

SERVICE MANUAL

VOLVO
P 1800

Export Service Department

AKTIEBOLAGET

VOLVO

GÖTEBORG · SWEDEN

BODY

DESCRIPTION

The Volvo P 1800 has an integral body so that there is no independent chassis frame. The body is made up of a number of pressed steel plates. Each plate forms a part of the supporting construction. The main parts of the body can be divided up into the following groups: floor section, side sections, rear section, front section, roof, front fenders, doors, luggage compartment and hood.

The floor section consists of front and rear floor plates with inner bottom rails, front and rear cross-members, side members, tunnel, bulkhead, front wheel housings and front side plates. The floor plates are spot-welded to the rear seat support. Four brackets are fitted to the front cross-member and these serve as attachments for the front seat slide rails. The tunnel, which accommodates the propeller shaft, is spot-welded to the floor plates. On each underside of the rear floor plate there is a longitudinal reinforcement and a number of cross-members between these. One of the cross-members is provided with an attaching device for the rear axle track rod. There is a flanged hole in the rear floor plate for attaching the fuel tank, the top side of which forms part of the floor in the luggage compartment.

The bulkhead forms the front transverse wall of the body and is shaped with welded ends. The two front side members protrude from the front floor. At the front they are joined together with a cross-member and at the rear they are connected to the front cross-member under the front seat. From the upper corner of the bulkhead — front pillar there are upper reinforcing members. These are spot-welded to the front pillar, front side plates and wheel housing plates. The front axle member and bumper support bars are attached to the side members.

The roof section consists of a number of plates. The roof plates form the upper part of the cowl, wind-shield opening and the roof itself.

The front fenders and front end and hood comprise the front section. The front section is welded to the upper side member, front cross-member and front pillar. The front fenders are welded to the wheel housing plates. The front end forms the front part of the front section together with the air intake to the radiator. The hood is pivoted on two hinges. In the closed position the hood is secured by a hood lock fitted to the bulkhead. The lever for the hood lock is located to the left under the instrument panel inside the car.

The doors are made up of an inner and outer plate which are beaded and spot-welded together. The hinges are fitted on the inner plate. The doors are adjustable longitudinally, vertically and laterally.

The door locks are fitted to the doors with screws. The press button of the outside door handle influences a lever which in turn releases a rotating toothed roller (locking plunger). The inside door handle is fitted to the remote control which is attached to the inside door plate with screws. The handle transmits the action to the toothed roller by means of a linkage system. The locking device is fitted in the press button on the door handle.

The window lifts are of the lift arm and toothed segment type. When the window handle is turned, two parallel lift arms, one of them attached to a toothed segment, move the window to the required position.

The luggage compartment is built up of an inner and outer plate. There is a locking device fitted at the lower edge of the luggage compartment lid. Hinges are fitted at the upper edge of the lid. The hinges are bolted to the body. The luggage compartment lid is balanced with torsion rods. The lock shackle for the luggage compartment lid is fitted on the body. The lid is opened by pressing in the lock button.

The bumpers are fitted to four support bars. The front support bars are fitted to the front side members. The rear support bars are fitted to the rear side members.

REPAIR INSTRUCTIONS

FRONT SECTION

The front fenders and front end are welded together and also welded to the upper and lower longitudinal members, bulkhead and radiator air intake.

HOOD AND HOOD LOCK

The hood is removed by unscrewing the two nuts on the hinges.

The hood lock is fitted to the bulkhead and controlled by a lever from the driving seat. The downward tension of the hood is adjusted partly by screwing the rubber stop up or down and partly by placing packing pieces under the lock hook on the hood. The lock shackles are bolted to the rear corner of the hood and lubricated with paraffin when adjusting.

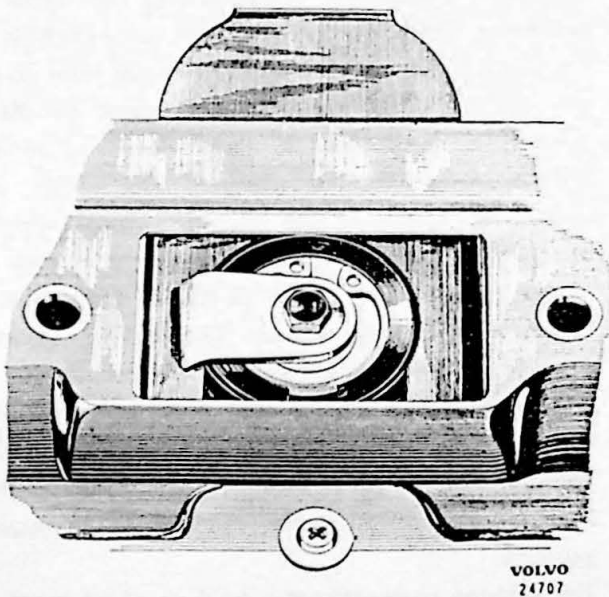


Fig. 11-1. Attachment of lock in luggage compartment lid

LUGGAGE COMPARTMENT LID

The luggage compartment lid is suspended on two hinges which are bolted to the inner plate of the lid and to the plate under the rear window.

The holes in the hinge part attached to the luggage compartment lid are oval, permitting longitudinal adjustment.

The lid is balanced with torsion stays. The locking device is attached to the lid with a screw and locking plate as shown in Fig. 11-1.

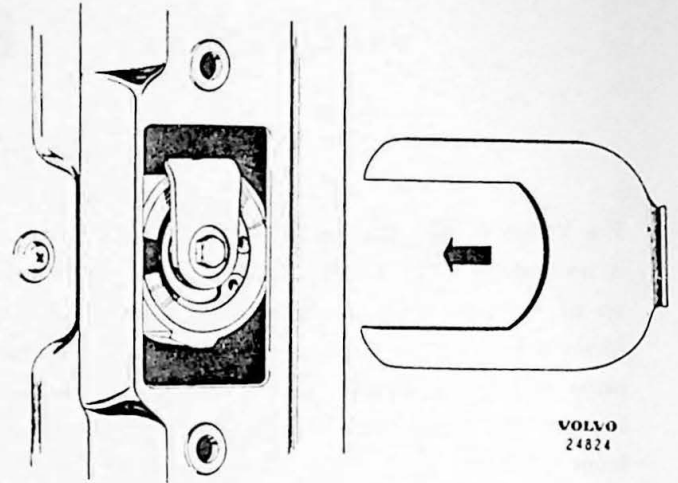


Fig. 11-2. Removing the lock from the luggage compartment lid

The lock is released by pressing in the lockable press button. The lock shackle on the lower edge of the body is adjustable to permit variation of the downward tension of the luggage compartment lid.

When removing the lock, the locking piece and X-headed screw are removed as shown in Fig. 11-2, after which the lock unit can be lifted out. The lock unit can be disassembled as shown in Fig. 11-3. When fitting, ensure that the rubber seal round the lock press button and the gasket which seals against the body are intact and seal properly.

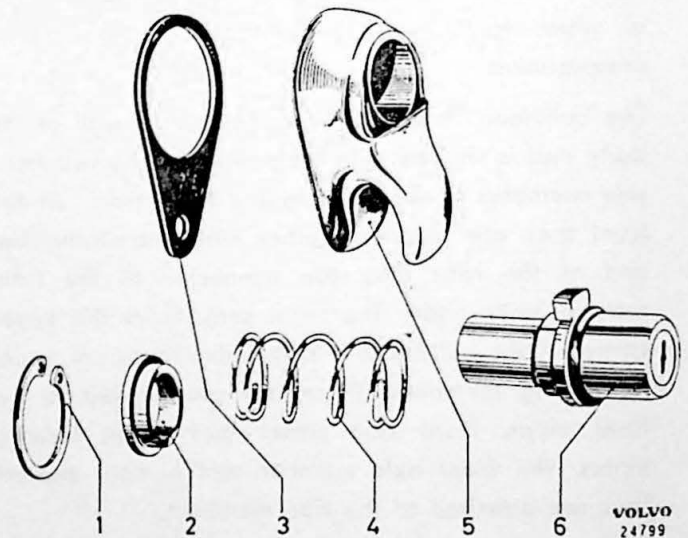


Fig. 11-3. Lock unit disassembled

1. Locking ring
2. Washer
3. Gasket
4. Spring
5. Handle
6. Press button with lock

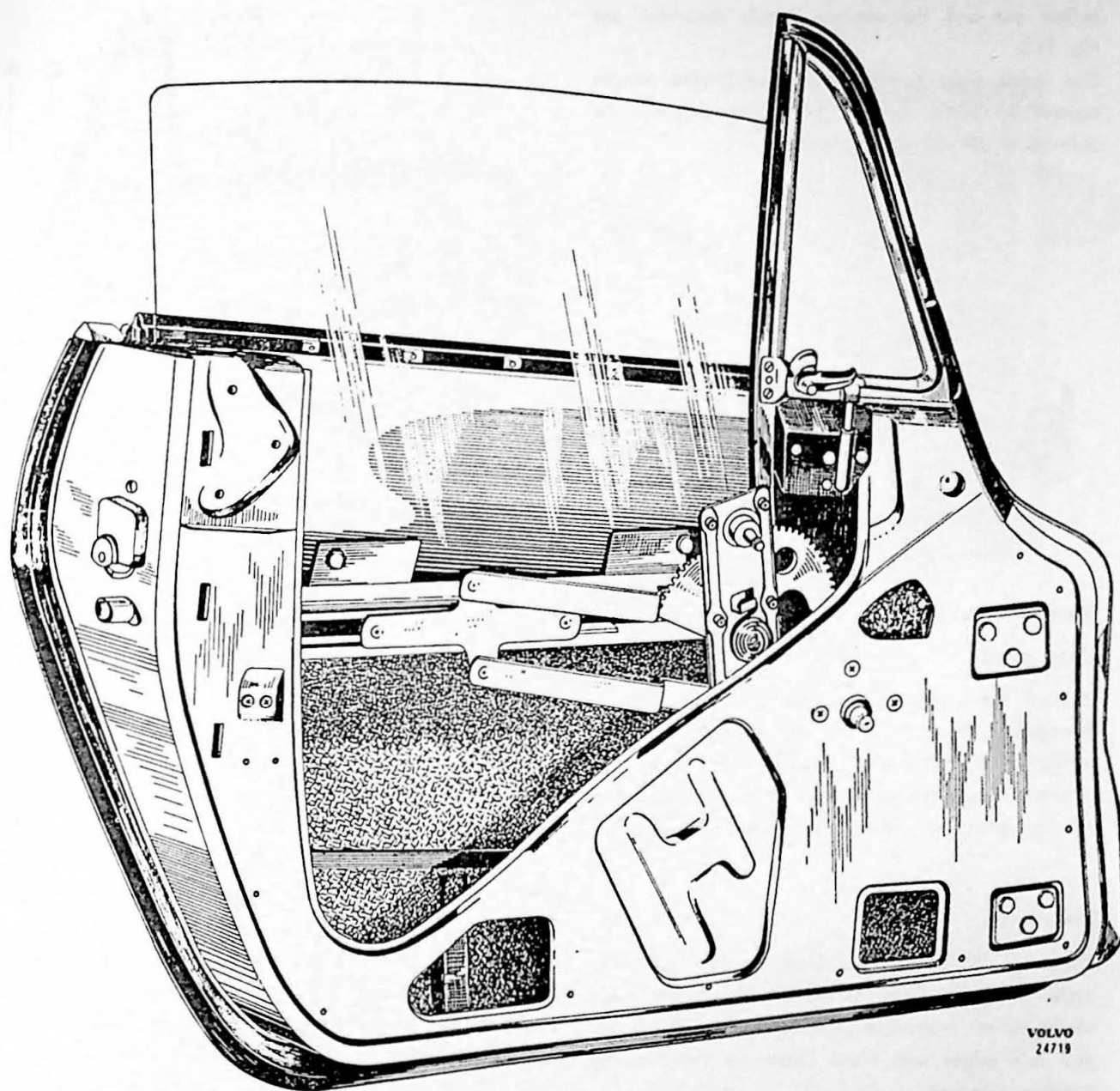


Fig. 11-4. Door

DOORS

Removing door

The door, Fig. 11-4, can be removed with or without the hinges fitted. If the door is removed with the hinges remaining in the body, the door stop need not be removed. When removing, take off the inner door handle and window winding handle with door panel in accordance with the instructions under the heading "Removing door handle and panel". If the door is removed with hinges attached, that is to say, the door is taken off at the body attachment, the door stop must be disassembled. This is done by knocking or drilling out the guide pin. The hinges are accessible after the inside panel has been removed.

Adjusting

The door is adjustable longitudinally and vertically by the holes for the bolts through the body being made larger than the diameter of the bolts. The door is adjusted laterally by means of packing pieces.

Removing door handle and panel

Window handle and door handle

The window handle is attached with a spring clip. The clip is removed by means of a hook inserted between the door panel and window handle washer so that the hook grips the clip after which it can be

pulled out and the window handle removed, see Fig. 11-5.

The inside door handle is attached to the remote control by means of a pin. When removing, the pin is knocked out with a suitable drift.

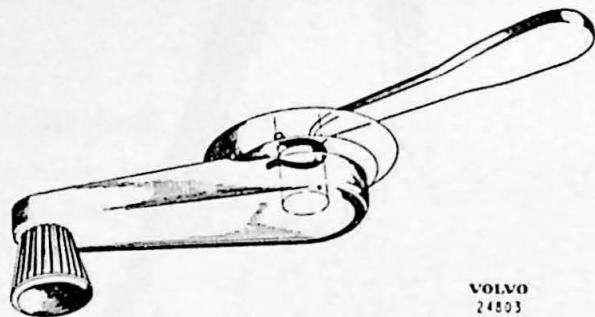


Fig. 11-5. Removing the window handle

Removing the door panels

Upper panel

Remove the window handle as described above. Remove the upper part of the door panel by first pulling it upwards and then placing a screwdriver or similar under the upholstered edge and carefully bending outwards, whereupon the panel will come out.

Lower panel

The panel can be removed from the door after the upper panel has been taken out. The upper edge of the panel is attached with screws and the lower and side edges with clips. These are removed by bending outwards.

Ventilation windows

The ventilation window is attached by means of two screws to the upper door plate and with a loose plate on the front edge of the door. When removing, take off the window handle, upper door panel and plate on the front edge of the door and then unscrew the two screws on the upper inner door plate, Fig. 11-6, after which the ventilation window can be lifted up. The back edge of the ventilation window forms a guide for the main window. The end of the guide rests against a fixing catch attached to the door. When fitting, ensure that this catch locates in the guide. The catch is adjustable. The stiffness of the ventilation window in the open position can be adjusted by tightening the two screws (1) in Fig. 11-7.

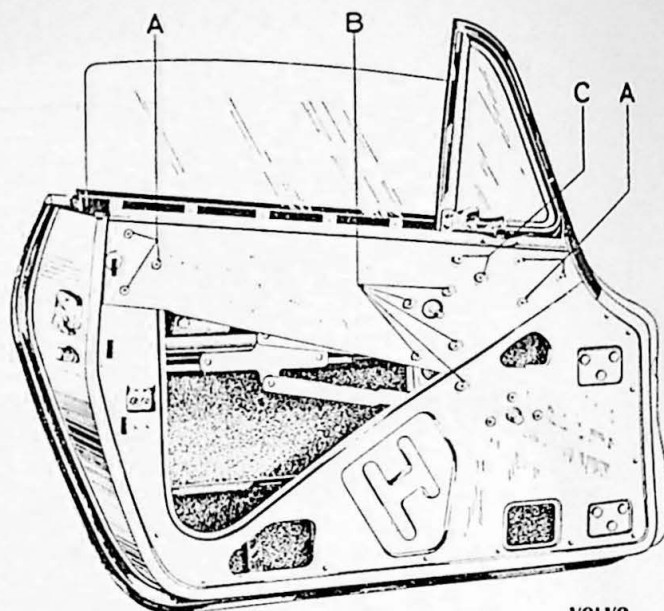


Fig. 11-6. Door with removable door plate

- A. Screws for removable door plate
- B. Screws for window winding mechanism
- C. Screws for ventilation window

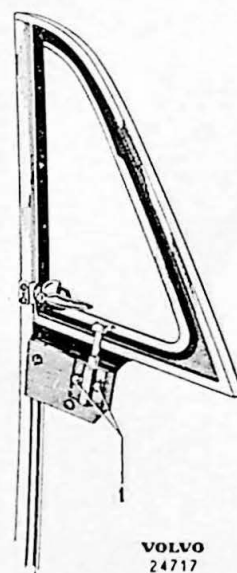


Fig. 11-7. Ventilation window
1. Adjusting screws

Main windows

The window winding mechanism, Fig. 11-8, is attached partly to the upper removable inner door plate and partly to the fixed inner plate.

When removing, detach the upper removable plate where it is fitted to the door and to the window, see Fig. 11-6, together with the ventilation window. Then unscrew the screw in the fixed lower inner plate on

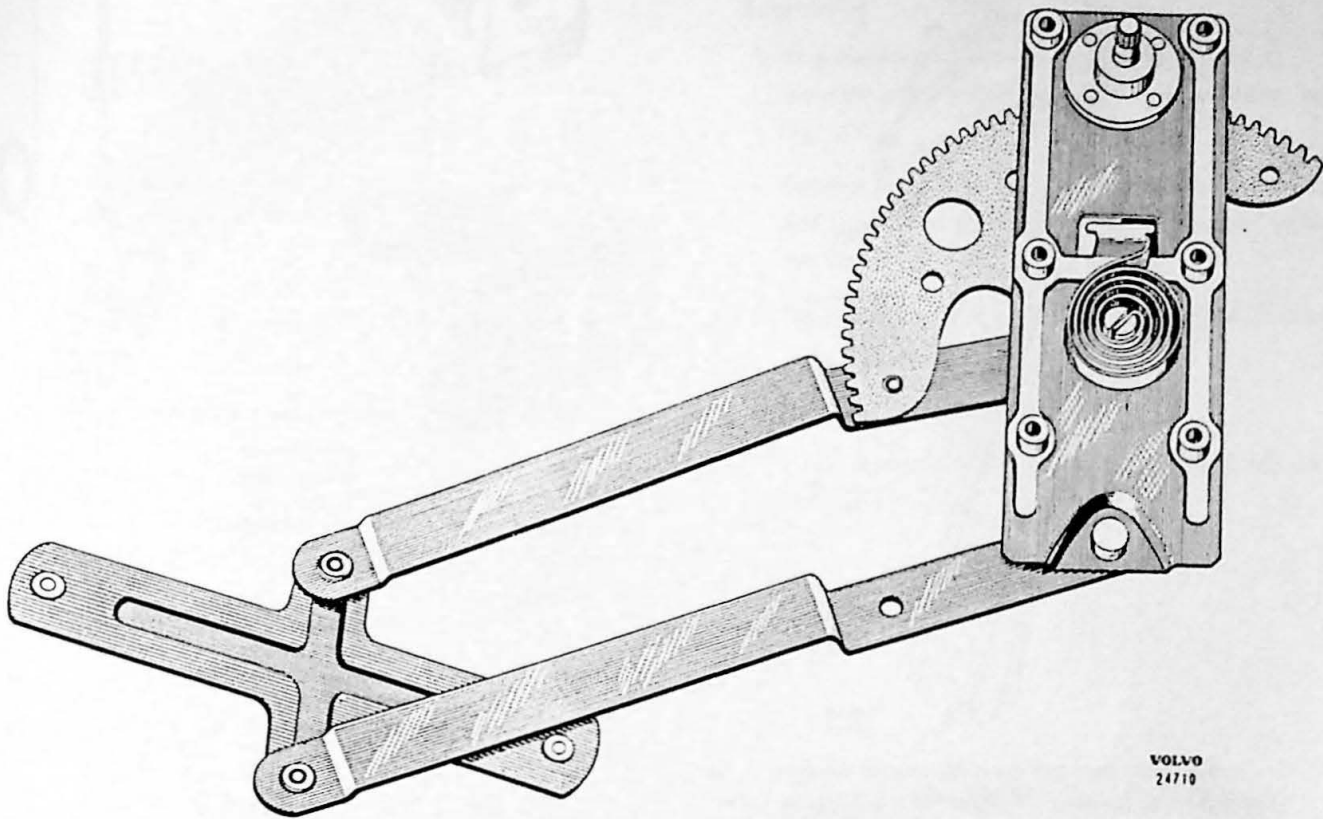


Fig. 11-8. Window winding mechanism

the door, after which the window with winding mechanism can be lifted up.

The glass is attached to the slide rail by means of bolts and rubber washers. When replacing the window, make sure that the rubber washers are in good condition and that the bolts are tightened sufficiently hard, see Fig. 11-9.

The toothed segment of the winding mechanism and the slide rail on the glass are lubricated with grease. The rear guide strip of the winding mechanism is adjustable as far as the contact of the glass against the sealing strip is concerned, see Fig. 11-10. The guide strip on the rear edge of the door can be removed after the upper outer trim molding has been taken off.

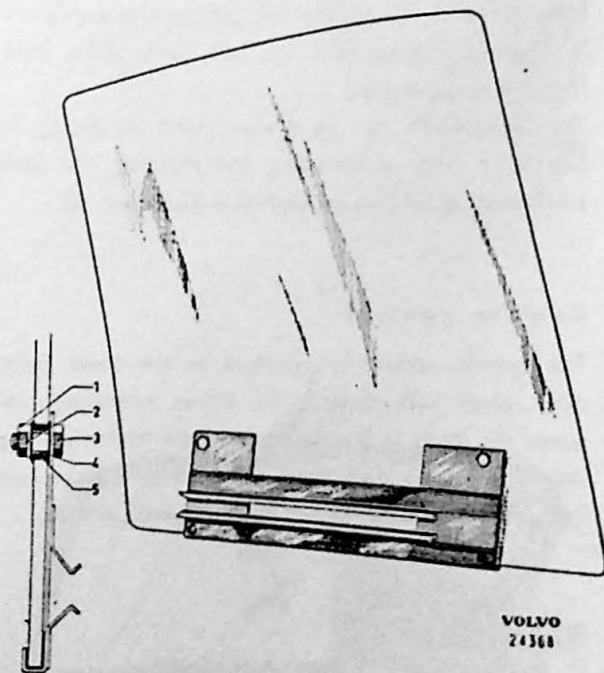


Fig. 11-9. Window

1. Nut
2. Washer
3. Bolt
4. Bushing
5. Rubber bushing

Door lock, lock handle and remote control

Door lock

The door lock is attached to the rear edge of the door with bolts. When removing the door lock, these bolts are removed together with the link arms to the outer, lockable door handle and remote control. The door lock is lubricated with silicon grease.

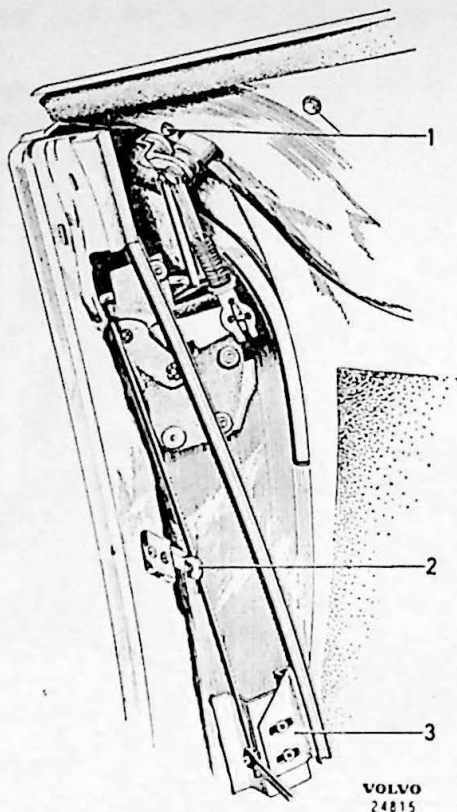


Fig. 11-10. Door lock and guide strip for window
1. Bolts for door handle 2. Support 3. Adjusting screws

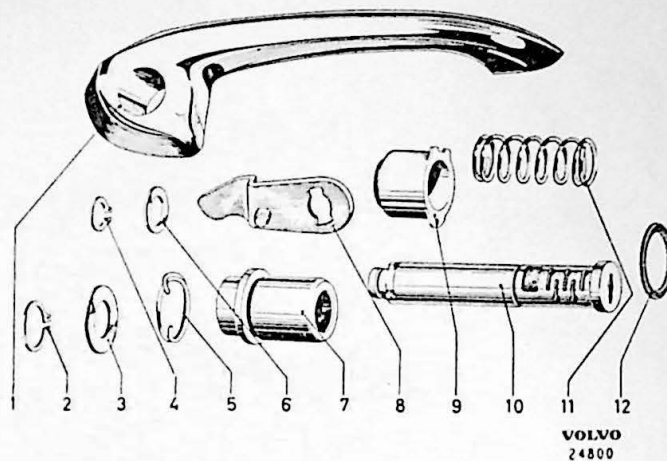


Fig. 11-11. Lock handle disassembled

1. Lock handle
2. Locking ring
3. Washer
4. Locking ring
5. Spring
6. Washer
7. Press button
8. Control lever
9. Bottom plate
10. Lock cylinder
11. Spring
12. Sealing ring

Lock handle

The lock handle is attached to the door with two bolts. When removing, the link arm to the door lock is removed together with the two bolts which hold the handle to the door.

The lock handle can be disassembled as shown in Fig. 11-11. After disassembly and cleaning, the lock mechanism should be lubricated with silicon oil.

Remote control

The remote control is attached to the inner fixed door plate with three bolts. When removing, unscrew the bolts in the door plate and disconnect the link arm to the door lock. The remote control and link arms should be lubricated with silicon grease.

Striker plate

The striker plate, Fig. 11-12, is made of steel. It is fitted with floating nuts and adjustable by the holes in the body being made larger than the diameter of the attaching screws. The striker plate should be lubricated with paraffin.

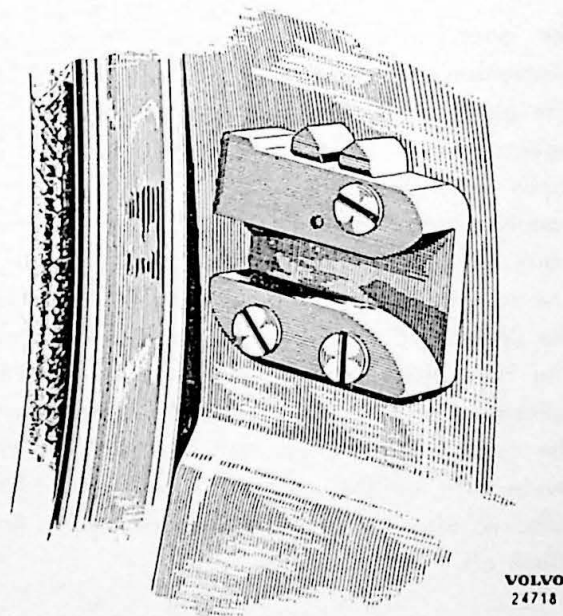
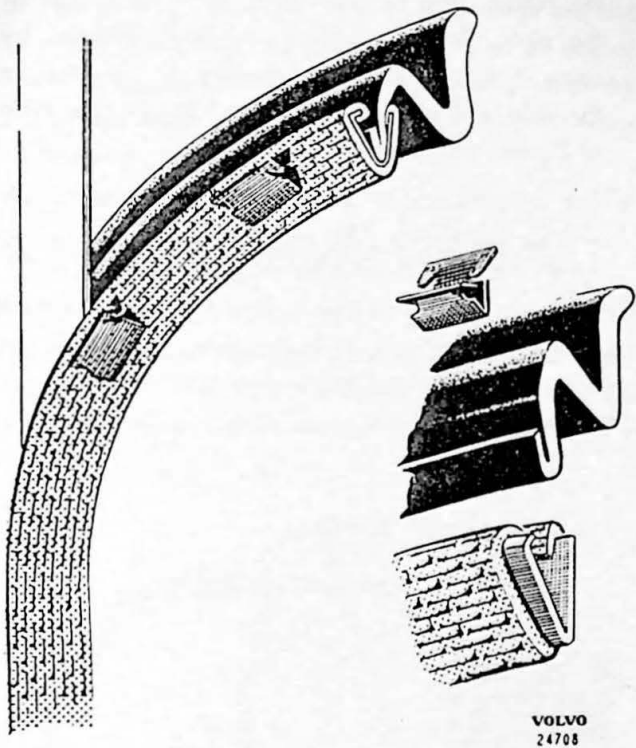


Fig. 11-12. Striker plate

Sealing strips for door

The sealing strip is attached with clips to the door frame, see Fig. 11-13. When fitting a new strip, this should be knocked well in over the plate edge.

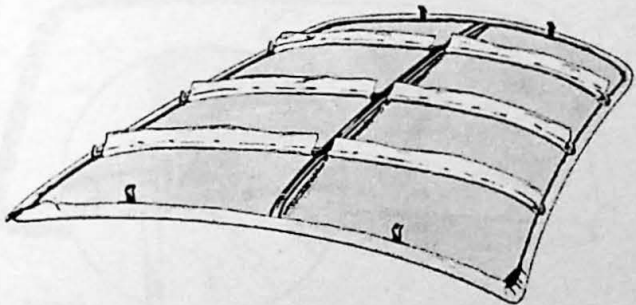


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Fig. 11-13. Fitting sealing strip

HEADLINING

The headlining, Fig. 11-14, is stretched over a ribbed frame and attached with four screws and clips. When removing, first take out the interior lights and sun visors after which the two screws under the sun visor attachments are removed. Then carefully remove the side upholstery at the interior lights after which the two rear screws are accessible. The headlining is then bent carefully down with the help of a suitable tool.



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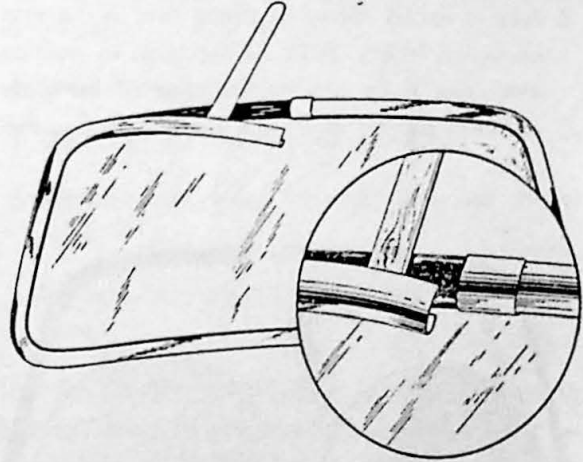
Fig. 11-14. Headlining

WINDSHIELD AND REAR WINDOW

Removing

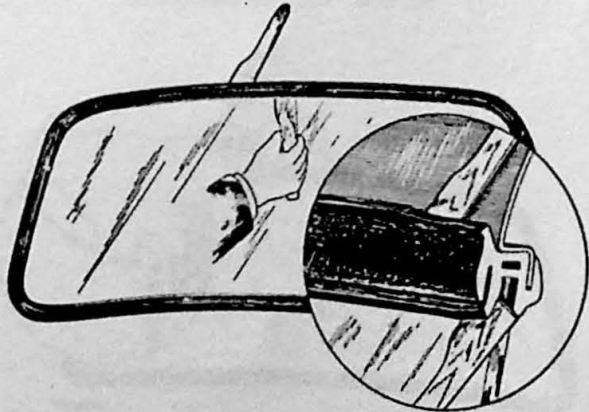
1. Remove the trim molding with the help of a wooden putty knife and lift off the molding, see Fig. 11-15.
2. Remove the rubber strip adhesive from the body and window glass with the help of the putty knife, see Fig. 11-16.
3. Take hold of the rubber strip as shown in Fig. 11-17 and pull it off.
4. Remove the window glass.

Clean the parts which are to be refitted to the car. Use white spirit.



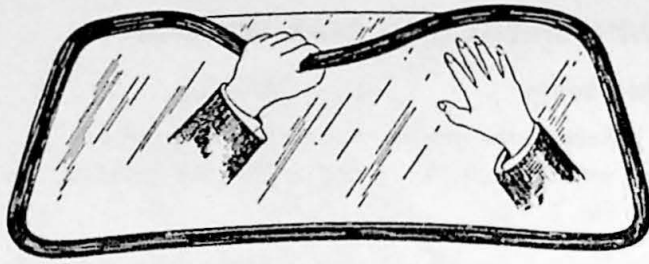
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Fig. 11-15. Removing trim molding



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Fig. 11-16. Removing rubber strip

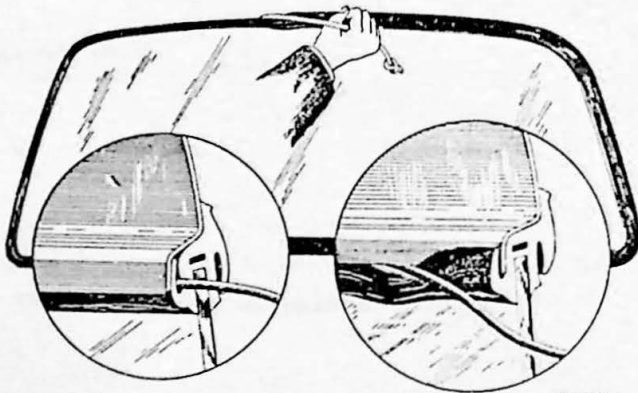


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Fig. 11-17. Removing window

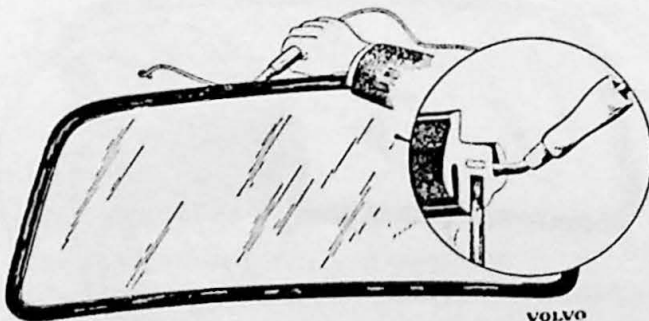
Fitting

1. Check that the windshield opening is not distorted by holding a glass pressed against the opening. The glass should lie flush on the plate all round. The edge of the plate must be adjusted if there is any unevenness or distortion.
2. Place the glass on a blanket or similar and fit the rubber strip round the glass.
3. Press a leather thong or strong cord in the strip as shown in Fig. 11-18. Fit the glass in position and press it up against the edge of the plate and then pull the cord from inside the car so that



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Fig. 11-18. Fitting the sealing strip

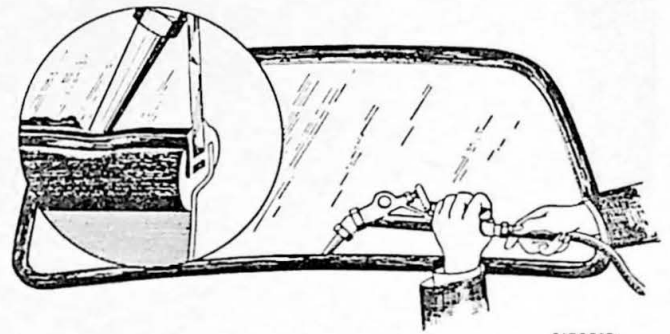


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Fig. 11-19. Fitting the leather thong

the rubber strip finds its way over the edge of the plate. Placing in the cord is facilitated by using a narrow tube for opening the groove in the strip with the cord running through the tube as shown in Fig. 11-19.

4. The grooves in the rubber strip are sealed with sealing compound. The sealing compound gun is inserted and moved round as shown in Fig. 11-20. A compressed air gun should be used partly to ensure that the compound comes sufficiently deeply in the groove and partly to obtain even filling. The gun should be moved at the angle as shown in Fig. 11-20.

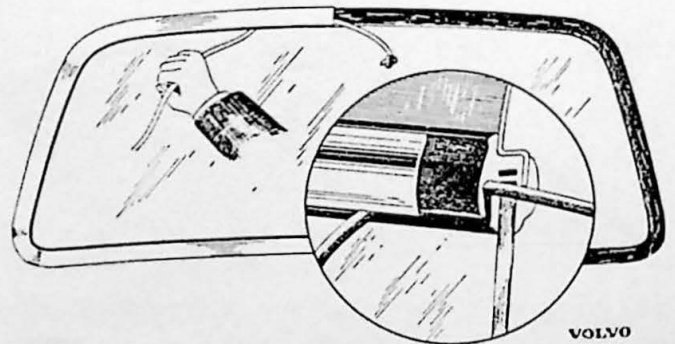


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Fig. 11-20. Applying sealing compound to the window

Fitting trim moldings

1. Place a thong or cord in the groove of the rubber strip in the same way as when fitting the glass, see Fig. 11-18. It is assumed that the glass is fitted to the body.
2. The lap of the trim molding is then pressed down into the groove of the rubber strip after which the thong is pulled out. The lap of the rubber strip then finds its way up over the trim molding, see Fig. 11-21.



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Fig. 11-21. Fitting trim molding

- The joining pieces on the trim moldings are slid along the strips and preferably placed on one of the strips before fitting is started, after which the joining piece is pushed down over the joint when the strips are in place.

INTERIOR FITTINGS AND UPHOLSTERY

Front seats

The front seat is built up on a tubular frame as shown in Fig. 11-22. The seat is bolted to the upper slide rails. The lower slide rails are bolted to the floor.

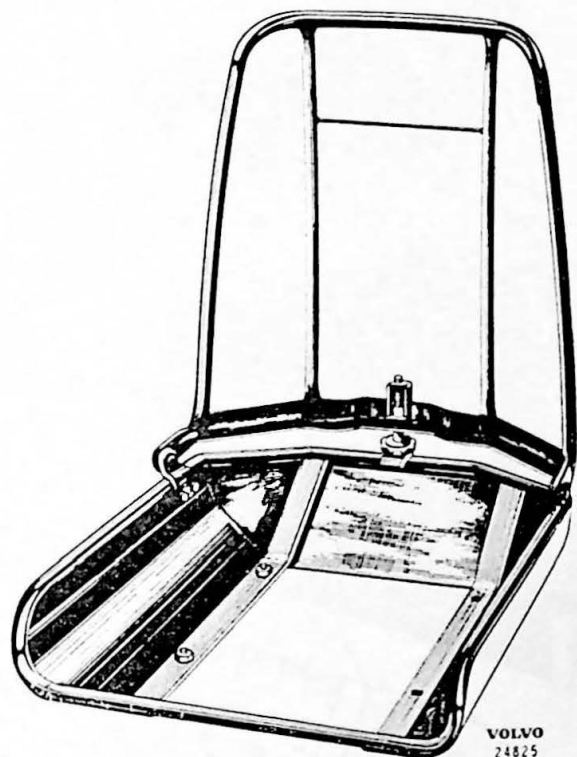


Fig. 11-22. Seat

The slide rails and catches should be lubricated when necessary with paraffin and oil. The padding consists of foam rubber.

Bulkhead and floor

The sides of the bulkhead are lined with cardboard panels. The bulkhead is covered with felt matting and woven plastic. At the front the floor is covered with a rubber mat and at the rear with a shaped textile mat.

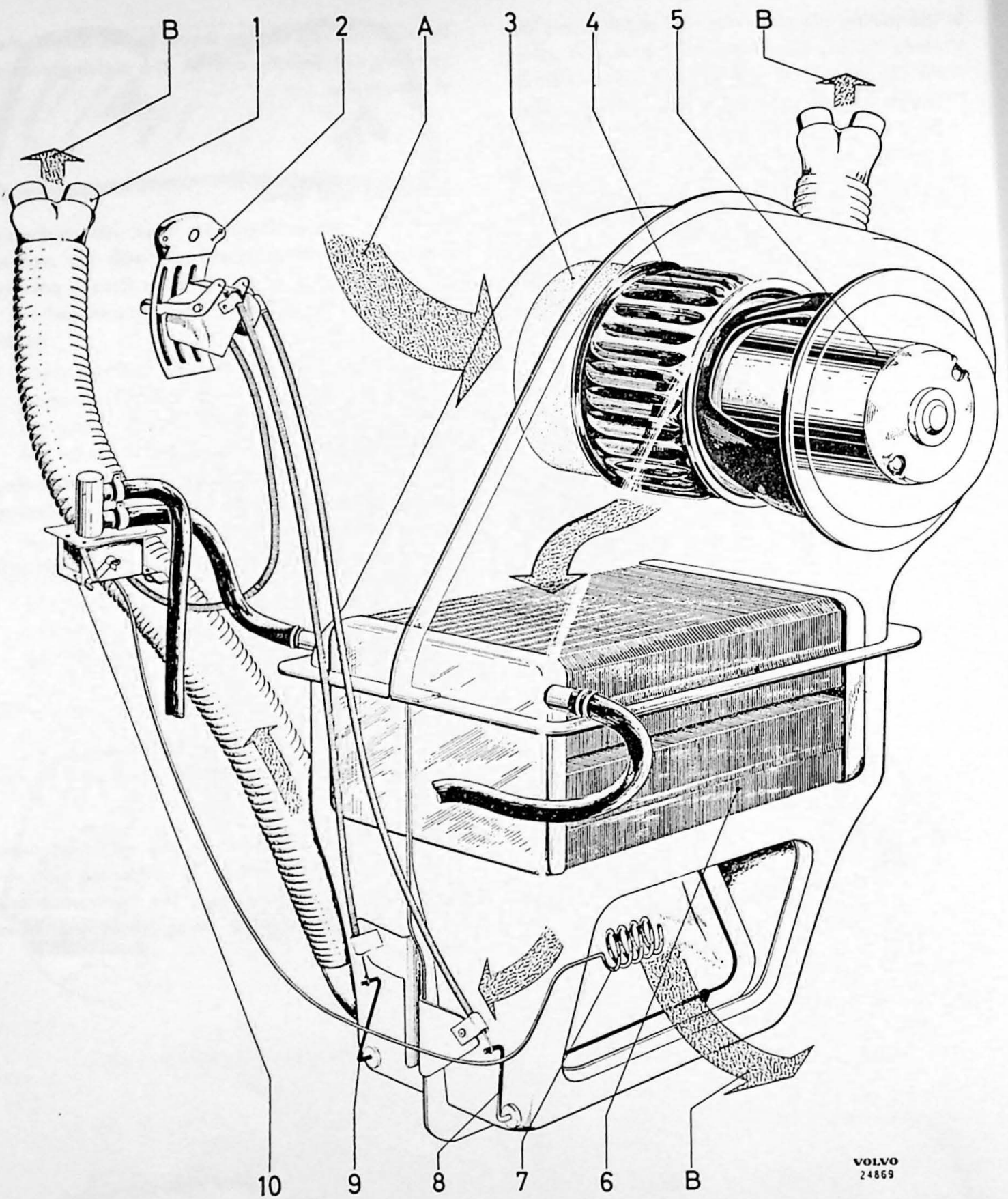
CAR HEATER

The heater, Fig. 11-23, consists of a turbine housing with fan motor and turbine, cell system, distribution housing with shutter, thermostat and controls.

The heater is removed and fitted as a complete unit as follows:

1. Drain off the coolant.
2. Disconnect the leads to the fan motor.
3. Remove water hoses, defroster hoses and control wires.
4. Unscrew the bolts which hold the heater to the body.

The fan motor is provided with self-lubricating bushings. Lubricating is done in connection with re-conditioning of the fan motor. The cell system can be removed after both the casing halves have been disassembled.



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Fig. 11-23. Heater

- | | |
|---------------------|----------------------|
| 1. Defroster nozzle | 6. Cell system |
| 2. Controls | 7. Sensitive head |
| 3. Air intake | 8. Air shutter |
| 4. Turbine | 9. Defroster shutter |
| 5. Electric motor | 10. Thermostat |
| A. Incoming air | B. Outgoing air |

