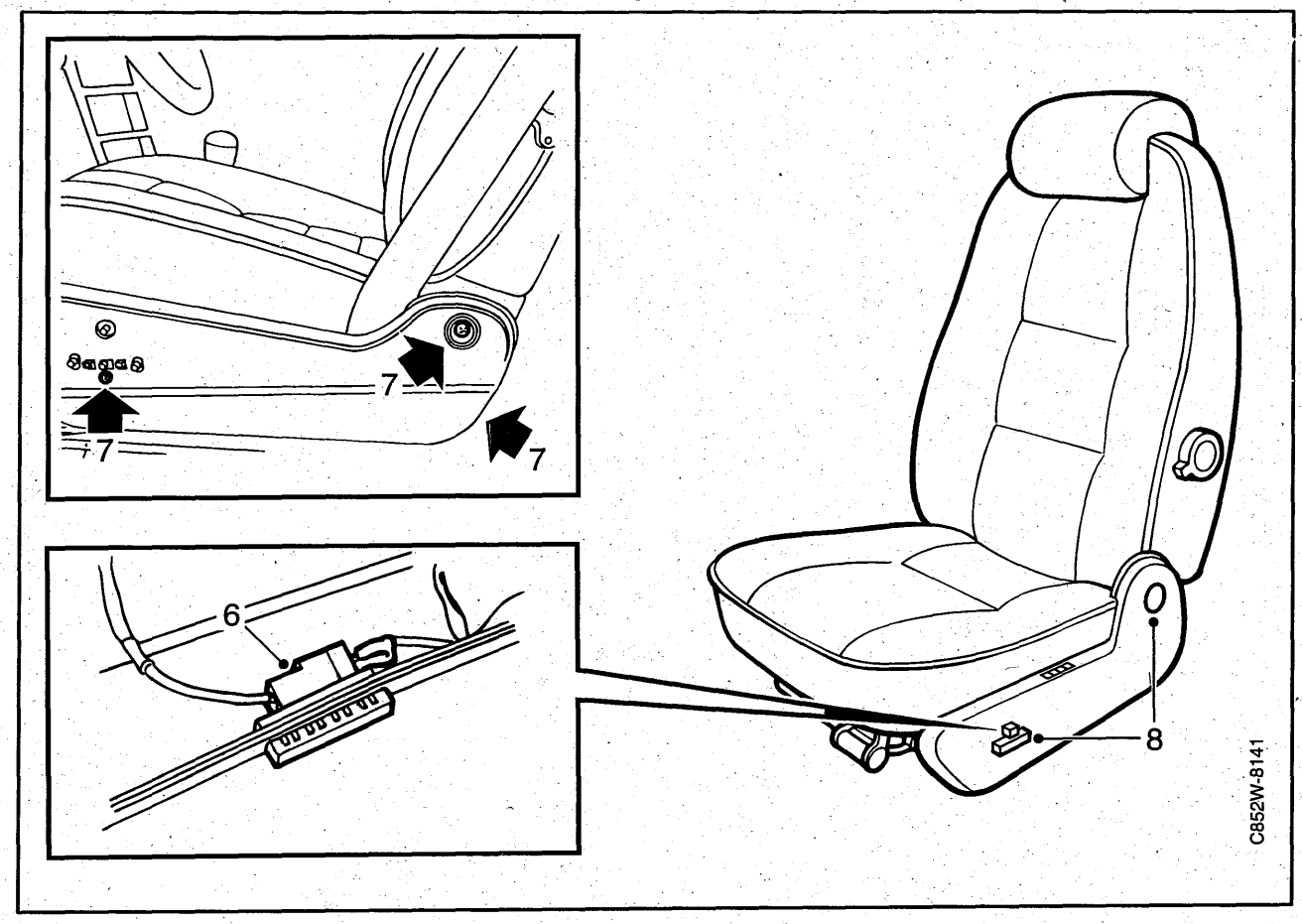
Tightening torque40 Nm (30 lbf ft)

4 **M91 alkaen:**
Nosta istuin paikalleen ja ruuvaa etu– ja takaruuvit kiinni.

Tightening torque 40 Nm (30 lbf ft)

5 Raise the seat and slide the plastic covers onto the seat rails.

Front seat, electrically operated (cont.)



6 **Electrically operated seats with memory:**
Fit the connectors for the memory and memory setting operations to the switch on the side seat panel.

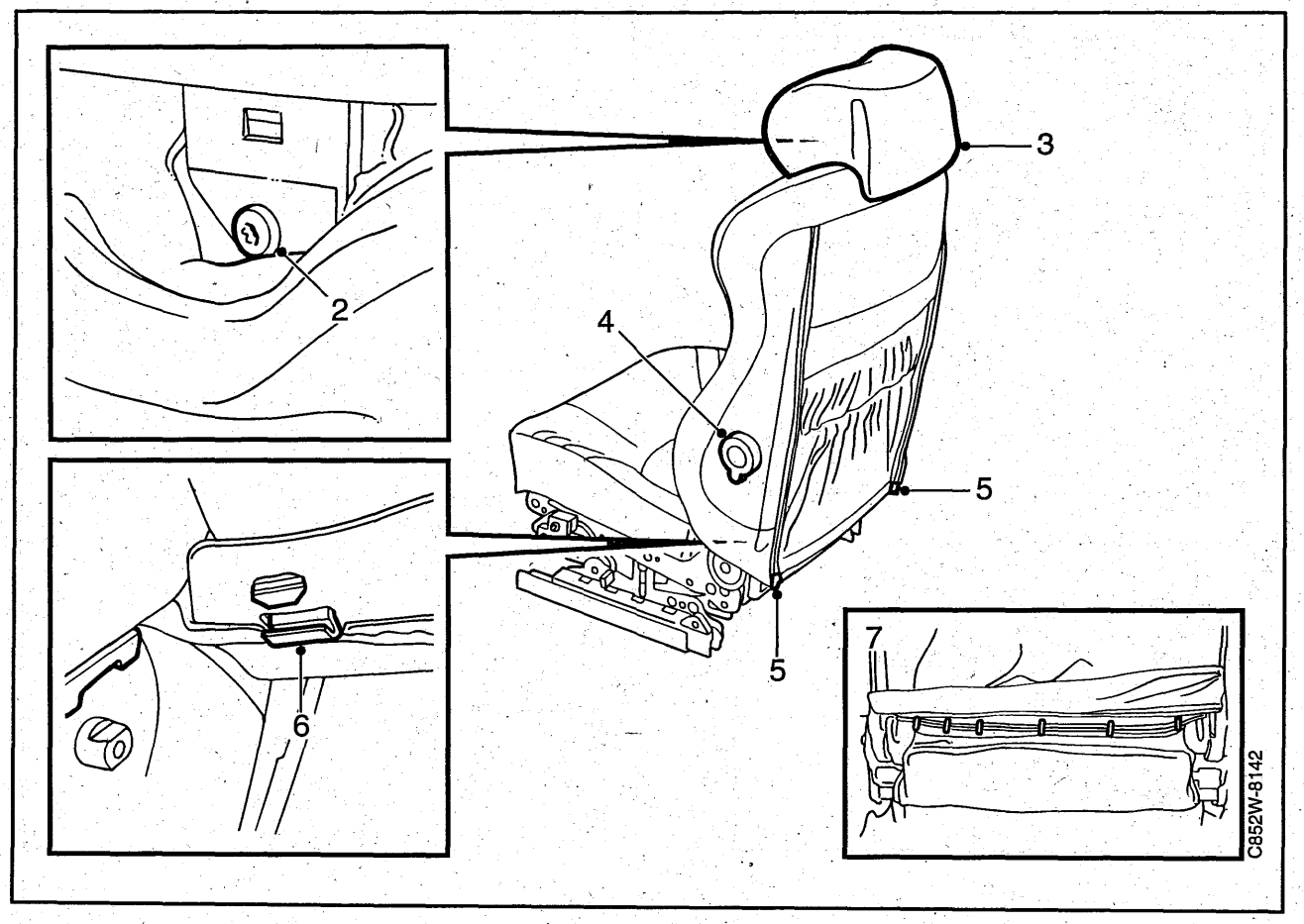
7 Refit the side seat panel (three screws).

⚠ WARNING

Do not tighten the front screw harder than 1.5 Nm (1.1 lbf ft). The switch can be damaged.

8 Replace the control buttons and the cover.

Upholstery, backrest



Removal

Important

The design of the seat upholstery may vary in reference to seems, hook and clips.

1 Remove the seat from the car, see page 852–34.

2 Unscrew the head restraint setscrew.

3 Push in the catch with a screwdriver. Remove the head restraint together with the guide sleeve.

4 Remove the cover for the lumbard support adjustment and unscrew the control wheel.

5 **Saab 9000 Aero:**
Pull up the pull chains on the right–hand and left–hand sides.

6 Unhook the hooks on the left–hand and right–hand sides.

Note
The hooks can be secured with a circlip on the inside of the seat.

7 Open the upholstery at the lower edge.

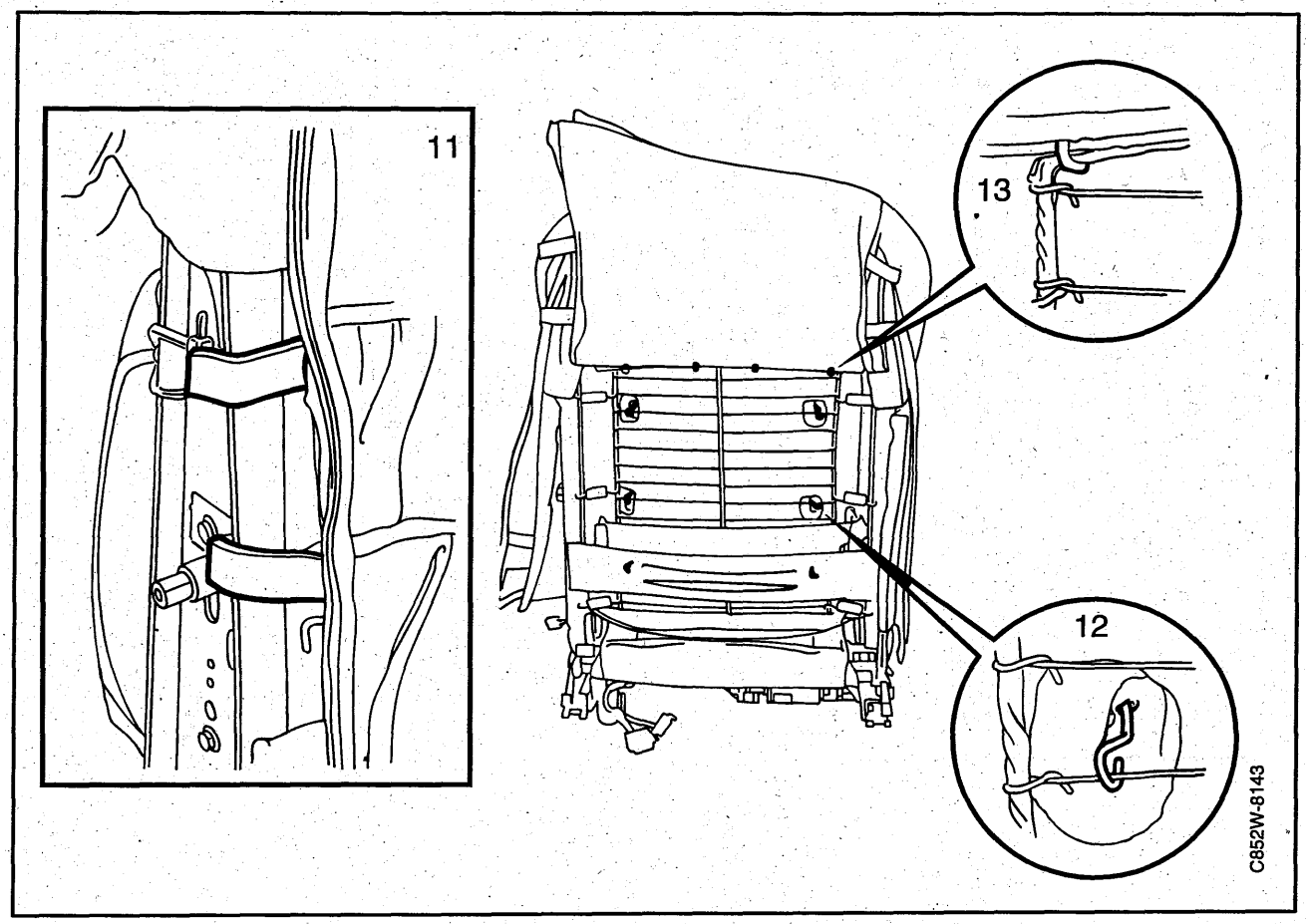
Saab 9000, not Aero:

8 Carefully roll up the upholstery and unfasten the two upholstery hooks using a piece of bent wire. Then unfasten the two remaining upholstery hooks.

9 Loosen the elastic webbing on the right–hand and left–hand sides.

10 Unfasten the upholstery hooks.

Upholstery, backrest (cont.)



Saab 9000 Aero:

11 Unfasten the elastic webbing on the left–hand and right–hand sides.
Carefully, fold up the upholstery.

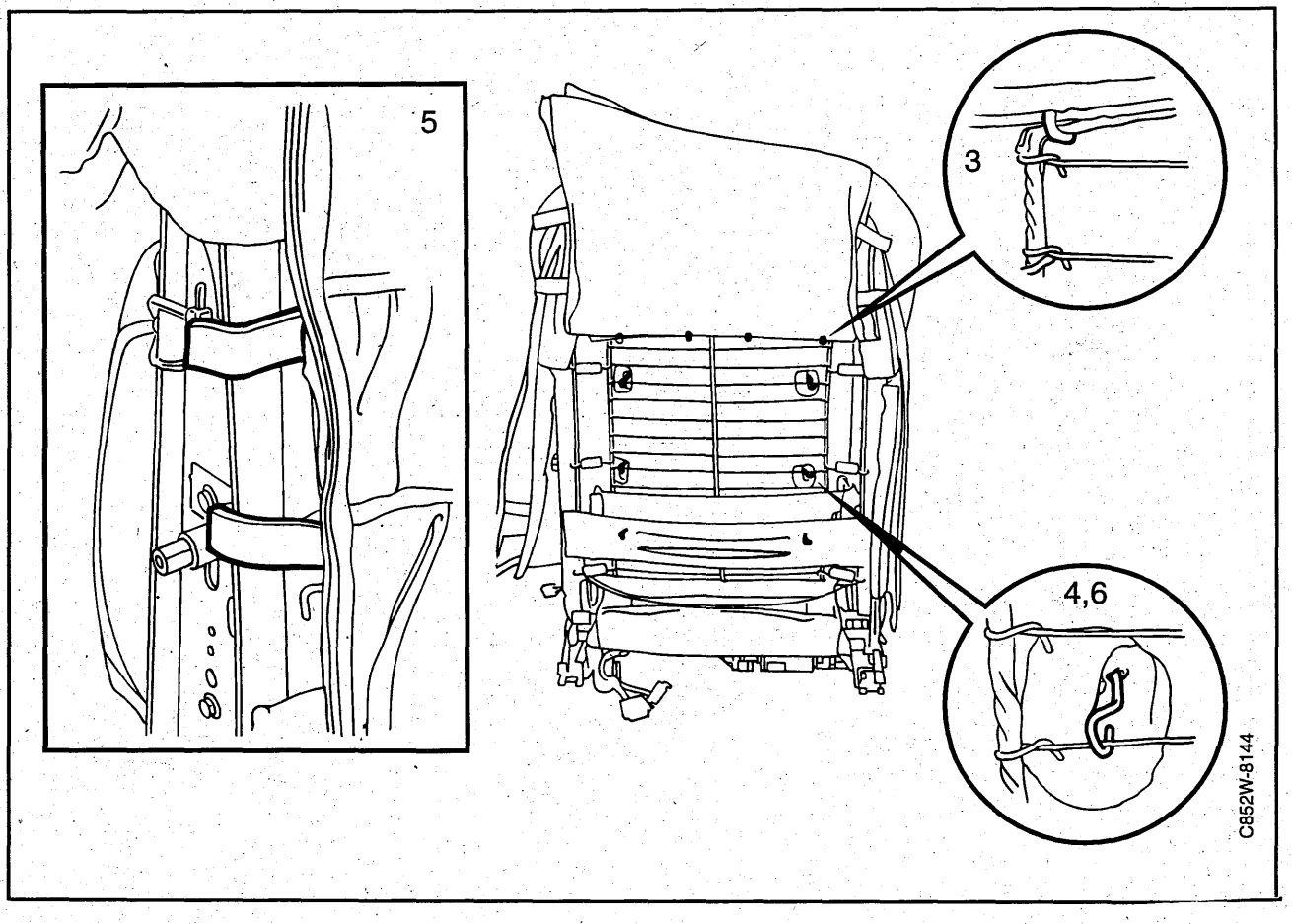
12 Unfasten the six upholstery hooks.

All Saab 9000:

13 Cut off the clips.

14 Unhook the upholstery hooks and remove the trim.

Upholstery, backrest (cont.)



Fitting

Important

Seat upholstery can vary according to seems, hooks and clips.

1 Take in and draw out the upholstery bag a little.

2 Fit the upholstery hooks in place using a piece of bent steel wire.

3 Fit the four clips on the upholstery with the grips supplied in fitting kit 84 71 062.

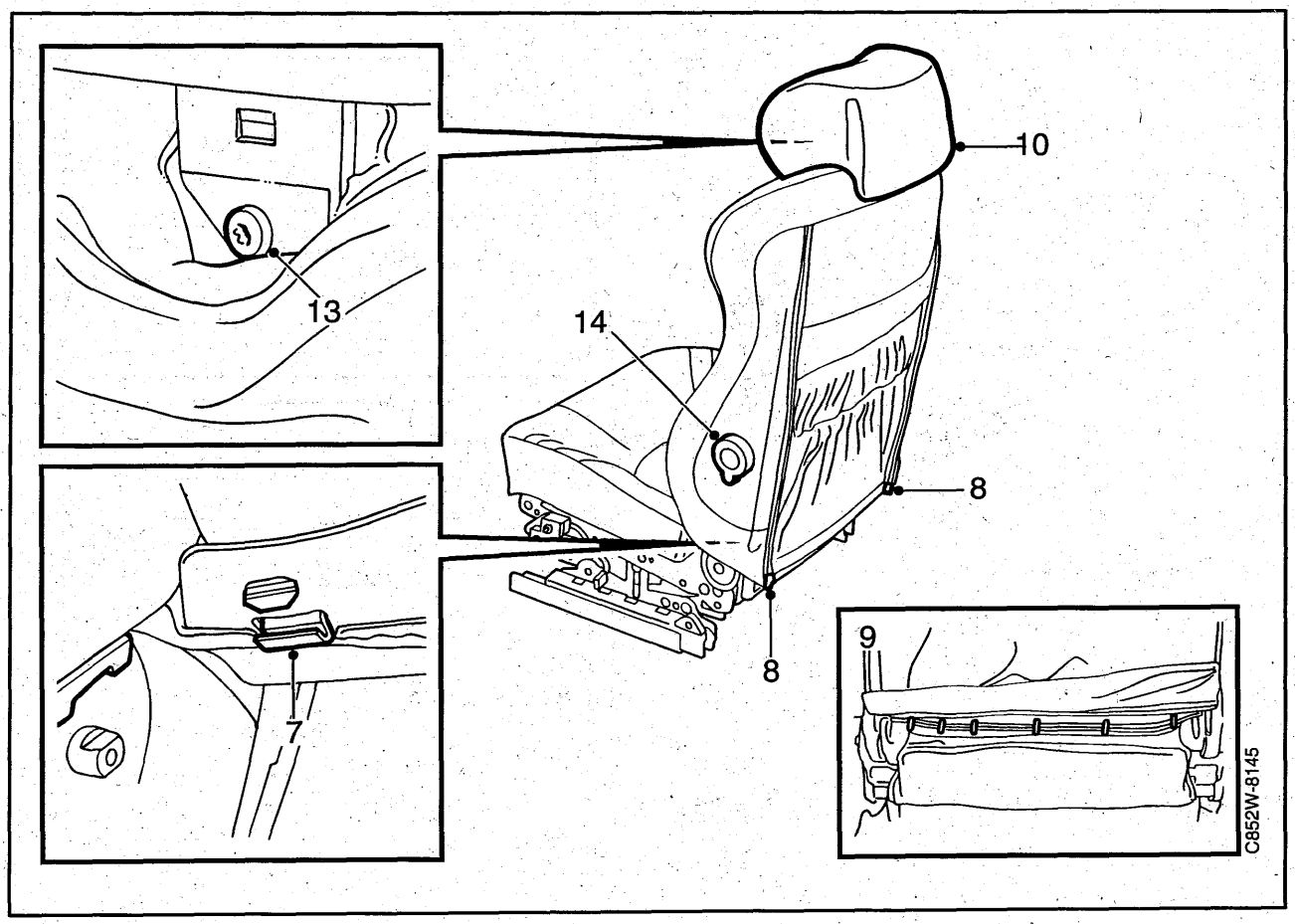
4 **Saab 9000, not Aero:**
Fit the two upholstery hooks in place.

Saab 9000 Aero:
Fit the six upholstery hooks in place.

5 Fasten the elastic webbing on the right–hand and left–hand sides.

6 **Saab 9000, not Aero:**
Fasten the four upholstery hooks in place.

Upholstery, backrest (cont.)



7 Re–hook the hooks on the right–hand and left–hand sides.

Note
The hooks can be secured with a circlip.

8 **Saab 9000 Aero:**
Pull down the pull chains on the right–hand and left–hand sides.

9 Fasten the upholstery on the lower edge.

10 Check the spring for the head restraint is not deformed. Change the spring if it is damaged.

11 Slide the guide sleeve onto the rail. Test this by sliding the sleeve forwards and backwards to ensure that the spring hooks the guide sleeve in place and runs on the rails.

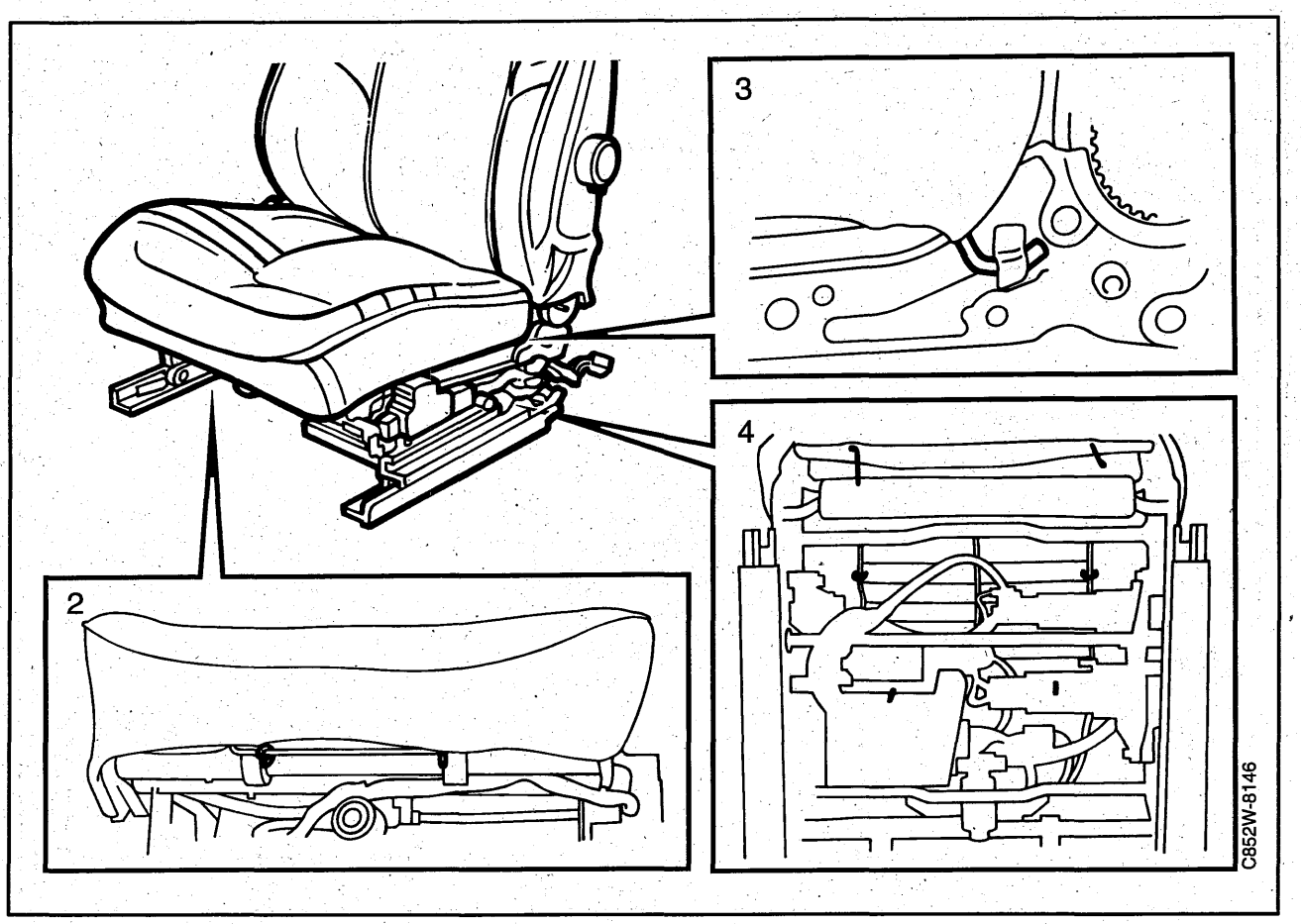
12 Refit the head restraint to the seat with the guide sleeve.

13 Secure the head restraint with the locking screws. Check its operation.

14 Replace the wheel for the lumbard support adjustment.

15 Refit the seat in the car, see page 852–34.

Upholstery, seats



Removal

1 Remove the seat from the car, see page 852–34.

2 Unfasten the two clips on the front edge.

3 Unfasten the upholstery hooks on the rear edge.

4 Unhook the upholstery hooks from the under side of the seat using a piece of bent wire.

5 Unfasten the tensioning bow on the sides. Remove the upholstery.

Fitting

1 Lay over and adjust the upholstery.

2 Hook up the upholstery hooks onto the wire matting. Pull the hooks through the seat cushion using a piece of bent steel wire.

3 Re–hook the tensioning bow back in place and hook the upholstery over the seat cushion.

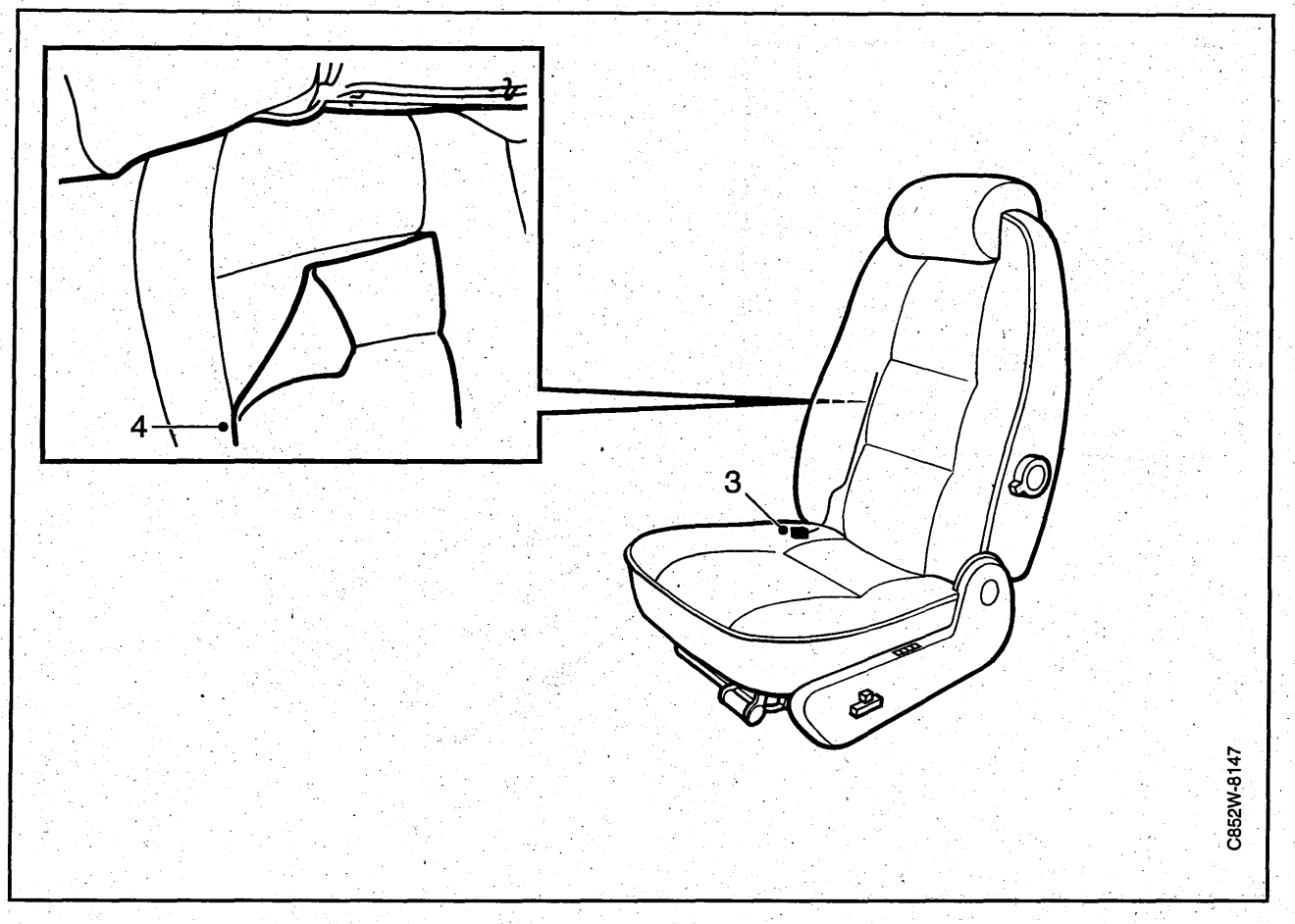
4 Fit the clips on the front edge of the upholstery using the grips supplied in fitting kit 84 71 062.

Important

The clip should fit in place on the tension bow that is located inside the upholstery and not on the outer fabric.

5 Fit the seat into the car and connect the electrical connections, see page 852–34.

Heating pads, back



Removal

Wiring diagram and fault–tracing hints, see service manual 3:2.

1 Remove the seat, see page 852–34.

2 Unfasten and pull the back upholstery upwards so that heating pad becomes accessible, see page 852–38.

Note that the head restraint need not be removed.

3 Pull the connectors for the electrical operations apart.

4 Unfasten the heating pad. Loosen the glue with clean benzene. To avoid large flakes the foam rubber heating pads should be unfastened.

⚠ WARNING

Use protective gloves when working with benzene.

Fitting

1 Fit a new heating pad.

2 Plug the connectors for the electrical operations together.

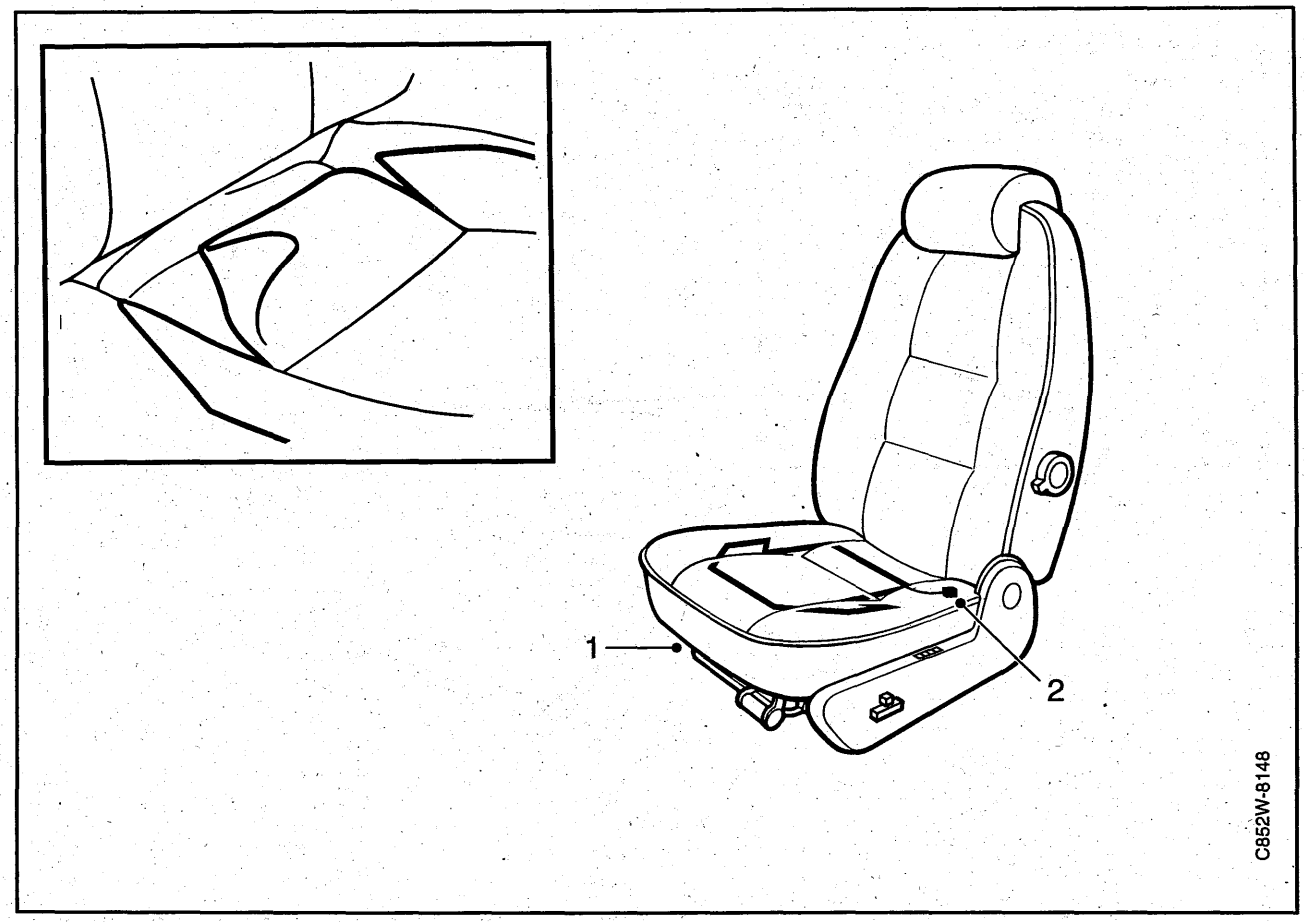
3 Fit the back upholstery, see page 852–40.

4 Refit the seat in the car, see page 852–34.

Important

Ensure that the wiring harness runs in the same path as before to avoid snagging when the seat position is altered.

Heating pad and thermostat, seating



Removal

Wiring diagram and fault–tracing hints, see service manual 3:2.

1 Remove the seating upholstery, see page 852–42.

2 Snip off the cable ties to the electrical cables. Mark the heating pad cables and remove them from the connectors.

3 Unfasten the heating pad and/or the thermostat. loosen the glue with clean benzene. This reduces widespread flaking from the foam rubber pad.

⚠ WARNING

Use protective gloves when working with benzene.

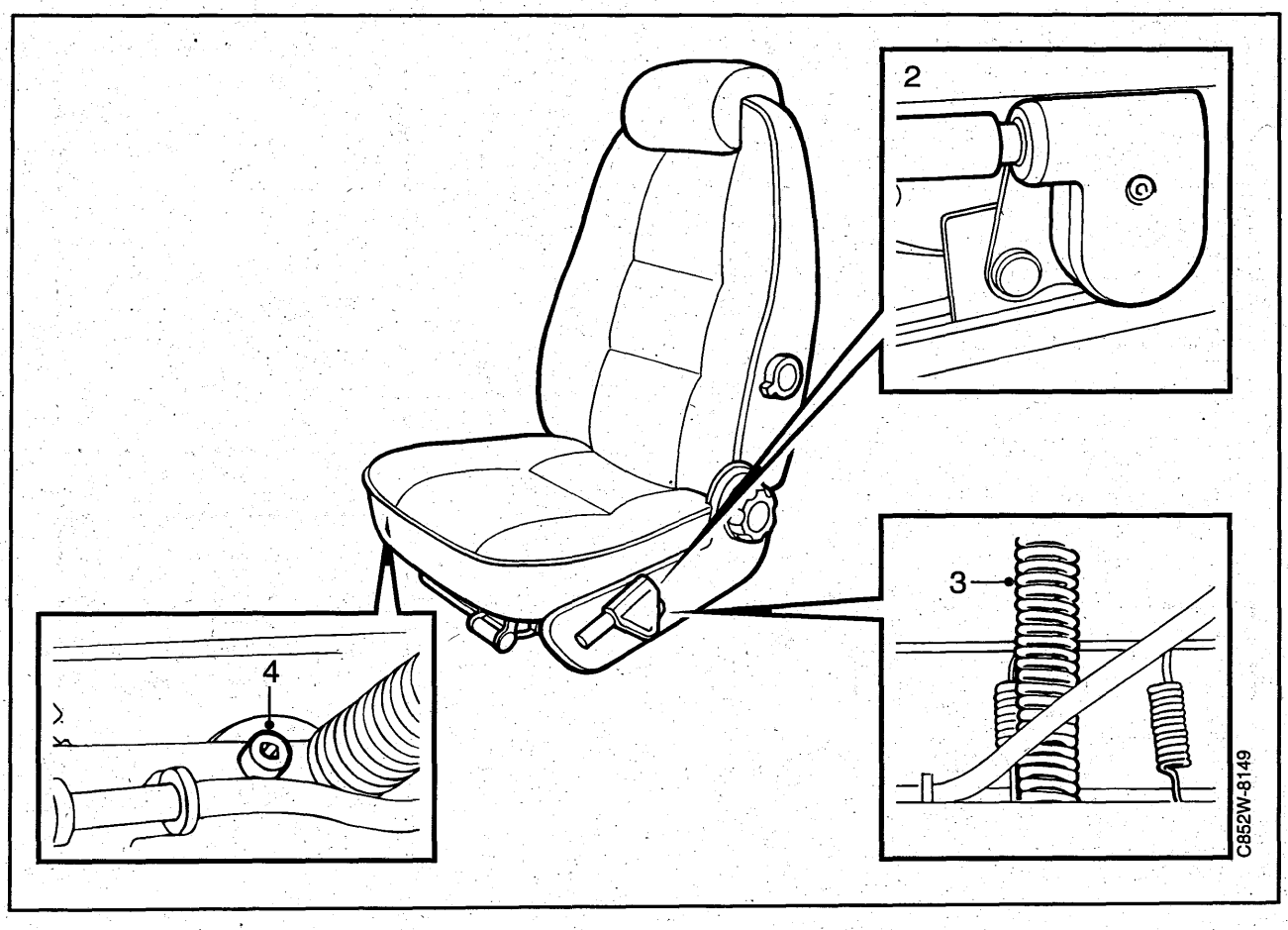
Fitting

1 Fit a new heating pad and/or thermostat.

2 Fit together the connectors to the seat–belt lock with the heating pad cables. Clip the cables to the seat.

3 Fit the seat upholstery, see page 852–42.

Height–adjustment lever, manually operated seat



Removal

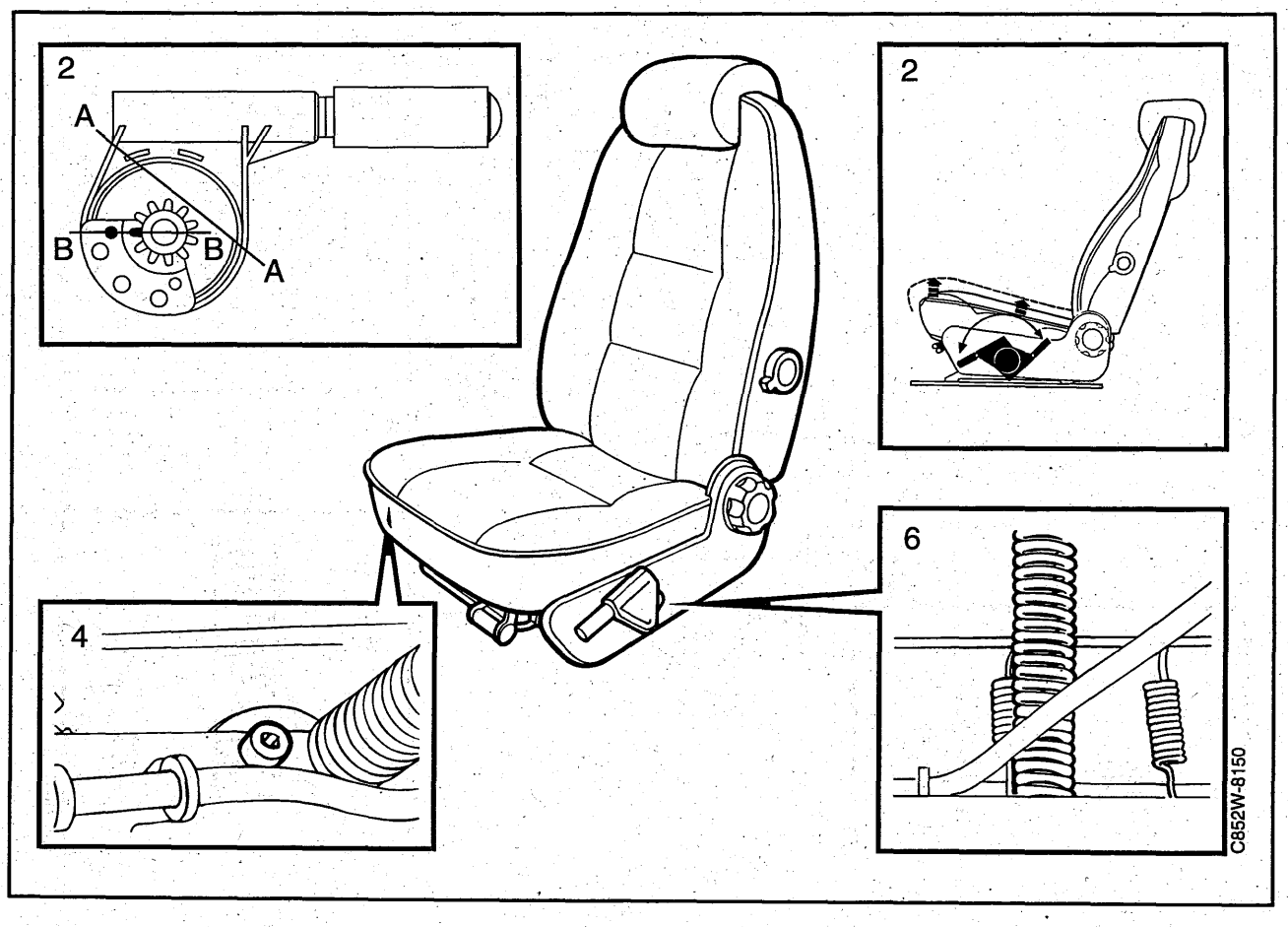
1 Remove the seat, see page 852–34.

2 Remove the cover. Unfasten and remove the cover over the height–adjustment.

3 Unhook the spring from its mounting.

4 Unfasten the two screws securing the control mechanism. Pull out the control mechanism.

Height–adjustment lever, manually operated seat (cont.)



Fitting

1 Position the seat frame in its lowest position.

2 Set the height–adjustment lever according to the picture.

Fit a metal moulding on the friction brake housing against the plastic pin (line A–A).
Then finely adjust so that the gear nearest the guide pin makes a line
B–B with the guide pin.

3 Fit the control mechanism onto the shaft and guide the guide pin into the hole.

4 Screw the control mechanism into place.

5 Place the seat frame in its highest position.

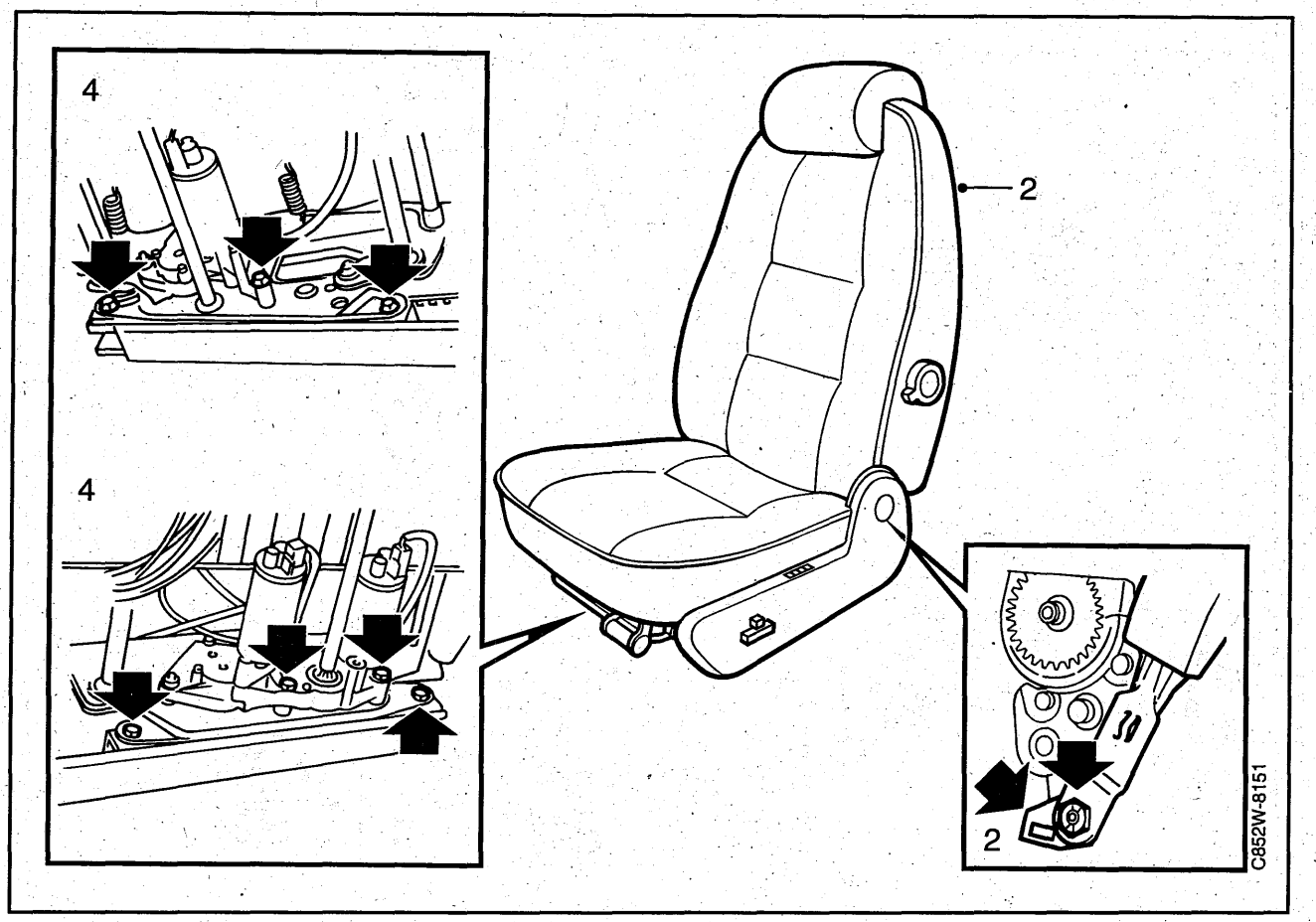
6 Tension the spring into place.

Check that the height–adjustment lever accords with the picture at both extremes (high and low position).

7 Replace the cover over the control mechanism.

8 Refit the seat in the car, see page 852–34.

Seat rails, electrically operated seat



Seat belt anchorage on the seat rail, electrically operated seat

The seat belt anchorage is a safety feature that locks the seat in place in the event of a collision. When the force applied to the belt is sufficient the blind rivet, securing the seat belt anchorage in position, breaks. The under side of the seat belt anchorage is fitted with claws that grip a corresponding claw on the rail. This occurs at collisions of around 15 km/h, though the force applied to the belt is also dependant of the seat occupants weight. A blind rivet inspection should be carried out if damage is suspected.

Checking the blind rivet is carried out from behind, between the rail and the seat belt anchorage with a feeler gauge. The measurement may not exceed 1 mm.

Removal

1 Remove the seat from the car, see page 852–34.

2 **Inner rail:**
Unscrew the seat belt lock. Keep the spacer in a safe place.

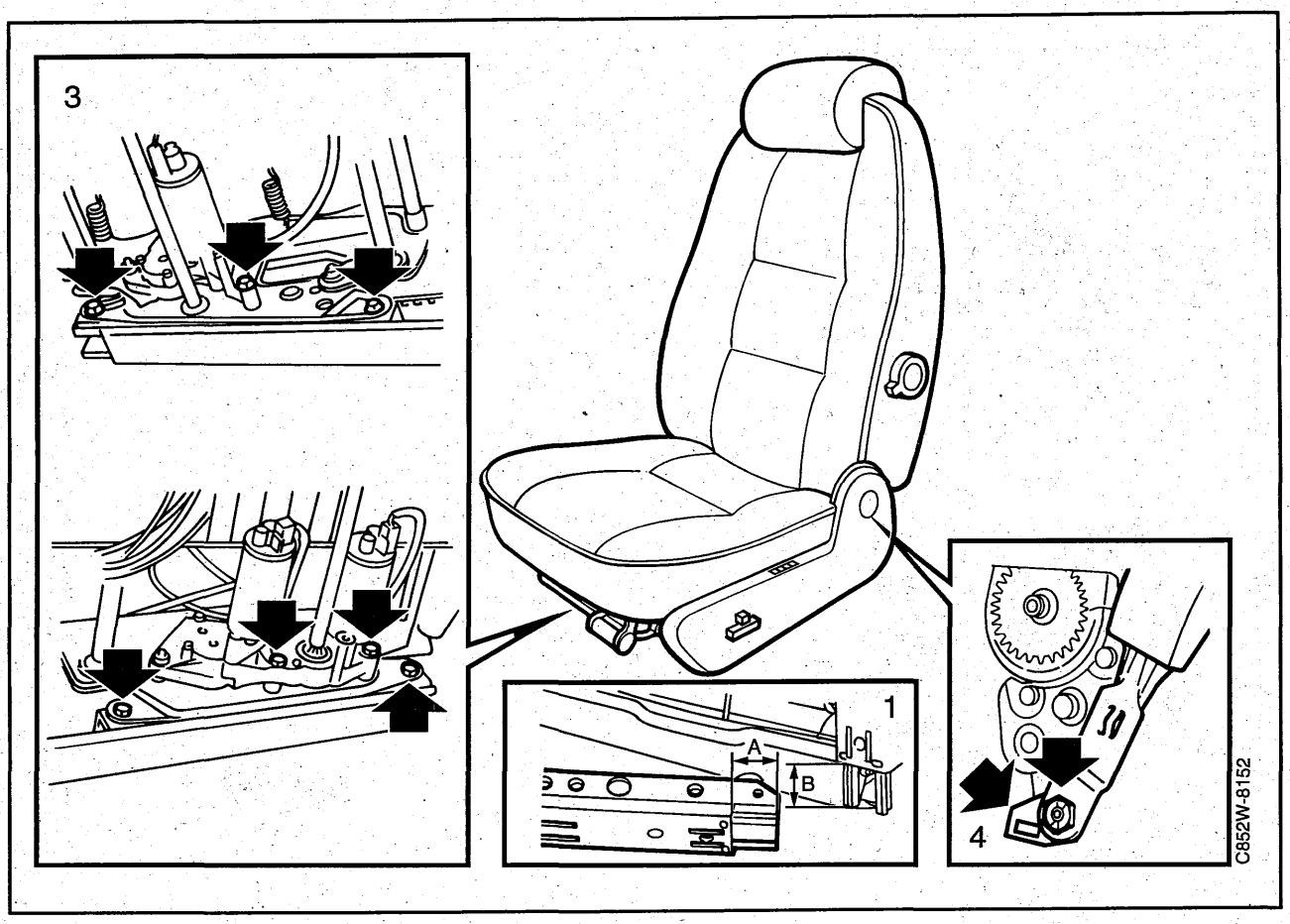
3 **Electrically operated seat with memory:**
Remove the electronic control module, see page 852–59.

4 Remove the rail retaining screws (3 for the left–hand, 4 for the right–hand) and pull out the rails.

Important

The seat belt anchorage should not be repaired as this can lead to function trouble in the seat adjustment and impaired safety operation. If the rails or blind rivets are damaged both rails should be changed.

Seat rails, electrically operated seat (cont.)



Fitting

1 Place the rails in the same position.

2 **Electrically operated seat with memory:**
Fitting the electronic control module, see page 852–59.

3 Guide the rails onto the gear wheel and screw them in position.

Tightening torque 12 Nm (9 lbf ft)

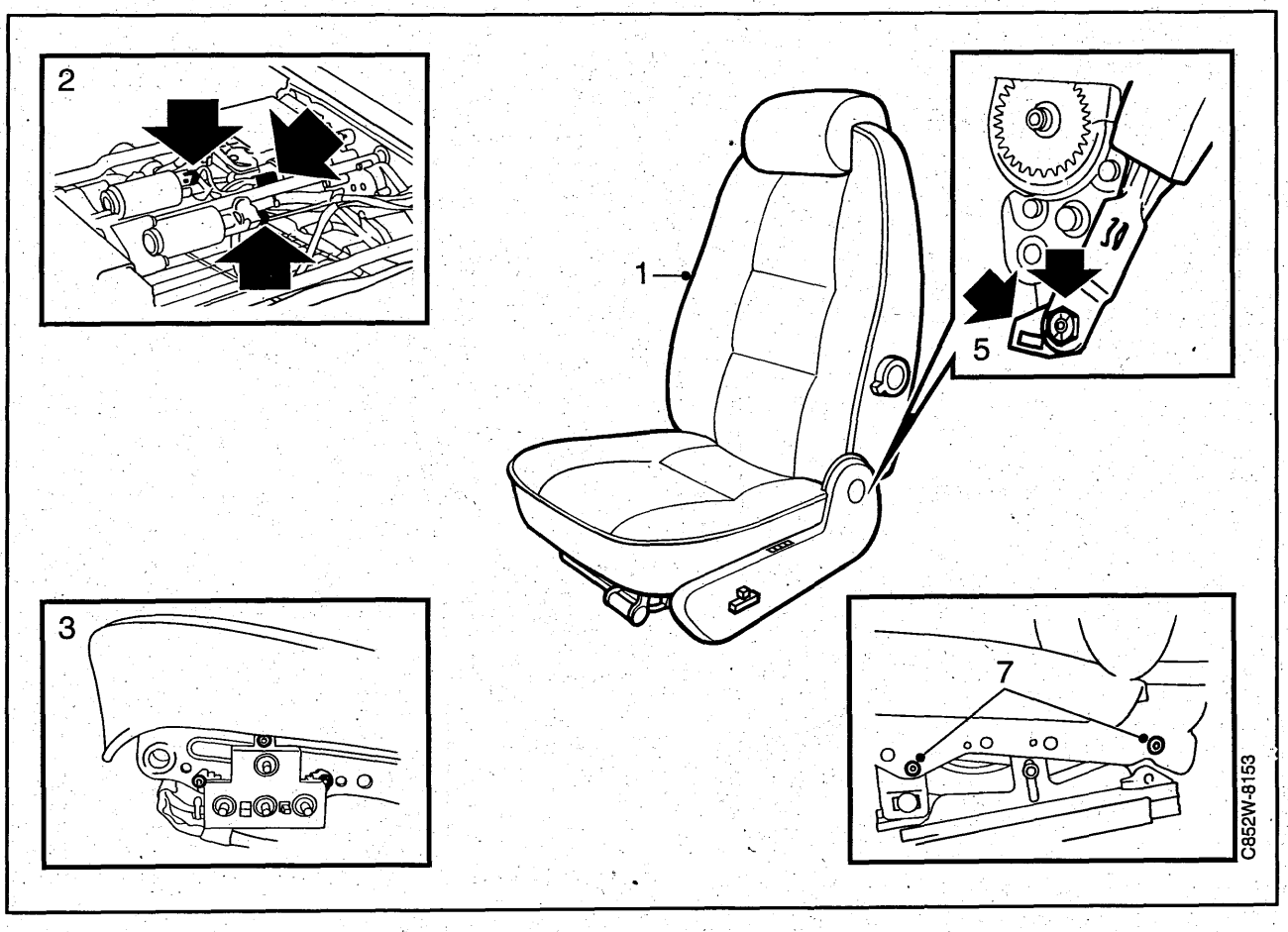
4 **Inner rail:**
Place the spacer in position and screw the seat–belt lock into place.

> ⚠ **WARNING**
>
> If the seat belt anchorage is pulled harder than 60 Nm (44 lbf ft), the seat rail is damaged and must be changed.

Tightening torque 40 Nm (29.5 lbf ft)

5 Refit the seat in the car, see page 852–34.

Seat chassis, electrically operated seat



Removal

1 Remove the seat from the car, see page 852–35.

2 Mark the connectors for the length and height adjustment motors.

Snip off the cable ties at the electrical motor and unplug the switch unit.

3 Unscrew the switch (three screws).

4 **Electrically operated seat with memory:** Removal, electronic control module, see page 852–59.

5 Unscrew the seat belt lock. Keep the spacer and remove the cable tie on the rail.

6 **Electrically operated seat with memory:** Remove the cable tie on the seat rail. Unfasten the upholstery bow from the bracket on the inside of the seat.

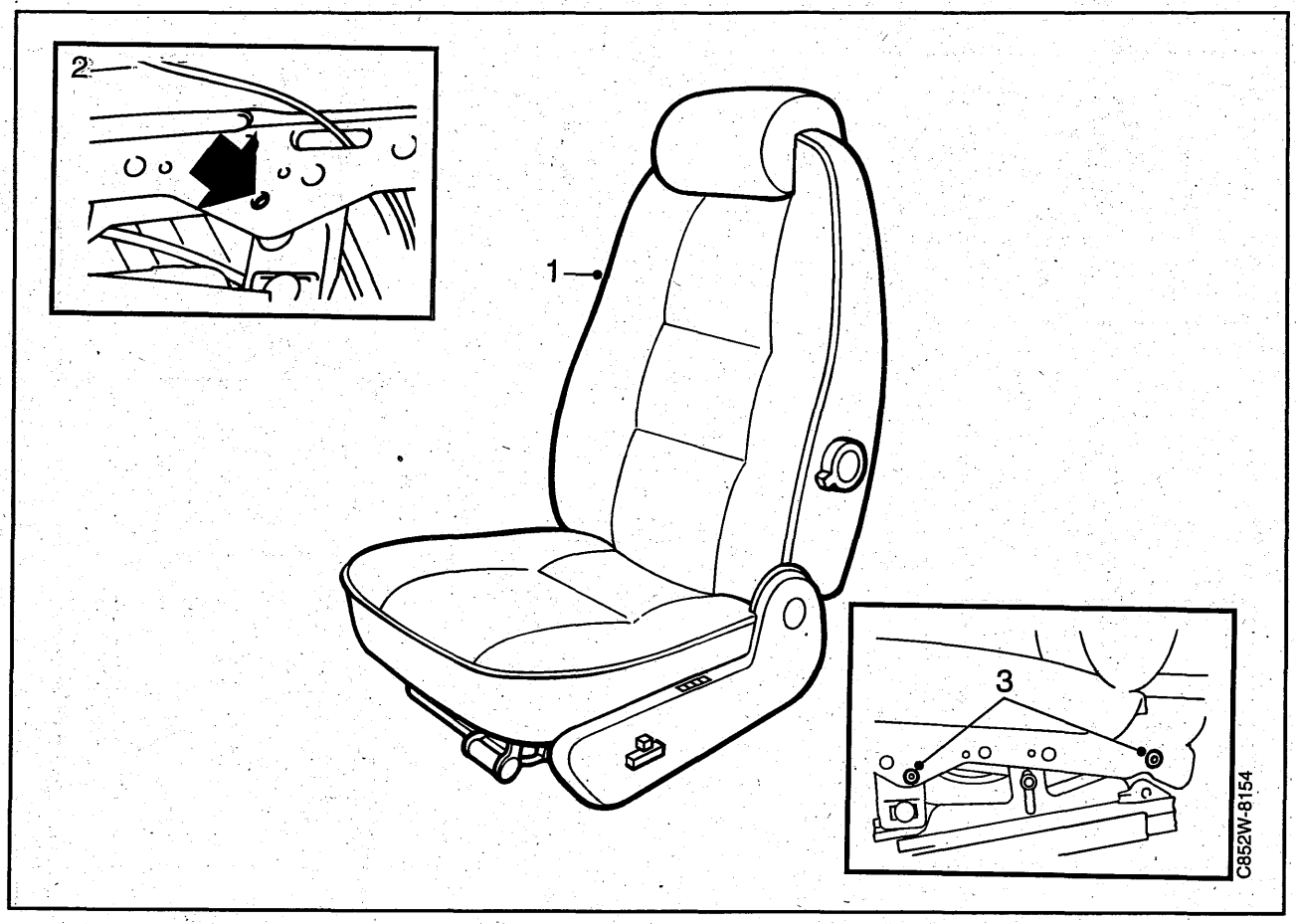
Electrically operated seat without memory Remove the cover.

7 Remove the four screws (two on each side) that secure the chassis to the seat frame.

Keep the tapered washer fitted on the rear screws.

8 Lift away the chassis.

Seat chassis, electrically operated seat (cont.)



Fitting

1 Place the seat chassis in position and screw the two screws into position on the left–hand side (one–motor side).

Important
The tapered washer is placed on the rear bolt.

Tightening torque 20 Nm (15 lbf ft)

2 Screw in the setting screws on the right–hand side (two motor side) so that it sits against the seat–chassis.

3 Screw the two securing screws in place on the right–hand side (two motor side).

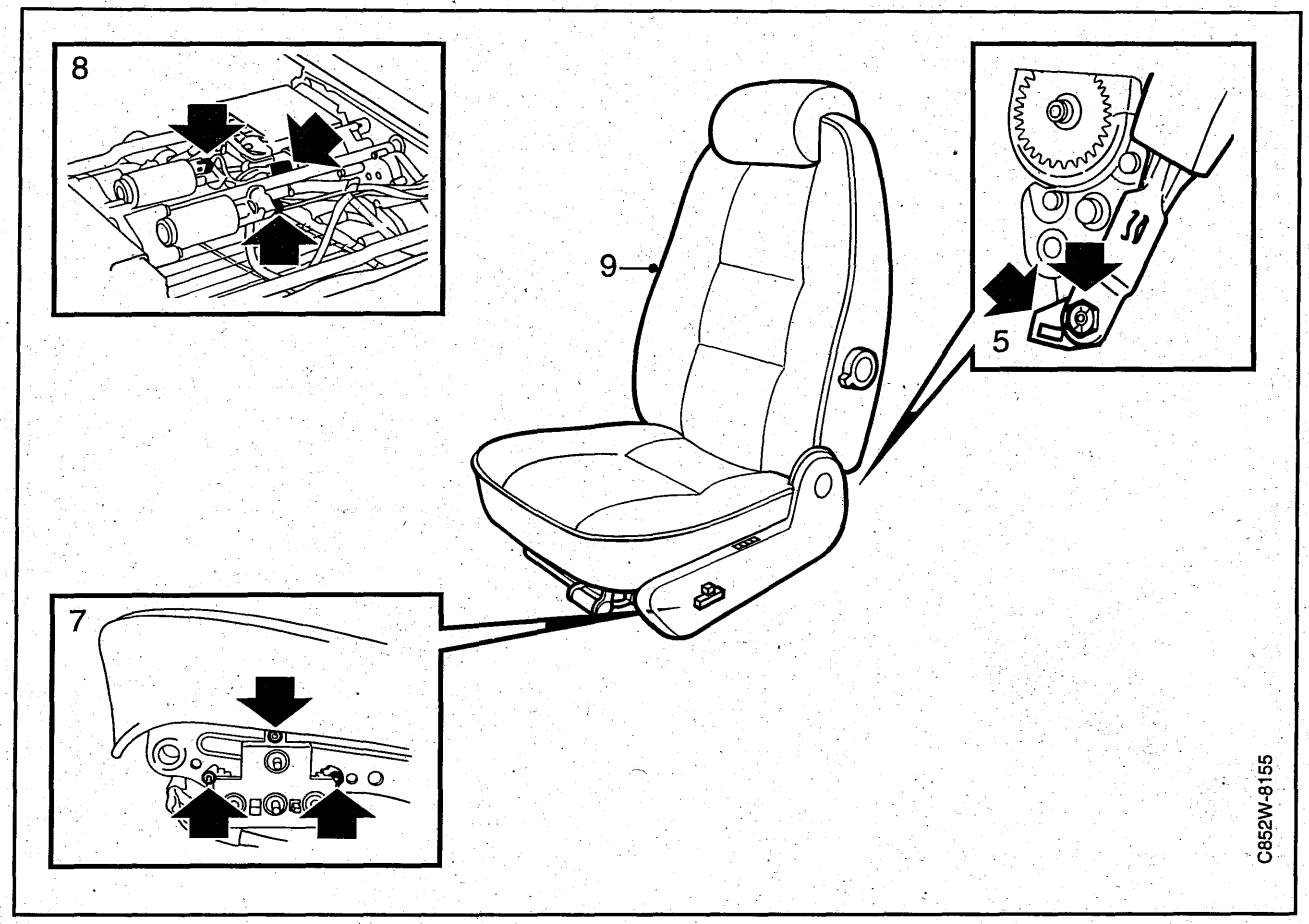
Important
The tapered washer is placed on the rear bolts.

Tightening torque 20 Nm (15 lbf ft)

4 **Electrically operated seat with memory:**
Fit the upholstery bag onto the seat.

Electrically operated seat without memory
Fit the cover.

Seat chassis, electrically operated seat (cont.)



5 Refit the spacer and screw the seat–belt lock in place. Fasten the cable to the seat rails with a cable tie.

⚠ WARNING

If the seat belt anchorage is pulled harder the 40 Nm (29.5 lbf ft) the seat rail is damaged and must be changed.

Tightening torque 40 Nm (29.5 lbf ft)

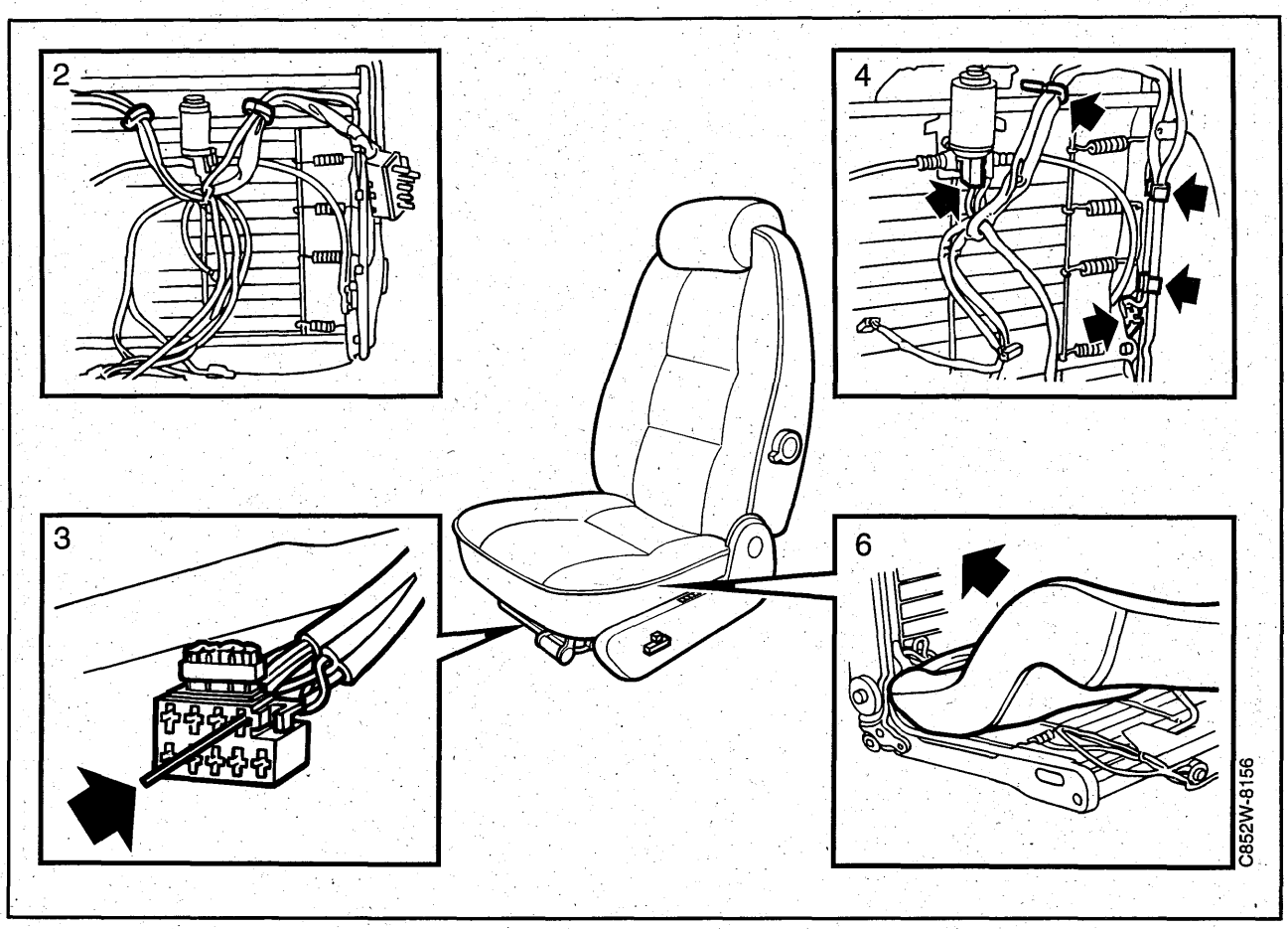
6 **Electrically operated seat with memory:** Fitting the electronic control module, see page 852–59.

7 Fit the switch, see page 852–57.

8 **Electrically operated seat without memory:** Re–plug the connectors to the height and leg room adjustment motors and fasten up the cables with a cable tie.

9 Refit the seat in the car, see page 852–35.

Seat frame assembled with back rest inclination drive



Removal

1 Remove the seat chassis, see page 852–49.

2 Snip off the cable ties (3 no.) so that the cables for the heating pads and seat–belt locks are released from the seat.

Mark the three cables for the seat–belt lock and unplug them from the 8 pole connectors.

Unscrew the seat–belt lock.

3 Mark and then remove the end position limit switch and the cable shoes for the back rest inclination motor.

Important

The end position limit switch can be short circuited if the cables are incorrectly fitted.

4 Release the wiring harness to the switch from the seat and remove the control panel. Keep the two clips securing the end position limit switch cable in a safe place.

5 Remove the head restraint and back upholstery, see page 852–38.

6 Take apart the heater pad connectors and pull off the foam plastic together with the heater pad.

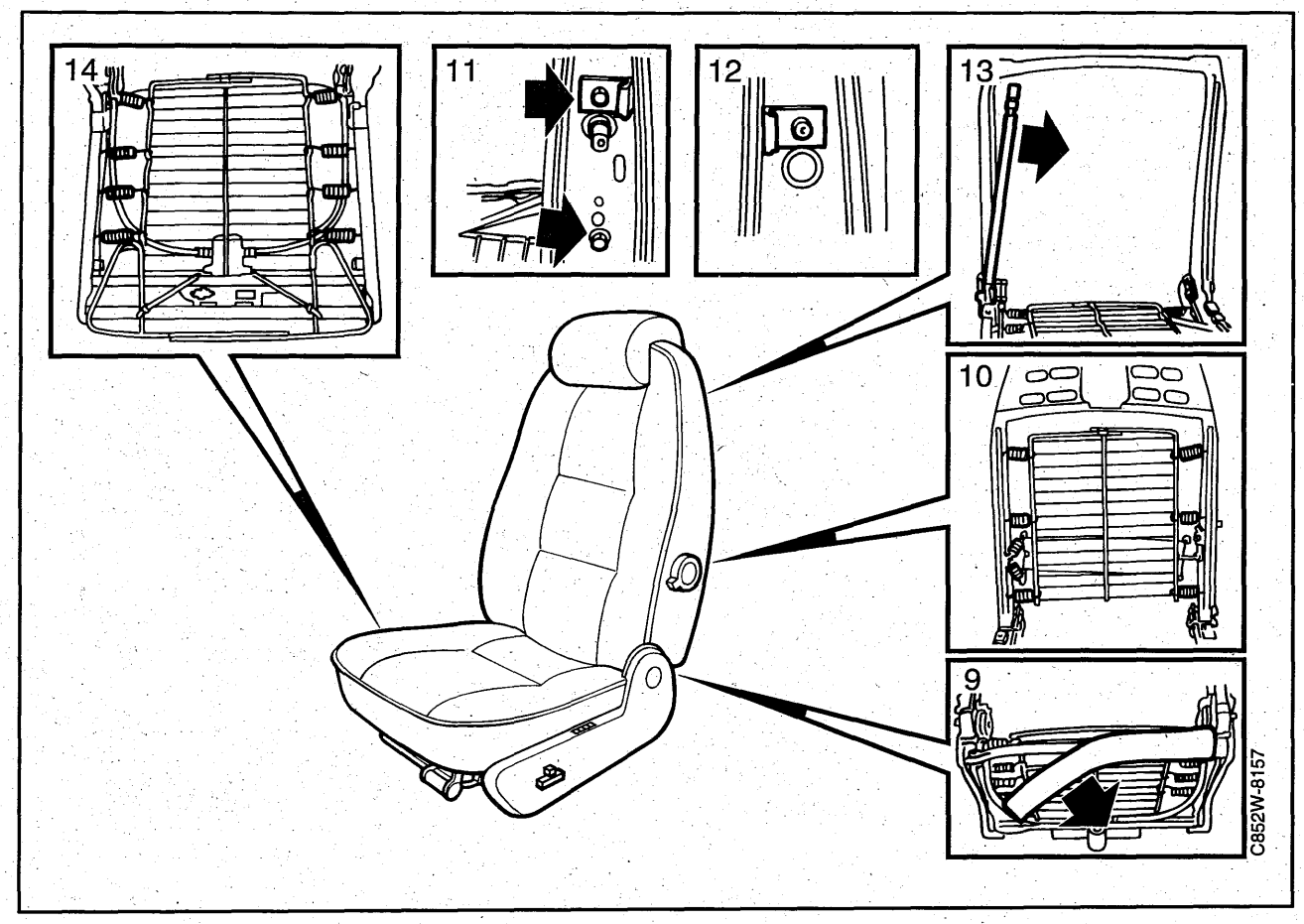
Note

On the Saab 9000 Aero the foam plastic is taken apart at the joint where it is easiest to remove.

7 Remove the seating upholstery, see page 852–42.

8 Remove the seat cushion.

Seat frame complete with back rest inclination drive (cont.)



9 Remove the scuff guard from the seat frame.

10 Unhook the spring and remove the back wire matting. Note the position of the springs.

11 Remove the lumbard support (two screws on each side).
Save the elastic webbing mountings.

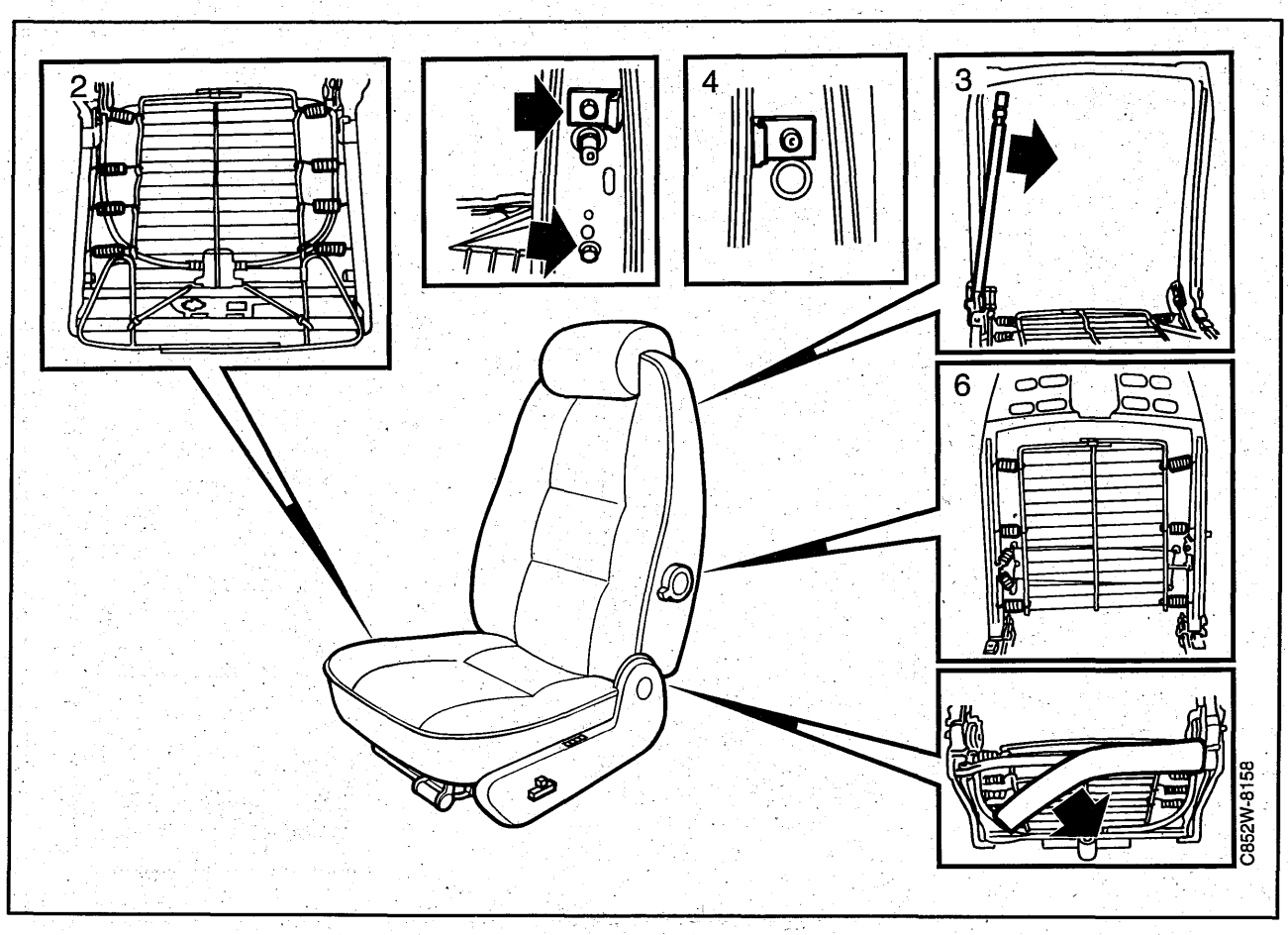
12 Drill out the other blind rivet that holds the other elastic webbing bracket.

13 Remove the plastic strips (back chafing guard).

14 Unhook the spring for the seating wire matting. Note the position of the springs.

Snip off the cable tie on the front edge of the wire matting and lift it away.

Seat frame complete with back rest inclination drive (cont.)



Fitting

1 First, place the mounting for the seat upholstery bow and the rubber support on the front bow of the seat frame in position.

Put fabric tape on the upper side of the new seat frame tube.

2 Position and fit the seat spring housing. Fasten the spring housing to the front tube with two cable ties. Refit the springs to the seat spring housing.

Important

The rear springs are shorter than the others.

3 Refit the plastic strip (chafing guard) on the back.

4 Fasten the inner side of the spring housing with blind rivet.

5 Refit the lumbard support and the outer side spring housing.

6 Hook the spring housing for the back in place.

Important

The centre spring is rougher than the others.

7 Glue the scuff plate in position.

8 Glue the seat cushion to the seat frame.

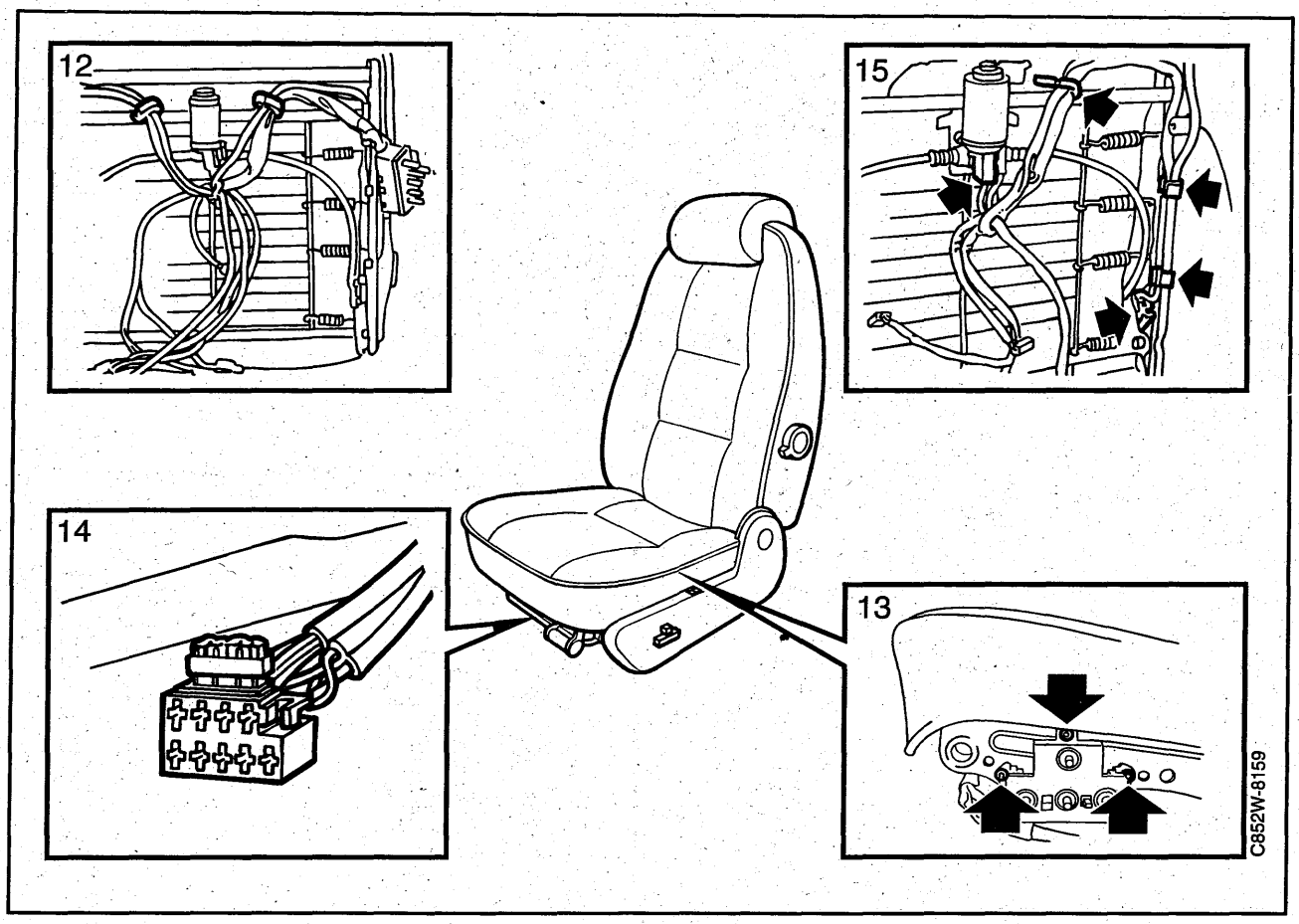
9 Fit the seat upholstery, see page 852–42.

10 Pull the foam plastic together with the heater pad over the back and fit together the connectors.

Note

On Saab 9000 Aero the foam plastic should be glued with contact glue on the joints.

Seat frame complete with back rest inclination drive (cont.)



11 Fit the back upholstery and head restraint, see side 852–40.

12 Fit the clips for the electrical cables to the back end position limit switch on the seat frame and place the wiring to the switches in the seat.

13 Connect the three cable shoes to the back end position limit switch and the two cable shoes to the back rest inclination motor.

Important

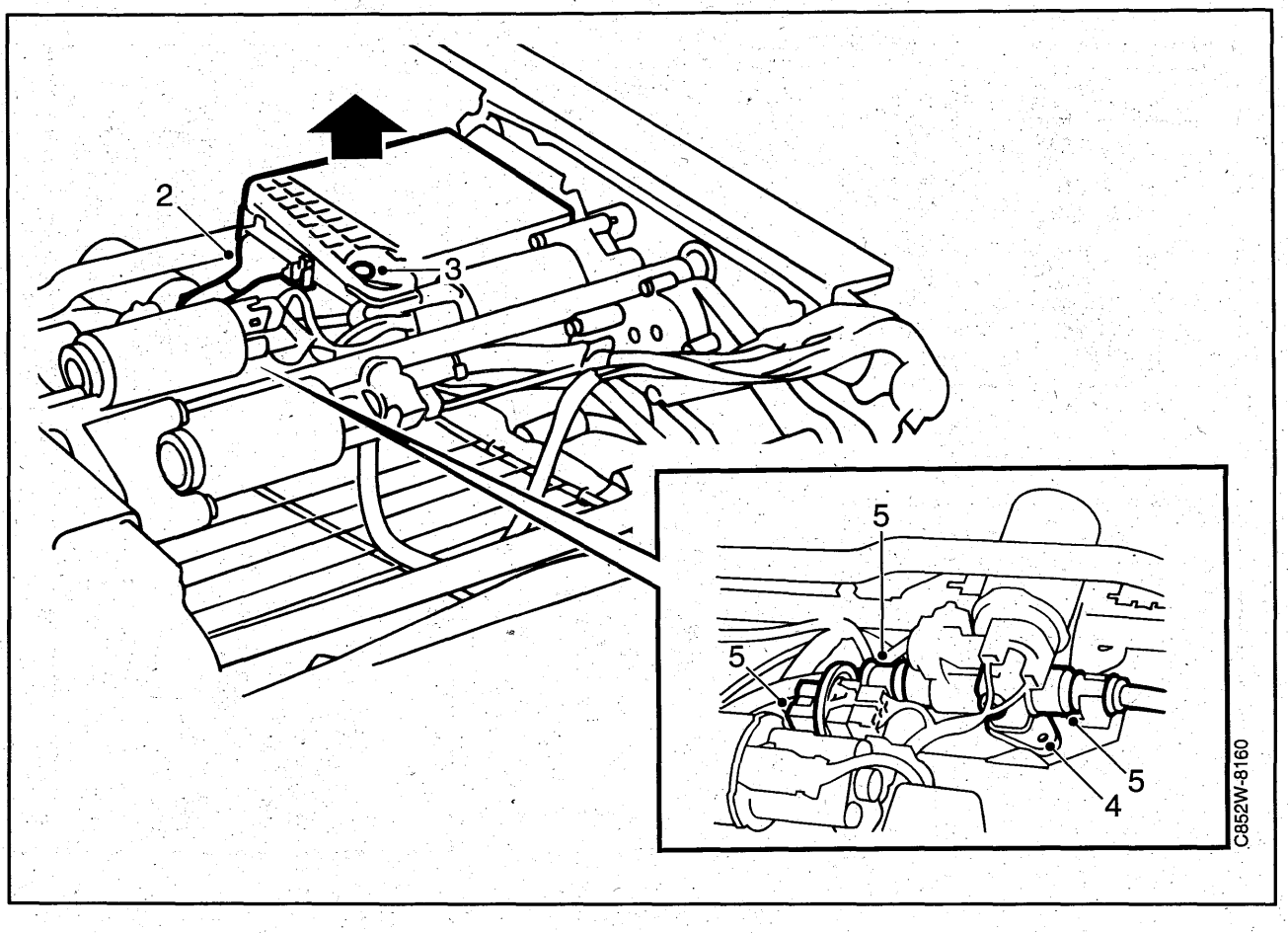
The end position limit switch is short circuited if the cables are incorrectly fitted.

14 Thread the seat–belt lock cables through the seat frame and connect the three cables to the 8 pole connectors.

15 Fasten the cables together with two cable ties and clip the cables to the seat with a further two cable ties.

16 Fit the seat chassis to the seat, see page 852–50.

Back rest inclination with motor



Removal

1 Remove the seat from the car, see page 852–35.

2 Unplug the connectors from the electronic control module.

3 Remove the locking screw and twist the control module bracket free using a screwdriver.

Fold the control module upwards.

4 Unfasten the two screws on the underside of the back rest inclination drive motor.

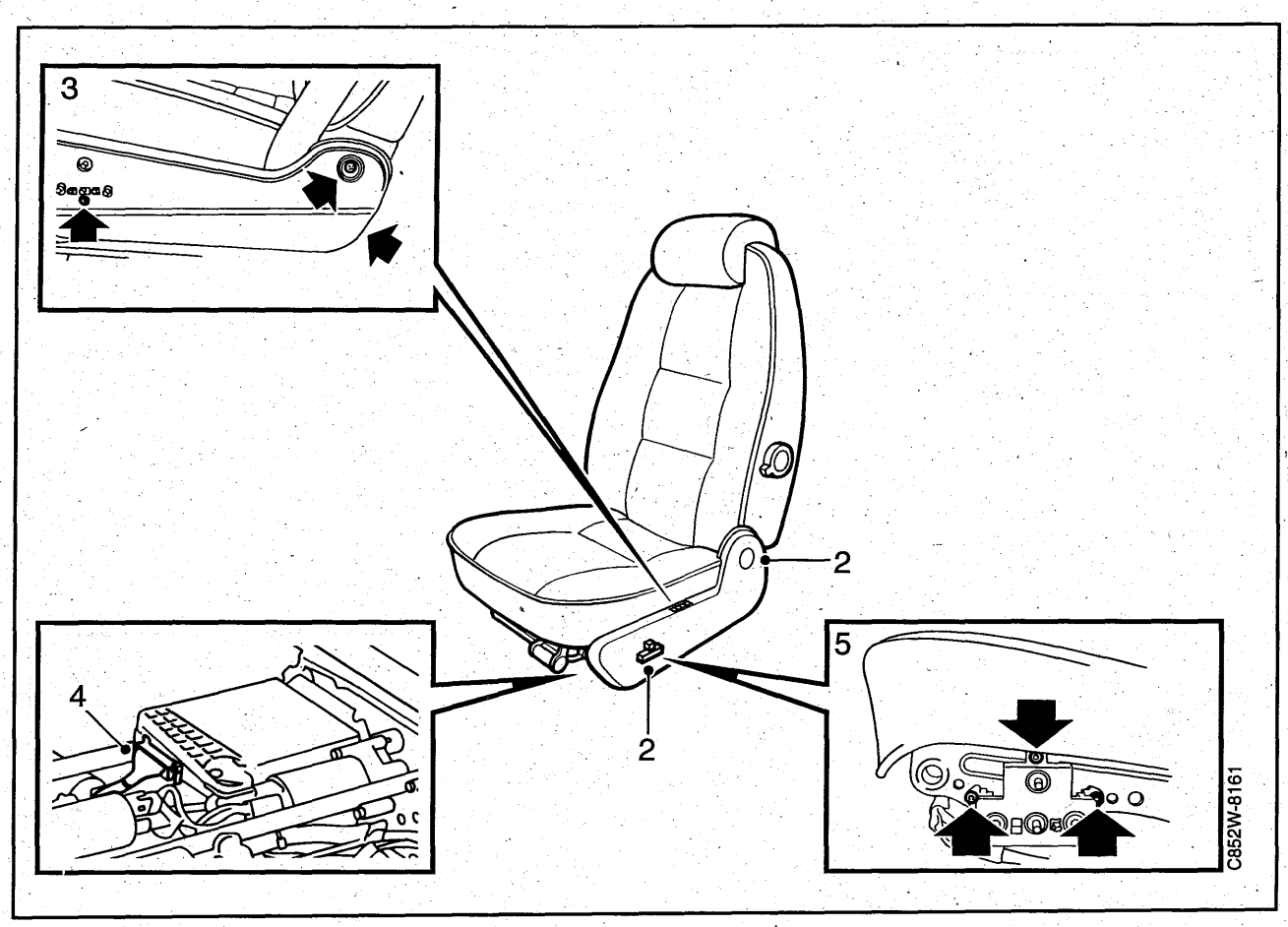
5 Lever the wires free from the plastic mounting with a screwdriver.

Unfasten the cable from the drive of the back–rest inclination motor.

Fitting

Fit in reverse order.

Switch, electrically operated seat



Removal

1 Place the seat in its highest position.

2 Pull away the control button.

3 Remove the cover and unscrew the seat cover (three screws).

4 **Electrically operated seat without memory:** Unplug the connector from the respective motor and snip off the cable tie securing the wiring loom.

Electrically operated seat with memory: Unplug the connectors from the electronic control module and snip off the cable tie securing the wiring harness.

5 Unscrew the three screws to the switch and remove it complete with wiring loom.

Fitting

1 Fit the switch.n.

2 **Electrically operated seat without memory:** Re–plug the connectors to the respective motor and fit the wiring loom with a cable tie to the seat frame.

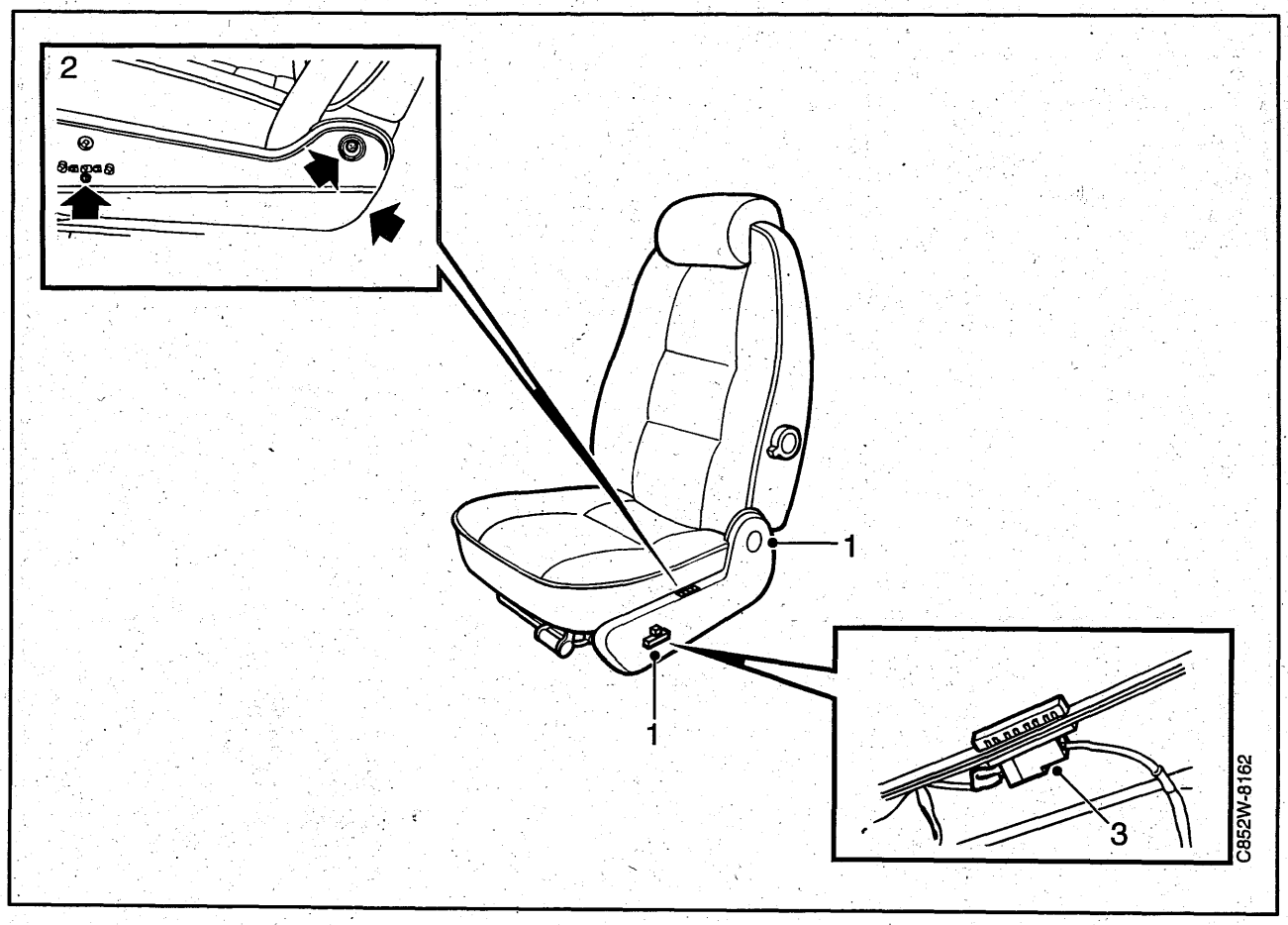
Electrically operated seat with memory: Fit the connectors to the electronic control module and fit the wiring loom onto the seat rail with a cable tie..

3 Screw the three switch screws.

> **⚠ WARNING**
>
> Do not tighten the front screw harder than 1.5 Nm (1.1 lbf ft). The switch can be damaged.

4 Refit the cover and the control button.

Switch, memory operation



Removal

1 Pull away the control button.

2 Remove the cover and the three seat cover screws.

3 Unfasten the switch from the cover and unplug the connectors.

Fitting

1 Set the cables in the cover bracket.

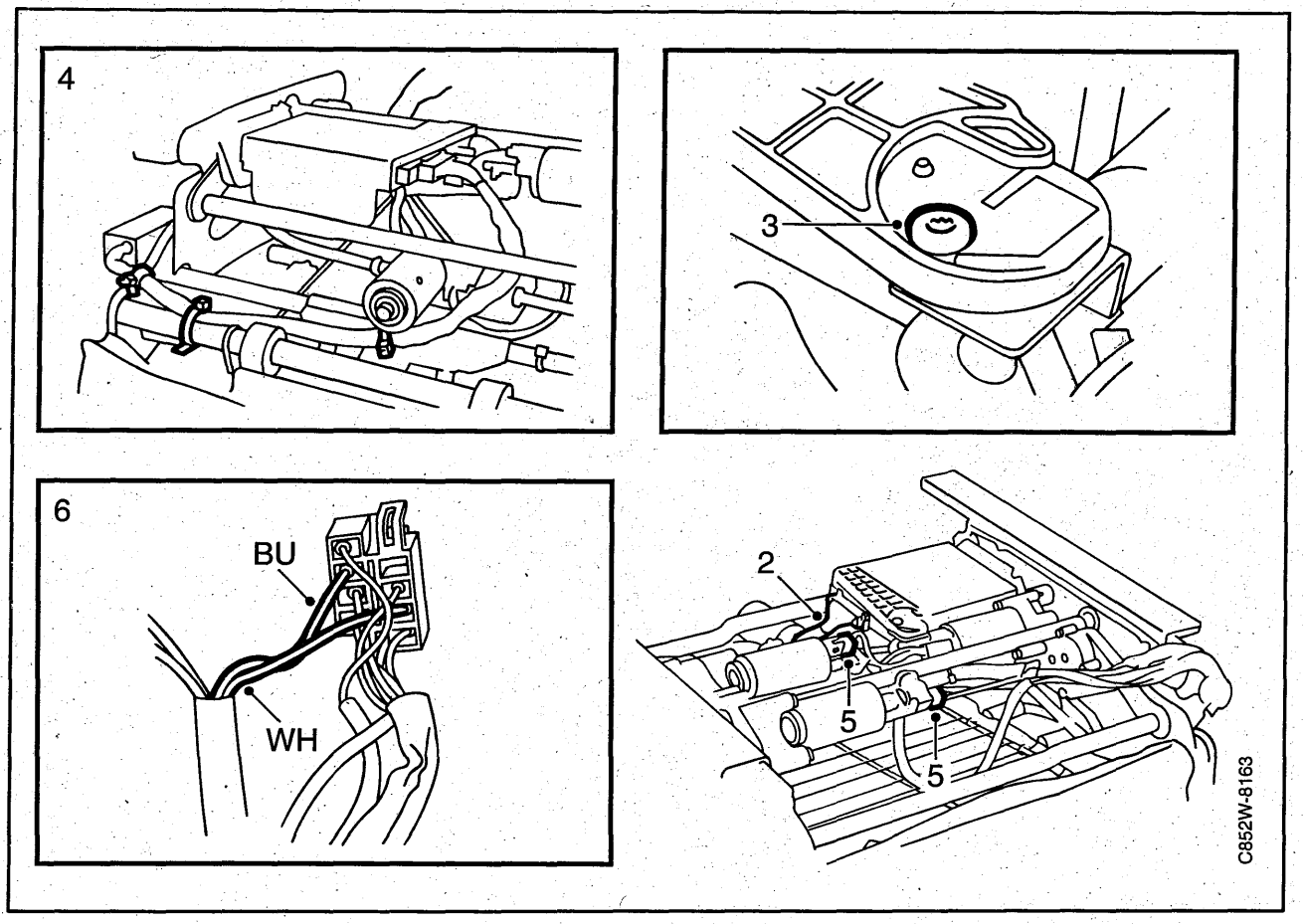
2 Plug together the switch connectors and press the switches in place on the cover.

3 Screw the three cover screws in place.

> **⚠ WARNING**
>
> Do not tighten the front screw harder than 1.5 Nm (1.1 lbf ft). The switch can be damaged.

4 Fit the cover and control buttons.

Electronic control module.



Removal

1 Remove the seat from the car, see page 852–35.

2 Unfasten the sensor connector from the electronic control module.

3 Remove the locking screw and twist the control module bracket free using a screwdriver.

4 Unfasten the wiring harness cable ties from the motor bracket and snip off the cable tie securing the cables to the connectors.

5 Mark the respective colour on the cables to the motot and unplug the connectors.

6 Mark and then unplug the white and blue cable from the 8 pole connectors.

7 Unfasten the electronic control module from the bracket and lift it away.

Fitting

1 Push the electronic control module into place on the bracket.

2 Refit the white and the blue cable, according to the markings, on the 8 pole connectors.

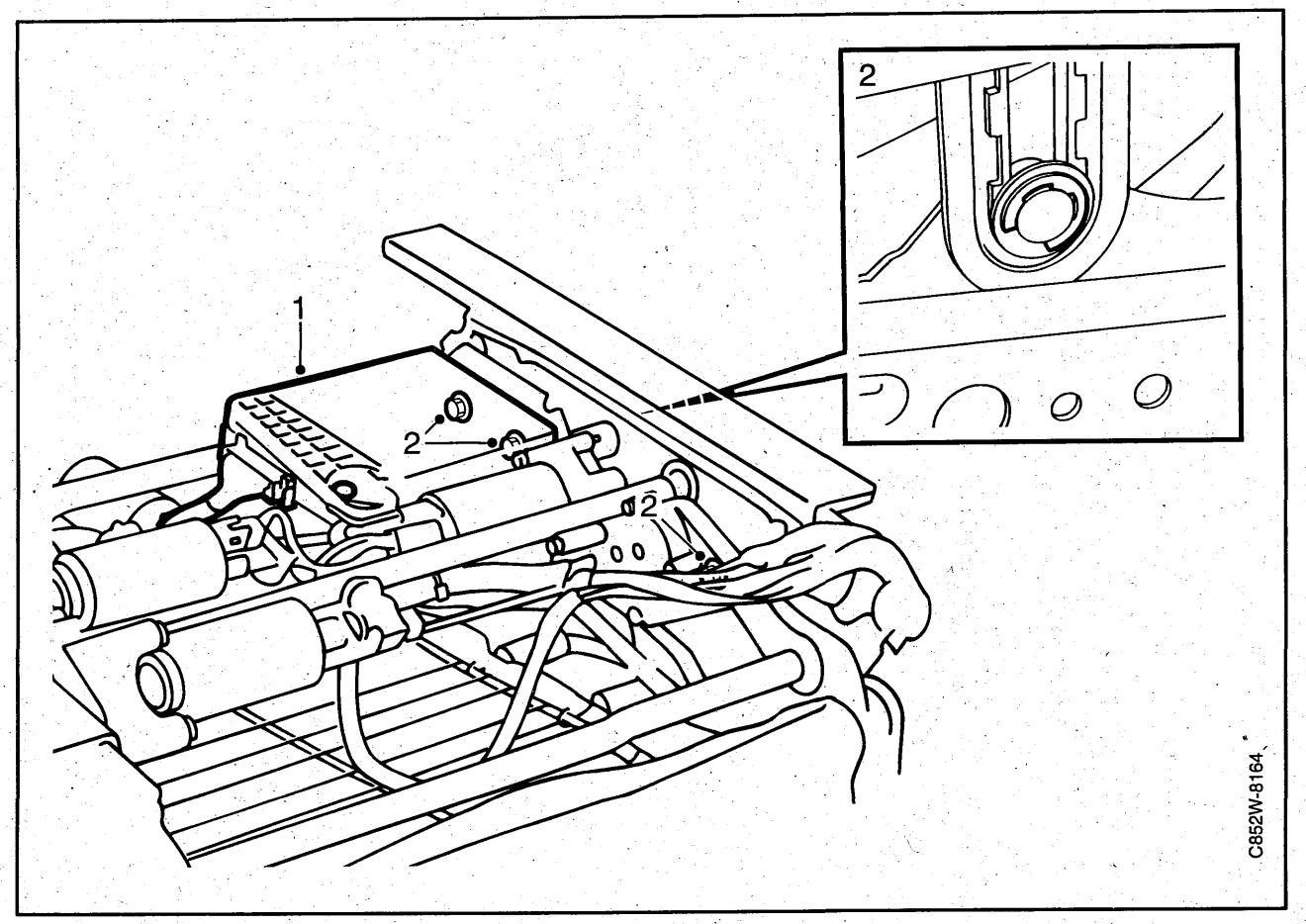
3 Plug in the connectors to motors. Fit cable ties on the cables and push them into position on the motor bracket.

4 Connect the sensor connector to the electronic control module.

5 Fit the bracket securing the electronic control module in place and also the locking screws.

6 Refit the seat in the car, see page 852–35.

Rear height adjustment gear complete with motor



Removal, electrically operated seat without memory

1 Remove the seat from the car, see page 852–35.

2 Remove the connectors to the rear height adjustment motor.

3 Unscrew the rear height adjustment gear (one screw and a nut).

Removal, electrically operated seat with memory

1 Removing the electronic control module, see page 852–59.

2 Remove the left–hand rail complete with drive shaft through removing the circlip and washer from the pivot bolt on the left–hand side of the chassis.

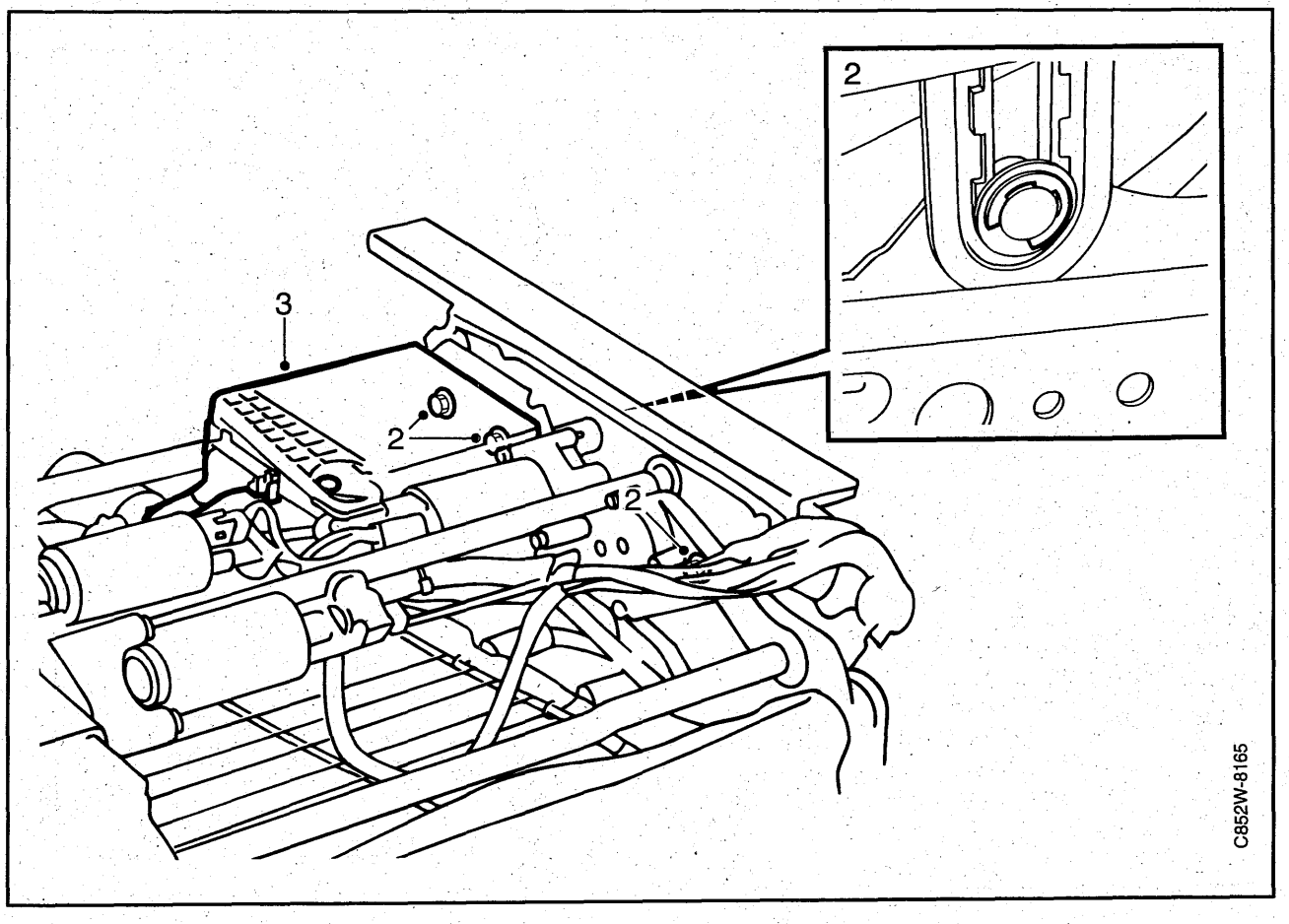
Unscrew the rear height adjustment gear (one screw and two nuts).

Remove the nut and the washer form the front linking bolt on the left–hand side of the chassis (one motor side).

Note the position of the washers.

3 Lift away the left–hand rail together with the drive shaft, rear height adjustment and the plastic mounting for the electronic control module.

Rear height adjustment gear complete with motor (cont.)



Fitting, electrically operated seat without memory

1 Fit in the rear height adjustment drive gear against the ratchet and slide on the gear.

Screw the gear into place (one screw and one nut).

Kiristysmomentti:
Screw 10 Nm (7.4 lbf ft)
Nut 20 Nm(15 lbf ft)

2 Connect the electrical connections to the rear height adjustment motor.

3 Refit the seat in the car, see page 852–35.

Fitting, electrically operated seat with memory

1 Fit the left–hand rail complete with drive shaft through placing the rails in the same positions.

Match in the left–hand rail together with the drive shaft. Screw the nut and washer into place on the front left–hand linking bolt.

Tightening torque 20 Nm (15 lbf ft)

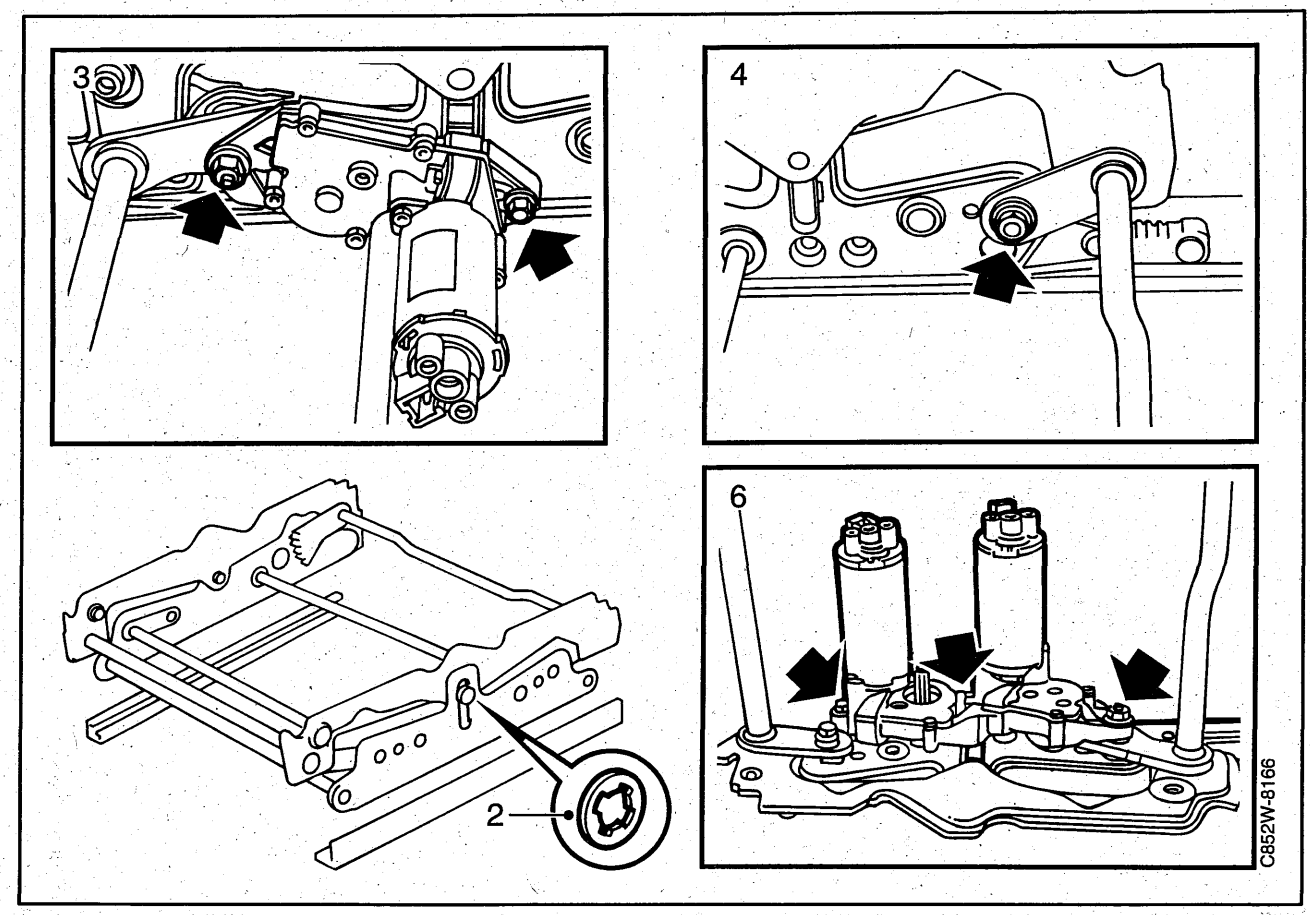
2 Match in the rear height adjustment drive gear against the chassis ratchet and slide on to the gear. Refit the plastic mounting for the electronic control module. Screw the gear into place (one screw and a nut).

Fit the washer and circlip on the left–hand side (one–motor side) pivot bolt.

Tightening torque:
Screw 10 Nm (7.4 lbf ft)
Nut 20 Nm (15 lbf ft)

3 Fitting the electronic control module, see page 852–59.

Front height and leg room adjustment complete with motors



Removal, electrically operated seat without memory

1 Remove the seat from the car, see page 852–35.

2 Remove the left–hand rail complete with drive shaft by removing the circlip and the washer from the pivot bolt on the left–hand side of the chassis (one–motor side).

3 Unscrew the rear height adjustment gear (one screw and a nut).

4 Remove the nut and the washer from the front linking bolt on the left–hand side of the chassis (one motor side).

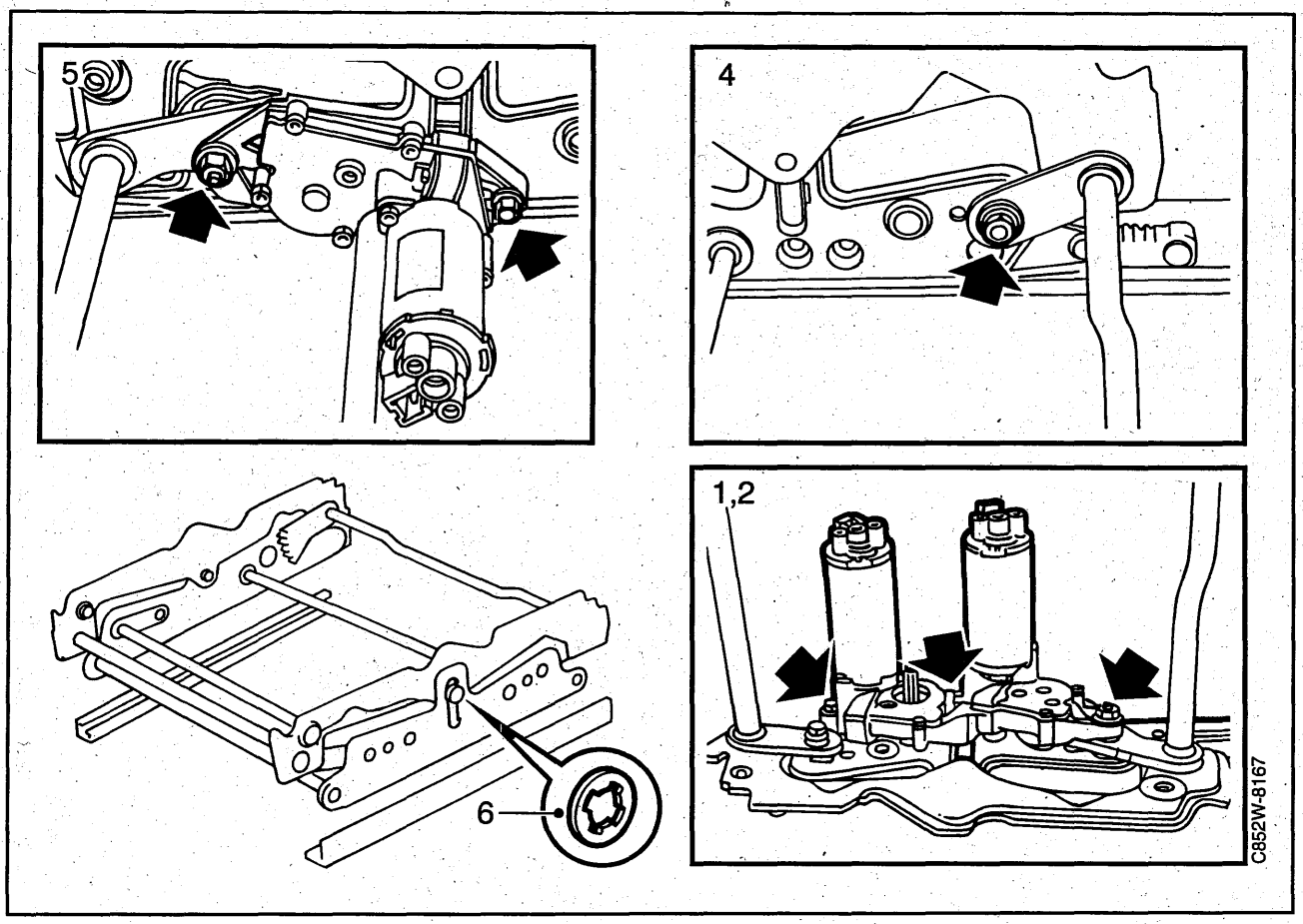
5 Lift away the left–hand rail together with the drive shaft.

6 Remove the front height and leg room adjustment gear (two screws and a nut).

Note

Note the position of the washers.

Front height and leg room adjustment gear complete with motors (cont.)



Fitting, electrically operated seat without memory

1 Match up the leg room adjustment gear on the seat rail rack and pinion.

2 Match up the height adjustment drive gear on the chassis ratchet.

3 Screw the gear to the chassis.

Tightening torque:
Screw 10 Nm (7.4 lbf ft)
Nut 20 Nm (15 lbf ft)

4 Refit the left–hand rail complete with the drive shaft by first placing the rails in the same position.

Then fit the left–hand rail together with the drive shaft.

Fit the nut and washer on the front left–hand linking bolt.

Tightening torque 20 Nm (15 lbf ft)

5 Match up the rear height adjustment drive gear against the chassis and slide on the gear.

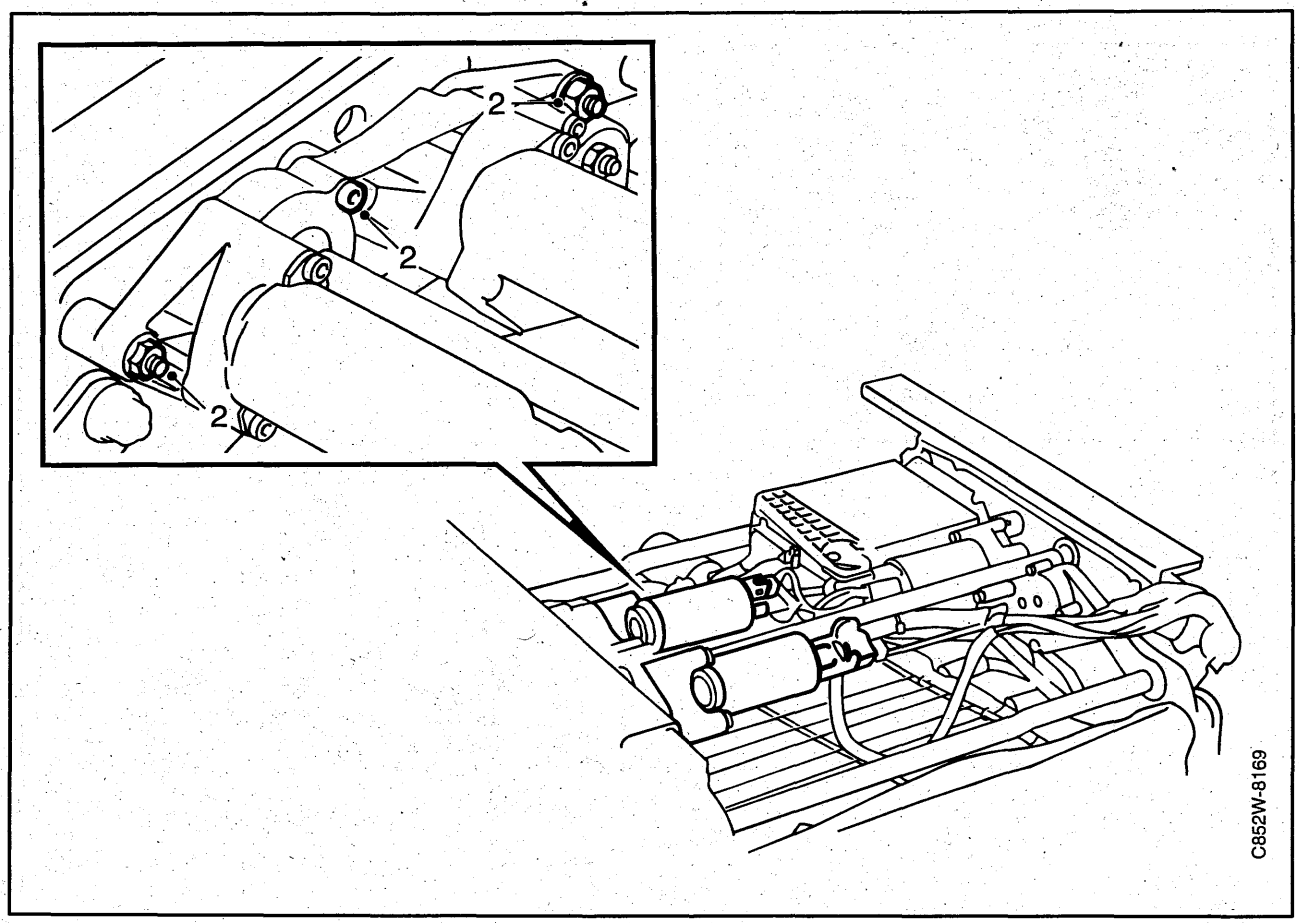
Screw the gear into place (one screw and one nut).

Tightening torque:
Screw 10 Nm (7.4 lbf ft)
Nut 20 Nm (15 lbf ft)

6 Fit the washer and circlip on the left–hand side (one motor side) pivot bolt.

7 Refit the seat in the car, see page 852–35.

Front height and leg room adjustment gear complete with motors (cont.)



Removal, electrically operated seat with memory

1 Removing the height adjustment gear, see page 852–60.

2 Unscrew the two screws and a nut that secure the front height and adjustment gear.

3 Remove the front height and leg room adjustment gear (two screws and a nut).

Note

Note the position of the washers.

Fitting, electrically operated seat with memory

1 Screw the front height and length adjustment gear in place (two screws and a nut).

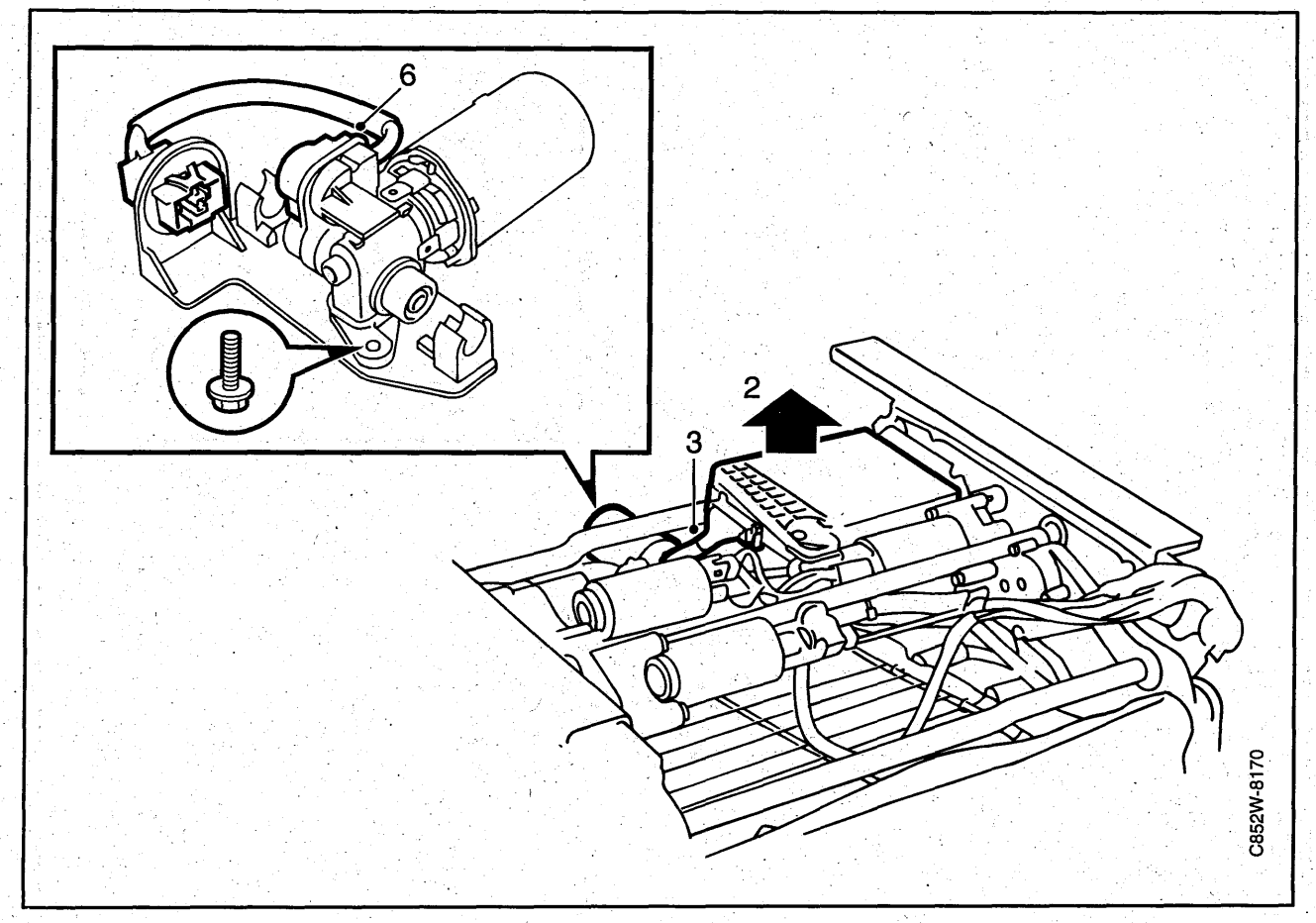
2 Fit the rear height adjustment gear, see page 852–61.

3 Guide the rear height adjustment into its upper and lower end positions. The potentiometer is automatically adjusted.

Important

The rails must be in the same position for the seat to be fitted into the car.

Potentiometer, motor for back rest inclination drive



Removal

1 Remove the seat from the car, see page 852–35.

2 Unfasten the sensor connector from the electronic control module.

3 Remove the locking screws and twist the electronic control module free using a screwdriver. Move away the control module.

4 Unfasten the two screws under the plastic mounting.

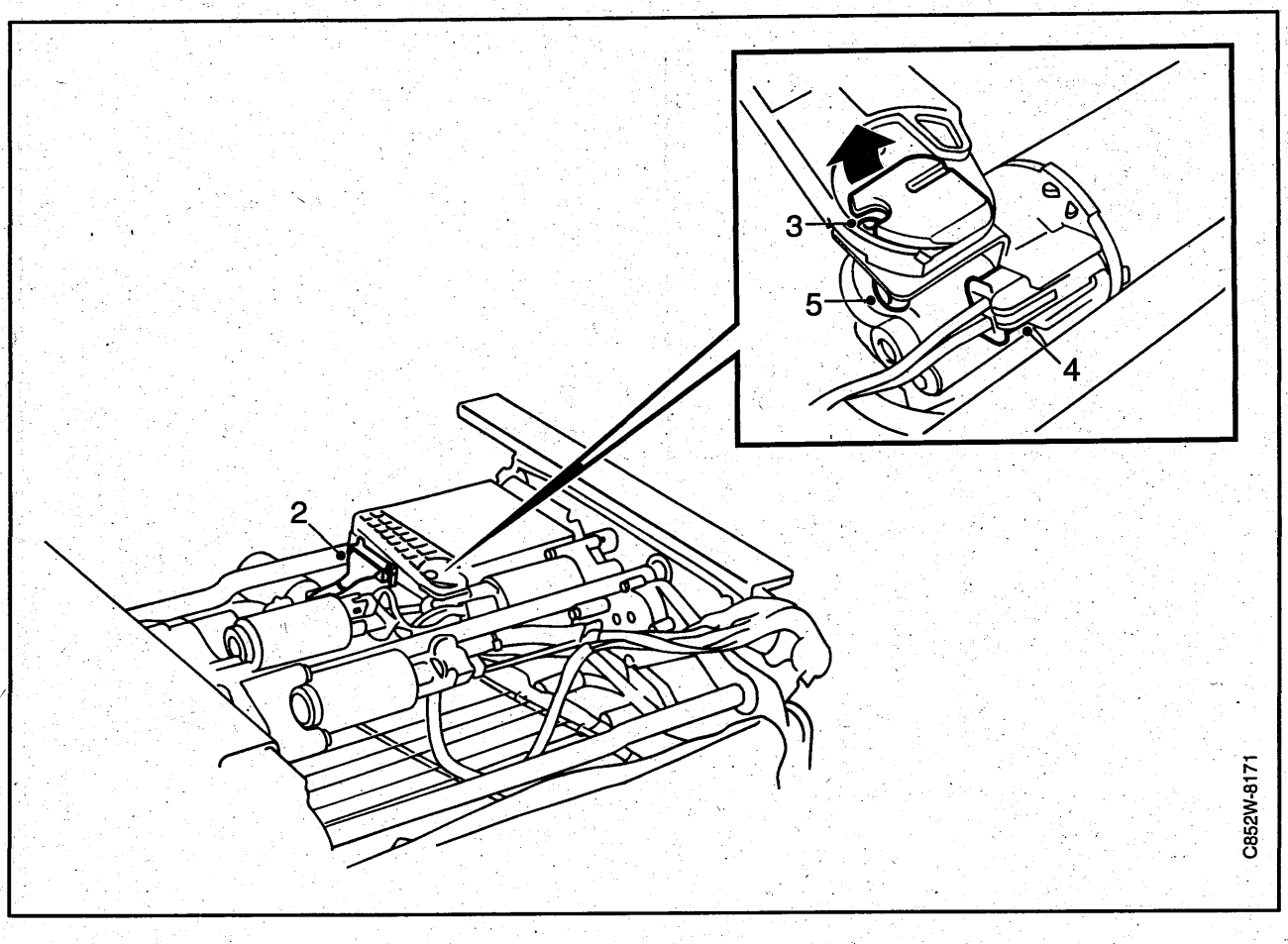
5 Unfasten the wires on the left–hand and right–hand sides.

6 Bend the potentiometer free and unplug the connectors from the plastic mounting.

Fitting

Fit in reverse order.

Potentiometer, rear height adjustment.



Removal

1 Remove the seat from the car, see page 852–35.

2 Unfasten the sensor connector from the electronic control module.

3 Remove the locking screws and twist the electronic control module free using a screwdriver. Move away the control module.

4 Unplug the connectors from the motor..

5 Unscrew the potentiometer and release it from the shaft. Keep the mounting for the electronic control module.

Fitting

1 Screw the potentiometer in place with the motor control module mounting.

2 Plug in the connectors to the motor.

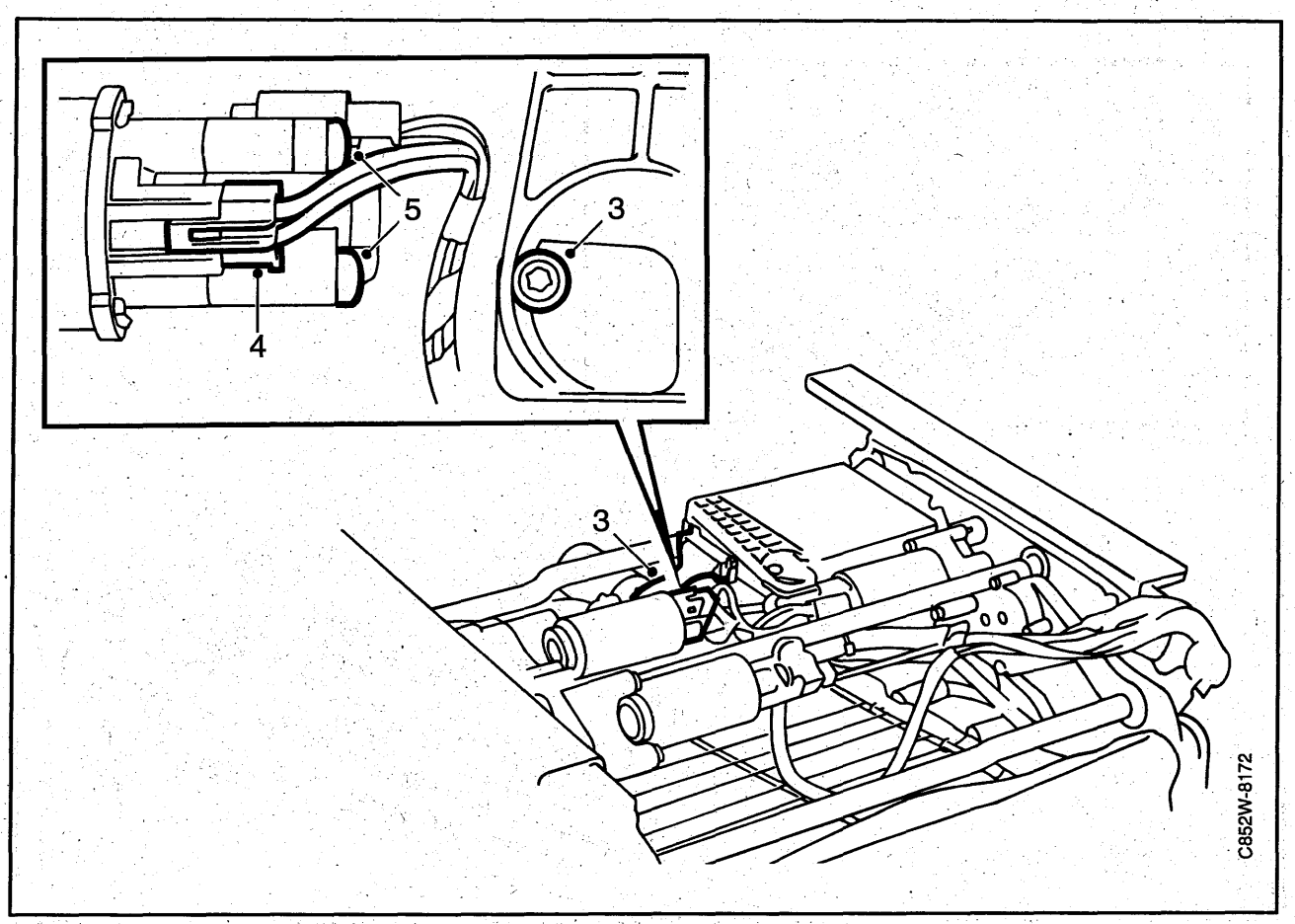
3 Refit the electronic control module on its mounting and tighten the locking screws.

4 Connect the sensor connector to the electronic control module.

5 Refit the seat in the car, see page 852–35.

6 Guide the rear height adjustment into its upper and lower end positions. The potentiometer is automatically adjusted.

Potentiometer, front height adjustment motor



Removal

1 Remove the seat from the car, see page 852–35.

2 Unfasten the sensor connector from the electronic control module.

3 Remove the locking screws and twist the electronic control module free using a screwdriver. Move away the control module.

4 Remove the connectors from the motor.

5 Unscrew the potentiometer and pull it free from the shaft.

Fitting

1 Screw the potentiometer in place on the motor.

2 Fit the connectors to the motor.

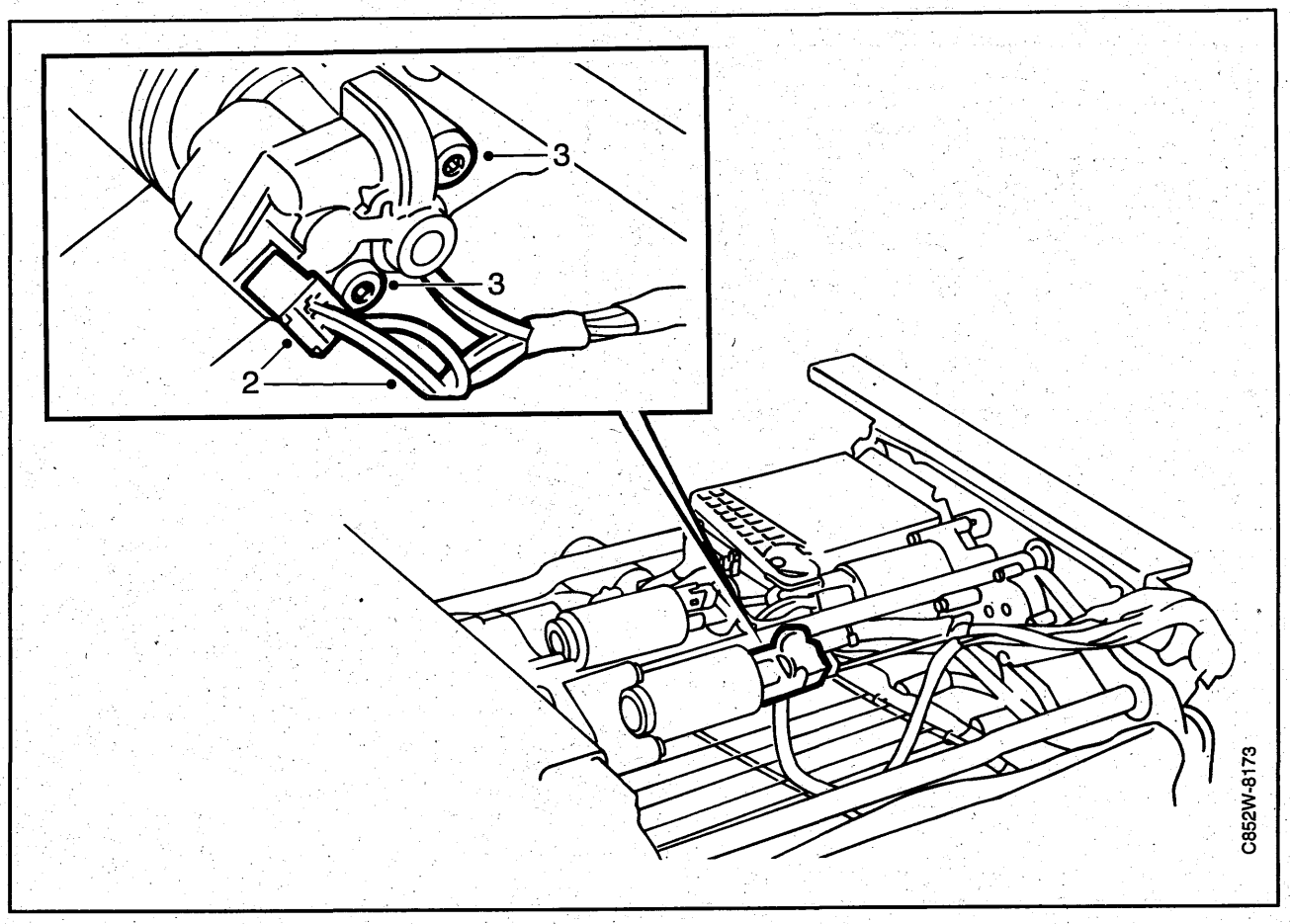
3 Refit the electronic control module on its mounting and tighten the locking screws.

4 Connect the sensor connector to the electronic control module.

5 Refit the seat in the car, see page 852–35.

6 Guide the height adjustment to its upper and lower end positions. The potentiometer is automatically adjusted.

Potentiometer, length adjustment motor



Removal

1 Remove the seat from the car, see page 852–35.

2 Remove the connectors from the motor.

3 Unscrew the potentiometer and pull it free from the shaft.

Fitting

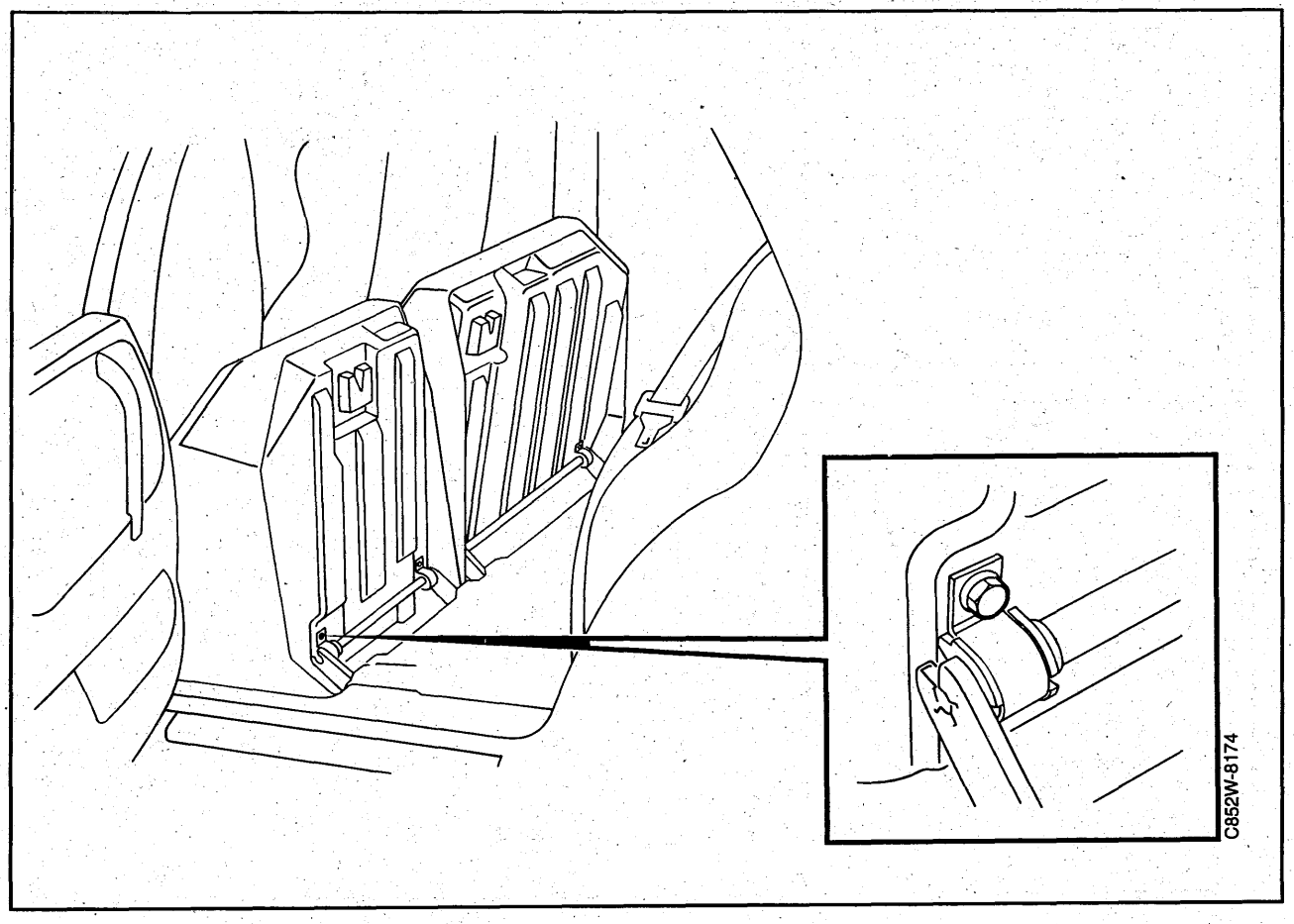
1 Screw the potentiometer in place on the motor.

2 Refit the connectors to the motor.

3 Refit the seat in the car, see page 852–35.

4 Guide the length adjustment to the front and rear end positions. The potentiometer is automatically adjusted.

Rear seat



Removal, seat cushion

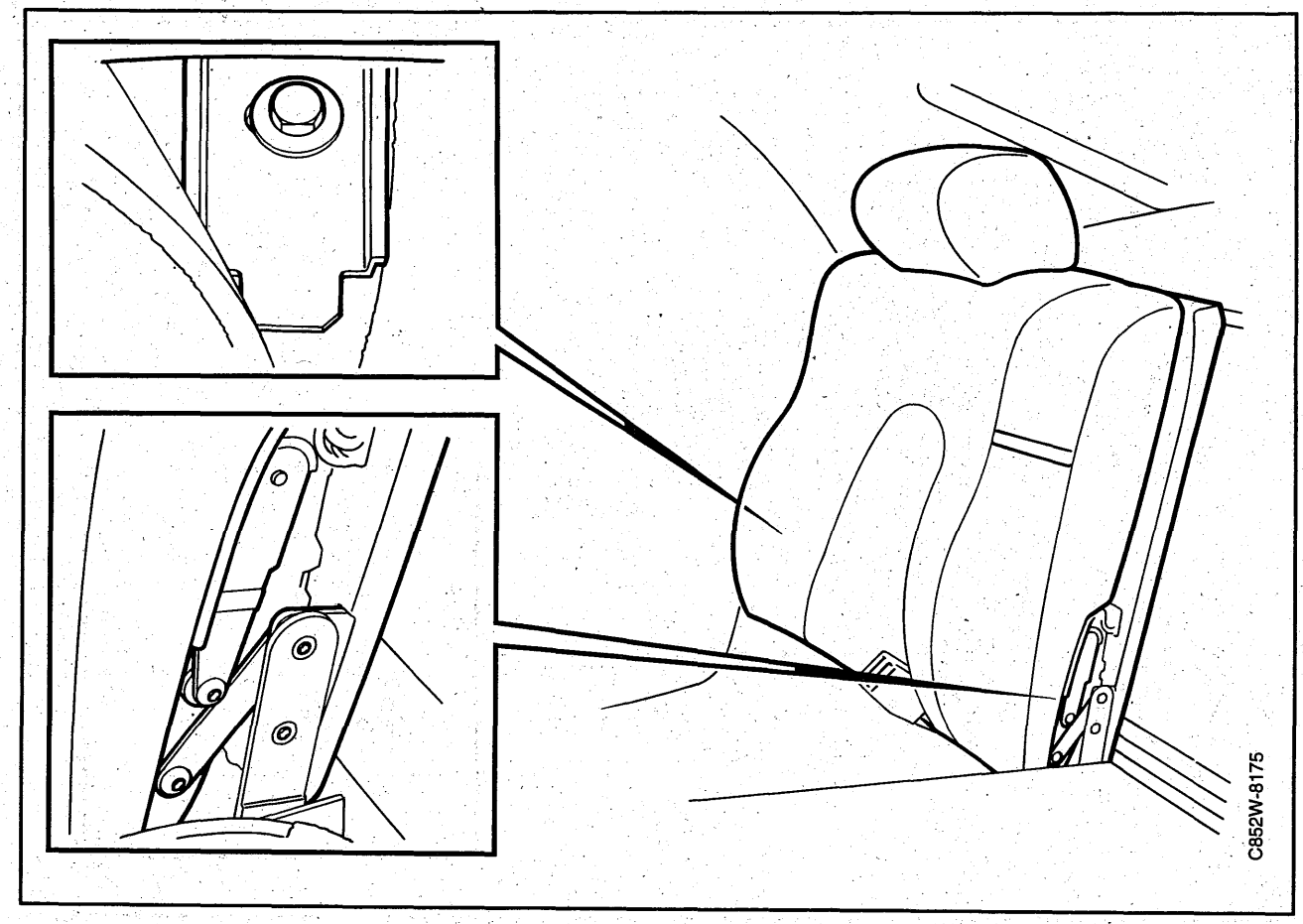
1 Fold the seat cushion up.

2 Remove the hinge screws and lift out the seat cushion.

Fitting, seat cushion

Fit in reverse order.

Rear seat (cont.)



Removal, backrest

Saab 9000 CC and CS:

1 Fold up the seat cushion and fold the opposite backrest.

2 Remove the screws on the inner and outer mountings

3 Unhook the elastic webbing at the lower seat belt anchorage and lift out the backrest.

Saab 9000 CD:

1 Fold the seat cushion up.

2 Remove the screws securing the lower edge of the back cushion.

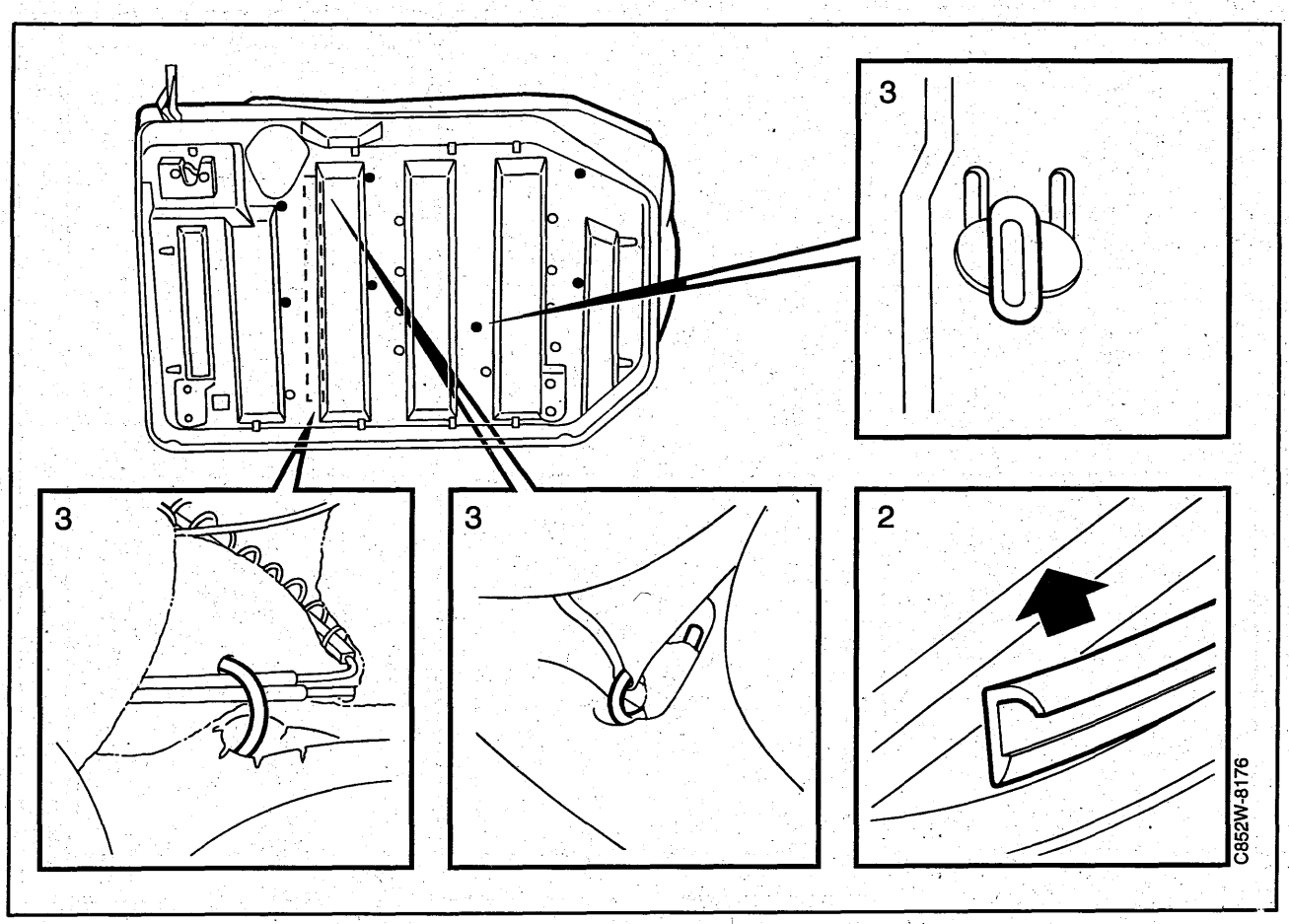
3 Release the plate on the upholstery from the clips so that the nuts on the upper edge of the back cushion are accessible. Remove the two nuts.

4 Unhook the elastic webbing at the lower seat belt anchorage and lift out the backrest.

Fitting, backrest

Fit in reverse order.

Seating upholstery, rear seat



From and including M94 the seat cushions have been changed to all foam, instead of spring housings, on all Saab 9000 except Aero, that still has seat cushions with spring housings.

From and including M96 Aero type rear seats with all foam cushions are an option on the CD and the CDE.

Removal

Important

Seat upholstery can vary according to seems, hooks and clips.

1 emoving the seat cushions from the car, see page 852–69.

2 Remove the plastic strip from the lower edge of the cushion and unfasten the upholstery piping from around the frame.

3 **Saab 9000 –M93 and Aero:**
Unfasten the drawstring from the clips.

Use the special tool, part no. 84 71 096.

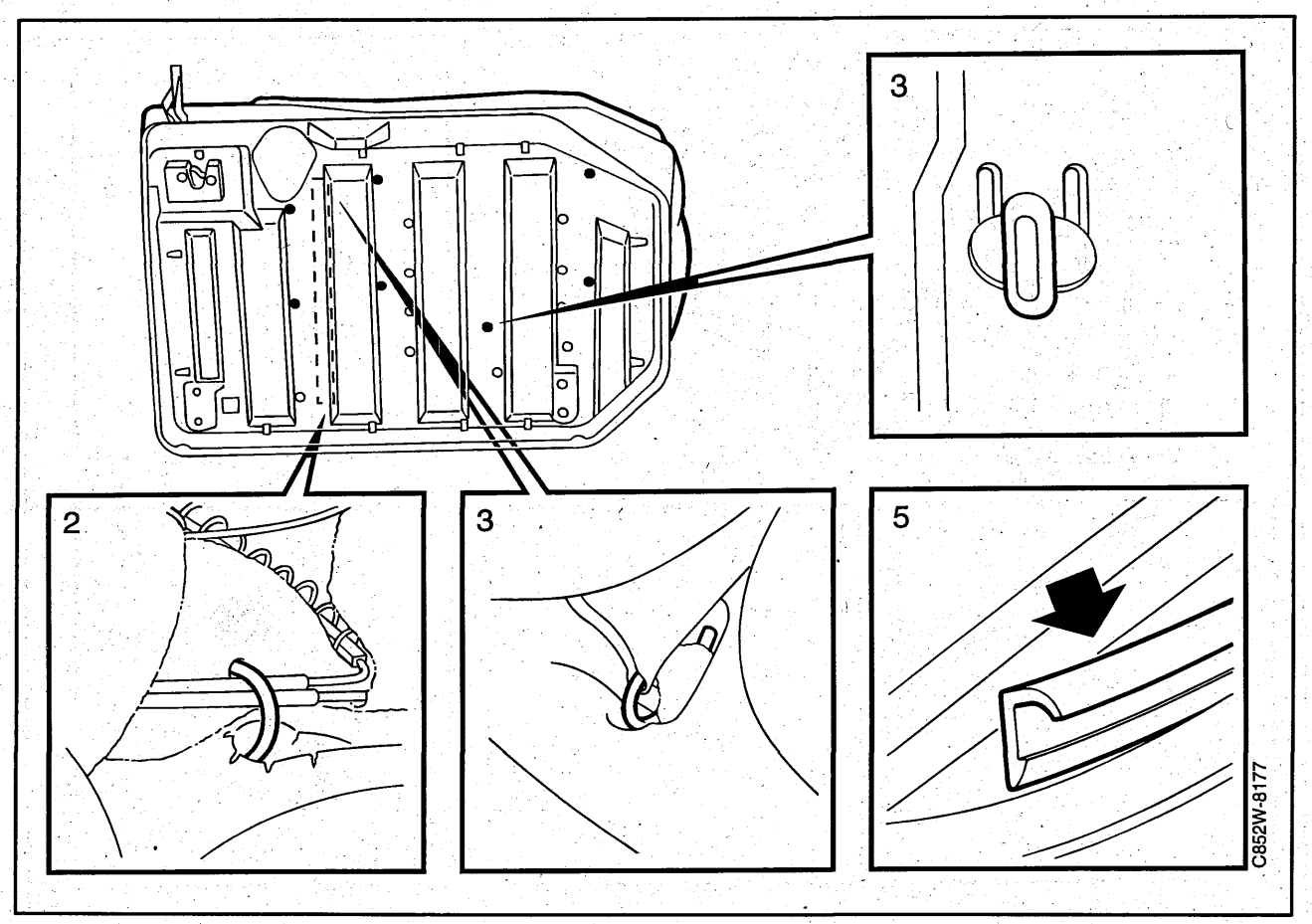
Saab 9000 M94–, not Aero:
Fold up the upholstery on the side. Unfasten the hooks and snip off the clips.

Unfasten the wire clips by folding them up with a screwdriver.

4 **60% of the seating:**
Unfasten the hook securing the upholstery to the elastic frame.

5 Lift off the upholstery.

Seating upholstery, rear seat



Fitting

1 Fit the upholstery bag onto the seat cushion.

2 **60% of the seating:**
Secure the upholstery to the elastic frame with the clips and grips supplied in the fitting kit 84 71 062.

3 **Saab 9000 –M93 and Aero:**
Fit the drawstrings. Feed the wire through the cushion and then hook it over the clip on the spring housing.

Use the special tool, part no. 84 71 096.

Fit the fabric over the spring housing.

Saab 9000 M94–, not Aero:
Fit the wire rod through by bending over the plate clip with a screw driver.

Place the hooks in position and fit the clips with the grips supplied fitting kit 84 71 062.

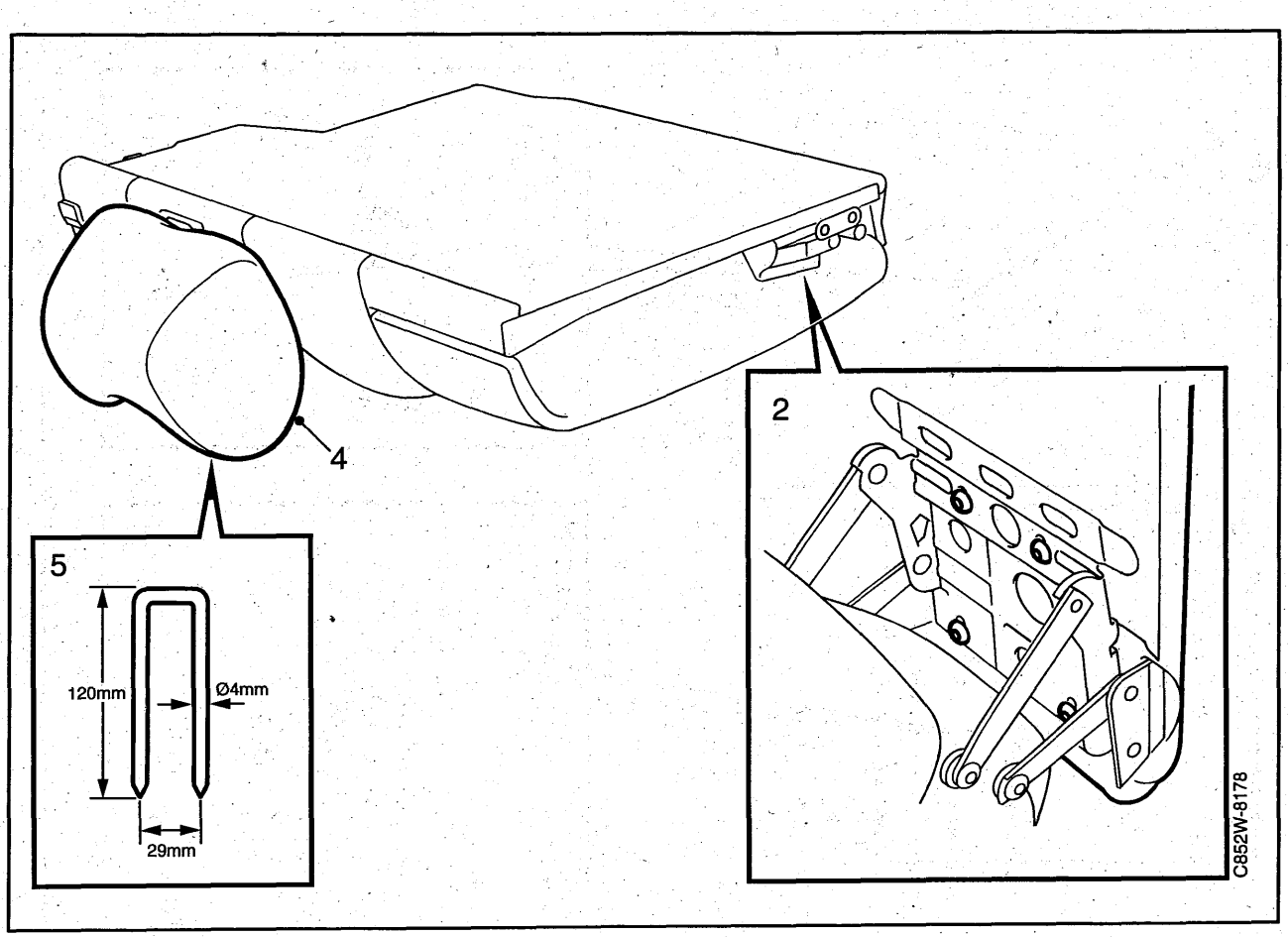
Fit the fabric over the foam cushion.

4 Thread the release straps through the upholstery.

5 Turn the cushion and press it together. Fit the upholstery piping in the groove and refit the plastic strip on the outer edge of the cushion.

6 Fit the seat cushion in the car, see page 852–69.

Back rest upholstery, rear seat



Removal

Important
Seat upholstery can vary according to seems, hooks and clips.

Removing the backrest from the car, see page 852–852–70.

Unscrew the arm rest

To and including M89:
Unscrew the head restraint setscrew.

Pull the head restraint up and draw the upholstery backwards so that the upholstery clip is released from the guide sleeve.

Remove the head restraint by pressing down the spring. Pull up the head restraint.

From and including M90:
Remove the head restraint by releasing the back ratchet.

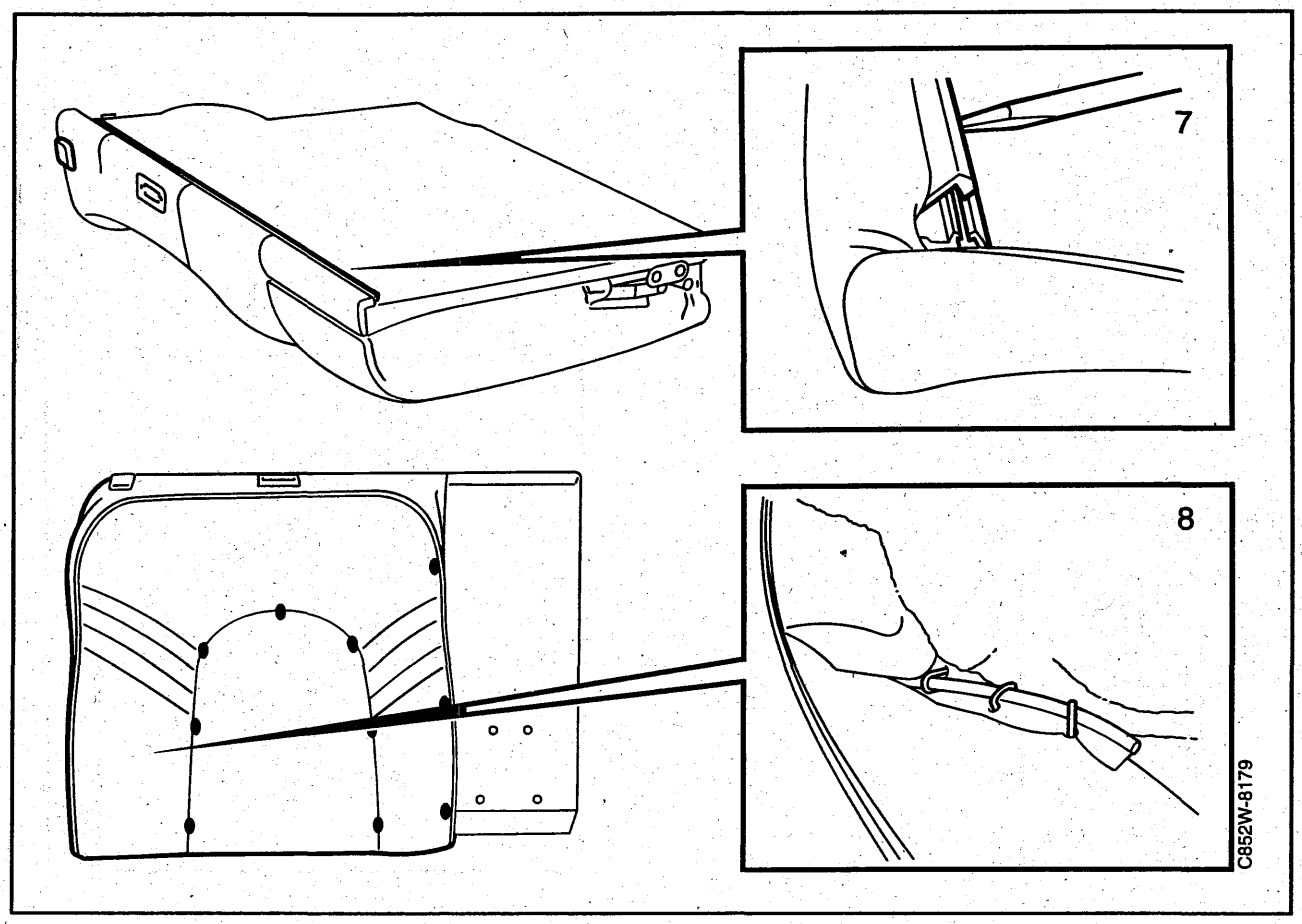
Release the catch with a screw driver and push the guide sleeve up with a second screwdriver.

Note
If the guide sleeve is caught approx. 4 mm from its lowest position a home made forking tool can be used, as pictured.

Locate the hole on the rear side on the backrest with a awl. Push the forking tool in through the fabric and the hole, against the guide sleeve cross piece at the same time as the guide sleeve is pulled up.

If the guide sleeve is stuck stick in a screwdriver and prise it away, then pull it up.

Back rest upholstery, rear seat (cont.)



7 **Saab 9000 CC and CS:**
Remove the lock handle from the upper edge of the back rest.

8 Unfasten the upholstery from the back board.

Note the strip around the loading hatch on the Saab 9000 CD.

9 **Saab 9000 –M93 and Aero:**
Unfasten the drawstring from the clips.

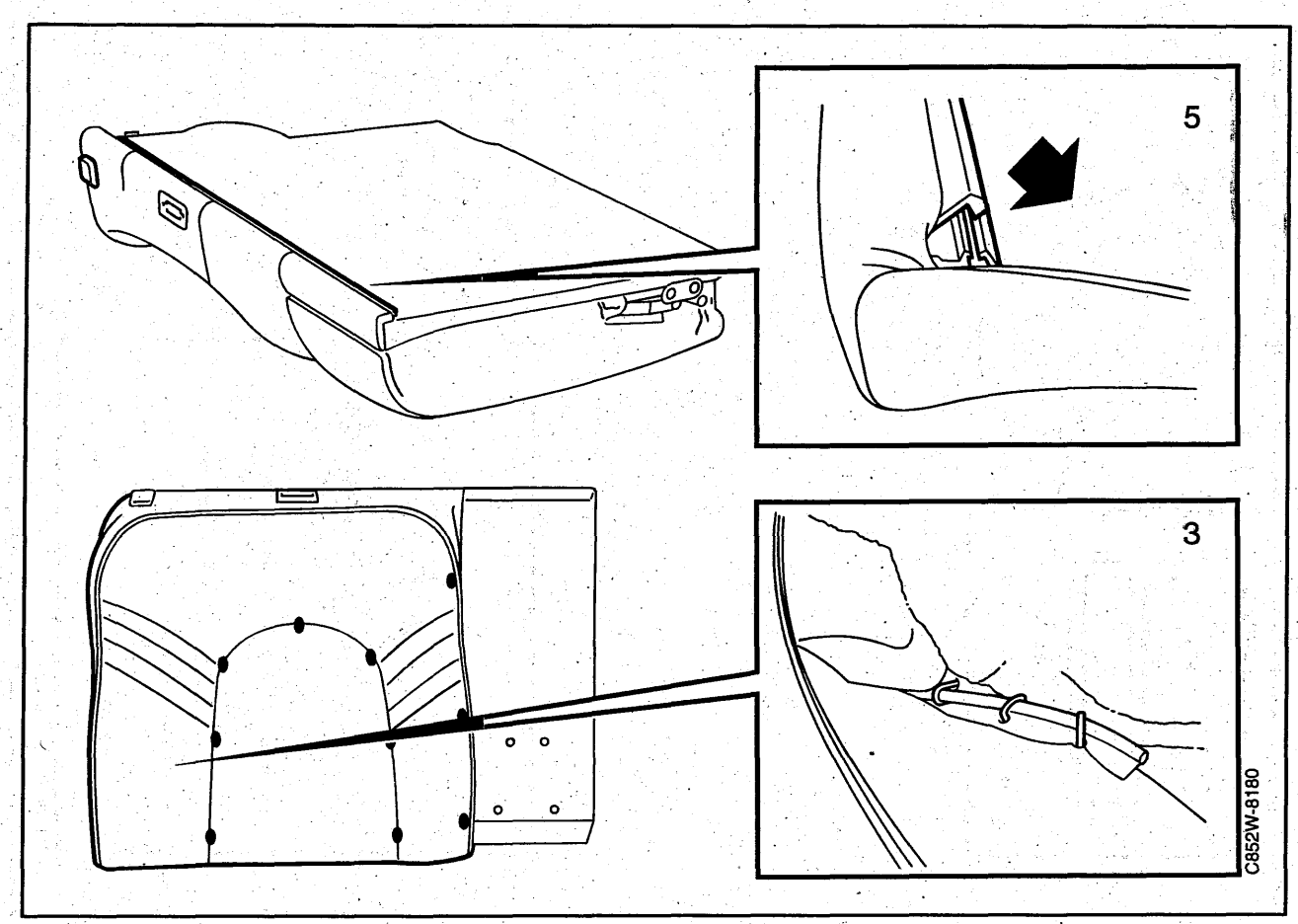
Use special tool part no. 84 71 096.

Saab 9000 M94–, not Aero:
Snip of the clips and unfasten the hooks securing the upholstery.

10 **60% and 100% of the seating:**
Unfasten the wire clips by bending up the metal clips with a screw driver.

11 Lift off the upholstery.

Back rest upholstery, rear seat (cont.)



Fitting

1 Fit the upholstery onto the back cushion.

2 **60% and 100% of the seating:**
Fit the wire rod by pricing the upper metal clip with a screw driver.

3 **Saab 9000 –M93 and Aero:**
Fit the draw strings. Guide the rod through the cushion and hook it over the clip in the spring housing. Use the special tool part no. 84 71 096.

Fit the fabric over the spring housing.

Hook the hook in place and fit the clips with the grips supplied in the fitting kit 84 71 062.

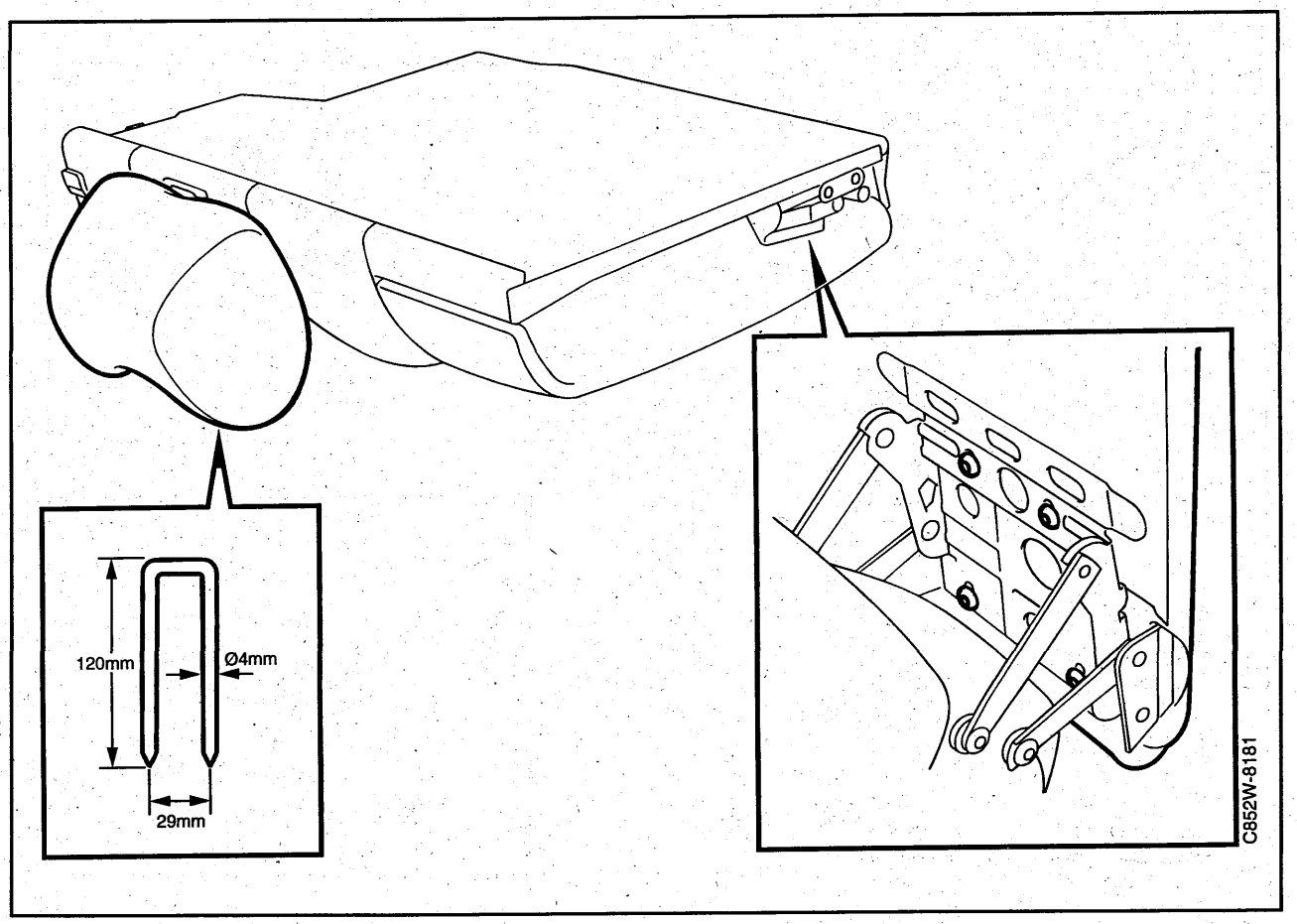
Saab 9000 M94–, not Aero:
Hook the hook in place and fit the clips with the grips supplied in the fitting kit 84 71 062

4 **Saab 9000 CC and CS:**
Fit the lock handle to the upper side of the back-rest.

5 Turn the cushions and press them together. Fit the piping in the groove.

Note the strip around the loading hatch on the Saab 9000 CD.

Back rest upholstery, rear seat (cont.)



6 Fit the armrest.

Fit the head restraint according to the following:

7 **To and including M89:**
Inspect the spring in the head restraint is not deformed. Change the spring if it is deformed.

Fit the spring from the front side, lower on the head restraint rail.

Refit the head restraint with the guide sleeve to the backrest. Lock the head restraint with the set screws and check its operation.

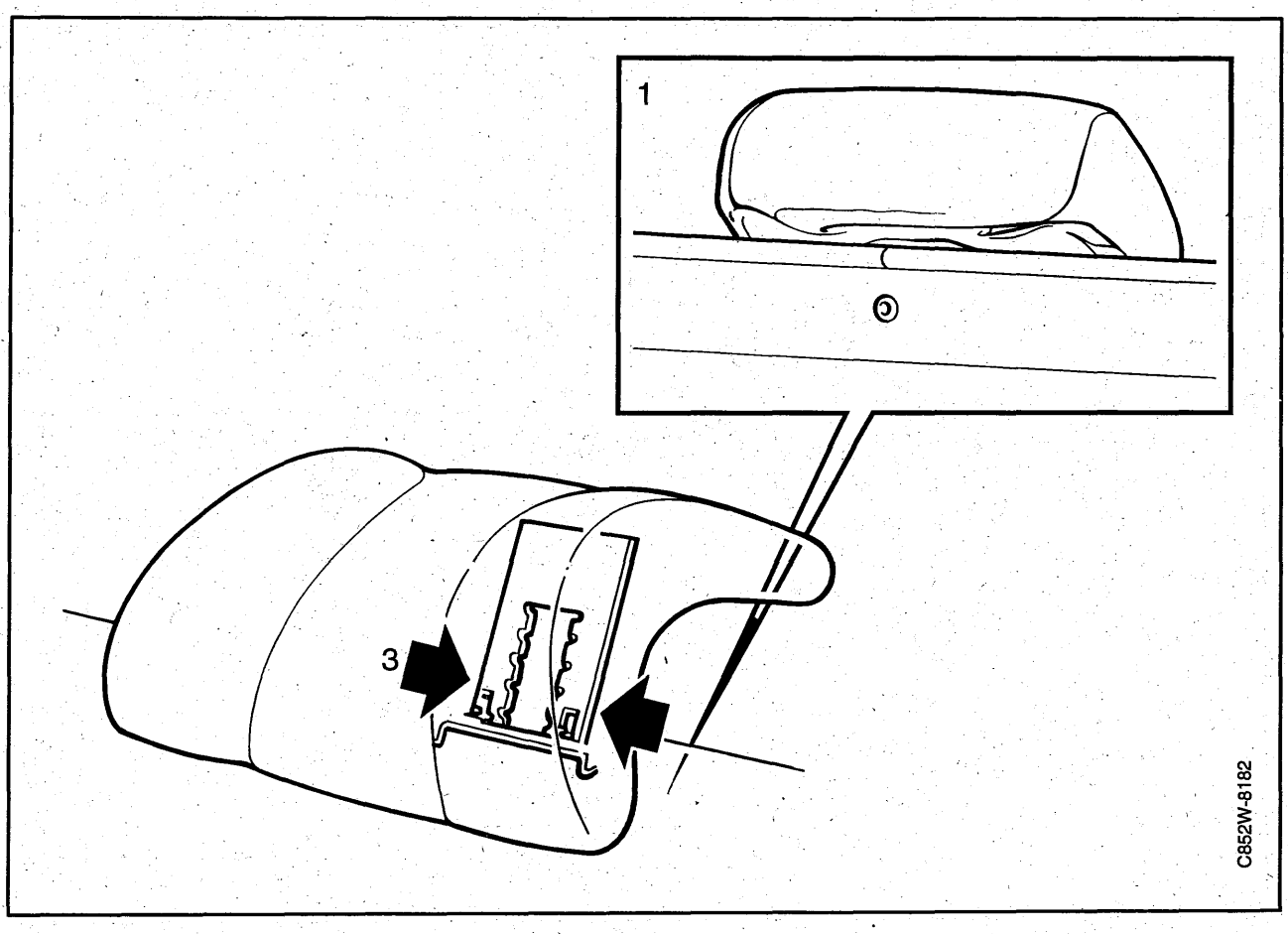
Fit the head restraint upholstery to the guide sleeve.

From and including M90:
Slide the guide sleeve on to the rail and refit the head restraint.

Check the operation.

8 Fitting the backrest, see page 852–70.

Head restraint, rear seat



From and including M90 there are new head restraints with a detent mechanism on the rear side of the head restraint. The head restraint is removed and fitted with a detent on the rear side of the head restraint.

Removal, –M89

1 Unscrew the head restraint setscrew.

2 Pull the head restraint up and draw the upholstery backwards so that the upholstery clip is released from the guide sleeve.

3 Remove the head restraint by clipping open the spring and pulling the headrest up.

Fitting, –M89

1 Check the spring for the head restraint is not deformed. Change the spring if it is damaged.

2 Lubricate the head–restraint bar sliding surfaces, that contact the guide sleeve and spring, with Vaseline.

3 Fit the spring from the front side lower down on the head restraint rail

4 Slide the guide sleeve onto the rail. Test this by sliding the sleeve forwards and backwards to ensure that the spring hooks the guide sleeve in place and runs on the rails.

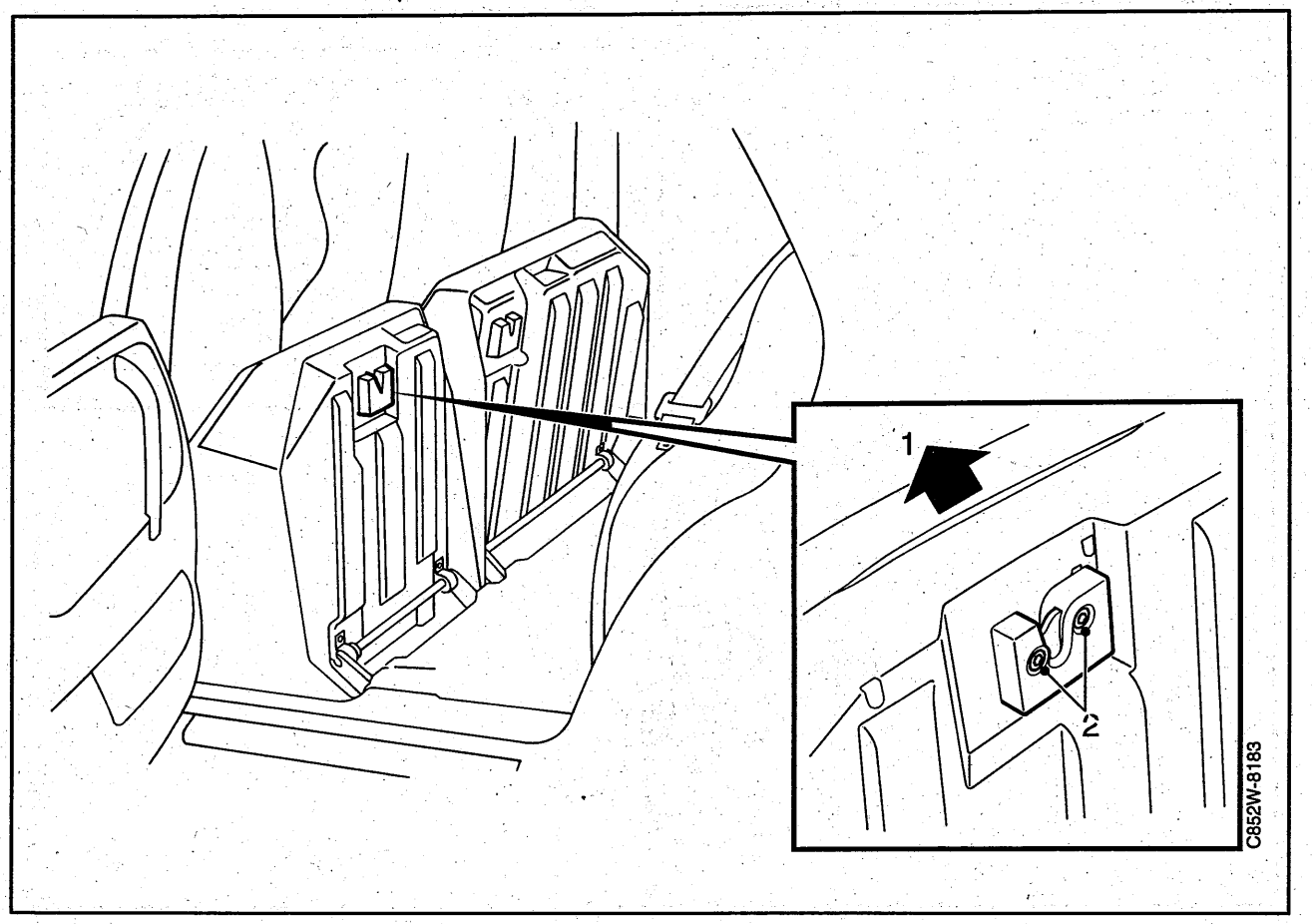
5 Fit the head restraint with the guide sleeve to the backrest.

6 Lock the head restraint with the set screw.

7 Check the operation.

8 Fit the head restraint with the guide sleeve to the backrest.

Catch, seat cushion



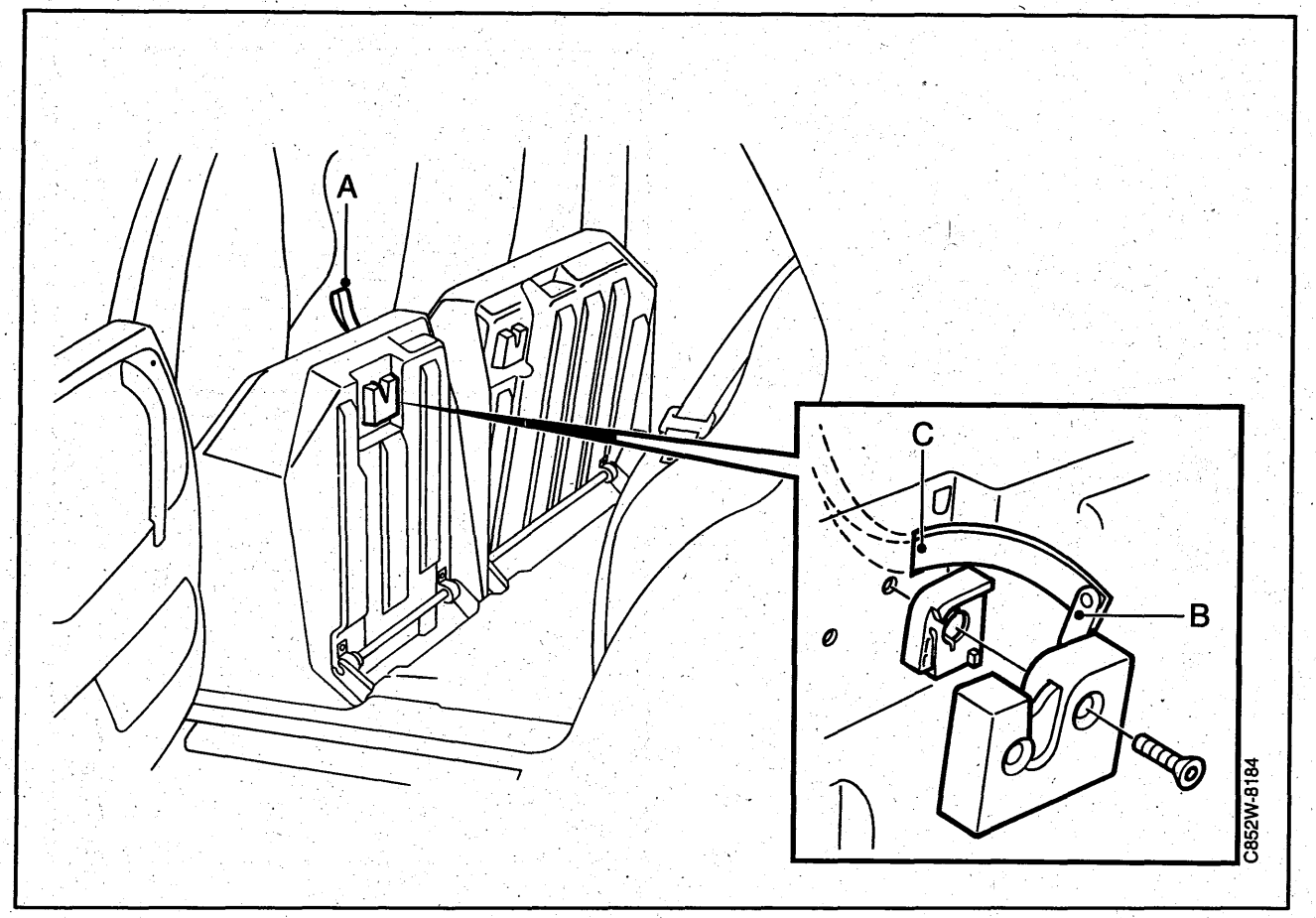
Removal

1 Unfasten the upholstery from the groove.
2 Remove the two catch screws.
3 Remove the catch

Fitting

1 Guide the release strap through the hole in the metal and out through the upholstery.
2 Fasten the catch inplace with the screws.
3 Refit the upholstery.
4 Adjust the lock so the cushions fit well against each other.

Catch, seat cushion (cont.)



Catch adjustment, seat cushion

Cars concerned: All Saab 9000 CS and CC to and including chassis number P1018781.

1 Fold up the seat cushion and remove the screws securing the catch.

2 Lift out the catch slightly without pulling on the strap (A) that opens the catch through the seat cushion. Press a screw driver through one of the screw holes so the metal washer inside the seat cushion does not come adrift.

3 Remove the plastic insert using a screw driver.

4 Place the catch with the outer casing in position and check that the catch lever(B) sits in line with the hole in the cushion (C).

Important

The outer casing should under no circumstances be removed.

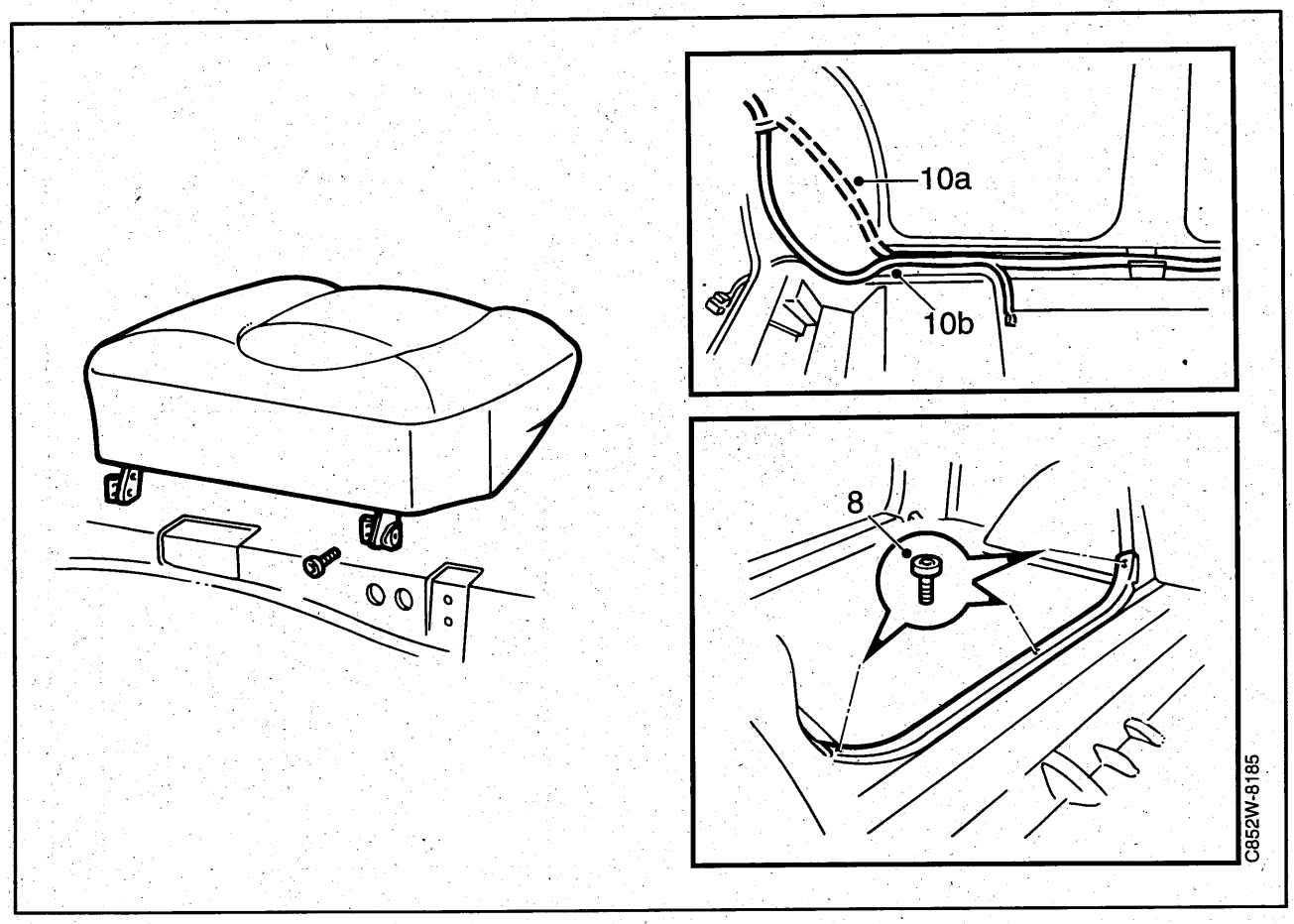
5 Screw the catch into place so it so that it moors itself as far back as possible when the seat is folded down.

Tightening torque 10 Nm (7.4 lbf ft)

6 Check that the catch operates correctly by pulling the strap (A) before the seat cushion is lowered.

7 Closed the seat cushion and check its operation. Continue according to the following if the problem persists.

Catch, seat cushion (cont.)



8 Unfasten the screws securing the seat cushion link arm to the floor and adjust the seat cushion outwards as far as possible. The adjustment in made while the seat cushion is closed.

Tighten the screws after the adjustment is set.

Adjustment reduces friction between the two seat cushions at closing.

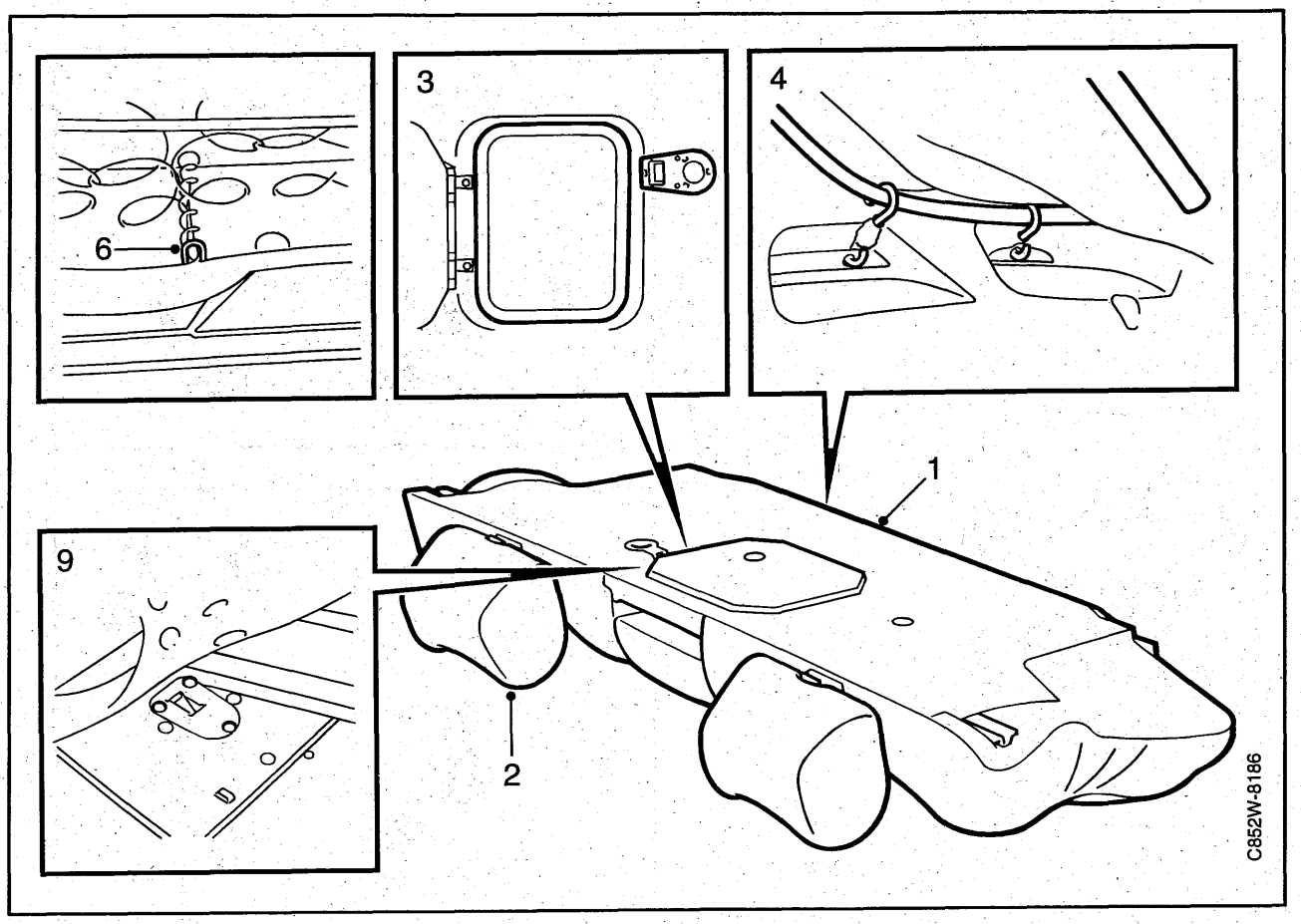
Tightening torque 10 Nm (7.4 lbf ft)

9 If the floor carpeting under the seat cushion is stretched too tight, it can stop the catch from gripping the locking pin. Adjust the floor carpeting by folding the seat cushion and unfastening the strip on the front edge of the luggage compartment.

10 **Saab 9000 CS:**
ISeat cushion closing can be made difficult if the rear wiring harness lies slightly up on the wheel housing and catches on the clip when the seat cushion is closed (10a).

Unfasten the upholstery over the wheel housing and place the wiring harness in the correct position (10b). Fasten it with tape.

Catch, loading hatch



Changing the catch, 9000 CD

1 Remove the back rest cushion, see page 852–70.

2 Remove the right–hand head restraint and guide sleeve, see page 852–77.

3 Remove the plastic cover of the lock and the strip and the clips from around the loading hatch.

4 Unfasten the right–hand part of the upholstery from the back board.

5 Remove the piping from the groove on the back cushion.

6 Unfasten the hooks and wire clips securing the upholstery. Undo the drawstrings.

Note their location.

Use special tool part no. 84 71 096.

7 Lift away the foam plastic cushion.

8 Bend the metal clips and remove the spring housing from the back board.

9 Drill out the three blind rivets from the catch..

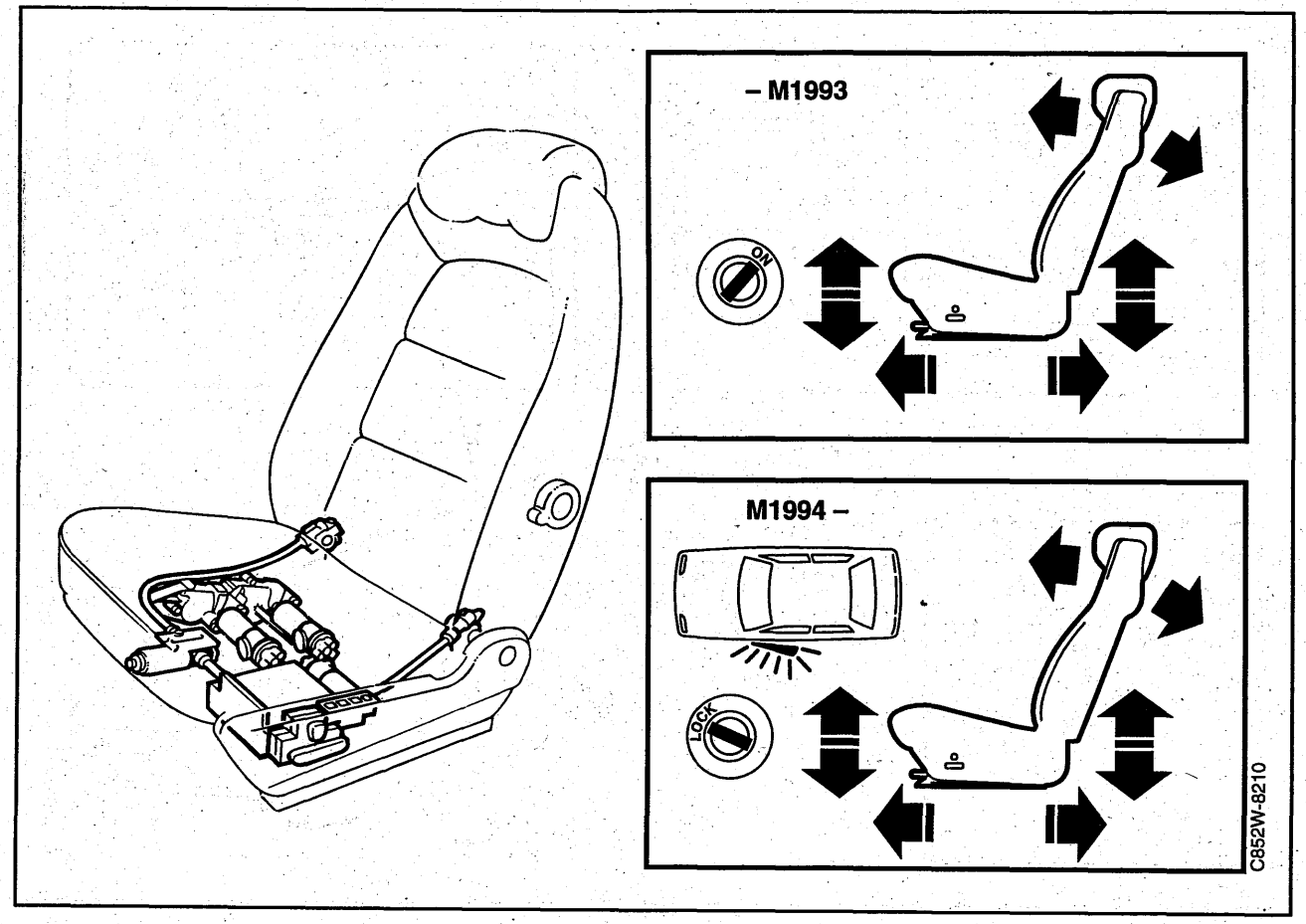
10 Rivet a new lock in place.

11 Refit the spring housing and replace the foam cushion.

12 Fit the upholstery and the head restraint, see side 852–77.

13 Fit the back rest into the car, see page 852–70.

Description of operation, electrically operated seat without memory



General description of operation

The front seats of the car can be operated using a switch on the outside of each seat. Electric motors operate the seat lengthways, elevate the seat cushion on the front or rear edge and also adjust the back rest inclination.

The seat has four electric motors with gears, that operate the functions.

Motors and gears for height adjustment and forward/ backward travel are fitted in the seat chassis, whilst the back rest inclination is fitted in the seat frame.

The back rest inclination motor is connected by wires to two gears, the remaining motors are directly fitted to the gears.

Each motor has a thermostatic switch that protects against superheating. When the motor get hot the current is switched off for a few seconds until the motor cools.

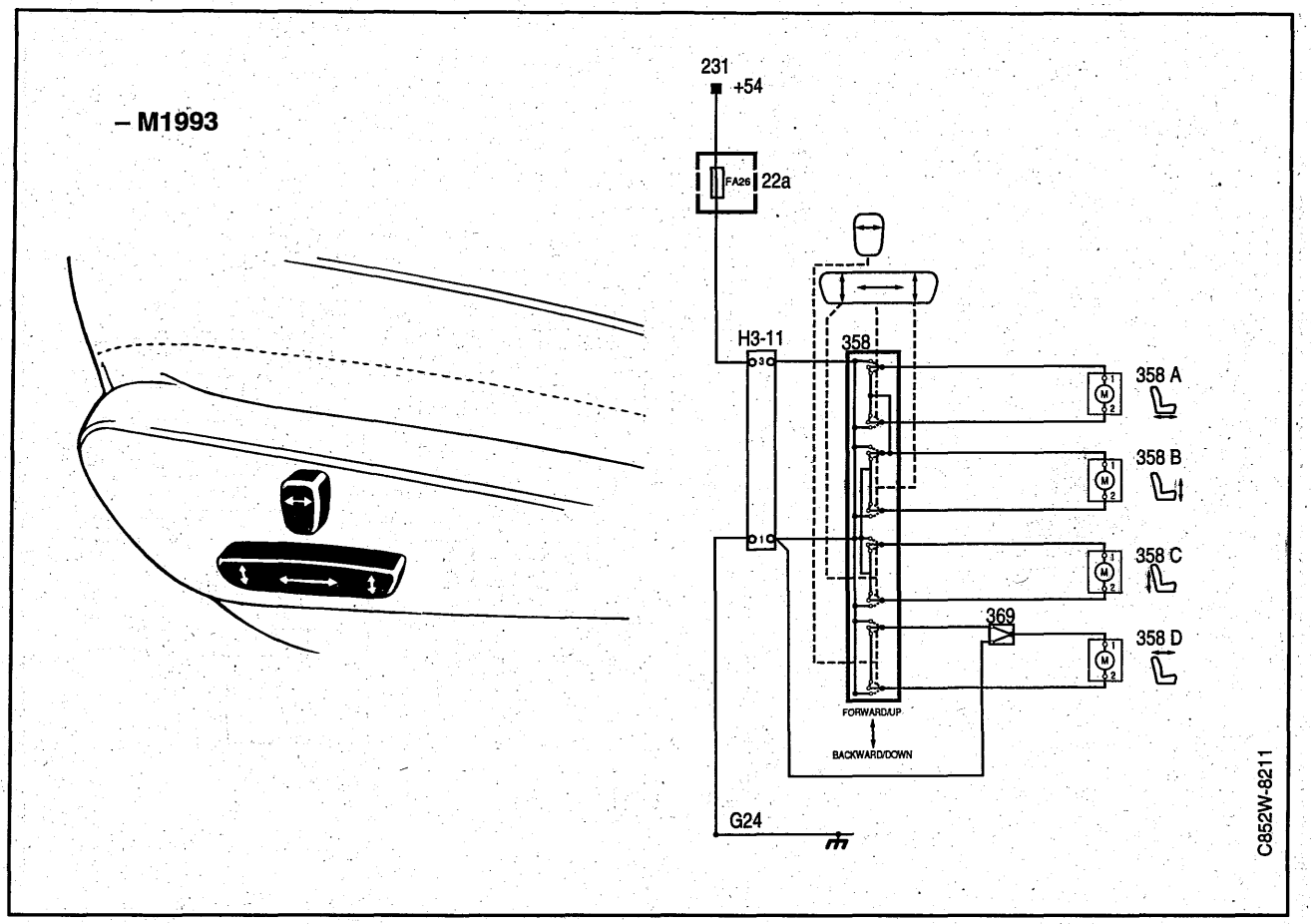
To and including M93 all operation is carried out with the ignition key in the ON position.

From and including M94 a new operation has been introduced that also makes it possible to operate the seat when the ignition key is in the OFF position and the front doors are open..

The current M95 introduced a 10 pole connector, H10–27, that simplifies fault diagnosis regarding the motor voltage supply.

From and including M95 the passenger seat only has electrical operating without memory.

Description of operation, electrically operated seat without memory (cont.)



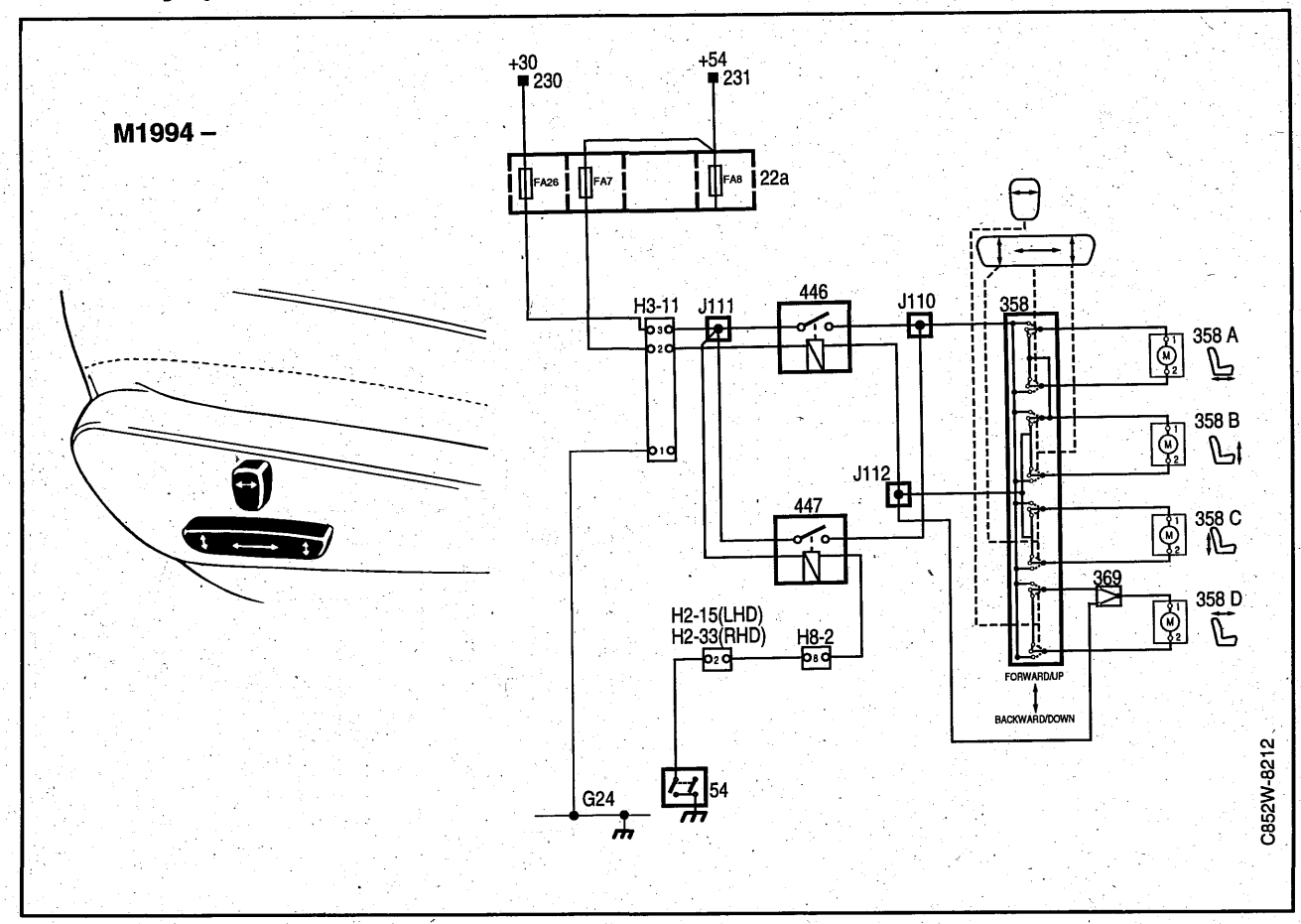
Description of operation –M93

When the ignition key is in the ON position the driver seat switches are supplied with voltage via fuse 25 and the passenger side switches via fuse 26.

By selecting a switch the corresponding motor is fed with voltage:

- The electric motor moving the seat forwards and backwards.
- The electric motor that raises or lowers the rear edge of the seat.
- The electric motor that raises or lowers the rear edge of the stool.
- The electric motor that changes the inclination of the seat backrest. The seat backrest can be folded down until it lays against the rear seat cushion. The forward movement is stopped by a microswitch.

Description of operation, electrically operated seat without memory (cont.)



Description of operation M94–

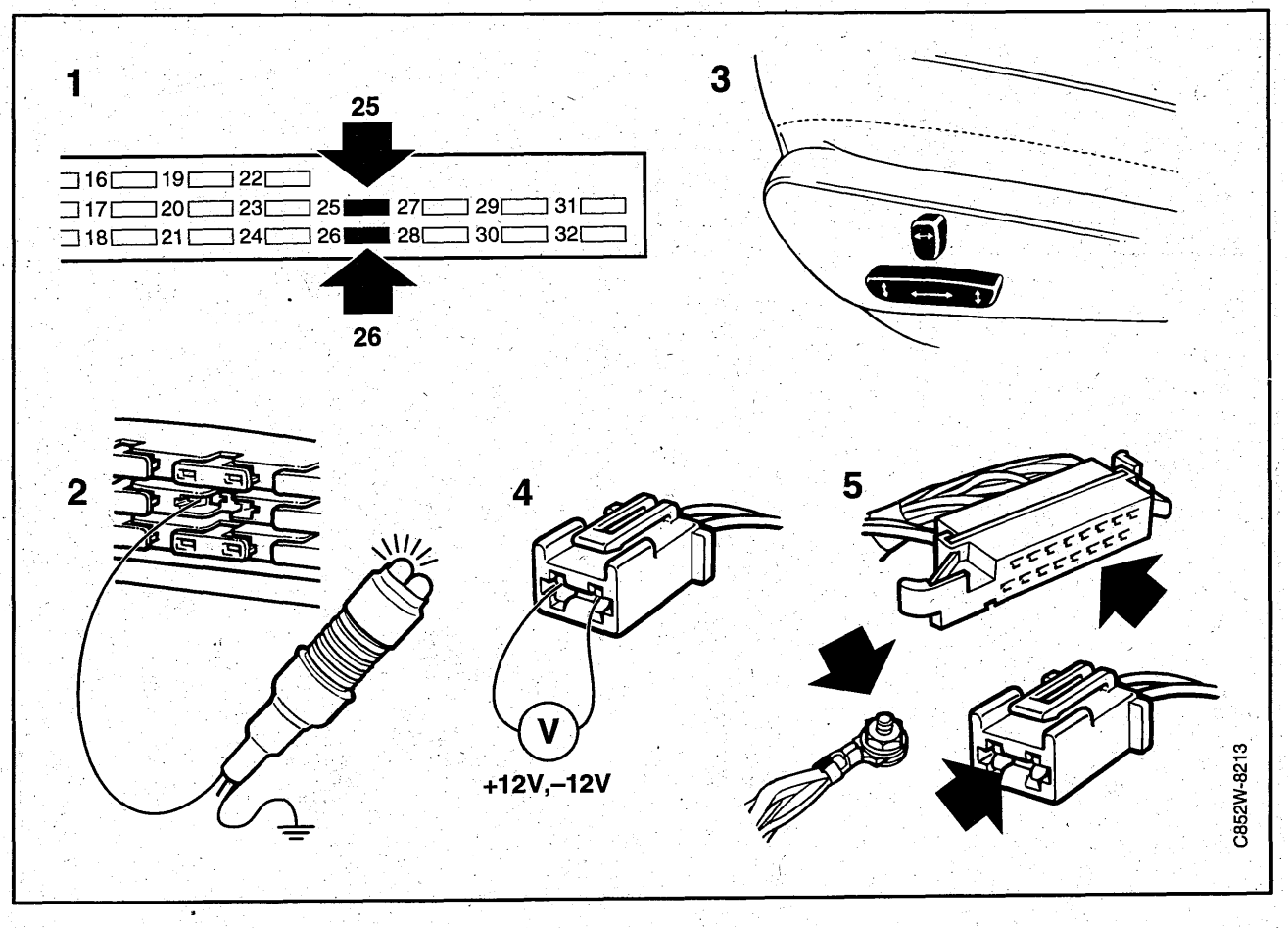
When the ignition key is in the ON position, voltage is supplied to the driver side switches via fuse 25 and the passenger side switches via fuse 26.

A relay, regulated by the door switches, makes it also possible to operate the seat when the ignition key is in the OFF position and the particular front door is open.

By selecting a switch the corresponding motor is fed with voltage:

- The electric motor moving the seat forwards and backwards.
- The electric motor that raises or lowers the rear edge of the seat.
- The electric motor that raises or lowers the rear edge of the stool.
- The electric motor that changes the inclination of the seat backrest. The seat backrest can be folded down until it lays against the rear seat cushion. The forward movement is stopped by a microswitch.

Fault diagnosis, electrically operated seat without memory



Fault–tracing hints

Study the particular circuit wiring diagram and familiarise yourself with its operations. Use the relevant parts of the descriptions of electrical operations in Service manual 3:2, Electrical system, wiring diagrams

1 Check that fuse 25 (driver seat) and fuse 26 (passenger seat) have not blown.

2 Check that there is a supply voltage to fuse 25 and fuse 26.

Connect the test lamp (part no. 86 11 857) between both pins on the sensor connector. The test lamp should come on.

If the lamp lights, continue with point 2.

f the test lamp fails to light, continue the fault diagnosis from Service Manual 3.2, Electrical system, wiring diagram.

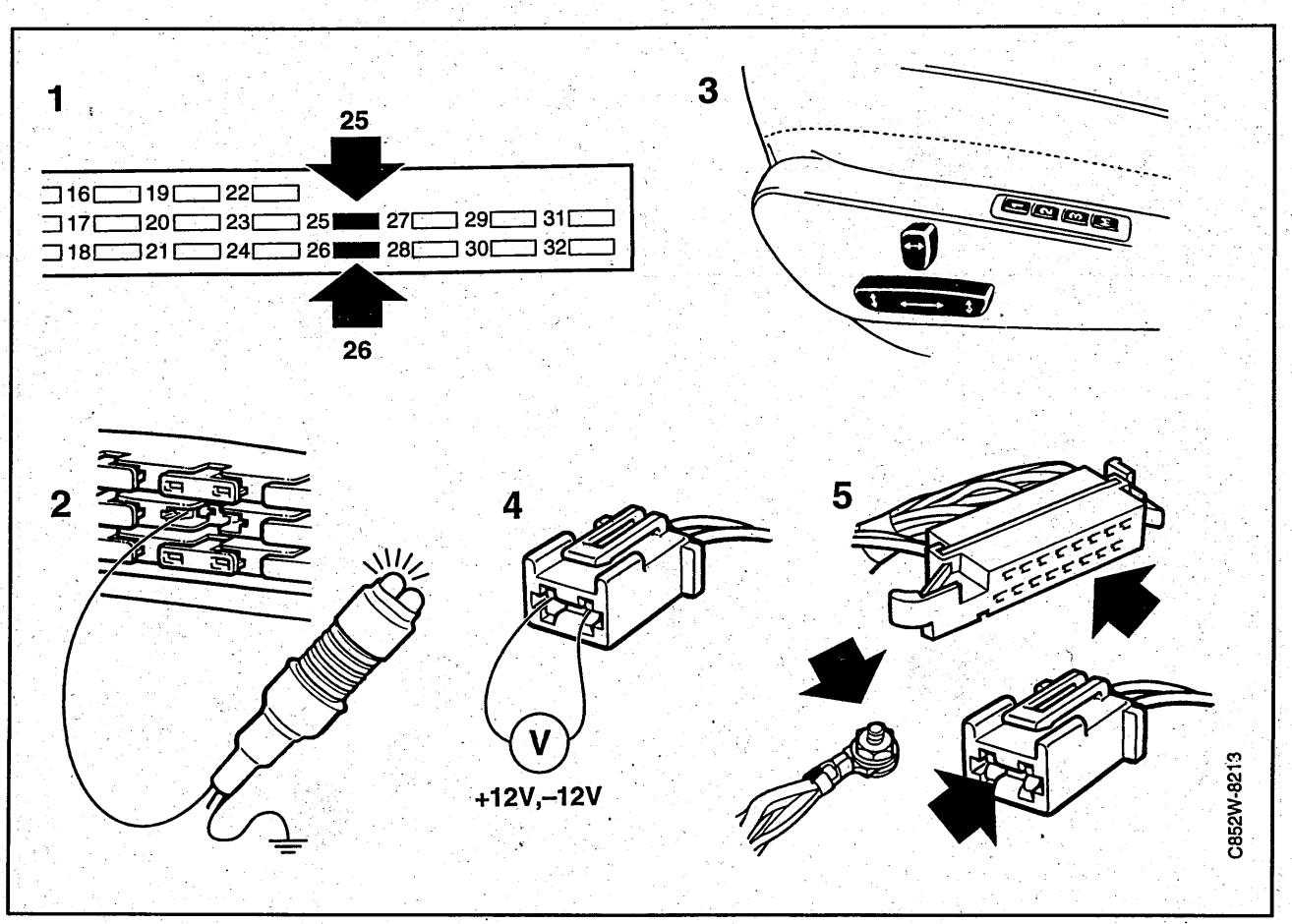
3 Check that the voltage is supplied to the particular switch, partly when the front door is open and partly when the ignition switch is in the ON position and the relevant front door is closed.

4 Check that the four motors are supplied with voltage when the switches are activated.

Unfasten the connectors to the particular motors.

Connect a voltmeter between the two pins on the sensor connector. Activate the respective switch in both directions and the voltmeter should display +12V or –12V.

Fault diagnosis, electrically operated seat without (cont.)



Note

The current M95 introduced a 10 pole connector, H10–27, that simplifies fault diagnosis regarding the motor voltage supply.

Unfasten connectors H10–27.

None of the four motors operate:
Connect the testlamp between pin 10 of the sensor connector and a definate grounding point.

Connect the test lamp between pin 9 and 10 of the sensor connector.

The testlamp should light in tests with open front door and with closed front door with the ignition switch in the ON position.

If the lamp comes on, change the switch. If the lamp fails to come on, check the wiring harness.

Some of the four motors operate:
Connect a Ohmmeter onto the following pins.

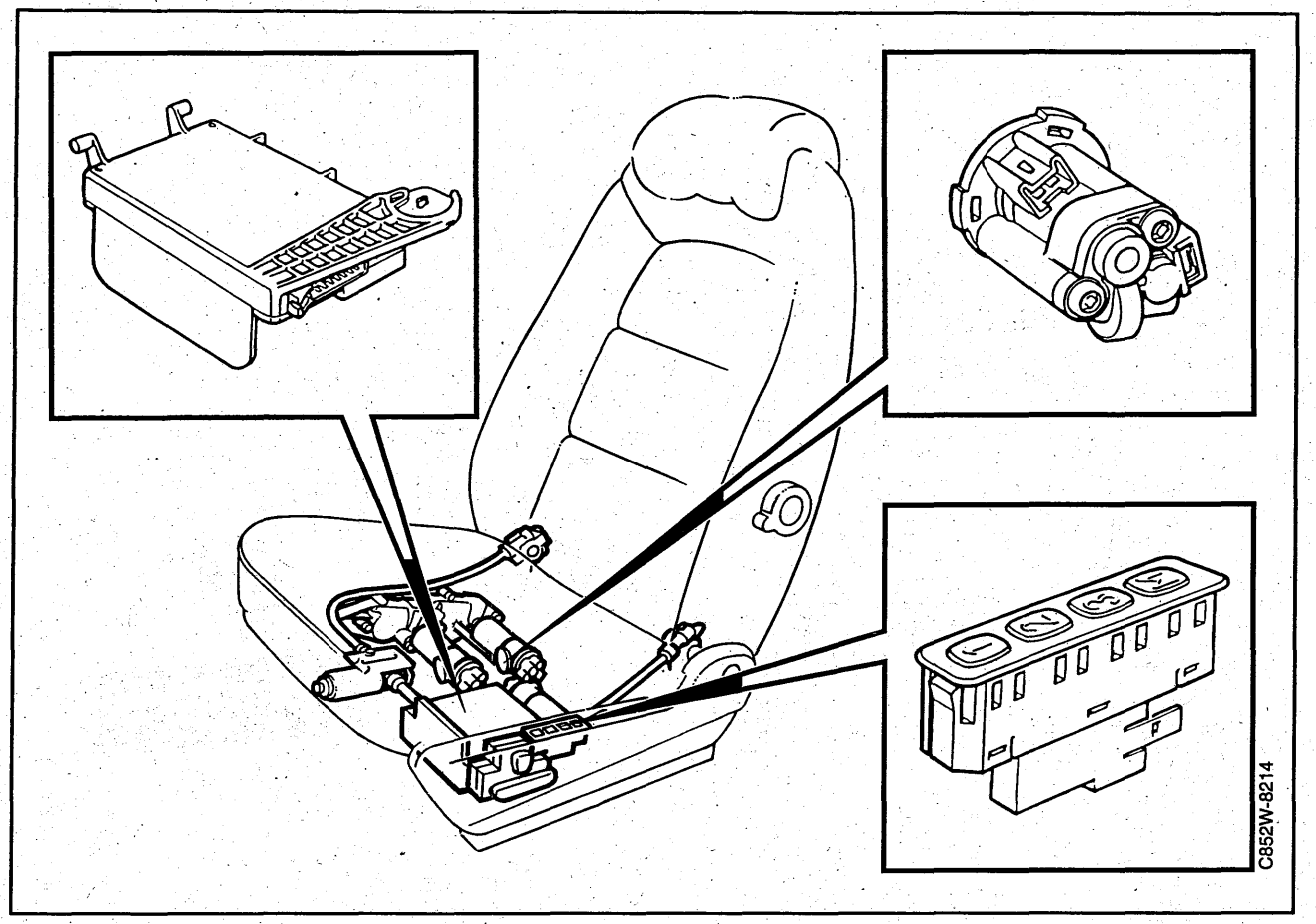
pin 1 and pin 2
pin 3 and pin 4
pin 5 and pin 6
pin 7 and pin 8.

The ohm–meter should normally display OL and 1W when the relevant switch is activated in both directions.

If the ohm–meter displays a fault, check the cables and connections. If there is no fault, change the switch.

5 Inspect the connectors, wiring and ground connection.

Description of operation, electrically operated seat with memory



General description of operation

The memory operation means that the electrically operated seat is equipped with an electronic control module, a position sensor on each motor and a switch with four buttons for memory programming and operation.

The memory operation allows the possibility of storing three seat adjustments that the seat can than assume automatically when the button for the particular adjustment is held in.

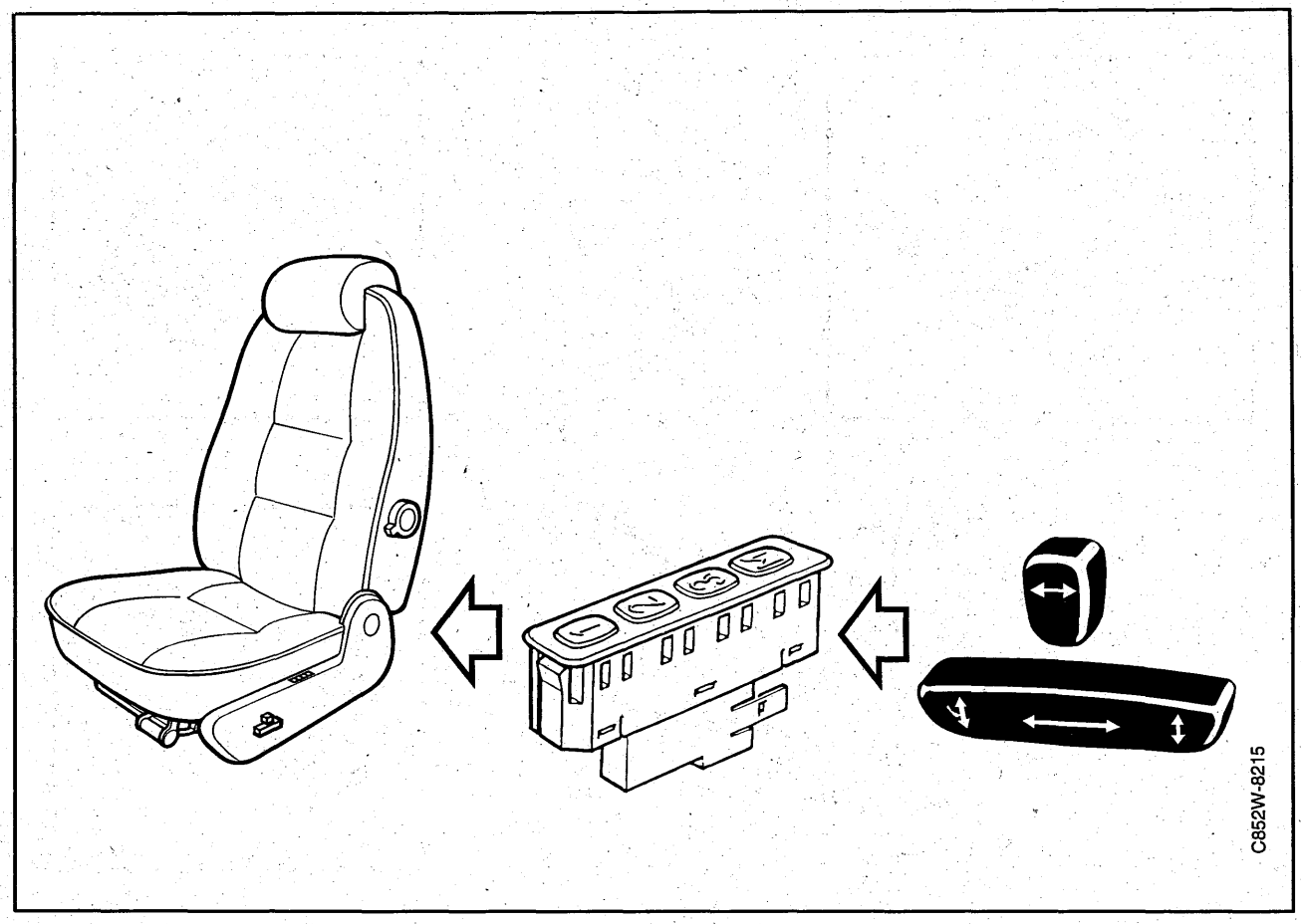
From and including M94 it is also possible to operate the seat when the ignition key is in the OFF position and also when the respective door is opened.

This operation is achieved by the electronic control module, that reads the status of the interior lighting door switches.

From and including M95 the electrically operated front seat with memory is only used on the driver side.

Current Saab 9000 M96 introduce a new electronic control module with two connectors, A with pin 26 or B with pin 8.

Description of operation, electrically operated seat with memory (cont.)

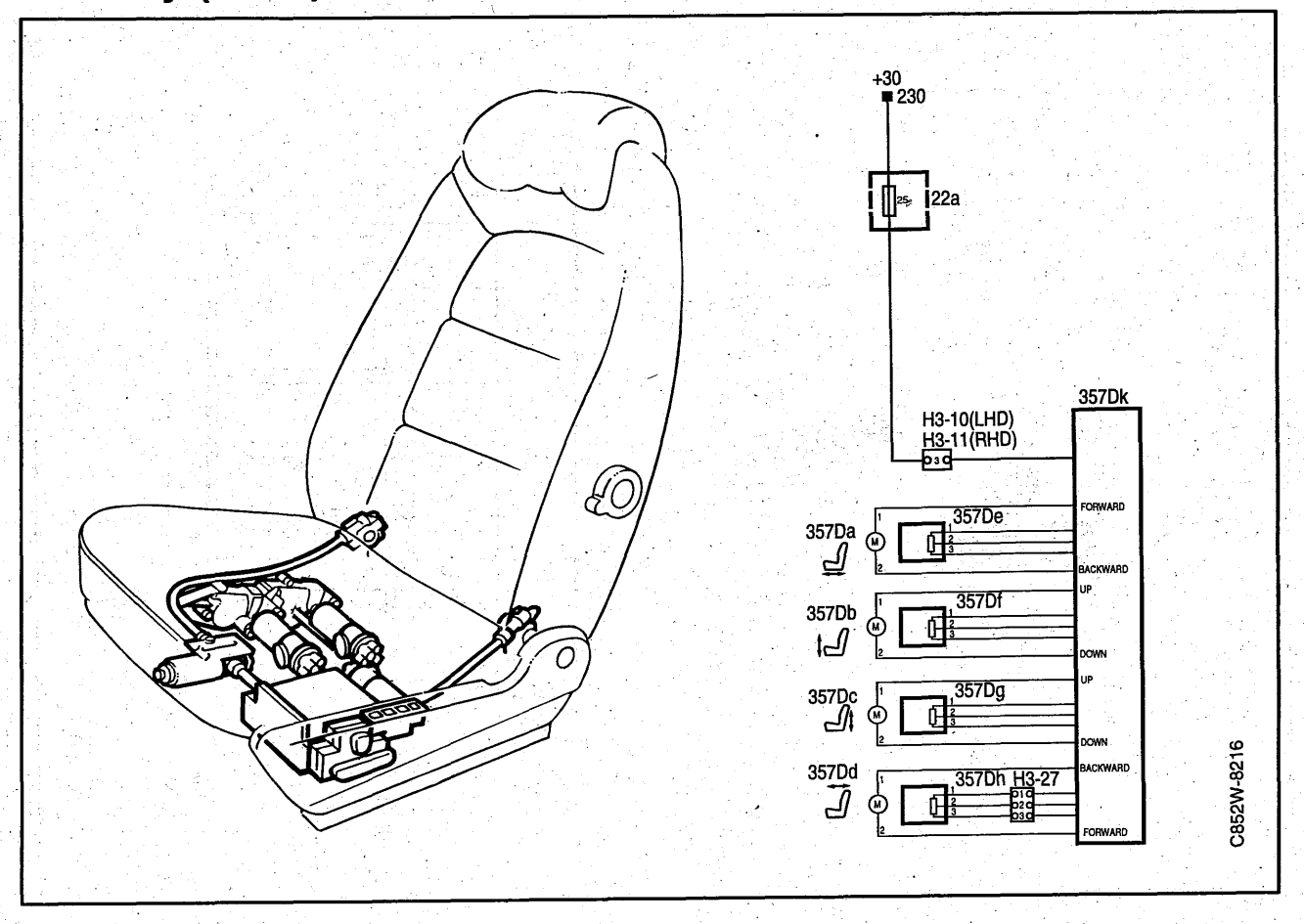


Memory operation

The button set for memory and memory programming operation consists of four buttons. Three memory buttons, "1", "2" "3" and also a memory programming button "M". The seat adjustment is stored in the memory in the following way:

- Position the seat in the desired position using the regular switch.
- Store the adjustment position pressing the "M" button and one of the memory buttons "1", "2" or "3" at the same time.
- To recall the stored adjustment position press and hold the selected memory button until the desired seat position is achieved.

Description of operation, electrically operated seat with memory (cont.)



The electronic control module is supplied with voltage from +30 via a fuse 25 (LHS) and fuse 26 (RHS). The motors, switch and position sensors (potentiometers) are supplied with voltage from the electronic control module.

The electronic control module constantly reads the switches and then selects an appropriate combination of switches and the electronic control module carries out the corresponding operations. When the motors are activated, the electronic control module regulates the current consumption of each motor and checks the seat position via the position sensors.

The position sensors are potentiometers fitted on the particular motor shaft.
The potentiometers are measured with a 5V voltage form the electronic control module. When the motor is rotated the voltage at the centre output varies between 0.4V and 4.6 V. By measuring this voltage the electronic control module is able to decide the seat adjustment.

The M95 electronic control module and the M96 electronic control module (current production) have separate connectors for the particular motor and potentiometer according to the following:

- 4x2 pole connector for the motors.
- 4x3–pole connector for the potentiometers.

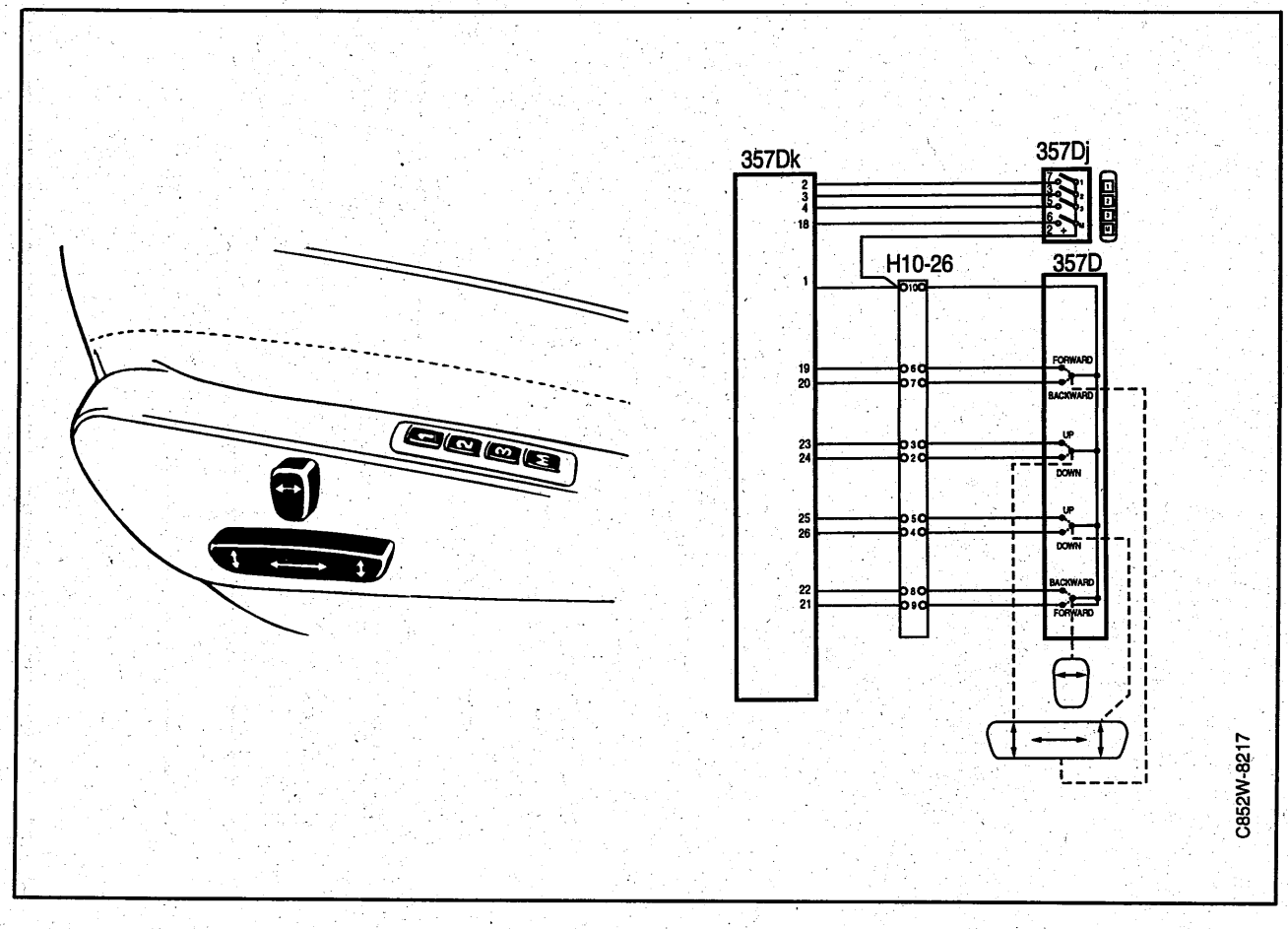
The earlier electronic control module have cable exits.

Important

Caution should be observed if any of the 2 or 3 pole connectors become free during fault diagnosis.

The connector terminals are not mechanically coded, only colour coded. Incorrect connection can lead to faulty operation.

Description of operation, electrically operated seat with memory (cont.)

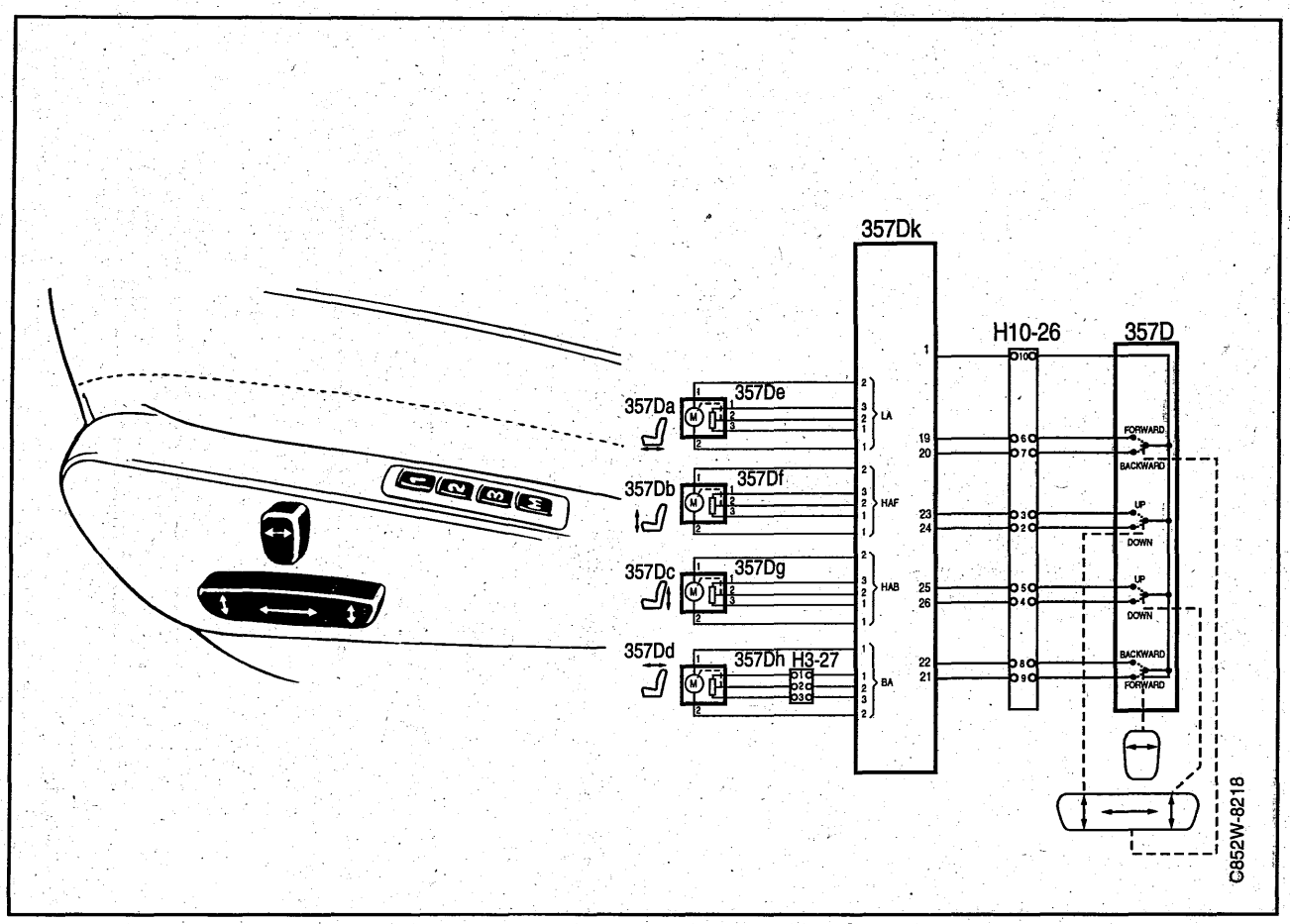


The switches consist of a number of circuit breakers (1 pole 2 way), that's polarity is measured by B+ from the electronic control module. When a switch contact is made B+ is measured at the appropriate switch intake on the electronic control module. The voltage then varies from 0 to approx. 12V.

The switches and the memory buttons are continually monitored by the electronic control module. When an appropriate choice of switch or memory button is detected, the electronic control module carries out the appropriate operation, that is to say, the motors are controlled manually or by the adjustment memory or the seat adjustment is stored in the memory function.

Inappropriate choice of switch or memory button, for example pressing several memory buttons or more than two switches at the same time results in no operation. Selecting the memory programming or the memory adjustment at the same time results in the activation of the manual setting.

Description of operation, electrically operated seat with memory (cont.)



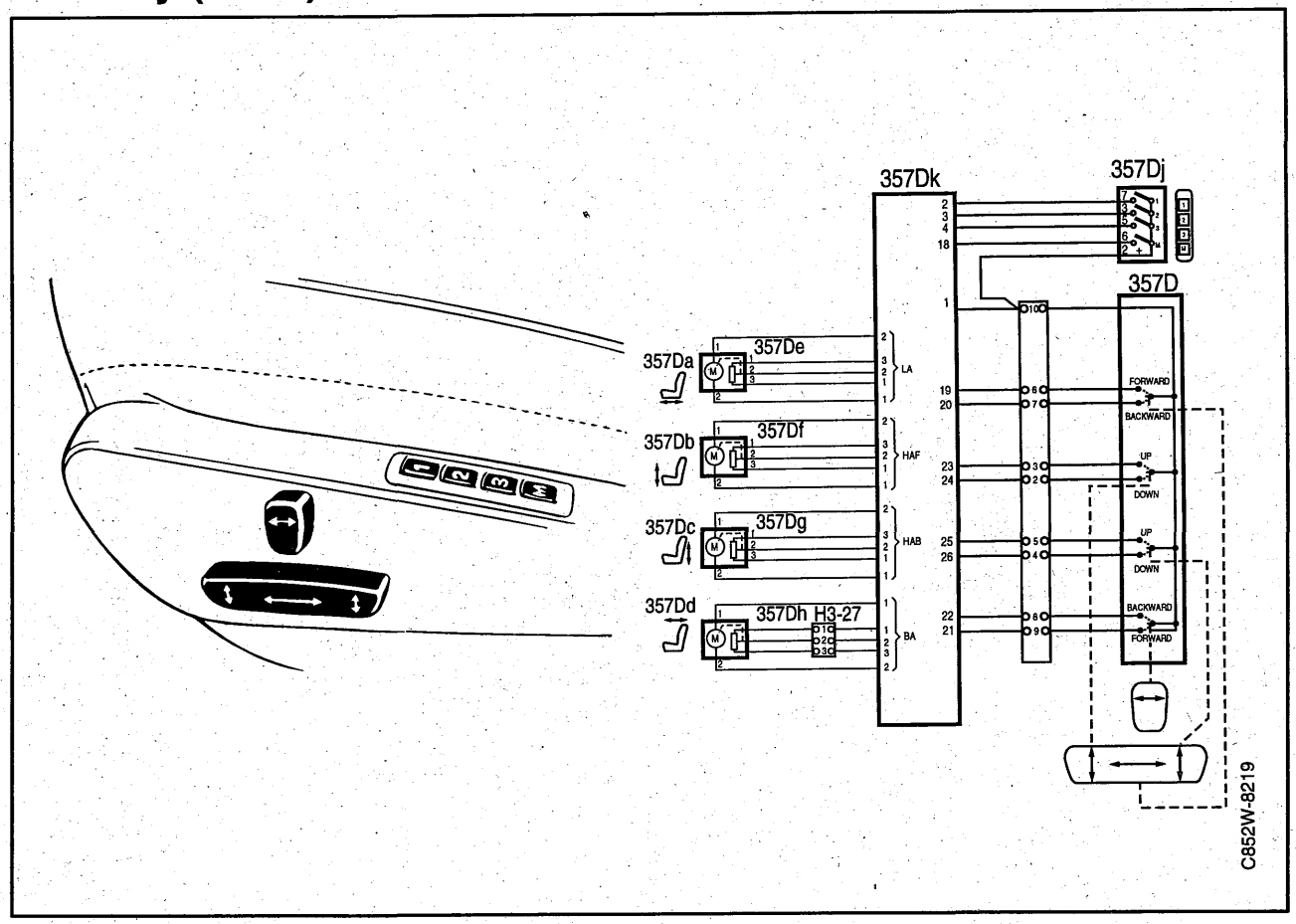
Manual setting of seat adjustment

At manual setting of the seat adjustment the electronic control module reads from the selected switch and then supplies current to the appropriate motor.

The electronic control module only allows two motors to be driven at the same time, that are stopped if more than two switches are selected on the manual control unit at the same time. The electronic control module supplies current to these motors as long as the particular switches on the manual control unit are selected (maximum 1 minute).

The back rest has no mechanical stop to limit its inclination forwards and backwards. The limitation is decide by the electronic control module by reading the back rest position sensor. The electronic control module does not permit the back rest motor to operate if its position sensor is faulty.

Description of operation, electrically operated seat with memory (cont.)



Memory setting of seat adjustment

Electronic control module reads all the position sensors and stores their readings in an internal seat memory. The seat memory is none–volatile and stores information even when the electronic control module is without voltage.

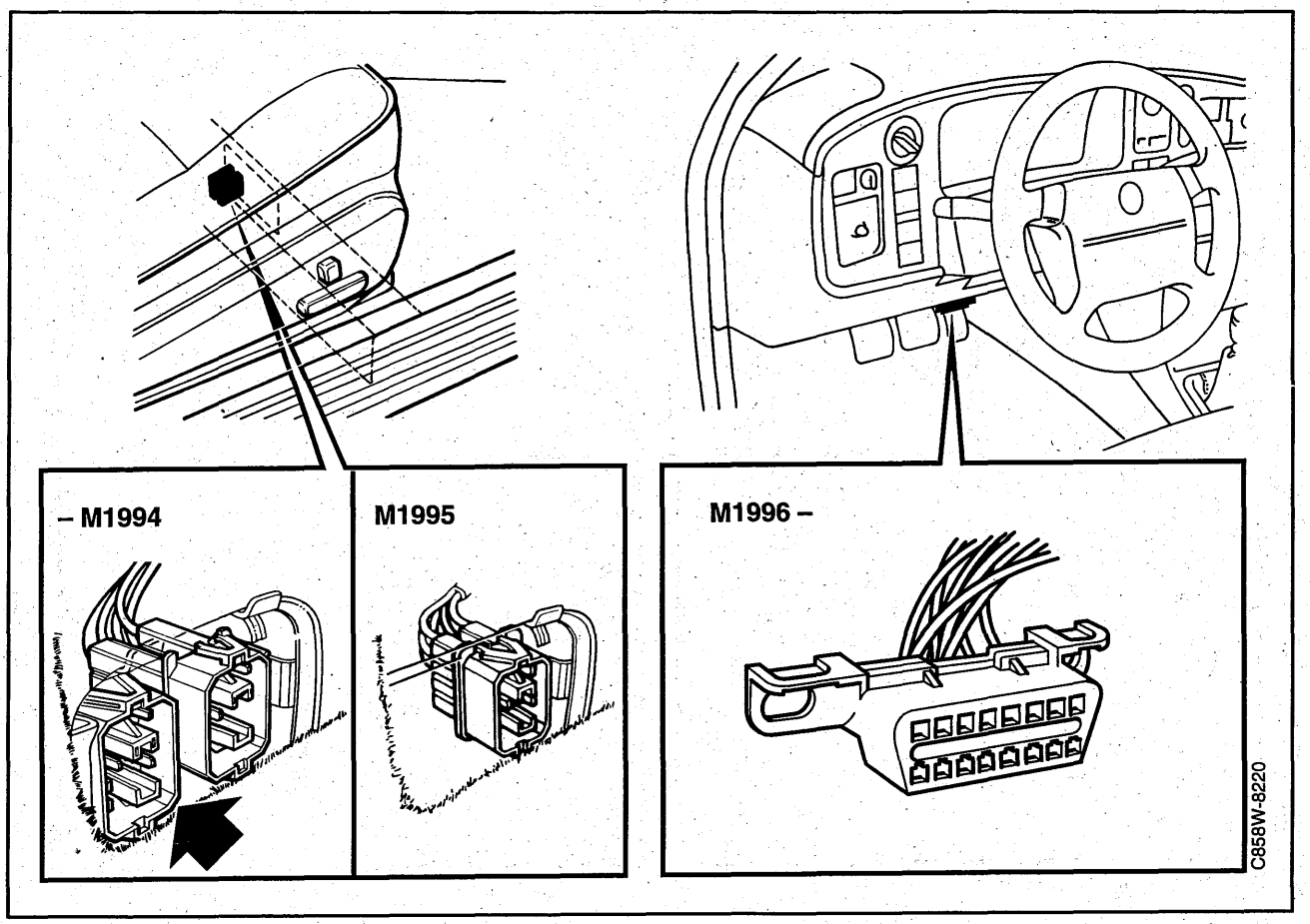
If any of the position sensors is faulty the new seat adjustment is not stored in the seat memory, without a possible earlier memorised seat adjustment setting remaining after settings in the memory.

Memory adjustment

The electronic control module reads all the position sensors and guides the seat motor adjustments in correspondence with the adjustment stored in the seat memory, or until the memory switch is released.

If the electronic control module detects any fault in any of the position sensors or if the seat slowly moves itself in any way, the corresponding motor is stopped.

Operation description, ISAT scan tool communication



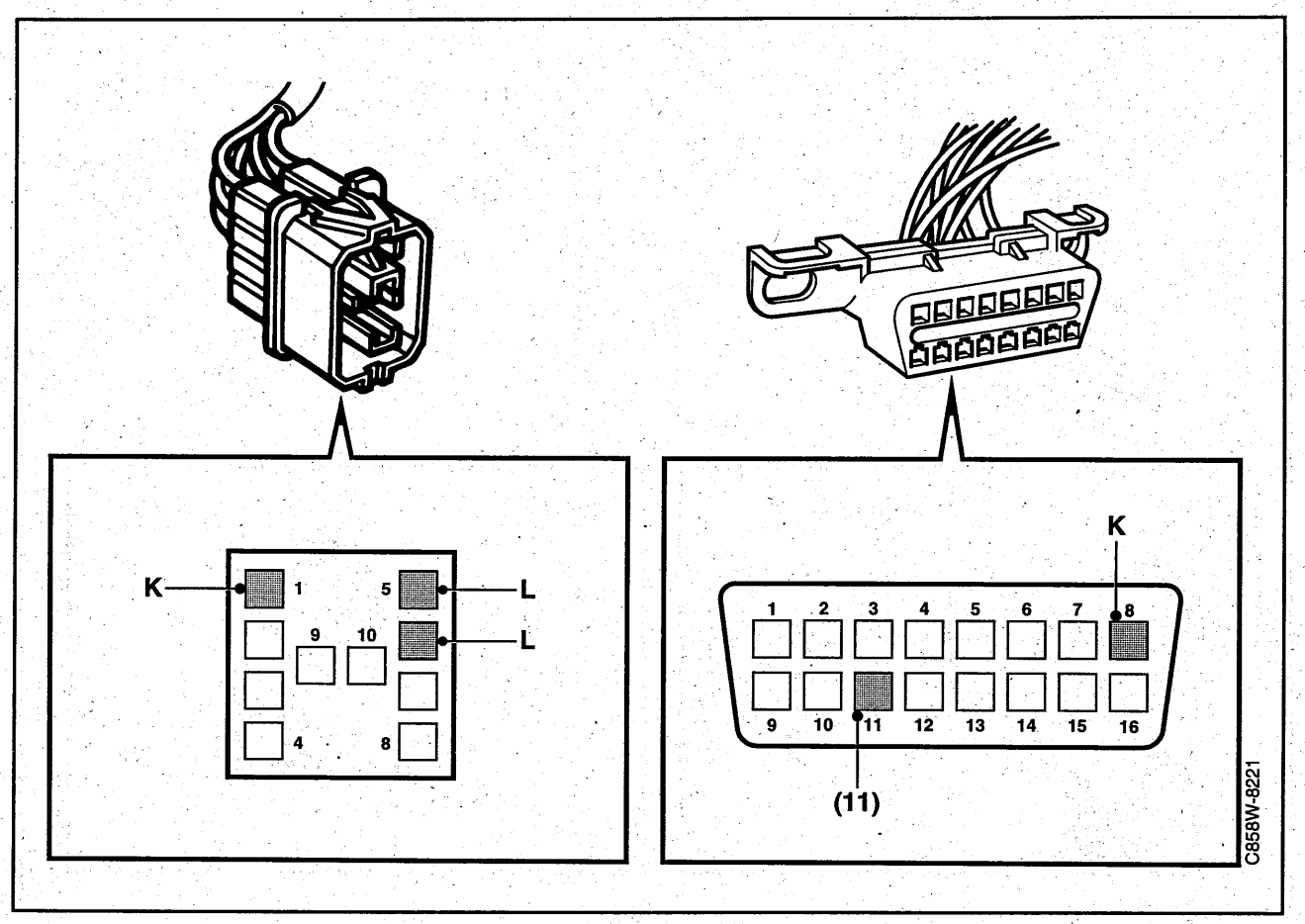
Data link connector

To and including M94 the car is fitted with two data link connectors, located below the passenger seat. One green and one black 10 pole data link connector. The electrically operated seat with memory is connected to the green socket.

M95 models are equipped with a 10 pole data link connector, located under the passenger seat.

On the M96 cars there is a 16 pole data link connector, located under the facia by the steering column assembly.

Operation description, ISAT communication (cont.)



Communication

To and including M95 the electronic control module for the electrically operated seat with memory and the ISAT scan tool communicate via two cables, the K and L cables.

The communication is single directional. The ISAT scan tool sends initiatives and commands via the L cable and the electronic control module responds via the K cable.

The stud lining is on the data link connector:

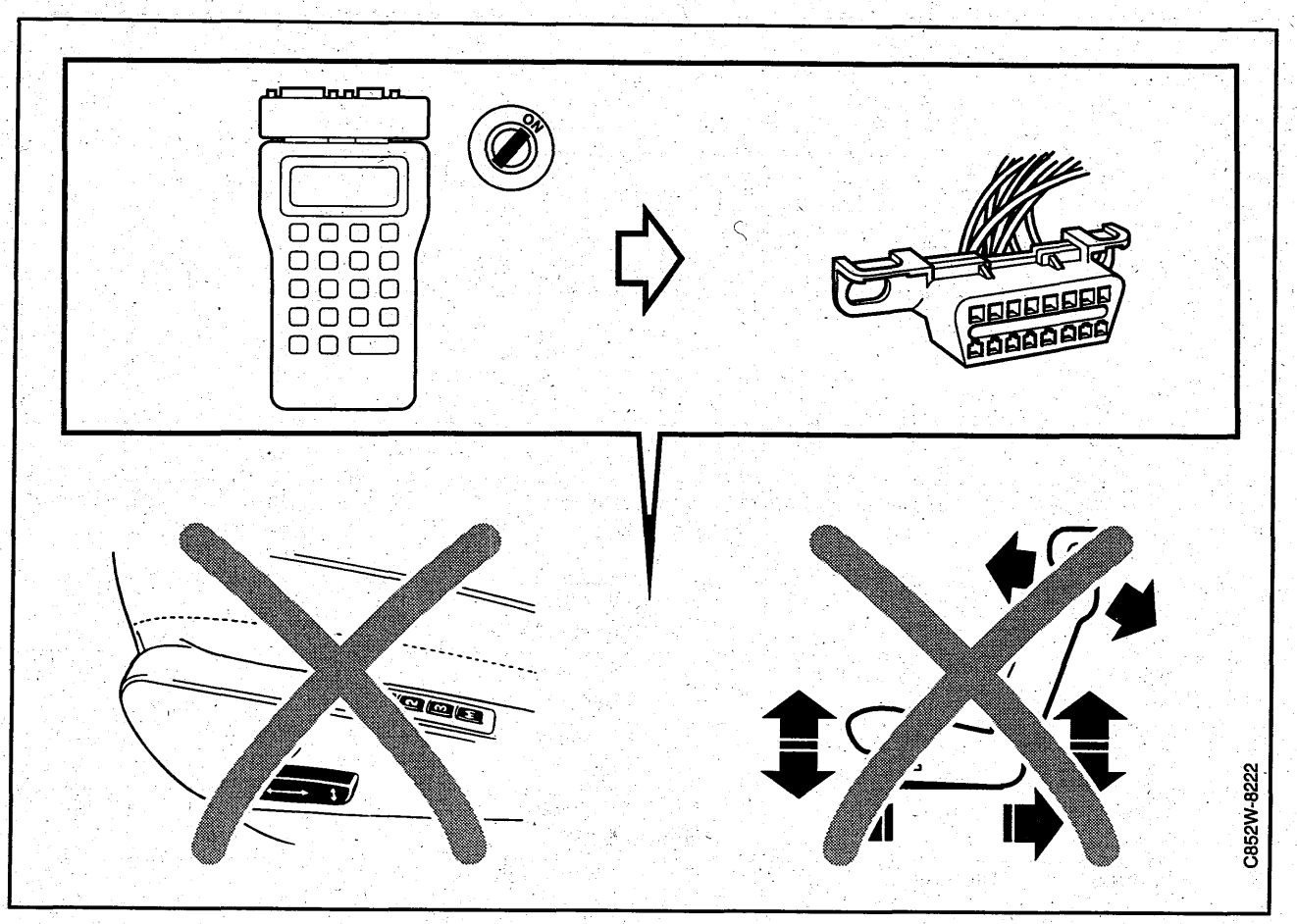
	K	L
Front left–hand seat	Pin 1	Pin 5
Front right–hand seat	Pin 1	Pin 6

Important

On the current M96, when the new electronic control module is introduced, the electronic control module communicates via a bi–directional K cable. The data link connector K cable is pin 8.

Before the introduction of the M96 the old electronic control module remains in production. The bi–directional communication system requires two pins at the data link connector, K cable is pin 8 and I cable is pin 11.

Fault diagnosis, electrically operated seat with memory



Initial fault diagnosis

Test run all motors in both directions before commencing fault diagnosis. If one of the motor fuses blow when the motor is driven then it is very likely that the motor connection is short circuited to ground. Rectify the fault and change the fuse. Then continue fault diagnosis.

Fault diagnosis with ISAT scan tool

Connect the ISAT to the data link connector. Turn the ignition key to the ON position and contact the electronic control module.

Important

The seat no longer operates when contact is established with the ISAT.

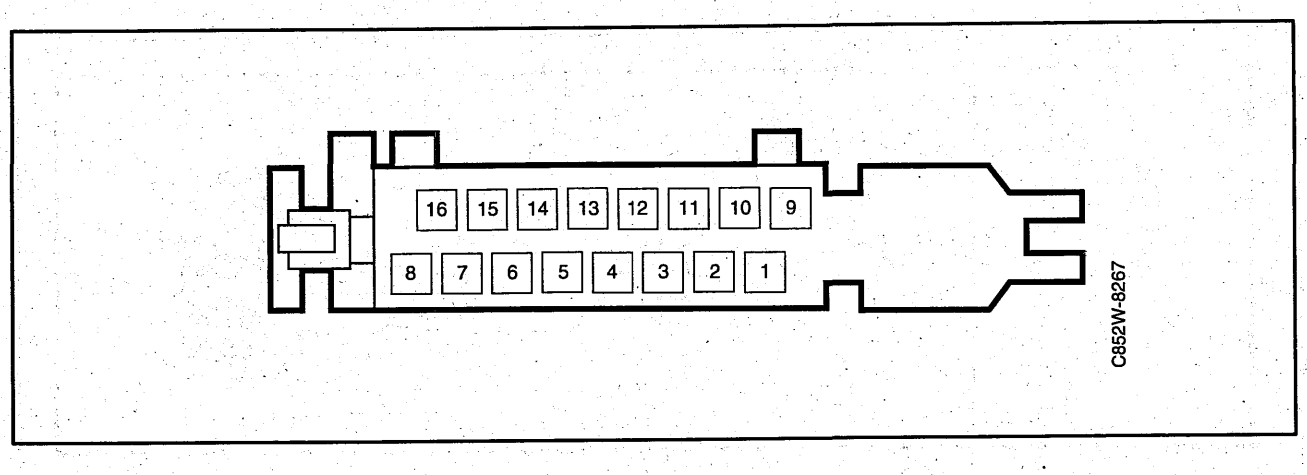
If the ISAT fails to contact the electronic control module, see page 852–132 , "Fault diagnosis, diagnostic communication".

First read and note possible diagnostic trouble codes. Check the electronic control module is getting the correct input signals from the memory switch panel and from the manual control, by reading, "READ SWITCHES" on the ISAT scan tool. Read one switch at a time by operating the manual control and depressing the memory switch. The ISAT should then show "OPEN" or "CLOSED":

Relevant diagnostic trouble code

When carrying out fault diagnosis on the electrically operated seat both permanent and intermittent faults may be detected. The first figure of the diagnostic trouble code shows what kind of fault is being dealt with, 4 and 5 state a permanent fault, 2 and 3 an intermittent fault.

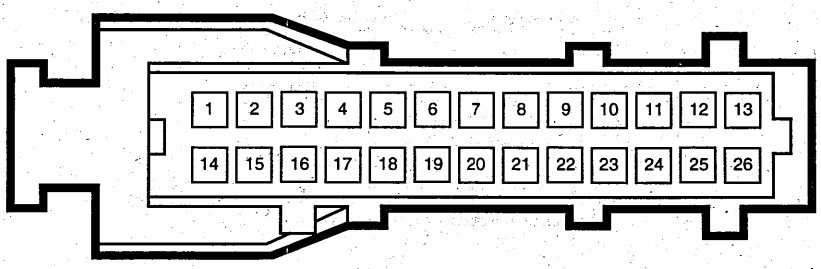
Measurement value, electronic control module M91–M95



Pin	Wire colour	Component/Operation	Measurement conditions	In/Out	Measurement rating (V)	Between X–Y
1	Yellow/white	Backrest forwards	Button in neutral Button forwards	In	0 12	1—GND
2	Yellow	Backrest backwards	Button in neutral Button backwards	In	0 12	2—GND
3	Brown/white	Front edge down	Button in neutral Button down	In	0 12	3—GND
4	Brown	Front edge up	Button in neutral Button up	In	0 12	4—GND
5	White	Memory 3	Button not activated Button pressed	In	0 12	5—GND
6	Grey	Memory 2	Button not activated Button pressed	In	0 12	6—GND
7	Orange	Memory 1	Button not activated Button depressed	In	0 12	7—GND
8	Red	Voltage supply +30		Out		8—GND
9	Red/white	Power ground		In		9—GND
10	Green/white	Rear edge down	Button in neutral Button down	In	0 12	10—GND
11	Green	Rear edge up	Button in neutral Button up	In	0 12	11—GND
12	Blue	Seat forwards	Button in neutral Button forwards	In	0 12	12—GND
13	Blue/white	Seat backwards	Button in neutral Button backwards	In	0 12	13—GND
14						
15						
16	Brown	Memory store	Button not activated Button depressed	In	0 12	16—GND

Measurement rating, electronic control module connection M96–

Connection A

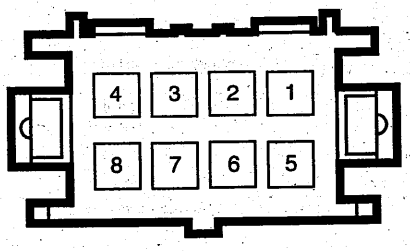


357 Dk(A)

Pin	Wire colour	Component/Operation	Measurement conditions	In/Out	Measure–ment rating (V)	Between X–Y
1	Red	Voltage supply +30		Out		1—GND
2	Orange	Memory 1	Button not activated Button depressed	In	0 12	2—GND
3	Grey	Memory 2	Button not activated Button pressed	In	0 12	3—GND
4	White	Memory 3	Button not activated Button pressed	In	0 12	4—GND
5–11						
12	Black	Power ground		In/Out	< 0,5	12— B–
13	Black	Power ground		In/Out	< 0,5	13— B–
14–15						
16		Coding, passenger				
17		Coding, passenger				
18	Brown	Memory store	Button not activated Button depressed	In	0 12	18—GND
19	Blue	Seat forwards	Button in neutral Button forwards	In	0 12	19—GND MAA
20	Blue/white	Seat backwards	Button in neutral Button backwards	In	0 12	20—GND
21	Yellow/white	Backrest forwards	Button in neutral Button forwards	In	0 12	21—GND
22	Yellow	Backrest backwards	Button in neutral Button backwards	In	0 12	22—GND
23	Brown	Front edge up	Button in neutral Button up	In	0 12	23—GND
24	Brown/white	Front edge down	Button in neutral Button down	In	0 12	24—GND
25	Green	Rear edge up	Button in neutral Button up	In	0 12	25—GND
26	Green/white	Rear edge down	Button in neutral Button down	In	0 12	26—GND

Measurement rating, electronic control module M96– (cont.)

Connection B

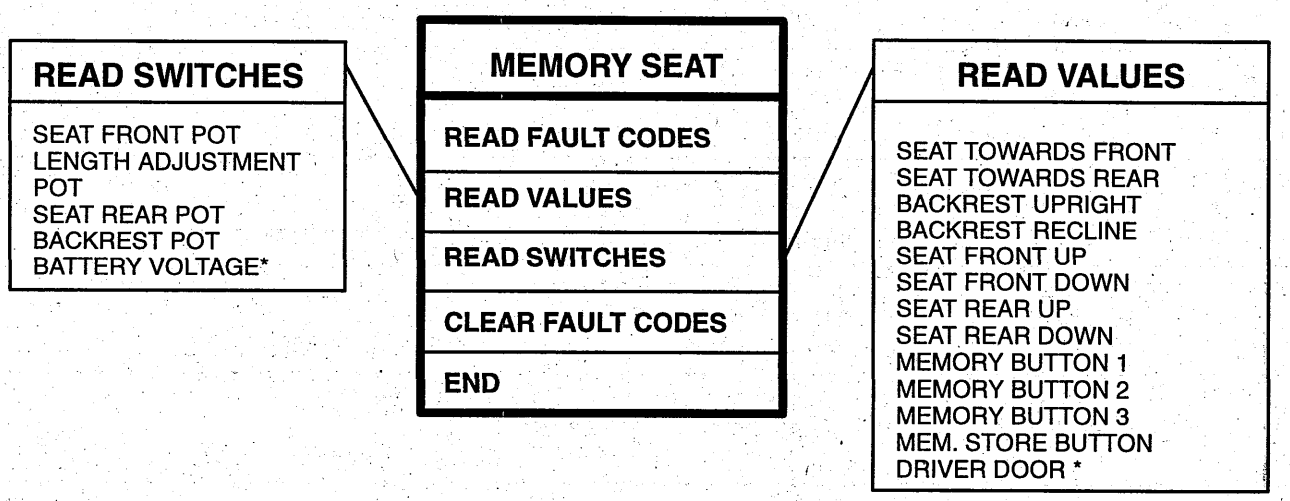


357 Dk(B)

C852W-8268

Pin	Wirw colour	Component/Operation	Measurement conditions	In/Out	Measure–ment ration (V)	Between X—Y
1	Red/white	KL.15	Ignition timing ON	In	12	1—GND
2–4						
5	Blue	Diagnosis	ISAT scan tool connection	In/Out	ca12	5—GND
6	Red	KL.30		In	12	6—GND
7	Black	Power ground		In/Out	< 0,5	7— B–
8	Blue	Door switch, driver door	Door open	In	12	8—GND

ISAT menu overview



*** Only M96–**

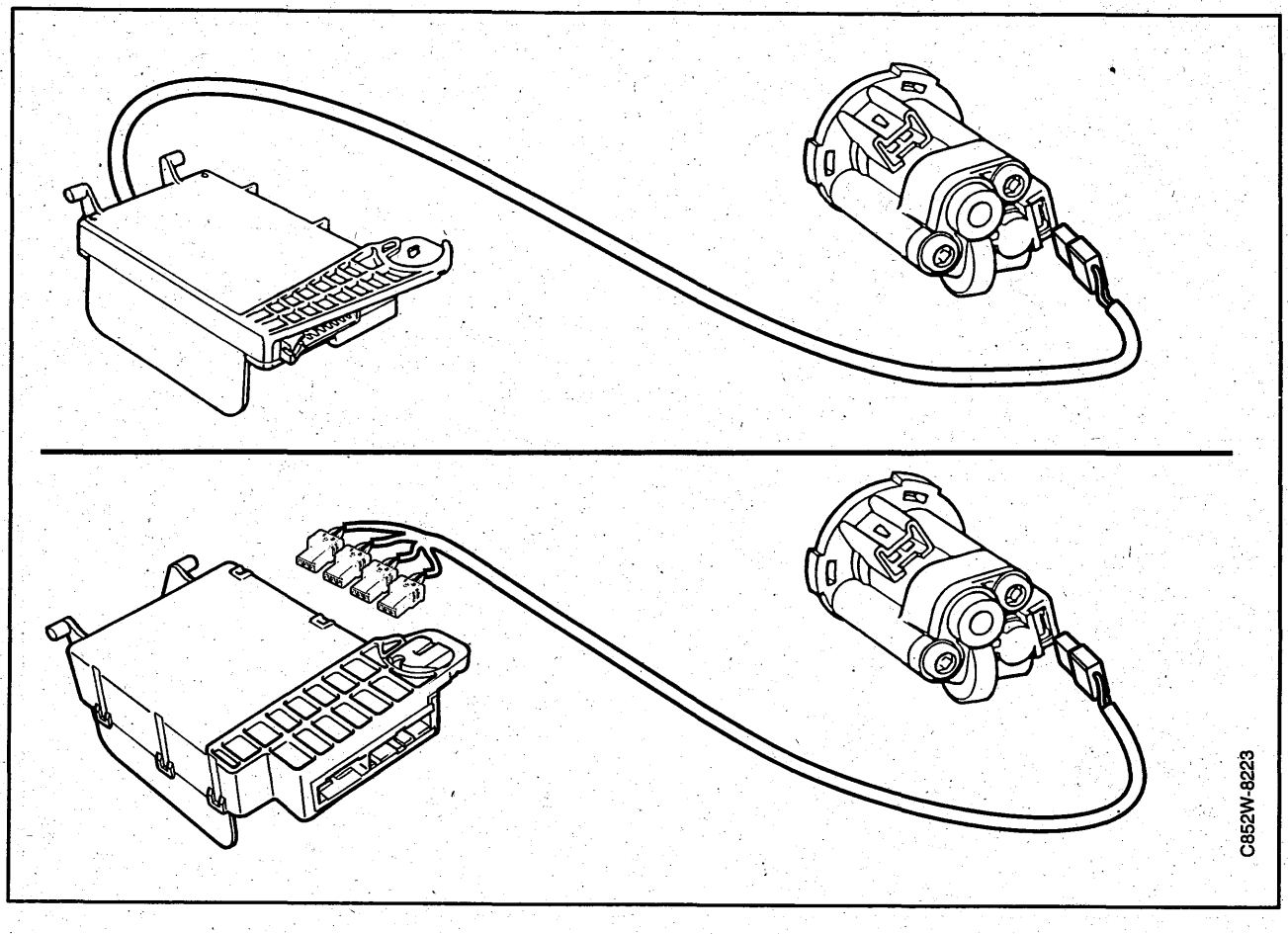
Diagnostic trouble code, electrically operated seat with memory

Diagnostic trouble code	Faulty function/ component	Fault	Text on the ISAT display	Diagnostic procedure, see page
25221	Seat front edge Potentiometer	For high voltage from the potentiometer (intermittent)	FAULT 1 I 25221 SEAT FRONT POT. OPEN CIRCUIT/BREAK/SHORT BATT+	852–103
45221	Seat front edge Potentiometer	For high voltage from the potentiometer (permanent)	FAULT 1 P 45221 SEAT FRONT POT OPEN CIRCUIT/BREAK/SHORT BATT+	852–103
25222	Length adjustment Potentiometer	For high voltage from the potentiometer (intermittent)	FAULT 1 I 25222 LENGTH ADJUSTMENT POT. OPEN CIRCUIT/BREAK/SHORT BATT+	852–103
45222	Length adjustment Potentiometer	For high voltage from the potentiometer (permanent)	FAULT 1 P 45222 LENGTH ADJUSTMENT POT. OPEN CIRCUIT/BREAK/SHORT BATT+	852–103
25223	Seat rear edge Potentiometer	For high voltage from the potentiometer (intermittent)	FAULT 1 I 25223 SEAT REAR POT. OPEN CIRCUIT/BREAK/SHORT BATT+	852–103
45223	Seat rear edge Potentiometer	For high voltage from the potentiometer (permanent)	FAULT 1 P 45223 SEAT REAR POT. OPEN CIRCUIT/BREAK/SHORT BATT+	852–103
25224	Backrest Potentiometer	For high voltage from the potentiometer (intermittent)	FAULT 1 I 25224 BACKREST POT OPEN CIRCUIT/BREAK/SHORT BATT+	852–103
45224	Backrest Potentiometer	For high voltage from the potentiometer (permanent)	FAULT 1 P 45224 BACKREST POT OPEN CIRCUIT/BREAK/SHORT BATT+	852–103
25231	Seat front edge Potentiometer	For low voltage from the potentiometer (intermittent)	FAULT 1 I 25231 SEAT FRONT POT OPEN CIRCUIT/SHORT TO GROUND	852–106
45231	Seat front edge Potentiometer	For low voltage from the potentiometer (permanent)	FAULT 1 P 45231 SEAT FRONT POT OPEN CIRCUIT/SHORT TO GROUND	852–106
25232	Length adjustment Potentiometer	For low voltage from the potentiometer (intermittent)	FAULT 1 I 25232 LENGTH ADJUST. POT. OPEN CIRCUIT/SHORT TO GROUND	852–106
45232	Length adjustment Potentiometer	For low voltage from the potentiometer (permanent)	FAULT 1 P 45232 LENGTH ADJUSTMENT POT. OPEN CIRCUIT/SHORT TO GROUND	852–106
25233	Seat rear edge Potentiometer	For low voltage from the potentiometer (intermittent)	FAULT 1 I 25233 SEAT REAR POT. OPEN CIRCUIT/SHORT TO GROUND	852–106
45233	Seat rear edge Potentiometer	For low voltage from the potentiometer (permanent)	FAULT 1 P 45233 SEAT REAR POT OPEN CIRCUIT/SHORT TO GROUND	852–106

Diagnostic trouble code	Faulty function/ component	Fault	Text on the ISAT display	Diagnostic procedure, see page
25234	Backrest Potentiometer	For low voltage from the potentiometer (intermittent)	FAULT 1 I 25234 BACKREST POT. OPEN CIRCUIT/SHORT TO GROUND	852–106
45234	Backrest Potentiometer	For low voltage from the potentiometer (permanent)	FAULT 1 P 45234 BACKREST POT. OPEN CIRCUIT/SHORT TO GROUND	852–106
25291	Seat front edge Potentiometer	For slow change at memory setting (intermittent)	FAULT 1 I 25291 SEAT FRONT POT. FOR SLOW MEMORY SETTING	852–109
45291	Seat front edge Potentiometer	For slow change at memory setting (permanent)	FAULT 1 P 45291 SEAT FRONT POT. FOR SLOW MEMORY SETTING	852–109
25292	Length adjustment Potentiometer	For slow change at memory setting (intermittent)	FAULT 1 I 25292 LENGTH ADJUSTMENT POT. FOR SLOW MEMORY SETTING	852–109
45292	Length adjustment Potentiometer	For slow change at memory setting (permanent)	FAULT 1 P 45292 LENGTH ADJUSTMENT POT. FOR SLOW MEMORY SETTING	852–109
25293	Seat rear edge Potentiometer	For slow change at memory setting (intermittent)	FAULT 1 I 25293 SEAT REAR POT. FOR SLOW MEMORY SETTING	852–109
45293	Seat rear edge Potentiometer	For slow change at memory setting (permanent)	FAULT 1 P 45293 SEAT REAR POT. FOR SLOW MEMORY SETTING	852–109
25294	Backrest Potentiometer	For slow change at memory setting (intermittent)	FAULT 1 I 25294 BACKREST POT. FOR SLOW MEMORY SETTING	852–109
45294	Backrest Potentiometer	For slow change at memory setting (permanent)	FAULT 1 P 45294 BACKREST POT. FOR SLOW MEMORY SETTING	852–109
33640	All motors	Current consumption >50 A in any motor (intermittent)	FAULT 1 I 33640 MOTOR FAULT POWER CONSUMPTION >50A	852–114
53640	All motors	Current consumption >50 A in any motor (permanent)	FAULT 1 P 53640 MOTOR FAULT POWER CONSUMPTION >50A	852–114
33641	Seat front edge Motor	Current consumption >50 A (intermittent)	FAULT 1 I 33641 SEAT FRONT MOTOR CONSUMPTION >50A	852–114
53641	Seat front edge Motor	Current consumption >50 A (permanent)	FAULT 1 P 53641 SEAT FRONT MOTOR CONSUMPTION >50A	852–114

Diagnostic trouble code	Faulty function/ component	Fault	Text on the ISAT display	Diagnostic procedure, see page
33642	Leg room adjustment Motor	Current consumption >50 A (intermittent)	FAULT 1 I 33642 LEG ROOM ADJUSTMENT MOTOR CONSUMPTION >50A	852–114
53642	Leg room adjustment Motor	Current consumption >50 A (permanent)	FAULT 1 P 53642 LEGROOM ADJUST MOTOR CONSUMPTION >50A	852–114
33643	Seat rear Motor	Current consumption >50 A (intermittent)	FAULT 1 I 33643 SEAT BACK MOTOR CONSUMPTION >50A	852–114
53643	Seat rear Motor	Current consumption >50 A (permanent)	FAULT 1 P 53643 SEAT BACK MOTOR CONSUMPTION >50A	852–114
33644	Backrest Motor	Current consumption >50 A (intermittent)	FAULT 1 I 33644 BACKREST MOTOR CONSUMPTION >50A	852–114
53644	Backrest Motor	Current consumption >50 A (permanent)	FAULT 1 P 53644 BACKREST MOTOR CONSUMPTION >50A	852–114
77590	Faulty electronic control module	(intermittent)	FAULT 1 I77590 CONTROL MODULE FAULT	852–116
67590	Faulty electronic control module	(permanent)	FAULT 1 P 67590 CONTROL MODULE FAULT	852–116
11111	No faults		MEMORY SEAT NO FAULTS	

Diagnostic trouble codes 45221/25221, 45222/25222, 45223/25223, 45224/25224 Potentiometer failure



Diagnostic trouble codes

xx221	Seat front edge pot. break/short battery+
xx222	Leg room pot. open circuit/short to battery+
xx223	Seat rear edge pot. open circuit/short to battery+
xx224	Backrest pot. open circuit/short to battery+

For high voltage from the potentiometer.

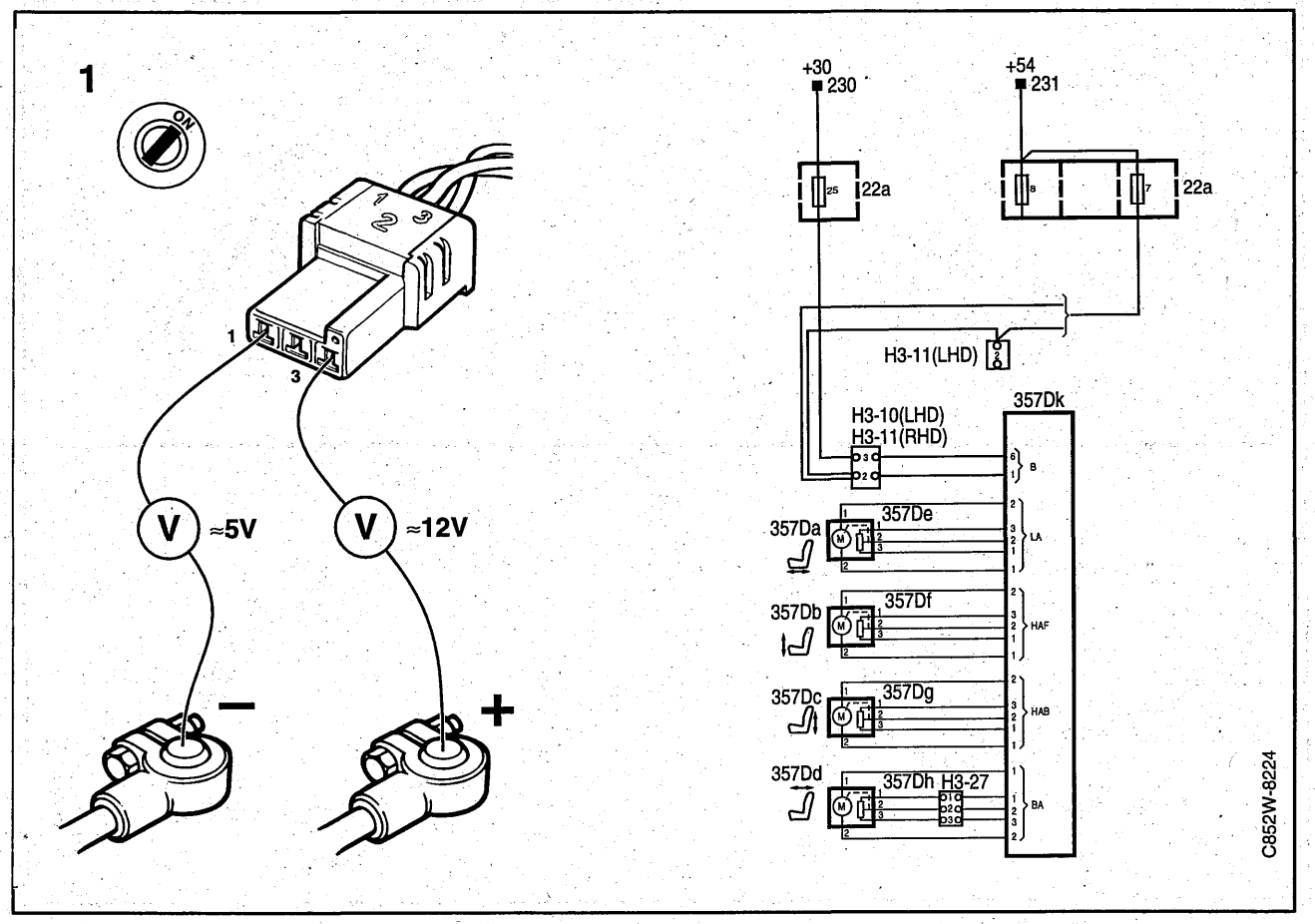
Fault symptom

- It will not remember any new seat settings.
- One or more motors do not run to the memory setting.
- The backrest will not operate manually (only valid for faulty backrest potentiometer).

Feasible fault causes

- The link broken between: electronic control module and pin 3 of the potentiometer, the electronic control module and pin 2 of the potentiometer.
- Short circuit between the cables connected to pin 1 and 2 of the potentiometer.
- The potentiometer is faulty.

Diagnostic trouble codes 45221/25221, 45222/25222, 45223/25223, 45224/25224 (cont.)



Diagnostic procedures

Important

If a potentiometer has slipped its setting it must be re–calibrated before the seat is used. Calibration is achieved by running the motor in question to both end positions.

1 Testing the ground and voltage supply readings to the potentiometers.

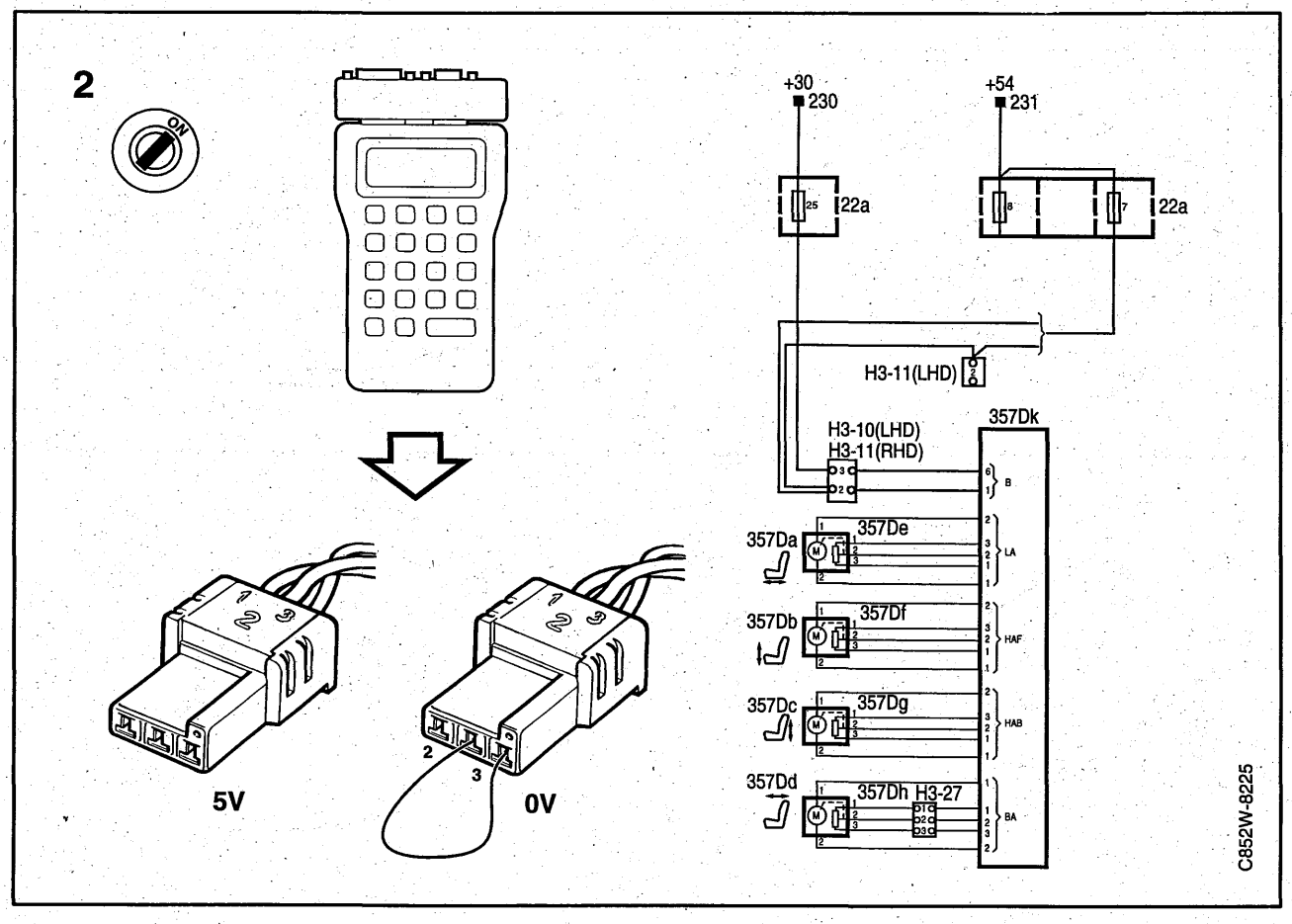
– Unfasten the potentiometer sensor connector.
– Ignition timing in the ON position.
– Measure the voltage at the sensor connector:
- pin 1 to B–, voltage should be 5V.
- B+ to pin 3, the voltage should be 12V.

Are both voltage readings correct?

YES Continue with point 2..

NO Check and rectify the relevant cable (and connectors)

Diagnostic trouble codes 45221/25221, 45222/25222, 45223/25223, 45224/25224 (cont.)



2 Testing the electronic control module potentiometer inlets.

– Connect the ISAT scan tool.

– Select "READ VALUES"–

– Select "SEAT FRONT POT", LENGTH ADJUSTMENT POT", "SEAT REAR POT" or "BACKREST POT".

- ISAT should display 5V for the relevant selection.

– Loop pin 2 and pin 3 of the potentiometer connections in question.

- ISAT should display approx. 0V.

Are the ISAT results correct?

YES

Change the relevant potentiometer.

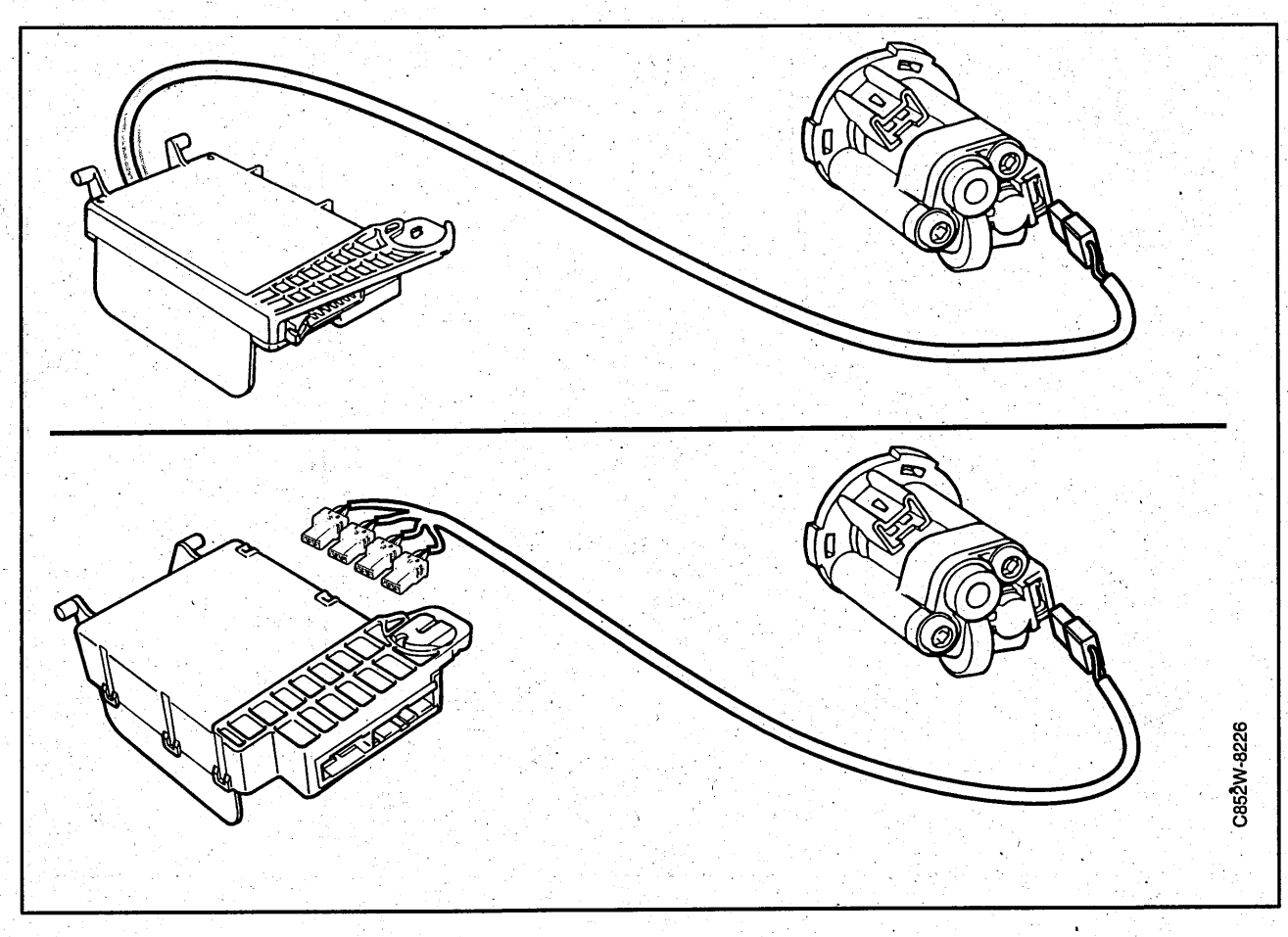
NO

Check and possibly rectify the cable between the potentiometer sensor connector, pin 2 and the electronic control module. If the cables are without fault, continue with point 3.

3 Final inspection

See page 852–131, Complete operation check.

Diagnostic trouble codes 45231/25231, 45232/25232, 45233/25233, 45234/25234 Potentiometer failure



Diagnostic trouble codes

xx231 Seat front edge pot. break/short ground
xx232 Length adjustment pot. break/short ground
xx233 Seat rear edge pot break/short ground
xx234 Backrest pot break/short ground

For low voltage from the potentiometer.

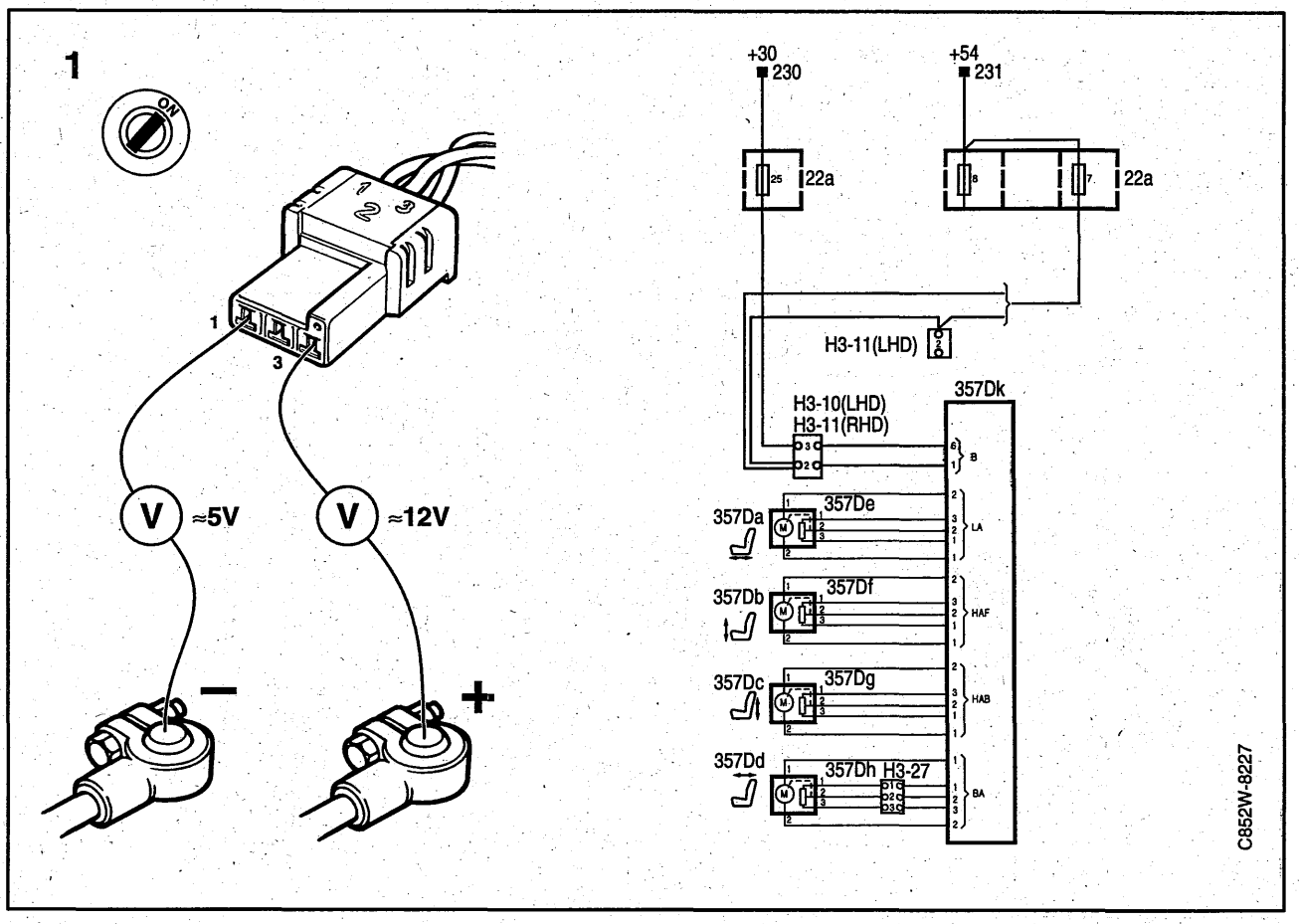
Fault symptom

- It will not remember any new seat settings.
- One or more motors do not run to the memory setting.
- The backrest will not operate manually (only valid for faulty backrest potentiometer).

Feasible fault causes

- The link is broken between the electronic control module and pin 1 of the potentiometer.
- Short–circuit betwwen cables connected to: pin 1 and 2 of the potentiometer, pin 2 and 3 of the potentiometer.
- The potentiometer is faulty.

Diagnostic trouble code 45231/25231, 45232/25232, 45233/25233, 45234/25234 (cont.)



Diagnostic procedures

Important

If a potentiometer has slipped its setting it must be re–calibrated before the seat is used. Calibration is achieved by running the motor in question to both end positions.

1 Testing the ground and voltage supply readings to the potentiometers.

– Unfasten the potentiometer sensor connector.
– Ignition timingin the ON position.
– Carry out voltage measurement at the sensor connector:
  - pin 1 to B–, voltage should be 5V.
  - B+ to pin 3, the voltage should be 12V.

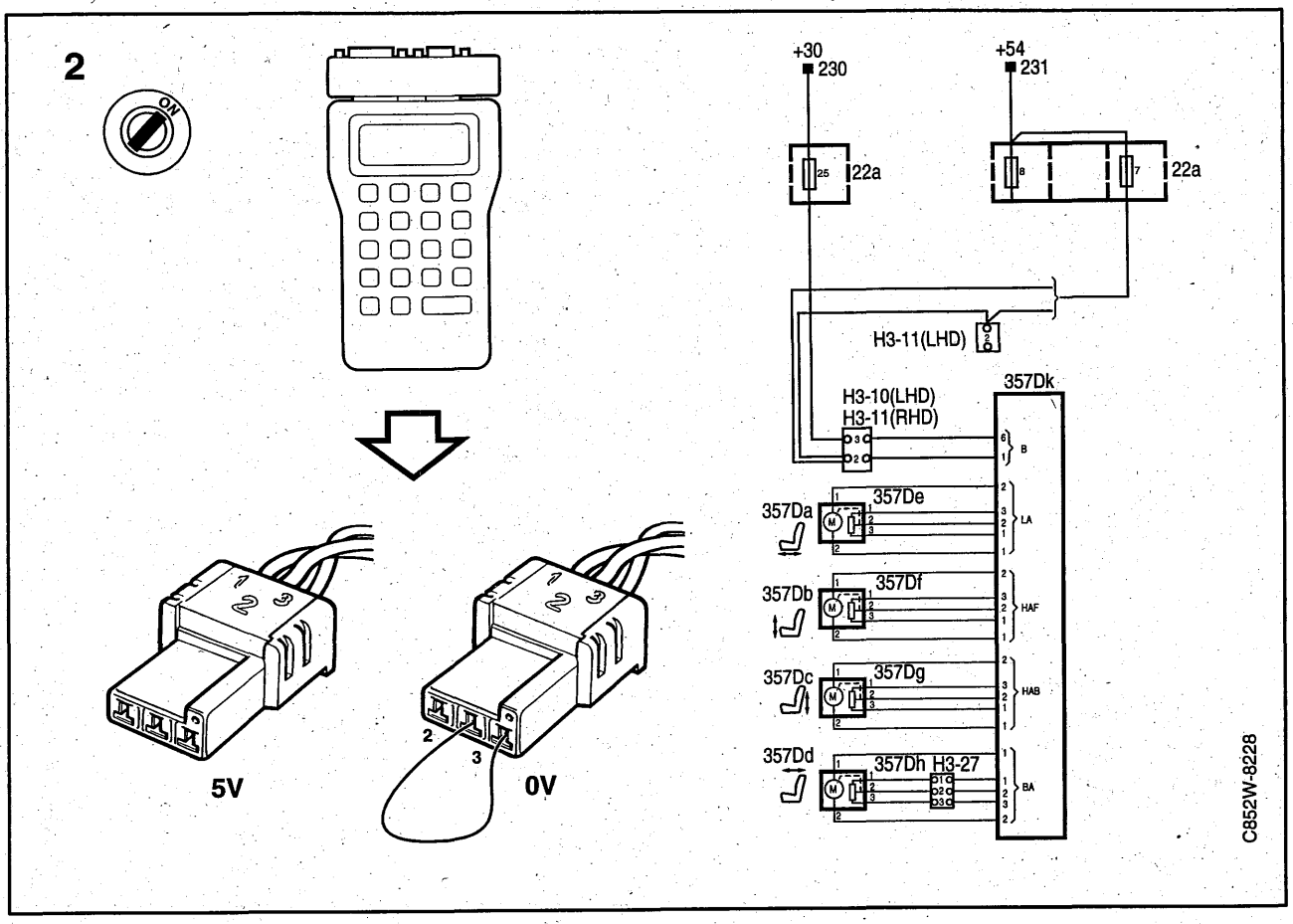
Are both voltage readings correct?

YES

Continue with point 2..

NO Check and rectify the relevant cable (and connectors)

Diagnostic trouble code 45231/25231, 45232/25232, 45233/25233, 45234/25234 (cont.)



2 Testing of the electronic control module– inlet.

– Connect the ISAT scan tool.

– Select "READ VALUES"–

– "SEAT FRONT POT", LENGTH ADJUSTMENT POT", "SEAT REAR POT" or "BACKREST POT".

- ISAT should display 5V for the relevant selection.

– Loop pin 2 and pin 3 of the potentiometer connections in question.

- ISAT should display approx. 0V.

Are the ISAT results correct?

YES

Change the relevant potentiometer.

NO

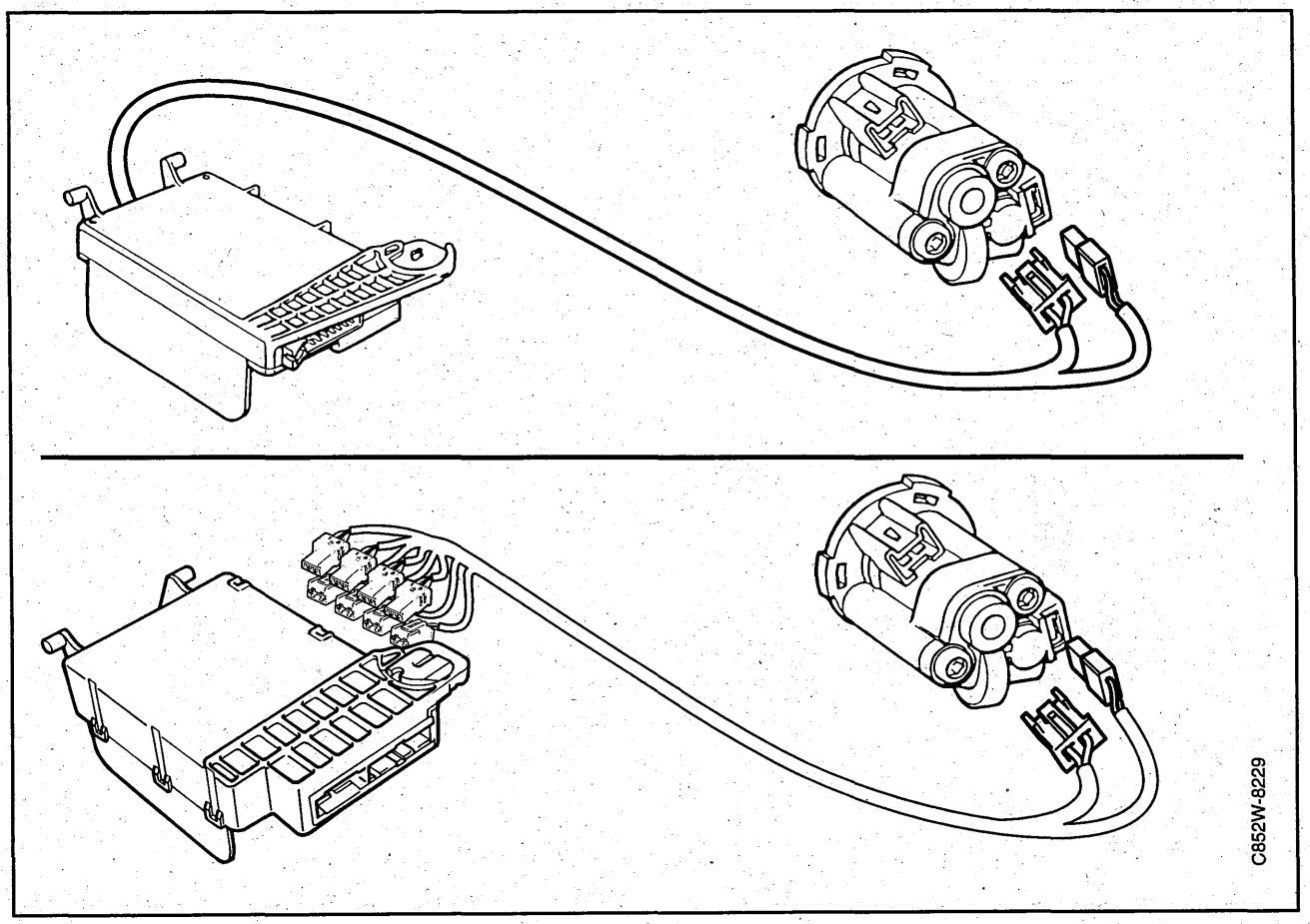
Check and possibly rectify the cable between the potentiometer sensor connector, pin 2 and the electronic control module. If the cables are without fault, continue with point 3.

3 Final inspection

See page 852–131, Completeoperation check.

Diagnostic trouble codes 45291/25291, 45292/25292, 45293/25293, 45294/25294

For slow change of the potentiometer value at memory setting



Diagnostic trouble codes

xx291	Sear front edge pot. for slow at memory setting
xx292	Legroom adjustment pot. for fore–and–aft operation at memory setting
xx293	Seat rear edge pot. for slow at memory setting
xx294	Backrest pot. for slow at memory setting

Fault symptom 1

The motor can not be driven manually, see page 852–110

Fault symptom 2

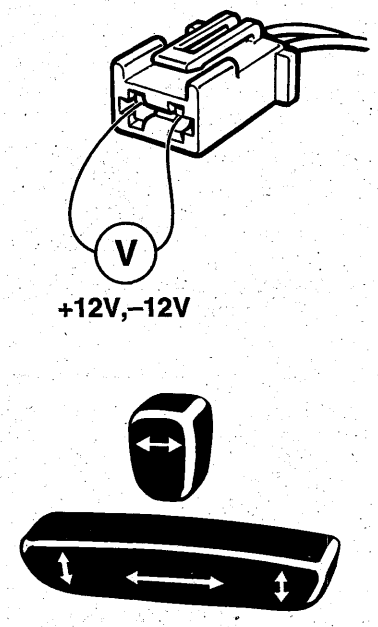
The motor runs at regular speed with manual operation, but not at all with memory recall, see page 852–111.

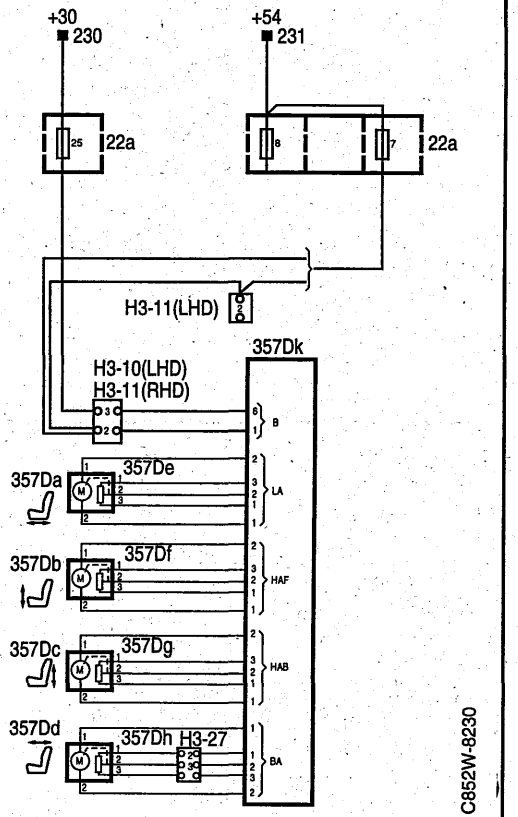
Fault symptom 3

The motor runs unusually slow with manual operation and not at all with memory recall, see page 852–113.

Diagnostic trouble codes 45291/25291, 45292/25292, 45293/25293, 45294/25294 (cont.)

1





Fault symptom 1

The motor does not run manually.

Feasible fault causes

- Open–circuit in the link between the motor and the electronic control module.
- The motor is faulty

Diagnostic procedure

1 Check the voltage supply to the motor.

– Unfasten the motor sensor connector.

– Measure the supply voltage at pin 1 and pin 2 of the sensor connector. Drive the motor in both directions with the manual control.

The voltage between pin 1 and pin 2 should alternate between +12V and –12V
(battery voltage) depending on which direction is chosen.

Are both voltage readings correct?

YES

Change the motor.

NO

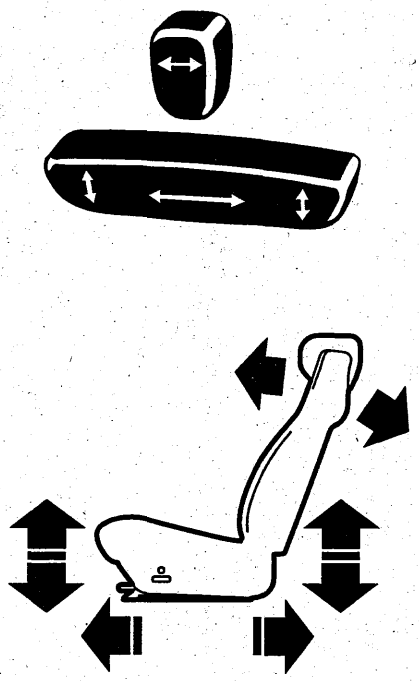
Check and rectify possible wiring faults between the motor and the electronic control module. If the cables are without fault, continue with point 2.

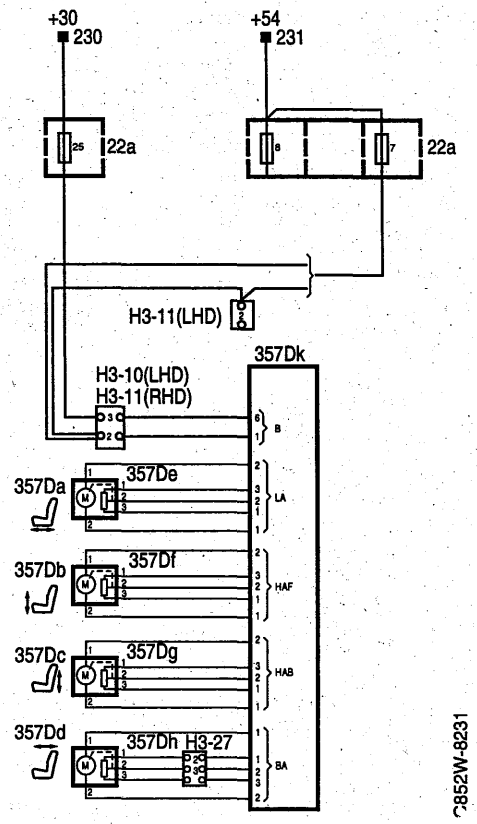
2 Final inspection

See page 852–232, Complete operation check.

Diagnostic trouble codes 45291/25291, 45292/25292, 45293/25293, 45294/25294 (cont.)

1





Fault symptom 2

The motor can be driven at regular speed with manual operation, but not at all with memory control.

Feasible fault causes

Potentiometer fault – the potentiometer fails to alter its setting on the basis that it slides on the motor shaft or there is another mechanical fault.

Diagnostic procedure

1 Checking the potentiometer motor.

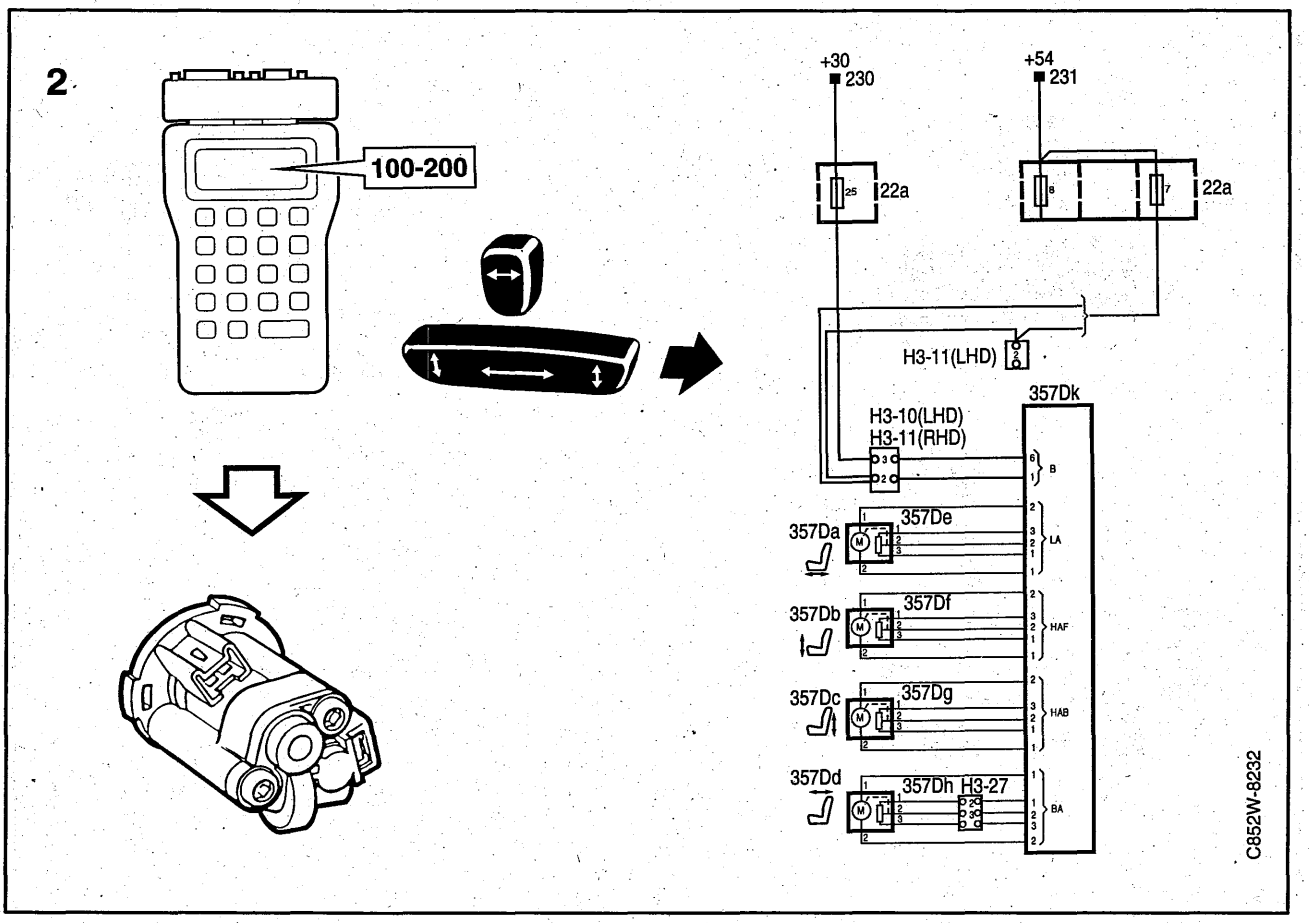
– Drive the particular motor manually until the seat has reached its first end position.

Does the motor run manually?

YES Continue with point 2.

NO Continue on page 852–110, fault symptom 1.

Diagnostic trouble codes 45291/25291, 45292/25292, 45293/25293, 45294/25294 (cont.)



2 Checking the potentiometer value.

– Connect the ISAT scan tool.

– Select "READ VALUES"–

– Select "SEAT FRONT POT", LENGTH ADJUSTMENT POT", "SEAT REAR POT" or "BACKREST POT"..

- ISAT scan tool displays the potentiometer value.

– Cease the communication and then run the motor until the seat is opposite to the end position.

– Connect the ISAT scan tool and read the values according to the above..

The difference between the potentiometer value should be 100–200 units if the reading is made at the end position of the seat.

Are the differences between the ISAT results certain?

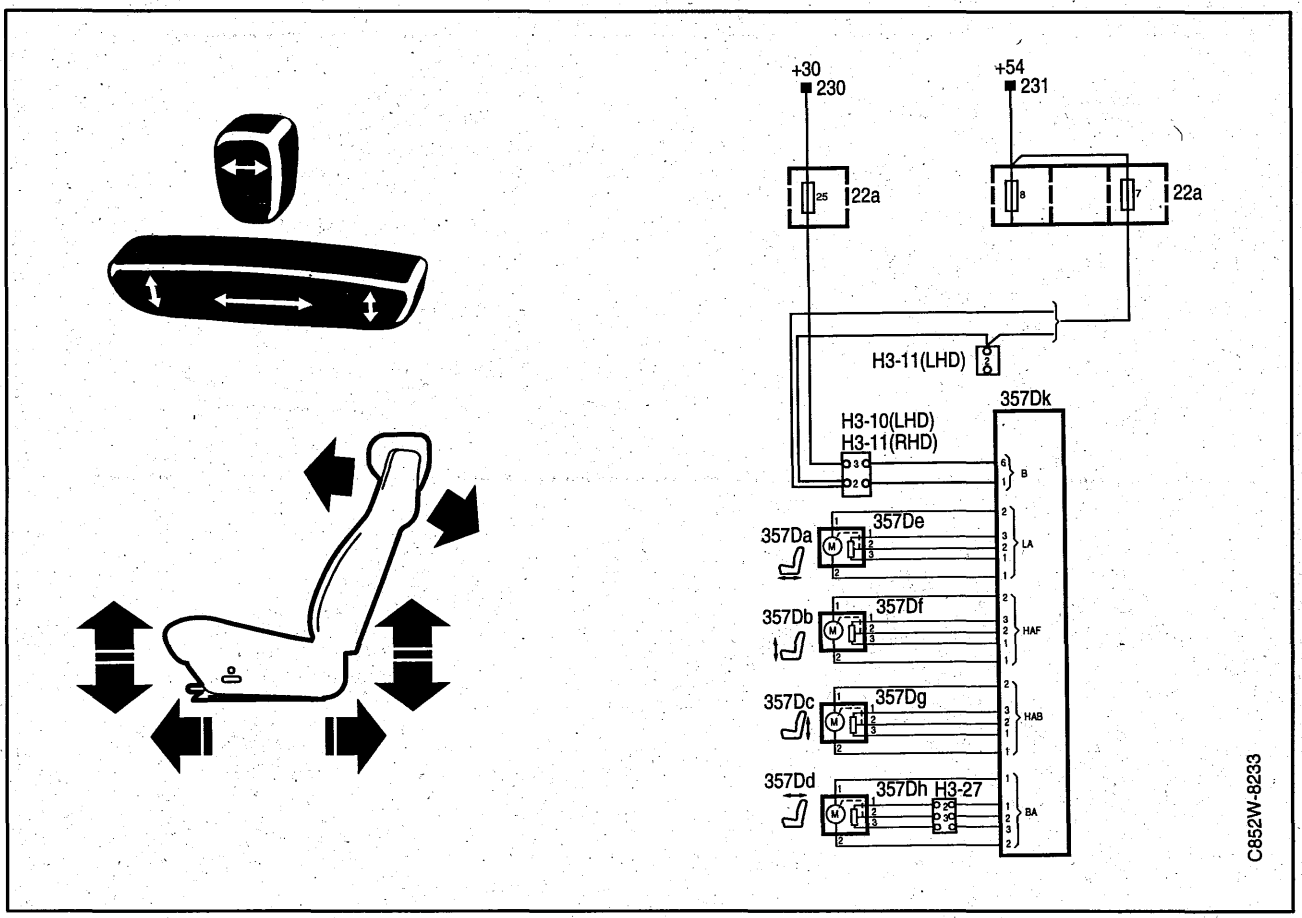
YES Continue with point 3.

NO Change the potentiometer.

3 Final inspection

See page 852–131, Complete operation check.

Diagnostic trouble codes 45291/25291, 45292/25292, 45293/25293, 45294/25294 (cont.)



Fault symptom 3

The motor runs abnormally slow at manual operation and not at all with memory recall.

Feasible fault causes

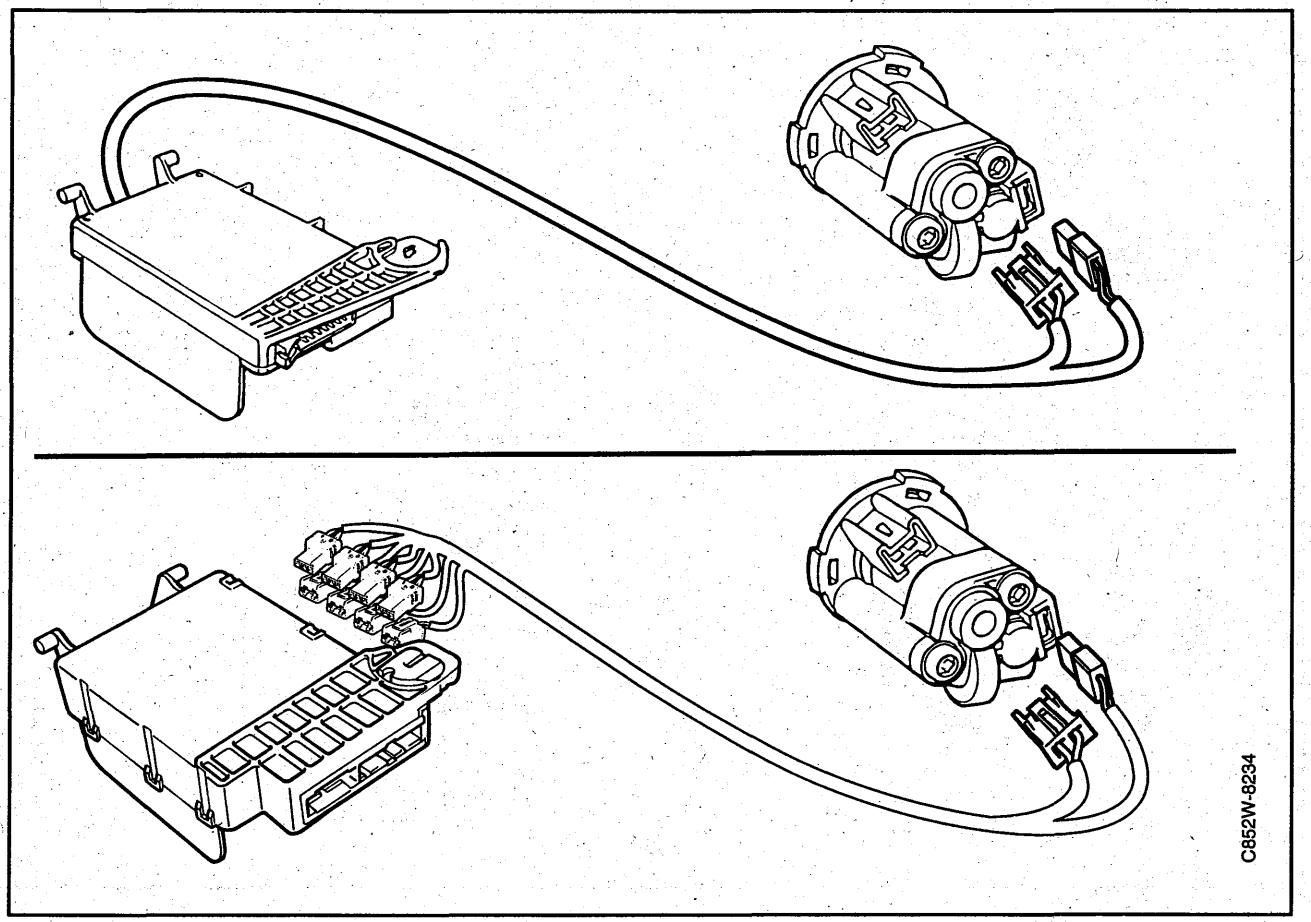
Mechanical fault causes the seat to jam.

Diagnostic procedure

Inspect the seat construction.

Diagnostic trouble code 53640/33640, 53641/33641, 53642/33642, 53643/33643, 53644/33644

Motor fault



Diagnostic trouble codes

xx640	Current consumption of a motor. > 50A
xx641	Seat front edge motor current consumption. > 50A
xx642	Legroom adjustment motor current consumption. > 50A
xx643	Seat rear edge motor current consumption. > 50A
xx646	Backrest motor current consumption > 50 A

Fault symptom

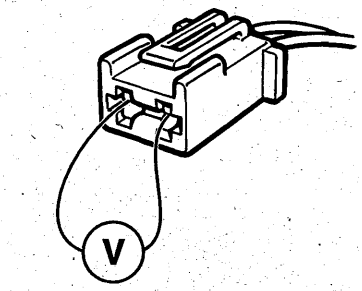
The motor does not operate, neither manually or at memory setting.

Feasible fault causes

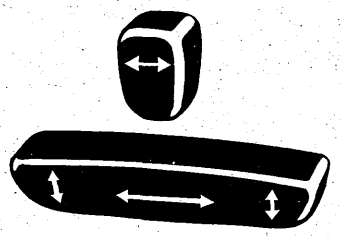
- The motor is faulty.
- Short circuit between the motor connections.

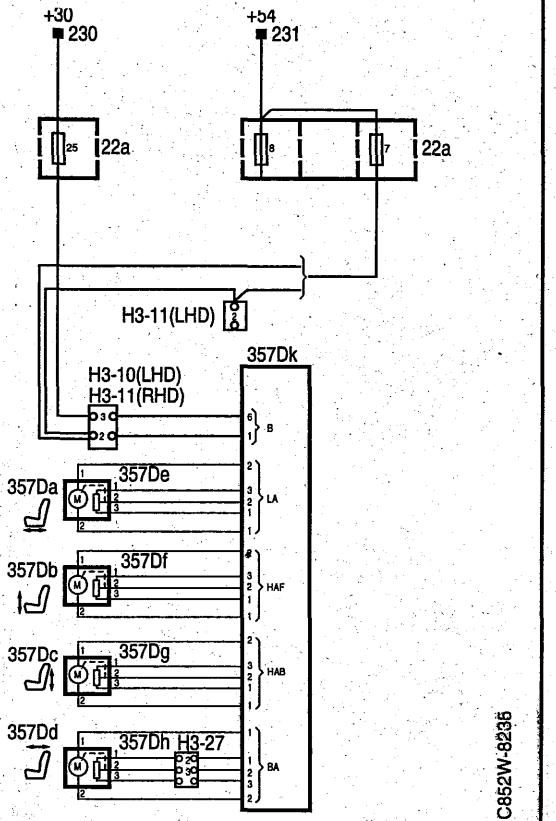
Diagnostic trouble code 53641/33641, 53642/33642, 53643/33643, 53644/33644 (cont.)

1



+12V,–12V





Diagnostic procedures

1 Check the voltage supply to the motor.

- Unfasten the motor sensor connector.
- Measure the voltage at pin 1 and pin 2 of the sensor connector.
- Run the motor in both directions with the manual controls.

The voltage between pin 1 and pin 2 should alternate between +12V and –12V
(battery voltage) depending on which direction is chosen.

Are both voltage readings correct?

YES Change the motor.

NO Inspect and possibly rectify the wiring between the motor and the electronic control module. If the wiring is free from fault, continue with point 2.

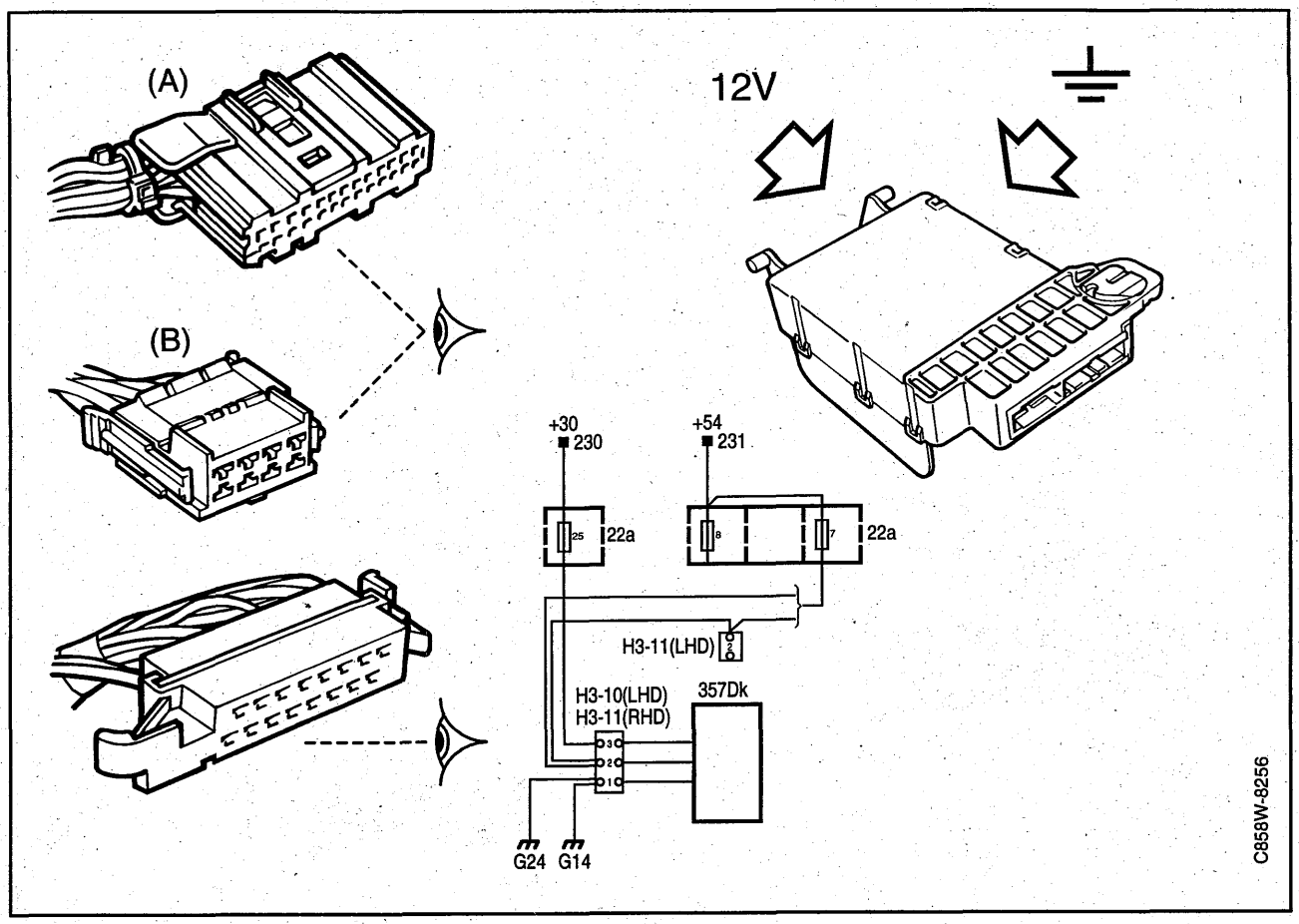
Important

The backrest motor must not be test run with any other voltage supply than the electronic control module. Using another voltage source can cause the seat to travel past the potentiometer end positions. the potentiometers then slide on the motor shaft and their calibration is destroyed (the backrest has faulty end positions).

2 Final inspection

See page 852–131, Complete operation check.

Diagnostic trouble code 67590/77590



Fault symptom

Undefinible fault symptom, due to an internal memory fault or a program malfunction can effect different operations.

Diagnostic procedures

1 Checking the electronic control module.

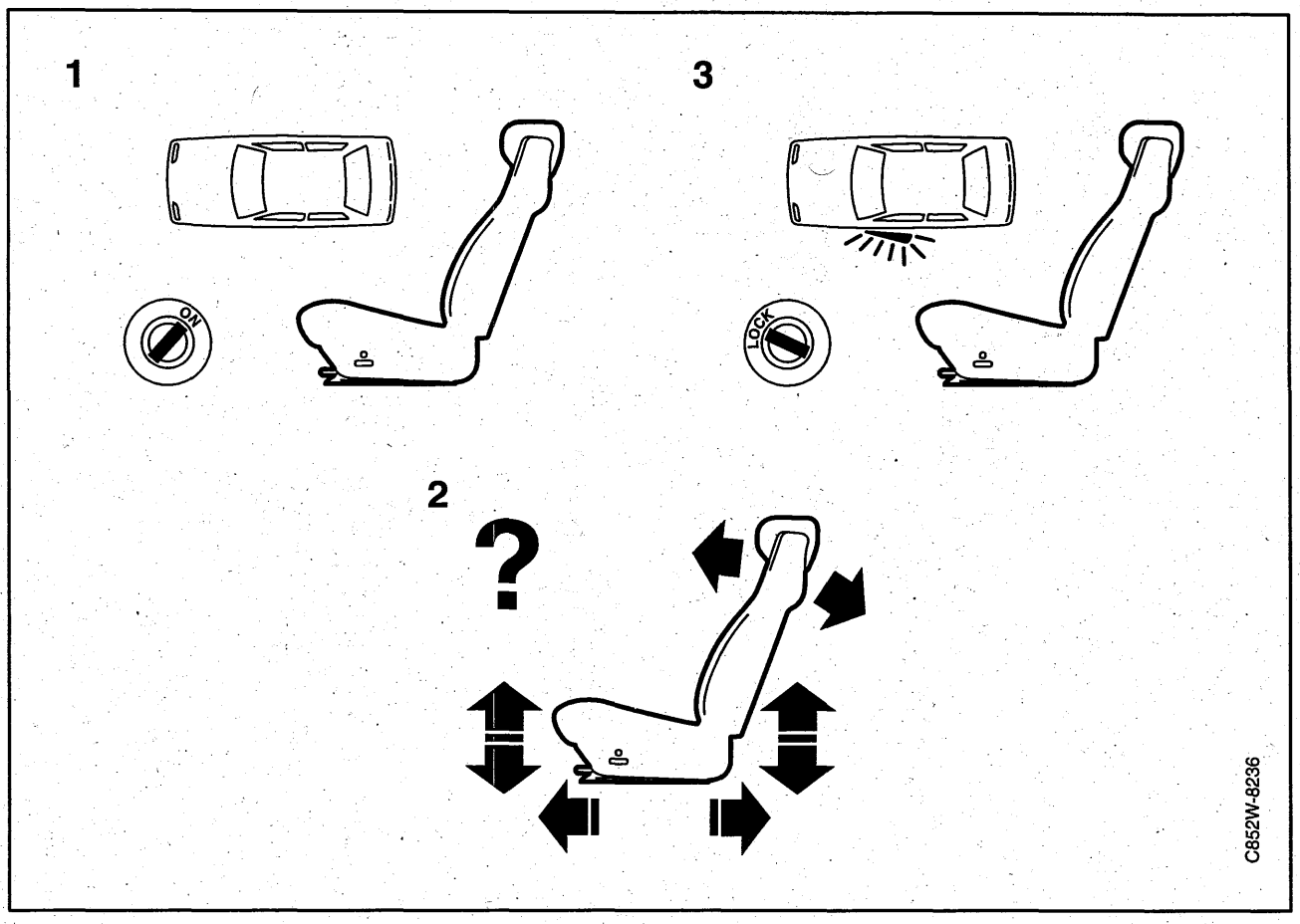
- Remove the electronic control module and inspect the connector, paying special attention for dislocated pins and corrosion.
- Check the ground and voltage supply to the electronic control module. See page 852–96, Measurement value electronic control module connections.

Are the test readings correct?

YES Rectify the fault.

NO See page 852–131, Complete operation check.

Fault diagnosis, switch panels and manual control



Important

The current M95 has a 10 pole connector, H10–26, between the electronic control module and the manual control switch. The current introduction has no release date and lacks a chassis number limitation so fault diagnosis is based on whether connector H10–26 is present or not.

Fault symptom 1

- The seat does not operate with the door closed and the front door closed and the ignition in the ON position or with the front door open.
- No diagnostic trouble code
- All switches on the ISAT scan tool display "OPEN":
  - connectors H10–26 are missing (–M94, M95 current) see page 852–118
  - connectors H10–26 exist (M95 current M96–) see page 852—123.

Fault symptom 2

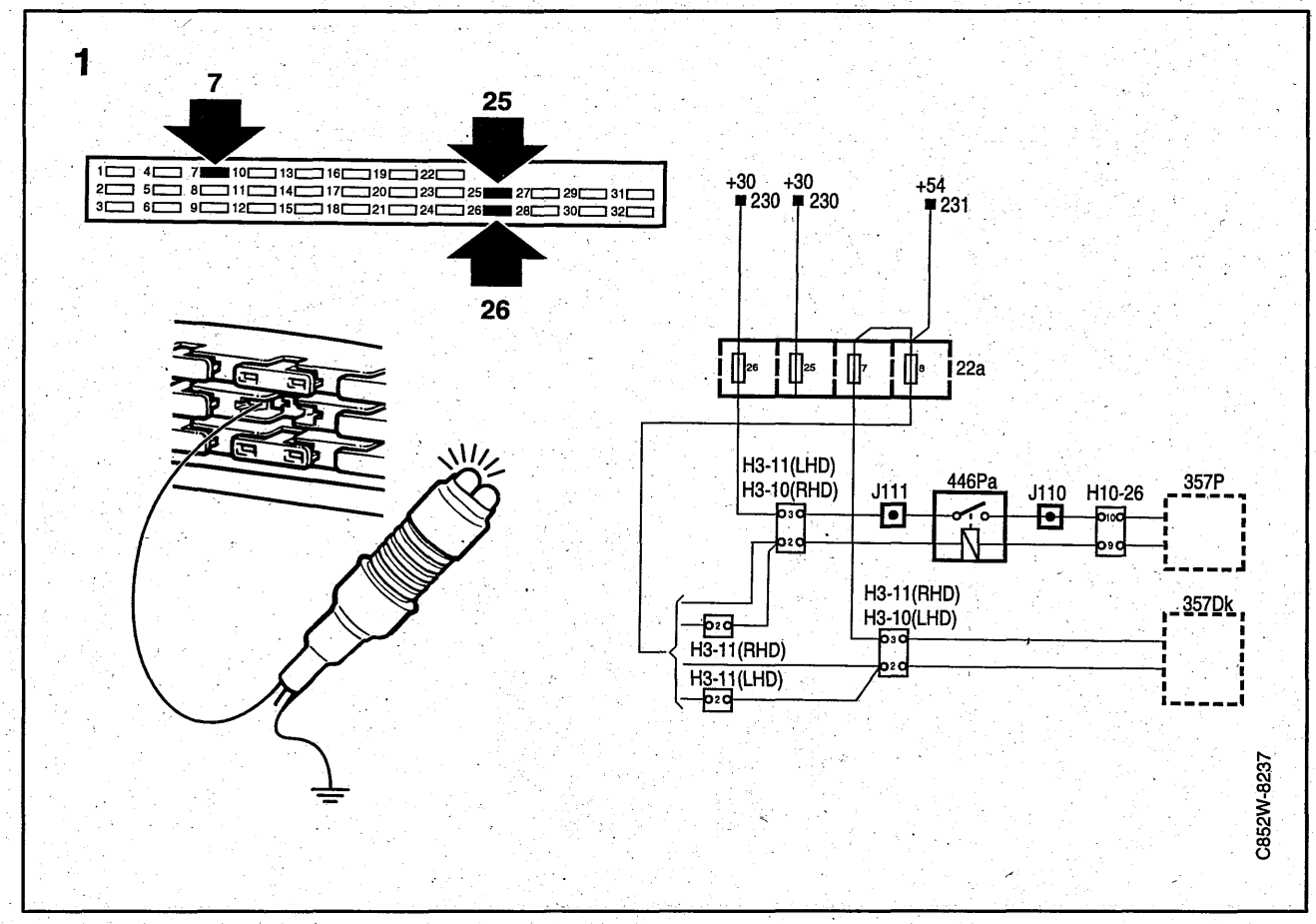
- The seat does not operate in certain positions
- No diagnostic trouble code
- Some of the switches on the ISAT scan tool display "OPEN":
  - H10–26 are missing (–M94, M95 current) see page 852—121,
  - H10–26 exist (M95 current M96–) see page 852–126.

Fault symptom 3

- The seat does not operate with the front doors open.
- No diagnostic trouble code, see page 852–129.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 absent (–M94, M95 current)



Fault symptom 1

- The seat does not operate.
- No diagnostic trouble code.
- All the switches on the ISAT scan tool display "OPEN".

Feasible fault causes

The manual control unit and the memory switch panel lack +30 voltage supply or +54 voltage supply.

Diagnostic procedure

1 Check the fuses.

– Check that fuse 25 (driver seat) and fuse 26 (passenger seat) have not blown.

– Check that fuse 7 is intact.

– Also test that there is voltage from the relevant fuses with the test lamp.

– Connect the test lamp across the relevant fuse and a definite ground.

– The test lamp should come on.

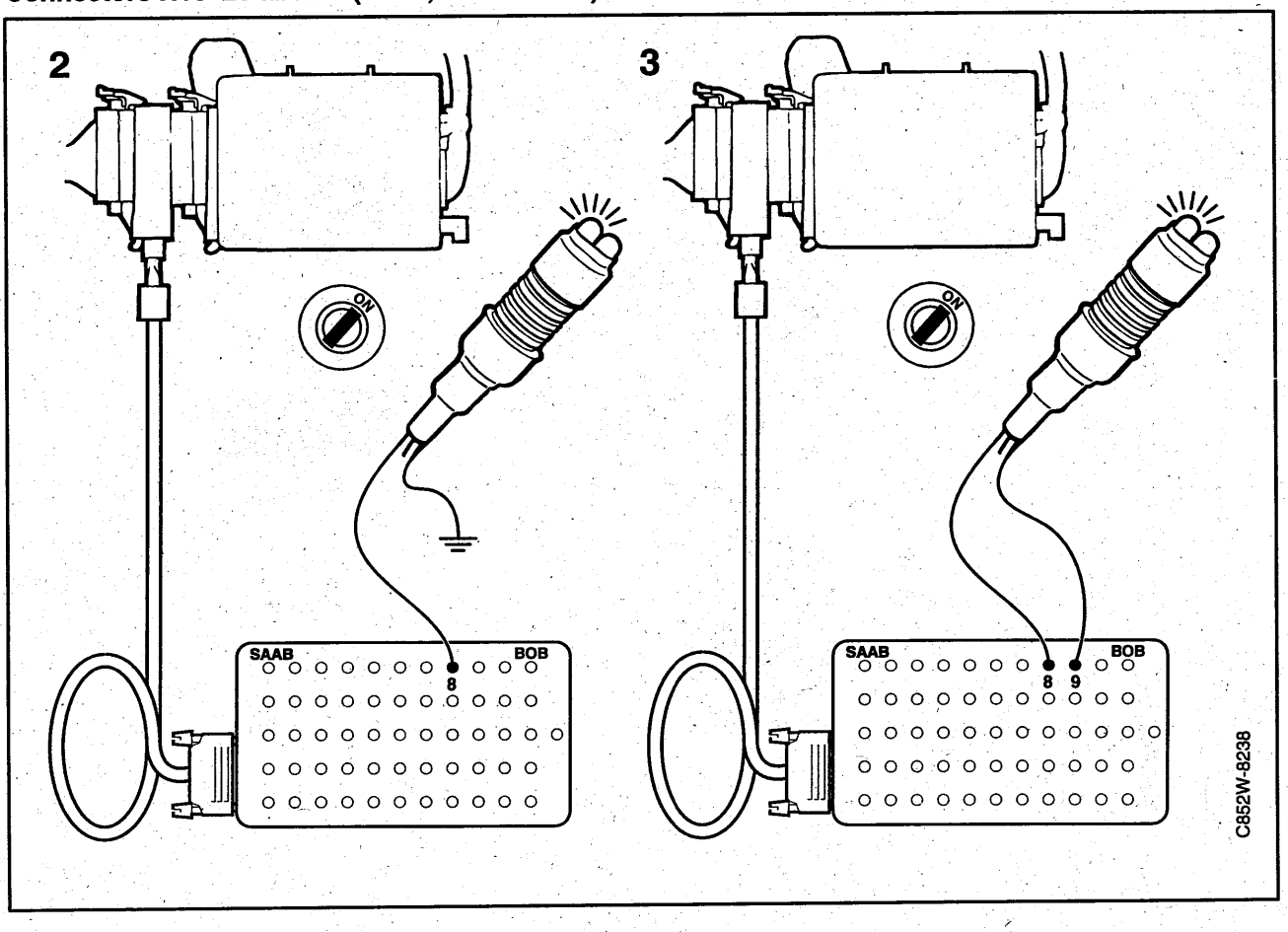
Does the testlamp come on?

YES Continue with point 2.

NO Continue the fault diagnosis in Service Manual 3:2, Electrical system, wiring diagram.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 absent (–M94, M95 current)



2 Checking the voltage supply at the electronic control module sensor connector.

– Unfasten the electronic control module sensor connector and engage the BOB. Only connect the electronic control module sensor connector and not the sensor connector to the switch.
– Connect the test lamp between pin 8 and a definite grounding point.
– The test lamp should come on.

Does the testlamp come on?

YES Continue with point 3.

NO Check and possibly rectify the wiring harness including the connector H3–10 (LHD) or H3–11 (RHD) pin 2 and pin 3 and the respective fuse 7 and fuse 25. If the wiring is without fault, continue with point 5.

3 Checking the ground connection at the electronic control module sensor connector.

– Connect the test lamp between pin 8 and pin 9.
– The test lamp should come on.

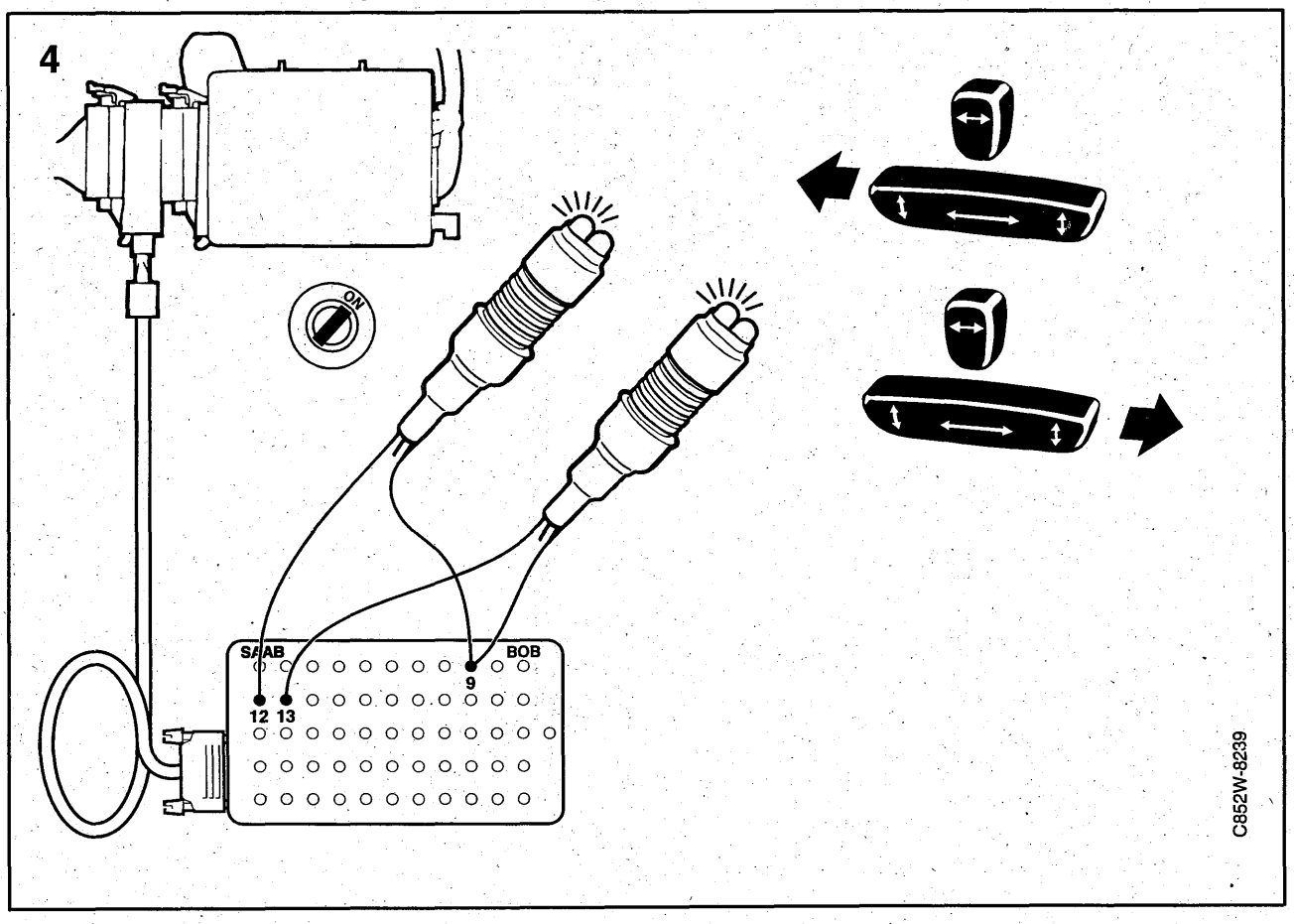
Does the testlamp come on?

YES Continue with point 4.

NO Check and possibly rectify the cables between connector H3–10 (LHD) or H3–11 (RHD) pin 1 and grounding point G14 and G24. If the cables are without fault, continue with point 5.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 absent (–M94, M95 current)



4 Checking the switches.

– Connect the switch sensor connector to the BOB.
– Connect the test lamp between:
  - pin 12 and pin 9
  - pin 13 and pin 9.
– Drive the seat in fore–and–aft directions.
– The testlamp should come on when the manual control is effected.

Does the testlamp come on?

YES Continue with point 5.

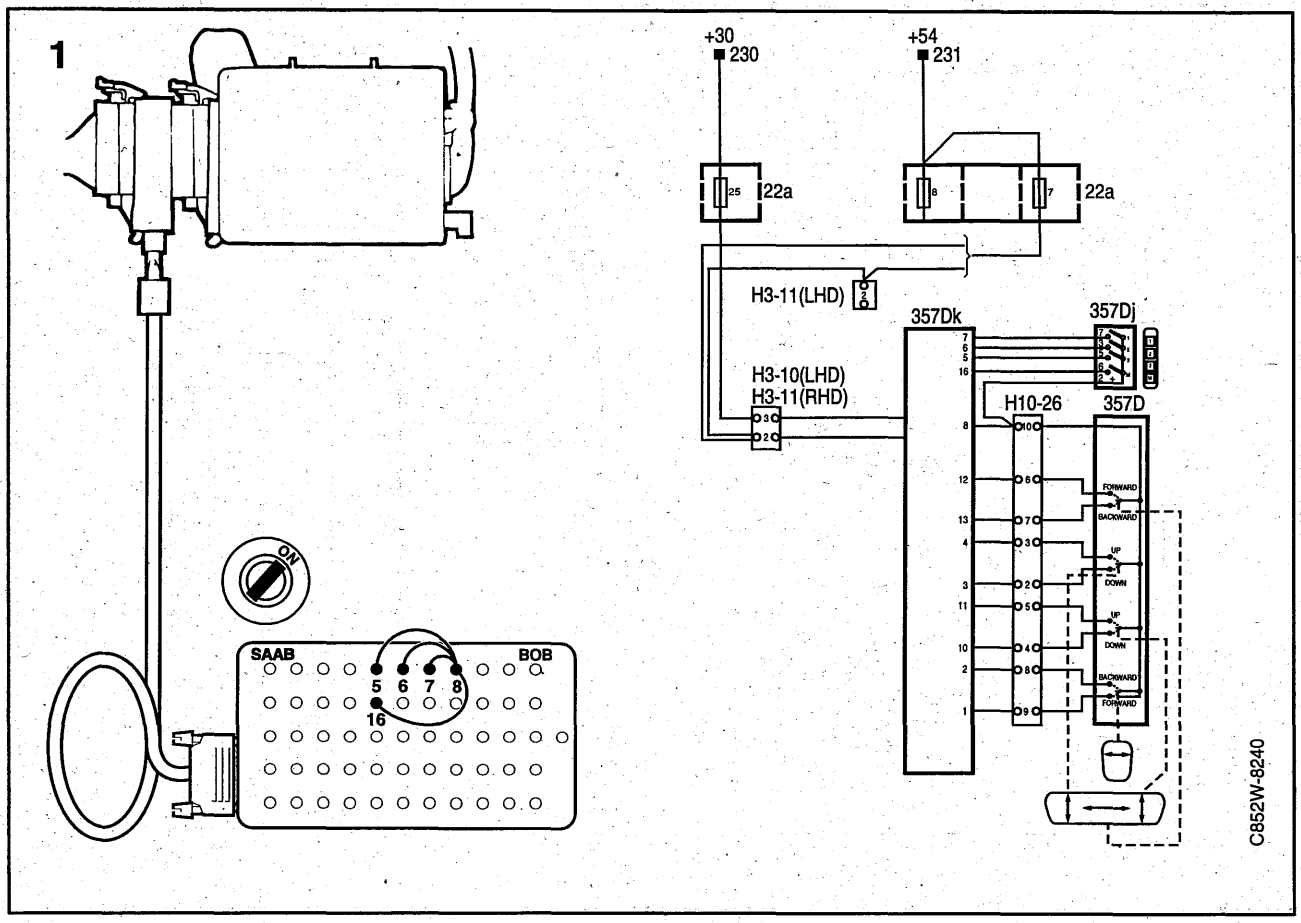
NO Change the switch.

5 Final inspection

See page 852–131, Completeoperation check.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 absent (–M94, M95 current)



Fault symptom 2

- The seat does not operate in certain positions.
- No diagnostic trouble code.
- Some of the switches on the ISAT display "OPEN".

Feasible fault causes

- Open circuit in the link between the particular switch and the switch panel or the switch and the electronic control module.
- Internal fault in the switch panel or switch so the switch contact can not close.
- Fault in the electronic control module.

Diagnostic procedure

1 Memory switch panel operation check.

– Unfasten the electronic control module sensor connector.

– Engage BOB

– Loop in BOB between pin 8 and the following pins depending on the fault.

Memory button		Pin
	1	7
	2	6
	3	5
	M	16

Do the operations function?

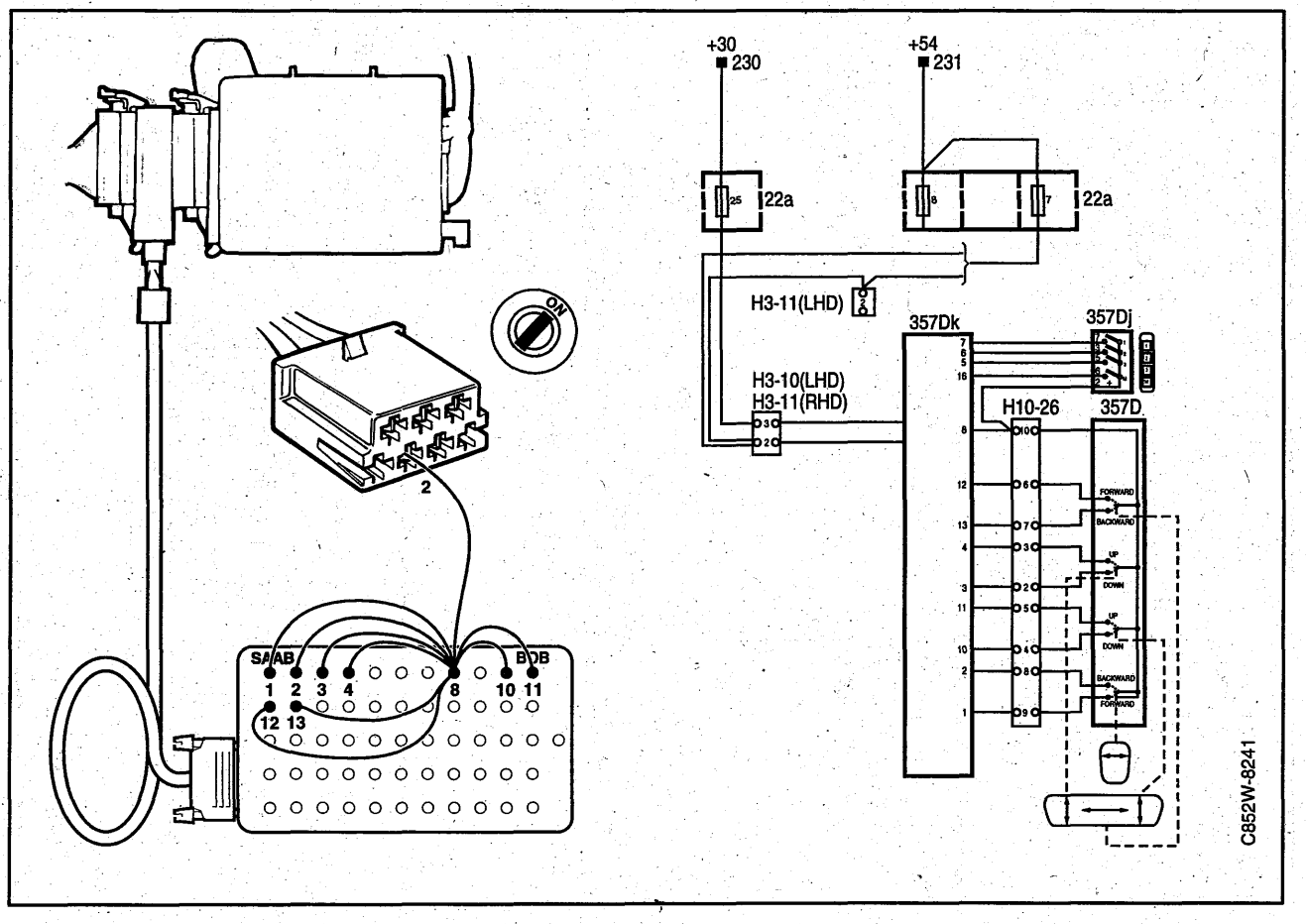
YES

Check and possibly rectify the wiring between the electronic control module voltage supply pin and the relevant pin on the switch panel. If the wiring is without fault, change the memory switch panel and continue with point 2.

NO Continue with point 3

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 absent (–M94, M95 current)



2 Check the voltage supply to the manual control unit.

– Loop in BOB between pin 8 and the following pin depending on the fault symptom.

Pin 1	— backrest forwards
2	— backrest backwards
3	— front edge downwards
4	— front edge upwards
10	— rear edge downwards
11	— rear edge upwards
12	— seat forwards
13	— seat backwards

Does the seat operate as desired?

YES

Check the cables between the switch and the electronic control module with regards for open or short circuits. If the cables are without fault, change the switch.

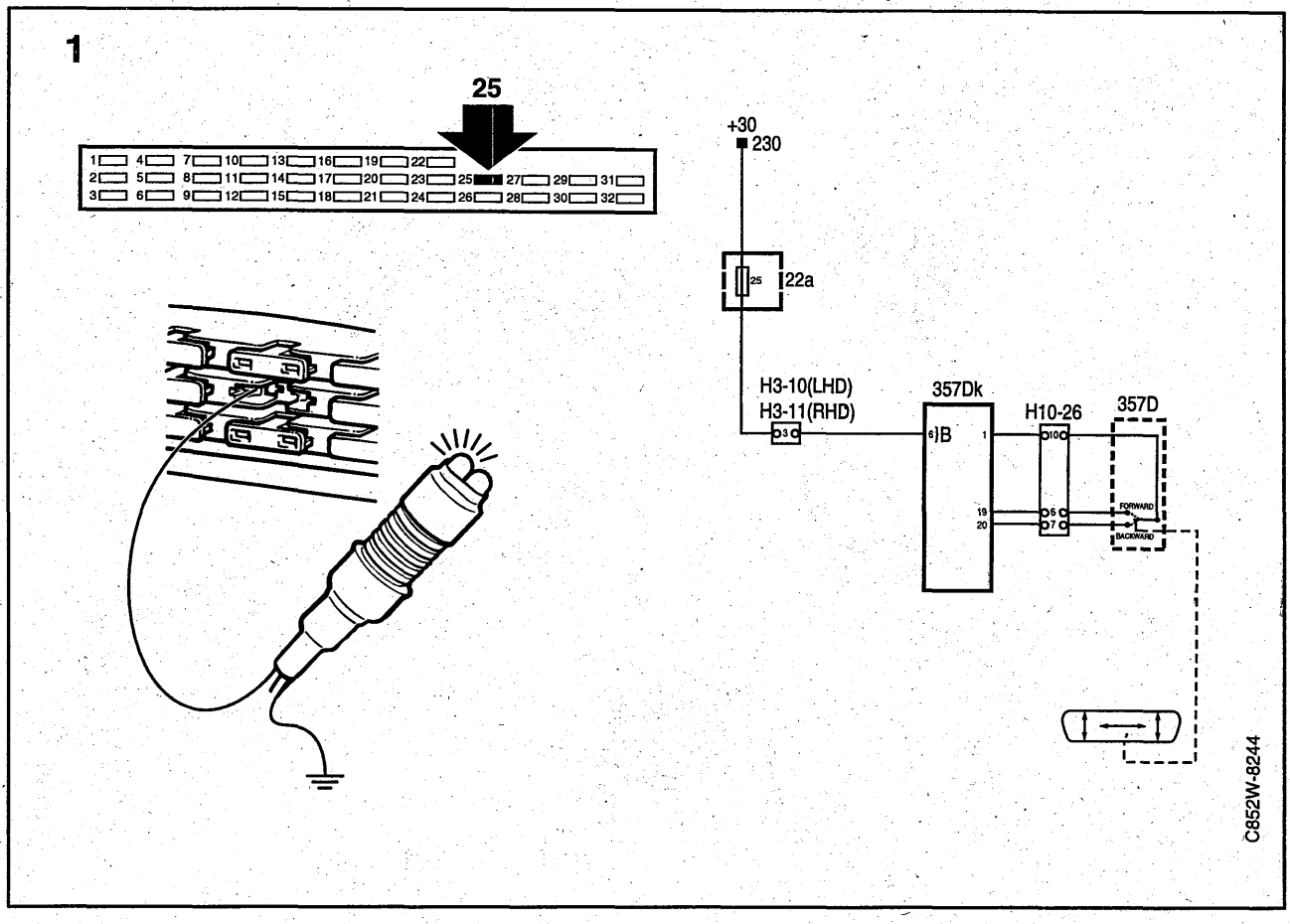
NO Continue with point 3.

3 Final inspection

See page 852–131, Complete operation check.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 exist (M95 current, M96–)



Fault symptom 1

- The seat does not operate.
- No diagnostic trouble code.
- All the switches on the ISAT scan tool display "OPEN".

Feasible fault causes

The manual control unit and the memory switch panel lack +30 voltage supply or +54 voltage supply.

Diagnostic procedure

1 Check the fuses.

– Check that fuse 25 is intact.

– Check that fuse 7 is intact.

– Also check that there is voltage from the relevant fuse with the testlamp.

– Connect the test lamp across the relevant fuse and a definite ground.

– The test lamp should come on.

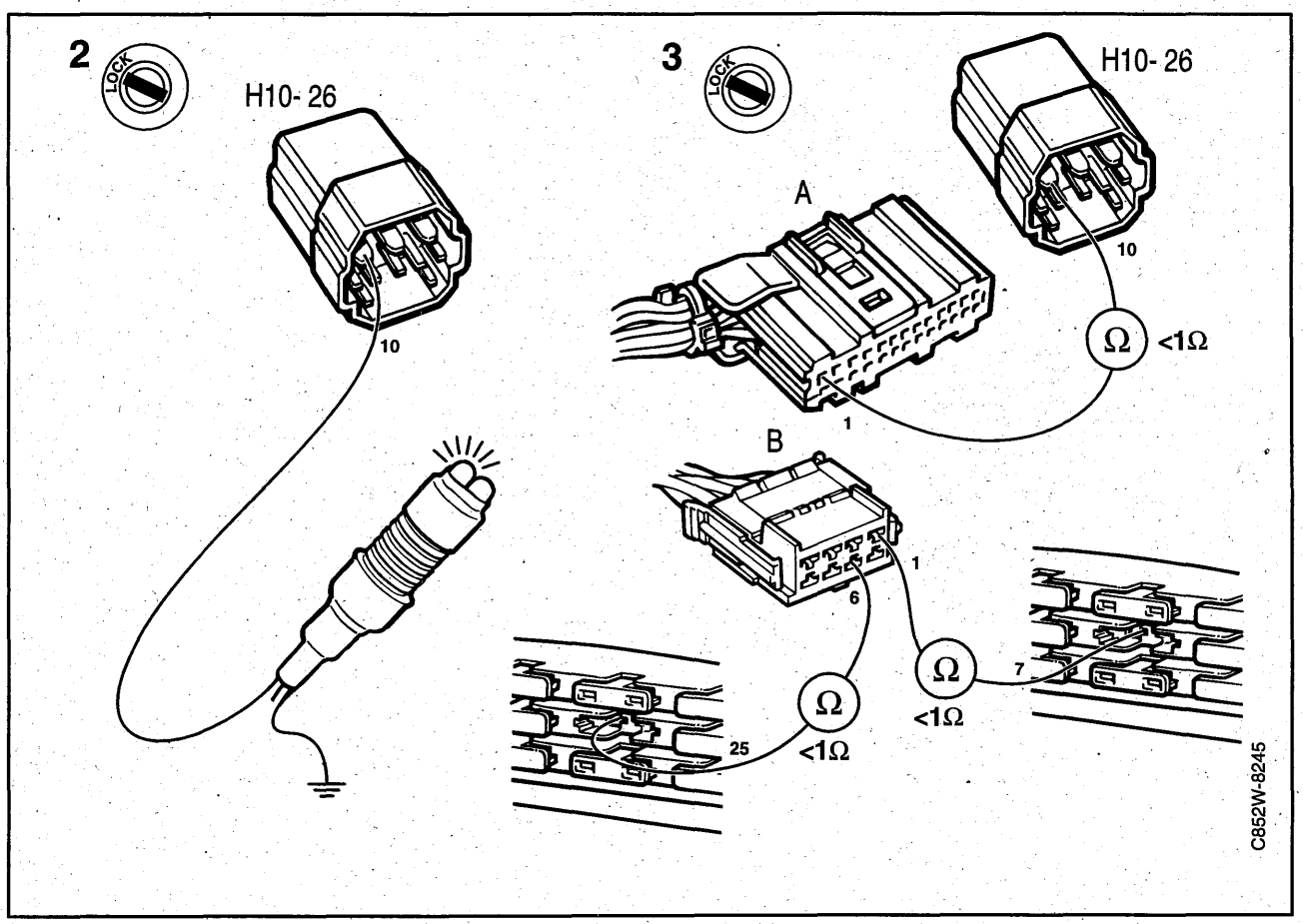
Does the testlamp come on?

YES Continue with point 2.

NO Continue fault diagnosis in Service Manual 3:2 Electrical system, wiring diagram.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 exist (M95 current, M96–)



2 Checking the voltage supply to the switches.

– Unfasten the 10 pole connector to the switch.
– Ignition timing in the ON position.
– Check that there is voltage to pin 10 of the sensor connector with the test lamp.
– Connect the testlamp between pin 10 and a definite grounding point.
– The test lamp should come on.

Does the testlamp come on?

YES

Continue with point 4.

NO Continue with point 3.

3 Checking the wiring harness.

– Carry out a continuity test on the cables.
– **Electronic control module –M95, M96 current:**

- Pin 8 of the electronic control module connector and pin 10 of the 10 pole connector.
- Connector H3–10 (LHD) or H3–11 (RHD) pin 3 and fuse 25 or the corresponding connector pin 2 or fuse 7

– **Electronic control module M96 current:**

- Electronic control module connector A pin 1 and switches 10 pole connector pin 10.
- The electronic control module connector B pin 6 and fuse 25 or corresponding electronic control module pin 1 or fuse 7.

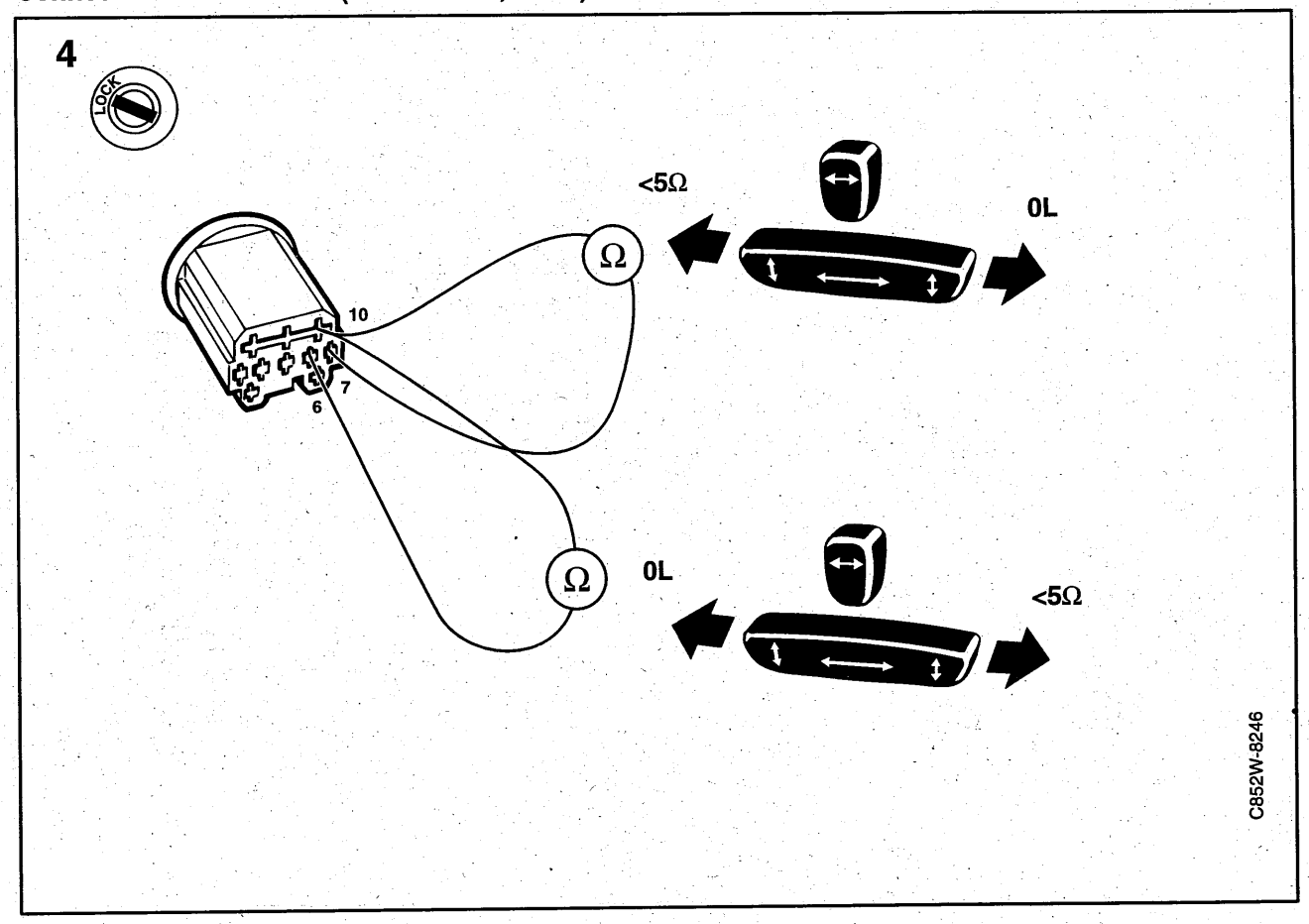
Is the wiring correct?

YES Continue with point 5.

NO Rectify the defective cable.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 exist (M95 current, M96–)



4 Checking the switches.

- Take a resistance reading from the switch including the cable and the connector.
- Connect the Ohm–meter the 10 pole connector for the switches between pin 10 and pin 6 or pin 7.
- Operate the seat fore–and–aft and read the corresponding resistance values.

The Ohm–meter should display OL for an inactivated switch and for a closed switch display < 5 Ω.

Is the resistance correct?

YES Continue with point 5.

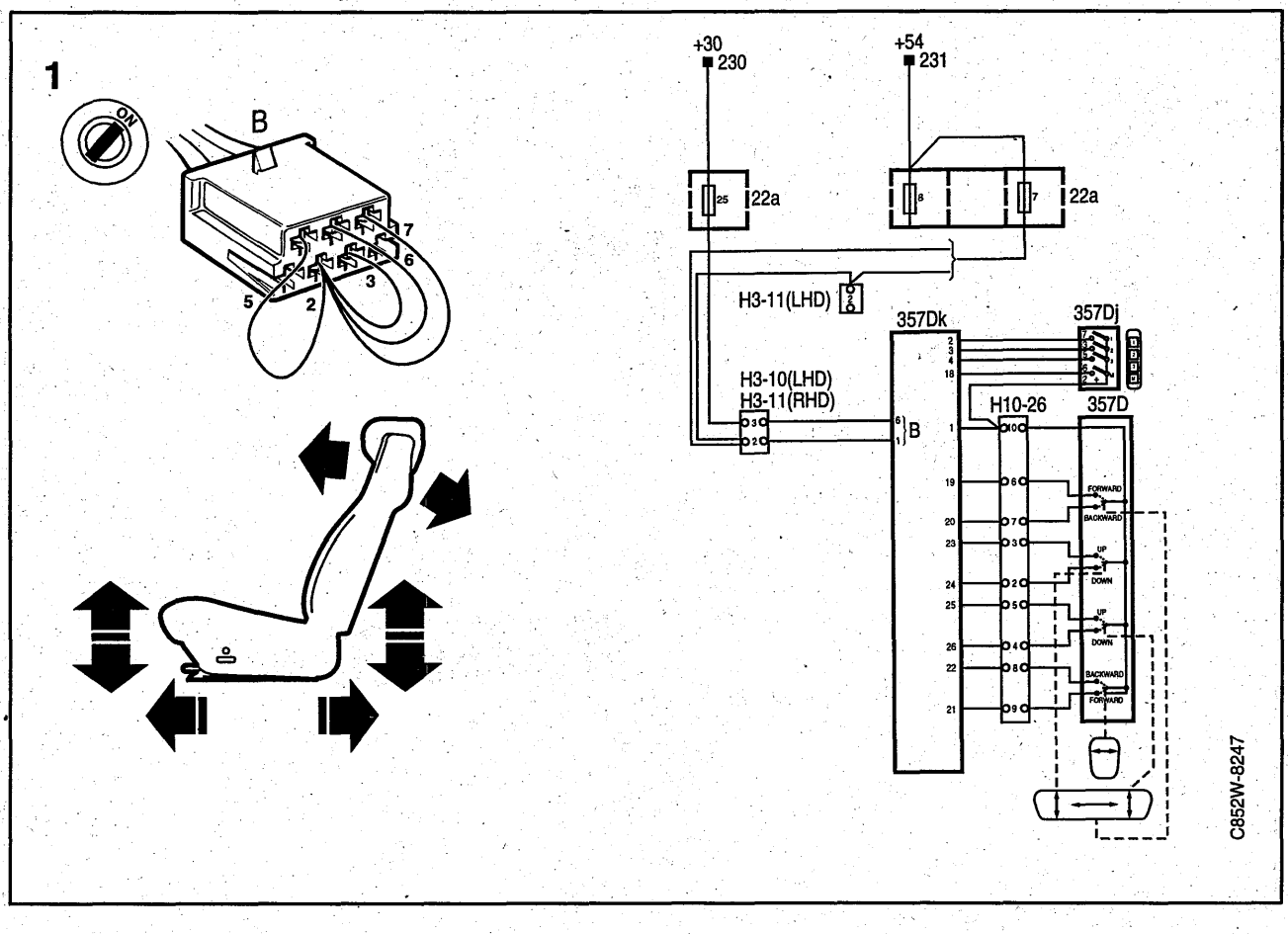
NO Check and possibly rectify the wiring harness including the connectors. If the cables are not faulty, change the switch.

5 Final inspection

See page 852–131, Complete operation check.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 exist (M95 current, M96–)



Fault symptom 2

- The seat does not operate in certain positions..
- No diagnostic trouble code.
- Some of the switches on the ISAT display "OPEN".

Feasible fault causes

- Open–circuit in the link between the particular switch at the memory switch panel and the electronic control module.
- Internal fault in the memory switch panel so the switch in unable to close.
- Fault in the electronic control module.

Diagnostic procedure

1 Memory switch panel operation check.

– Unfasten the memory switch panel connector.

– Ignition timing in the ON position.

– Loop in the sensor connector between pin 2 and the following pin depending on the fault.

Memory button		Pin
	1	7
	2	3
	3	5
	M	6

– The function should operate after looping.

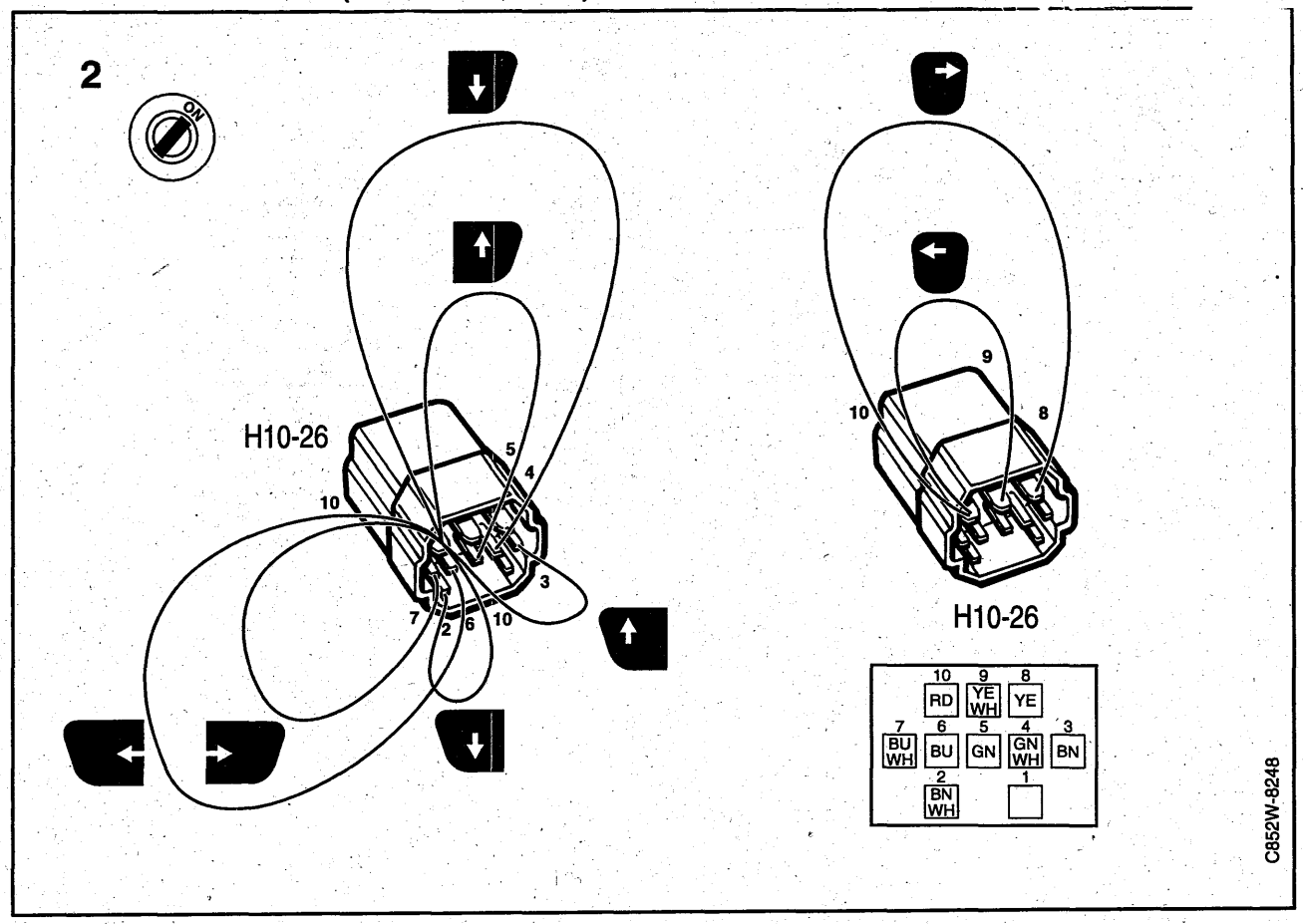
Do the operations function?

YES Change the memory switch panel.

NO Check and possibly rectify the wiring harness (including the connector) between the electronic control module connector A (pin 2, 3, 4 and<#0102>18) and the memory switch panel sensor connector (pin 7, 3, 5 and 6). If the wiring harness has no faults, continue with point 2.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 exist (M95 current, M96–)



2 Switch operation check.

– Unfasten the 10 pole connector to the switch.

– Ignition timing in the ON position.

– Loop in the sensor connector between pin 10 and the following pin depending on the fault symptom.

Pin 9	— backrest forwards
8	— backrest backwards
2	— front edge downwards
3	— front edge upwards
4	— rear edge downwards
5	— rear edge upwards
6	— seat forwards
7	— seat backwards

– The function should operate after looping.

Does the function operate?

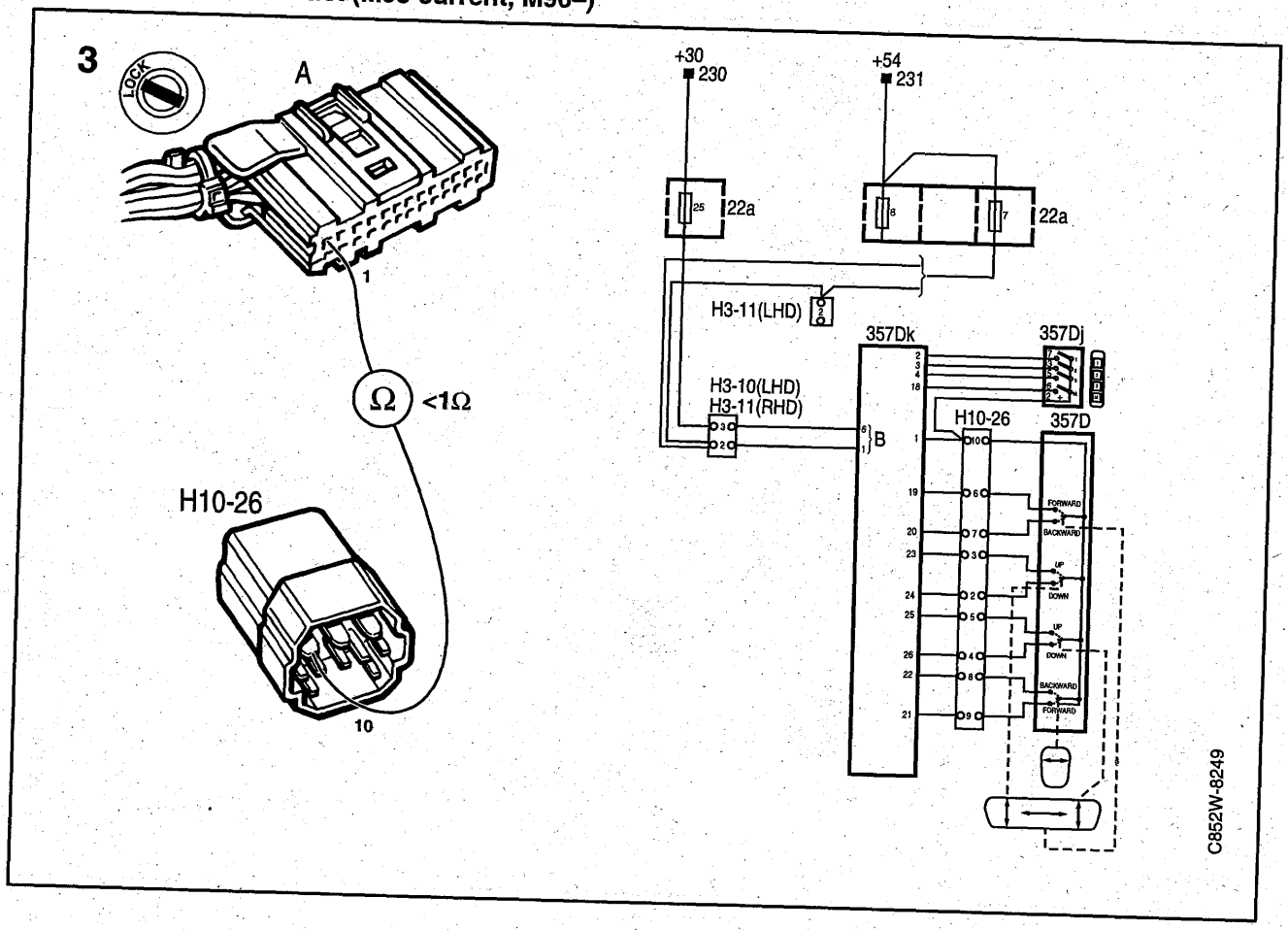
YES

Check and possibly rectify the wiring harness (including the connector) for the switches. If the wiring harness has no faults, change the switch.

NO Continue with point 3.

Fault diagnosis, switch panels and manual control (cont.)

Connectors H10–26 exist (M95 current, M96–)



3 Checking the wiring harness.

– **Electronic control module –M95, M96 current:**

- Check the wiring harness between the electronic control module connector and the 10 pole connectors for the switches.

– **Electronic control module M96 current:**

- Make a continuity test of the wiring harness between the electronic control module A and the 10 pole connector of the switches.

Is the wiring harness free of faults?

YES Continue with point 4.

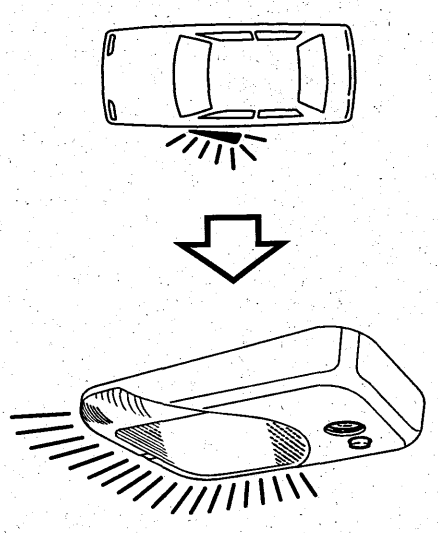
NO Rectify the fault.

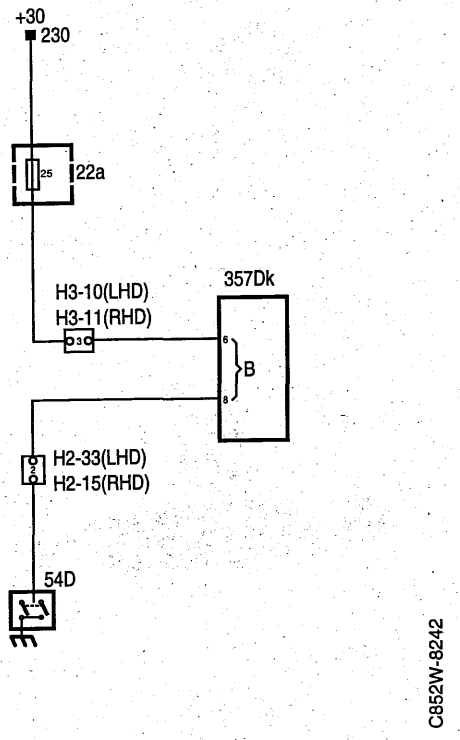
4 Final inspection

See page 852–131, Complete operation check.

Fault diagnosis, switch panels and manual control (cont.)

1





Fault symptom 3

- The seat does not operate with the front doors open.
- No diagnostic trouble code.

Feasible fault causes

- Open circuit in the link between the door switch, lighting and the electronic control module.
- Faulty door switch, lighting.
- Fault in the electronic control module.

Diagnostic procedure

1 Checking the door switch.

– Open the relevant front door..

– Check if the interior lighting comes on.

Does the interior lighting come on?

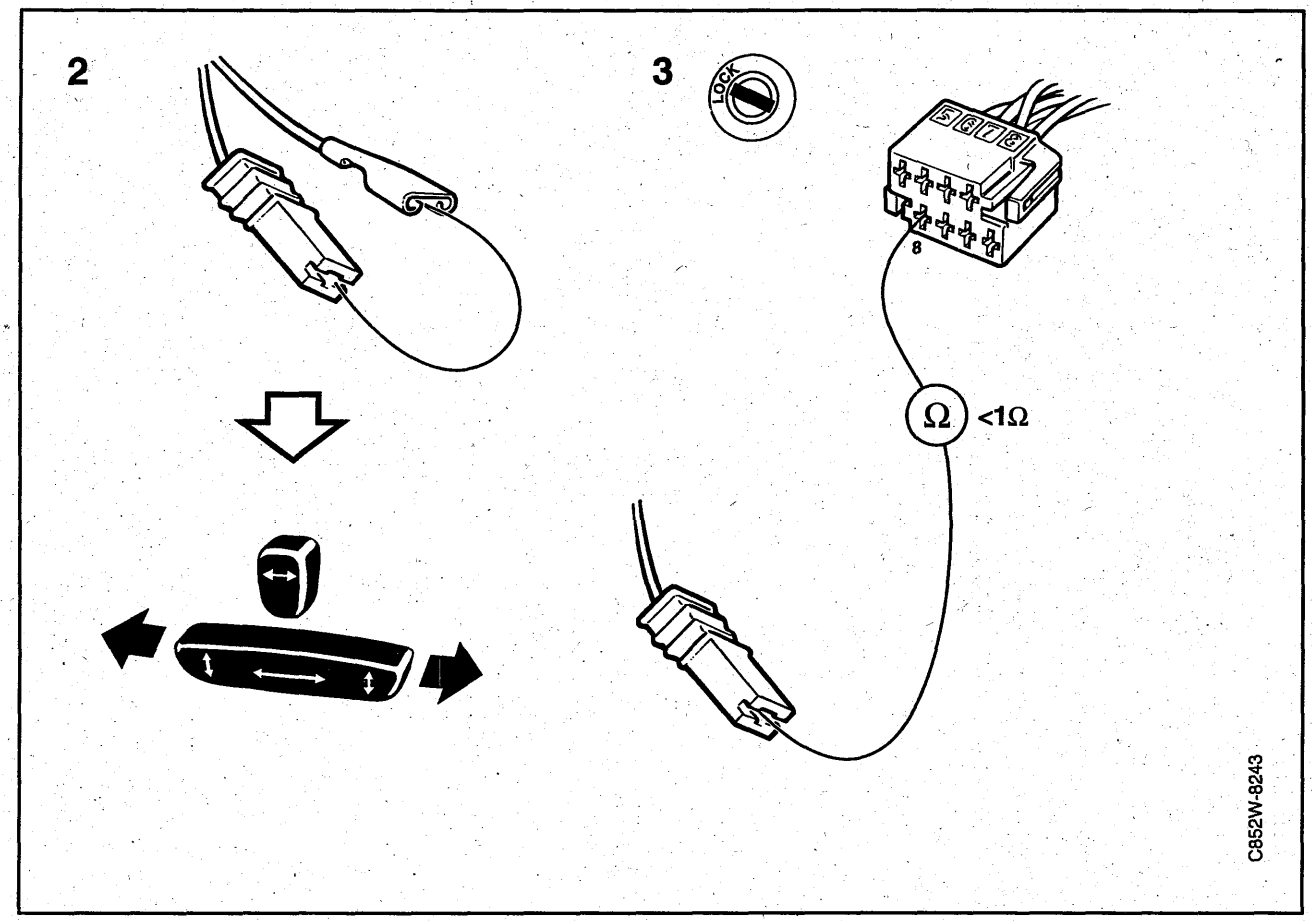
YES

Continue with point 2.

NO

Check the door switch grounding point. If it is without faults, change the door switch.

Fault diagnosis, switch panel and manual control (cont.)



2 Checking the electronic control module intake.

– Unfasten the connector pins to the door switch.
– Loop in the connector pin with a definite grounding point.
– Check that the front seat operates.

Does the front seat operate?

YES

Check and possibly change the door switch.

NO Continue with point 3.

3 Checking the cables to the electronic control module.

– Make a continuity check of the cable between the door switch and the electronic control module.

Is the wiring correct?

YES

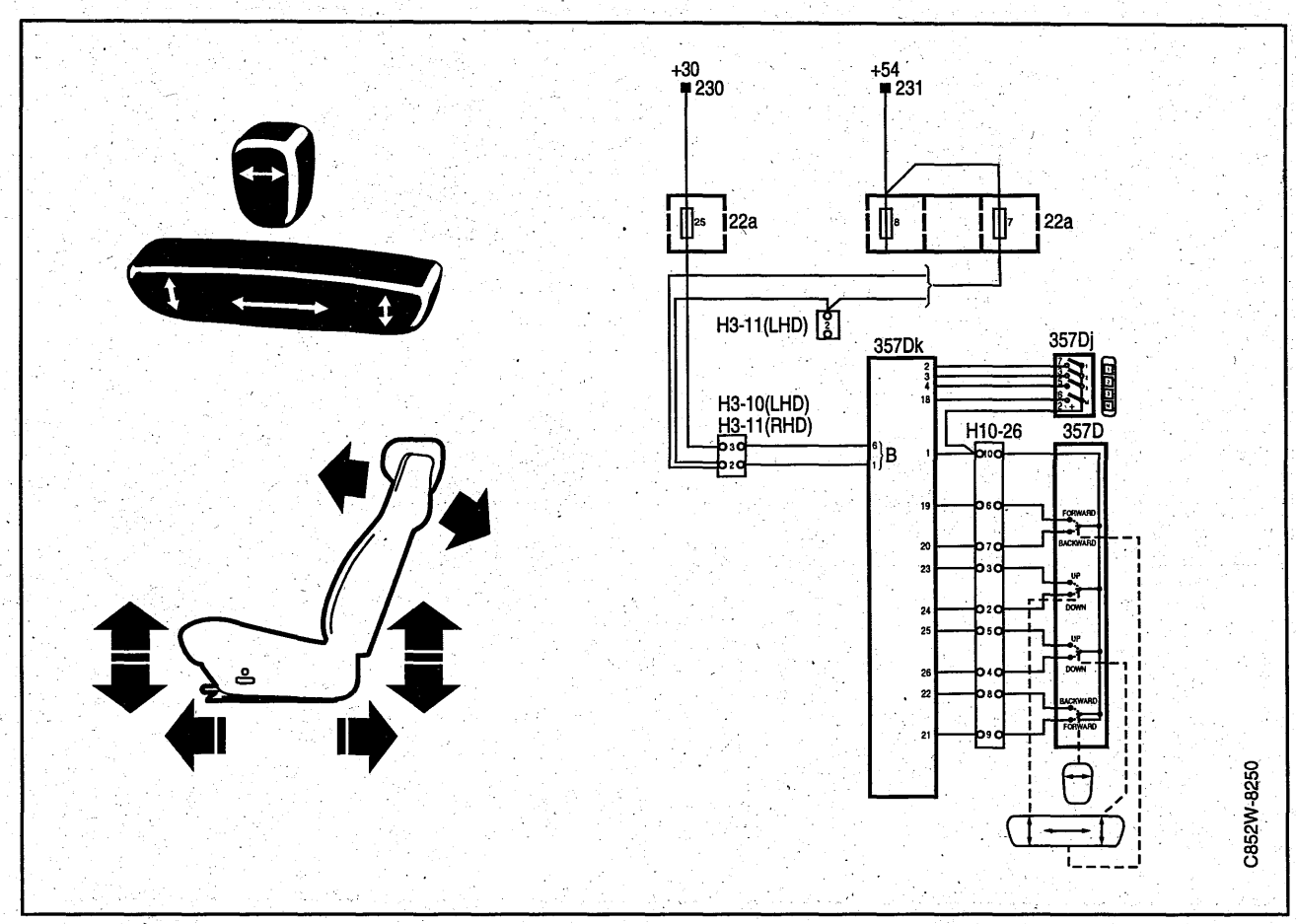
Continue with point 4.

NO Rectify the fault.

4 Final inspection

See page 852–131, Complete operation check.

Fault diagnosis, complete operation check.



Complete operation check

- Check that all motors can be manually operated.
- Set the memory at three different seat adjustments. Ensure that the adjustments set in the memory operate separately.
- Check that the seat resumes the remembered seat adjustment when the particular memory button is selected.
- Check if the fault symptom remains.

Does the fault symptom remain?

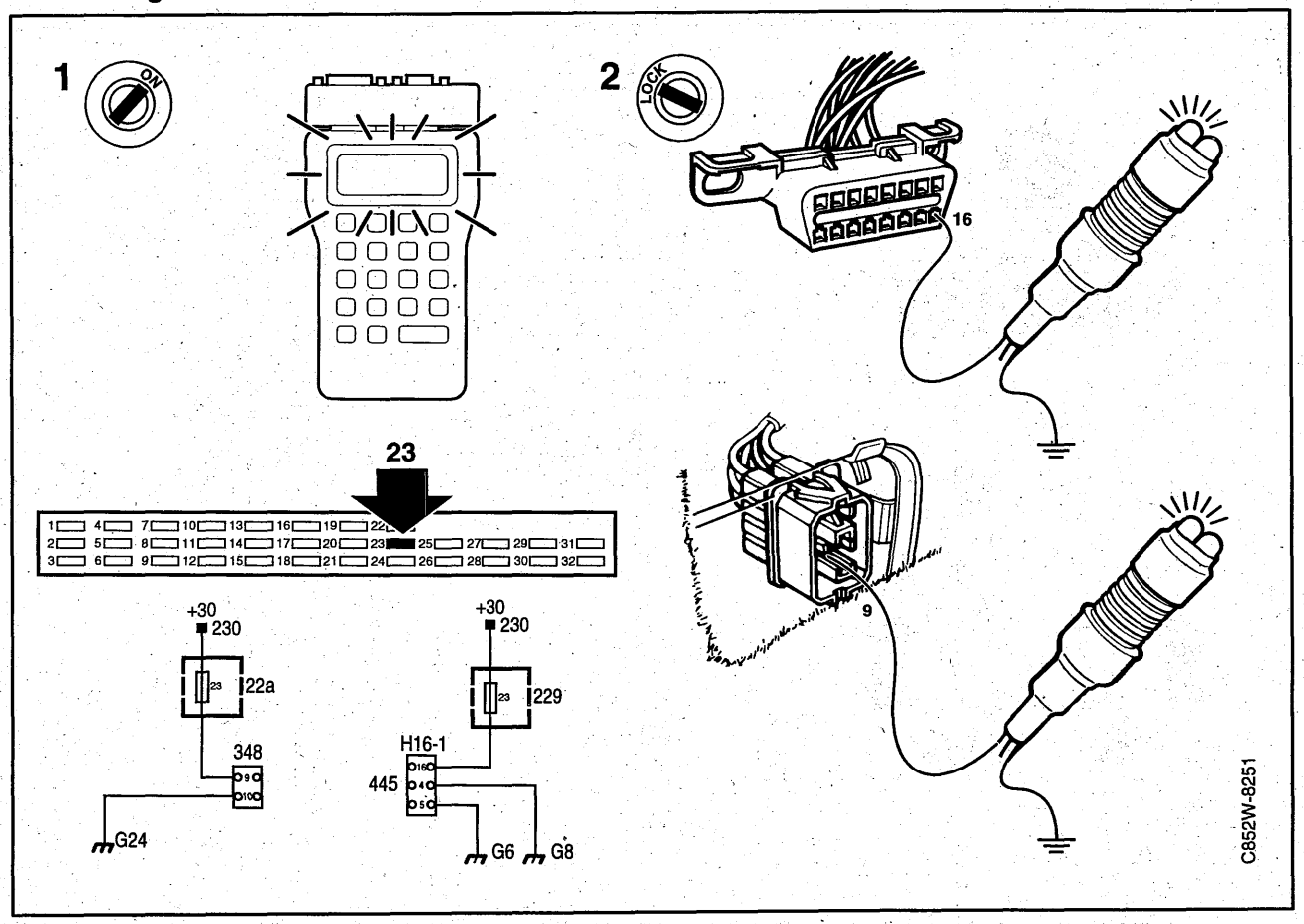
YES

Continue on page 852–135, Measures taken before changing the electronic control module.

NO The diagnostic procedure is correct.

Fault diagnosis, diagnostic communication

In or out signals to the ISAT scan tool



Fault symptomV

No contact with the electronic control module via the ISAT scan tool.

Diagnostic procedures

1 Checking the ISAT scan tool switch.

– Connect the ISAT scan tool.

- ISAT scan tool display should come on..

Does the display come on?

YES

Continue with point 5.

NO Check fuse 23 and continue with point 2.

2 Checking +30 voltage supply at the data link connector.

– Connect the testlamp between the voltage supply pin and the data link connector and a definite grounding point.

Data link connector	Voltage supply
–M94	Pin 9
M95	9
M96 (current)	16

The testlamp should come on if there is a +30 voltage supply.

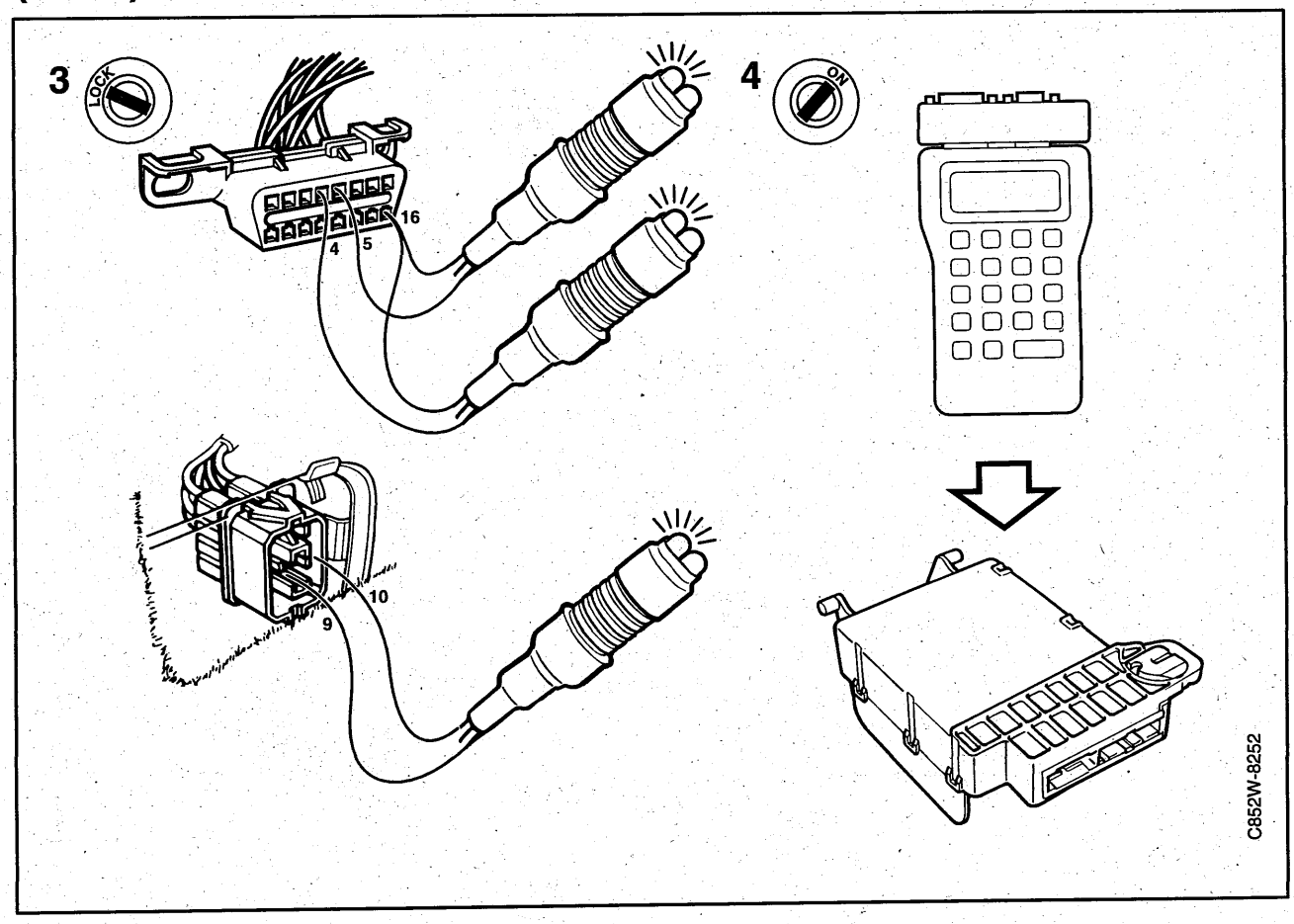
Does the testlamp come on?

YES

Continue with point 3.

NO Rectify the cables between the voltage supply and fuse 23.

Fault diagnosis, diagnostic communication (cont.)



3 Check the ground connection at the data link connector

– Connect the test lamp between the voltage supply and the pin to ground at the data link connector.

Data link connector	Voltage supply	Power ground
–M94	Pin 9	Pin 9
M95	9	10
M96 (current)	16 16	5 4

The testlamp should come on if there is a ground connection.

Does the testlamp come on?

YES Check the ISAT scan tool.

NO Rectify the wiring between the voltage supply pin and the grounding point.

Data link connector	Grounding point
–M95	G24
M96 (current)	G6 or G8

4 Check the ISAT scan tool switch with the electronic control module

– Select "MEMORY SEAT"

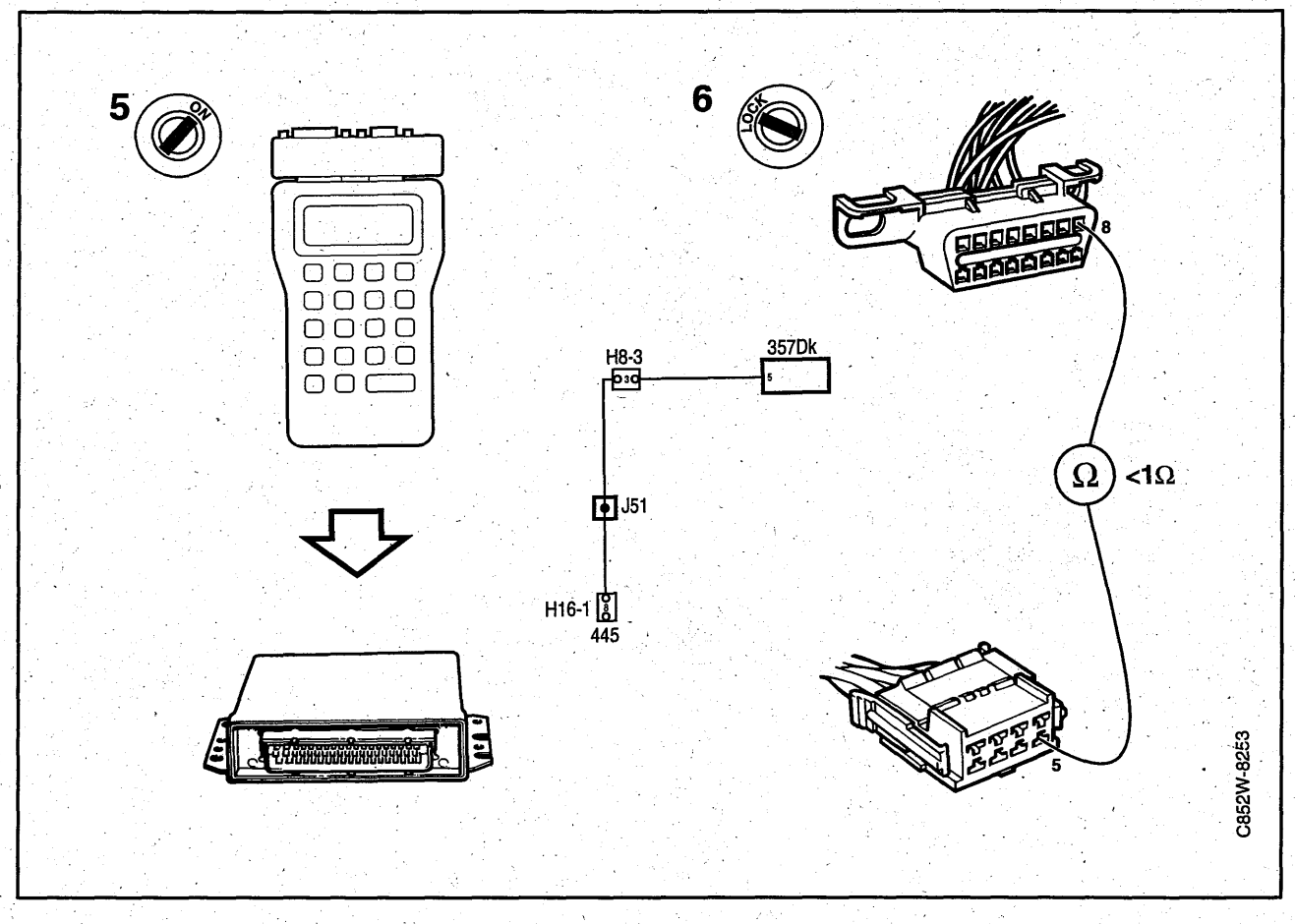
-The ISAT scan tool should display the menu for Memory seat.

Does the switch belong with the electronic control module?

YES The fault is intermittent.

NO Continue with point 5.

Fault diagnosis, diagnostic communication (cont.)



5 Check the ISAT switch with another system

– Choose one of the other systems that the car is equipped with.

The ISAT scan tool should display the particular selected system.

Does the switch belong with the selected system?

YES

Continue with point 6.

NO Check the ISAT scan tool.

6 Inspect the wiring harness

– Make a continuity test in the link between the data link connector (DTC) and the electronic control module.

Data link connector		Ground H8–3
–M95	Pin 1	Pin 3
	5	6
	6	6
M96	Pin 8	Pin 3
	1	6
M96–	Pin 8 (current)	Pin 5 (connector B)

– The resistance should be <1 Ω.

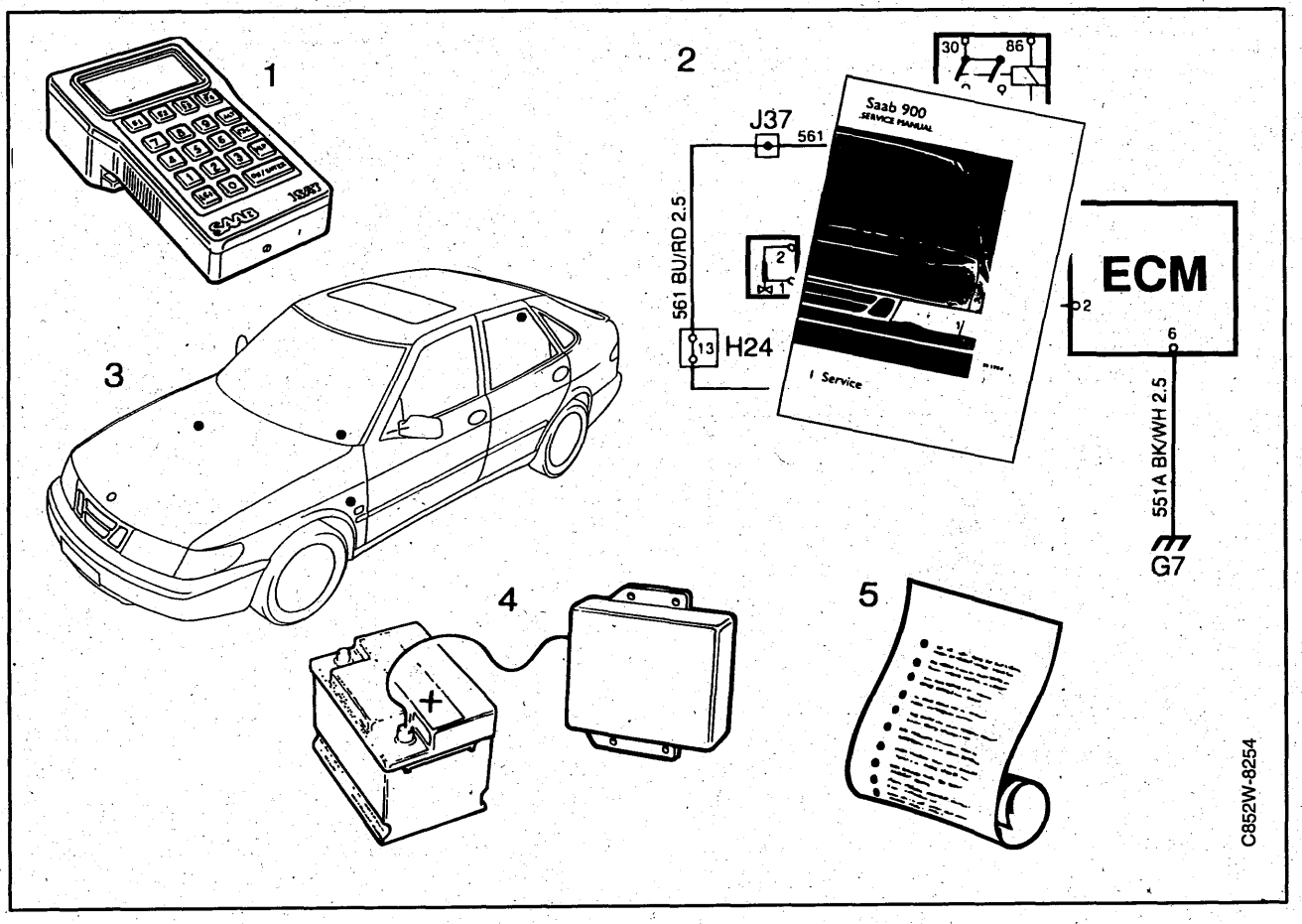
Is the measurement value correct?

YES

Continue on page 852–135, Measures taken before changing the electronic control module.

NO Rectify the wiring harness.

Measures taken before changing the electronic control module



When all test have been accomplished according to the diagnostic procedure with the relevant diagnostic trouble codes or by manual fault tracing without any trace of fault being discovered, it is natural to assume that the electronic control module is faulty.

Go through the following points before you definitely determine the electronic control module has the fault cause.

1 Once again check all the points in the relevant diagnostic procedure program have been carried our in the right way.

2 Study the particular circuit wiring diagram and familiarise yourself with its operations.

Use the relevant parts of the technical description and in the operation description of Service Manual 3:2, Electrical system, wiring diagrams.

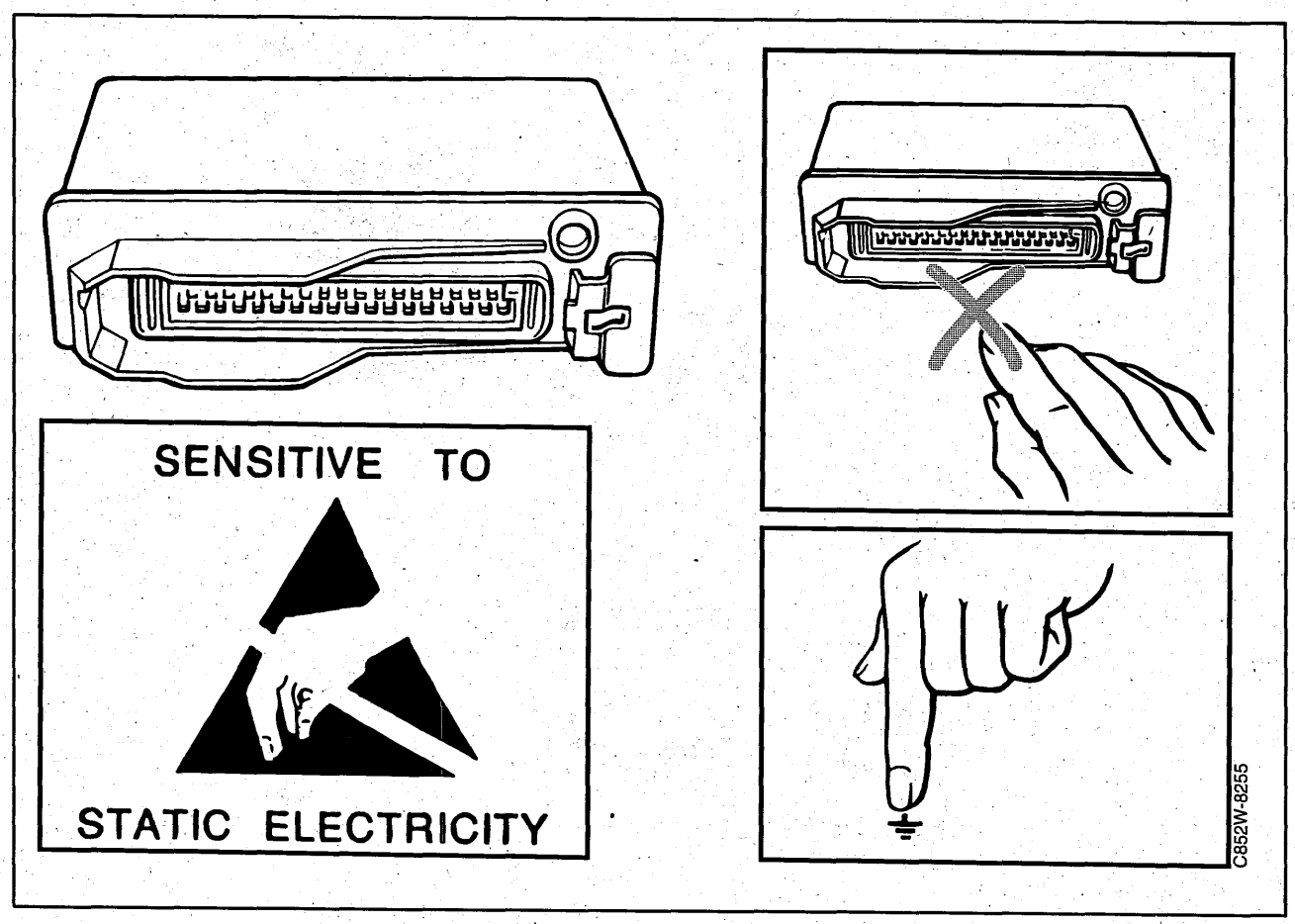
3 Observe caution when removing/fitting the electronic control module as it id sensitive to electrostatic discharge, see page 852–136.

4 Once again test the voltage supply to the electronic control module and all grounding points.

5 Experience from M93–M95 shows that 80% of all electronic control modules returned in connection with the warranty agreement are without fault. Be reluctant when deciding to change an electronic control module! Incorrect replacement of electronic control modules contribute a high cost to Saab Automobile and their dealers. Think through all possible fault causes before changing the electronic control module.

6 If the original fault persists, the electronic control module must be changed.

Handling the electronic control module

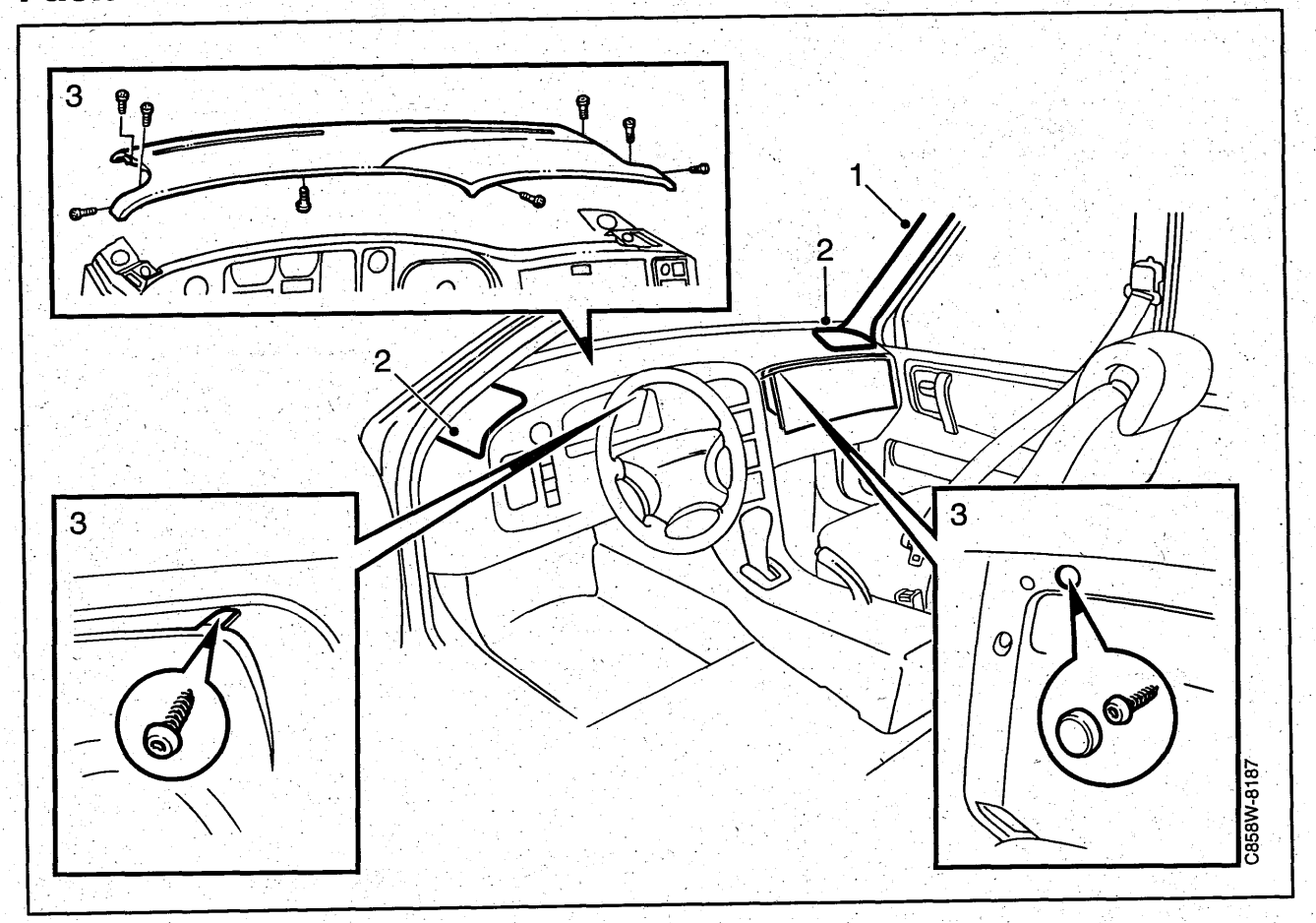


All control modules are sensitive to electronic discharge and if handled incorrectly can be damaged so seriously that operations are put out of use. An operational disturbance need not manifest itself immediately, but a damaged electronic control module may degenerate over a period of time and the fault become apparent at a later stage. It is therefore very important that the following rules are thoroughly adhered to if the electronic control module must be removed or changed for any reason.

- Avoid unfastening or removing the electronic control module unless it is absolutely neccessary.
- Never touch the connector pins and never position the electronic control module in a place where it may come into contact with foreign objects.
- Before the new electronic control module is unpacked, ground the packaging to the car body and only open the wrapper a short time before fitting.
- When you handle the electronic control module it is important to ground yourself with your surroundings. This is especially important when you have sat in a car, change location or have been moving around the and even more important under climatic conditions where there is very dry air (for example in winter time in the colder countries).
- Furthermore, always treat the electronic control module suspected of being faulty with the same care as an electronic control module with no faults. This increases the possibilities of localising the cause of the fault.
- Avoid clothing made of synthetic fabric or wool.
- Avoid shoes with insulated rubber soles.

Internal equipment

Facia



Removal

Important

On cars with airbag, see Service Manual 8:6.

1 Remove the A pillar trim, see page 851–22.

2 Remove the speaker grille

3 Remove the screws securing the upper part of the facia. One of the screws is located behind the rubber plug inside the hatch to the glove compartment.

On cars with airbag on the passenger side a retaining screw is located under the SRS label on the left–hand corner of the airbag cowling.

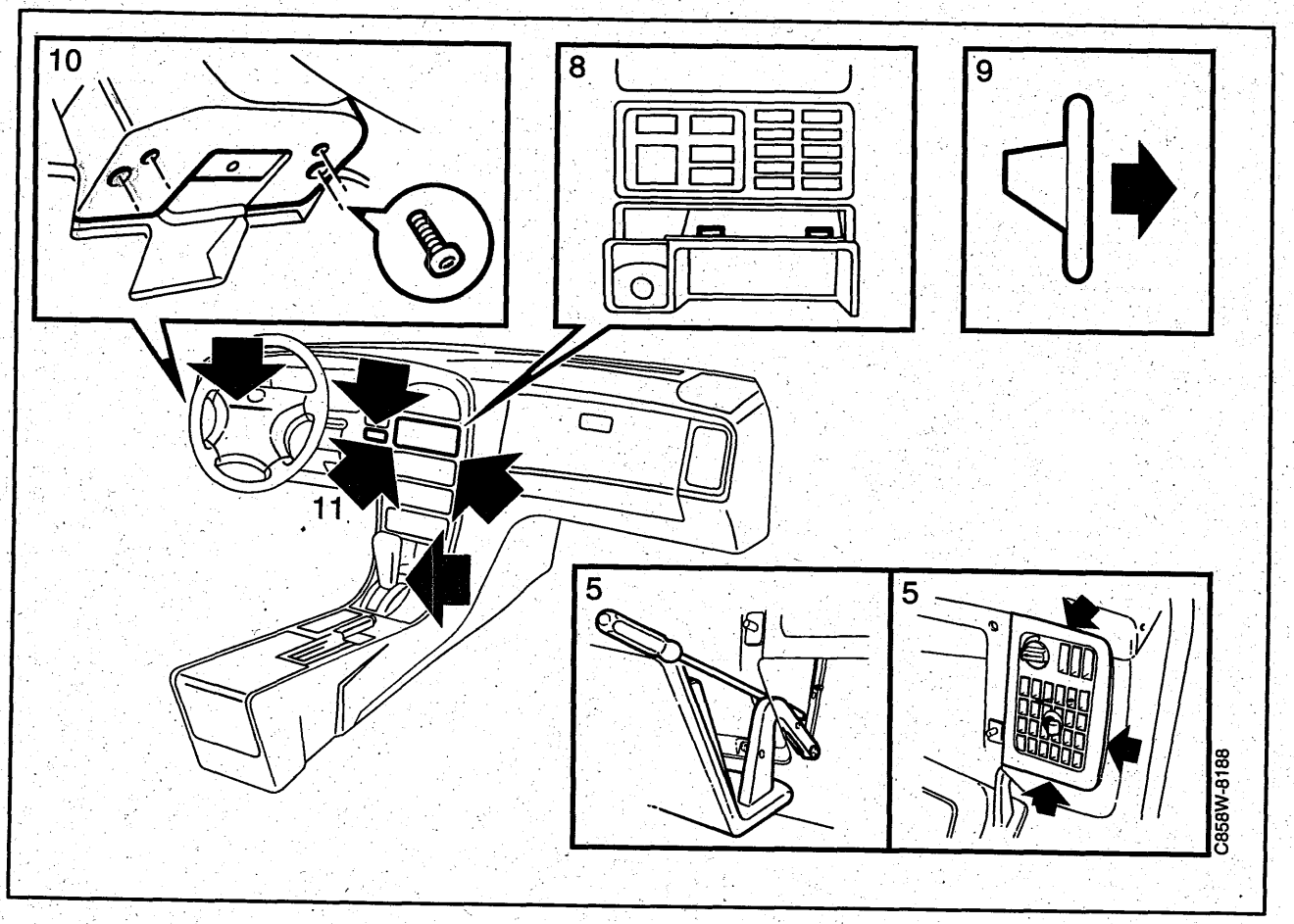
4 **From and including M90:**
Unhook the upper part of the facia from the safety cable between the A pillars.

Take apart the solar sensor connectors and lift away the upper part of the facia. Note the location of the solar sensors.

Note

From and including M90 a new solar sensor is located on the facia between the defroster outlet.

Facia (cont.)



5 Remove the glove compartment as follows:
Fold down the hatch to its lowest position by bending out the link arms so that the stop lugs are free. Pull down the glove–compartment light in the glove compartment.

Remove the screws securing the glove compartment. Pull out the glove compartment together with the facia air vent. Carefully lever the facia air vent with a screwdriver. Note the position of the air vents.

Unfasten the cables to glove compartment lighting and lighting switch.

6 Unfasten the electrical distribution board and fold it down.

7 Remove the ashtray.

8 Pull out the ashtray holder by bending down the two upper belt tongues.

9 Pull the steering wheel to its furthest rear position.

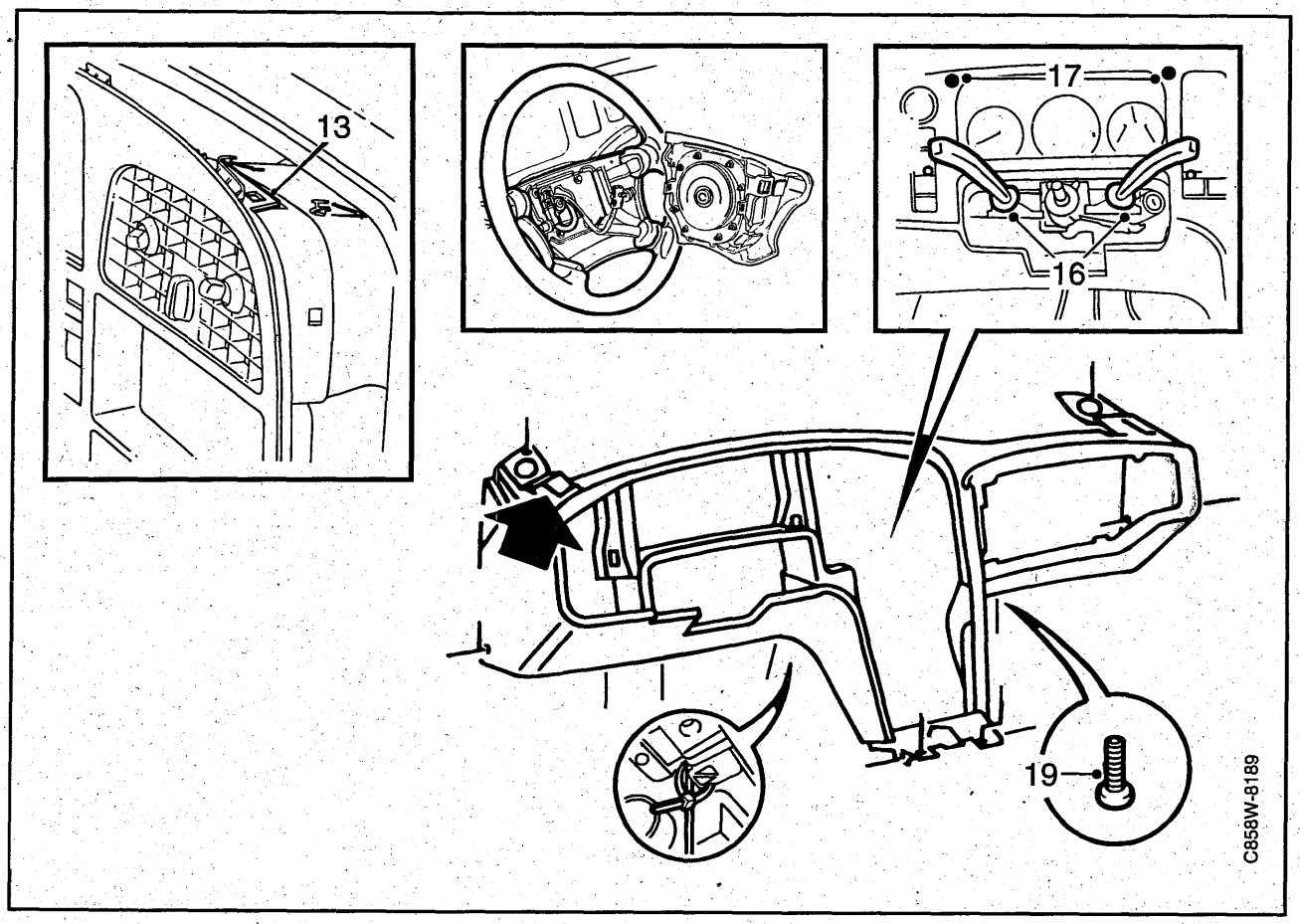
10 Unfasten the protective cover on the steering column (4 screws).

11 Remove the cover and the screws to the control panel.

12 **Cars with manual gearbox:**
Remove the screws under the gear shift lever rubber gaiter.

Cars with automatic transmission:
Remove the plug and the screw the gear–selector cover.

Facia (cont.)



13 Remove the centre facia air vent.

Heating and ventilation system and A/C:
Remove the centre facia air vent by unfastening the control panel. Depress the four locking hooks on the control panel and pull the panel towards the towards the interior.

Unfasten the rod on the air distribution damper, the gear for the temperature control damper and all the connectors.

ACC:
Pull out the climate control module and unfasten the facia air vent. Pull the connectors apart.

14 Lift away the panel.

15 Disassemble the steering wheel, see Service Manual, group 6 section 641.

16 Disassemble the dip switch unit. Mark the connectors to facilitate refitting.

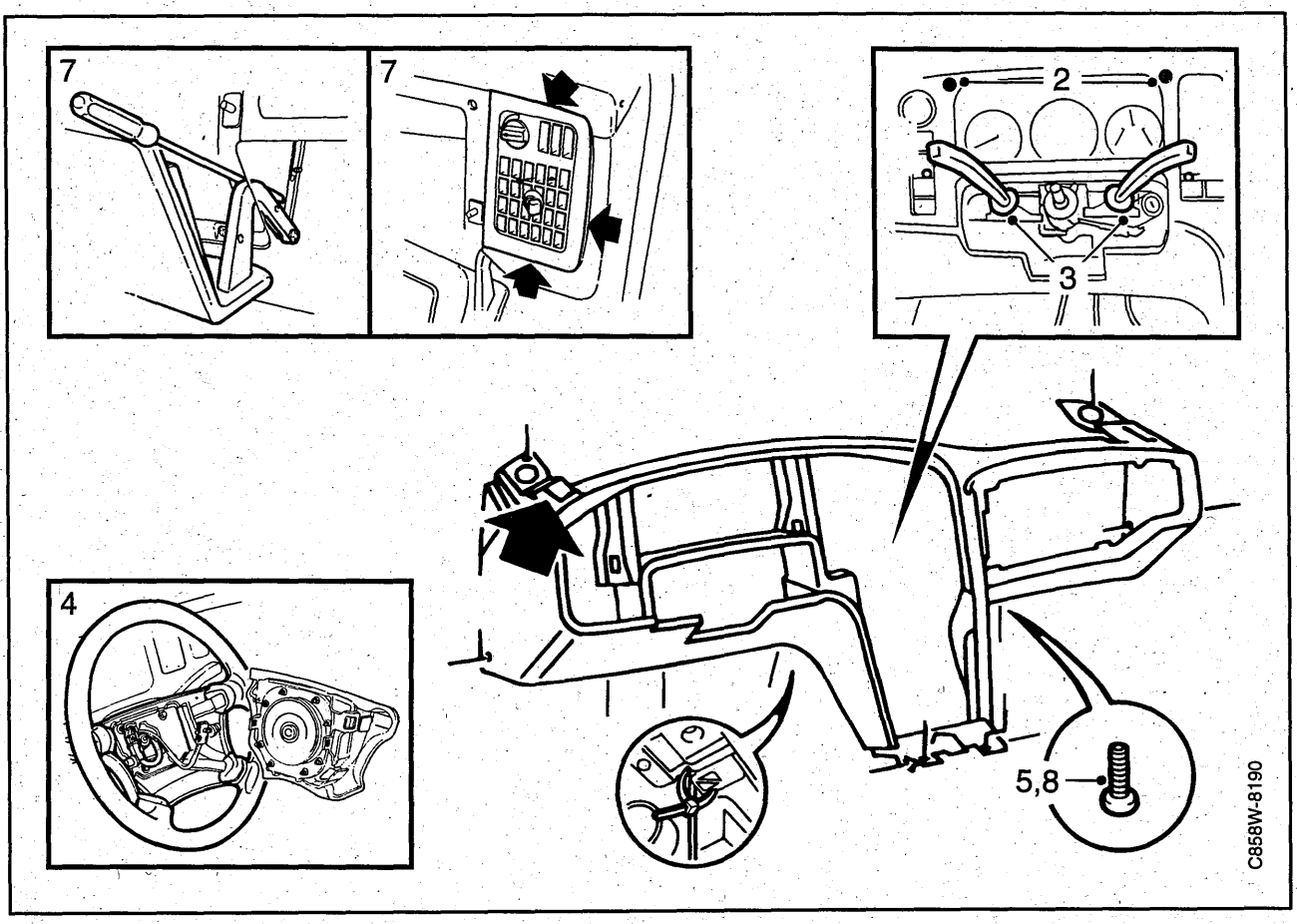
17 Remove the screws securing the combined instrument.

18 Unfasten the side carpeting on the centre console. Remove the acoustic insulation below the facia.

19 Remove the screws securing the facia.

20 Lift out the facia.

Facia (cont.)



Fitting

1 Place the facia in position and tighten the screws. The wiring harness should come above the heater housing bracket.

Ensure that the facia is guided into the groove on the guide lug and that the air duct passages sit correctly.

2 Refit the combined instrument.

3 Fit together the connectors and refit the dip switch unit.

4 Fit the steering wheel, see Service Manual, group 6 section 641.

5 Refit the left–hand side carpeting on the centre console and the acoustic insulation under the facia.

6 Fold up the electrical distribution unit.

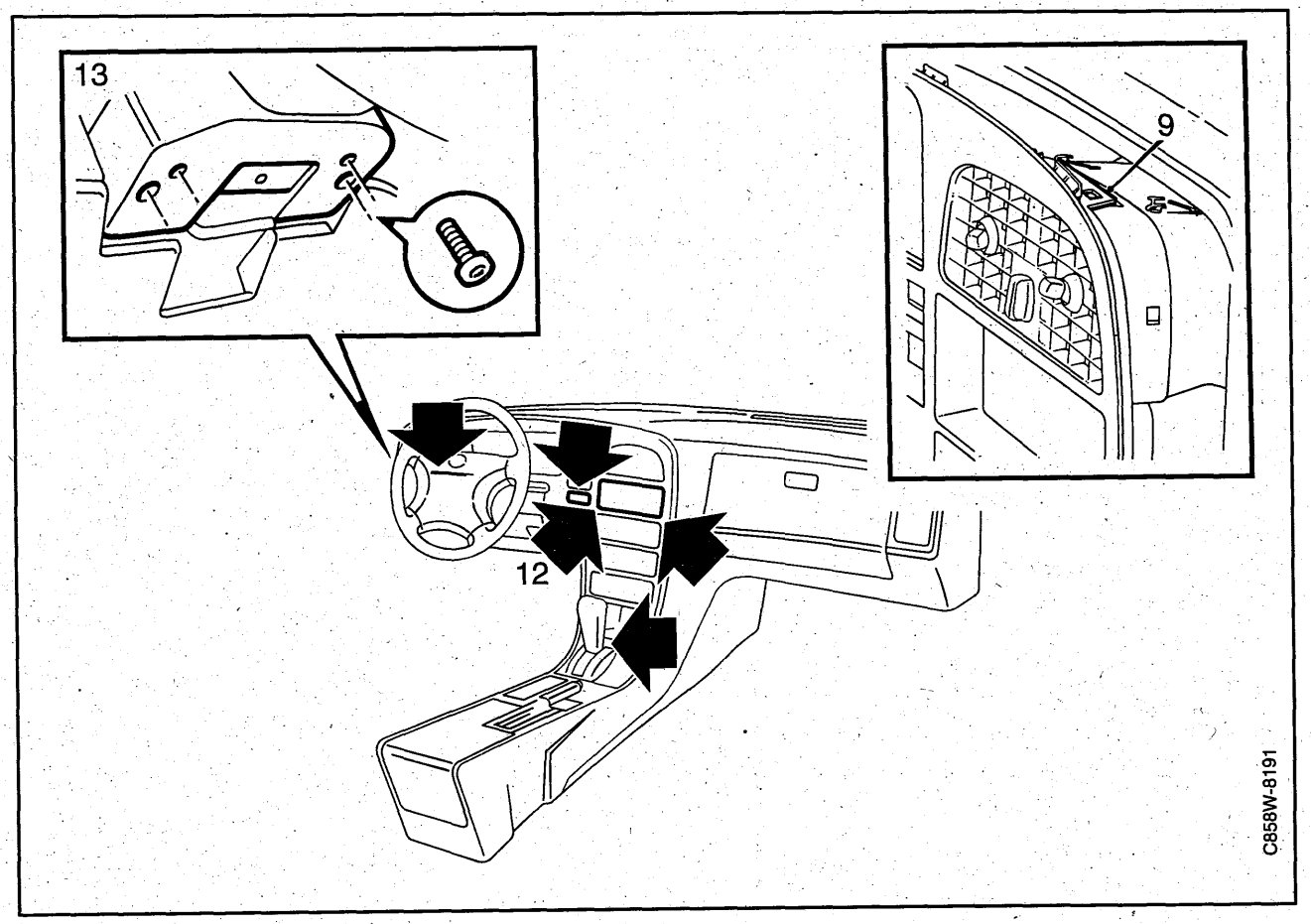
7 Refit the glove compartment by first fitting the fresh air vent to its hose.

Check that the clips are secure and connect the electric cables. Refit the glove compartment.

Pull the fresh air vent into position using a piece of bent steel wire.

8 Refit the right–hand side carpeting on the centre console and the right–hand acoustic insulation under the facia.

Facia (cont.)



9 **Heating and ventilation system and A/C:**
Fit the temperature control exchange. Check that the shutter shaft it the engine compartment is in the cold position, the shutter shaft should be "nearest" the engine compartment. Place the heater controls in the cold position. Fasten the exchange in place on the control panel.

Fit the rod for the air distribution shutter. Turn the air distribution exchange on the climate control housing to the left. Place the air distribution control at the 0 position. Place the orange coloured part of the rod towards the shaft on the control panel.

Push the control panel into position. Check its operation.

ACC:
Refit the climate control module.

10 Plug in the connectors.

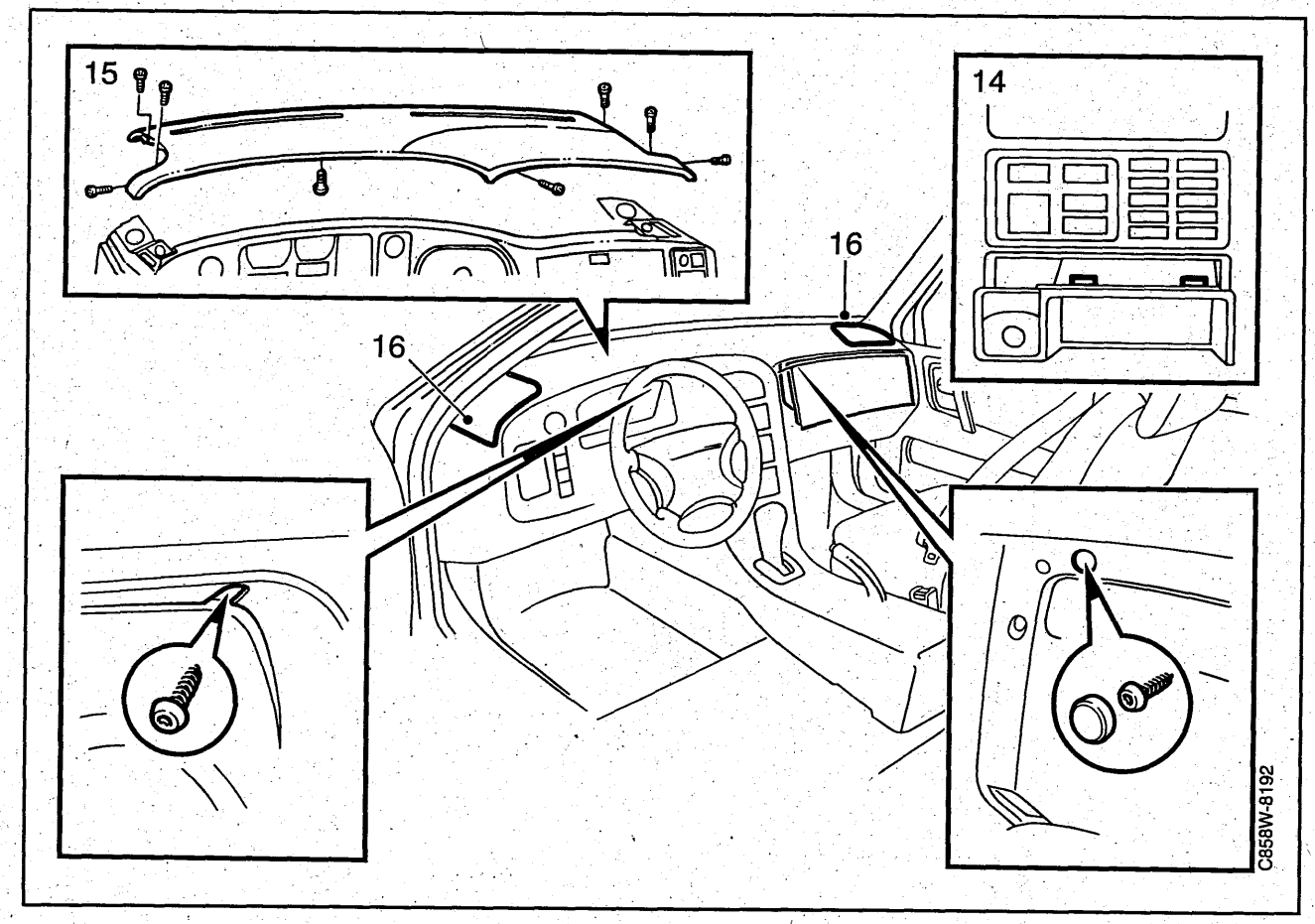
11 Tighten the screws and refit the cover.

12 **Cars with manual gearbox:**
Fit the gear shift lever rubber gaiter in place.

Cars with automatic transmission:
Fit the gear–selector cover in place.

13 Fit the steering wheel covers.

Facia (cont.)



14 Fit the ashtray with holder.

15 **To and including M89:**
Fit the upper part of the facia and the speaker grilles.

From and including M90:
Press the solar sensor and bracket on the upper part of the facia. Remember the location.

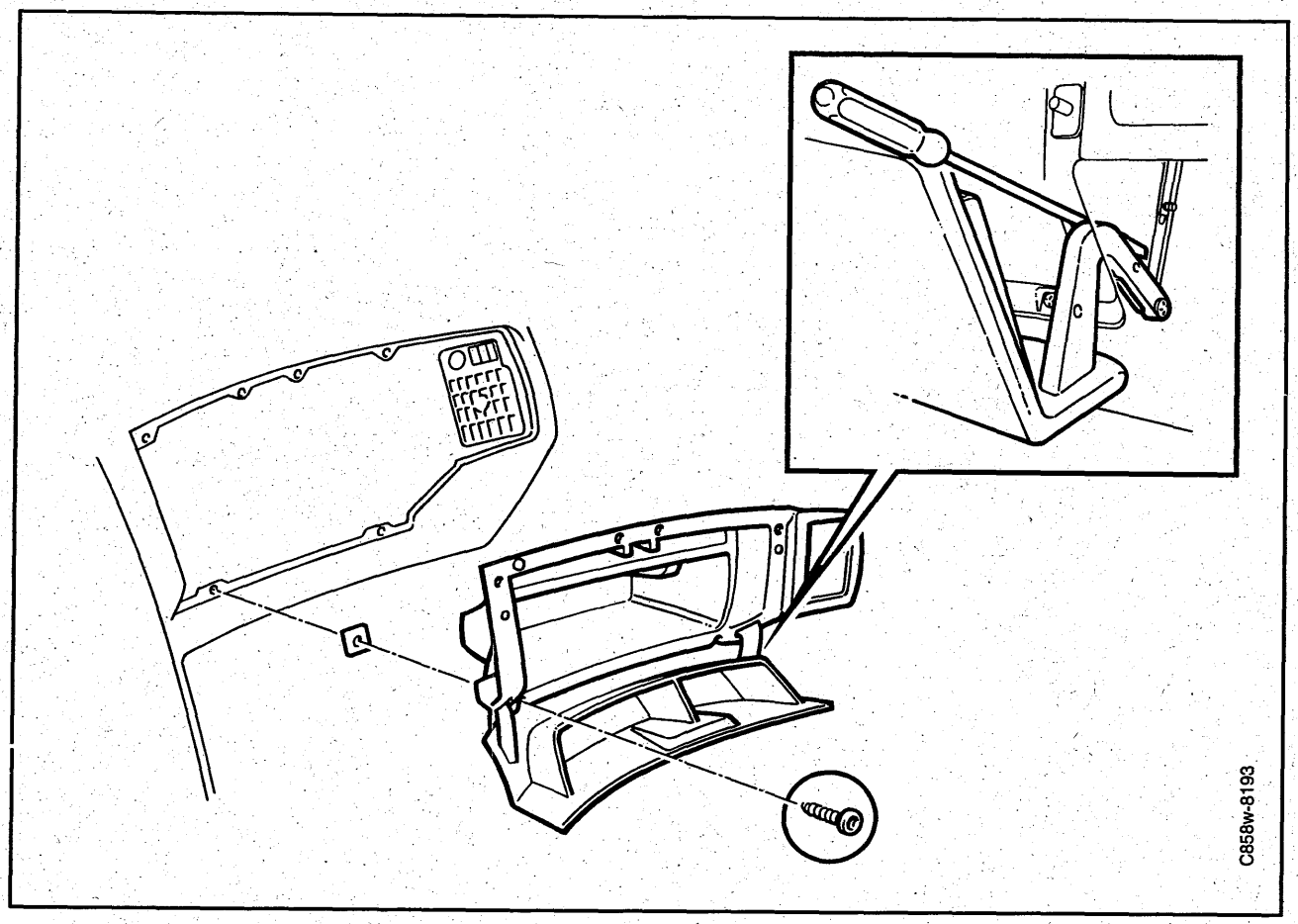
Left–hand side:
If applicable fit together the connector to the anti–theft alarm LED.

Hook up the safety cable on the upper part of the facia.

Fit the spacers and speaker grilles.

16 Fit the A pillar trim, see page 852–22.

Glove compartment



Removal

1 Fold down the glove–compartment flap to its lowest position by bending out the link arms so that the stop lugs are released. Pull down the lighting in the compartment.

2 Remove the screws securing the glove compartment.

3 Pull out the glove compartment together with the facia panel vents. Carefully lever the facia air vents with a screwdriver. Note the position of the clips.

Unfasten the cables to the glove–compartment light and lighting switch.

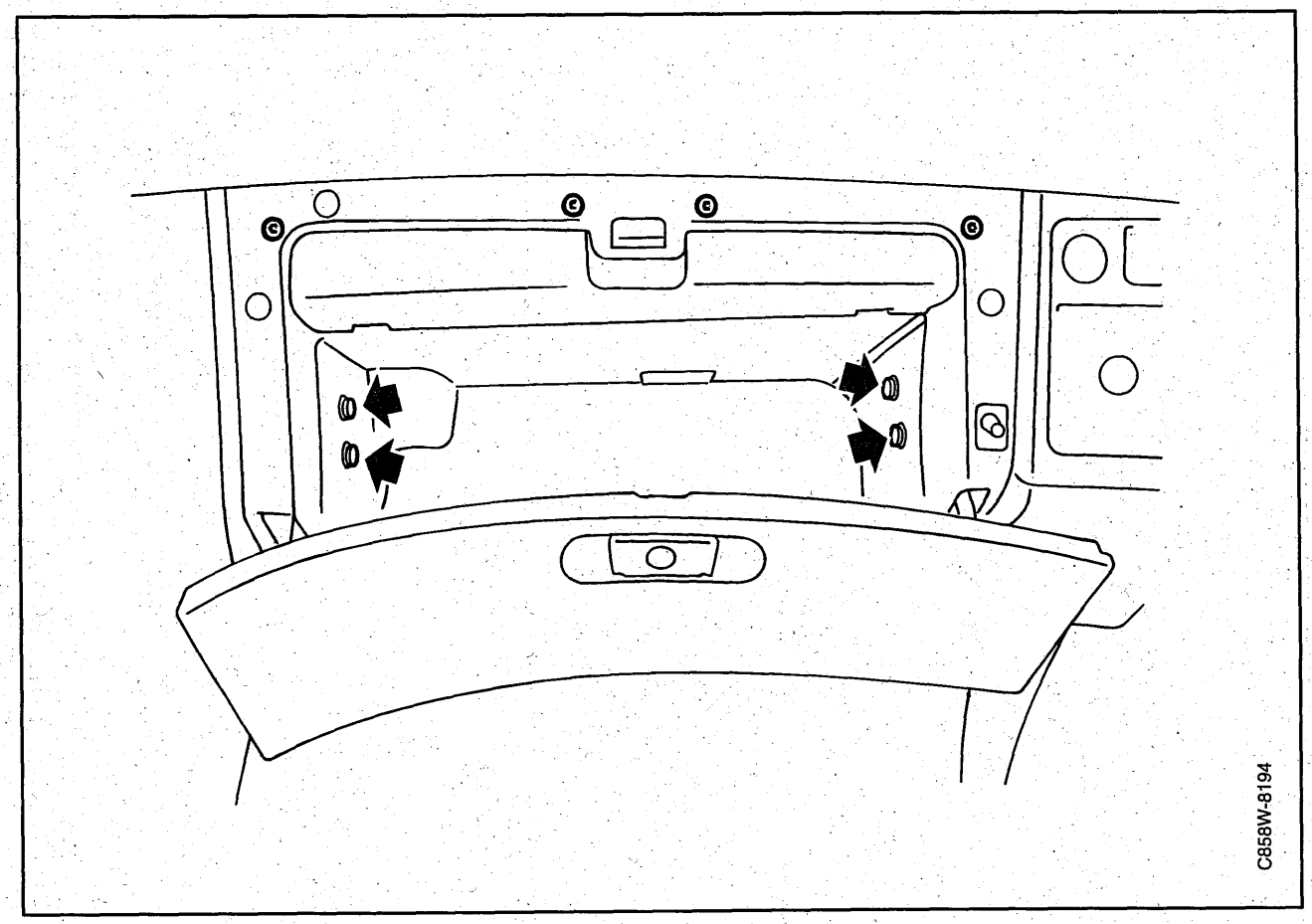
Fitting

1 Remove the interior air shutter from the glove compartment and fit the shutter to the air passage.

2 Connect the cables to the glove compartment lighting and switch. Refit the glove compartment.

3 Pull the interior air shutter in position with a piece of bent steel wire.

Glove compartment (cont.)



Glove compartment adjustment

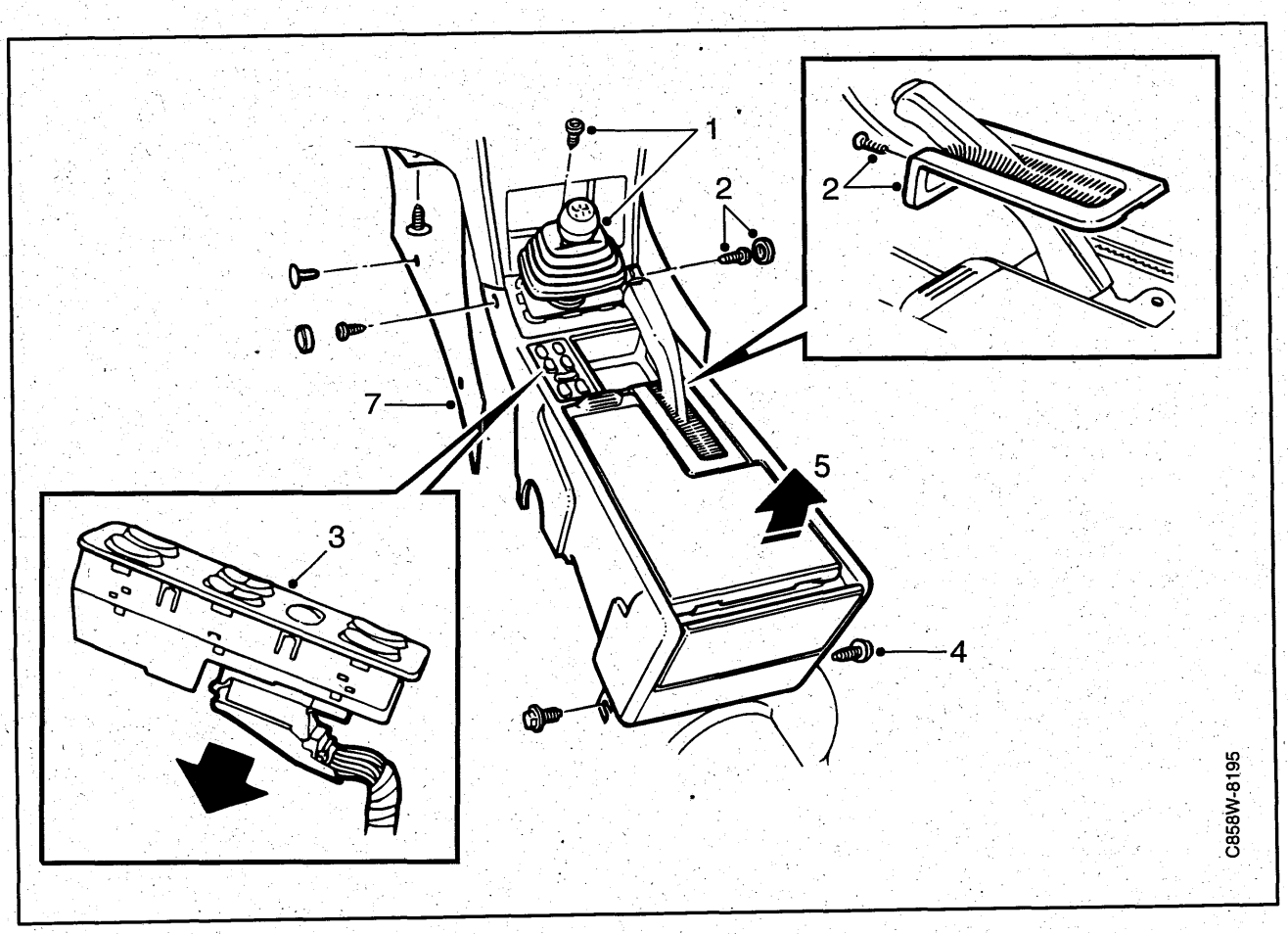
On cars from and including M87 the glove compartment has an adjustment device that consists of two adjustable rails fixed on the sides of the compartment.

1 Slacken the screws on both sides of the glove compartment slightly.

2 Adjust the glove compartment with using the guide pins on the flap.

3 Tighten up the screws and check that the glove compartment flap is correctly located.

Centre console



Removal, cars with manual transmission

1 Unfasten the rubber gaiter and remove the screws securing the mounting frame. Remove the two screws securing the front part of the centre console.

2 Remove the screws and lift away the cover to the handbrake handle.

3 Unfasten the control panel. Mark up the connectors and take them apart.

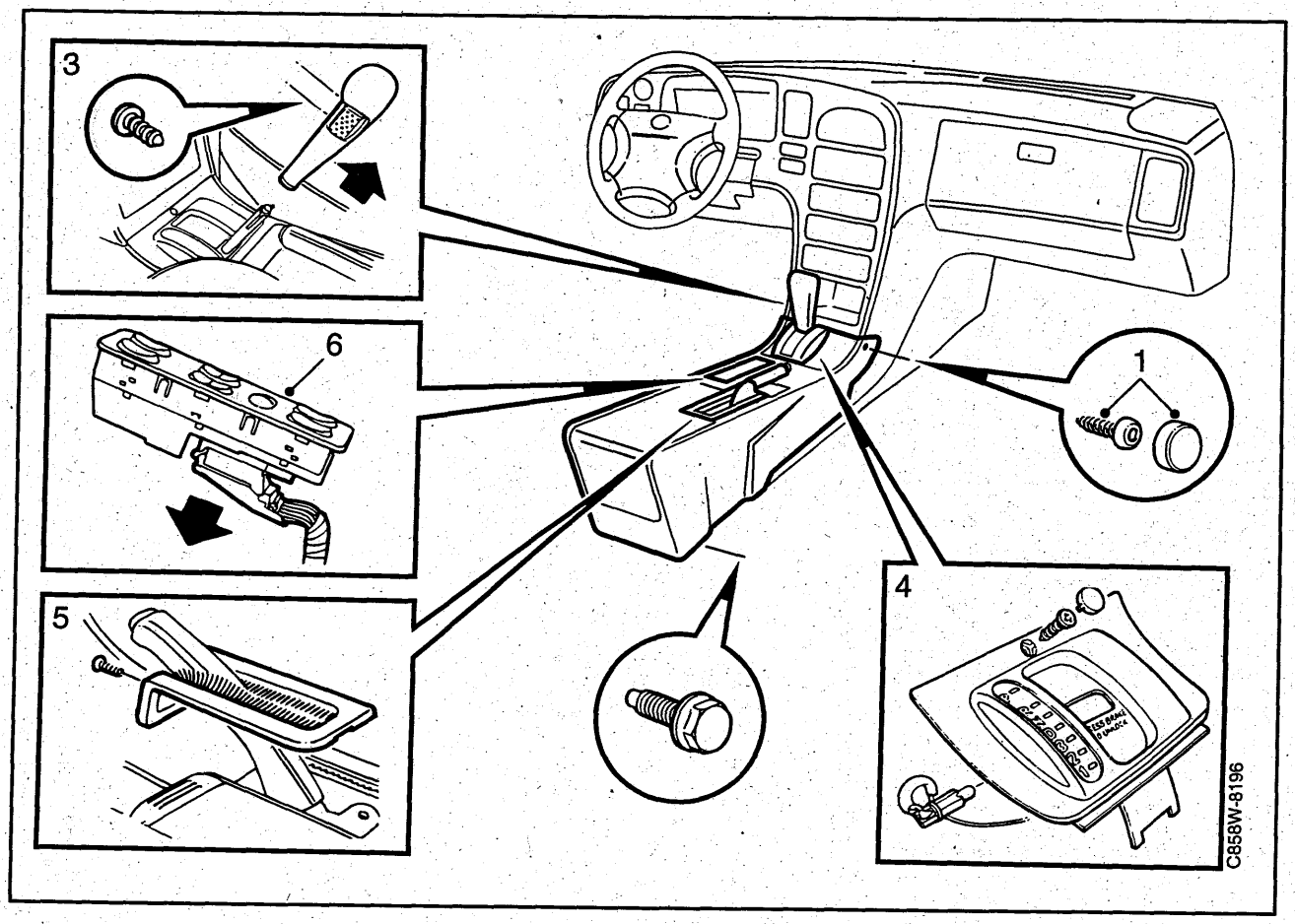
4 Slide both front seats forwards and remove the rear centre console screws.

5 Lift out the centre console.

Fitting, cars with manual transmission

Fitting is carried out in the reverse order to removal.

Centre console (cont.)



Removal, cars with automatic transmission

1 Remove the two screws and take away the cover.

2 Remove the detent mechanism

3 Pull up the outer casing of the gear–selector lever.

4 Remove the plug and screws for the gear–selector cover. Remove the cover and pull out the lamp.

5 Remove the screws and lift away the cover to the handbrake handle.

6 Unfasten the control panel. Mark up the connectors and take them apart.

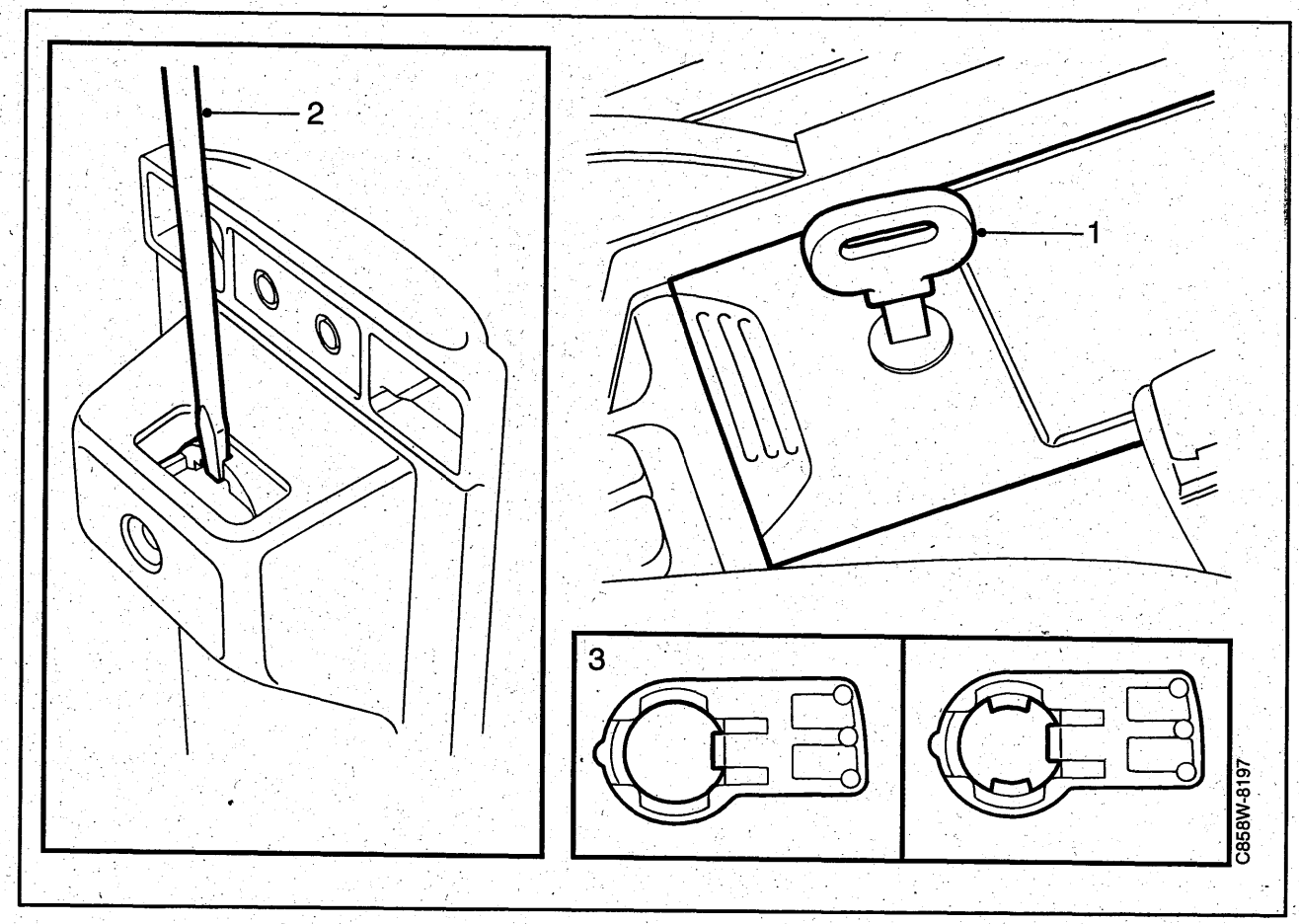
7 Remove the two screws securing the front part of the centre console.

8 Slide forwards both forward seats and remove the rear centre console screws. Lift the rear centre console out backwards.

Fitting, cars with automatic t ransmission

Fitting is carried out in the reverse order to removal.

Centre console (cont.)



Changing the lock cylinder, centre console glove compartment

Cars with passenger airbags have a lockable glove compartment located on the centre console.

1 Open the flap and leave the key in the lock.

2 Lever apart the lock cylinder and belt tongue with a screwdriver.

3 Pull out the lock cylinder and release the belt tongue.

Note

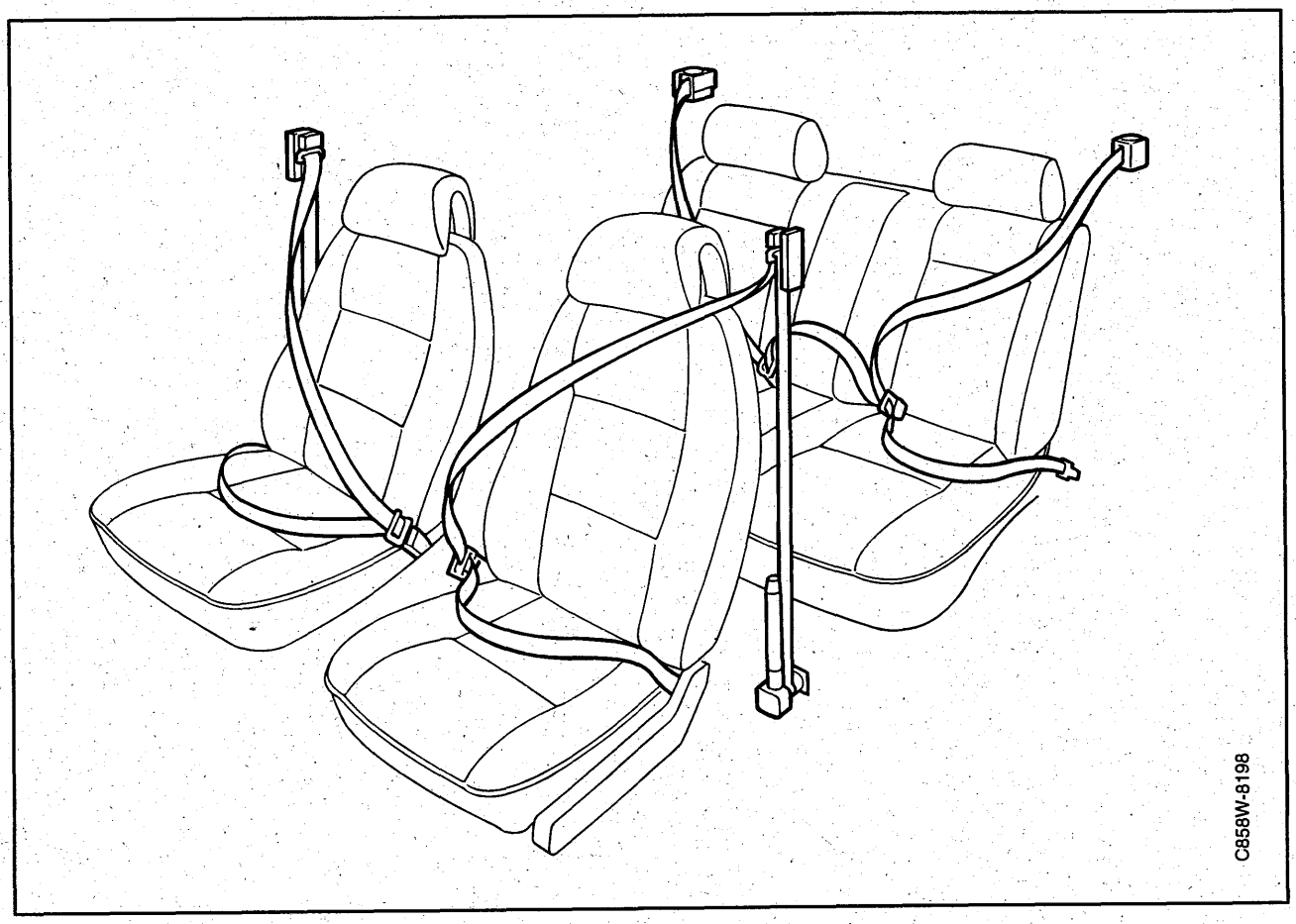
The belt tongue is destroyed and must be replaced.

4 Fit a new belt tongue in position.

5 Insert the lock cylinder. Note that the belt tongue secures the lock cylinder in position.

Check operation.

Seat belts



The cars are equipped with front and rear seat belts in accordance with the demands of the law.

All belts have been subjected to testing before type approval.

A label on the belt states the manufacture, production part number and the year of production, codes for the type approval and also the Saab original part number.

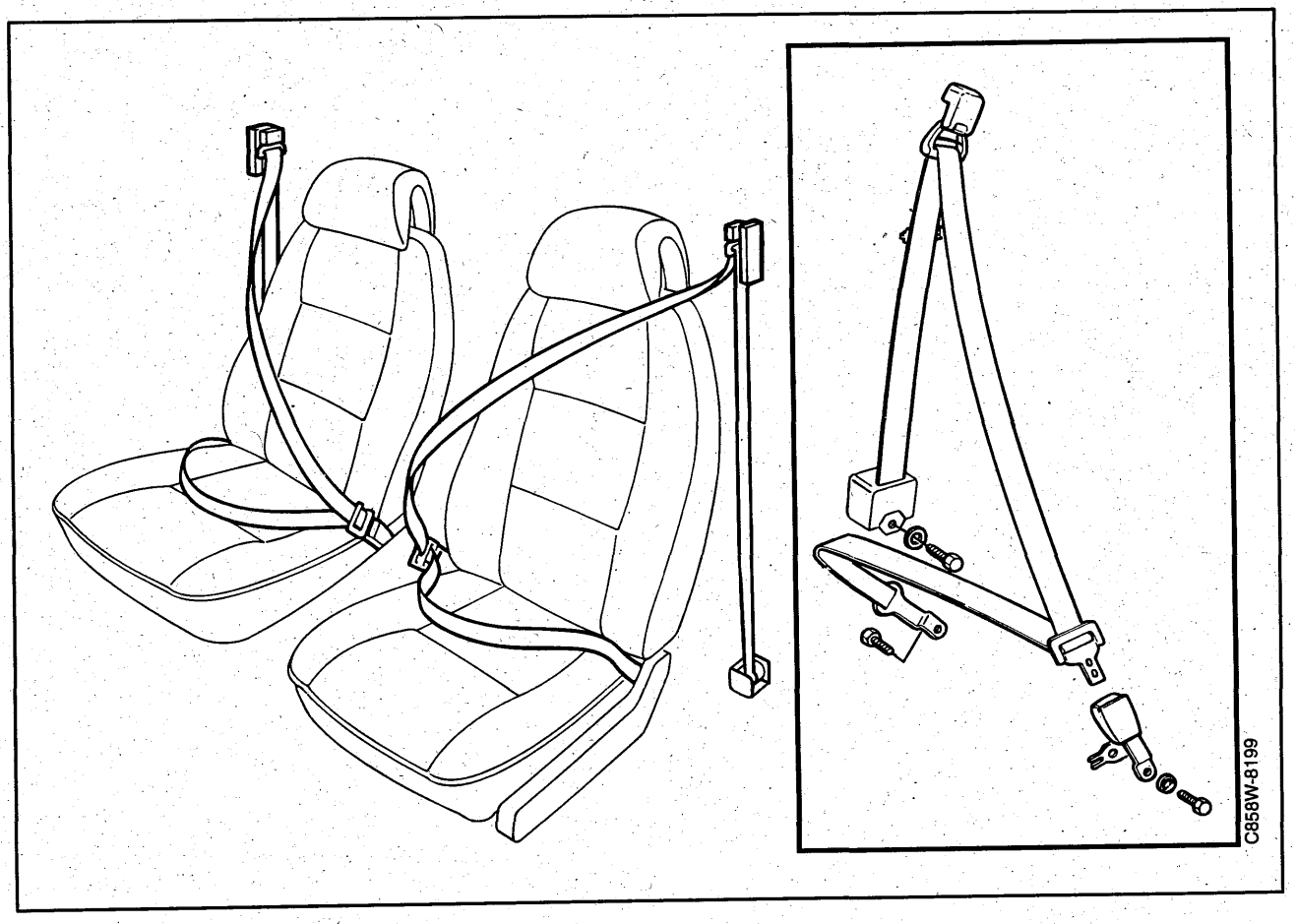
⚠ WARNING

The label may not be removed from the seat belt. No alterations should be made to the belt and the seat belt anchorage points should not be altered. Ensure that the correct belt is fitted in regards to model variant and location according to the spare parts literature.

⚠ WARNING

Seat belts that have been strained in connection with serious accidents should be changed and the original destroyed, so it can not be refitted to a car.

Seat belts (cont.)



Removal

Important

Seat–belt with seat–belt tensioners, see page 853–153.

1 Unfasten the cover for the backrest adjustment wheel, remove the screw and take off the wheel.

2 Remove the cover and screw off the seat side panel.

3 Unfasten the seat belt screws from the seat.

4 Remove the B pillar trim, see page 851–22.

5 Remove the screws and take away the seat belt inertia reel.

6 Thread the strap guide and end piece through the pillar trim.

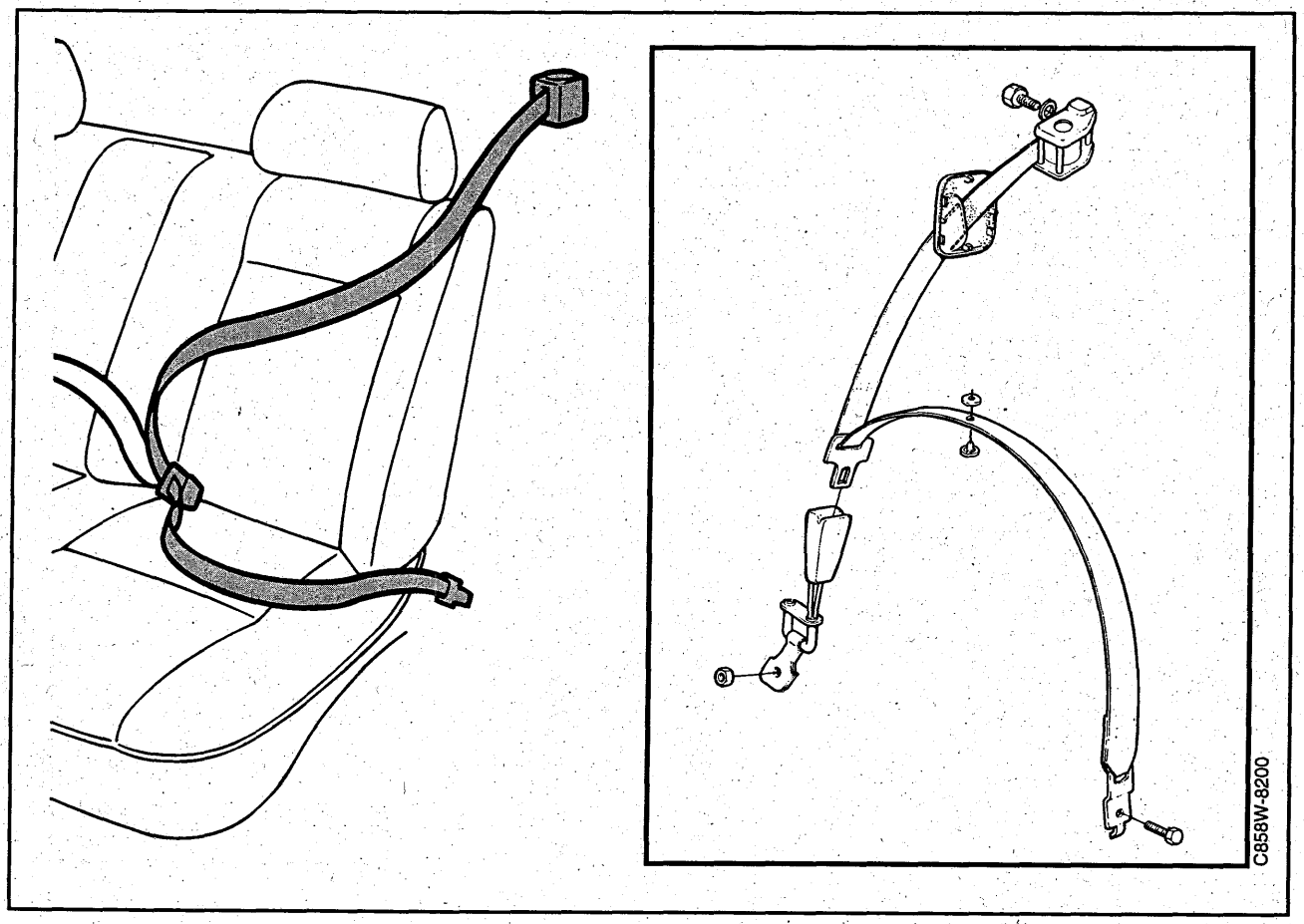
Fitting

Fitting is performed in reverse order

Important

The cover strip for the height adjustment as two holes. Fit the screw for the seat belt strap guide through the round hole.

Seat belts (cont.)



Changing the seat–belt buckle lock

1 Heat up the upset point of the seat–belt buckle lock with a soldering iron and lever apart the buckle lock.

Note the location of the seat–belt buckle lock.

2 Press in place the male part of the buckle lock on the seat–belt so the point comes out on the side that is not visible when in use.

Push on the female part.

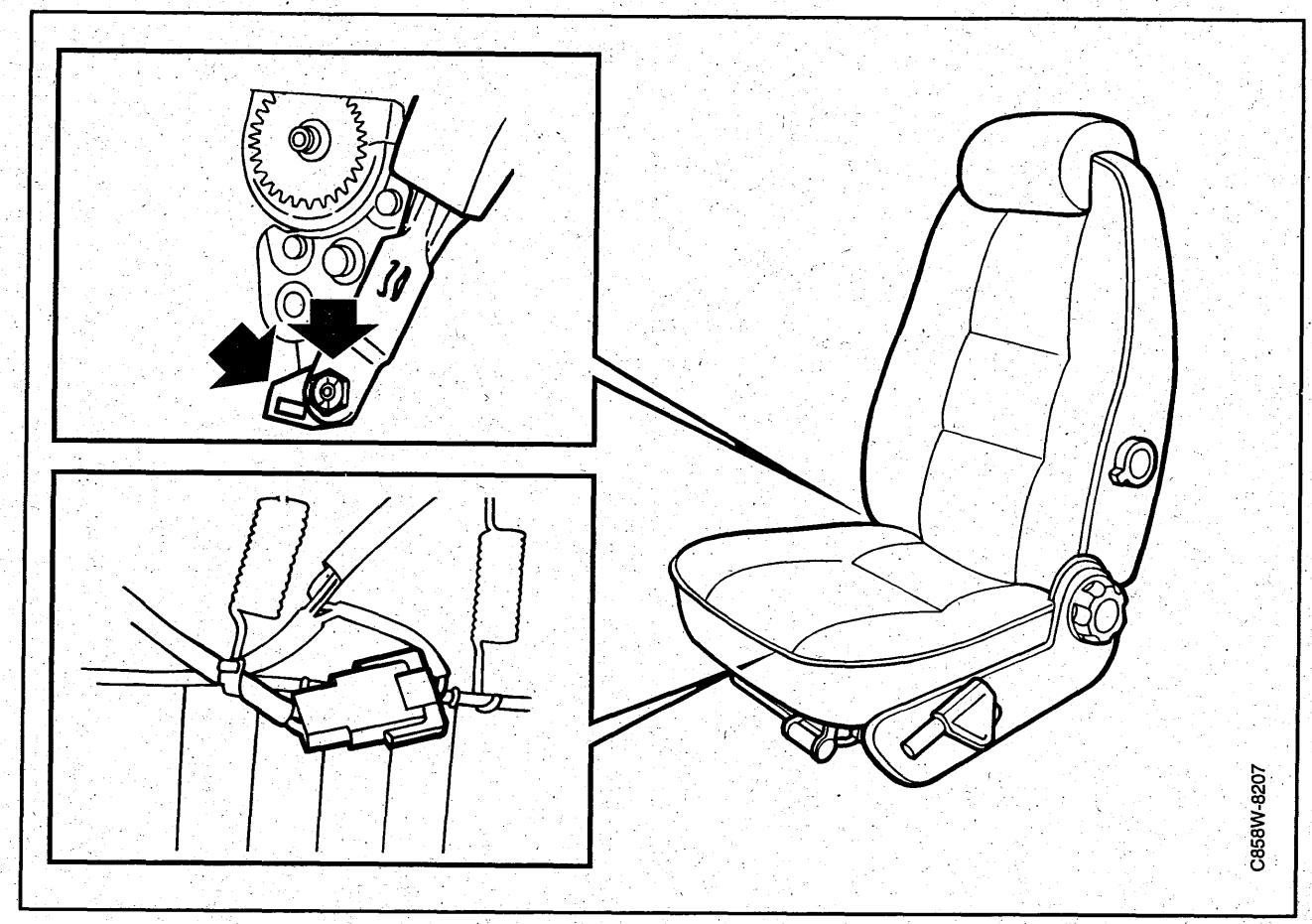
3 Press together the buckle lock with a pair of grips and at the same time melt down the point with a soldering iron.

4 Level out the melted–down point with a sharp knife.

Important

Let the plastic set properly before testing the operation.

Seat–belt lock



Removal

1 Removing the seat from the car, seepage 852–34.

2 Unscrew the seat–belt lock.

3 Remove the cable ties securing the cables.

Remember the position of the cable ties.

4 Mark the cables and unplug the connectors.

Use special tool part no. 85 80 110.

⚠ WARNING

If the seat belt anchorage is pulled harder than 60 Nm (44 lbf ft), the seat rail is damaged and must be changed.

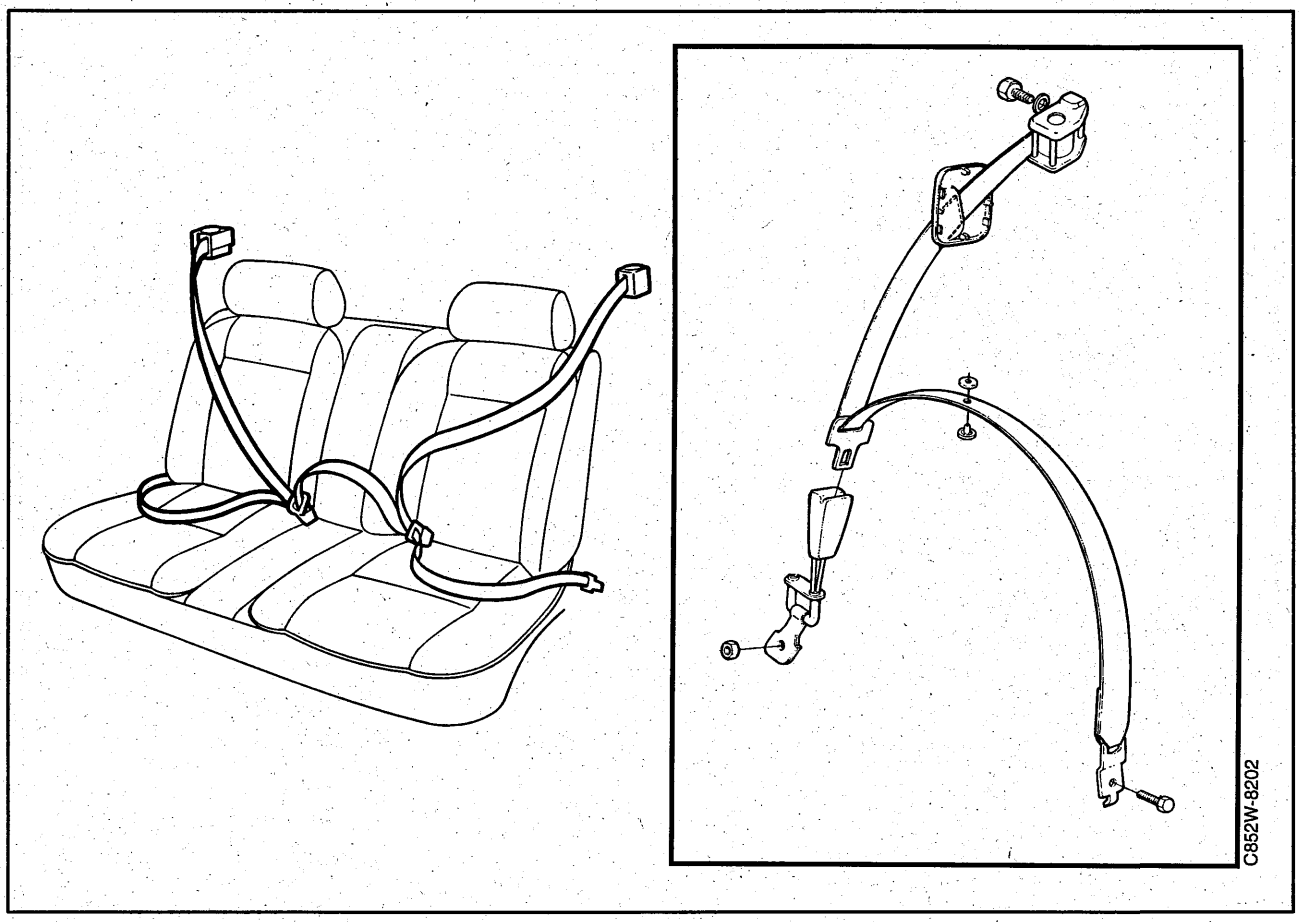
The seat belt anchorage can not be repaired as this may cause distortion to the seat adjustment and decrease safety.

Fitting

Fitting is carried out in the reverse order to removal.

Tightening torque 40 Nm (29.5 lbf ft)

Rear seat–belt



Removal

1 Removing the C pillar trim, see page 851–23.

2 Unfasten the clip and remove the belt cover from the trim.

3 Unscrew the lower seat belt anchorage and undo the trim.

4 Unscrew the upper seat belt anchorage.

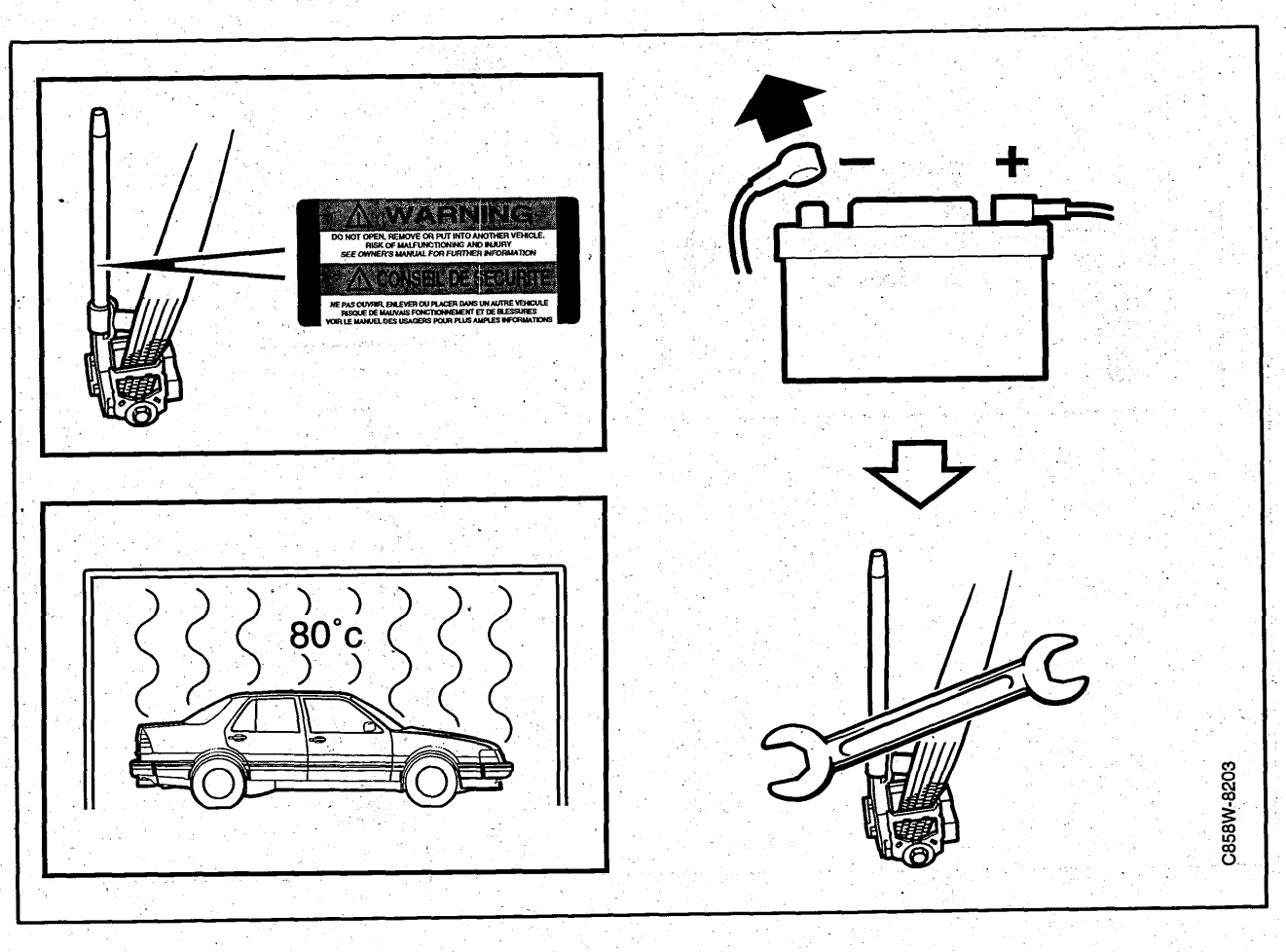
Fitting

Fitting is carried out in the reverse order to removal.

Note

Ensure the seat belt runs correctly.

Seat–belt tensioners



Safety instructuions for reparation work and following accidents

Work on the seat–belt tensioners can only be undertaken by personal that have taken the applicable safety instruction course including the regulations valid in the respective country. The following applies:

After collision (crash)

⚠ WARNING

Activated seat–belt tensioners should always be changed (the seat belt is changed as a complete unit). An inactivated though damaged seat–belt tensioners that has, for example, suffered a side collision) should not be repaired and must always be changed.

Undamaged sensors can be used even after the seat–belt tensioner has been activated. The same applies to the electrical wiring harness.

Straightening and welding work

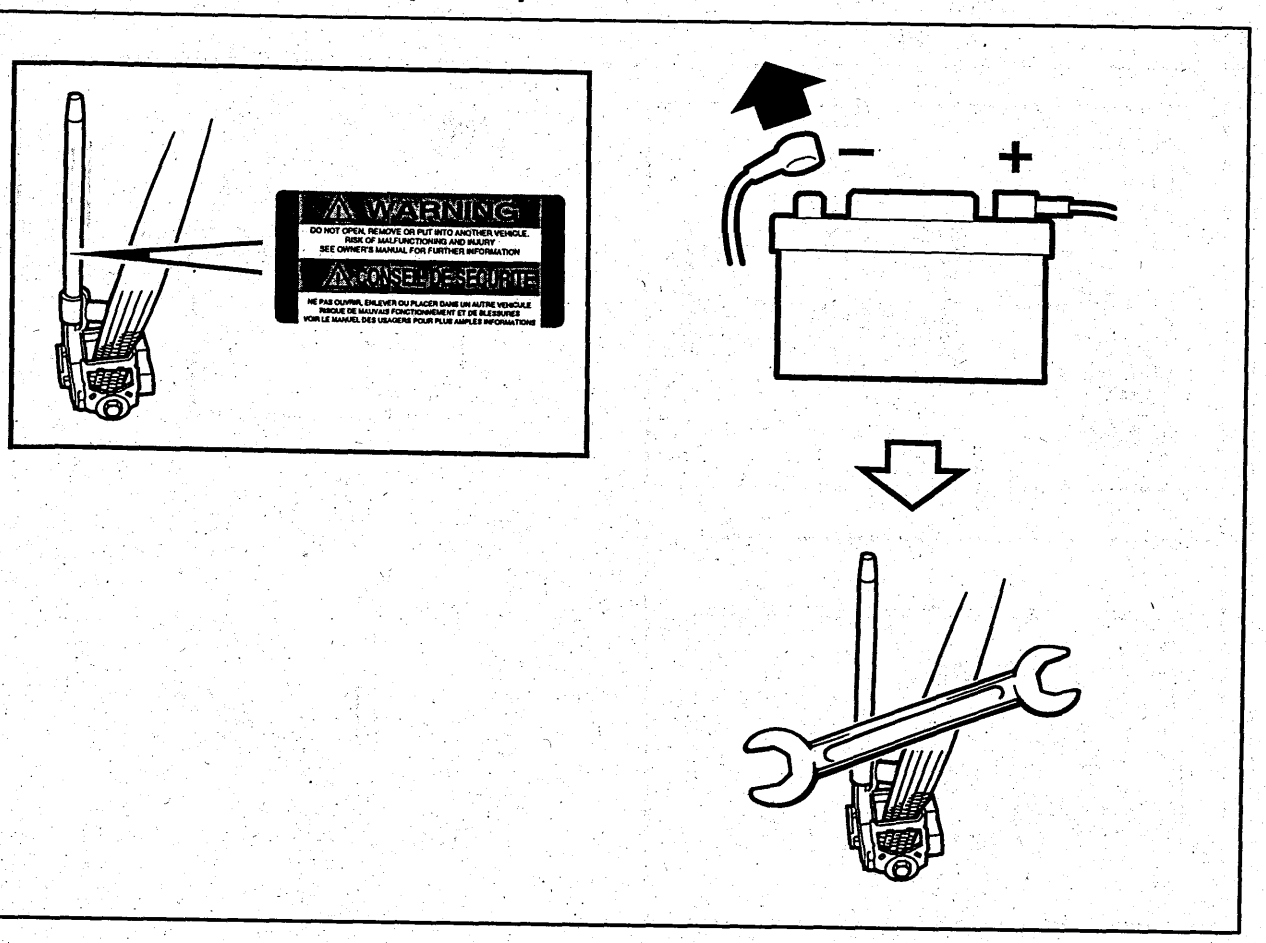
⚠ WARNING

Before straightening and welding work commences the negative cable should always be removed from the battery and the negative terminal covered up.

Paint finish work

No particular measures need to be taken. No damage occurs to the seat–belt tensioners when the car is warmed in connection with paint finish work (oven drying max. 80°C).

Seat–belt tensioners (cont.)



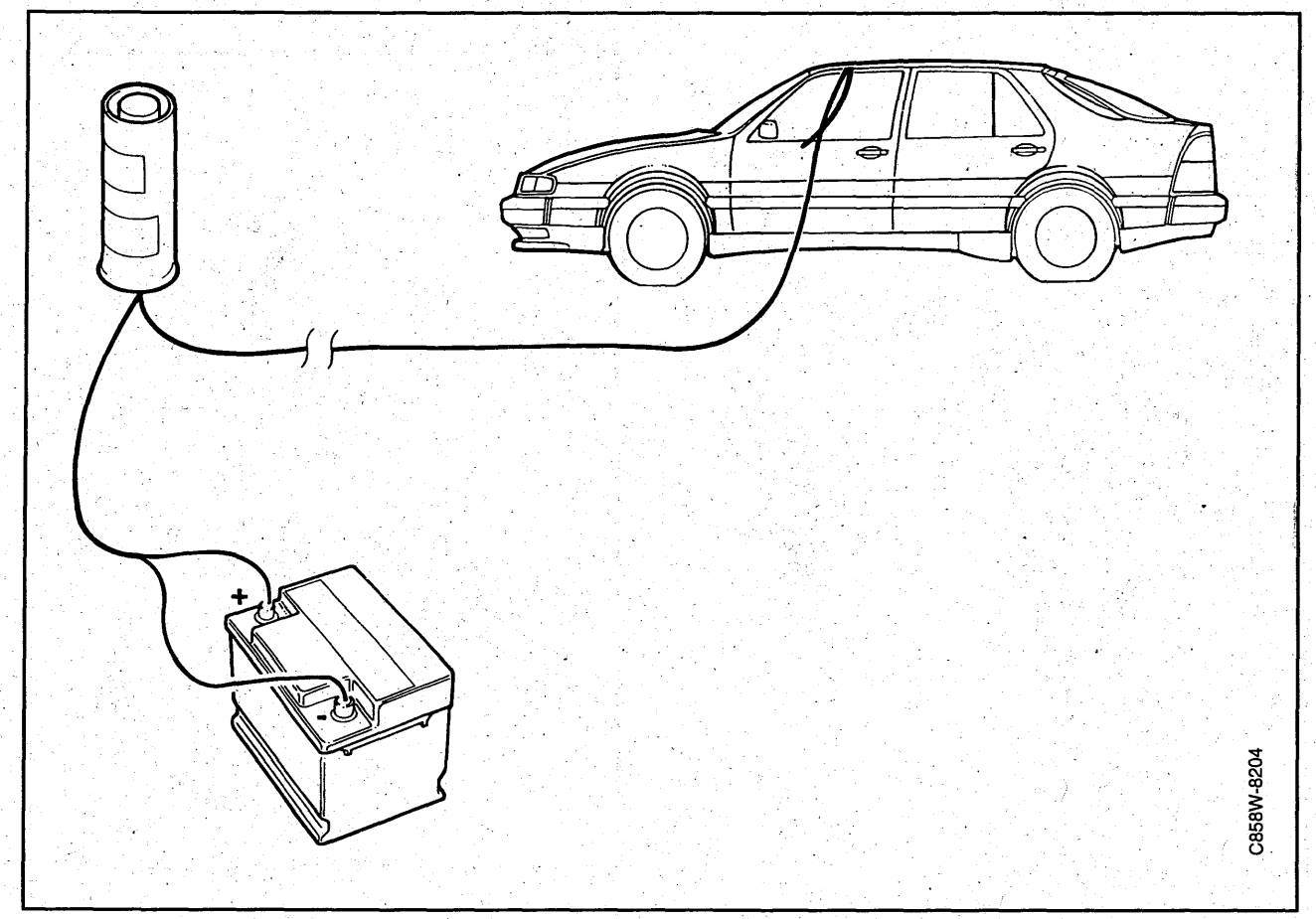
Reparation work

⚠ WARNING

During all reparation work the negative battery lead should be disconnected and the negative terminal covered up. Seat–belt tensioners should be fitted directly after being taken out of store. If the work is disrupted for any reason, the seat–belt tensioner should be returned to the store and locked away. Under no circumstances should the belt be left unattended.

- Seat–belt tensioners should not be exposed to grease, cleaning products or similar substances.
- Seat–belt tensioners should never be exposed to temperature above + 100°C.
- Seat–belt tensioners that have been dropped from a height greater than 0.5 metres against a hard floor may not be used.

Seat–belt tensioners (cont.)



Scrapping instructions – seat–belt tensioner on the seat–belt

⚠ WARNING

If a front seat belt needs to be changed without the car having been involved in a collision the seat–belt tensioner on the relevant seat belt should be activated before the seat belt is removed from the car. This is because the seat belt contains a pyrotechnic charge that must be disarmed before the seat–belt is scrapped.

Scrapping an activated seat–belt tensioners

1 Remove the negative battery cable. Cover up the negative terminal.

2 Slide the seat forwards and fold down the backrest.

3 Remove the B pillar trim, see page 851–22.

4 Remove the plastic protection cover from over the seat–belt tensioners.

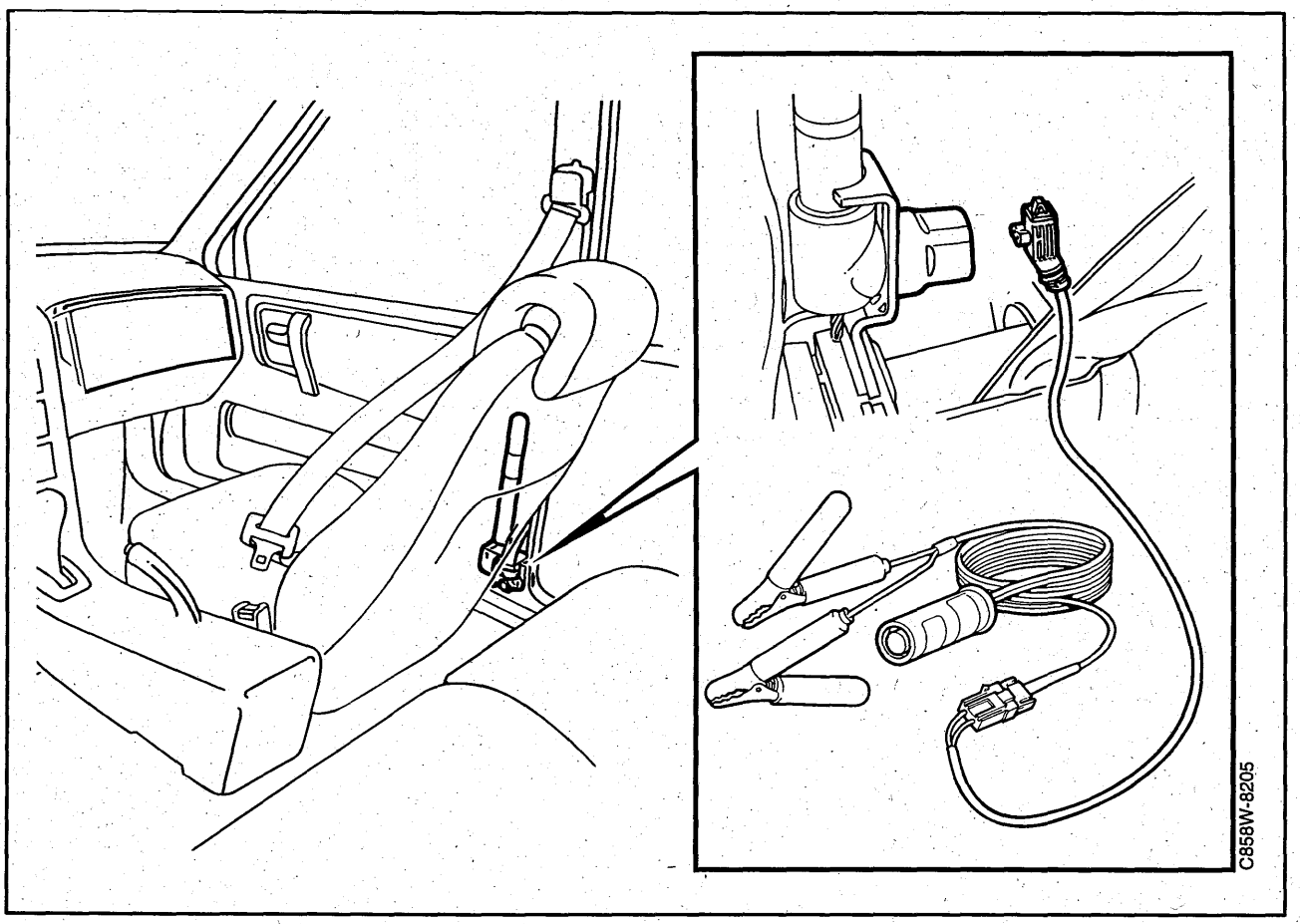
5 Pull off the seat–belt tensioners electrical connections.

6 Put together the connectors (A) on the manual triggering device (special tool part no. 84 71 104) to the electrical connectors of the seat–belt strap guide.

7 Refit the upper seat–belt strap guide to its bracket. This is done to protect the B pillar trim against the detonation.

8 Check that the seat–belt is running free and can be pulled back approx. 180 mm without damaging anything.

Seat–belt tensioners (cont.)



9 Pull out the manual triggering device to the engine compartment. Close all doors and check the windows are properly shut.

10 Connect the manual trigger device clip (B) to the battery terminal.

11 Stand in front of the car and depress the activation trigger.

12 Remove the manual triggering device connectors from the seat–belt tensioner.

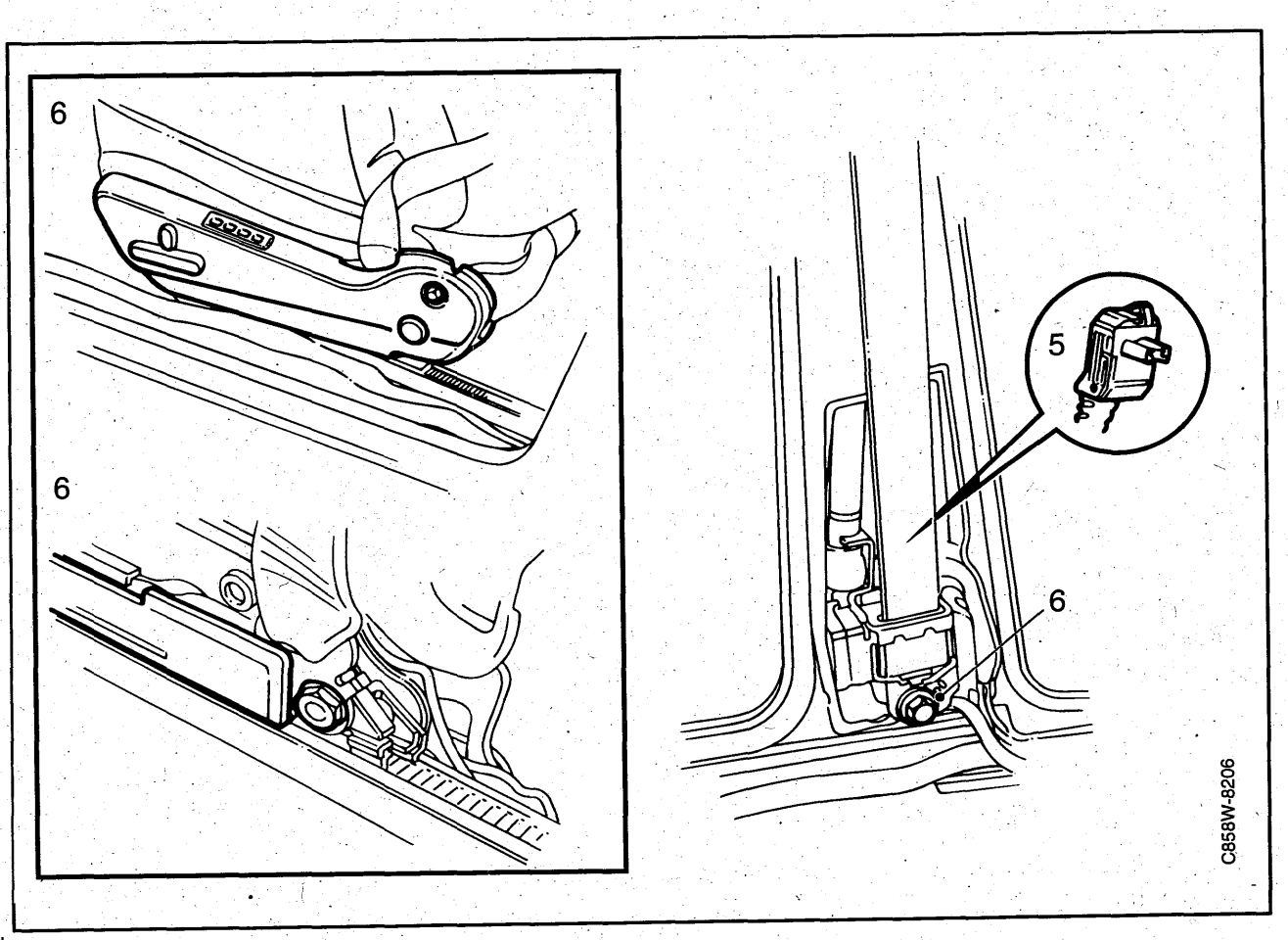
13 Change the complete seat belt unit.

14 Fit the B pillar trim, see page 852–22.

⚠ WARNING

When scrapping the seat–belt tensioners a safety distance of 5 m from the car must be observed.

Seat–belt tensioners (cont.)



Removal, seat–belt inertia reel with an activated seat–belt tensioners

1 Turn the ignition key to the OFF position. Remove the negative cable from the battery. Cover the negative terminal up.

2 Slide the seat forwards and fold down the backrest.

3 Remove the B pillar trim, see page 851–22.

4 Remove the plastic protection cover from over the seat–belt tensioners.

5 Pull off the seat–belt tensioners electrical connections.

6 Remove the screws securing the inertia reel to the seat–belt tensioners.

Manually operated front seat:
Remove the seat covers and unfasten the belt from the seat.

Electrically operated front seat:
Unfasten the switch from the electrically operated seat. Remove the seat cover.

Slide the rail forwards so that the seat–belt nut is released. Unfasten the seat–belt from the seat.

7 Pull out the B pillar trim and press the strap guide and the belt tongue through the hole in the pillar trim

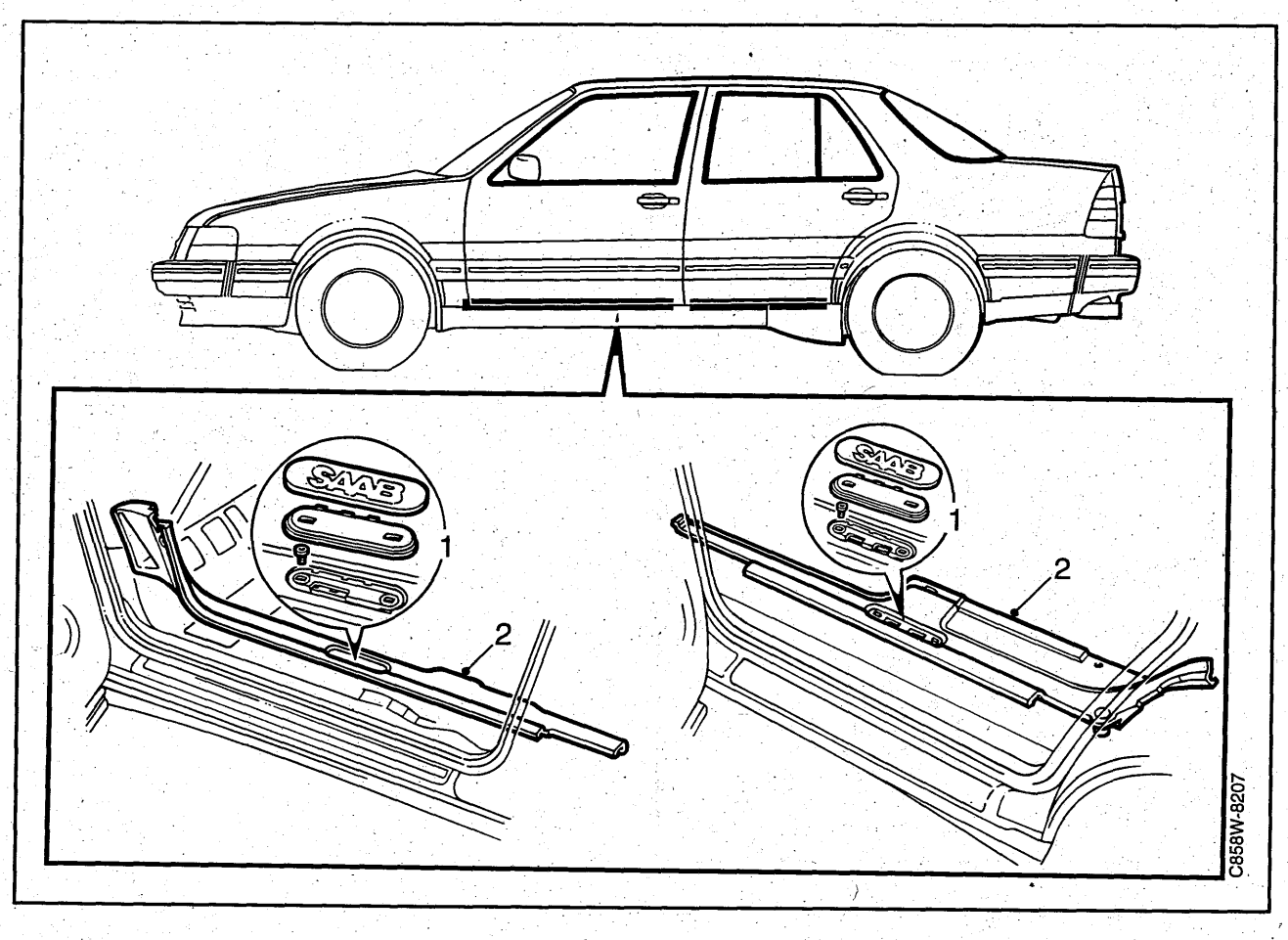
Fitting, new seat–belt inertia reel with seat–belt tensioners

1 Fit a new seat–belt inertia reel with seat–belt tensioner

2 Refit all removed parts.

Note
The electronic control module for the seat–belt tensioners is located behind the side carpeting in the passenger area. Ensure that the arrow on the control module points forwards when fitting.

Scuff plate



Removal, luggage compartment scuff plate.

Saab 9000 CC and CD:

1 Remove the rear sections from the rear right–hand and left–hand lamps.

2 Remove the screws on the rear scuff plate. Remove the luggage compartment scuff plate.

Saab 9000 CS:

3 Unfasten the scuff plate and lift it out.

Fitting

Fitting is carried out in the reverse order to removal.

Removal, side scuff plate

1 Remove the cover.

2 Unfasten the scuff plate and lift it out.

Fitting

Fitting is carried out in the reverse order to removal.

Wiring diagram

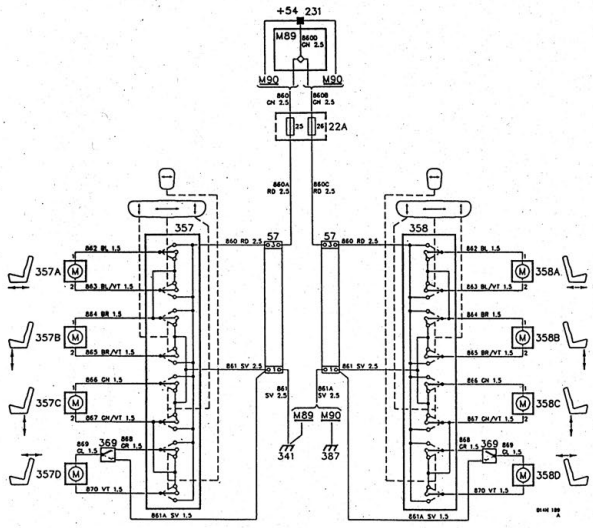
Electrically operated seat

Electrically operated seat without memory

Electrically operated seat without memory, M89–M90

Component list

22A	Fuse board in the facia
57	3 pole connectors one below the left–hand seat one below the right–hand seat
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
341	Grounding point Front left–hand seat beam
357	Switch for electrically operated seat, outer left–hand side on seat
357A–D	Electric motor, left–hand below the seat
358	Switch, electrically operated seat, outer right–hand side on seat
358 A–D	Electric motor, right–hand below the seat
369	Microswitch, seat backrest between cushion and backrest, at the inner edge of each seat
387	Grounding point (M90) Front right–hand seat beam



Electrically operated seat without memory, M91–M93

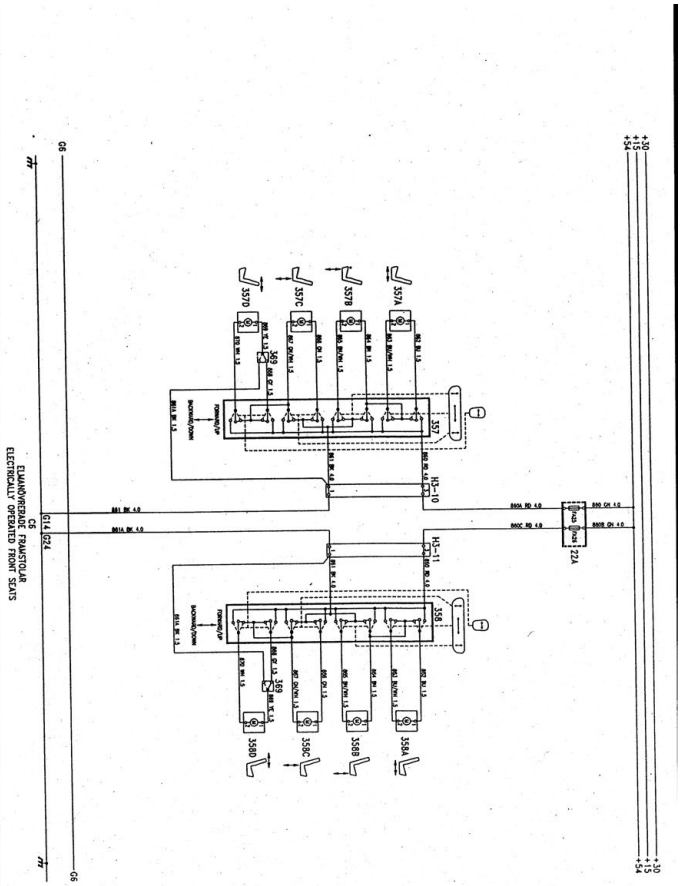
Component list

22A	Fuse board behind the hatch on the glove component
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
357	Switch, electrically operated seat, outer left–hand side of seat
357A–D	Electric motors, left–hand below the seat
358	Switch, right–hand electrically operated seat, outer side on seat
358 A–D	Electrical motors, right–hand below the seat
369	Microswitch, seat backrest between the cushion and the backrest, on the inner edge of the particular seat.

3 pole connectors

H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member



Electrically operated seat without memory,

Component list

22A	Fuse board behind the hatch on the glove component
54	Door switch for door lighting
230	Distribution terminal +30
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
358	Switch, electrically operated passenger seat, outer side of seat
358 A–D	Electric motors passenger seat, below the seat
369	Microswitch, seat backrest between the cushion and the backrest, on the inner edge of the particular seat.
446	Relay for electrically operated front seat via ignition switch
447	Relay for electrically operated front seat via door switch

2 pole connectors

H2–15	On the right–hand A pillar
H2–33	On the left–hand A pillar

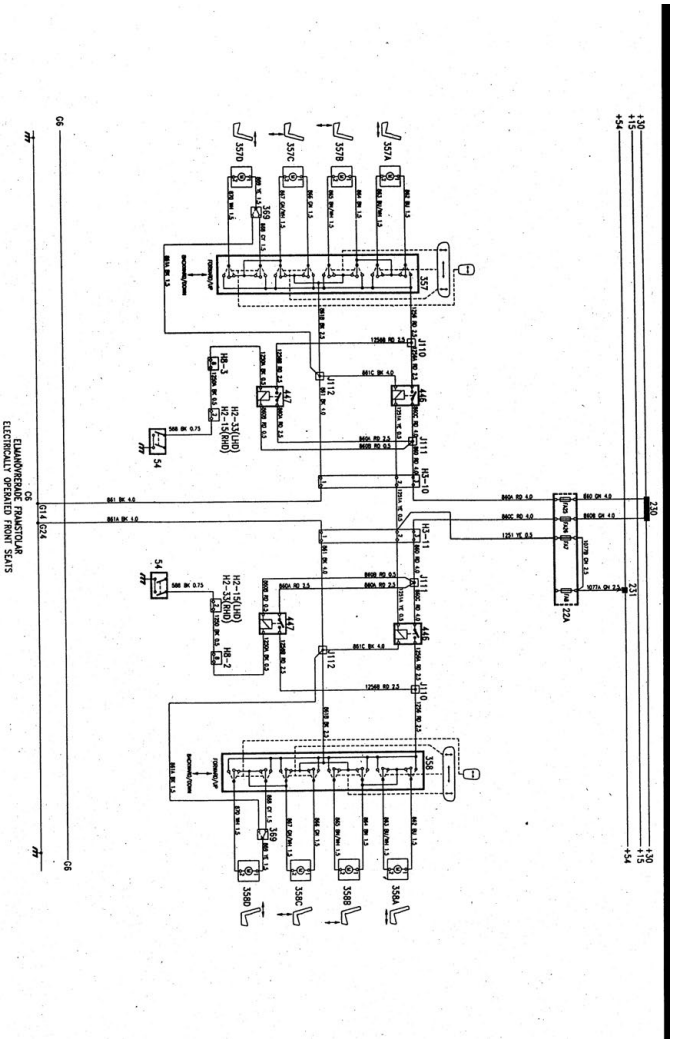
3 pole connectors

H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

8 pole connectors

H8–2	Below the passenger seat

G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member



Electrically operated seat without memory, M95

Component list

22A	Fuse board behind the hatch on the glove component
54	Door switch for door lighting
230	Distribution terminal +30
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
358	Switch, electrically operated passenger seat, outer side of seat
358 A–D	Electric motors passenger seat, below the seat
369	Microswitch, seat backrest between the cushion and the backrest, on the inner edge of the particular seat.
446	Relay for electrically operated front seat via ignition switch
447	Relay for electrically operated front seat via door switch

2 pole connectors

H2–15	On the right–hand A pillar
H2–33	On the left–hand A pillar

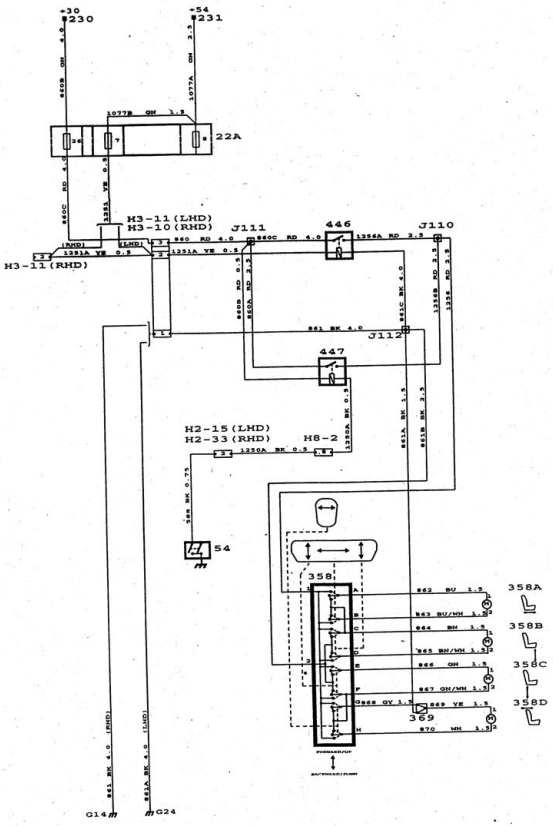
3 pole connectors

H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

8 pole connectors

H8–2	Below the passenger seat

G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member



Electrically operated seat without memory, current M95

Component list

22A	Fuse board behind the hatch on the glove component
54	Door switch for door lighting
230	Distribution terminal +30
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
358	Switch, electrically operated passenger seat, outer side of seat
358 A–D	Electric motors passenger seat, below the seat
369	Microswitch, seat backrest between the cushion and the backrest, on the inner edge of the particular seat.
446	Relay for electrically operated front seat via ignition switch
447	Relay for electrically operated front seat via door switch

2 pole connectors

H2–15	On the right–hand A pillar
H2–33	On the left–hand A pillar

3 pole connectors

H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

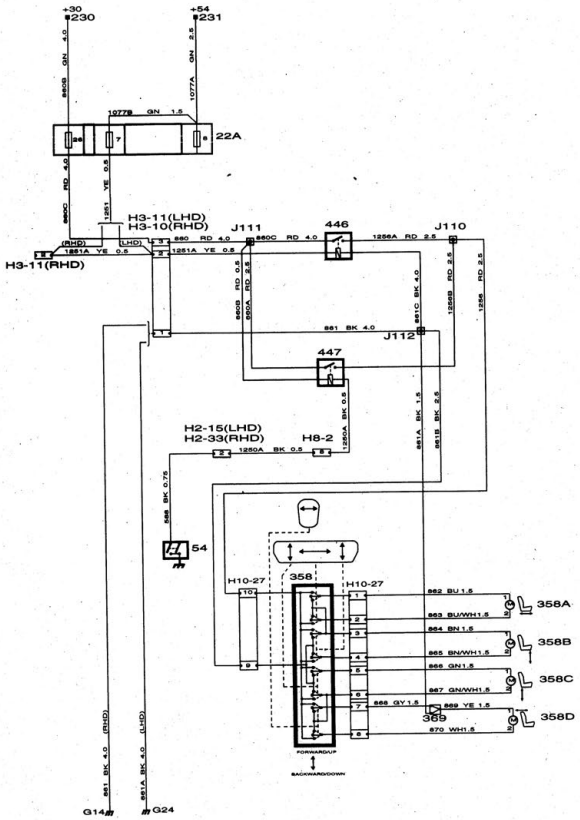
8 pole connectors

H8–2	Below the passenger seat

G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member

10 pole connectors

H10–27



Electrically operated seat without memory, M96

Component list

22a	Fuse board behind the hatch on the glove component
54P	Door switch for door lighting
230	Distribution terminal +30
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
357P	Switch, electrically operated passenger seat, outer side of seat
357Pa–d	Electric motors passenger seat, below the seat
369	Microswitch, seat backrest between the cushion and the backrest, on the inner edge of the particular seat.
446Pa	Relay for electrically operated front seat via ignition switch
446Pb	Relay for electrically operated front seat via door switch

2 pole connectors

H2–15	On the right–hand A pillar
H2–33	On the left–hand A pillar

3 pole connectors

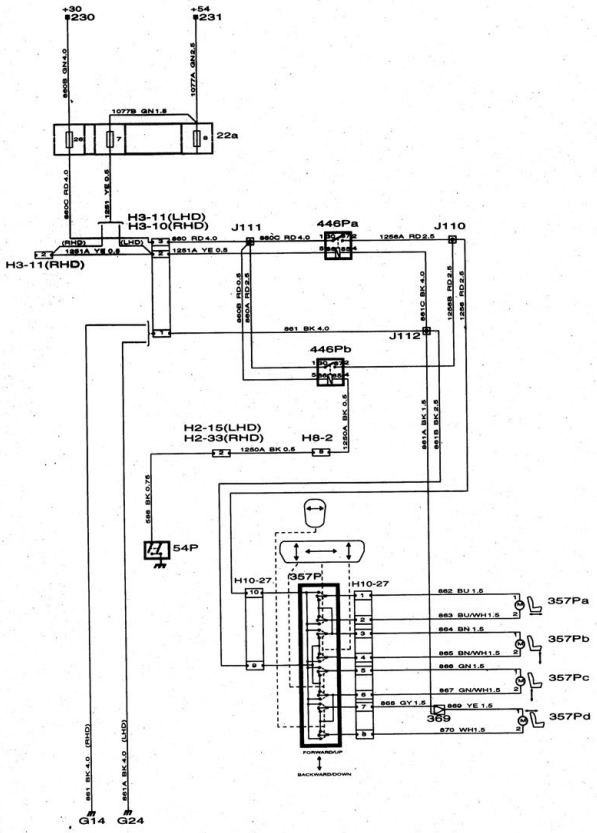
H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

8 pole connectors

H8–2	Below the passenger seat
G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member

10 pole connectors

H10–27



Electrically operated seat with memory, M91–M93

Component list

22A	Fuse board behind the hatch in the glove compartment
230	Distribution terminal +30
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
347 (H10–8)	Data link connector, engine electronics and right–hand seat
348 (H10–9)	Data link connector diagnostic, car electronics under right–hand seat
357	Switch for electrically operated seat, outer left–hand side on seat
357A–D	Electric motor, left–hand below the seat
357E–H	Position sensor, electrically operated seat, left–hand memory, under the seat for the relevant motor shaft
357J	Switch memory, Outer left–hand side on the seat
357K	Control module, electrically operated seat left–hand below the seat
358	Switch, electrically operated seat, outer right–hand side on the seat.
358 A–D	Electric motor, right–hand below the seat
358E–H	Position sensor, electrically operated seat, memory right–hand below the seat for the relevant motor shaft
358J	Switch memory, Outer right–hand side on the seat
358K	Control module, electrically operated seat, right–hand memory under the seat

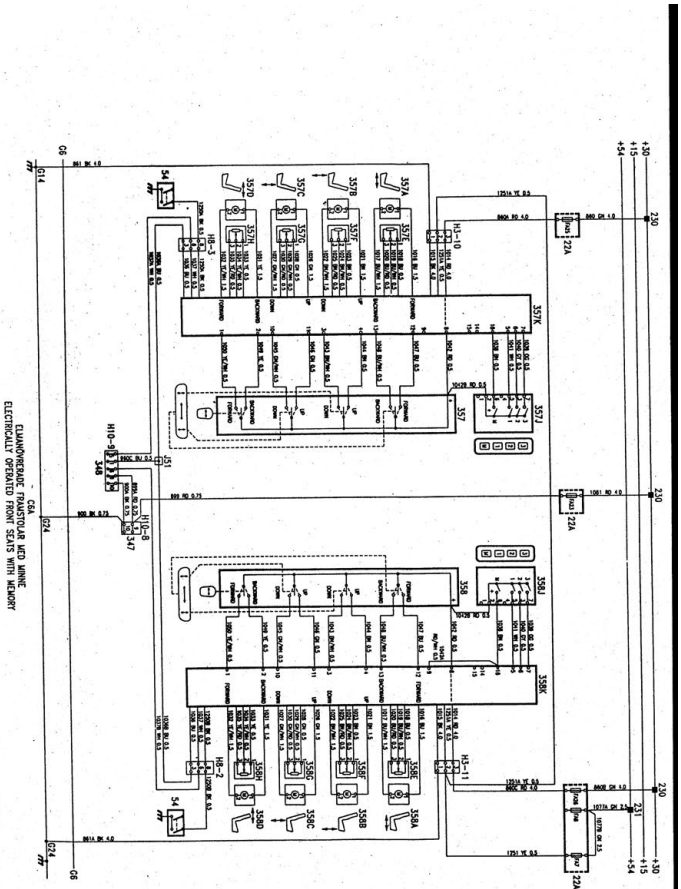
3 pole connectors

H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

8 pole connectors

H8–2	Below the right–hand seat
H8–3	Below the left–hand seat

G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member



Electrically operated seat with memory, M94

Component list

22A	Fuse board behind the hatch in the glove compartment
54	Door switch for interior lighting
230	Distribution terminal +30
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
347 (H10–8)	Data link connector, engine electronics and right–hand seat
348 (H10–9)	Data link connector diagnostic, car electronics under right–hand seat
357	Switch for electrically operated seat, outer left–hand side on seat
357A–D	Electric motor, left–hand below the seat
357E–H	Position sensor, electrically operated seat, left–hand memory, under the seat for the relevant motor shaft
357J	Switch memory, Outer left–hand side on the seat
357K	Control module, electrically operated seat left–hand below the seat
358	Switch, electrically operated seat, outer right–hand side on the seat.
358 A–D	Electric motor, right–hand below the seat
358E–H	Position sensor, electrically operated seat, memory right–hand below the seat for the relevant motor shaft
358J	Switch memory, Outer right–hand side on the seat
358K	Control module, electrically operated seat, right–hand memory under the seat

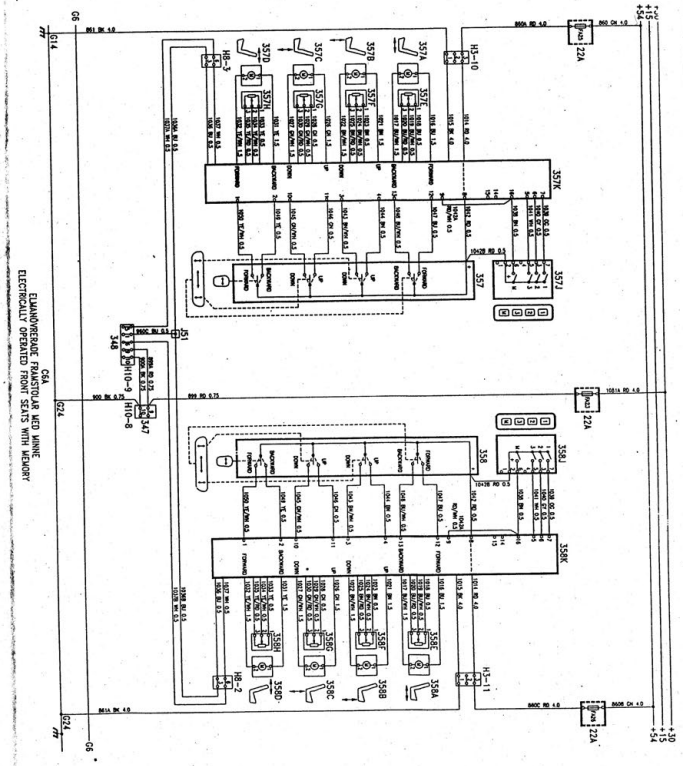
3 pole connectors

H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

8 pole connectors

H8–2	Below the right–hand seat
H8–3	Below the left–hand seat

G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member



Electrically operated seat with memory, M95

Component list

22A	Fuse board behind the hatch in the glove compartment
54	Door switch for interior lighting
230	Distribution terminal +30
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
347 (H10–8)	Data link connector, engine electronics and right–hand seat
348 (H10–9)	Data link connector diagnostic, car electronics under right–hand seat
357	Switch for electrically operated seat, outer left–hand side on seat
357A–D	Electric motor, left–hand below the seat
357E–H	Position sensor, electrically operated seat, left–hand memory, under the seat for the relevant motor shaft
357J	Switch memory, Outer left–hand side on the seat
357K	Control module, electrically operated seat left–hand below the seat
358	Switch, electrically operated seat, outer right–hand side on the seat.
358 A–D	Electric motor, right–hand below the seat
358E–R	Position sensor, electrically operated seat, memory right–hand below the seat for the relevant motor shaft
358J	Switch memory, Outer right–hand side on the seat
358K	Control module, electrically operated seat, right–hand memory under the seat

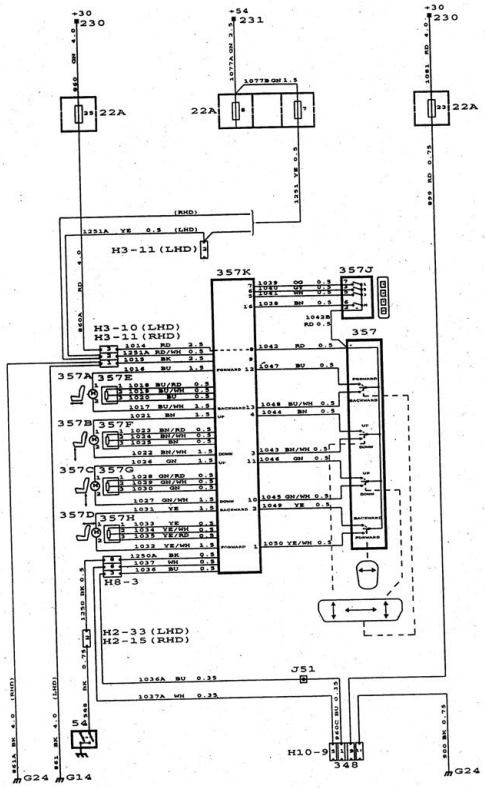
3 pole connectors

H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

8 pole connectors

H8–2	Below the right–hand seat
H8–3	Below the left–hand seat

G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member



Electrically operated seat with memory, current M95–M96

Component list

22A	Fuse board behind the hatch in the glove compartment
54	Door switch for interior lighting
230	Distribution terminal +30
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
348 (H10–9)	Diagnostic data link connector, below the right–hand seat
357	Switch for electrically operated seat, outer left–hand side on seat
357A–D	Electric motor, left–hand below the seat
357E–R	Position sensor, electrically operated seat, left–hand memory, under the seat for the relevant motor shaft
357J	Switch memory, Outer left–hand side on the seat
357K	Control module, electrically operated seat left–hand below the seat

3 pole connectors

H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

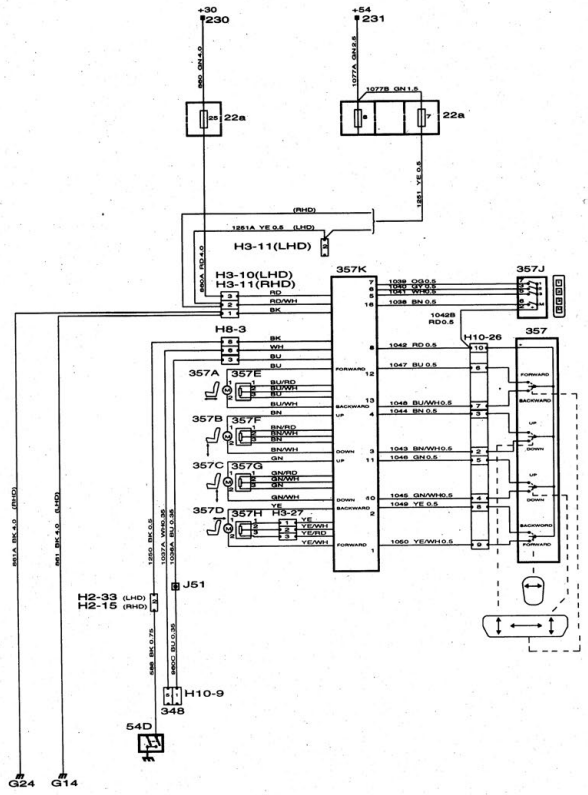
8 pole connectors

H8–2	Below the right–hand seat
H8–3	Below the left–hand seat

G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member

10 pole connectors

H10–26	



Electrically operated seat with memory, current M96

Component list

22a	Fuse board behind the hatch in the glove compartment
54D	Door switch for interior lighting
230	Distribution terminal +30
231	Distribution terminal +54 in the electrical distribution unit behind the glove compartment.
445 (H16–1)	Diagnostic data link connector, below the facia
357D	Switch for electrically operated seat, outer left–hand side on seat
357Da–d	Electric motor, left–hand below the seat
357De–h	Position sensor, electrically operated seat, left–hand memory, under the seat for the relevant motor shaft
357Dj	Switch memory, Outer left–hand side on the seat
357Dk	Control module, electrically operated seat left–hand below the seat

3 pole connectors

H3–10	Below the left–hand seat
H3–11	Below the right–hand seat

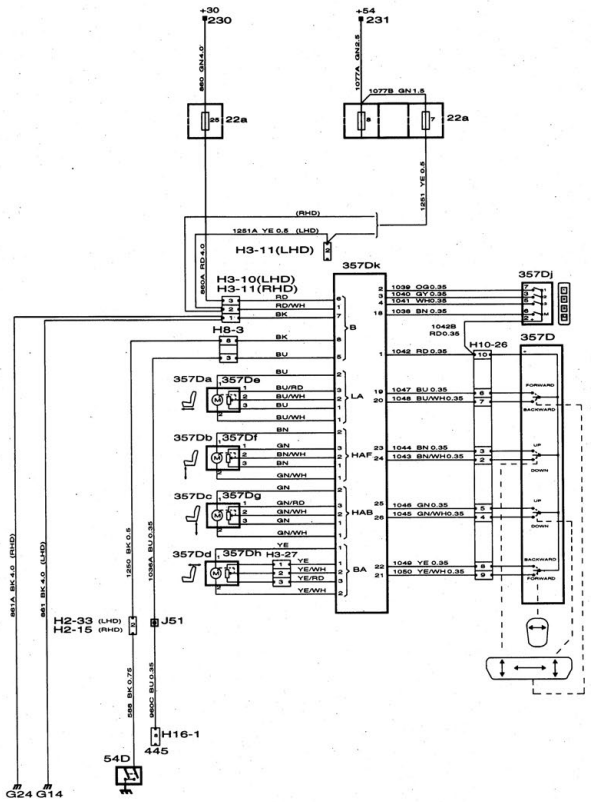
8 pole connectors

H8–2	Below the right–hand seat
H8–3	Below the left–hand seat

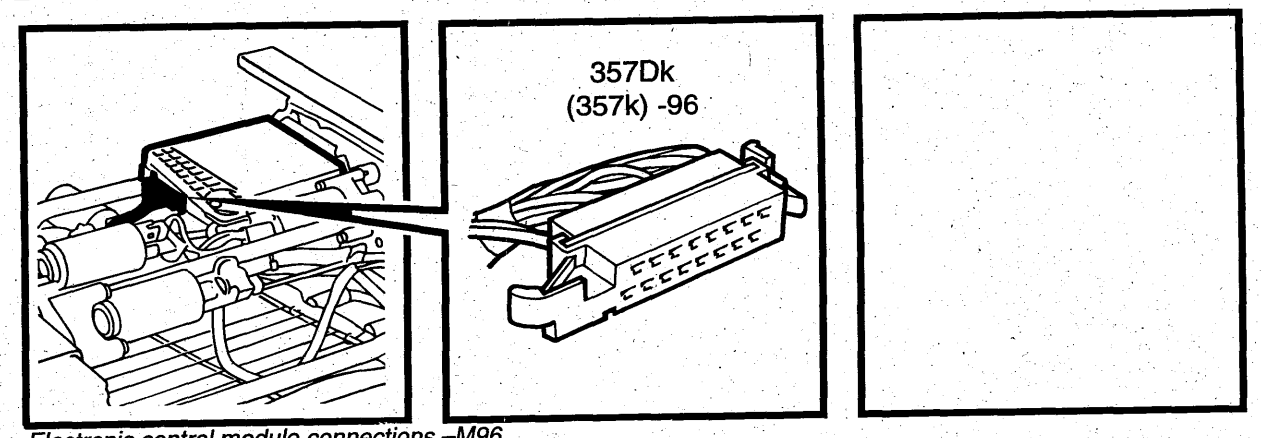
G14	Grounding point, front left–hand seat member
G24	Grounding point, front right–hand seat member

10 pole connectors

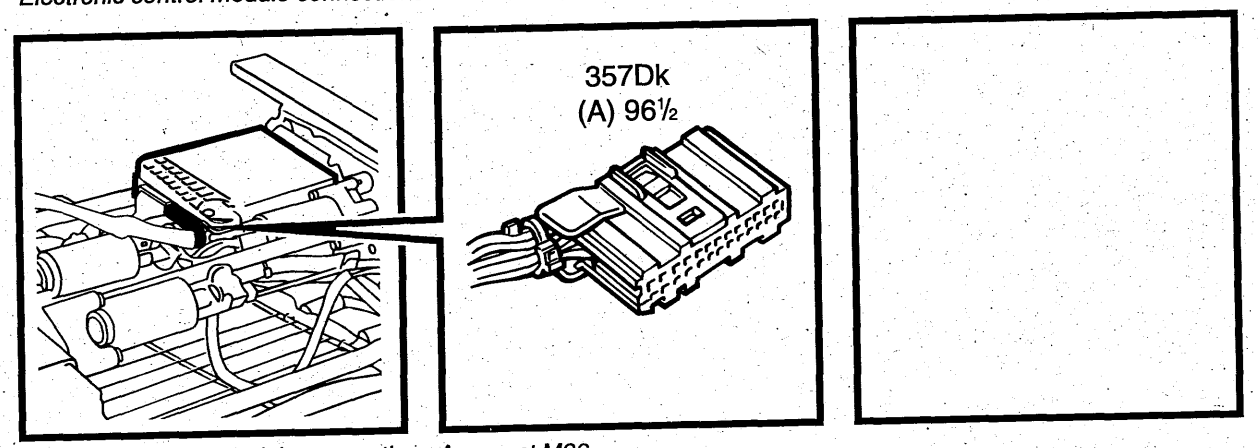
H10–26	



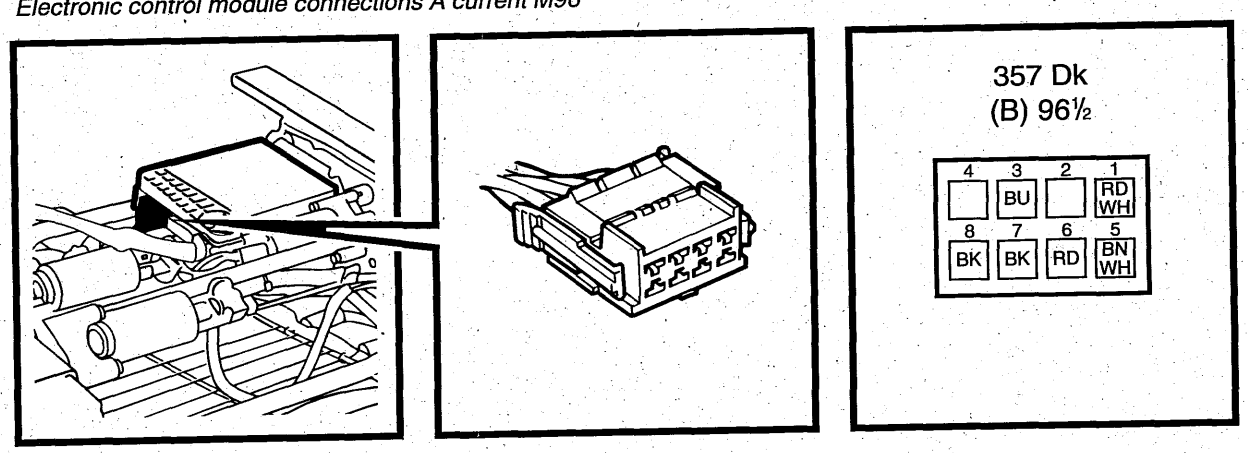
Connectors and grounding points



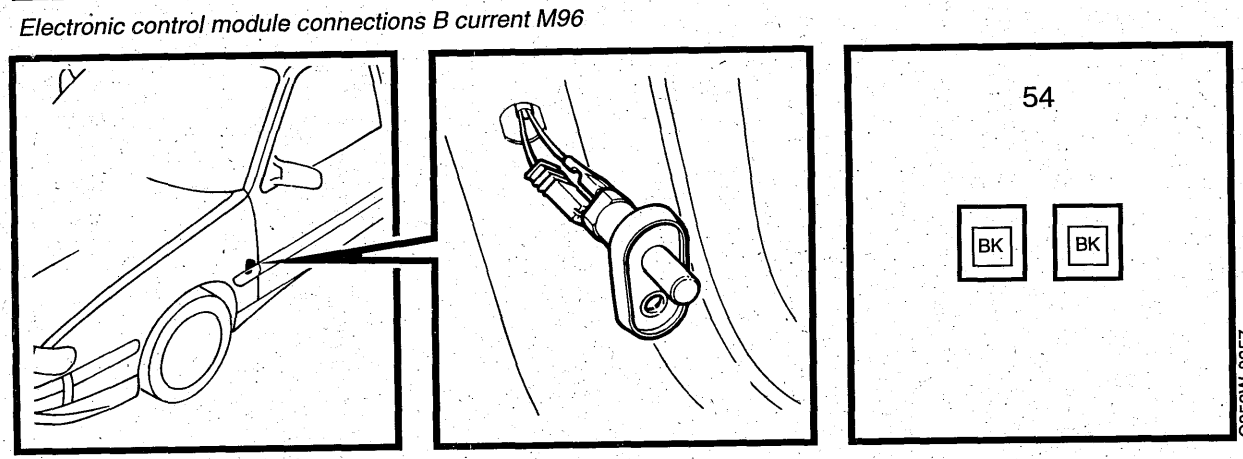
Electronic control module connections –M96



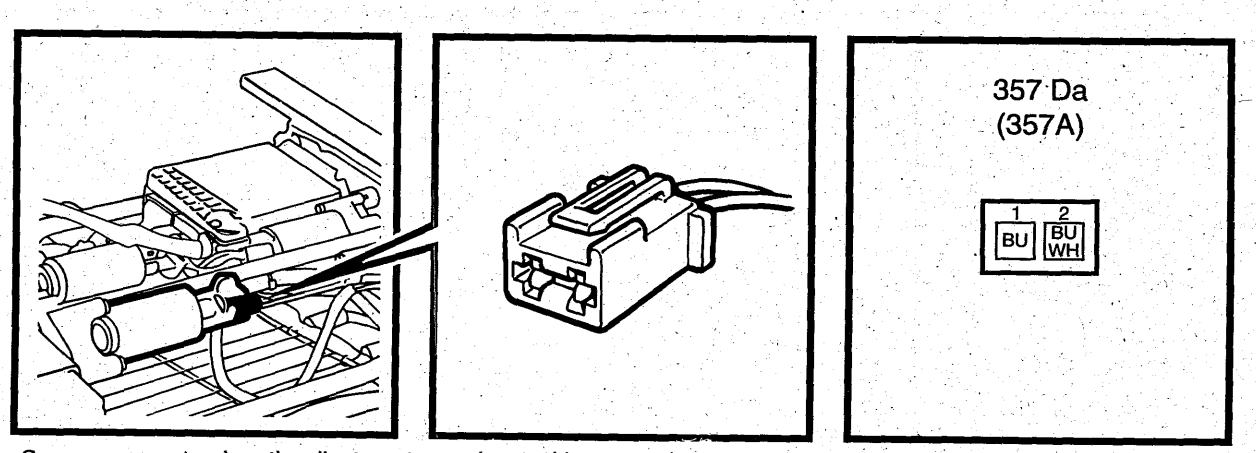
Electronic control module connections A current M96



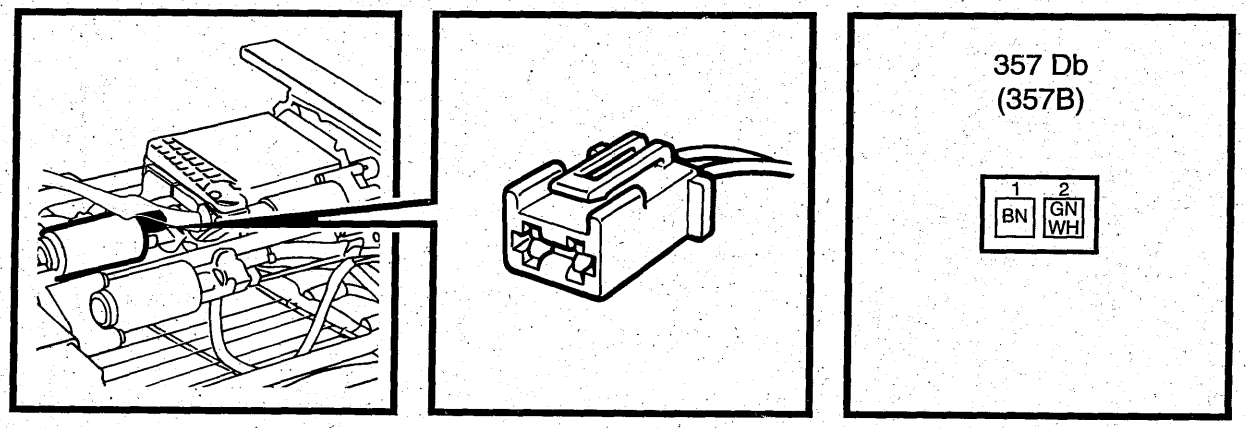
Electronic control module connections B current M96



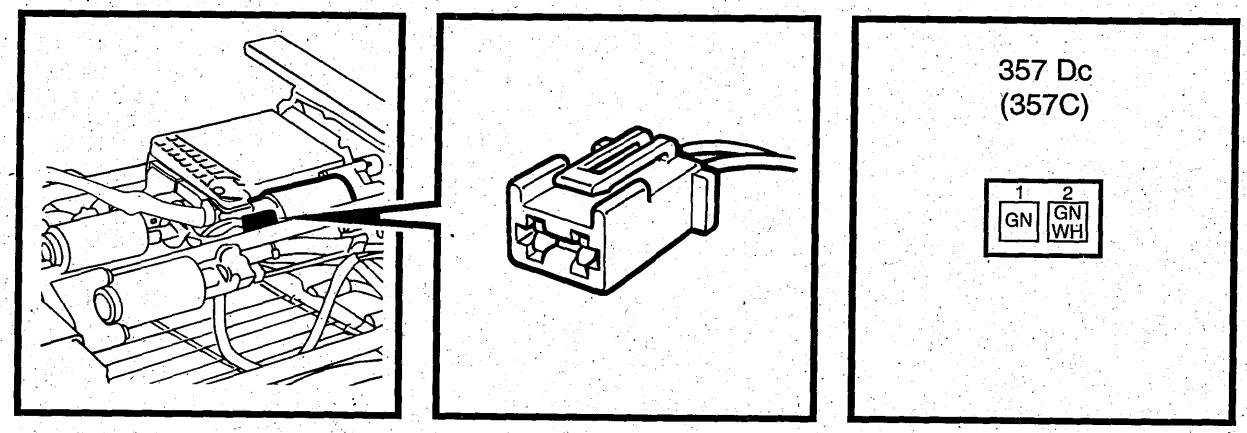
Switch, front driver side door



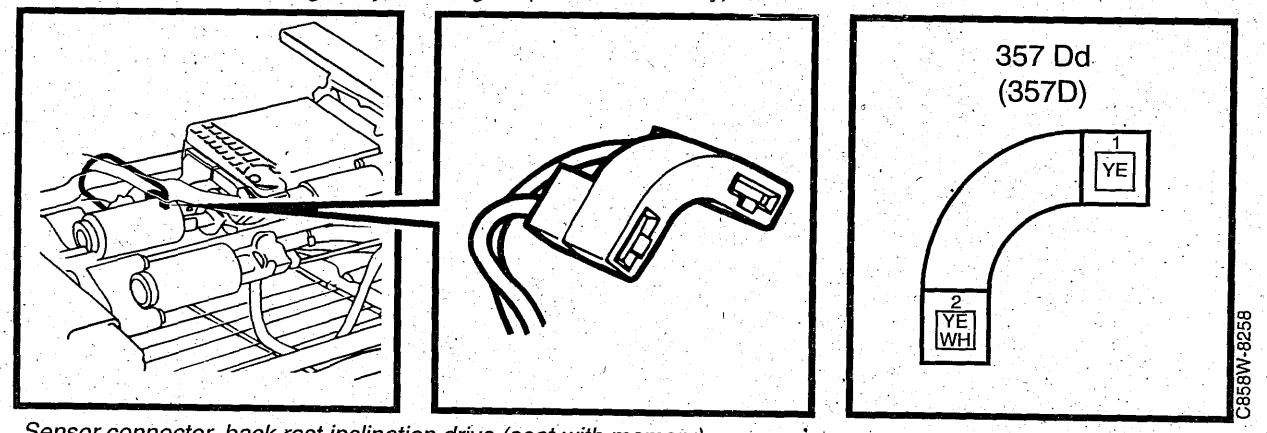
Sensor connector, length adjustment gear (seat with memory)



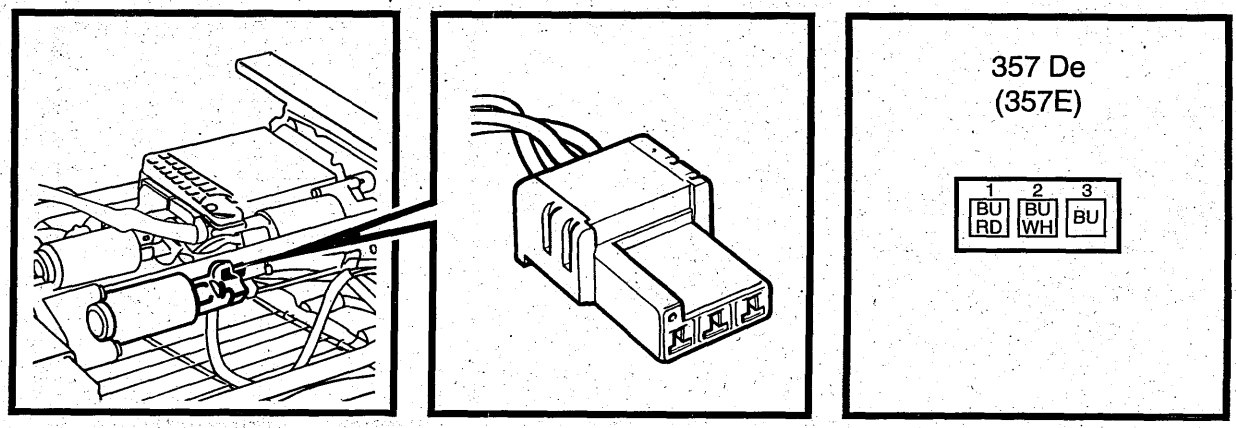
Sensor connector, front height adjustment gear (seat with memory)



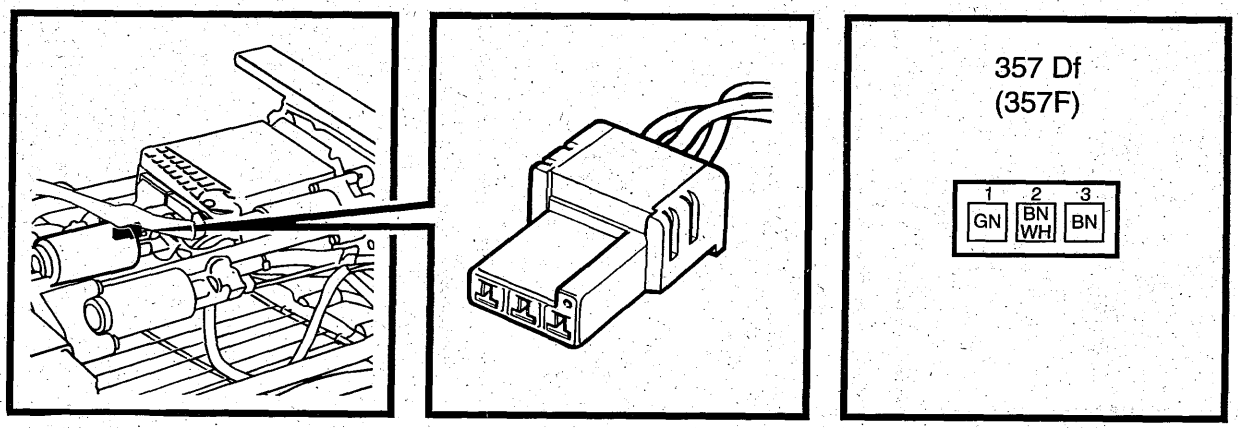
Sensor connector, rear height adjustment gear (seat with memory)



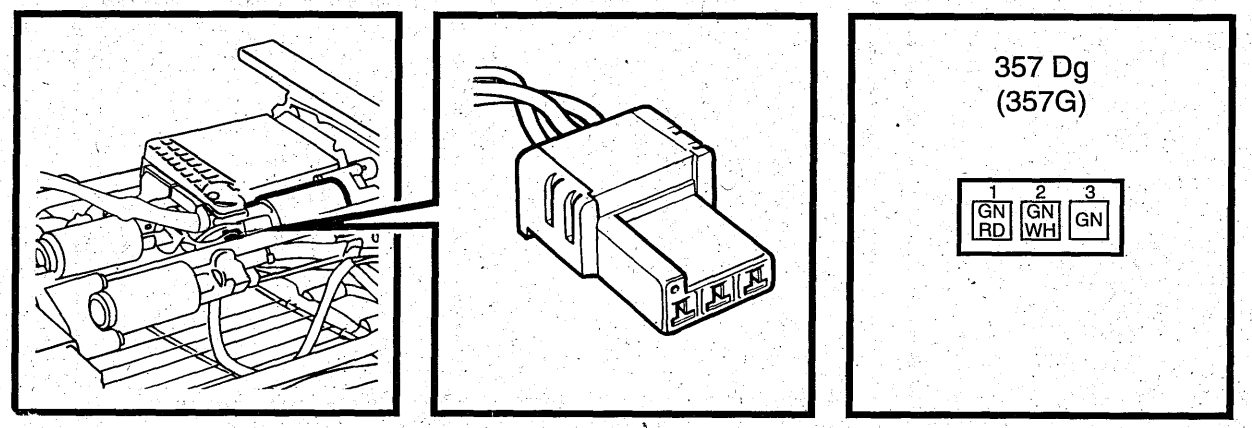
Sensor connector, back rest inclination drive (seat with memory)



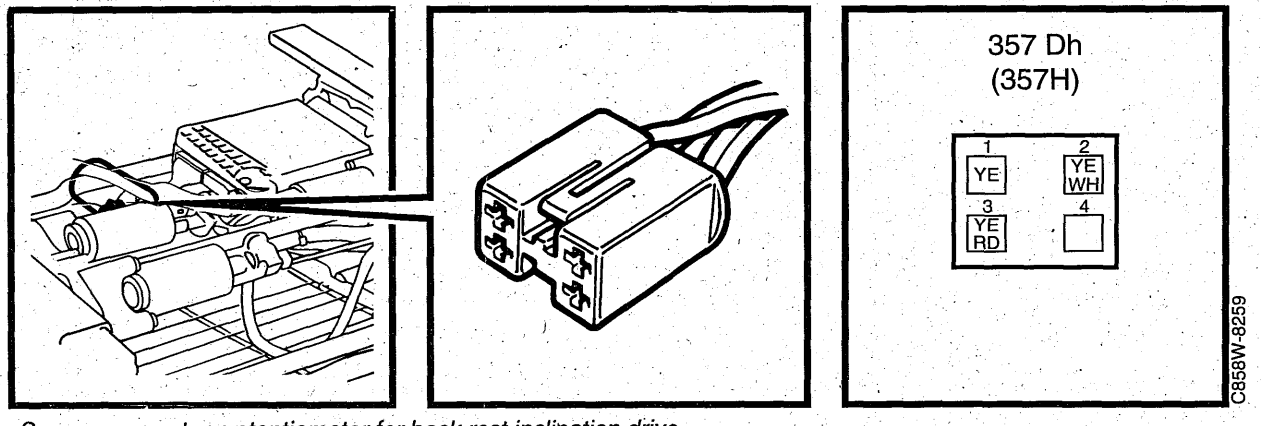
Sensor connector, potentiometer length adjustment motor



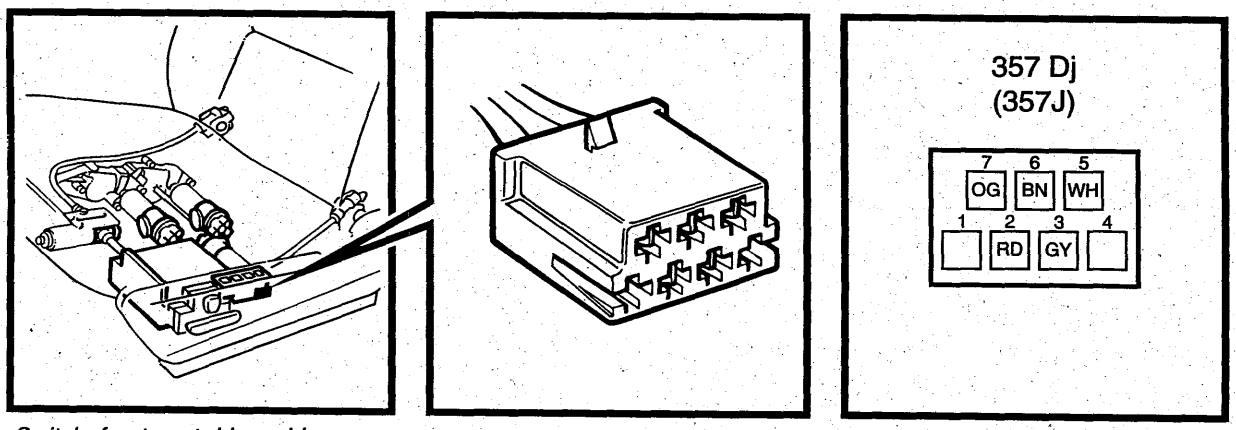
Sensor connector, forward potentiometer height adjustment



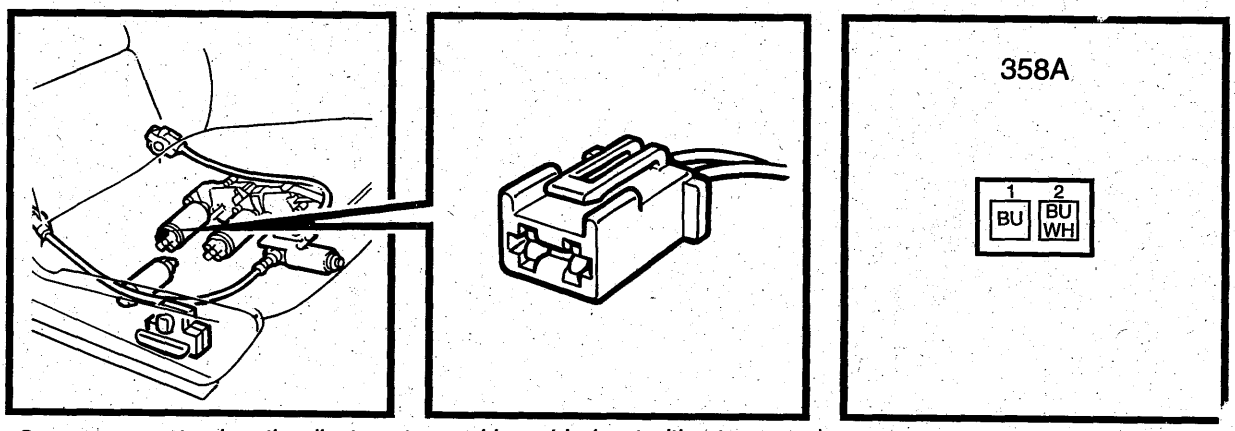
Sensor connector, potentiometer rear height adjustment motor



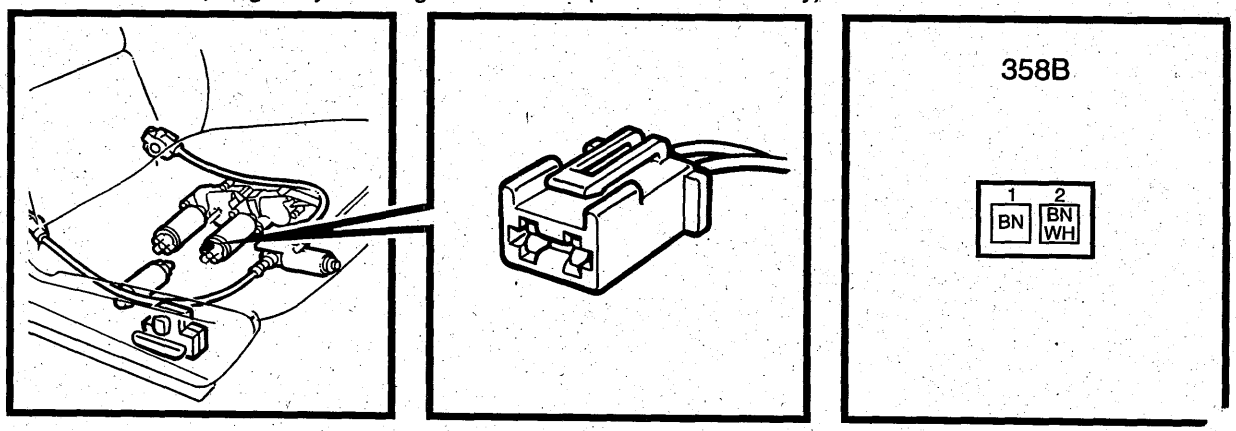
Sensor connector, potentiometer for back rest inclination drive



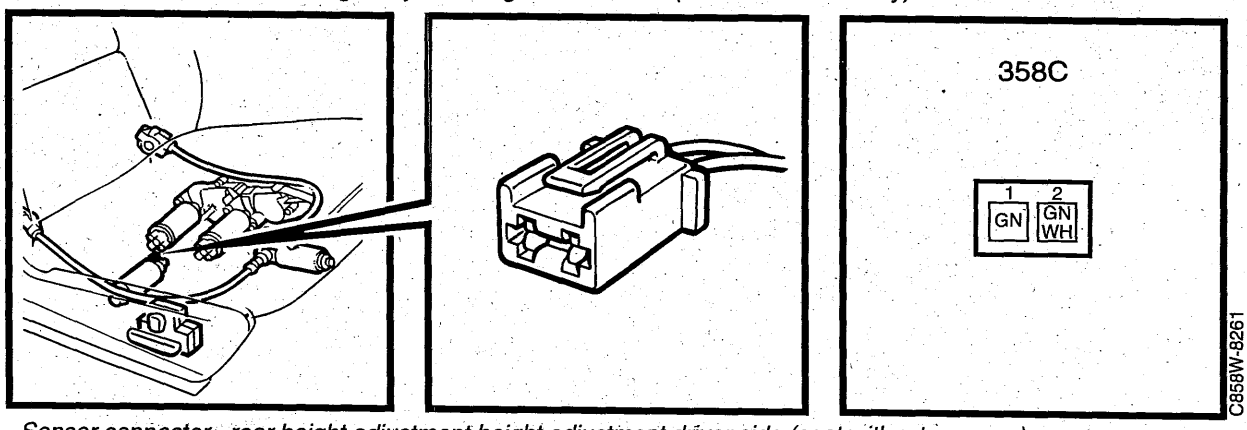
Switch, front seat driver side



Sensor connector, length adjustment gear driver side (seat without memory)

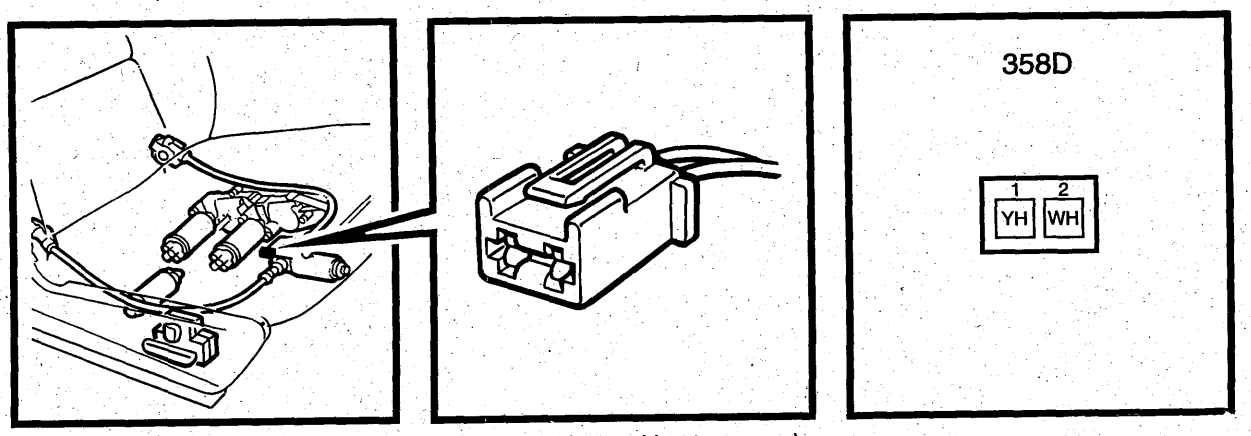


Sensor connector, forward height adjustment gear driver side (seat without memory)

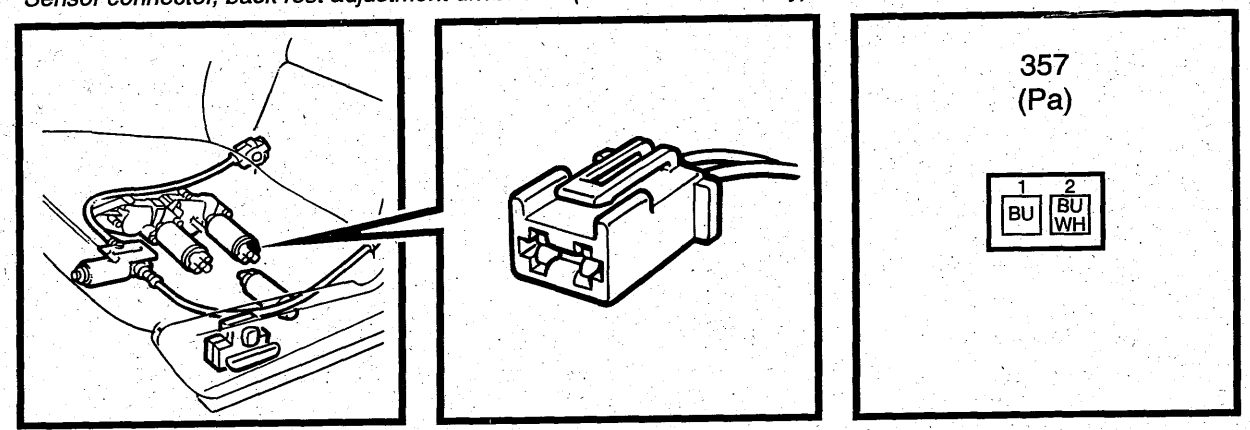


C858W-8261

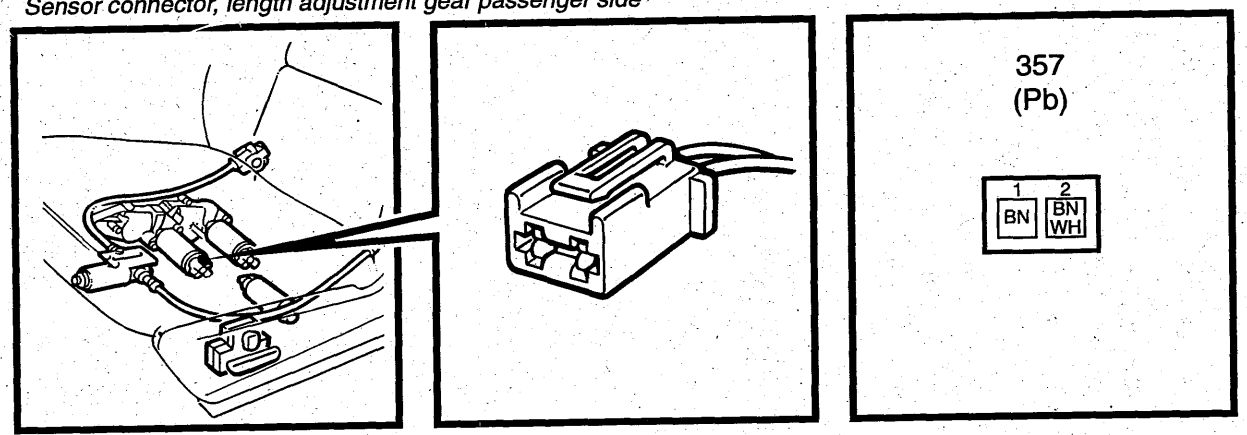
Sensor connector , rear height adjustment height adjustment driver side (seat without memory)



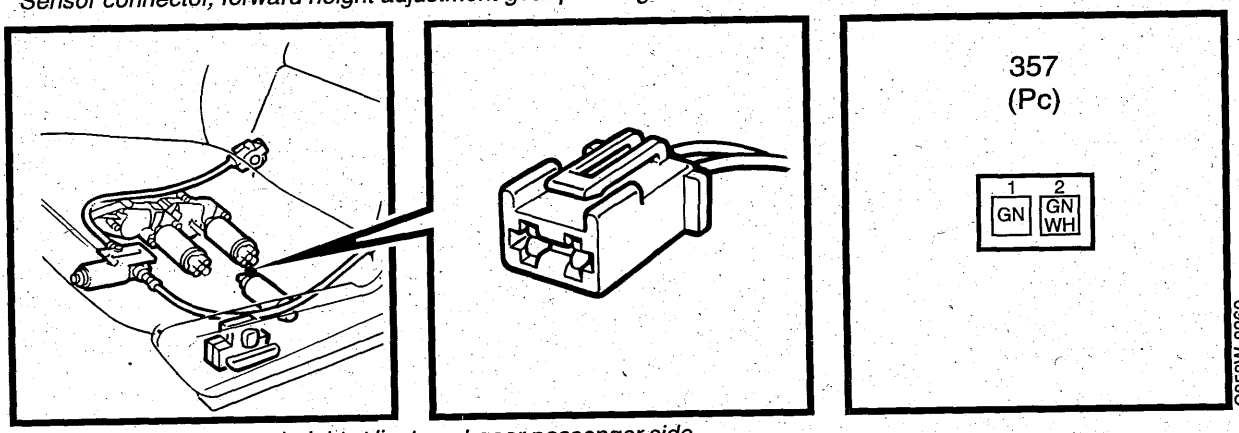
Sensor connector, back rest adjustment driver side (seat without memory)



Sensor connector, length adjustment gear passenger side

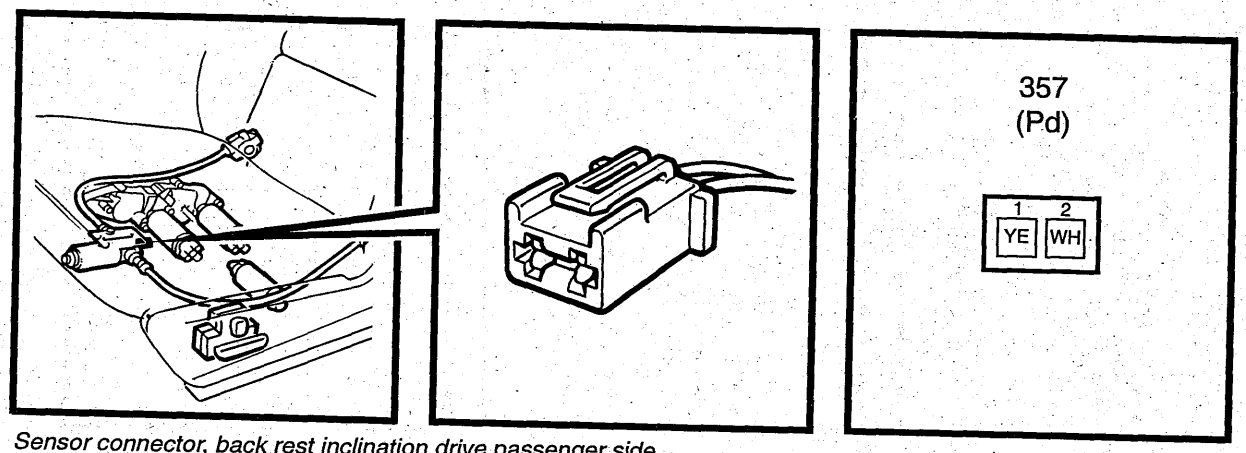


Sensor connector, forward height adjustment gear passenger side

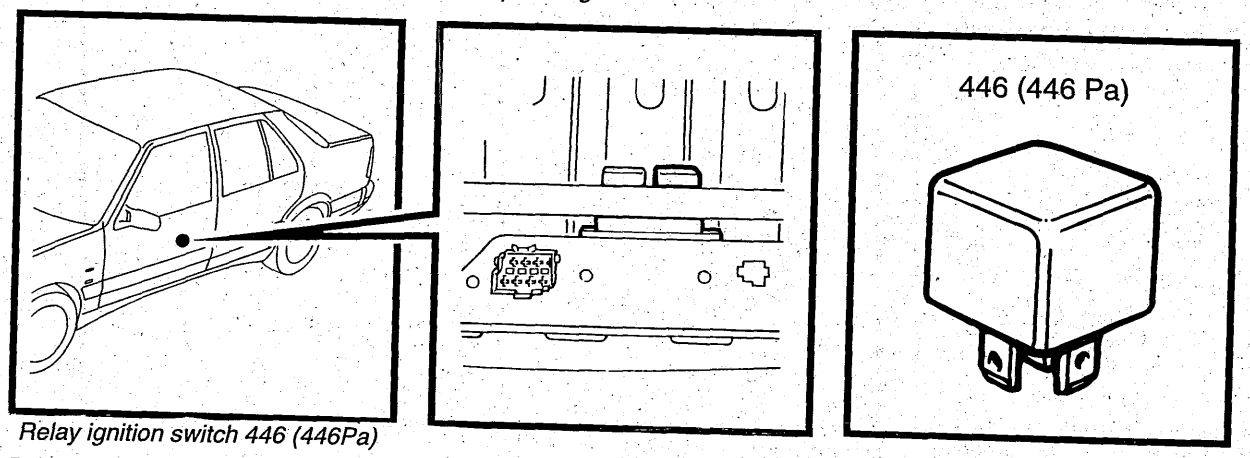


Sensor connector, rear height adjustment gear passenger side

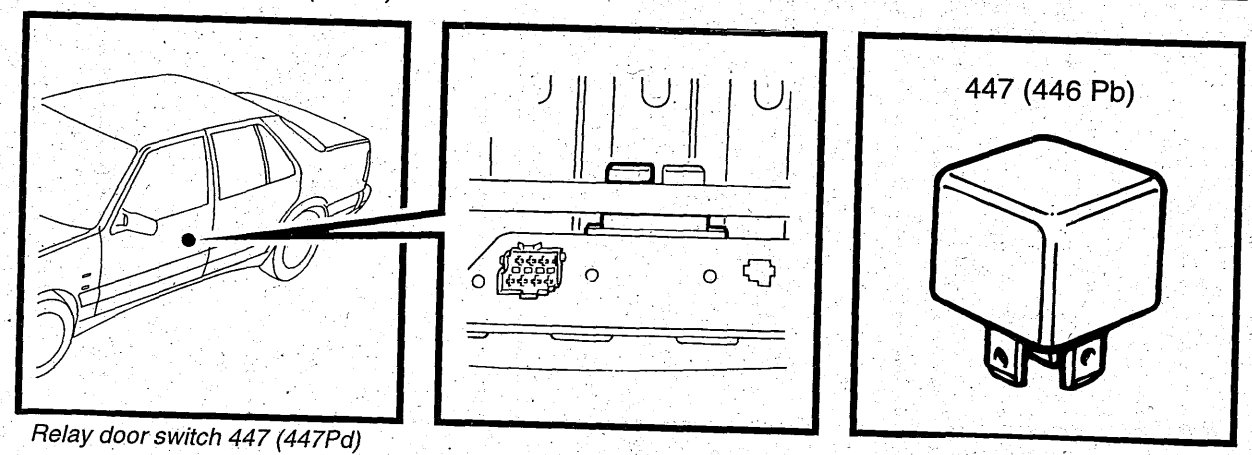
C858W-8260



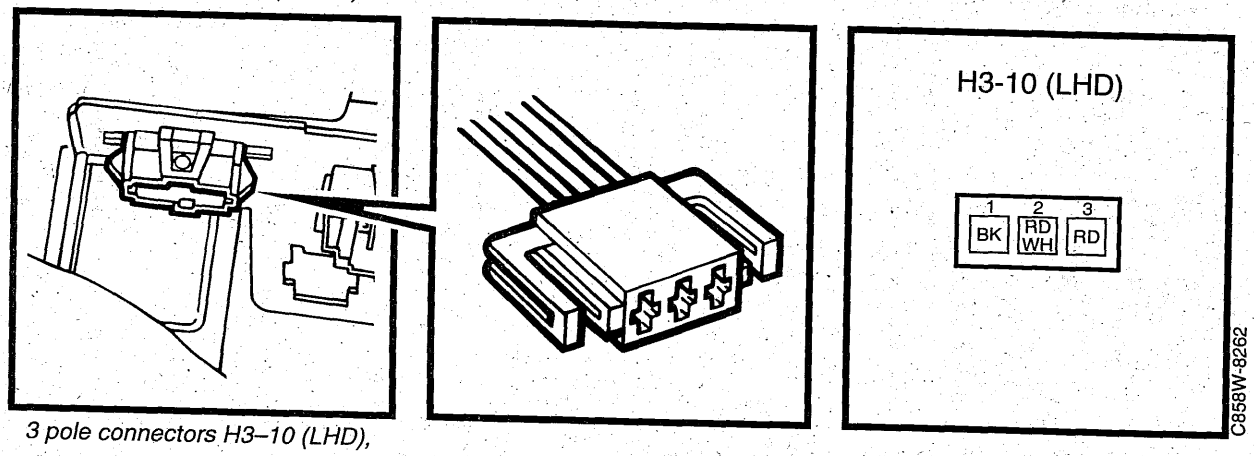
Sensor connector, back rest inclination drive passenger side



Relay ignition switch 446 (446Pa)

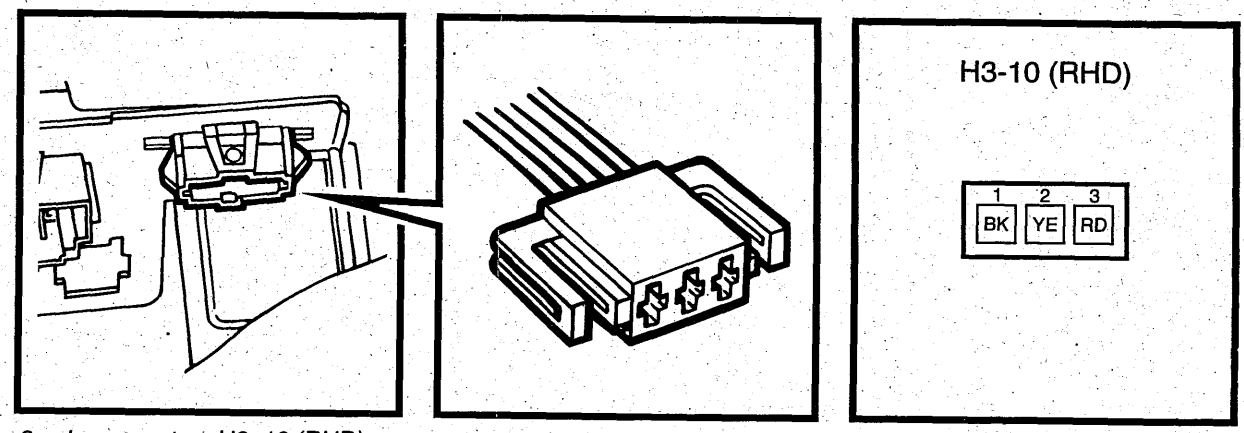


Relay door switch 447 (447Pd)

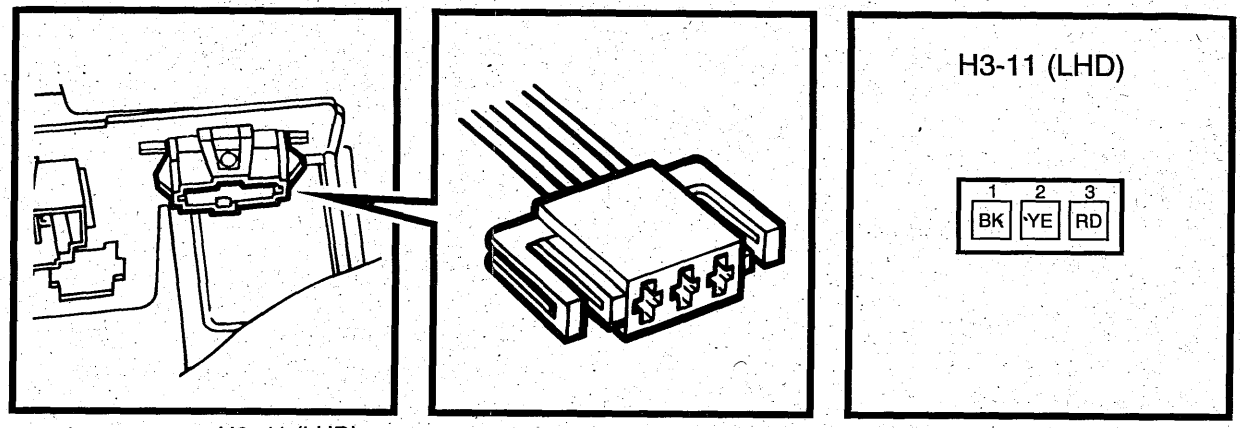


3 pole connectors H3–10 (LHD),

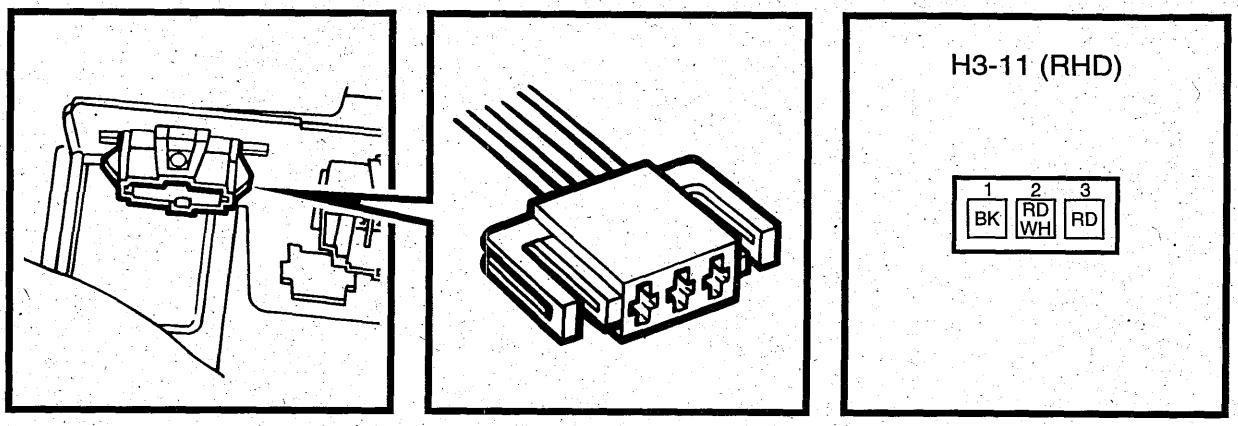
C858W-8262



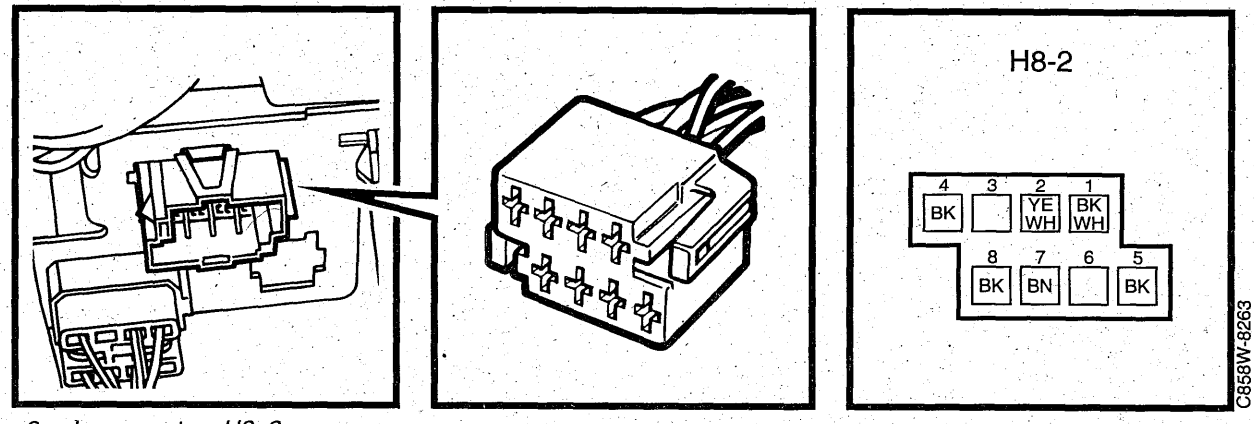
3 pole connectors H3–10 (RHD)



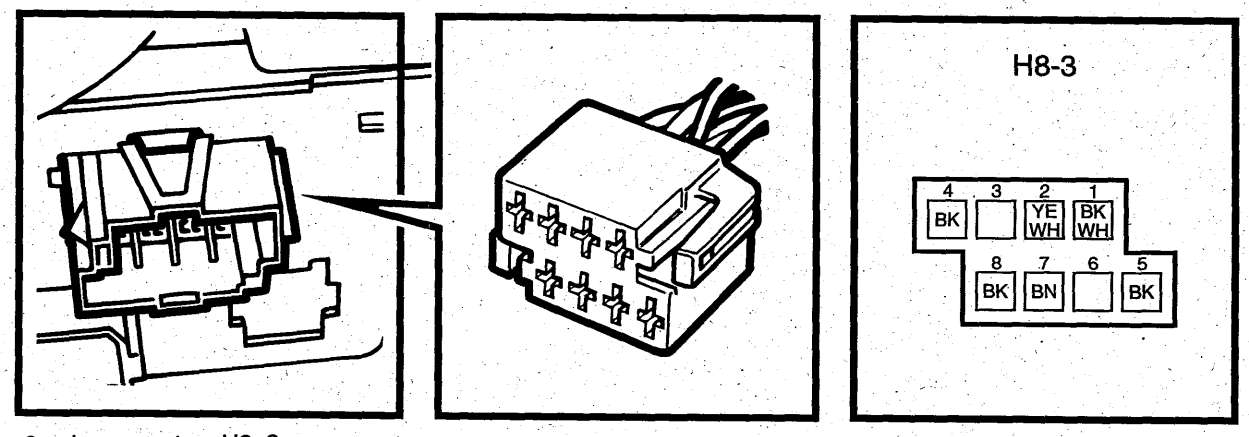
3 pole connectors H3–11 (LHD)



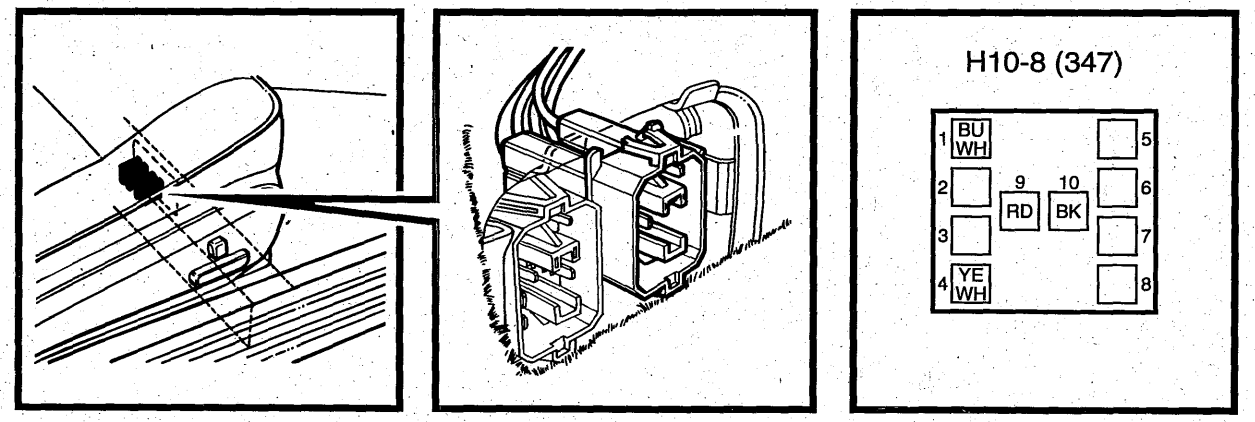
3 pole connectors H3–11 (RHD)



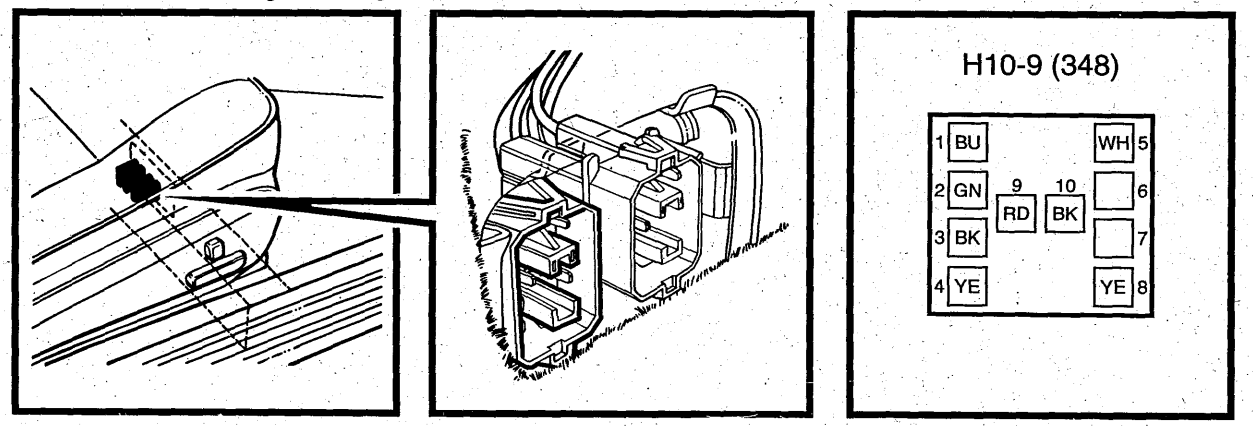
8 pole connectors H8–2



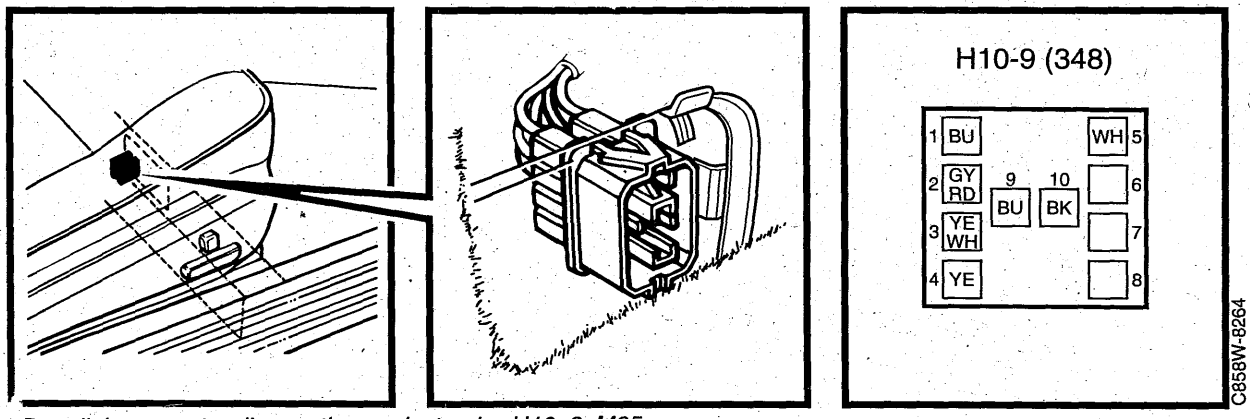
8 pole connectors H8–3



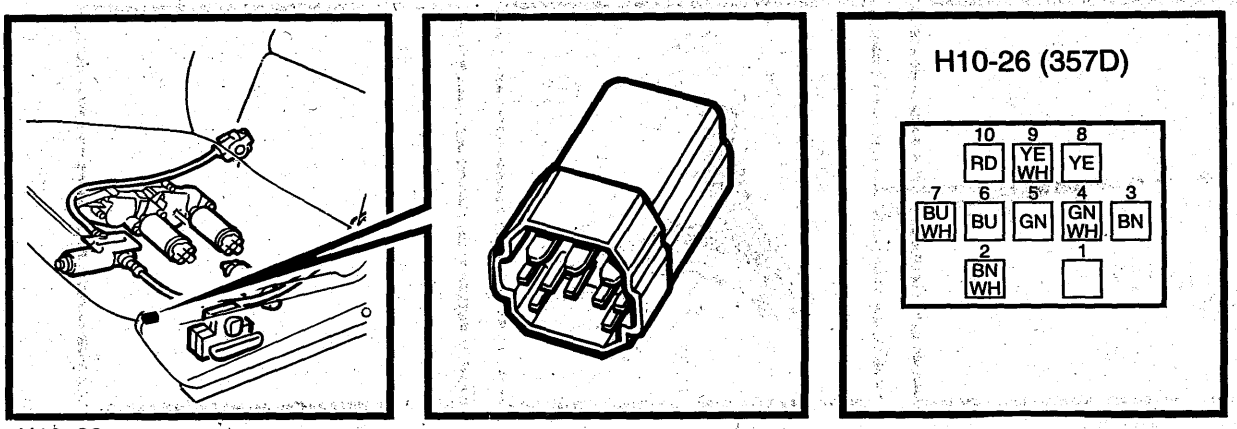
Data link connector diagnostic engine electronics R–10–8



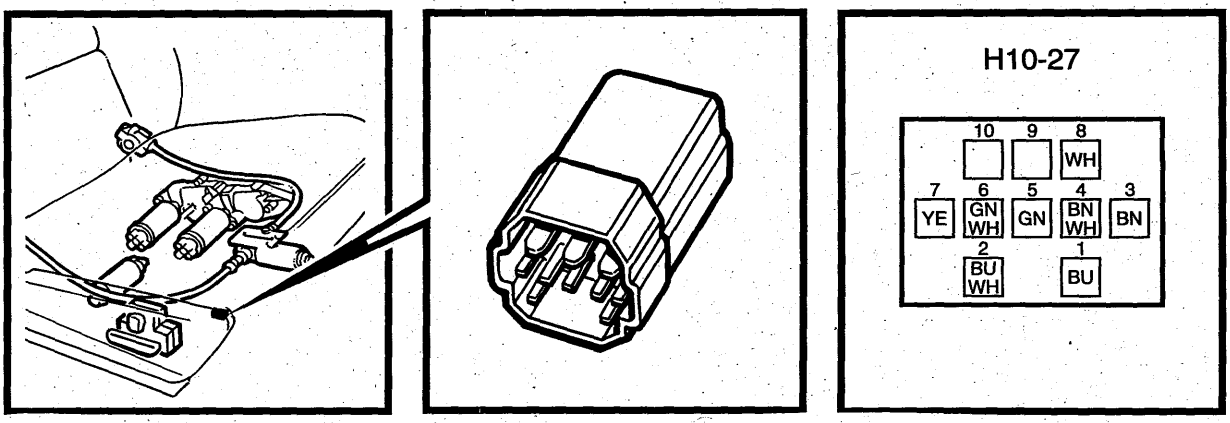
Data link connector diagnostic car electronics H10–9, –M94



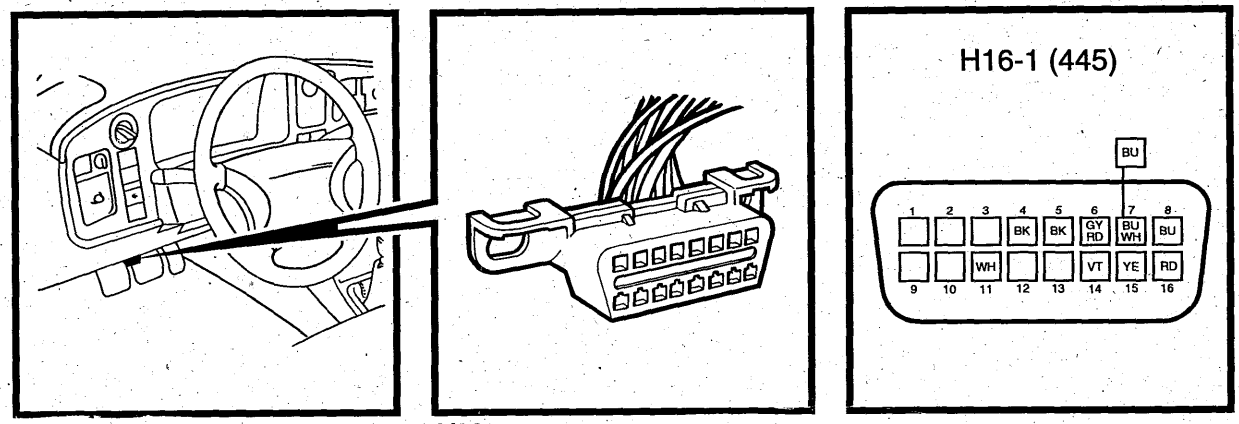
Data link connector diagnostic car electronics H10–9, M95



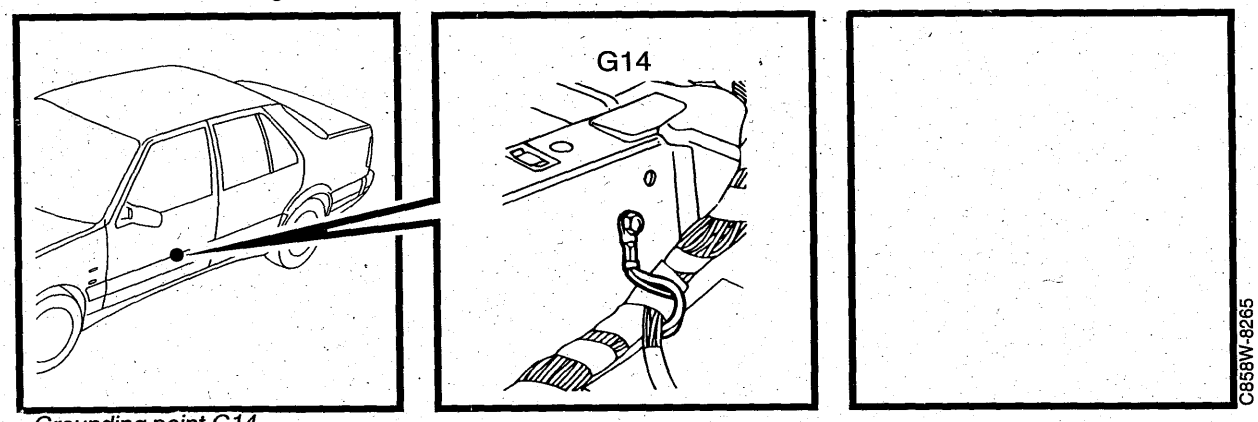
H10–26



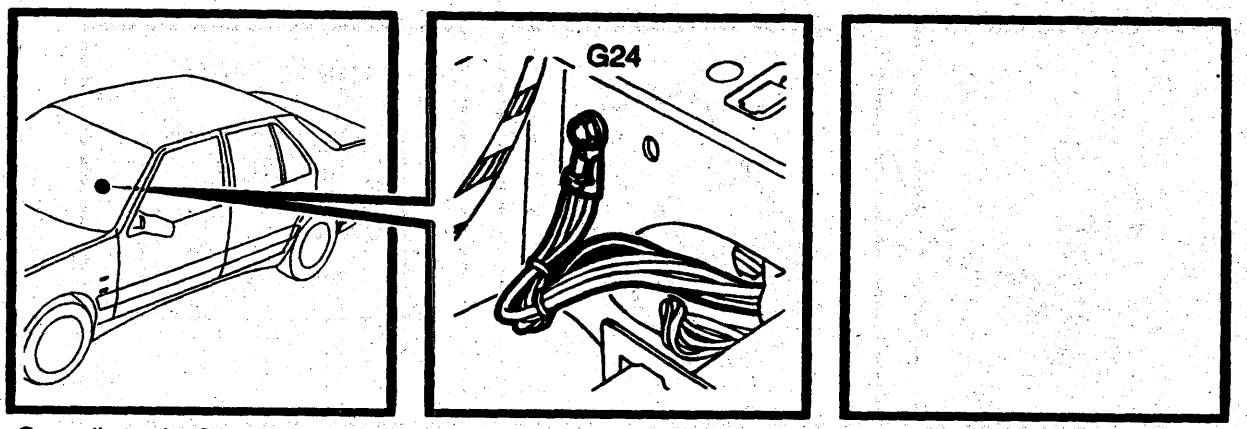
H10–27



Data link connector diagnostic H16–1 M96



Grounding point G14



Grounding point G24

Complete contents list

Workshop Information

User feedback

To

Saab Automobile AB
Workshop Information, MLVI
S-461 80 TROLLHÄTTAN
SWEDEN

Telefax phone no.: +46 520 84370

From

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Comments/suggestions

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Manual concerned: .....

It is important that Saab technicians in the field regard the Workshop Service Manual as their bible, and we therefore strive to make the manual easy to use and to provide accurate information.

By letting us have your views on this manual you will be helping us to maintain a high standard in our literature.

Note down any comments or suggestions you may have on a sheet of paper or take a copy of this page and send us your views at the above address. For greater convenience, you are also welcome to send your comments by fax, using the telephone number shown.

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SAAB

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