

**Body
(excl. Air Conditioner)**

**Repairs and
Maintenance**

Section

8

**Body
(excl. Air
Conditioner)**

240, 260

VOLVO

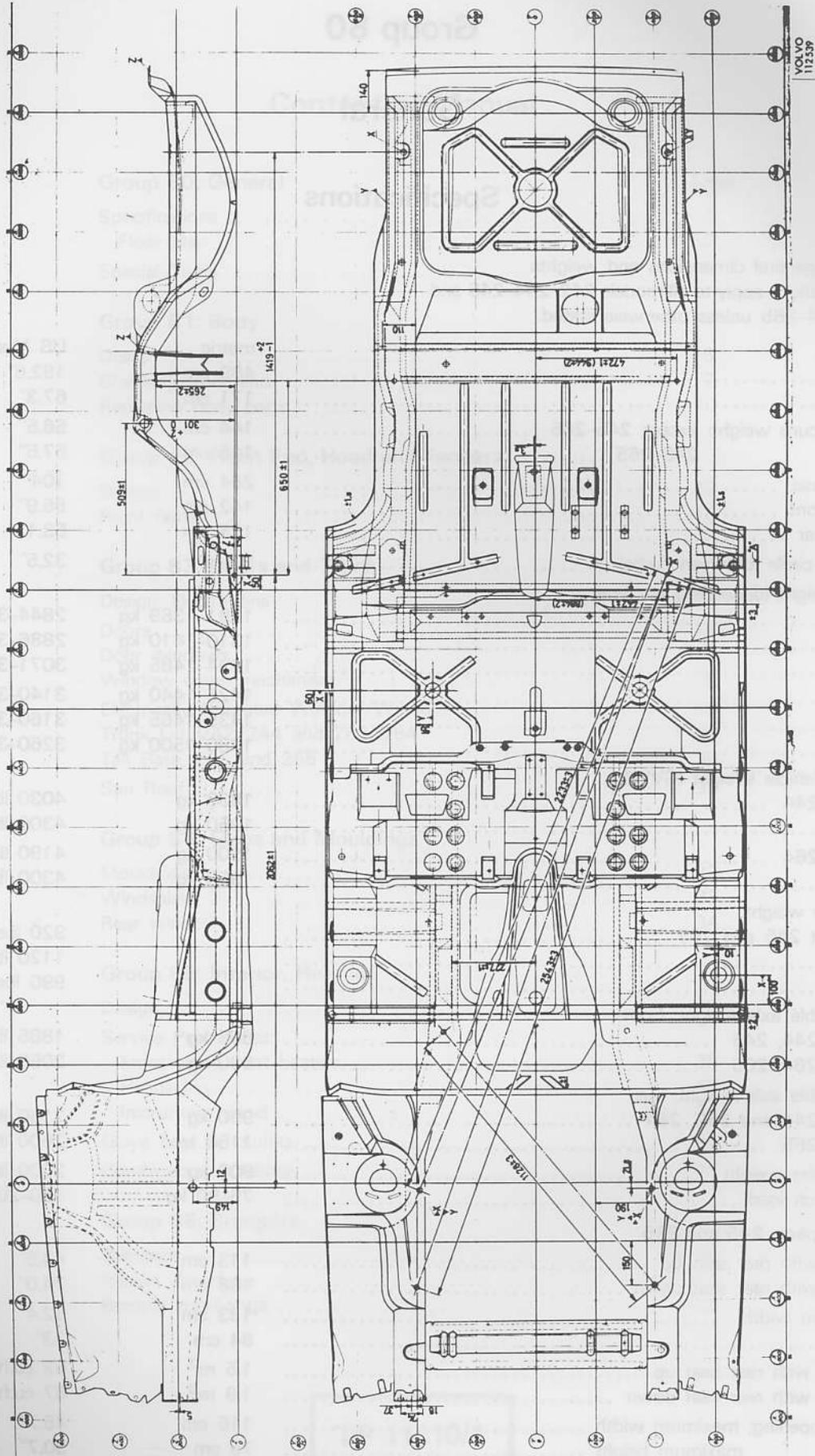
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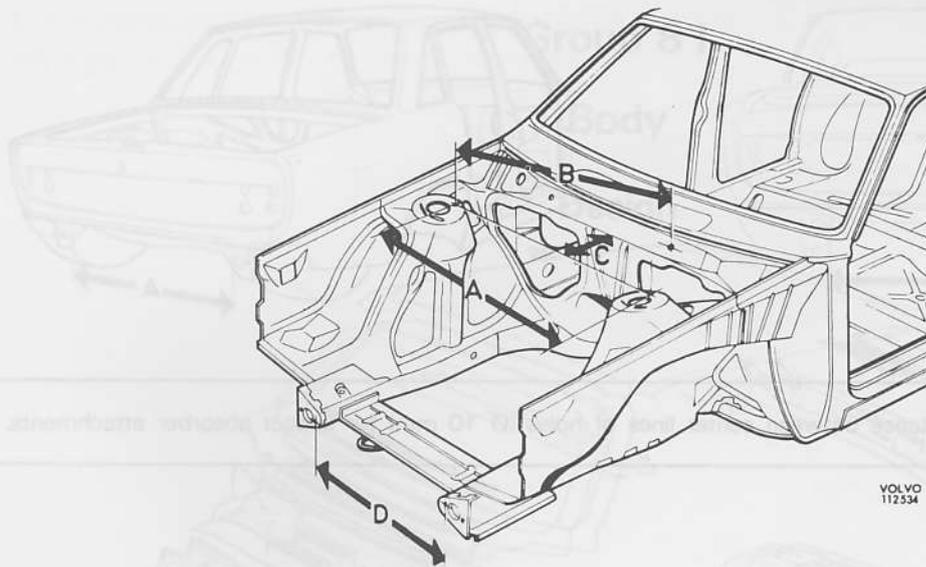
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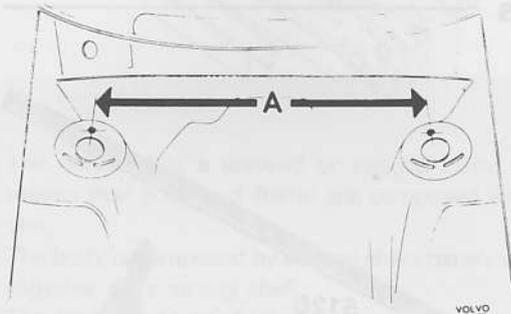
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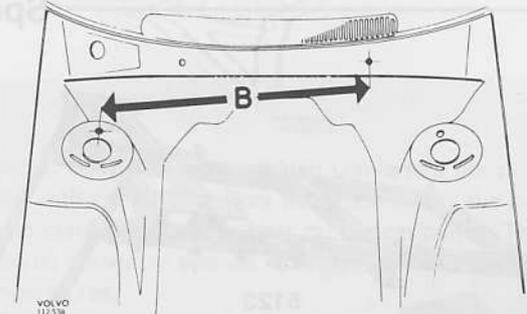
Floor plan



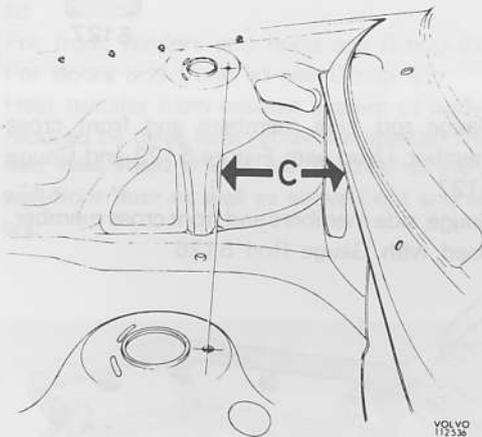
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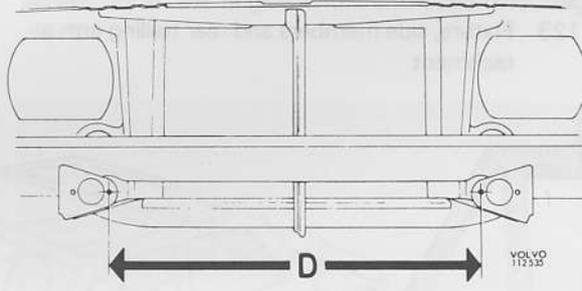
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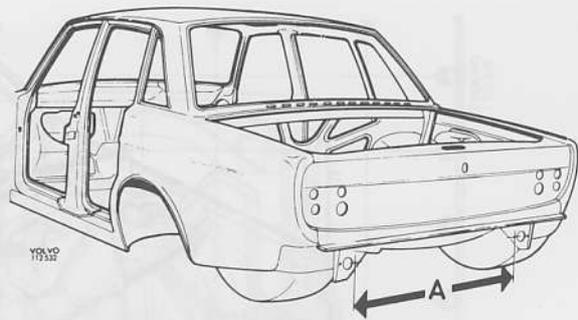
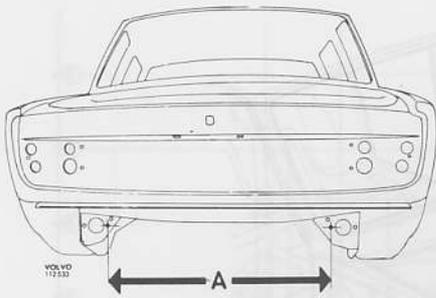
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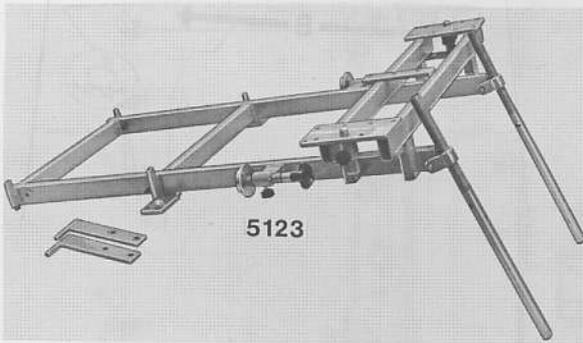
A = 1020 ± 2 mm	Distance between holes (Ø 9 mm) for strut attachment.
B = 855.5 ± 2 mm	Distance from strut attachment hole (Ø 9 mm) center to hole (Ø 16 mm) in firewall (diagonally measured).
C = 236 ± 2 mm	Distance from strut attachment hole (Ø 9 mm) center to front end of firewall flange.
D = 762 ± 2 mm	Distance between center lines of holes (Ø 10 mm) for impact absorber attachments.

Specifications

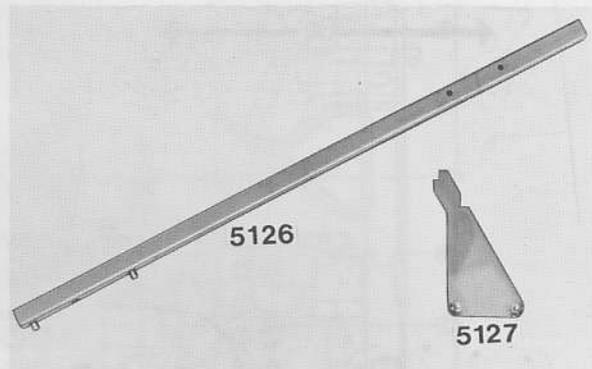


$A = 812 \pm 2 \text{ mm} =$ distance between center lines of holes ($\varnothing 10 \text{ mm}$) for impact absorber attachments.

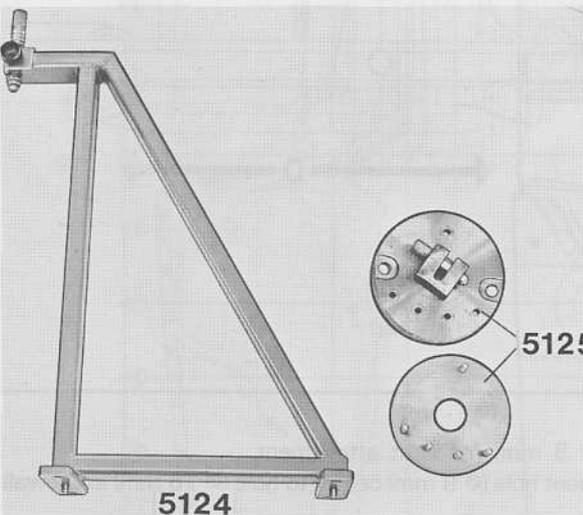
Special Tools



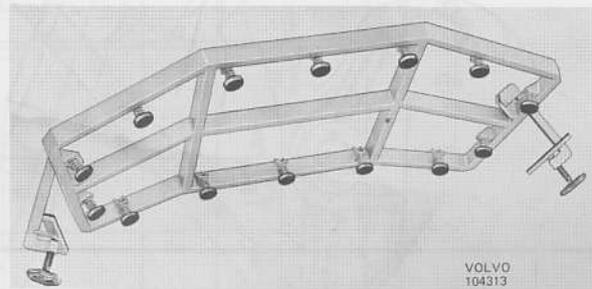
999 (SVO)
5123 Fixture, side members and rear trailing arm attachment



5126 Gauge rod, side members and front cross member. Used with Fixture 5123 and Gauge 5127.
5127 Gauge, side members and front cross member. Used with Gauge Rod 5126



5124 Fixture, wheel housing. Used in conjunction with Fixture 5123 and Abutment Plate 5125
5125 Abutment plate/gauge plate, used in conjunction with Fixture 5124.

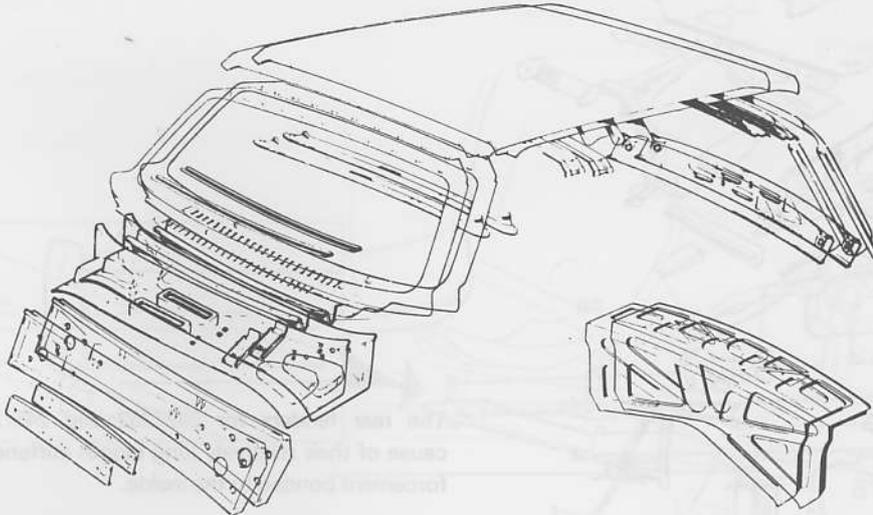


2899 Fixture for windshield installation

Group 81

Body

Design



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The vehicle has a unitized or integral body, which means that body and frame are composed into one unit.

The body is composed by several sheet panels welded together to a strong shell.

The body could be divided into several subsections: floor, sides, roof, front, fenders, hood, doors and trunk lid.

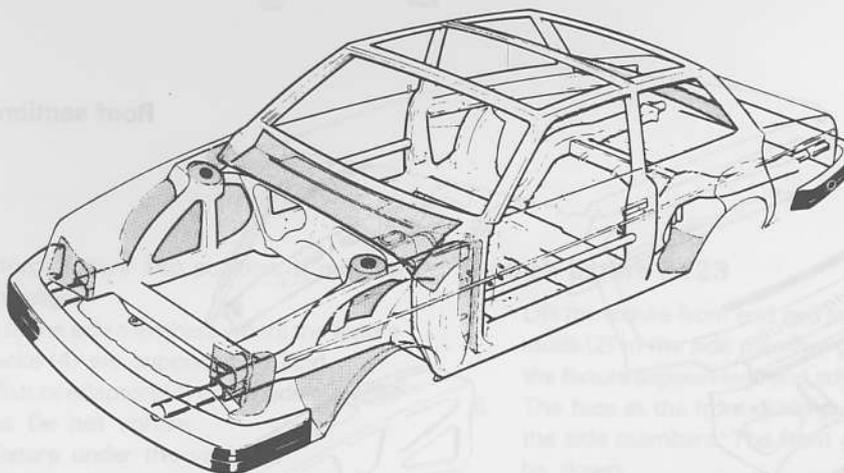
For front, fenders and hood see Group 82.

For doors and trunk lid see Group 83.

Heat transfer from exhaust system to body is being reduced by three heat protection shields. The galvanized steel sheet shields are attached at the joint fire-wall-front floor as well as above front and rear mufflers.

Vehicles equipped with catalytic converters are provided with extra heavy floor insulation above the catalytic converter and the heat protection plates. The catalytic converter system increases exhaust system temperatures.

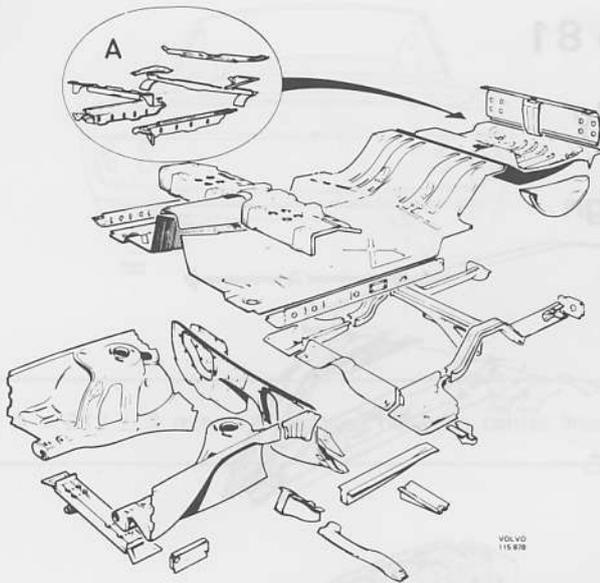
Self-adhesive foam rubber provides noise insulation. A splash guard under the front engine compartment also acts as an engine noise suppressor. Some models with automatic transmission are also fitted with a noise screen under the engine and transmission housing.



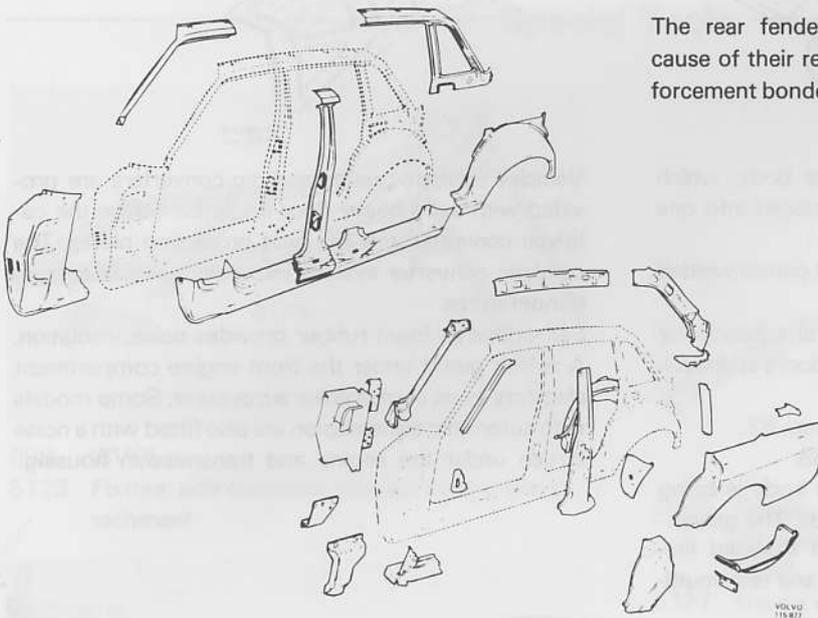
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Hot-dipped galvanized (zinc coated) steel is used for many critical sheet metal components. These components are normally subjected to high weather exposures. There are numerous additions on the front

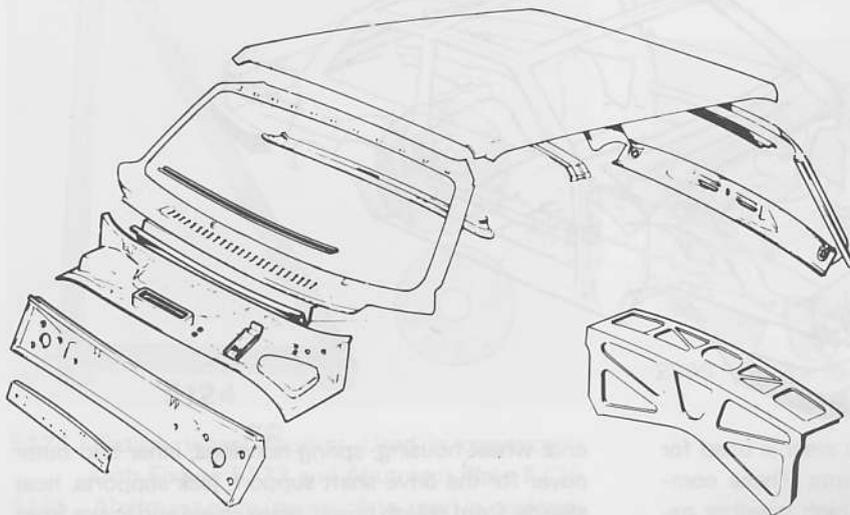
end: wheel housing, spring housings, inner and outer cover for the drive shaft support, jack supports, heat shields, front splash guard, noise shield and lower front panel beneath the grille.



The floor section is the same for all models.
The rear floor panels for 245 and 265 are reinforced with a frame A, above.

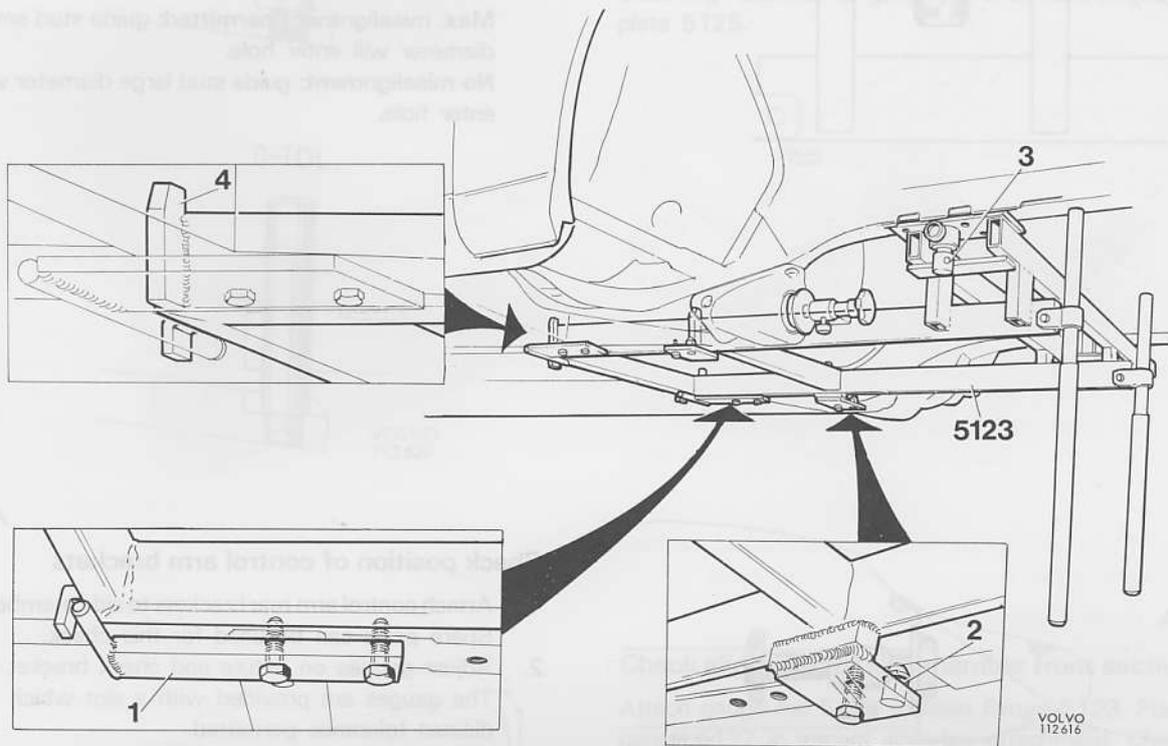


The rear fenders for 242/262 and 245/265 are because of their relatively long length stiffened by a reinforcement bonded to the inside.



Roof sections

Checking front end with tools 999 5123, -5124, -5125, -5126 and -5127



1. Adaptor
2. Rear guide stud
3. Front guide stud
4. Abutment block

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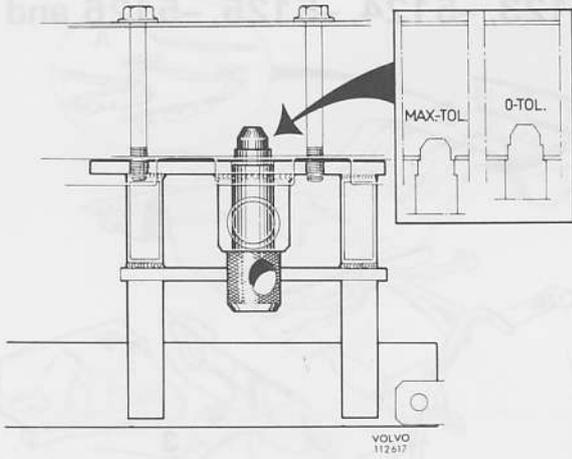
A1

NOTE: Do not force fixture into position. It may be distorted and misalign.

1. Clean areas of the side members where the fixture support blocks (4) are supposed to land.
2. Attach the fixture adaptors (1) to the side member gauge holes. Do not tighten.
3. Place the fixture under the vehicle.
4. Lift the fixture rear end and hook it on the adaptors.

Attach fixture 5123

5. Lift the fixture front end and attach the rear guide studs (2) to the side member gauge holes. Lower the fixture support legs and adjust height position.
6. The face at the front guide studs (3) should abut the side members. The front guide studs should be down.
7. Attach retaining screws at the rear guide studs (2).
8. Tighten the adaptors. The fixture abutment blocks should touch the side member flanges.



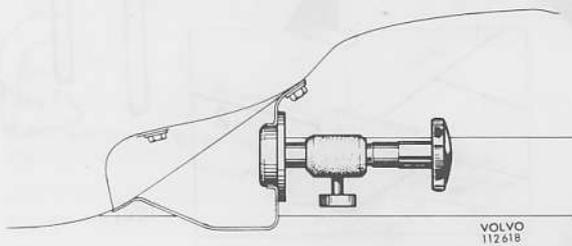
A2

Check side members

1. Check that side members align at front guide studs.
2. Install retaining screws at front guide studs. Use front axle member retaining screws.
3. Align front guide studs in side member gauge holes.

Max. misalignment permitted: guide stud small diameter will enter hole.

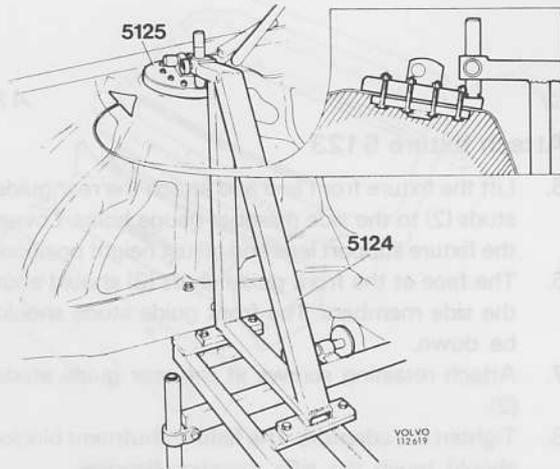
No misalignment: guide stud large diameter will enter hole.



A3

Check position of control arm brackets

1. Attach control arm rear brackets to side members. Spare parts can be used for this check.
2. Adjust gauges on fixture and check bracket fit. The gauges are provided with a slot which indicates tolerance permitted.

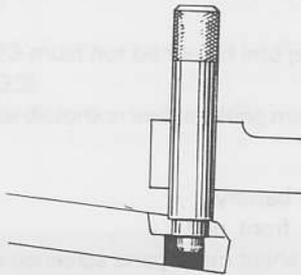


A4

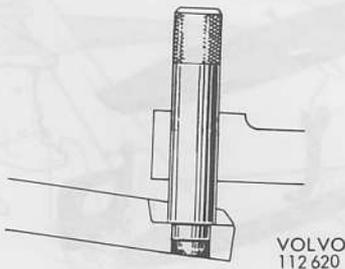
Check wheel housing height and side alignment

1. Install gauge plate 5 125 in one of the wheel housings.
2. Attach fixture 5124 to previously installed fixture 5123.

MAX-TOL.



0-TOL.



A5

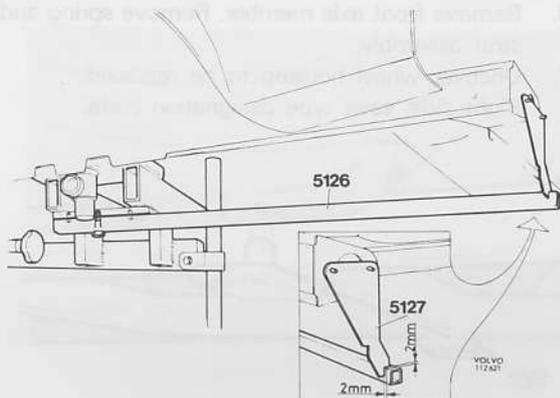
Check wheel housing position, using gauge of fixture 5124

Max. tolerance permissible:

Side: small diameter of gauge will enter hole of gauge plate 5125.

Zero tolerance:

Side: large diameter of gauge will enter hole of gauge plate 5125.



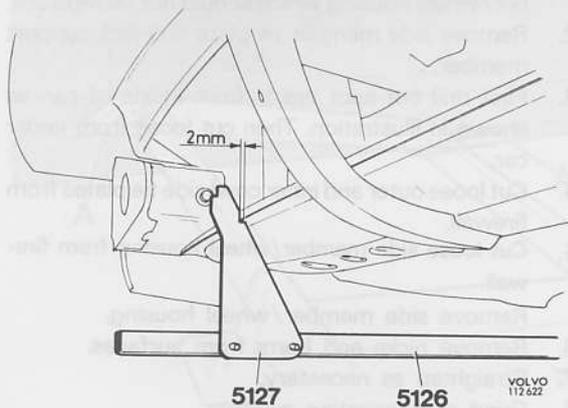
A6

Check alignment of side member front section

Attach gauge rod 5126 to main fixture 5123. Place gauge 5127 in impact absorber attachment. Check side member alignment.

Max. readings permitted: 0 mm and 4 mm

Zero reading: 2 mm



A7

Check alignment of front cross member

1. Place gauge 5127 on gauge rod 5126. Check alignment of front member.

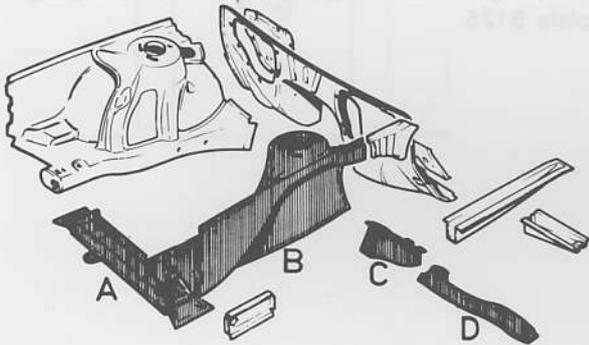
Max readings permitted: 0 mm and 4 mm

Zero reading: 2 mm

2. Check other side.

Instructions on how to use special tools 5123 to 5127 when replacing body parts

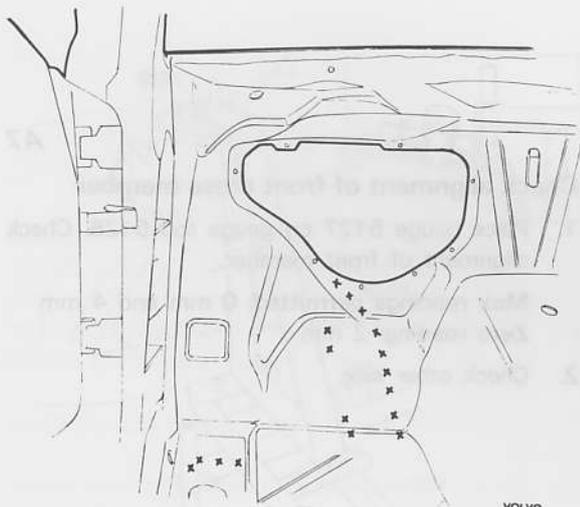
This instruction deals with a collision damage which requires replacement of those parts screened in illustration:



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Modified and adapted, this instruction could be used for most other front end collision damages.

- A. Front member
- B. Front side member and wheel housing
- C. Side member tie plate
- D. Jack support member



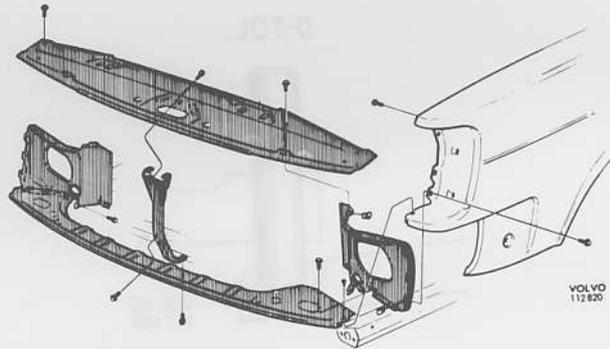
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1. Check that the front member is not bent.
2. Install retaining springs at front guide studs.

B1

Uncover

1. Remove battery.
2. Uncover front end.
3. Remove sheet metal parts screened in illustration below:



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4. Remove both front fenders.
5. Remove engine and transmission.
6. Remove front axle member. Remove spring and strut assembly.
7. Uncover wheel housing to be replaced.
Right side: save type designation plate.

B2

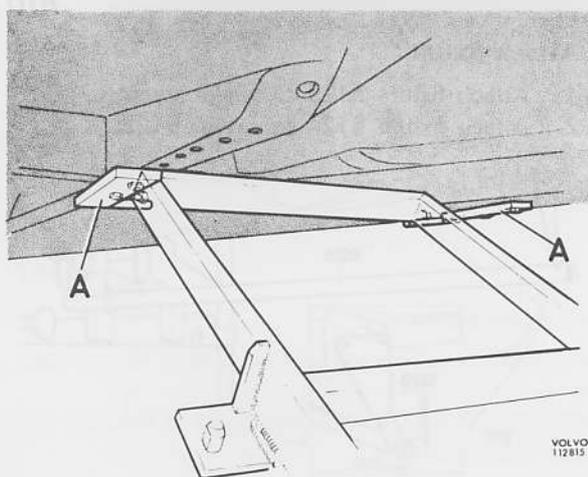
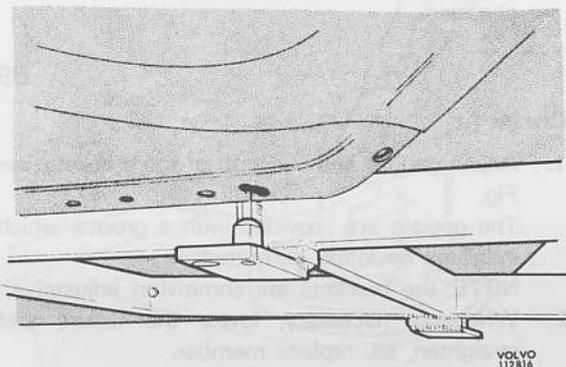
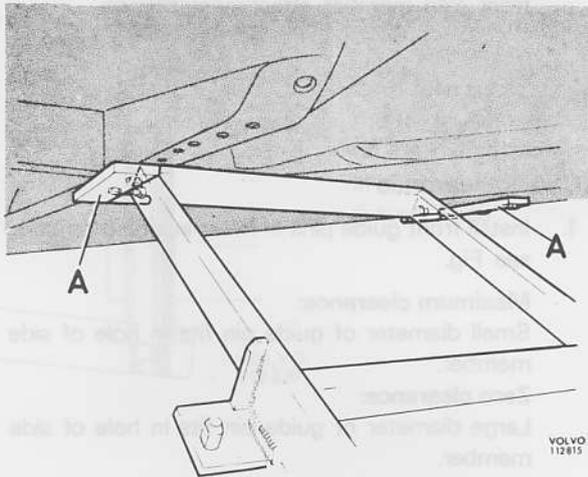
Remove sheet metal panels

1. Cut loose front member from side member/wheel housing which should not be replaced.
2. Remove side member tie plate and jack support member.
3. First drill out spot welds from inside of car, as shown in illustration. Then cut loose from under car.
4. Cut loose outer and inner cowl side tie plates from firewall.
5. Cut loose side member/wheel housing from firewall.
Remove side member/wheel housing.
6. Remove nicks and burrs from surfaces.
7. Straighten as necessary.
8. Grind all connecting surfaces.

— Checking body alignment (wheel housing and front members not replaced) —

Fixture 5123 must not be forced into position. (Operations 15-23).

Forces cause distortion and resulting measurement errors.



The fixture must not be installed when straightening members or wheel housings. In those cases fixture front part should be released. As alignment goes on, fixture front end can be raised to check alignment.

B3

Prepare

Use a scraper to clean inside of front side members (intermediate and rear parts)

B4

Attach fixtures

Attach mounting brackets (A) for fixture 5123 to rear ends of side members.

Let mounting brackets hang loose.

Fit fixture 5123 under vehicle. Raise fixture rear end and hook it to mounting brackets.

B5

Align

Raise fixture front end and guide rear guide pins into the holes of side members.

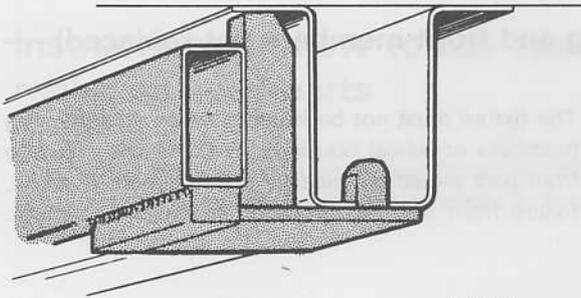
Lower support legs and adjust height.

NOTE: the front guide pins should not be used.

B6

Attach

Install attachment screws at rear guide pins. Then tighten mounting brackets A.

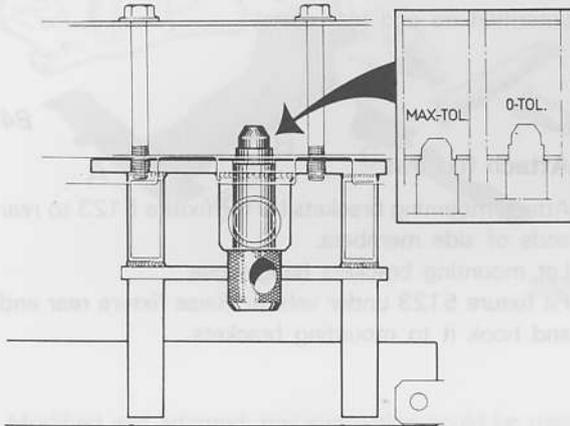


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B7

Check fit

1. The fixture support pads should now abut the flanges of the side members. If necessary, lower fixture and align members.
2. Check that the side members abut surfaces at front guide pins.
3. Install attachment screws at front guide pins. Use front axle member attachment screws.



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B8

Check clearance

1. Install front guide pins in holes in side members, see Fig.

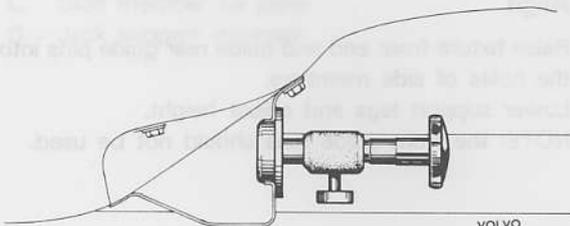
Maximum clearance:

Small diameter of guide pin fits in hole of side member.

Zero clearance:

Large diameter of guide pin fits in hole of side member.

2. Whenever necessary, lower fixture and straighten member.
3. Attach trailing arm bracket to side member, intermediate part. Spare parts can be used when checking.

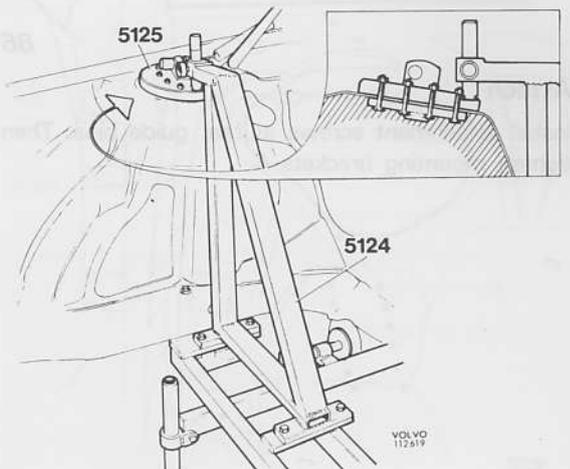


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B9

Check fit

1. Adjust gauges and check fit of the brackets, see Fig. The gauges are provided with a groove which indicates deviation permitted. NOTE: the brackets are somewhat adjustable.
2. Whenever necessary, lower the fixture and straighten, alt. replace member.



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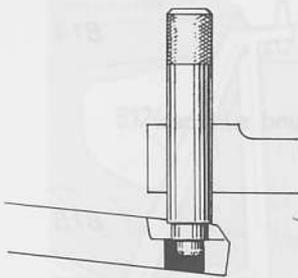
B10

Attach fixture

1. Attach fixture 5125 to wheel housing.
2. Attach fixture 5124 to fixture 5123.

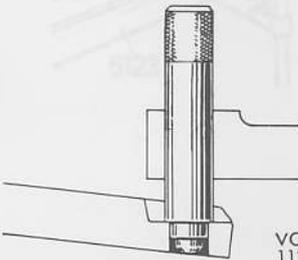
B11

MAX.-TOL.



Maximum tolerance:
the small diameter
of the gauge fits
in the hole of
fixture 5125

0-TOL.

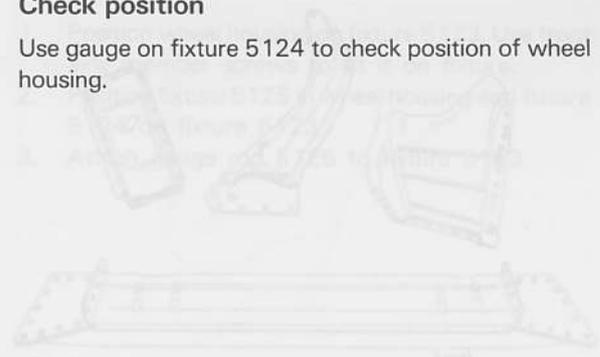


Zero tolerance:
the large diameter
of the gauge fits
in the hole of
fixture 5125

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Check position

Use gauge on fixture 5124 to check position of wheel housing.

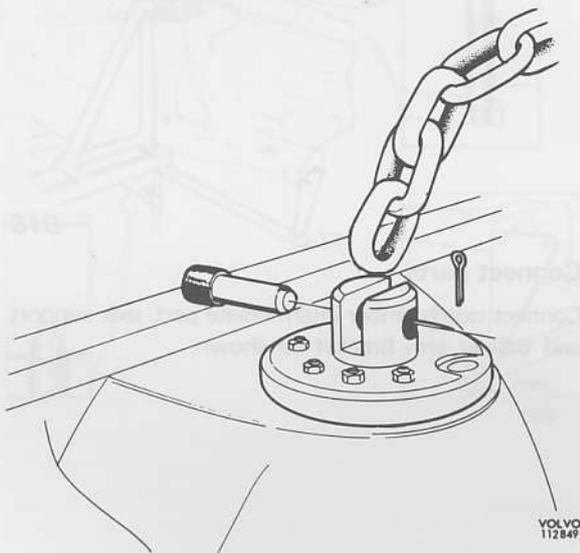


B12

Straighten

Whenever necessary, remove fixture and straighten wheel housing.

A pull chain can be attached to fixture 5125, see Fig.



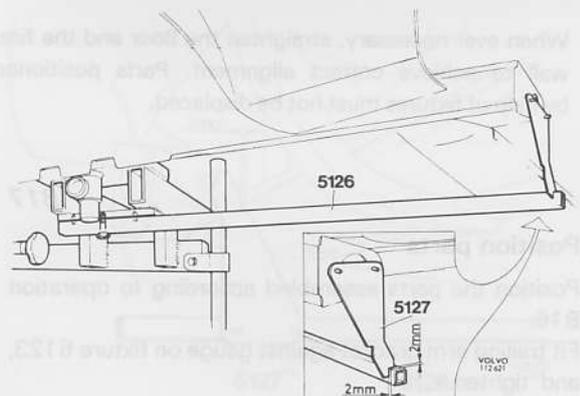
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B13

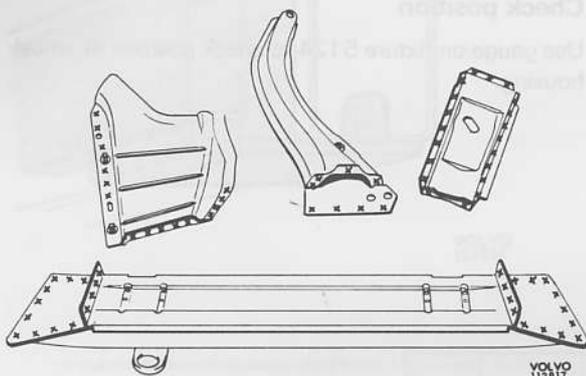
Attach fixtures

1. Attach gauge rod 5126 to fixture, see Fig.
2. Place gauge 5127 in bumper shock absorber attachment and check position of side member, see Fig.
3. Whenever necessary, lower fixture and straighten member.
4. Remove fixture 5124, fixture 5125 and gauge rod 5126.



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Preparations prior to installation of new sheet metal parts



B14

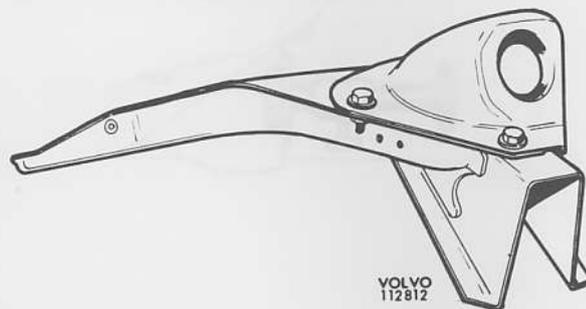
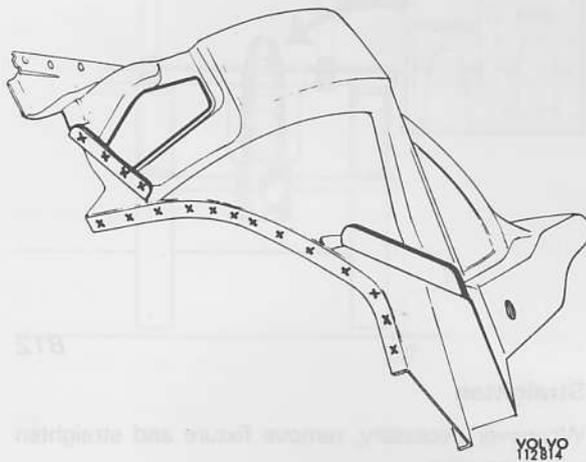
Prepare welding

Apply weld primer to all ground surfaces.

B15

Drill holes

Drill approx. 5 mm holes in the sheet metal parts illustrated below:



B16

Connect parts

Connect side member intermediate part, jack support and trailing arm bracket as shown.

Installing new sheet metal parts

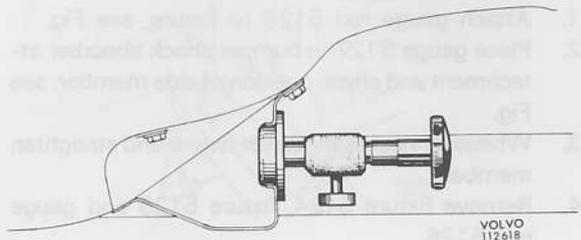
When ever necessary, straighten the floor and the fire-wall to achieve correct alignment. Parts positioned by help of fixtures must not be displaced.

B17

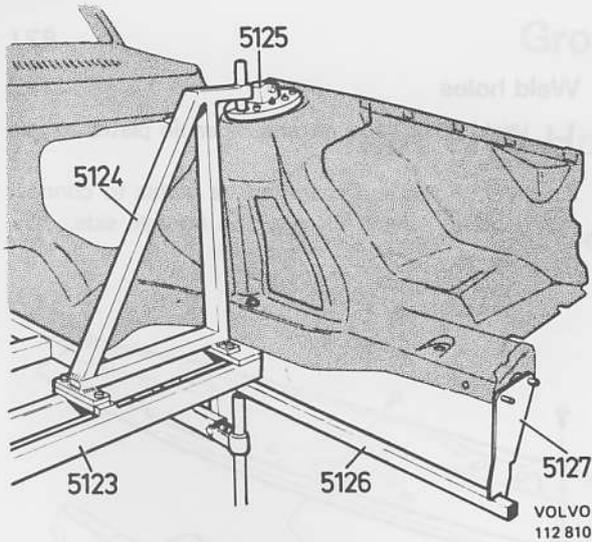
Position parts

Position the parts assembled according to operation B16.

Fit trailing arm bracket against gauge on fixture 5123, and tighten.



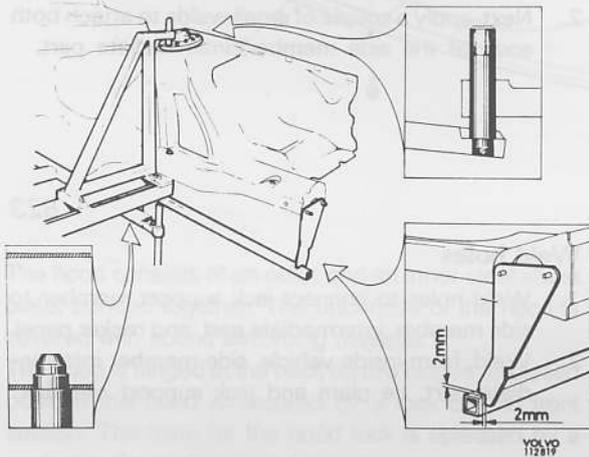
B18



Position fixtures

1. Position wheel housing on fixture 5 123. Use front axle member screws to fit it on fixture.
2. Position fixture 5 125 in wheel housing and fixture 5 124 on fixture 5 123.
3. Attach gauge rod 5 126 to fixture 5 123.

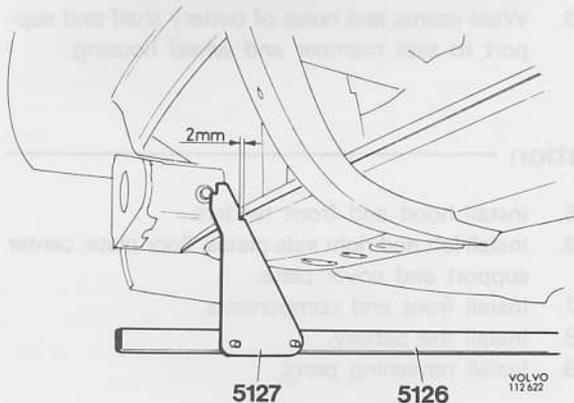
B19



Wheel housing

Adjust wheel housing to correct position.
Apply a couple of small welds to connect wheel housing member and side member.

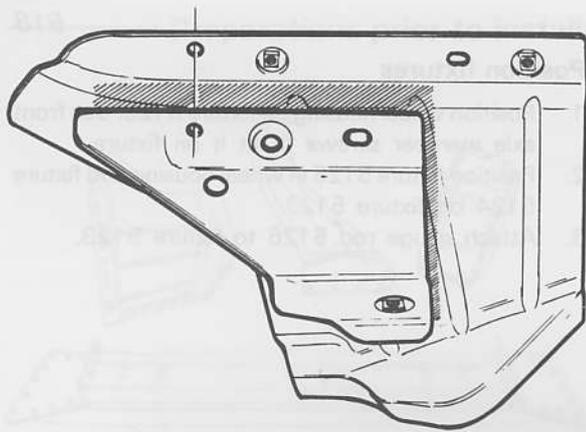
B20



Front cross member

1. Raise and position front cross member. Weld member to position (weld holes).
2. Weld wheel housing and wheel housing bracket to firewall (weld holes).
3. Adjust cover plate into position. Weld it at the bumper shock absorber attachment.

Body alignment

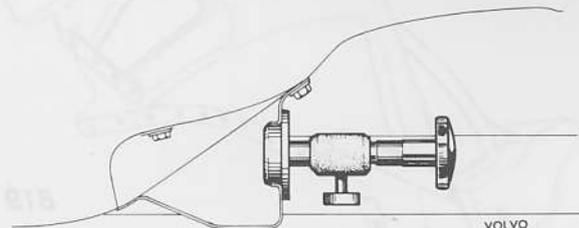


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B21

Weld holes

1. Weld holes of outer and inner tie plates to join them.
2. Weld holes and seams of tie plates to connect them to wheel housing and firewall side.

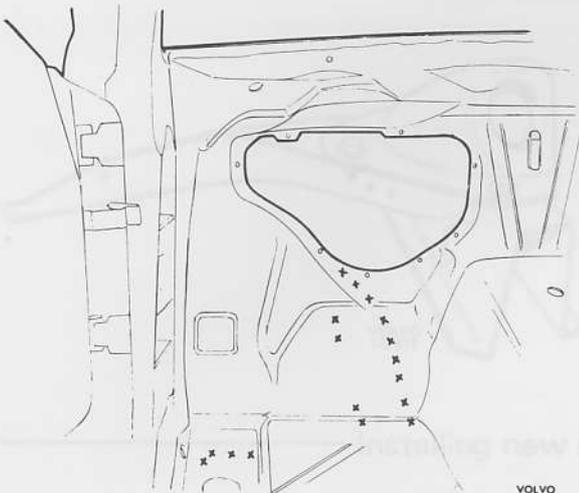


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B22

Trailing arm bracket

1. If necessary, adjust the trailing arm bracket position, see Fig. below. The gauge on fixture 5123 has a groove which indicates deviation permitted.
2. Next, apply a couple of small welds to attach both ends of the side member, intermediate part.



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B23

Weld holes

1. Weld holes to connect jack support member to side member, intermediate part, and rocker panel.
2. Weld, from inside vehicle, side member intermediate part, tie plate and jack support member:

B24

Restore

1. Remove all fixtures.
2. Weld seams at both ends of side member, intermediate part. Grind as necessary.
3. Weld seams and holes of battery shelf and support to side member and wheel housing.

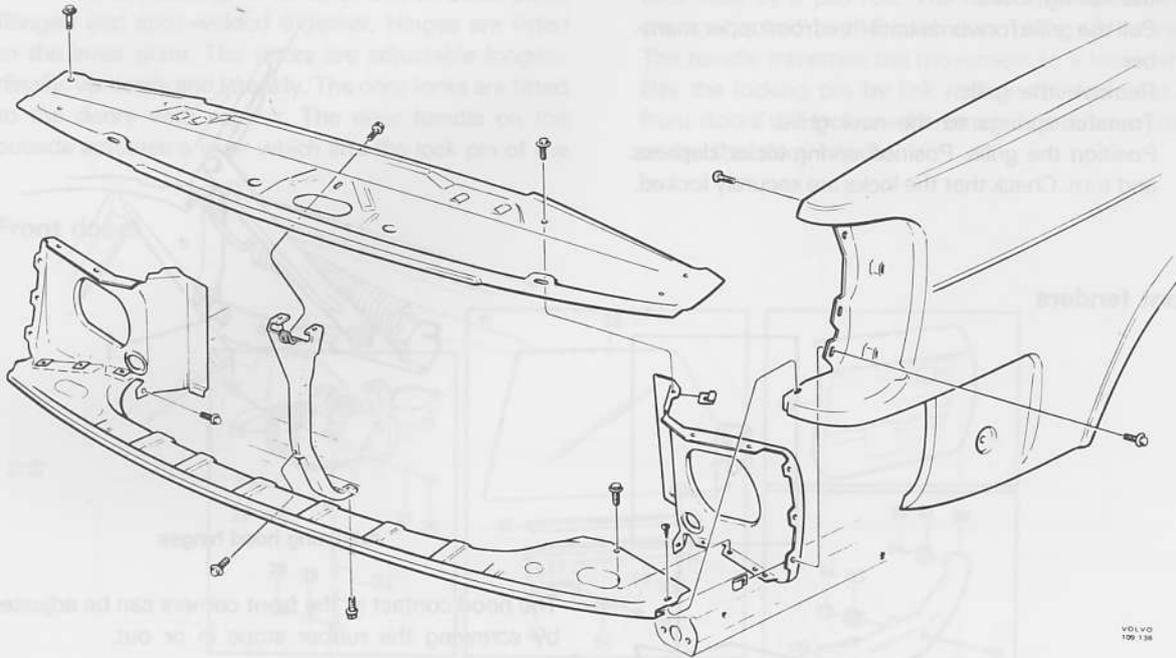
Re-installation

1. Install wheel house hardware. Right side: remember the type plate.
2. Install front axle member and spring and strut assembly.
3. Install engine and transmission.
4. Apply sealing compound round the wheel housings and on the fender attachment surfaces.
5. Install hood and front fenders.
6. Install left and right side plates, floor plate, center support and cover plate.
7. Install front end components.
8. Install the battery.
9. Install remaining parts.

Group 82

Front End, Hood and Fenders

Design



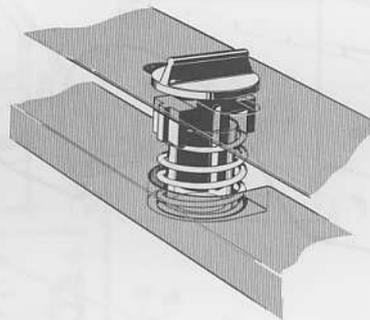
VOLVO
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The hood consists of an outer and an inner steel sheet plate, bonded together. The underside of the hood is covered with sound absorbing material.

The hood is hinged at the back on two hinges. In closed position the hood is secured by a lock on the front section. The lever for the hood lock is operated by a control underneath the dashboard.

The front fenders are pressed in one piece.

Grille and headlight rims are made in ABS plastic and retained by spring locks. See right.



VOLVO
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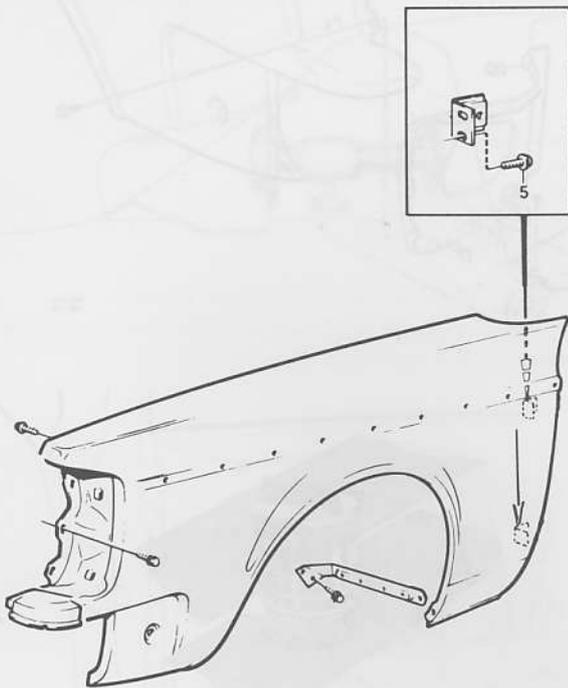
Spring lock

Service Procedures

Replacing grille

1. Depress and turn the spring locks 90°. Lift up the spring locks.
2. Pull the grille forwards until free from upper member.
Remove the grille.
3. Transfer springs to the new grille.
4. Position the grille. Position spring locks, depress and turn. Check that the locks are securely locked.

Front fenders



Removing front fenders

Remove

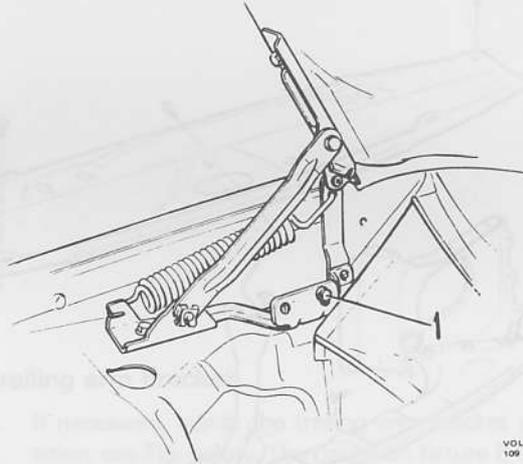
- four bolts to the brace
- four bolts at rear end, accessible when the front door is opened
- three bolts to front section
- eight bolts from the inside of the wheel housing

Hood and hood hinges

To remove the hood, remove the bolts retaining the hood to the hinges.

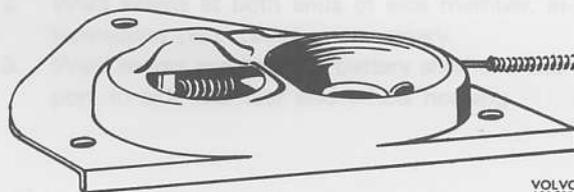
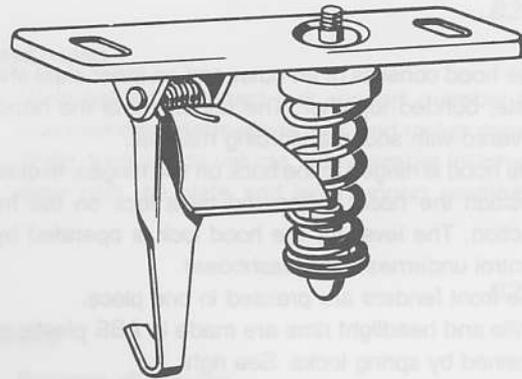
The hinges are attached to the body by two bolts on each side. All bolt holes are oblong to permit hood position adjustment.

The hinges are adjusted up-down by slackening the lock bolts, 1 below, moving the hood to position desired and locking the bolts again.



Adjusting hood hinges

The hood contact at the front corners can be adjusted by screwing the rubber stops in or out.



Hood lock

The hood lock upper and lower parts are adjustable lengthwise by moving them in the oblong bolts holes. The length of the locking pin can be adjusted by loosening the lock nut, turning the locking pin to length desired and locking the nut again.

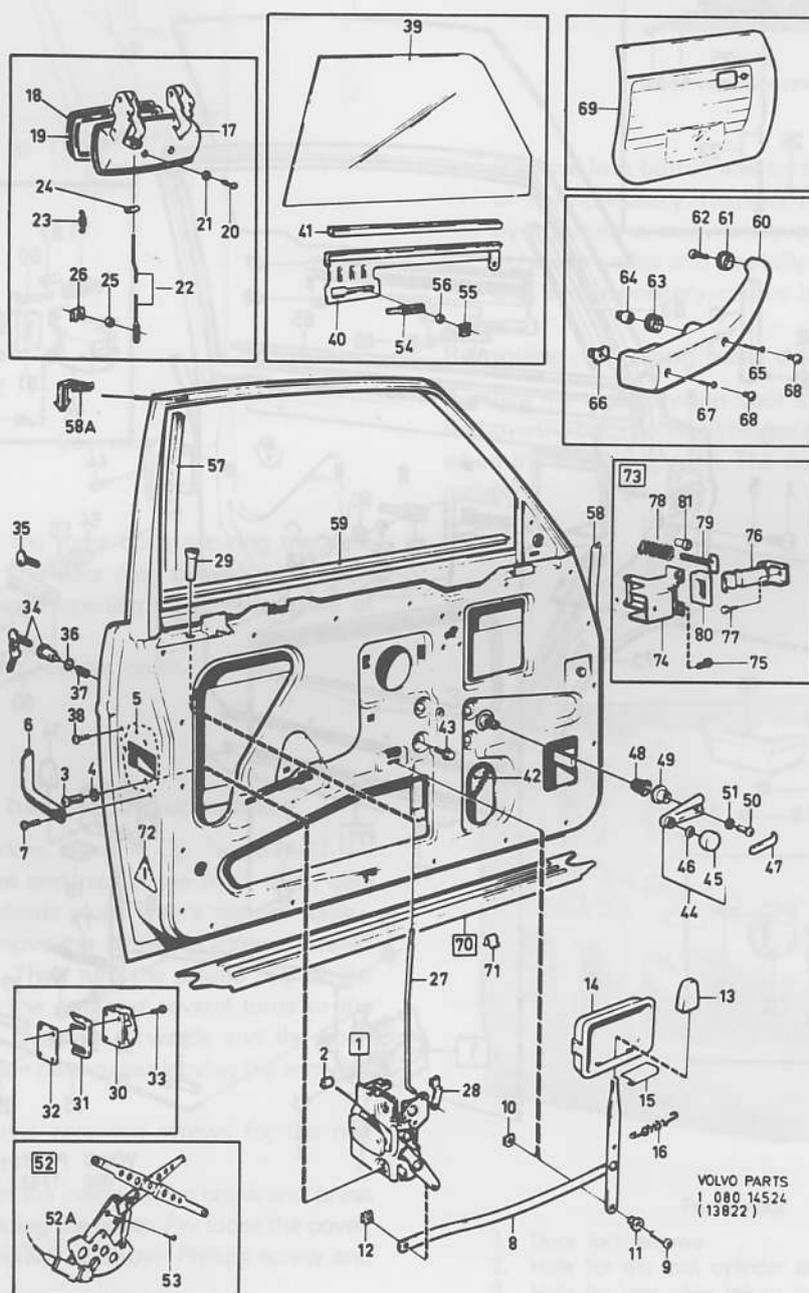
Group 83

Doors and Trunk

The doors are built up of an inner and an outer plate, flanged and spot-welded together. Hinges are fitted to the inner plate. The doors are adjustable longitudinally, vertically and laterally. The door locks are fitted to the doors with screws. The door handle on the outside actuates a lever which lifts the lock pin of the

door lock by a pull rod. The door opener inside the car is attached to the inner door plate with screws. The handle transmits the movement to a lever which lifts the locking pin by link rods in the lock. On the front doors the lock mechanism is fitted in a cylinder under the door handle.

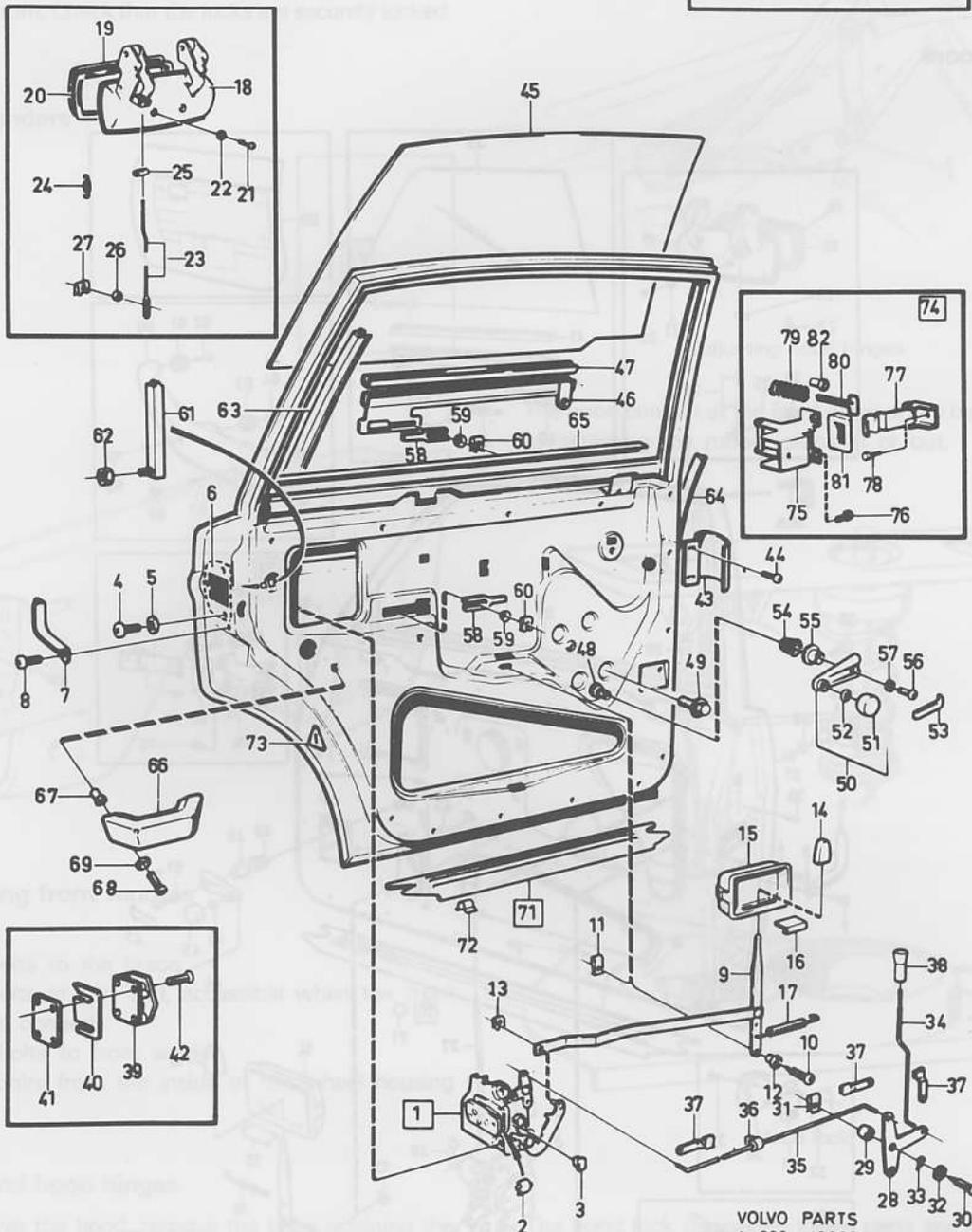
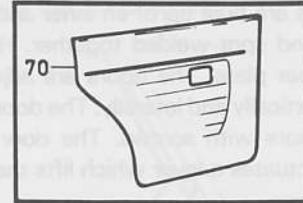
Front doors



The rear doors are equipped with child-proof locks. The locks incorporate a latch which prevents the door from being opened from the inside when the latch is down. The door latches are steel and welded to the door.

The window winders consist of lifting arms with toothed segments. The window runs in sliding grooves in the inner door plate and is set to the desired position by lifting arm from the toothed segment with the assistance of a helper arm.

Rear doors
244/264 and 245/265



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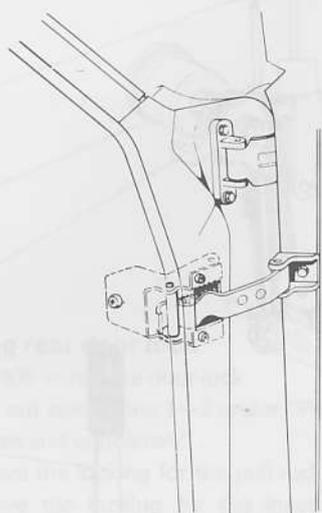
Service Procedures

Doors

Removing/installing door stops

Replace door stop = Op. No. 83106

Remove door panel according to instructions under "Removing inner handles and upholstery". Then remove the bolt between the door stop and post, and remove the rubber seal.



Door stop

After this, remove the three bolts securing the door stop to the door. The door stop can now be taken out through the upper opening in the inner plate of the door.

Installation is in the reverse order.

Removing inner handles and upholstery

Replace door window crank = Op. No. 83402

1. To remove the arm rest in the front door, take out the two plastic plugs with a narrow screwdriver and remove the attaching screws located on the inside. Then turn the plastic ring at the front edge of the arm rest several turns to the left, push the arm rest forwards and the hook at the front edge disengages leaving the arm rest to be removed.

Remove the two retaining screws for the rear door arm rest.

2. Put a finger on the inside of the crank and press the latches holding the cover. Pry loose the cover, using a screwdriver. Remove Phillips screw and crank.

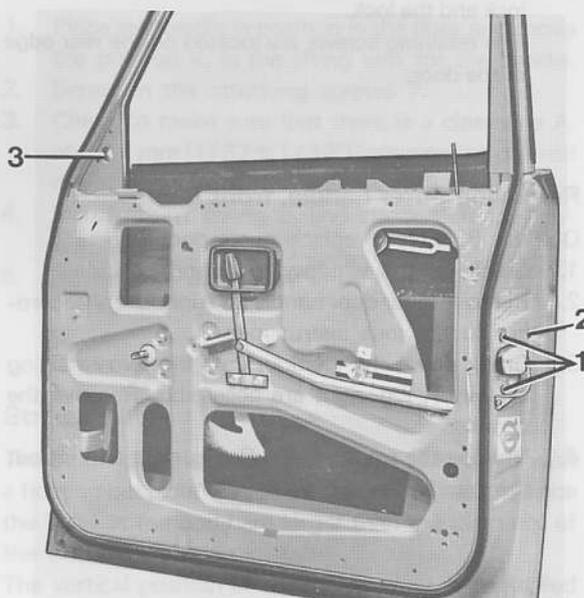


Door window crank

3. Remove lock button and screws at the top edge of the upholstery. Remove the door upholstery by inserting a screwdriver or similar under the upholstery edge and carefully prying outwards so that the upholstery comes loose.

Removing/installing front doors

Remove the bolt between door stop and door pillar. Remove the bolts between hinges and door, accessible when the door is opened. The door can then be removed.



Front door

1. Door lock screws
2. Hole for the lock cylinder attaching screw
3. Hole for rear view mirror installation

In order to remove the hinges, the panel in front of the door has to be removed. When this has been done, the three bolts are removed and now the hinges can be removed.

The door and hinges are installed in the reverse order. Since the holes in the hinges and in the attachment between the door and hinges are oval, the door can be adjusted laterally. The door can be adjusted up, down and lengthwise in the attachment between the hinges and door post. This is possible since the holes in the door post are larger than the diameter of the bolts. Shims to adjust between lower door hinge and door are available as spare parts.

Removing and installing rear doors

See the corresponding section above.

Removing front door lock

Op. No. 83406 = replace door lock

1. Follow operations 1-3 under "Removing inner handles and upholstery".
2. Remove the lock cylinder by its attaching screw which is fitted in the rear edge of the door.
3. Remove the locking for the pull rod locking knob and take out the pull rod.
4. Remove the locking for the inner door opener push rod.
5. Remove the locking for the outer handle pull rod.
6. Remove the three retaining screws for the door lock and the lock.

The retaining screws are located on the rear edge of the door.

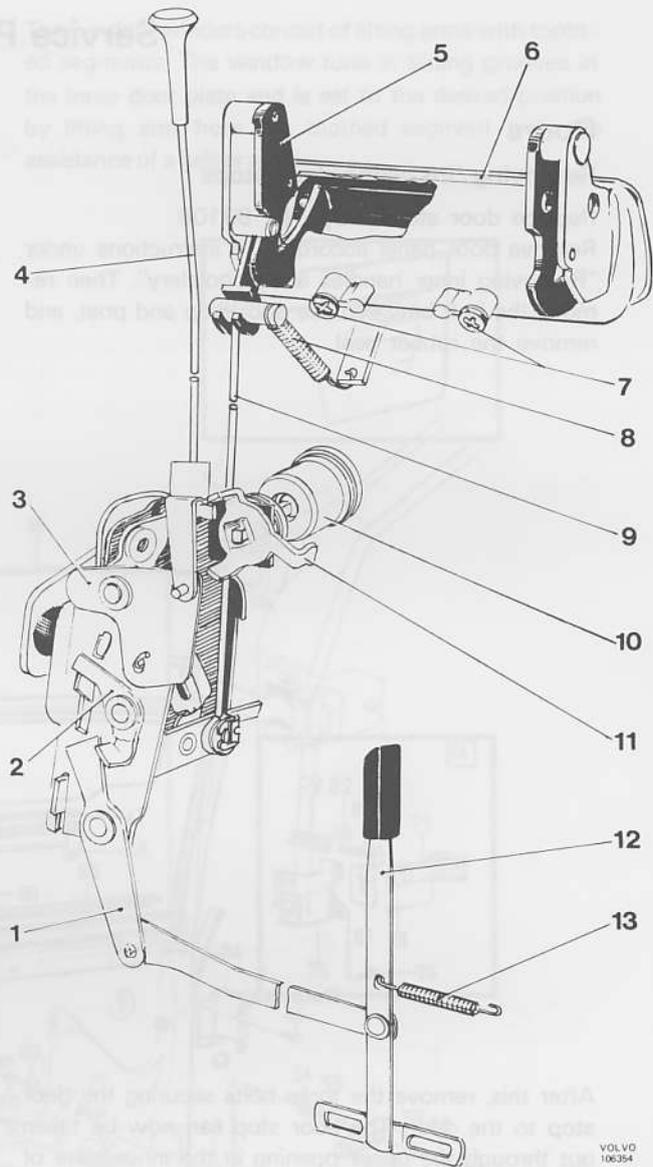
Removing outer handle, front doors

Op. No. 83404 = replace outer door handle

1. Crank up the window to closed position.
2. Remove inner door handle and upholstery according to previous instructions.
3. Crank down the window until the two retaining screws 7, Fig. right are accessible. Remove the screws.
4. Unhook the return spring 8, Fig. right and lift out the handle and cover as a unit.

Installing outer handle, front doors

1. Place the handle in position in the door and move the pull rod 9, below, in the lifting arm for the handle.



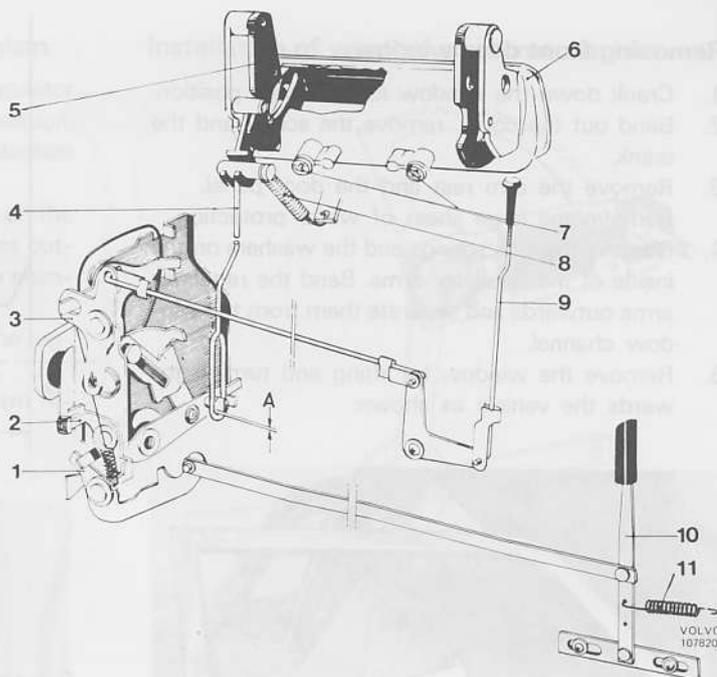
Lock, front doors

1. Lever
2. Lever
3. Lever
4. Pull rod for lock button
5. Outer handle
6. Cover for outer handle
7. Screws for outer handle
8. Return spring for outer handle
9. Pull rod for outer handle
10. Lock cylinder
11. Lock device
12. Inner door opener
13. Return spring for inner door opener

2. Screw in both the attaching screws 7.
3. Check to make sure the lock functions properly. If necessary adjust the length on the pull rod 9.
4. Install the return spring 8.
5. Put back the door upholstery and re-install the inner handle.

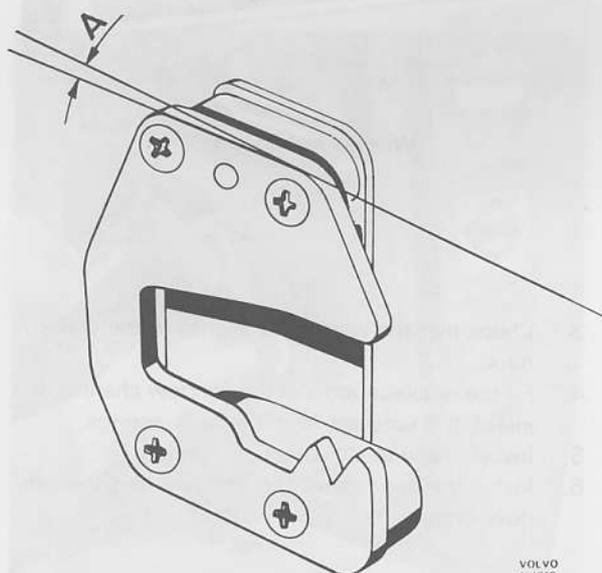
Lock, rear doors

1. Lever for remote control
2. Lever for child safety door lock
3. Lever
4. Pull rod for outer handle
5. Outer handle
6. Cover for outer handle
7. Screws for outer handle cover
8. Return spring for outer handle
9. Pull rod for lock button
10. Inner door opener
11. Return spring for inner door opener

**Removing rear door lock**

Op. No. 83406 = replace door lock

1. Carry out operations 1–3 under "Removing inner handles and upholstery".
2. Remove the locking for the pull rod locking knob.
3. Remove the locking for the inner door opener push rod.
4. Remove the locking for the outer handle pull rod.
5. Remove the retaining screws for the door lock and remove the lock from the door. The attaching screws for the lock are placed on the rear edge of the door.



Striker plate

A. Front door 1.5° B. Rear door 2.5°

Removing outer handle, rear doors

1. Wind up the window to the closed position.
2. Remove the inner handle and upholstery according to previous instructions.
3. Unhook the return spring 8.
4. Unscrew the screws 7, and lift out handle and cover as one unit.

Installing outer handle, rear doors

1. Place the handle in position in the door and move the pull rod 4, in the lifting arm for the handle.
2. Screw in the attaching screws 7.
3. Check to make sure that there is a clearance A, of 1 ± 1 mm ($1/32 \pm 1/32$ ") between the pull rod eyelet and pin in the lock lever.
4. Install return spring 8, and check that the lock is functioning properly.
5. Install door upholstery inner handle.

Striker plates

The striker plate is made of steel and is installed with a floating nut plate. The striker plate is adjustable since the holes in the body are larger than the diameter of the attaching screws.

The vertical position of the striker plate is controlled by closing the door, with the outside handle pulled out, when the door latch should slide correctly into the latch plate. The striker plate should have an inward inclination of 1.5° for the front doors and 2.5° for the rear doors, see Fig. left.

Removing front door window

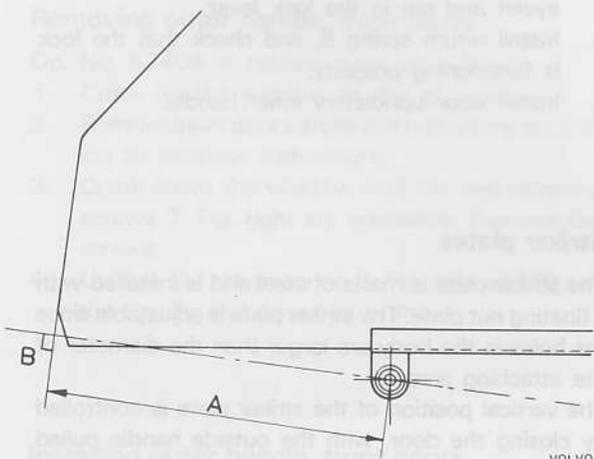
1. Crank down the window to its lowest position.
2. Bend out the cover, remove the screw and the crank.
3. Remove the arm rest and the door panel. Remove the large sheet of water protection.
4. Remove the lock springs and the washers on the inside of the regulator arms. Bend the regulator arms outwards and separate them from the window channel.
5. Remove the window by lifting and turning towards the vehicle as shown:



Door window removal

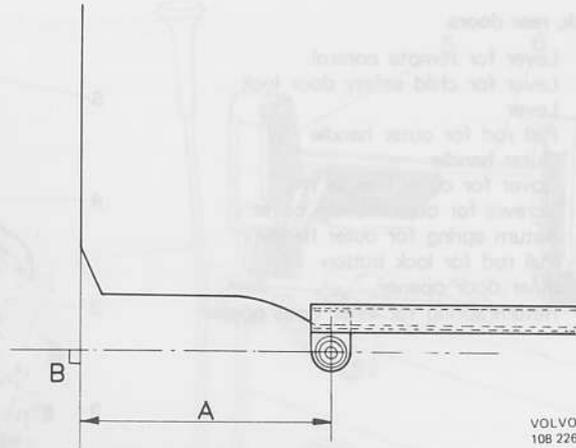
Door window installation

1. Install the window in the window channel according to following two Figs.



Window dimensions, 242 and front door 244, 245

$A = 26 \pm 2 \text{ mm} = 10.275'' - 10.443''$
 $B = 89^\circ \pm 1^\circ$



Window dimension, rear door 244, 245

$A = 169 \pm 2 \text{ mm} = 6.654'' - 6.732''$
 $B = 90^\circ \pm 1^\circ$

2. Lower the window with the acute angled corner first and turn it at the same time as shown:



Window installation

3. Check that the window is aligned in the window runs.
4. Fit the regulator arms in the window channel and install the washers and the lock springs.
5. Install the water protection springs.
6. Install the door panel, the arm rest and the window crank.

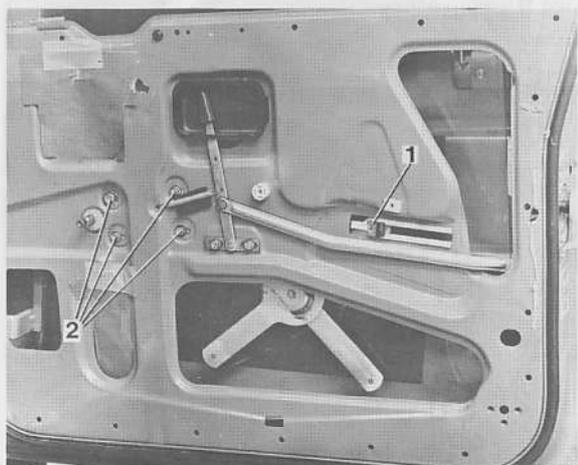
Removal and installation of rear door window

See the corresponding section above.

Removal of door window crank mechanism

Op. No. 83504 = Replace front door window regulator

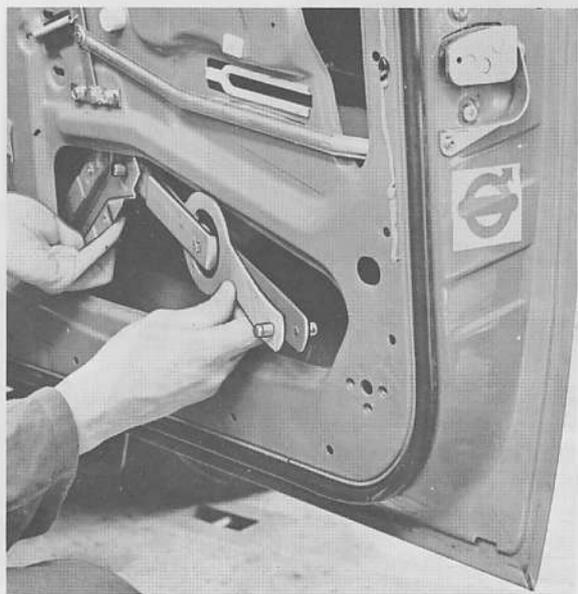
1. Crank down the window to its bottom position.
2. Remove the door panel and the water protection sheet.
3. Remove the lock springs and the washers on the inside of the regulator arms. Bend the arms outwards and remove them from the window channel.
4. Remove the clip 1, Fig. below, at one of the regulator arm's retaining points in the door.
5. Remove the door window crank mechanism retaining screws 2:



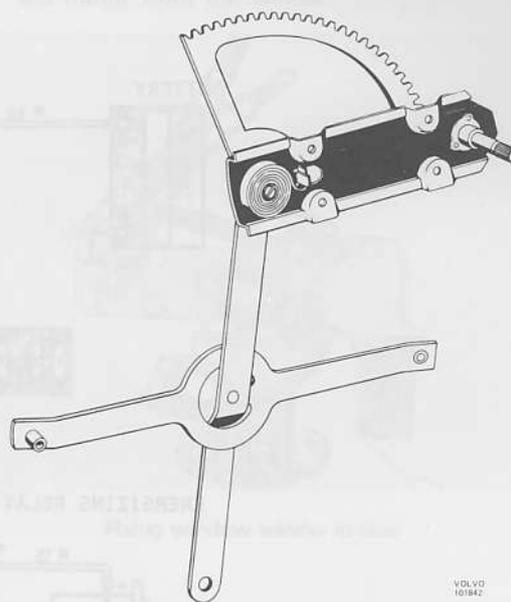
Front door interior

1. Lock
2. Window mechanism retaining screws

6. Remove the crank mechanism as shown:



Window mechanism removal

Installation of window crank mechanism

Window mechanism

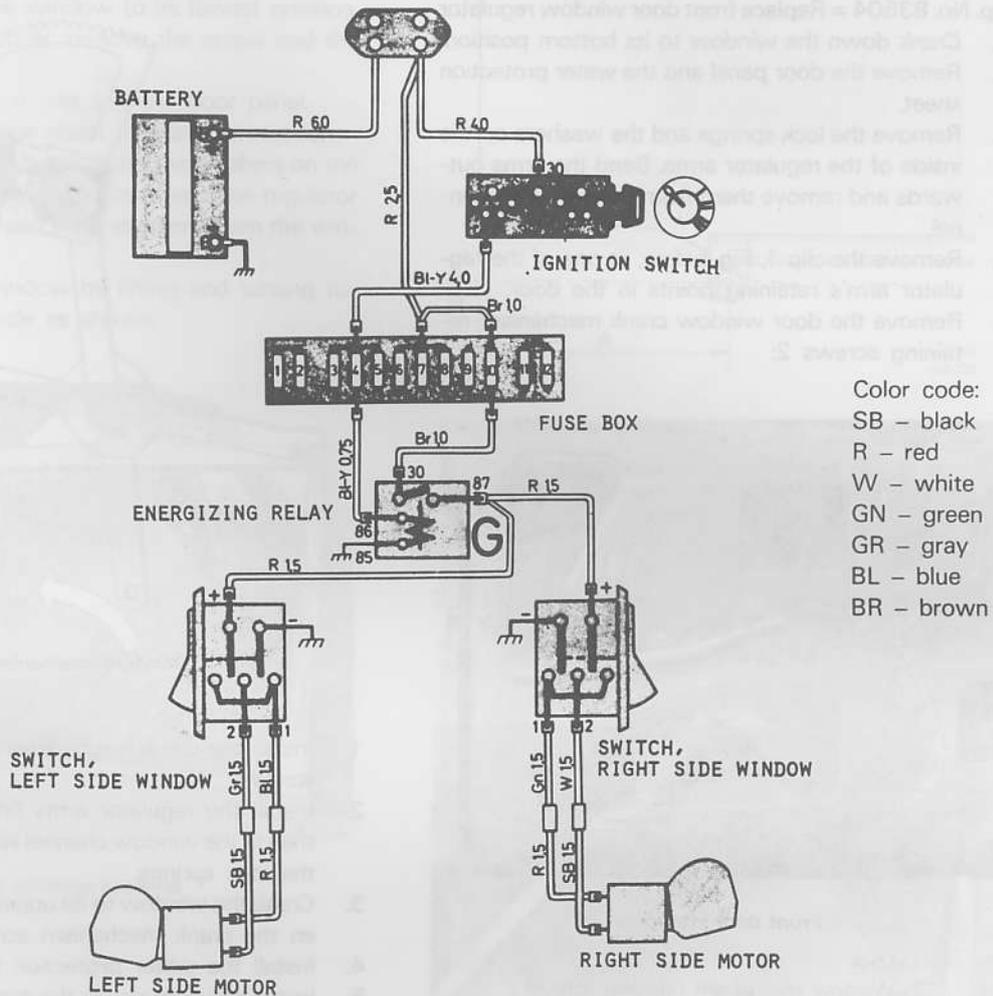
1. Install the crank mechanism. Do not tighten the screws.
2. Install the regulator arms first in the door and then in the window channel with the washers and the lock springs.
3. Crank the window to its upper position and tighten the crank mechanism screws.
4. Install the water protection sheet.
5. Install the door panel, the arm rest and the window crank.

Removal and installation of rear door window mechanism

Op. No. 83502 = Replace rear door window regulator
Proceed in the same way as described above.



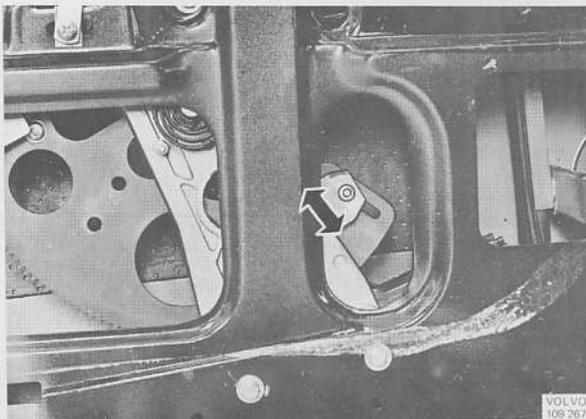
Electrically Operated Window Winders



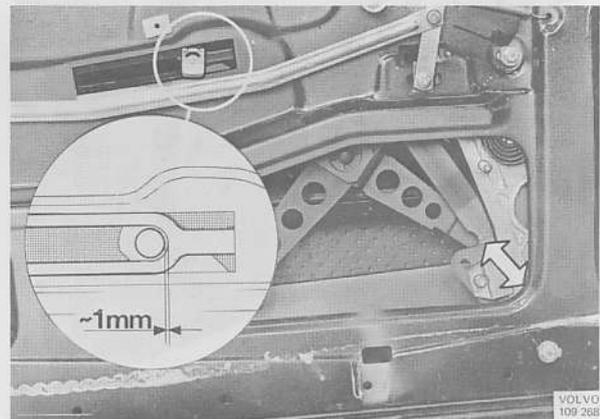
Adjusting stop positions, front window winders

1. Remove door panel and the waterproofing sheet.
2. Run up the window to the stop and release the stop lug using a 5 mm setscrew wrench. Run up the window as far as it can go. Adjust the stop lug against the tooth segment and tighten up the lock bolt.

3. Run down the window to the stop position. Check that the lifting arm does not bottom in the slide fork. Adjust if necessary the stop lug so that there is a clearance of approx. 1/32" (1 mm).
4. Restore door panel and waterproofing sheet.



Stop lug, upper position



Adjusting lower stop position

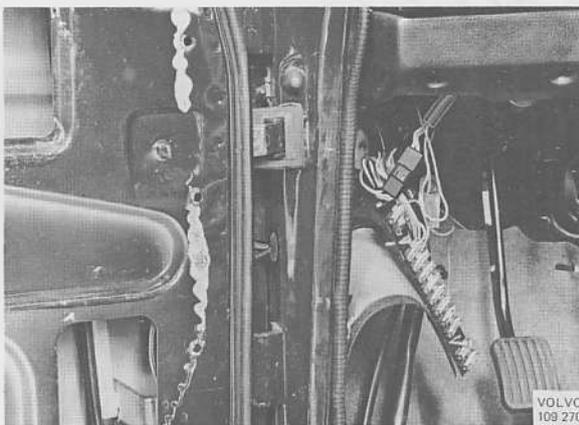
Replacing window winder or motor, front doors

Figures in brackets apply to replacement of winder.

1. Remove door panel and waterproofing sheet.
2. Run down the window to the stop position.
3. Release the lifting arms from the window rail by pushing loose the safety brackets and remove the washers. Then lever the arms towards you.
4. Remove the window by lifting and turning it towards the vehicle at the same time.



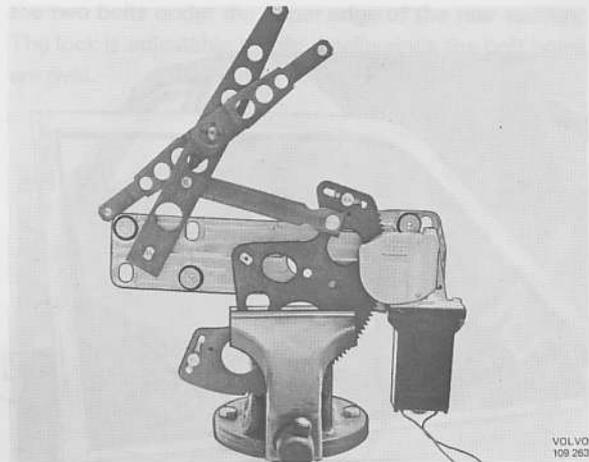
5. Disconnect the battery ground cable.
6. Remove the under-dash panel and the side panel (at the front door pillar).
7. Remove the fuse box and disconnect the contacts.



Removing fuse box

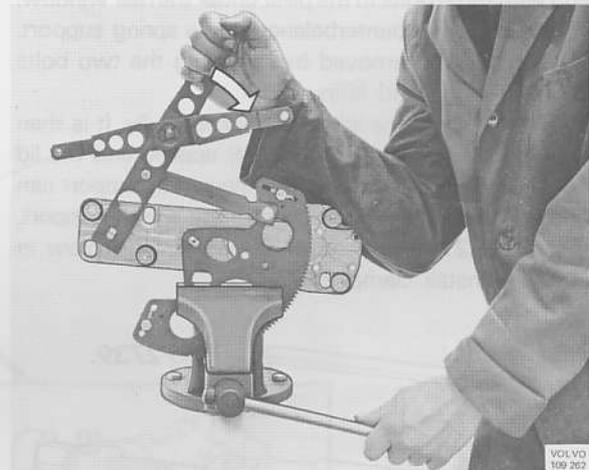
9. Release the lifting arm from the side rail in the door.
Remove the window retaining screws and take the winder out of the door.

10. Secure the window winder in a vise and remove the motor from the winder.



Fixing window winder in vise

- (11.) Remove the window winder from the vise.
NOTE: Take care not to jam your fingers when releasing the vise since the window winder is spring-loaded.
- (12.) Tension the spring on the new window winder to the bottom and place the winder in the vise.



Tensioning window winder spring

13. Mount the motor on the winder. Remove the winder from the vise.
14. Position winder and motor in the door.
15. Run the wires through door and door pillar.
16. Fit the lifting arm with washer and safety bracket in the door slide rail.

17. Lift the window into the door with the pointed part first and then turn it slightly away from the car.



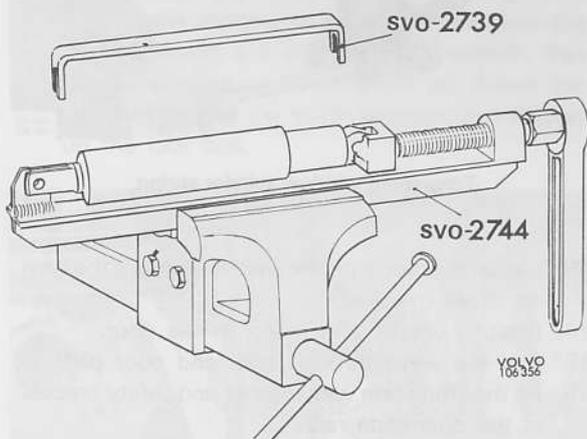
Make sure that the window enters the slot in the guide rails.

18. Fit the lifting arms for the window rail together with plastic washers and safety brackets.
19. Reconnect contacts and install fuse box.
20. Install side panel and under-dash panel.
21. Connect the battery ground cable.
22. Adjust window winder stop positions, as described under "Adjusting stop positions".
23. Fit waterproofing sheet and door panel.

Trunk Lid, 242/244 and 262/264

The trunk lid is mounted on two hinges, which are attached by two bolts to the inner plate of the lid and with three bolts to the pillar under the rear window. The trunk lid is counterbalanced by a spring support. The trunk lid is removed by removing the two bolts on each hinge and lifting it off.

When replacing, the lid is first opened fully. It is then lowered slightly and clamp 2739 applied and the lid opened fully again, after which the spring support can be removed. When installing a new spring support, press tool 2744 is used as shown in Fig. below in order to install clamp 2739.

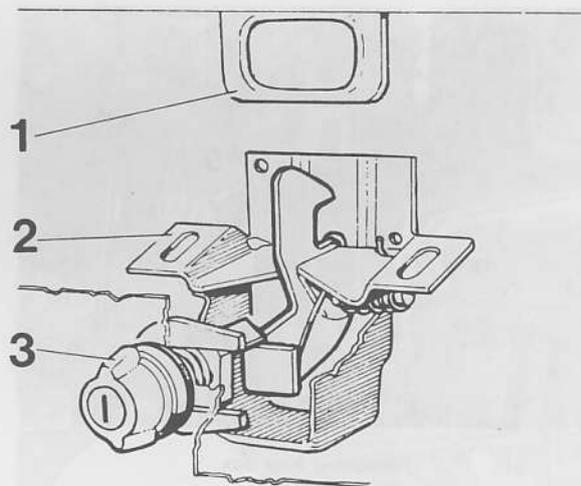


Tools for spring support

Install in the reverse order.

When removing hinges, first remove the spring support as described above. The lid is then removed from the hinges and the hinges from the body.

The holes in the part of the hinges attached to the trunk lid are oval in order to permit longitudinal adjustment. For vertical adjustment the holes in the part of the hinges attached to the body are oval.



Lock for trunk lid

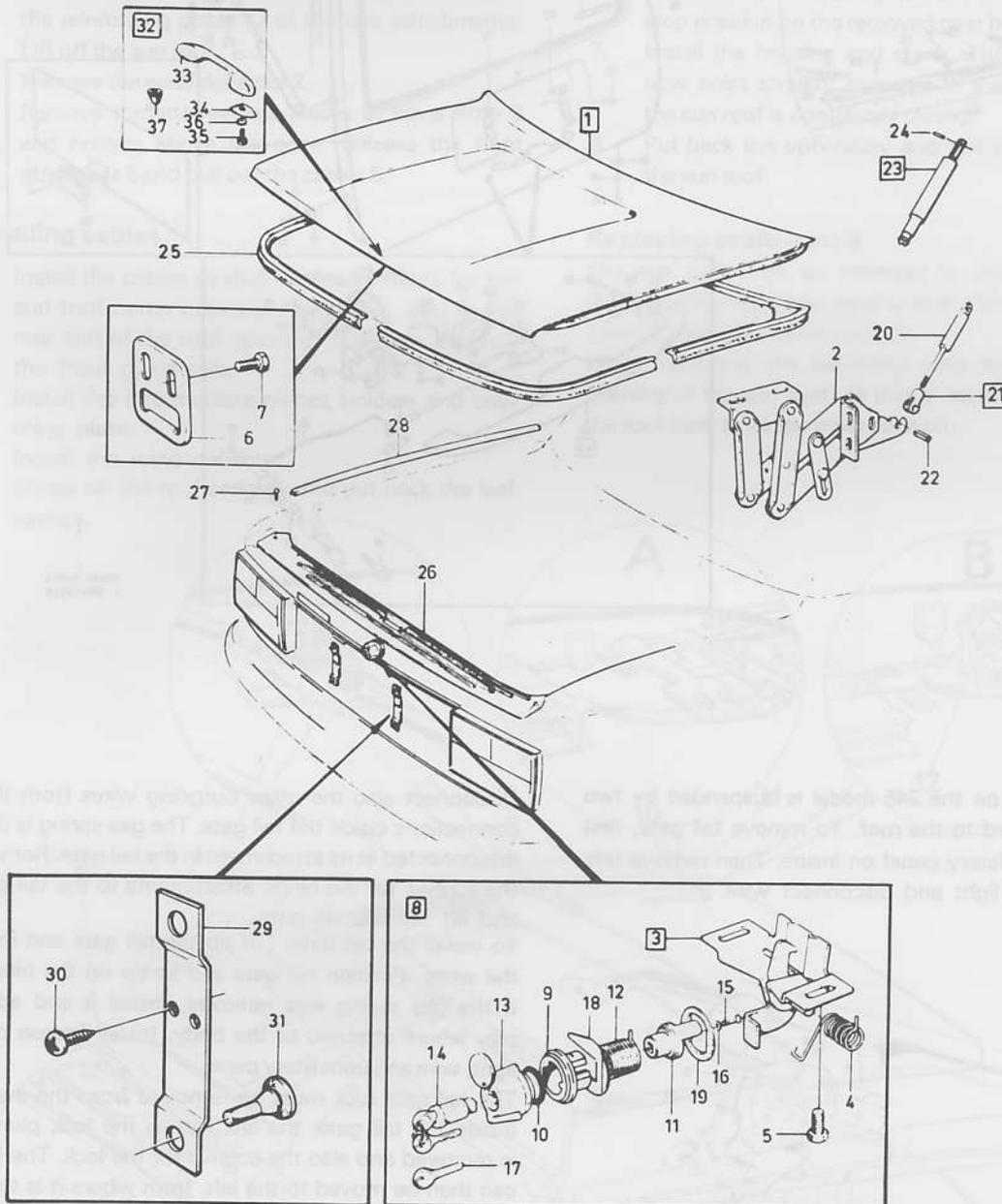
1. Lock catch, fitted in lid
2. Lock mechanism, fitted in rear section
3. Lock knob, fitted in rear section

The lock (Fig. below) is installed in the rear section and is released by turning the lockable knob. The lock catch on the lower edge of the lid is adjustable in order to permit variation of the closing tension of the lid.

The lock knob is removed by taking out the horseshoe

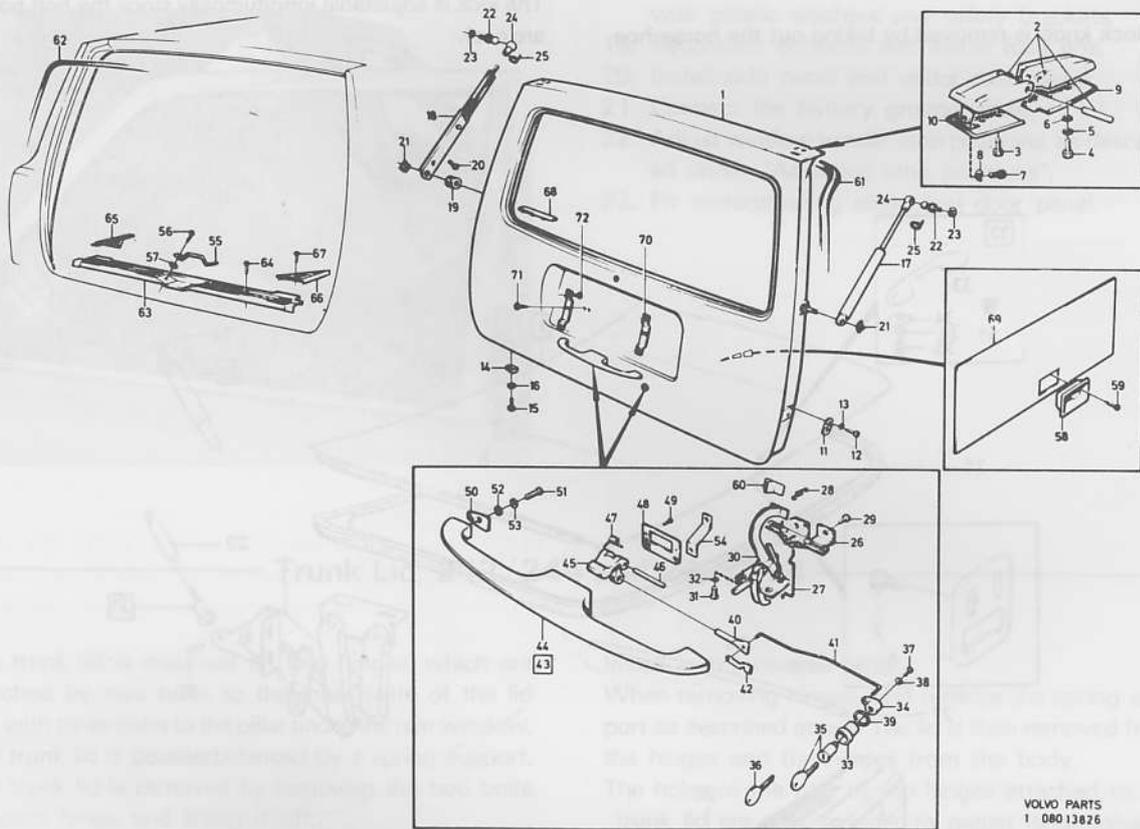
clamp with pliers inside the trunk. The lock knob can then be pulled out backwards.

To remove the lock remove the lock knob and then the two bolts under the upper edge of the rear section. The lock is adjustable longitudinally since the bolt holes are oval.



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Tail Gate, 245 and 265



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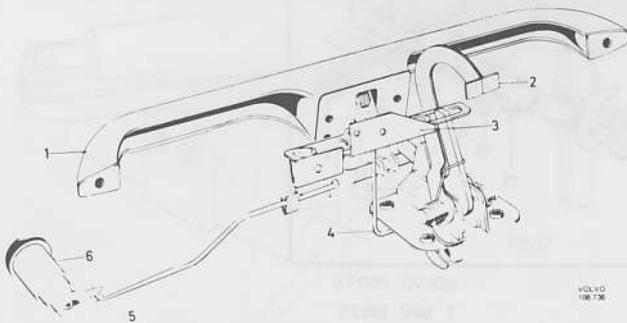
The tail gate on the 245 model is suspended by two hinges screwed to the roof. To remove tail gate, first remove upholstery panel on inside. Then remove left license plate light and disconnect wire.

Disconnect also the other outgoing wires from their connections inside the tail gate. The gas spring is then disconnected at its attachment in the tail gate. Remove the screws for the hinge attachments to the tail gate and lift off the tail gate.

To install the tail gate: Lift up the tail gate and insert the wires. Position tail gate and screw on the hinges. If the gas spring was removed, install it and adjust play where attached to the body. Install license plate light, wire and upholstery panel.

The tail gate lock must be removed from the inside. Inside the tail gate, the link rod to the lock plunger is removed and also the screws for the lock. The lock can then be moved to the left, from where it is taken out of the tail gate. The lock cylinder is removed by loosening the lock screw inside the tail gate.

To remove hinges for replacement, detach the headlining at the rear (see under "Replacing headlining"). Disconnect the wire at the joints under the hinges. Remove the screws securing the hinges to the roof and the tail gate. Remove the hinges.



Tail gate lock, 245/265

1. Outer handle
2. Inside opener
3. Latching device for inner opener
4. Control for latching device
5. Eccentric
6. Lock cylinder

Sun Roof

Removing cable

1. Open the sun roof and release the clips securing the roof upholstery at the front end. Then move the upholstery back to leave an opening.
2. Crank the sun roof forwards and slacken the screws at its four attachments 9 and 11. Bend the leaf springs 10 to one side and remove the reinforcing plates 13 at the rear attachments. Lift off the sun roof.
3. Remove the wind deflector 2.
4. Remove the intermediate pieces 8, cover strip 3 and holders above the drive. Release the front guide rails 6 and pull out the cables 5.

5. Crank the sun roof forwards until it is completely closed and check that it is level with the roof. To adjust vertically, use the front adjustment 7, and the lifts at the rear adjustment 12. Also check that both the lifts stand straight up when the roof is closed.
6. The crank and housing 4. Turn the crank to the stop position on the removed gear housing.
7. Install the housing and crank. The crank should now point straight forwards in the vehicle when the sun roof is completely closed.
8. Put back the upholstery and test the function of the sun roof.

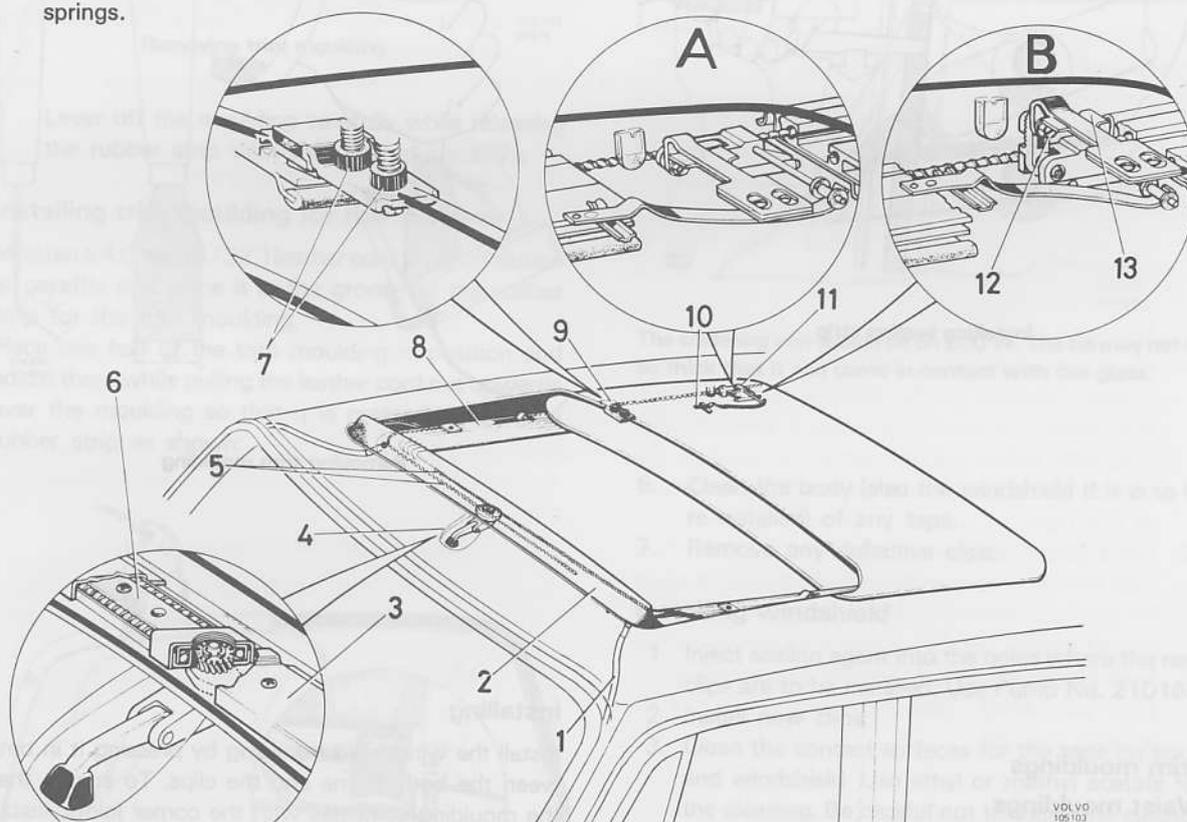
Installing cables

1. Install the cables so that the attachments for the sun roof come opposite each other, and at the rear end of the roof opening. Screw on securely the front guide rails.
2. Install the intermediate pieces, holders and covering plate.
3. Install the wind deflector.
4. Screw on the roof securely and put back the leaf springs.

Replacing sealing strip

The sun roof must be removed in order to replace the insulating strip and sealing strip there. See points 1 and 2 under "Removing cable".

When replacing the insulating strip round the roof opening of the sun roof, all that is required is to crank the roof back to its rearmost position.



Sun roof

A. Rear attachment when roof is open

B. Rear attachment when roof is closed

- | | | | |
|-----------------------------|---------------------|-----------------------|-----------------------|
| 1. Drain hose | 5. Cables | 8. Intermediate piece | 11. Rear attachment |
| 2. Wind deflector | 6. Front guide rail | 9. Front attachment | 12. Rear adjustment |
| 3. Cover strip | 7. Front adjustment | 10. Leaf spring | 13. Reinforcing plate |
| 4. Crank housing with crank | | | |

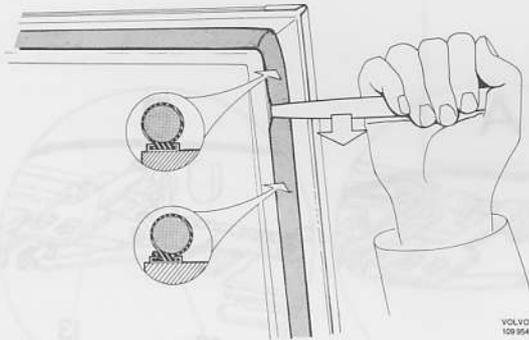
Group 84

Sealing Strips, Glass and External Trim Mouldings

Sealing strips

The sealing strips are secured by stopwelded fastening rails.

The sealing strip is removed by pulling it outwards, when the ridge of the strip releases from the rail. When attaching the sealing strip, one of the ridges is placed in position in the rail, the other ridge is then pressed down into the rail with a wooden putty knife. This is moved along the rail as shown:

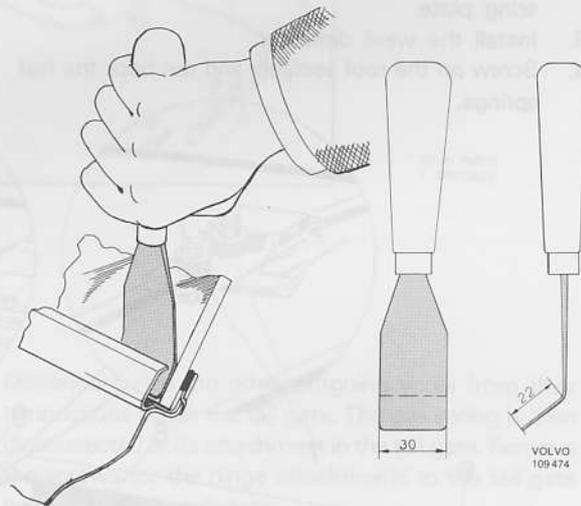


Installing sealing strip

When installing, begin by placing the clips and locking them by pressing in the stud in the middle. The moulding is then pressed onto the clips.

Removing windshield moulding

The windshield moulding is fixed by clips pressed into the slits in the windshield opening in the body. The moulding can, for example, be suitably removed with a steel putty knife. Insert the knife between the windshield and moulding opposite a clip, see Fig. below. Then lever the moulding loose.



Removing trim moulding

Trim mouldings

Waist mouldings

The waist mouldings are attached with plastic clips. The mouldings are removed with a wooden putty knife with which they are carefully levered off. The clips can be removed by carefully pulling them off with pliers.

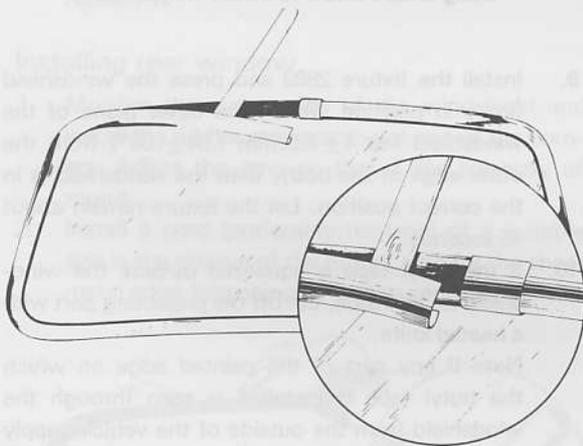
Installing

Install the windshield moulding by pressing it in between the body frame and the clips. To ensure that the moulding coincides with the corner joints, install in the following order.

First, install the lower moulding with a corner joint on. Then install a side moulding also with a corner on. Finally, install the remaining moulding together with corners on to the body frame.

Removing trim moulding for rear window

1. Remove the moulding from the rubber strip by inserting a moistened nylon putty knife and moving it all round between the strips (do not pull off the trim moulding).
2. Push over the joining pieces to one of the halves of the moulding.
3. Remove the trim moulding by levering out the ridge of the rubber strip from the trim moulding with a moistened wooden putty knife. Release the trim moulding in the middle with another putty knife as shown.



Removing trim moulding

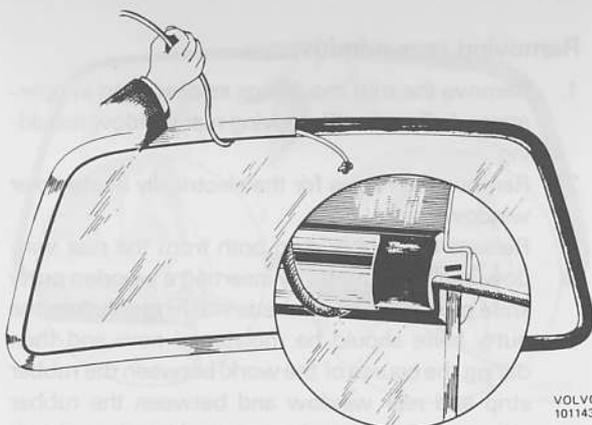
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Lever off the moulding carefully while releasing the rubber strip with the other putty knife.

Installing trim moulding for rear window

Moisten a 4.0 mm (5/32") leather cord in soap solution or paraffin and place it in the groove of the rubber strip for the trim moulding.

Place one half of the trim moulding in position and hold it there while pulling the leather cord out upwards over the moulding so that it is pressed against the rubber strip as shown:



Installing trim moulding

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101143

Push over the joining pieces and repeat the procedure with the other half of the moulding. Adjust the position of the joining pieces over the joints.

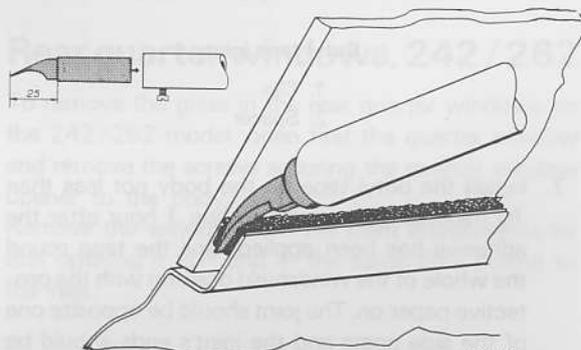
Windshield

Removing windshield

Op. No. 84302 = replace windshield

1. Place protective covering over the hood and front seats.
2. Remove the windshield wiper arms.
3. Remove the external trim moulding. See "Removing windshield moulding".
4. Unscrew the inner covering strips and rear view mirror.
5. Cut the windshield loose with a warm soldering iron.

Insert the point of the iron between the windshield and the body, from the inside of the vehicle. Then draw the soldering iron round the windshield. The windshield can now be pressed out by hand. Cut off any remaining strands with a knife.



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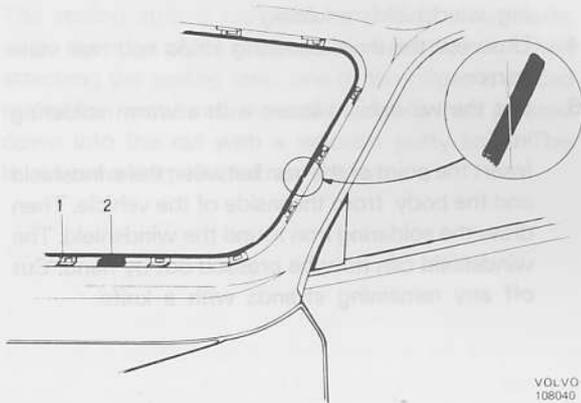
The soldering iron should be on 200 W. The tip may not be so thick that it can come in contact with the glass.

6. Clean the body (also the windshield if it is to be re-installed) of any tape.
7. Remove any defective clips.

Installing windshield

1. Inject sealing agent into the holes where the new clips are to be installed. Use Pump No. 210163.
2. Install new clips.
3. Clean the contact surfaces for the tape on body and windshield. Use ethyl or methyl acetate for the cleaning. Be careful not to touch the cleaned surfaces.
4. Coat the clips with sealing agent No. 686275 so that the agent forms a smooth bridge between the clips and body for the butyl tape to seal against.

5. Coat adhesive on the cleaned surfaces on the body and windshield. Coat an edge between 18 and 21 mm (3/4 and 7/8") in width round the windshield measured from its outer edge. Apply the adhesive twice to ensure total coverage. Any adhesive spill on the body or glass surfaces can be removed with methyl acetate. The adhesive can be applied within 5 minutes after the cleaning.
6. Install both the spacers on the lower edge of the windshield opening. They should lie between the 2nd and 3rd clip from each windshield post.



Butyl tape joint

1. Clip
2. Spacer

7. Install the butyl tape on the body not less than 10 minutes and not more than 1 hour after the adhesive has been applied. Roll the tape round the whole of the windshield opening with the protective paper on. The joint should be opposite one of the side posts and the joint's ends should be cut at an angle.

The tape is best cut with a heated knife.

Place the tape edge to edge with the spot weld flange. The tape profile may not be altered by stretching. The protective paper is removed immediately before the windshield is installed. Be careful not to soil or touch the adhesive surface of the tape.

8. Use a glass lifter for installing the windshield. Two men are required to install the windshield. It must be carefully located in the opening before being placed against the tape. Once the windshield has been placed in position, adjusting possibilities are then very small. The windshield must not lie against any clip.



Using fixture 2899 to install windshield

9. Install the fixture 2899 and press the windshield firmly in position. When the outer plane of the windshield lies 1 ± 1.5 mm ($.04 \pm .06$ ") from the outer edge of the body, then the windshield is in the correct position. Let the fixture remain about 45 seconds.
10. If the butyl tape is squeezed outside the windshield on its inside, cut off the projecting part with a heated knife.
Note If any part of the painted edge on which the butyl tape is installed is seen through the windshield from the outside of the vehicle, apply sealing agent 686275 to these points. This is only required for light-colored vehicles.
11. Install the outer trim moulding, see "Installing windshield moulding".
12. Install the inner cover strips and rear view mirror.
13. Install the windshield wiper arms.

Rear window

Op. No. 84312 = replace rear window

Removing rear window

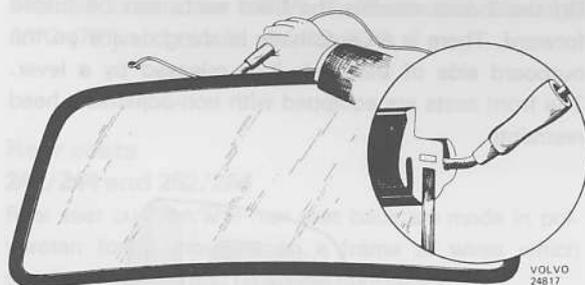
1. Remove the trim mouldings as described in operations 1-3 under "Removing rear window moulding".
2. Remove the cables for the electrically heated rear window.
3. Release the rubber strip both from the rear window and sheet metal by inserting a wooden putty knife moistened in synthetic washing solution (the putty knife should be moistened now and then during the course of the work) between the rubber strip and rear window and between the rubber strip and sheet metal respectively and moving it all round.

4. Start removing the rubber strip in the upper left corner. Lever the rubber strip over the edge of the sheet metal from inside and at the same time carefully pulling out the strip from outside with a pair of wide-nosed grips. Then carefully pull off the strip by hand all round and remove the rear window.

Remove all sealing compound from the sheet metal. If it has dried on, first carefully scrape off the sealing compound and then wash clean with naphtha. Check that the sheet metal edge is not deformed. If the sealing compound has not dried on, clean the rubber strip with naphtha, otherwise replace it.

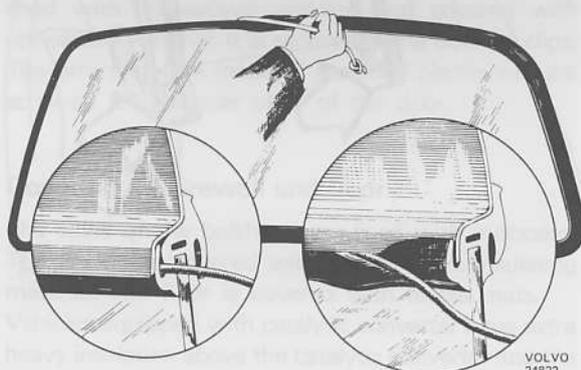
Installing rear window

1. Moisten the outer edge of the windshield and install the rubber strip starting at one of the corners. Adjust the strip so that it lies correctly all round.
2. Install a cord (preferably terylene) of a suitable size in the groove of the rubber strip for the sheet metal edge, beginning at the top center as shown:



Placing cord in rubber strip

3. Place the rear window in position with the rubber strip installed. Wearing working gloves, carefully strike the rear window a few blows with the **palm of the hand** so that it makes good contact all round. Then carefully pull out the cord from inside. This will cause the rubber strip to "creep" over the sheet metal edge as shown:



Installing rear window

It may sometimes be necessary to adjust the position of the rear window with the palm of the hand. If the cord is difficult to pull out, this may damage the strip, in which case the rear window should be struck from inside or outside with the palm of the hand if the rubber strip does not "creep" over the edge of the sheet metal properly.

4. Check that the rubber strip seals well all round. If necessary adjust the position of the rear window both vertically and laterally **by striking with the palm of the hand**.
5. Seal the joints between the rubber strip and rear window and rubber strip and sheet metal with sealing compound using a gun with a flat nylon nozzle. Make sure that the sealing compound fills the joint well. Scrape off surplus sealing compound and wash rear window and sheet metal with kerosene. Clean the rear window and sheet metal around it with polish.
6. Install the trim mouldings as previously described.
7. Install the cables for the electrically heated rear (tail gate) window.

Rear quarter windows

See the corresponding section under "Rear window"

Rear quarter windows, 242 / 262

To remove the glass in the rear quarter windows on the 242/262 model, open first the quarter window and remove the screws securing the quarter window opener to the body.

Remove the window from the front attachments by first opening it 90° and at the same time pulling to the rear.

Group 85

Upholstery, Interior Heating System (excl. Air Conditioner)

For Air Conditioner, see: 240 models, TP 11411
260 models, TP 11412

Front seats



Front seat

The front seats are built up on a tubular frame. The padding consists of a soft rubber material and foam plastic.

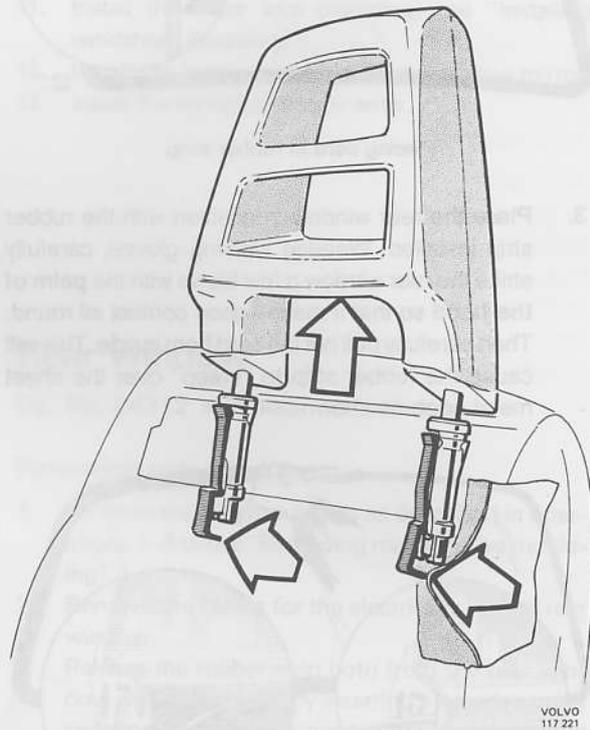
The front seat can be slid forwards and backwards to desired position after the loop handle on the seat front has been lifted. The seal rails on both sides have catches.

There are two levers, each with three positions, for positioning the driver's seat vertically both in front and rear. This means that also the cushion angle can be changed.

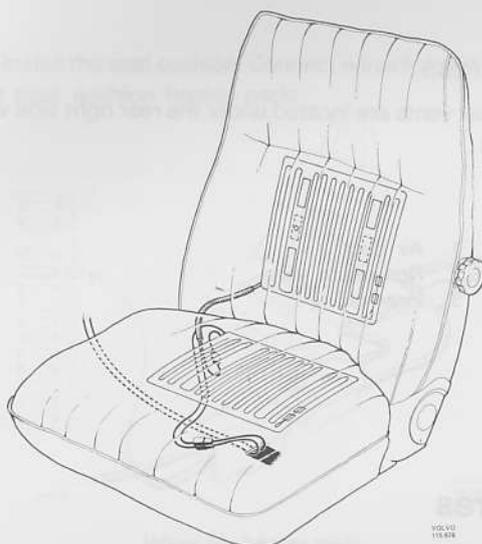
The front passenger seat is retained by four brackets each with three positions. These are the same as for the driver's seat but tools must be used to change the positions.

The inclination of the seat back is accomplished by a gear system. It is invariably adjustable by turning the hand wheel on the outside of the seat. The seat is provided with an adjustable lumbar support, the tension can be adjusted by a knurled knob located on the outboard side of the back rest.

On the 2-door models the front seats can be folded forward. There is an automatic latching device on the outboard side of the seat. It is released by a lever. The front seats are equipped with non-adjustable head restraints.



The restraints can be released and pulled up by pushing in the lock tabs (through the upholstery).



Electrically heated driver's seat

Some models have an electrically heated driver's seat controlled by a thermostat.

The total current draw is 60W. The thermostat cuts out at 26°C (78°) and cuts in at 14°C (57°).

Rear seats

242/244 and 262/264

Rear seat cushion and rear seat back are made in polyuretan foam, moulded on a frame of wires which stabilize the foam and retain the upholstery.

245/265

Rear seat cushion and rear seat back are designed as the front seats, but the frame is wood.

The rear seat cushion can be folded forward and the back rest down to provide increased cargo space.

Door upholstery

The door upholstery consists of wood-fiber sheeting lined with non-woven padding and covered with upholstery material. It is secured to the door by clips. The arm rests are made of moulded plastic and are screwed to the inner plate of the door.

Covering for firewall and floor

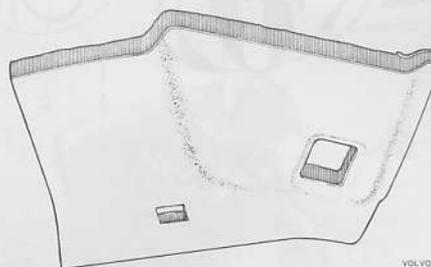
The sides of the bulkhead are lined with millboard. The firewall is covered with self-adhesive insulating material. The floor is covered with textile mats.

Vehicles equipped with catalytic converter have extra heavy insulation above the catalytic converter and the heat protection shields as the catalytic converter system increases exhaust system temperatures.

Headlining

242/244 and 262/264:

The headlining consists of moulded glass wool with a plastic cover on the underside.



Glass wool headlining 242.

It is made in one piece and cannot be folded. It is held in position by the sun visor, rear view mirror, curve handle and three plugs at the rear end of the headlining.

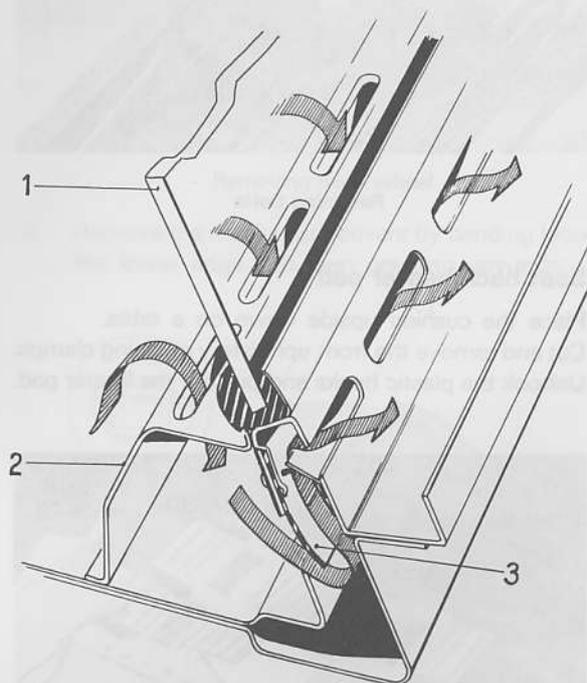
245/265

The headlining consists of plastic fabric stretched on roof ribs. It is secured in retainers fitted on the upper limit of the body sides.

Ventilation

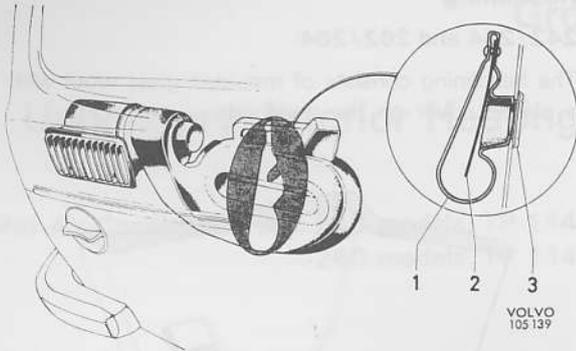
242/244 and 262/264:

The air vents are located under the rear window:



1. Rear window
2. Non-return valve
3. Inner grille

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245/265

The air vents are located under the rear right side window:

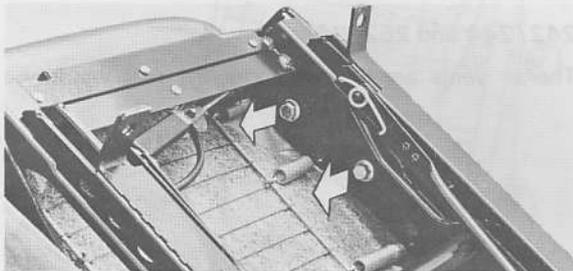
- 1. Air duct
- 2. Non-return valve
- 3. Inner grille

Service Procedures

Front seats

Replacing heater device for driver's seat

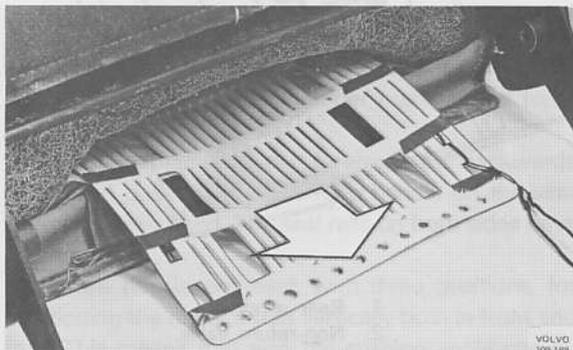
1. Disconnect the seat pad electrical wires at the junction box.
2. Remove the seat, complete with sliding rails, from the vehicle.
3. Remove the screws acc. to Fig. below, and remove the seat cushion.



Retaining bolts

Seat back heater pad

Place the cushion upside down on a table. Cut and remove the front upholstery retaining clamps. Unhook the plastic hooks and pull out the heater pad.

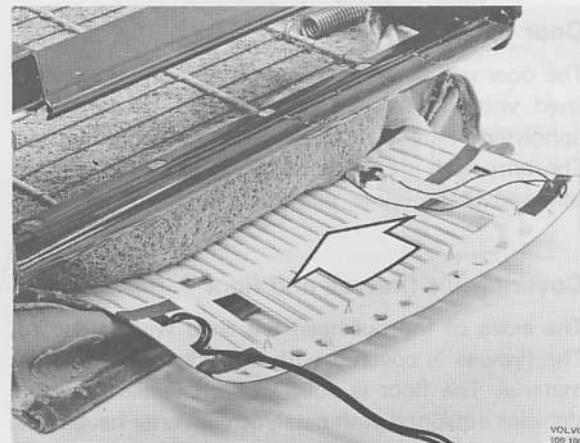


Removing seat back heater pad

Fit the new heater pad in the seat back.
 NOTE: the heater element barbs should point towards the padding.
 Hook the plastic hooks to the suspension mat lower wire.
 The heater pad electric wires should be routed towards the inboard side of the cushion. Fit and attach front upholstery to rear upholstery, using four clamps.

Seat cushion heater pad

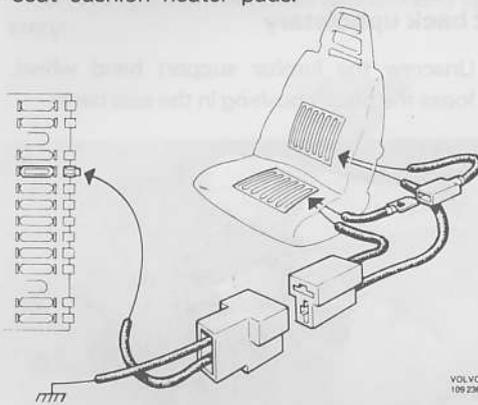
Place the seat cushion on a table, upside down. Remove the cover plate. Cut and remove the clamps at the rear end of the cushion. Pull out the heater pad. Fit the new heater pad in the seat cushion. NOTE: the heater element barbs should point towards the padding. The heater pad electric wires should be routed towards the inboard side of the cushion, see Fig.



Fitting heater pad

Fold back the upholstery and install five new clamps.

Re-install the seat cushion. Connect wires for seat back and seat cushion heater pads:



Wires for heater pads

Install the seat in the vehicle and connect the wires at the junction box.

Replacing seat heater thermostat

1. Remove the seat heater pad (see separate instructions).
2. Disconnect the thermostat wires. Remove the thermostat.
3. Install the new thermostat in the heater pad and connect the wires.
4. Install the heater pad (see separate instructions).

Replace:

- or **Seat reclining mechanism**
- or **Head restraint**
- or **Seat back upholstery**
- or **Latch or cable for seat back latch**

Points in brackets concern cars with seat back latch (2-door models)

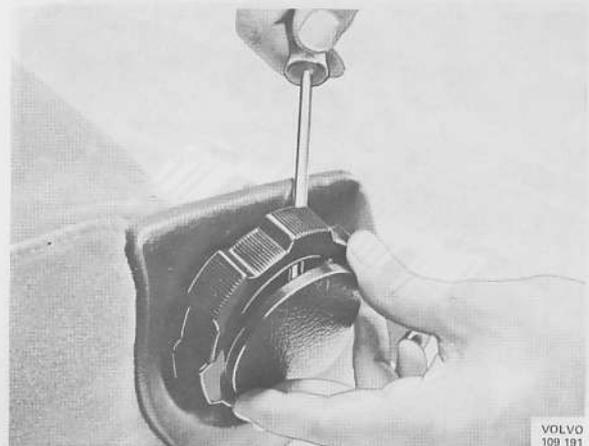
1. Disconnect the seat and pad electrical wires at the junction box.
2. Remove the seat, complete with rails, from the vehicle.
3. Disconnect wires from seat back and seat cushion heater pads.

Remove the screws and remove the seat cushion:



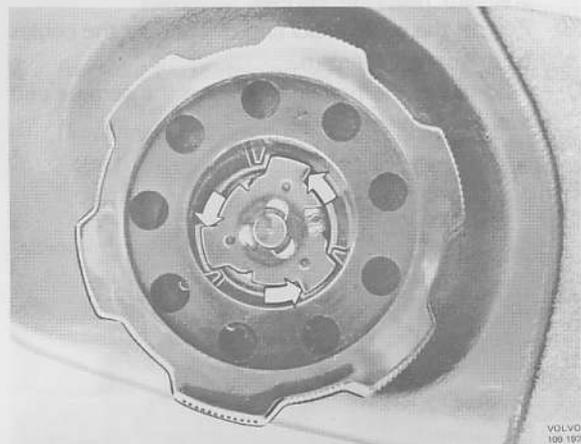
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4. Use a screwdriver to press out the hand wheel cover through one of the hand wheel holes:



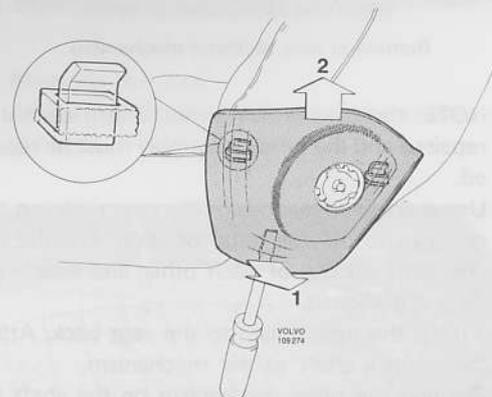
Removing hand wheel cover

5. Turn the lock in the hand wheel counter-clockwise and remove the wheel:



Removing hand wheel

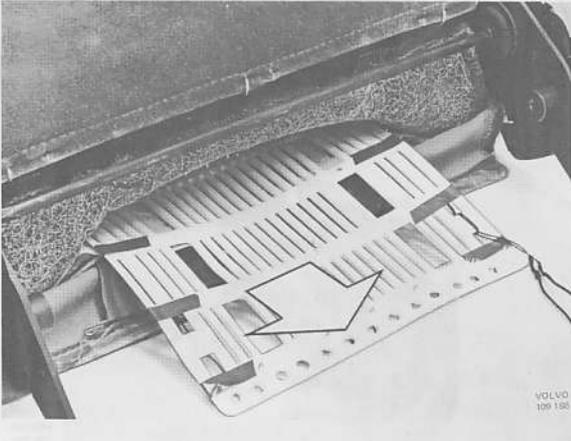
6. Remove the mechanism covers by bending loose the lower edge and then pressing upwards:



Removing plastic cover

7. Unhook the upholstery from the seat reclining mechanism. Cut and remove the clamps at the seat back upholstery joint.

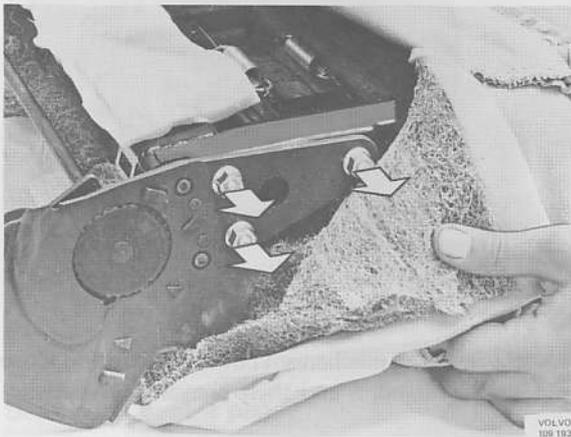
8. Unhook the plastic hooks and pull out the heater pad:



Heater pad

Replacing seat reclining mechanism

- A. Unfold the upholstery to gain access to the mechanism retaining screws.
- B. Pull off the cable locks and disconnect the cables from the mechanism.
- C. Fold down the padding, remove the screws and the mechanism:



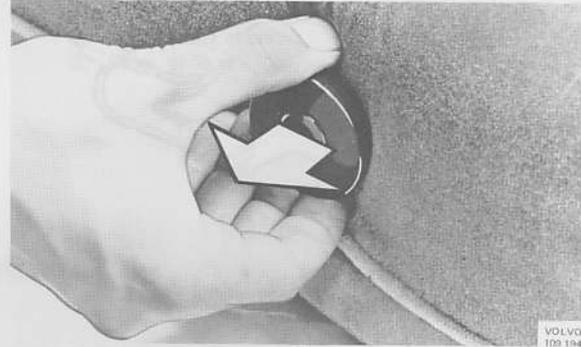
Removing seat reclining mechanism

NOTE: the seat reclining mechanism cannot be repaired and the whole assembly must be replaced.

- D. Use a screwdriver to turn the new reclining mechanism to the rear stop position. Put the mechanisms on top of each other and check that they are aligned.
- E. Attach the mechanism to the seat back. Attach the control shaft to the mechanism.
- F. Position the other mechanism on the shaft and tighten it to the seat back. Finalize the installation of the seat reclining mechanisms.
- G. Attach the cables to the mechanisms and fit the cable locks.

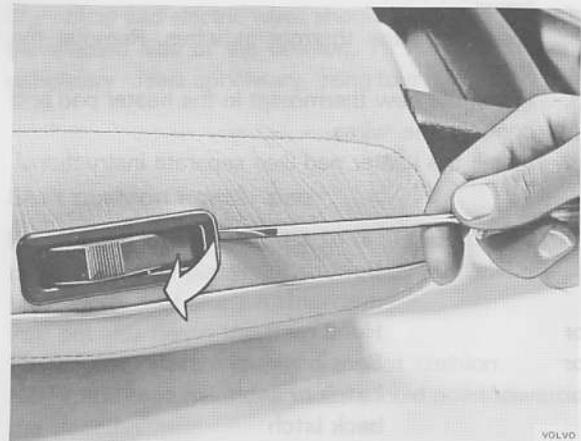
Replacing head restraint or Seat back upholstery

- A. Unscrew the lumbar support hand wheel. Pull loose the plastic bushing in the seat back:



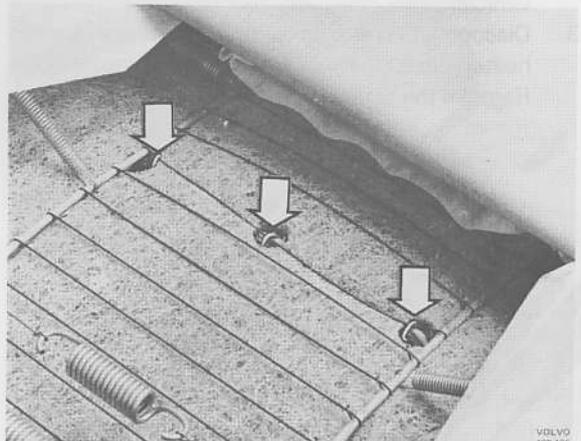
Removing bushing

- (B). Pry loose the frame for the catch release lever:



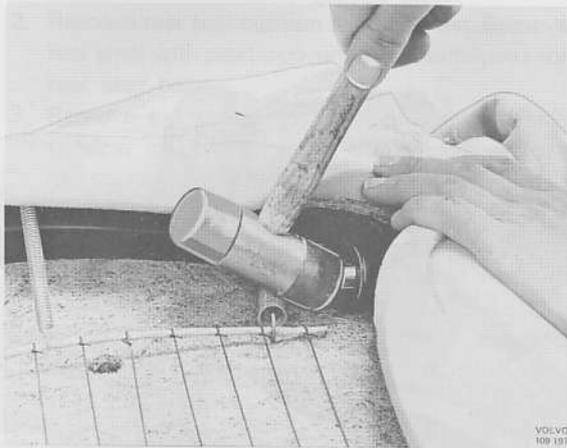
Removing frame

- C. Fold away the upholstery until three clamps are accessible. Cut and remove the clamps:



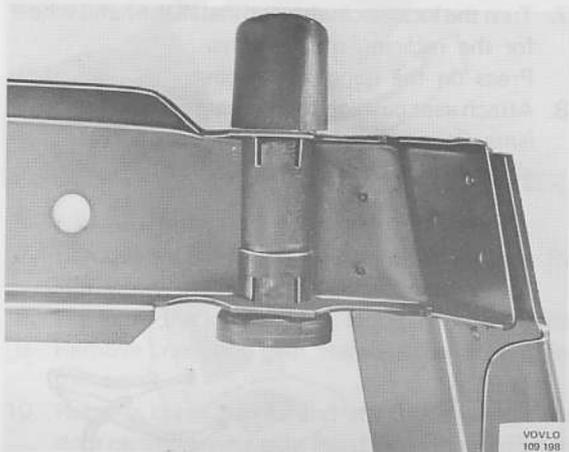
Clamps

- D. Unfold the upholstery completely. Knock loose the head restraint. Remove head restraint and upholstery:



Knocking loose head restraint

- E. Carefully loosen the padding and fold it loose from the seat frame. Remove the head restraint lower bushings (locks).
F. Install new bushings (locks):



Installing bushings

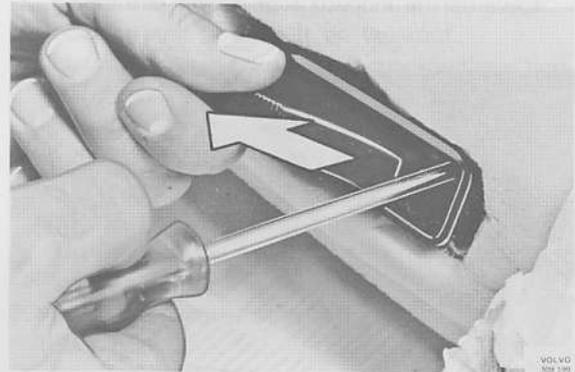
- G. Apply glue to the seat frame back side and fold on the padding.
H. Fold on the upholstery slightly. Install the head restraint. Check that the head restraint is securely locked.
I. Attach the rod to the suspension mat with three clamps.

Replacing control or control cables for seat back latch

(See also "Replacing head restraint or seat back upholstery", previous page)

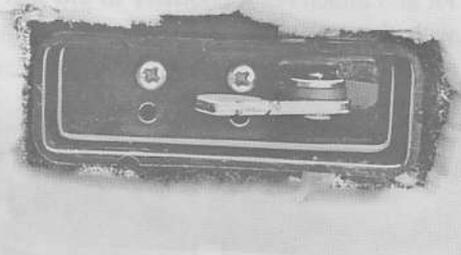
- A. Remove the lumbar support hand wheel. Pull loose the plastic bushing in the seat back.

- (B). Pry loose the frame for the catch release lever.
C. Fold away the upholstery until three clamps are accessible. Cut and remove the clamps.
D. Unfold the upholstery until the release lever is accessible.
E. Pull off the cable locks and disconnect the cables from the seat reclining mechanisms.
F. Pry loose the release lever for the seat back catch:



Removing mechanism lever

- G. Remove two retaining screws and the catch release mechanism.
H. Disconnect cables from the mechanism.
I. Attach the new mechanism and cover to the seat back frame:



Installing mechanism and cover

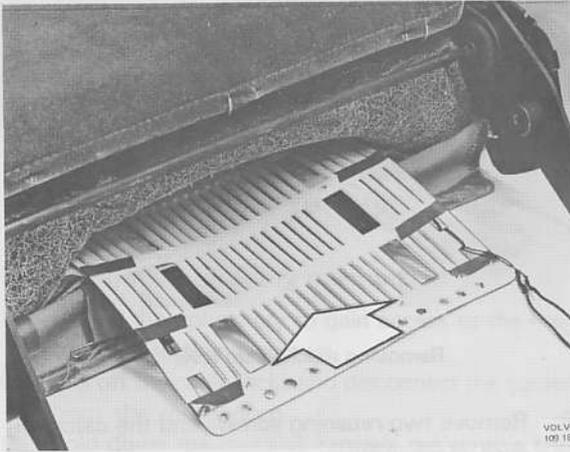
- J. Press on the lever.
K. Attach cables with retainers to the release mechanism:



Installing cables

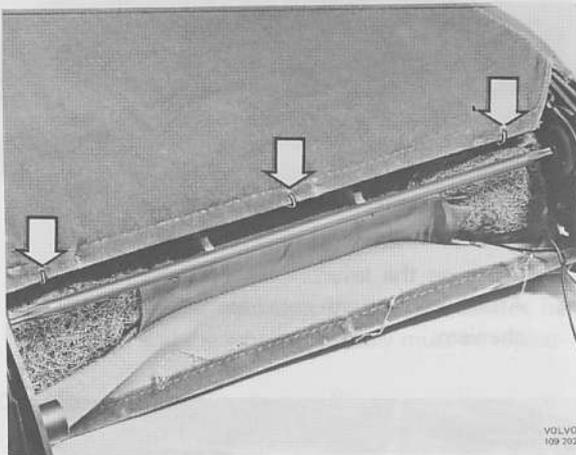
Front seats

- L. Hook the cables to the seat reclining mechanisms and lock the cable sheaths.
- M. Attach the rod to the suspension mat with three clamps.
- 9. Fold on the upholstery completely. Check for wrinkles.
- 10. Position the heater pad.
NOTE: the heater element barbs should point towards the padding. The wires should be routed towards the inboard side of the cushion:



Installing seat back heater pad

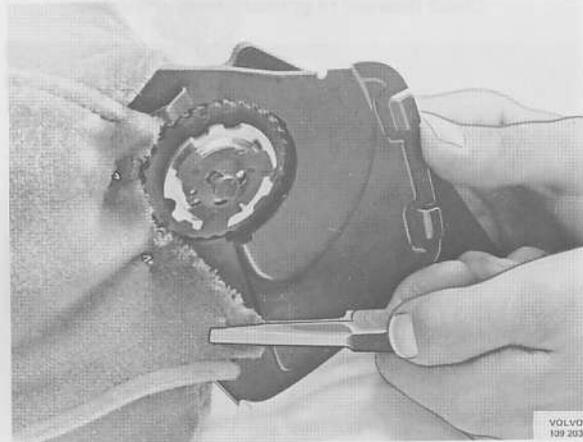
- 11. Attach the upholstery plastic hooks to the suspension mat lower wire.
- 12. Fit and attach rear upholstery to the seat frame with three clamps.



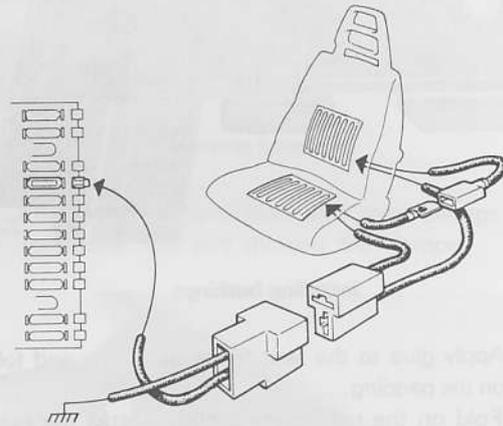
Fitting side upholstery

- 13. Fit and attach front upholstery to rear upholstery, using four clamps.

- 14. Bend out the sheet metal tabs of the seat reclining mechanisms.
Fit and hook on the side upholstery and then re-shape the tabs.



- 15. Press on the release lever frame.
Press on the bushing for the lumbar support hand wheel. Install the hand wheel.
- 16. Install the plastic covers for the seat reclining mechanisms.
- 17. Turn the lock clockwise and install the hand wheel for the reclining mechanisms.
Press on the hand wheel cover.
- 18. Attach seat cushion to the seat reclining mechanisms. Connect wires from seat back and seat cushion heater pads.



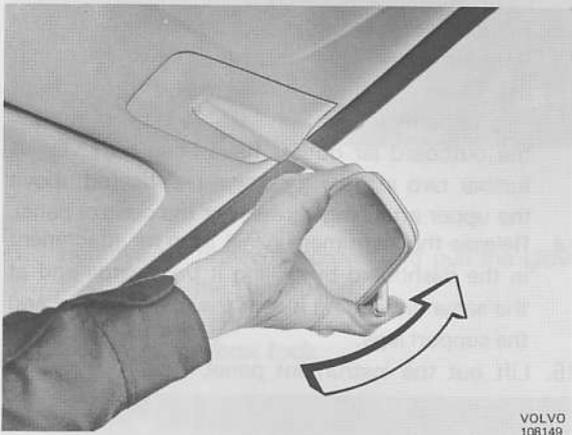
Wires for heater pads

- 19. Install the seat in the vehicle and connect the wires at the junction box.

Replacing headlining 242/244 and 262/264

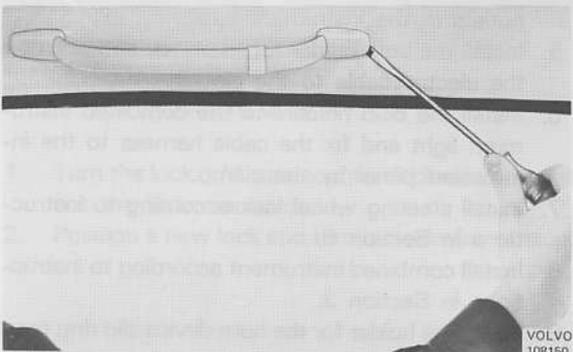
Removing

1. Disconnect the battery ground cable.
2. Remove rear seat cushion and back rest. Remove rear shelf with plastic covers and attachments for rear seat belts.
3. Remove side panels located between rear side window and rear window, otherwise they may get stained.
4. Disconnect the electric connections for the rear window heater.
5. Remove the rear window according to separate instructions.
6. Remove the interior rear view mirror by pressing it forwards. Remove the rear view attaching plate from the roof.



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7. Remove attachments, incl. support bearings, for sun visors. Remove the sun visors.
8. Pry loose the interior light. Disconnect the wires.
9. Remove crank and gear. Remove the housing for the crank.
10. Remove curve handle and attachments over the door on the driver's side. Bend loose the trim cover to gain access to the screws.



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11. Turn the plastic plugs at the rear edge a quarter turn to release the headlining.
12. Lift out the headlining through the rear window opening.
13. Pry loose with a screwdriver to remove panels on front door pillar. Pry loose upper cover strip on the windshield.

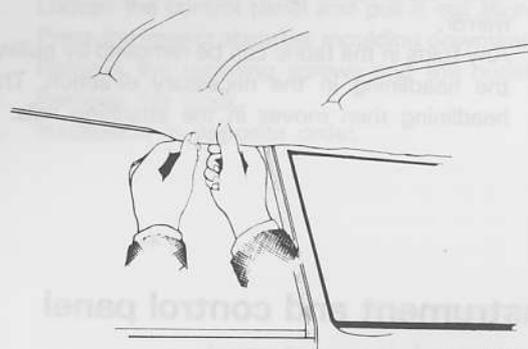
Installing

1. Insert the headlining through the rear window opening and position it on the roof.
2. Install rear view mirror attachment without tightening the screws.
3. Install the plastic plugs at the rear end of the headlining. Press in and turn a quarter turn.
4. Install curve handle and attachments over the front doors. Install trim covers.
5. Tighten the attachments for the rear view mirror. Install sun visors with support bearings.
6. Install front cover strip and panels on the front door pillars.
7. Connect and install the interior light.
8. Install the rear view mirror.
9. Install crank housing, gear and crank.
10. Install rear window. Connect the wires.
11. Install rear side panels. Install caps and attachments for rear seat belts.
12. Install rear shelf. Install rear seat.
13. Reconnect the battery ground cable.

Replacing headlining, 245/265

Op. No. 85104

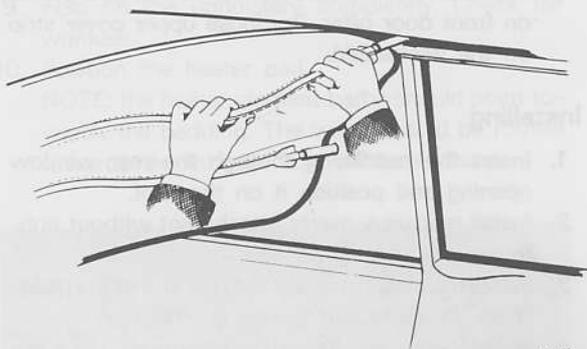
1. Remove the interior light, sun visors, and rear view mirror.
2. Pull down the edge of the headlining with finger and thumb on one side so that the plastic edge can be released from its fastening in the rail.
3. Then pull down the headlining all round.



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Removing headlining

4. Take down the stretchers beginning from the back by bending them down in the middle and releasing them from the edge of the roof.



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Removing roof stretchers

NOTE: Be careful when removing and installing the stretchers. Careless handling can cause the ends to damage the roof plate.

5. Install the stretchers in the new headlining.
NOTE: the stretchers are different lengths.
Make sure that they are provided with rubber caps at the ends.
6. Install the headlining by first inserting the stretchers beginning with the front one.
7. Stretch the headlining forwards and tuck in the plastic strip at the front edge.
8. Then stretch the headlining backwards by pulling both ends of a stretcher at the same time. Begin at the front and pull on each stretcher working backwards, after which the rear plastic strip can be tucked into its groove.
9. Now pull over the headlining towards one side and tuck in the plastic strip. Then stretch the headlining over towards the other side and tuck in the plastic strip.
10. Install the interior light, sun visors and rear view mirror.
11. Any folds in the fabric can be removed by pulling the headlining in the necessary direction. The headlining then moves in the attaching rails.

Instrument and control panel

Removing instrument panel

1. Disconnect the battery ground cable.
2. Remove steering wheel (Section 6 "Replacing steering wheel") and steering column covers.
3. Release the screws holding the switches for turn signal and wiper and thereafter the plastic casing in front of the steering wheel.
4. Remove the holder for the horn slip ring.

5. Remove the combined instrument according to instructions in Section 3.

Remove the steering wheel lock according to instructions in Section 6.

Take out the bulb holders in the combined instrument lights and the hub holder in the clock. Disconnect the electric wire from the clock and the harness from the lower part of the instrument panel. A clamp is situated immediately under the clock and another underneath the combined instrument to the left.

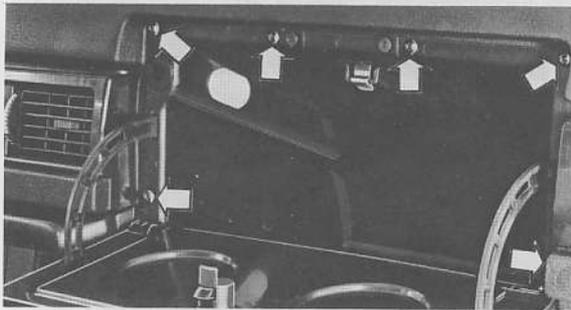
9. Remove the heater side panels. Remove the hoses for the four air outlets on the instrument panel.
10. Remove both lower screws for the control panel and then tip it back as far as the wires permit.
11. Disconnect the electric wires to the glove locker light by opening the locker lid and pulling the entire light inwards. The wires are disconnected in this position.
12. Remove outboard air outlets and the light switch.
13. Remove the screws securing the instrument panel. There are three on each side of the firewall, two underneath and one which is visible when the outboard air outlets have been removed. A further two attaching screws are located above the upper attaching screws for the control panel.
14. Release the instrument panel from its attachment in the dashboard by pulling it backwards and at the same time lifting it over the control panel and the support legs.
15. Lift out the instrument panel.

Installing instrument panel

1. Check to make sure that the rubber bushings in the dashboard are not damaged. Otherwise replace them.
2. Place in the instrument panel with the guide pin in the rubber bushing and screw tight to the cowl sides and support legs.
3. Install light switch and outboard air outlets.
4. Install hoses between car heater and center air outlets in the instrument panel.
5. Install the bulb holder for the clock and hook up the electric cable to the clock.
6. Install the bulb holders to the combined instrument light and fix the cable harness to the instrument panel by the clamp.
7. Install steering wheel lock according to instructions in Section 6.
8. Install combined instrument according to instructions in Section 3.
9. Install the holder for the horn device slip ring onto the steering column.
10. Install the control for turn signal switch and windshield wipers, also hook up the electric cables to them.

11. Install casings over the steering column.
12. Install steering wheel, see Section 6.
13. Hook up the electric cables to the glove locker light.
14. Install the hoses to the outboard air outlets. Install center panels.
15. Install lower attaching screws for the control panel.
16. Connect battery ground cable. Check the function of the instruments and lamps in connection with this installation.

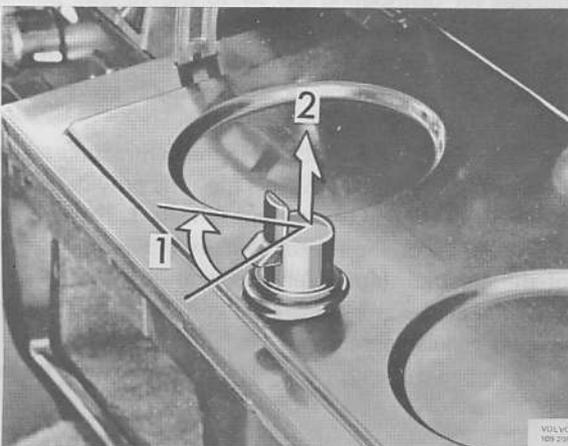
Removing glove box



Removing glove box

1. Remove six retaining screws and pull the glove box out of the dash board.

Replacing glove box lock



Replacing glove box lock

1. Turn the lock 1/4 turn counterclockwise and pull out the lock rearwards.
2. Position a new lock and turn it clockwise to stop.

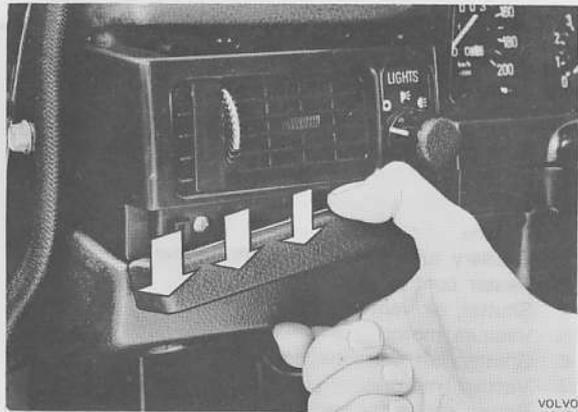
Control panel

Removal of the control panel can be started once the battery ground cable has been disconnected. Thereafter remove the panel attaching screws and lift the panel forwards until the wire connections are accessible. Note that the panel is attached by six screws. Two are underneath the panel. Mark the connections and disconnect them from their terminals. The panel can then be lifted out.

When re-installing, place the panel first in a suitable position, re-connect the wires and then place the panel in position. Thereafter screw tight and re-connect the battery ground cable.

Replacing outboard air outlet

1. Pull off the knob of the main light switch.
2. Press the impact absorber moulding downwards.
3. Remove two retaining screws and the outlet.
4. Installation in opposite order.

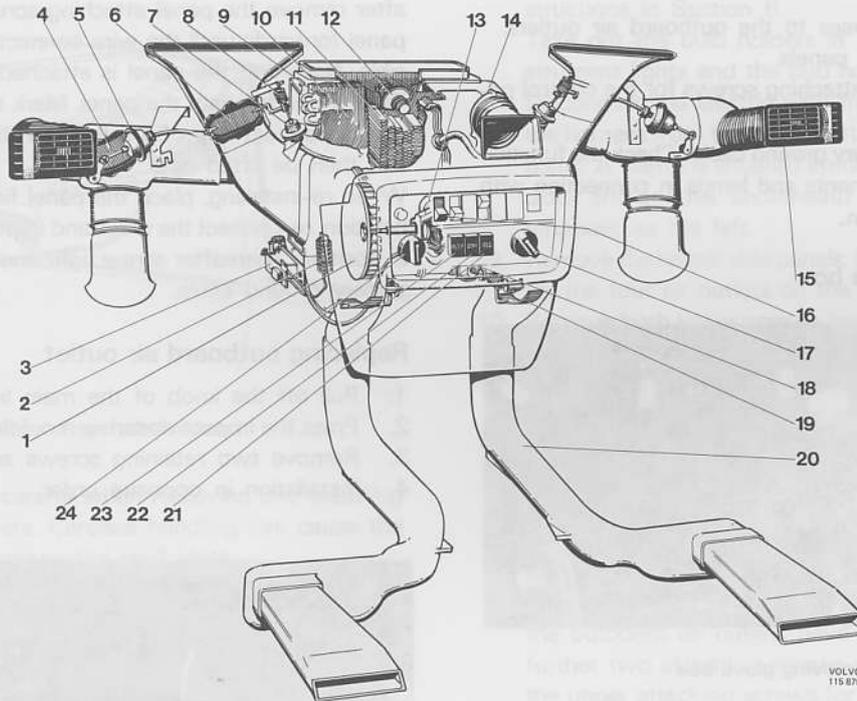


Removing impact absorber moulding

Replacing center air outlet

1. Loosen the control panel and pull it out slightly.
2. Press the impact absorber moulding downwards.
3. Remove the retaining screws and the outlets.
4. Remove the clock.
5. Installation in opposite order.

Combined unit



1. Turbine
2. Capillary tube for heater control valve
3. Heater control valve
4. Shutter, air vent left floor
5. Vacuum motor
6. Shutter, left defroster nozzle
7. Vacuum motor
8. Return spring for vacuum motor
9. Evaporator (vehicles with air conditioning)
10. Air intake cover
11. Heater cell assembly
12. Vacuum motor for air intake cover
13. Fan motor
14. Central unit
15. Blow-in valve
16. Air conditioning switch
17. Fan motor switch
18. Vacuum motor
19. Shutter, right air duct, rear floor
20. Air duct to rear floor
21. Knob, air intake cover
22. Knob, defroster shutter
23. Knob, floor shutter
24. Temperature controls

This is a combined heater and fresh-air unit, prepared for installation of air conditioning. It consists of a central unit 14, located under the dash, and air ducts and nozzles for distributing the air to the various points inside the car. All shutters for air directing are regulated by vacuum, which is taken from the engine intake manifold via a vacuum tank located on the firewall in the engine compartment.

An electric motor (13) located in the central unit takes care of the air circulation. This motor is provided with a through shaft and two turbine wheels 3. The cellular assembly 12 of the heater system is placed in front of the electric motor. Vehicles with air conditioning have the evaporator 9 installed in front of the heater system cellular assembly.

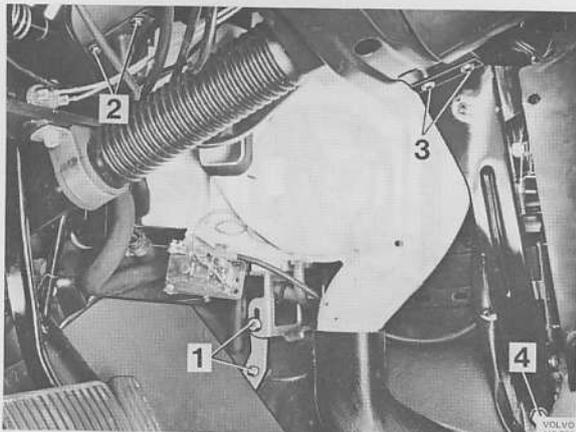
The combined unit is operated by two knobs and three push buttons placed on the control panel.

Instrument and control panel

Removing instrument panel

1. Disconnect the battery ground cable.
2. Remove steering wheel (Section 8 "Replacing steering wheel") and steering column covers.
3. Push up the screws holding the switches for turn signal and wiper and thereafter the plastic casing in front of the steering wheel.
4. Remove the holder for the horn stop ring.

Replacing turbine wheel, left side



Central unit, left side

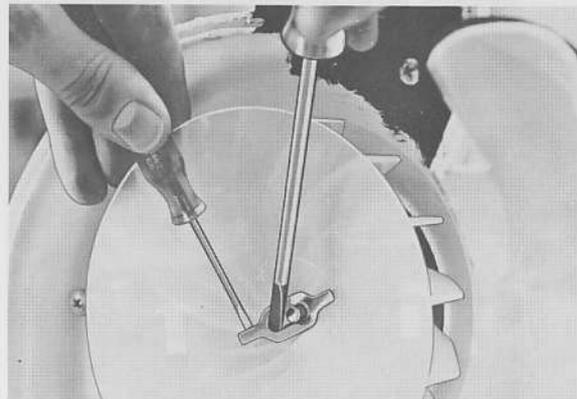
1. Screws for bottom bracket
2. Screws for upper bracket
3. Upper screws for support legs
4. Lower screw for support legs

1. Disconnect the battery ground cable.
2. Fold the floor carpet to the one side and remove the side panels from the central unit.
3. Remove screws 4 and 5 for the control plate support legs on both sides, and move the plate as far back on the transmission tunnel as the electric wires permit.
4. Remove the attaching screw for the rear floor air duct so that the duct can be disconnected from the central unit.
5. Remove the combined instrument (see instructions, Section 3).
6. Disconnect vacuum hoses from vacuum motors for left defroster outlet and left floor outlet. Remove defroster nozzle and air duct to left air outlet.
7. Remove the air hose between the central unit and the left, inner air outlet.
8. Remove the clamps on the central unit outer end and remove the end:



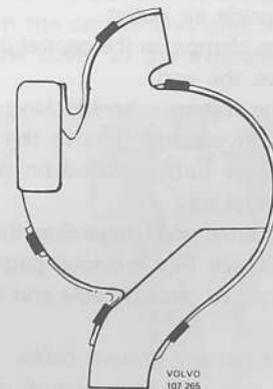
Removing clamps for outer red

9. Remove the turbine wheel locking with help of two screwdrivers. Remove the turbine.



Removing locking for turbine

10. Place the new turbine wheel on the shaft and install the locking.
11. Install the outer end and check at the same time that the heater control valve capillary tube with rubber grommet is properly installed in the air duct.

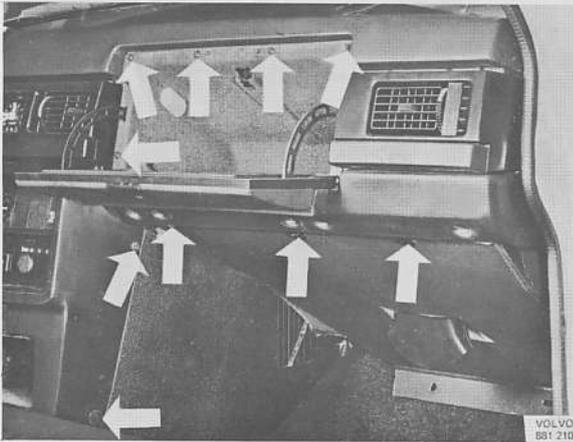


Placing clamps for outer end

12. Connect battery ground cable and make a function test.
13. Disconnect the battery ground cable.
14. Install the air duct between the central unit and the air vent.
15. Install the defroster nozzle and air duct and connect up the vacuum hose.
16. Install combined instrument (see instructions, Section 3).
17. Install the air duct to the rear floor.
18. Place the control plate and support legs in position and screw tight the support legs.
19. Put back the floor mat and install the side panels.
20. Re-connect the battery ground cable.

Replacing turbine wheel, right side

1. Perform points 1 to 4 under "Replacing turbine wheel, left side".
2. Remove right side panel, insulation panel, and glove box:



Removing panels and glove box

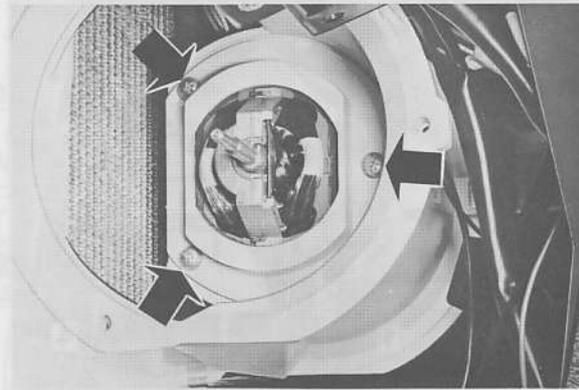
3. Disconnect the vacuum hoses from vacuum motors for right defroster nozzle and right floor outlet. Remove the defroster nozzle and the air duct to the right air outlet.
4. Remove the air duct between the central unit and the right inside air outlet.
5. Remove the clamps on the central unit outer end and remove the end.
6. Remove the turbine wheel locking with help of two screwdrivers and remove the turbine.
7. Place the new turbine wheel on the shaft and install the locking.
8. Install the outer end. Regarding the location of the clamps, see Fig. previous page.
9. Connect battery ground cable and make a function test.
10. Disconnect battery ground cable.
11. Install the hose between central unit and right inner air outlet.
12. Install defroster nozzle and air duct. Connect the vacuum hoses.
13. Install glove box, insulation panel and right side panel.
14. Perform points 17 to 20 under "Replacing turbine wheel, left side".

Replacing blower motor

Op. No. 85406

1. Remove the right and left turbines according to previous instructions.
2. Move the heater control valve capillary tube to the one side.
3. Remove the left inner end from the central unit.

4. Remove the blower motor retainer:



Screws for blower motor retainer

5. Disconnect the contact unit from the blower motor control and disconnect the blower motor electric wires from the contact unit and the control plate:



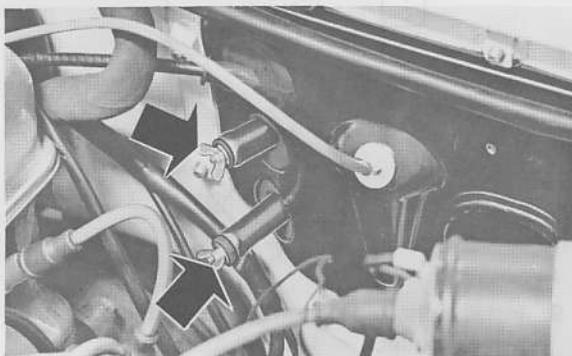
Removing electric cables for contact unit

6. Remove the rubber grommet and pull down the electric wires through the right opening in the central unit.
7. Lift out the blower motor through the left opening.
8. Place the blower motor in position in the central unit and screw tight the retainer.
9. Pull through the electric wires and install the rubber grommet.
10. Connect the electric wires to the contact unit and the control plate, also connect the contact unit to the blower motor control.
11. Install the inner left end and adjust in the heater control valve capillary tube.
12. Install the turbine wheels according to previous instructions.

Removing central unit

The points in brackets apply only to vehicles equipped with air conditioning.

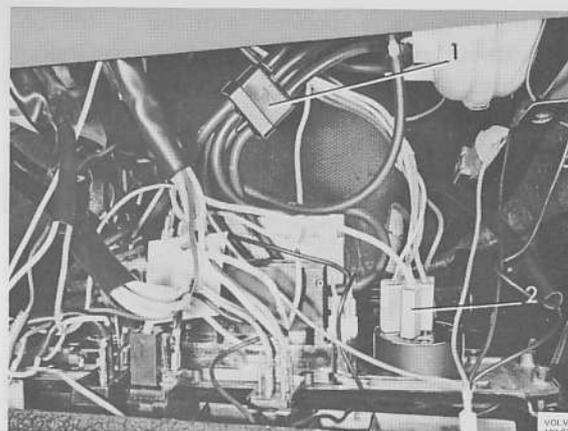
1. Drain the coolant.
2. Disconnect battery ground cable.
3. Remove the heater system's water hoses from the joint pipes in the firewall, and plug the pipes:



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107 269

Installing plugs in heater system connection pipe

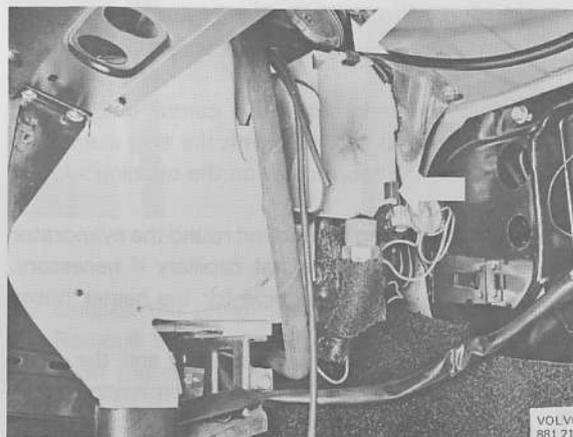
- (4). Remove clamps from the hoses to the evaporator and remove the firewall door without loosening the hoses to the evaporator.
5. Remove the combined instrument (see instructions, Section 3), the air hose between the central unit and the left inner air vent, also the vacuum hoses from vacuum motors for left defroster nozzle and left floor outlet.
6. Remove the left side panel for the central unit.
7. Fold the floor mat out of the way and disconnect the rear floor air duct from the central unit.
8. Disconnect the joint pipes for the heater system's water hoses from the firewall.
9. Remove the upper and lower screws for the left support leg, and the screws for the upper and lower brackets, from firewall and transmission tunnel.
NOTE: The screws for the upper bracket should only be slackened a couple of turns.
10. Remove the right side panel from the central unit.
11. Remove right insulation panel and glove box.
12. Remove the right side defroster jet, and the hose from the central unit to right center jet.
13. Fold the floor carpet out of the way and disconnect the rear floor air duct.
14. Remove the upper and lower screws for the right support leg, also the lower screws for the control panel.
15. Disconnect the ground wires from the control plate and the contact unit from the blower motor control 2.



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102 376

Control panel reverse side

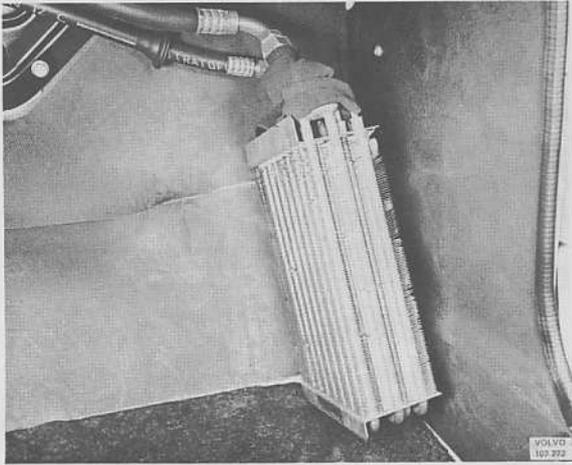
1. Connector for vacuum hose
 2. Contact unit for blower motor control
16. Disconnect the hot wire (thick yellow) from the contact.
 17. Separate the connector 1 for the vacuum hoses and disconnect the vacuum tank hose from the connector.
 18. Move the control plate as far back on the transmission tunnel as the wires permit.
 19. Remove the screws, for the upper and lower brackets, from the firewall and the transmission tunnel.
 - (20) Disconnect the thermostat attachment Fig. below, from the central unit, and both clamps securing the cover to the evaporator.



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881 213

Cover for evaporator

- (21) Remove the evaporator from the central unit without disconnecting any of the refrigerant hoses, and place it at the right side of the cowl:



Placing evaporator on floor

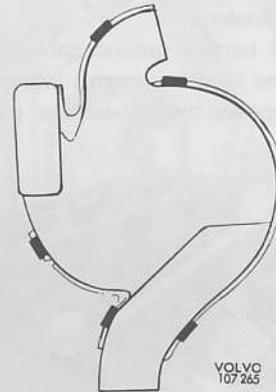
22. Remove the central unit right, outer end, turbine wheel and inner end.
23. Central unit.

Installing central unit

The points in brackets apply only to vehicles equipped with air conditioning.

1. Lift the central unit onto the right floor, and install the rubber seal for the air intake.
Lift the central unit into position and insert the left, upper bracket over the screws on the dashboard. Install the right bracket screws and tighten the left ones.
- (3) Install the evaporator in the central unit. Put on the cover and secure it with the two clamps (1, Fig.), also the thermostat on the opening's lower flange.
4. Seal with sealing compound round the evaporator pipes and the thermostat capillary if necessary.
5. Install the connection pipe for the heater hoses to the dashboard.
6. Install the lower tunnel brackets and the drain hose through the hole in the transmission tunnel.
7. Install the right, inner end and the vacuum hose for the floor shutter.

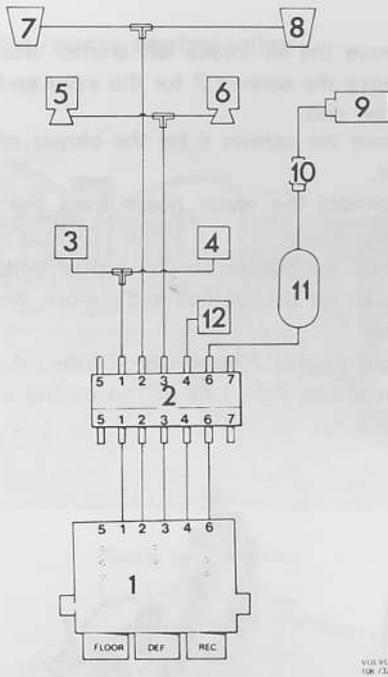
8. Install the turbine wheel and the outer end. Location of clamps is shown below:



9. Install air hose between central unit and right, inner air outlet.
10. Install right defroster nozzle and connect vacuum hose.
11. Install glove box.
12. Install air duct to right air outlet.
13. Install air ducts for rear floor.
14. Install air hose to the left inner air outlet and adjust left defroster nozzle and connect its vacuum hose.
15. Install the combined instrument (see instructions, Section 3).
16. Put the connection piece of the vacuum hoses together and connect the hose from the vacuum tank.
17. Connect the hot wire (thick yellow) to the blower motor control contact unit, and connect the contact unit to the control.
18. Connect ground wires and screw tight instrument plate and support legs.
19. Fold back floor mat. Install control panel, side panels and insulation panels.
20. Connect the heater system water hoses to the connection pipes on the dashboard.
- (21) Install the firewall door and clamp the refrigeration hoses in the engine compartment.
22. Fill coolant.
23. Re-connect battery ground cable and function test.

Replacing blower motor

1. Remove the right and left brackets according to previous instructions.
2. Mount the heater control valve capillary tube to the one side.
3. Remove the left side and from the central unit.

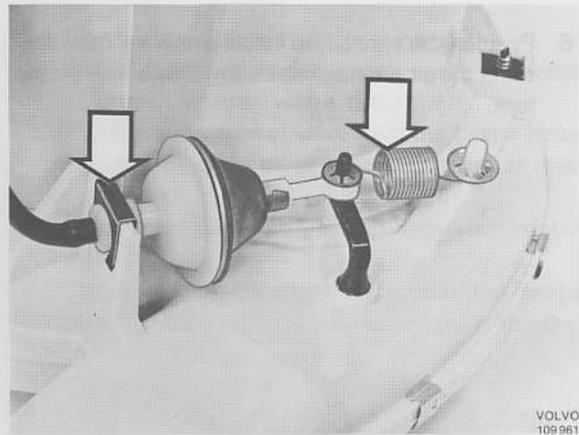


Lay-out diagram for vacuum control system

1. Control panel
2. Connector
3. Vacuum motor for rear floor, left
4. Vacuum motor for rear floor, right
5. Vacuum motor for front floor, left
6. Vacuum motor for front floor, right
7. Vacuum motor for defroster, left
8. Vacuum motor for defroster, right
9. Engine intake manifold
10. Check valve
11. Vacuum tank
12. Vacuum motor for air intake cover

Replacing vacuum motor for rear floor air shutter

1. Disconnect the battery ground cable.
2. Remove the side panel for the central unit, right or left depending on the vacuum motor to be replaced.
3. Remove the upper and lower screws for the support legs and lift the control plate to the one side.
4. Disconnect the vacuum motor locking from the shutter shaft and attachment (Fig.), and motor with vacuum hose.
5. Transfer the hose to the new vacuum motor.
6. Place the vacuum motor in position and install the locks.
7. Install the control plate, support legs and side panel.
8. Re-connect battery ground cable and function test.

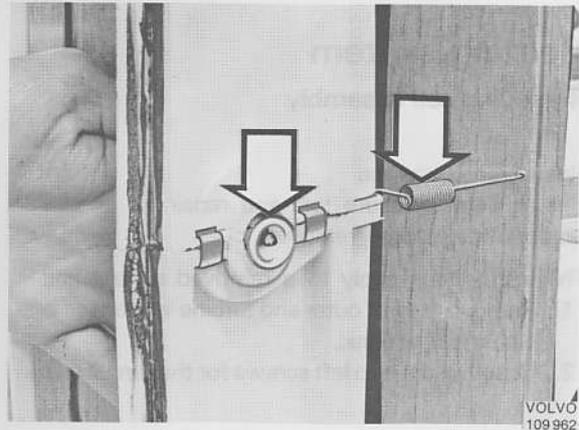


Vacuum motor for air shutter to rear floor

Replacing vacuum motor for central unit air intake

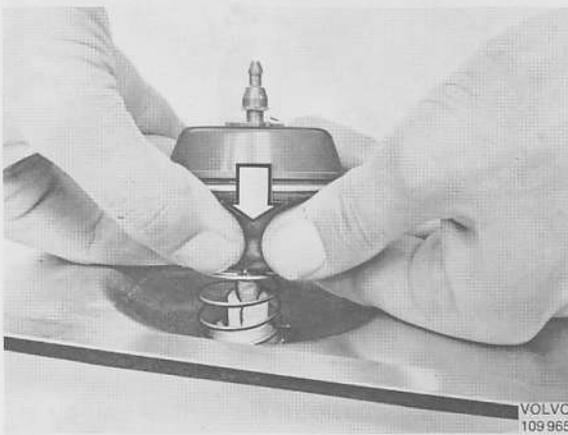
The instructions apply to a removed central unit.

1. Remove hose from vacuum motor.
2. Pry loose the vacuum motor outer plastic lock, see Fig. below. Remove the vacuum motor from the housing and remove the spring.



3. Unhook the return spring from the air shutter.
4. Remove the shutter shaft locks (1, Fig. above). Push the shutter towards one side to free one end of the shaft. Then release the other end. Pull out air shutter with vacuum motor from the housing.
5. Pry loose the vacuum motor inner plastic lock, in the air shutter. Remove vacuum motor and spring.

- Position the spring and install a new vacuum motor in the air shutter, see below. Use a new plastic lock.



- Position air shutter with vacuum motor in the housing. Insert the shutter shaft in the housing. Install the shaft locks.
- Hook on the air shutter return spring.
- Position the spring and install the vacuum motor in the housing. Use a new plastic lock.
- Reconnect vacuum hose to the vacuum motor.

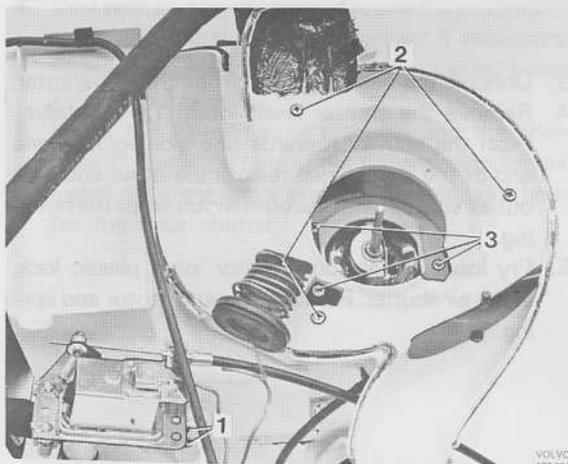
Heating system

Removing cell assembly

Heater Core, replace	Op. No. = 85404
Heater Core, pressure test and repair (solder), heater core removed	= 85479

The instructions apply to a removed central unit.

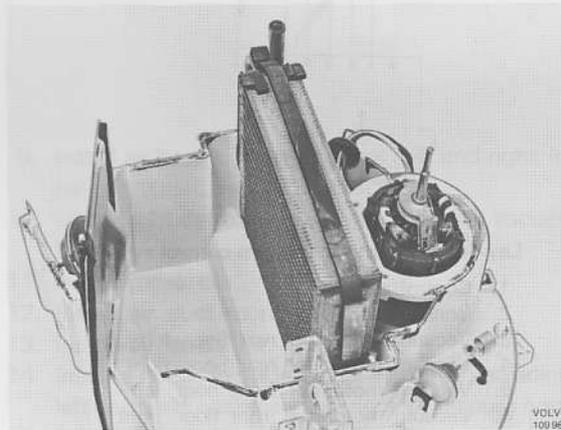
- Remove the left outer end turbine wheel (see previous instructions).
- Unscrew the two left screws for the tunnel bracket 1:



Disassembling central unit

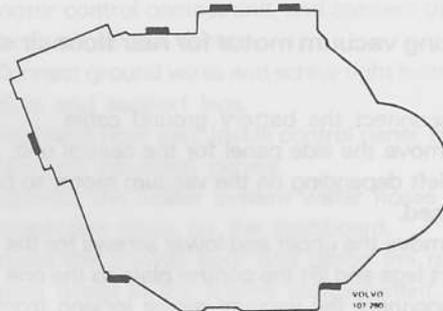
- Screws for lower bracket
- Shutter shaft locking
- Screws for inner end
- Screws for blower motor holder

- Remove the air intake left shutter shaft lock.
- Remove the screws 3 for the inner end and lift off the end.
- Remove the screws 4 for the blower motor retainer.
- Disconnect the water hoses from the cell assembly.
- Remove the clamps for the central units middle joint, lift off the left half and remove the cell assembly.
- Place the new cell assembly with insulation in position in the right half of the central unit.



Positioning cell assembly

- Install the left half. For location of clamps, see Fig below:

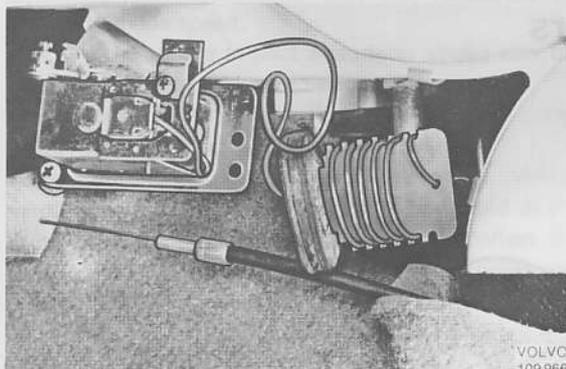


Location of clamps for middle connector

- Install the retainer for the blower motor.
- Install the inner end, turbine wheel and outer end.
- Install the attaching screws for the tunnel bracket.
- Install the shutter shaft locking for the air intake.

Replacing heater control valve

Op. No. 85464



VOLVO
109 966

Heater control valve

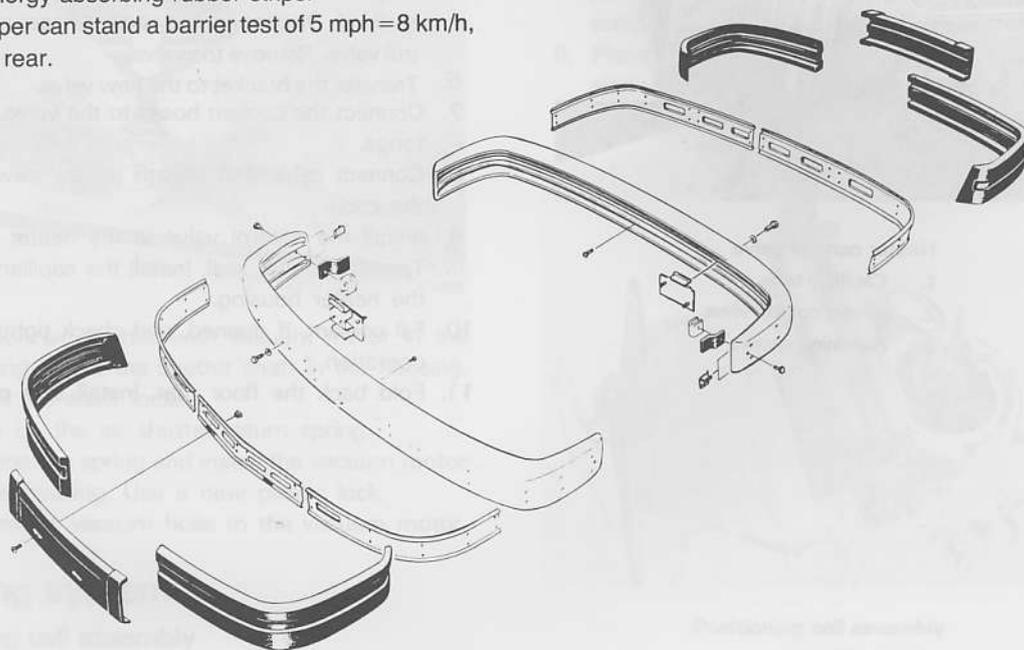
1. Capillary tube
2. Heater control valve
3. Retaining screws

1. Remove central unit left side panel.
2. Unfold floor mat and put rags under the valve to protect against water spill.
3. Pull loose the control valve from the heater housing. Use tongs to block the water hoses or drain the coolant.
4. Disconnect cable and sheath from the control valve.
5. Disconnect the capillary tube from the heater housing. Disconnect the coolant hoses at the control valve. Remove the valve.
6. Transfer the bracket to the new valve.
7. Connect the coolant hoses to the valve. Remove tongs.
8. Connect cable and sheath to the valve. Adjust the cable.
9. Install the control valve in the heater housing. Transfer rubber seal. Install the capillary tube in the heater housing.
10. Fill coolant, if drained, and check tightness and operation.
11. Fold back the floor mat. Install side panel.

Group 86

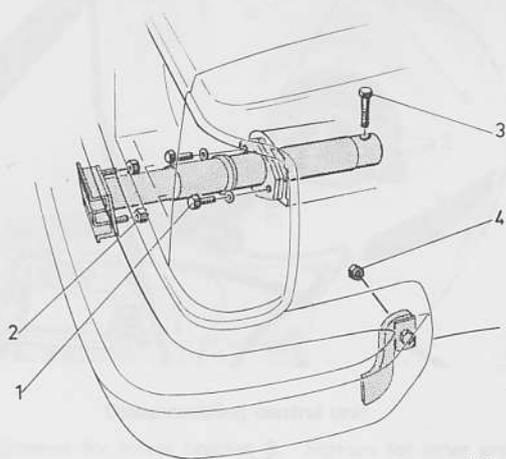
Bumpers

The bumpers are made in aluminum and provided with heavy, energy absorbing rubber strips.
This bumper can stand a barrier test of 5 mph = 8 km/h, front and rear.



Op. No.

- 86134 = remove and install front bumper
- 86136 = remove and install rear bumper
- 86189 = replace front bumper strip, bumper removed
- 86191 = replace rear bumper strip, bumper removed
- 86206 = replace front bumper shock absorber, bumper removed
- 86208 = replace rear bumper shock absorber, bumper removed



Removing/installing bumper

1. Remove the retaining plates (4).
2. Remove the nuts (2) for the bracket and lift off the bumper.
3. Installation in opposite order.

Impact absorbers

The impact absorbers contain gas and fluid and are speed-related. That means that the resistance increases with the speed.

Thereby the whole impact absorbing stroke can be used also for low speed impacts.

The function is very much the same as for a combination of a spring and a shock absorber.

When compressed, gas and fluid are forced through narrow channels. The compress is damped and at the same time the fluid compresses the gas. When the outside force is released, the gas expands again and presses the fluid back and the bumper retains the original position. The fluid this way acts as a shock absorber and the gas as a spring.

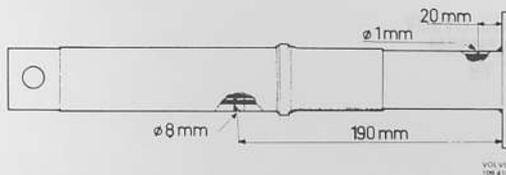
The impact absorbers are partly gas filled and no welding on or close to them is permitted. Heating may expand the gas to such an extent that the impact absorbers are blown. If therefore oxy-acetylene cutting must be performed to remove the impact absorbers, the gas pressure should first be released.

There are two brands of impact absorbers:

Fichtel & Sachs
Boge

To release the gas pressure, proceed as follows:

Fichtel & Sachs

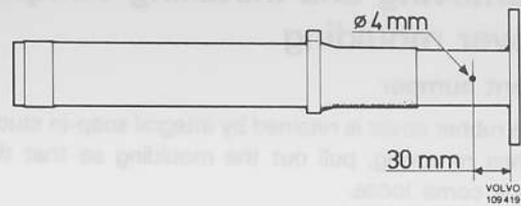


Place the impact absorber horizontally. To release the gas, drill a hole 1/32" (1 mm) diam. approx. 3/4" (20 mm) from the end, as shown above.

Then drill a second hole, 5/16" (8 mm) diam. approx. 7.5" (190 mm) from the end. The holes should be positioned 180° opposite each other.

NOTE: Use safety glasses when drilling.

Boge



Place the impact absorber horizontally. To release the gas, drill a hole 5/32" (4 mm) diam. approx. 1.06" (30 mm) from the end, as shown above.

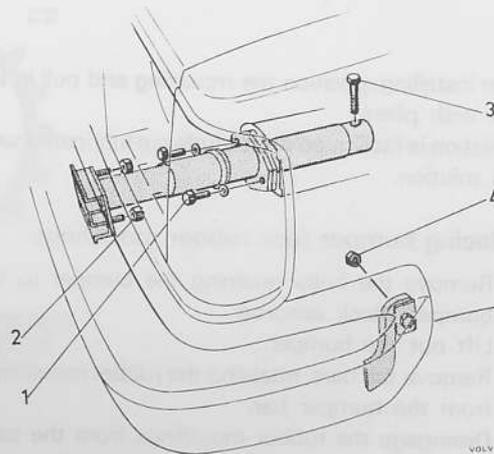
NOTE: Use safety glasses when drilling.

After holes have been drilled, cutting can safely be performed.

Before scrapping, a damaged or otherwise replaced impact absorber should be emptied by drilling holes.

Replacing

1. Remove the bumper as previously described.
2. Remove two retaining bolts (1) for the bracket.



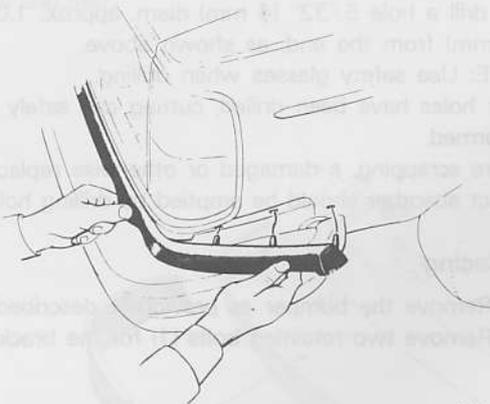
3. Remove retaining bolt (3) in the side member. It is accessible from inside the trunk. Remove impact absorber. Pull off the bracket and the spacer.
NOTE: empty gas before scrapping.
4. Attach bracket and spacer to the new impact absorber.
5. Position the impact absorber and fit the bolt from the side member.
6. Install bracket bolts.
7. Install bumper
NOTE: do not confuse front and rear impact absorbers. The rear ones have a shorter stroke.

Removing and installing bumper cover moulding

Front bumper

The rubber cover is retained by integral snap-in studs. When removing, pull out the moulding so that the studs come loose.

Be careful not to tear off the studs.



When installing, position the moulding and pull in the studs with pliers.

Installation is facilitated if the studs are lubricated with soap solution.

Replacing bumper face rubber mouldings

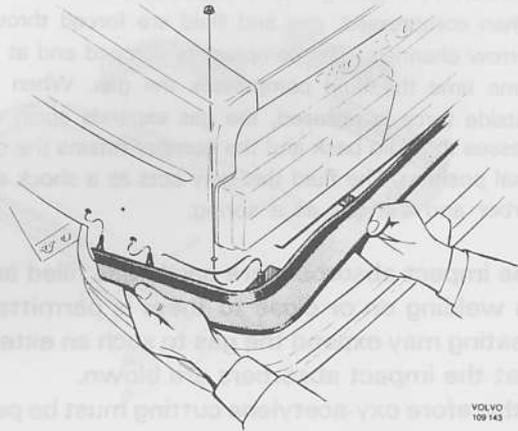
1. Remove the bolts retaining the bumper to the bumper shock absorber.
2. Lift out the bumper.
3. Remove the bars, retaining the rubber mouldings, from the bumper bar.
4. Disengage the rubber mouldings from the bars.
5. Install the new rubber mouldings by folding them over the retaining bars.
6. Install the units (retaining bars and rubber mouldings) to the bumper bar.
Use a small screwdriver to find the bolt holes.
7. Attach the bumper bar to the bumper shock absorber.

Rear bumper

Remove spare tire and rear interior panel.

Pull loose the moulding ends. They are retained by two rubber studs.

Remove retaining nut, both sides.



Pull out rubber cover, complete with retaining bars, from rear panel.

Installation in opposite order. Check that the retaining bar clips lock securely.



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