

SERVICE MANUAL

CARS AND VANS

PV 444

Part II

BODY

Export Service Department

AKTIEBOLAGET

VOLVO

GÖTEBORG . SWEDEN

Contents

Description	1
Repair instructions	5
Front section	5
Disassembly and assembly	5
Front mudguards	5
Bonnet and bonnet lock	5
Radiator grille section and mouldings	5
Rear mudguards	6
Rear compartment and lock	6
Doors	6
Disassembly and assembly	6
Door checks	8
Door locks	8
Windows and window regulators	10
Ventilator windows	10
Weatherstrips	11
Windows with weatherstrips	11
Windscreen	11
Rear side windows and rear window	12
Support arms	13
Track bar	13
Windscreen wiper	13
Instruments	13
Fuel tank	15
Radiator	15
Fittings and upholstery	15
Tools	16
Specifications	17

DESCRIPTION

Since the PV 444 has a self-supporting body, there is no chassis frame. The body consists of press-moulded steel plates. Each of these plates contributes to the bearing construction. The body (Fig. 1) may be conveniently divided into the following groups: floor section, cowl section, side sections, rear section, front section, rear mudguards, doors and rear compartment.

member (5) forms the support for the front edge of the rear seat. The tunnel (4) for the propeller shaft is spot-welded to the floor plates. The rear floor plate (Fig. 3) is strengthened underneath on each side by means of a longitudinal reinforcement member with a cross member between. This cross member is fitted with an attachment device for the rear axle track bar. In the rear

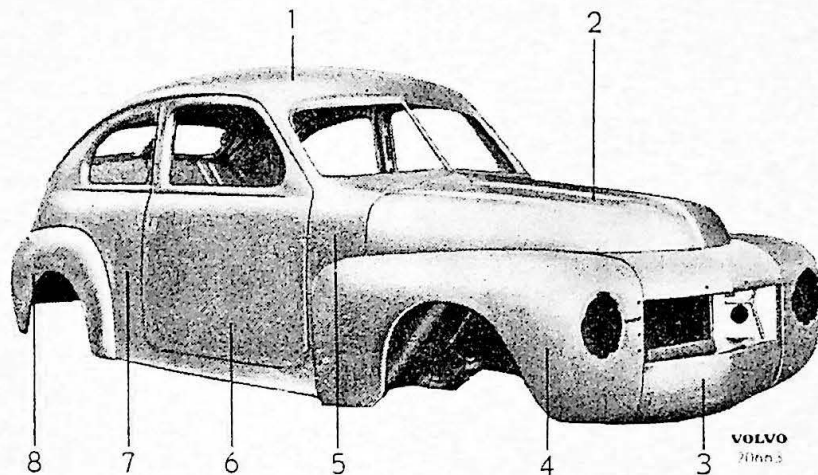


Fig. 1. Body.

1. Roof
2. Bonnet
3. Front section
4. Front mudguard assembly
5. Cowl
6. Door
7. Rear side panel assembly
8. Rear mudguard

The floor section consists of the forward (1, Fig. 2) and rear floor plates (Fig. 3), the forward and rear cross members and the tunnel. The floor plates are spot-welded together at the rear cross member. On the forward cross member (2) are four brackets (3) which serve as supports for the front seat adjuster slide rails. The rear cross

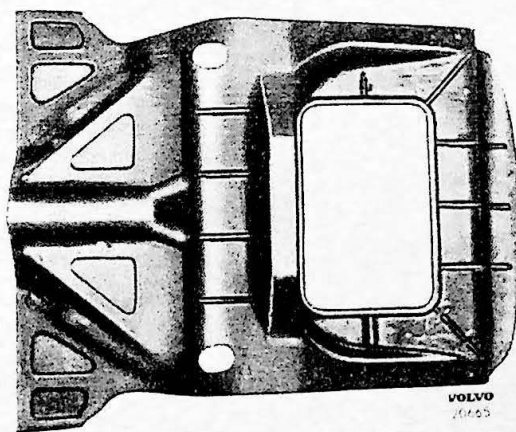


Fig. 3.

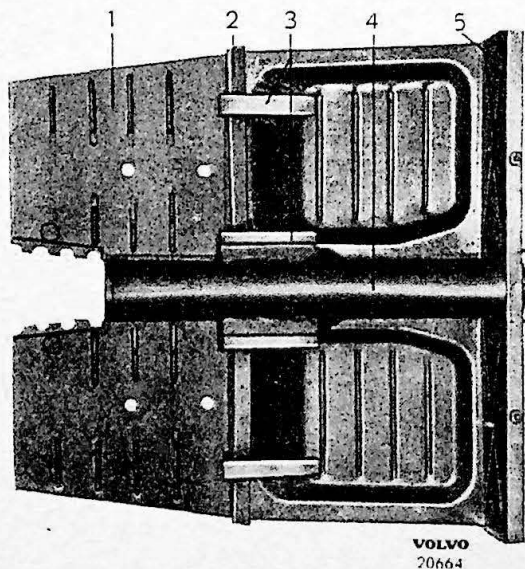


Fig. 2.

part there is a flanged hole for the fitting of the fuel tank, the top of which forms part of the floor in the rear compartment.

The mounting plate (1, Fig. 4) forms the front wall of the body and is constructed as a sloping recessed partition. The bottom of this forms the toeboard and the sides form the forward section of the cowl. Two side members (4) extend forwards and are connected through a tubular cross member (5). To the rear, these side members divide and form reinforcement members

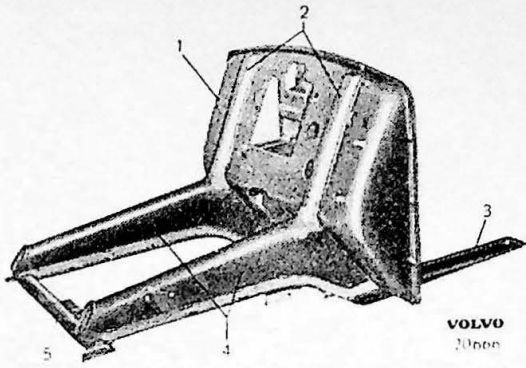


Fig. 4.

(2 and 3). These are spot-welded at the mounting plate and the forward floor plate. The front suspension cross member and the wheel housing plates are spot-welded to these side members. The steering-gear housing is fitted to the left-hand member. The bumper support and the radiator frame are attached to the tubular cross member.

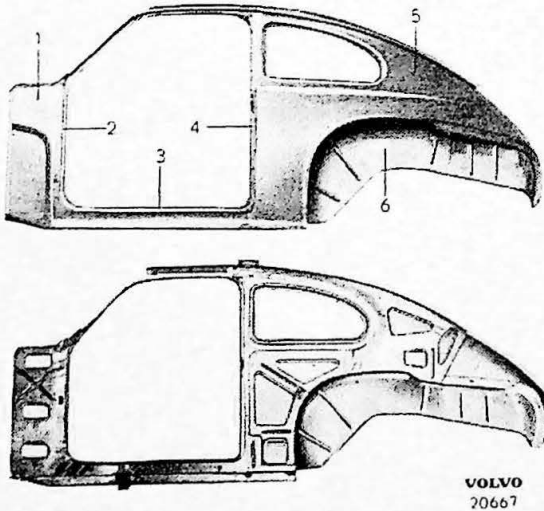


Fig. 5.

The side section consists of the cowl side (1, Fig. 5) and the side of the rear section (5). This section consists of one inner and one outer plate. The rear of the cowl side is reinforced and forms pillars (2) for the attachment of the doors. The lower part forms the door sill (3). The part of the body from the central pillar (4) to the rear compartment opening is the side of the rear section. The side has a flanged opening for the rear side window while the lower part forms the wheel housing (6). This continues into the side of the rear compartment.



Fig. 6.

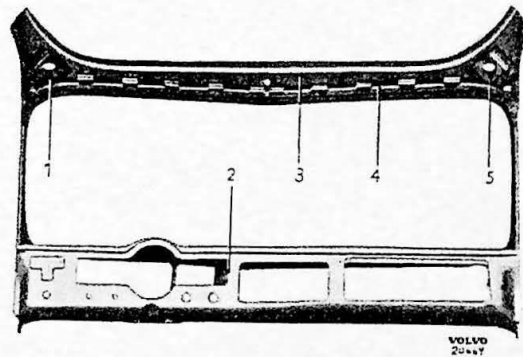


Fig. 7.

The roof section consists of the roof plate, Fig. 6, which is pressed in one piece from the mounting board to the upper edge of the rear compartment. The roof plate thus forms the upper part of the cowl, windscreen opening, the

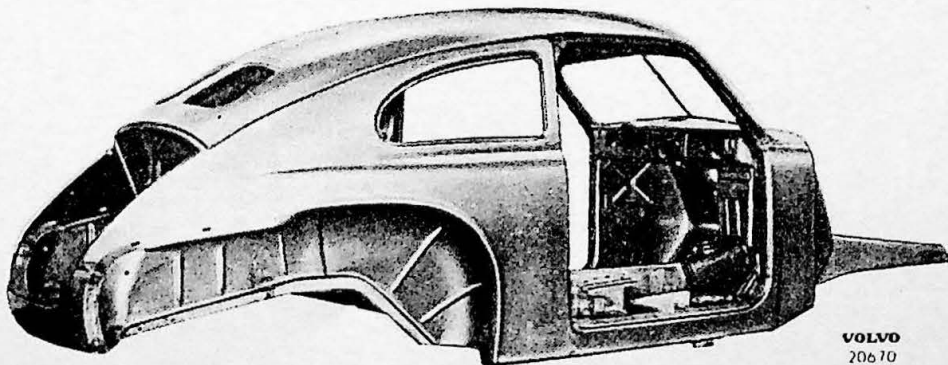


Fig. 8.

roof itself, rear window opening and the upper limit of the rear compartment. The instrument panel (2, Fig. 7) is attached directly to the front end of the roof plate as is also the reinforcement plate (3) for the roof, this also serving as a support for the brackets (1 and 5) for the sun visors and the former rib for the roof upholstery (4).

All the above-mentioned details are spot-welded into one unit, the self-supporting body (Fig. 8).

The front mudguards, wheel housing plates, radiator section and bonnet constitute the front section. This section is attached to the tubular cross member, the side members and the cowl sides.

The front mudguards are pressed in two parts which are joined through the headlight cavities. The front mudguards are attached to the wheel housing plates in their upper parts.

The radiator section constitutes the forward part of the front section together with the air duct to the radiator. The radiator itself is fitted in a frame in the rear part of the radiator grille section.

The bonnet is lifted up forwards on two hinges while its lower ends are hinged to the sides of the radiator grille section. In the lowered position the bonnet is held in place by means of a locking device which is fitted to the mounting plate. This locking device consists of a catch and a lever.

The lever is placed under the instrument panel and is accessible from the driver's seat.

The rear mudguards are attached to the side of the body by means of screws. The rear ends are drilled for the rear lights. There is also an extra hole bored in the left mudguard for the fuel tank filler pipe.

The doors consist of an outer and an inner plate which are flanged and spot-welded to one unit. See Fig. 9. The hinges are mounted on the inner plate. Holes drilled in the plates are of considerably larger diameter than the screws used which allows adjustment of the doors both horizontally and vertically. The body arms of the hinges are fitted to the cowl side with slotted screws and "floating" nuts. This makes possible transverse adjustment. The doors are fitted with door checks. These consist of a swinging arm fitted with a rubber buffer. This arm operates between two spring-loaded rollers, the function of which is to hold the door fully open.

The door lock is attached to the door by means of screws. The door handle on the outside operates a lever which, in its turn, presses the lock cylinder forwards. The inner door handle is attached to a remote control device which is attached by means of three screws to the inner door plate. This remote control is operated from the inner door handle through a link. The door is locked from the outside by means of a lock which is fitted in its cylinder under the left-hand door handle. The lock is connected through an eccentric to a plunger which engages the outer door handle when the key is turned to the locked position. The doors may be locked from the inside of the car by turning the door handles downwards. The link then moves back-

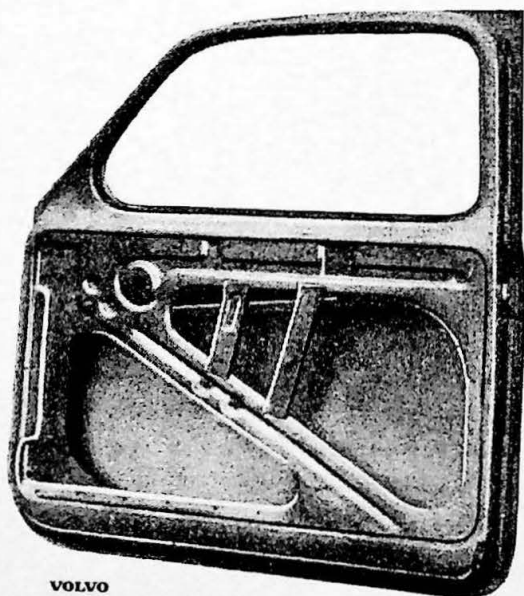


Fig. 9.

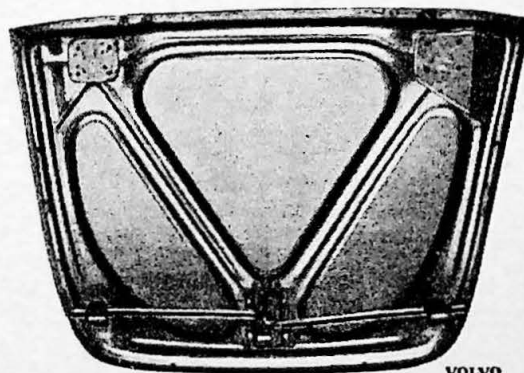


Fig. 10.

wards which prevents the forward movement of the plunger when the outer door handle is turned.

The window regulators are of the wire and chain type, that is to say movement of the window regulator is transmitted to the wire and chain which are joined to form a closed circle running on two rollers by means of a cog. The lower roller is fitted with a spring tension device.

The rear compartment door (Fig. 10) is constructed in the same way as the other doors. The locking device is fitted on the lower edge and consists of a lever and two links. These links tighten on the inner side of the rear section of the body. The hinges are attached to the upper edge of the rear compartment door. These hinges are attached to the body on a reinforcement plate on the rear part of the roof plate. The left hinge is fitted with a device which holds the rear compartment door in the raised position. The upper ends of the rear shock-absorbers are attached to a shock-absorber housing. Fig. 11 shows this housing on the right-hand side of the body.

The bumpers are mounted on two supports. Supports for the front bumpers are attached to brackets welded to each end of the tubular cross member outer ends. Supports for the rear bumpers are attached to the reinforcement in the

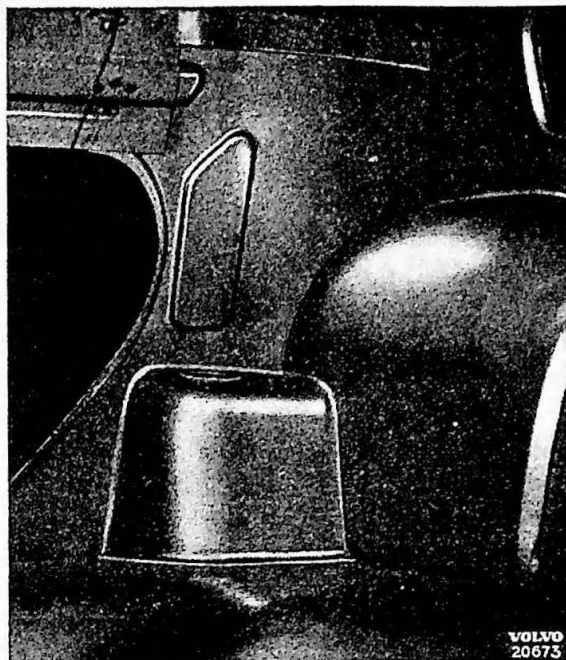


Fig. 11.

rear part of the floor plate. Bumpers of later construction are of three-piece construction and are equipped with over-riders.

The body is noise- and heat-insulated. This insulation consists of specially-treated "waffle" paper which is fastened directly to the plating with adhesive.

REPAIR INSTRUCTIONS

Front section

Disassembly and assembly

The front section may be removed in one unit which is very suitable for work on the tubular cross member and side members or more extensive repairs. Fig. 12 shows the front section detached from the rest of the body.

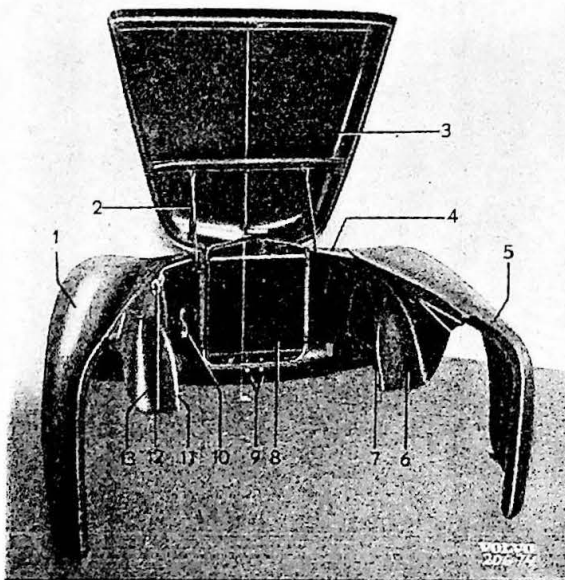


Fig. 12.

- | | |
|-------------------------------|-------------------------------|
| 1. Front mudguard, left | 3. Radiator |
| 2. Main hinge | 9. Attachment bolt |
| 3. Bonnet | 10. Connector |
| 4. Radiator grille section | 11. Attachment opening |
| 5. Front mudguard, right | 12. Connector |
| 6. Wheel housing plate, right | 13. Wheel housing plate, left |
| 7. Attachment opening | |

The radiator grille section is held in position by two bolts (9) on the lower part of the radiator frame and by screws on each side (7 and 11) through the wheel housing plates (6 and 13). The rear part of the mudguards are attached to the side of the cowl by four screws in each mudguard.

For disassembly, the front bumper and supports are removed by loosening them from the tubular cross member. The radiator should be emptied before this operation is commenced. If there is anti-freeze in the radiator, drain into a clean container. Disconnect the cables to the head-

lights and the horn at the connectors (10 and 12). Loosen the wire to the radiator blind as well as the upper and lower radiator hoses. Remove the nuts from the screws (9) at the tubular cross member. Loosen the mudguards from the cowl sides and remove the screws through the wheel housing plates. Remove the forward section.

Assembly is carried out in the reverse order. Always fit a new weatherstrip. Make sure that this is properly stretched and lies in its correct position on the joint.

Front mudguards

The front mudguards are removed, after the headlight cables have been disconnected at the connector, by removing the four bolts which hold the radiator grille in position. Remove also the screws holding the mudguards to the side of the cowl, the wheel housing plates and the radiator grille section as well as the cross member for the mud shield.

As far as the disassembly of the headlights is concerned, see Part 10.

The mudguards are assembled in the reverse order. A new weatherstrip should also be fitted.

Bonnet and bonnet lock

The bonnet is disassembled by removing the two bolts holding the hinges. These bolts are accessible under the mudguards and are keyed to facilitate the work.

The attachment of the hinges is adjustable since the holes are larger than the bolts. The bolts are tensioned in the desired position by means of a washer on each side of the plating as well as nuts.

The bonnet lock is fitted to the mounting panel with three screws which are accessible under the instrument panel.

The hole in the mounting plate is rectangular so that the bonnet tension may be adjusted.

Radiator grille section and mouldings

The radiator grille section is attached partly to the tubular cross member with two screws, partly to each front mudguard with four screws

and to the wheel housing plates with three screws. When dismantling the radiator grille section, the bonnet is first removed. Uncouple the wire to the radiator blind. This is best done by bending up one of the hooks in the centre of the wire. Loosen the upper and lower radiator hoses.

Loosen the bumper supports from the tubular cross member and remove both the bumper and the supports.

Remove the radiator grille itself. This is attached to each front mudguard by means of four screws (which are accessible from under the mudguard) as well as three screws on the central pillar at the radiator grille. Disconnect the cables to headlights and horn. Loosen the screws which hold the radiator grille section to the mudguards, tubular cross member and wheel housing plates. Remove the radiator grille section and take out the radiator and the radiator blind.

When re-assembling use a new weatherstrip.

Rear mudguards

The rear mudguards are attached to the side of the rear section with screws. These screws are accessible partly from the rear compartment and partly from the underside of the mudguards.

When disassembling, remove the wheel first to facilitate the work. Loosen the cables to the rear lamps.

Loosen the mud shield bracket. Remove the screws holding the mudguard to the body and lift it off. Before removing the right-hand mudguard, the fuel filling pipe and the air pipe must be dismantled first.

A new weatherstrip should be used when re-assembling.

Rear compartment and lock

The rear compartment lid operates on two hinges which are screwed to the inner plate of the lid by means of brackets on the body. The holes in the hinges are oval making possible vertical and horizontal adjustment of the lid. Horizontal adjustment is carried out by moving the hinges, on their support on the inside of the lid, in the desired direction. Vertical adjustment is carried out in a similar way on the hinge supports in the body.

The edges of the rear compartment opening may be adjusted to fit the lid tightly by pressing

them inwards or outwards with a hammer and a suitable driver.

In order to get the lid to fit more tightly against the rubber weatherstrip on the sides and top, the hinges are bent slightly. This is simply done by placing a wooden wedge between the inner part of the hinge and the body after which the lid is pressed carefully downwards.

If an even harder contact surface between the bottom and sides is desired against the rubber weatherstrip, then the outer ends of the lock links (4 Fig. 13) and the guides (5) are driven towards the edge slightly with a brass hammer.

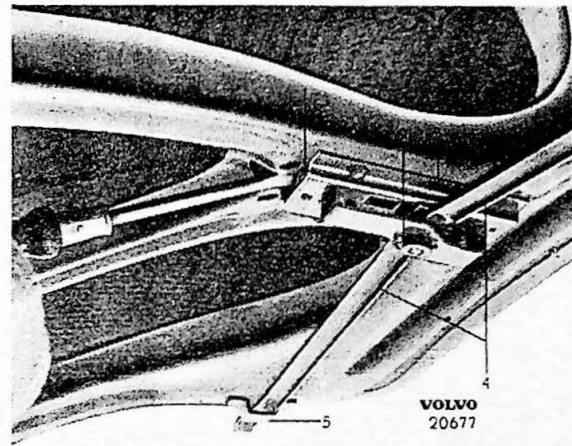


Fig. 13.

The locking device is attached to the inner plate of the lid by means of four screws. The handle is retained by a cotter pin (2). The lock cylinder is held in place by means of a screw (1) which is accessible with a screw-driver from the underside of the lid. See illustration.

When disassembling, the lock cylinder and handle are first removed. After having loosened the four screws (3) the lock may be removed by easing it forwards. Assembly is carried out in the reverse order.

Doors

Disassembly and assembly

1. Remove first the door handle, arm rest and window regulator. The door handle and the window regulator are removed as shown in Fig. 14.
2. Remove the door upholstery by inserting a screw-driver under the edge and bending outwards until it loosens. This is shown in

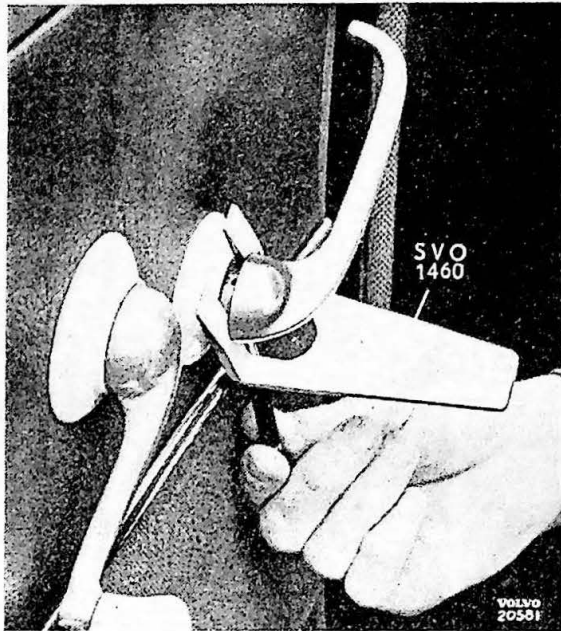


Fig. 14.

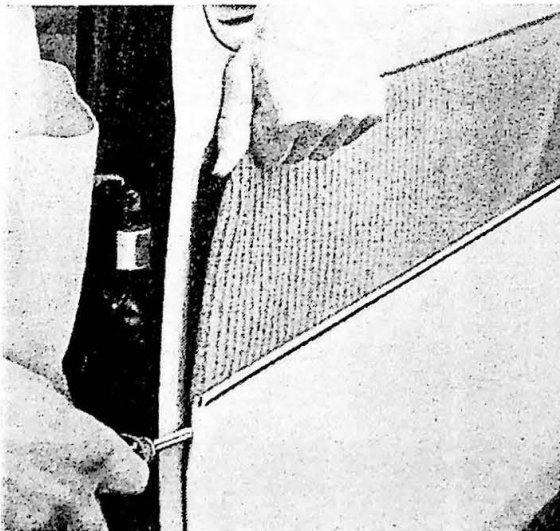


Fig. 15.

Fig. 15 and should be carried out very carefully.

3. Remove the cotter pin (6), the washer (5) and the rubber buffer (4) on the door check as shown in Fig. 16.
4. Loosen the hexagonal screws attaching the door to the upper and lower hinges and lift off the door in a backward direction.
5. Assembly of the door is carried out in the reverse order.

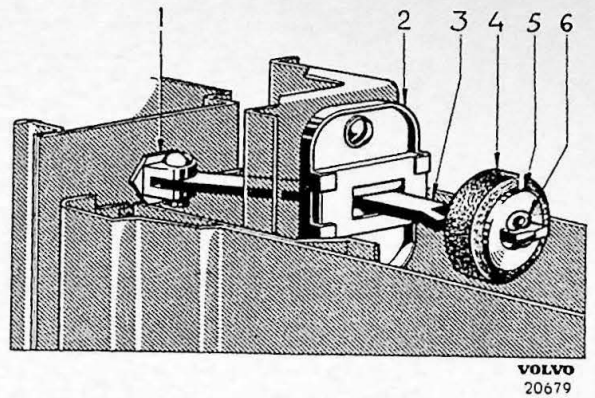


Fig. 16.

Adjustment of the door is carried out in the following way:

The door is moved either outwards or inwards on the hinge side. This is carried out by loosening the slotted screws on the hinge attachment on the side of the cowl, moving the hinge in the desired direction and then retightening the screws. The holes are oval in a transverse direction as shown in Fig. 17 and the nuts are "floating" in their position on the inside of the plate.

The door is moved slightly upwards, downwards or sideways. This is carried out by loosening the screws where the hinges are attached to the door, moving the door into the desired position and then re-tightening the screws. The holes in the inner plate are larger than the diameter of the screws which permits the above-mentioned adjustment as shown in Fig. 17. If the door must be moved more backwards or forwards than the size of the holes permits then the hinge halves are straightened or bent slightly.

If the door is warped then it can be bent straight if the distortion is not too great.

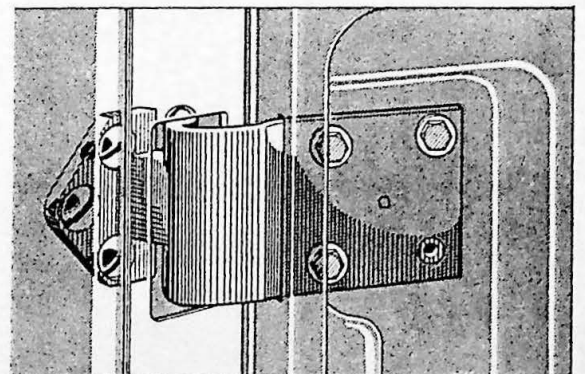


Fig. 17.

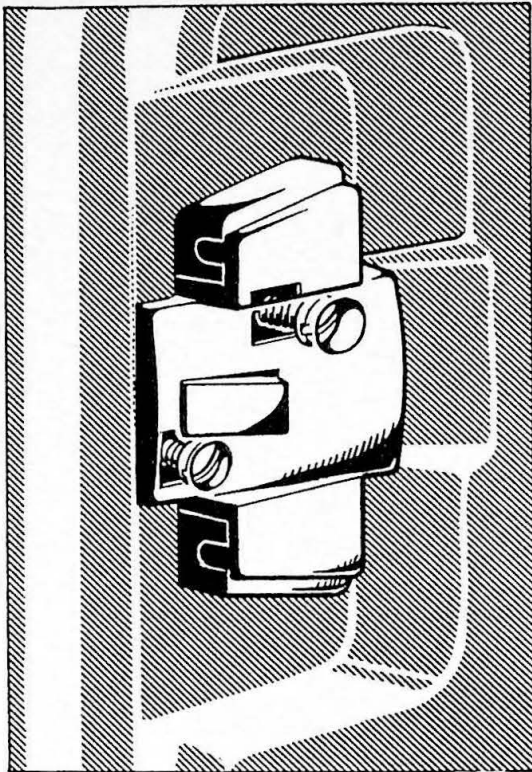


Fig. 18.

The block shown in Fig. 18 may be adjusted both in relation to the striking plate and to the door lock.

After the door is mounted and has been adjusted for the door opening, make sure that it does not open so much that the forward edge of the door humps against the mudguard. If there appears to be risk for this then more washers should be added between the rubber buffer and the cotter pin.

Door check

The door check may be replaced without it being necessary to remove the door.

1. Proceed according to points 1—3 in "Doors" above.
2. Remove the upholstery from the side of the cowl.
3. Loosen the nut on the door check fork bolt (1, Fig. 16) and remove it together with the link (3).
4. Replace the ratchet (2) if necessary. It is attached by means of screws.
5. Assembly is carried out in the reverse order.

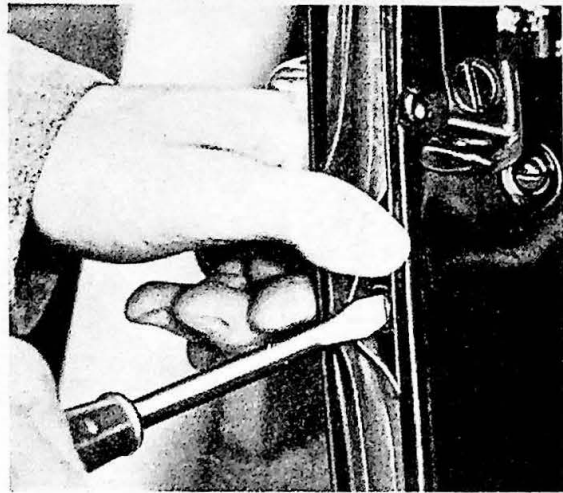


Fig. 19.

Door locks

Disassembly and assembly

1. Remove the arm rest, the inner door handle and the window regulator. The door handle and the window regulator are removed by using tool SVO 1460 as shown in Fig. 14.
2. Remove the door upholstery. Use a screwdriver which is inserted under the cloth and then bent outwards as shown in Fig. 15.
3. Remove the cotter pin on the outer door handle with the help of a small driver. This cotter pin is self-locking so the ends are not bent. See Fig. 19. Remove door handle.
4. Loosen the screw holding the lock cylinder and pull it out together with the lock unit.

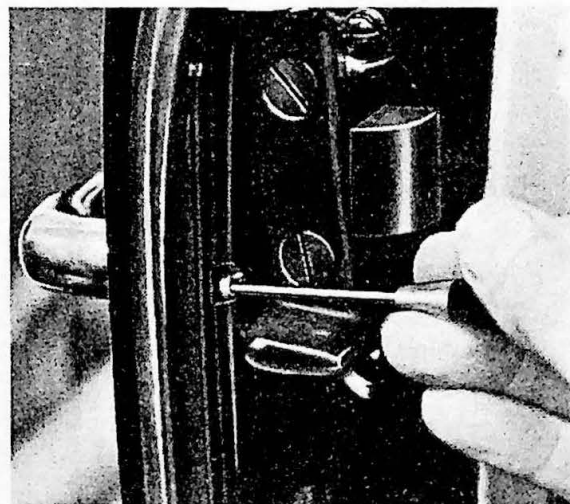


Fig. 20.

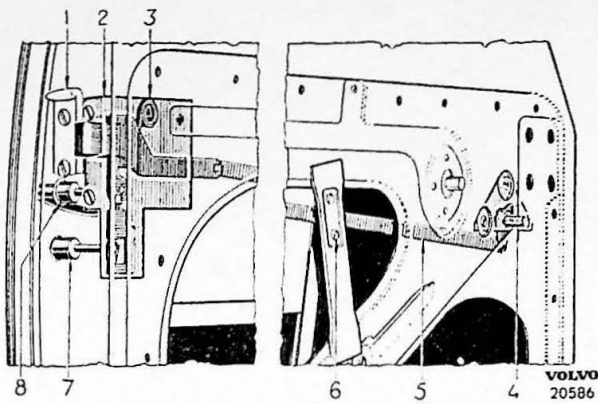


Fig. 21.

- | | |
|------------------------|------------------|
| 1. Door striking plate | 5. Link |
| 2. Door lock | 6. Guide |
| 3. Lock spring | 7. Lock cylinder |
| 4. Remote control | 8. Door handle |

This screw is accessible under the rubber weatherstrip as shown in Fig. 20.

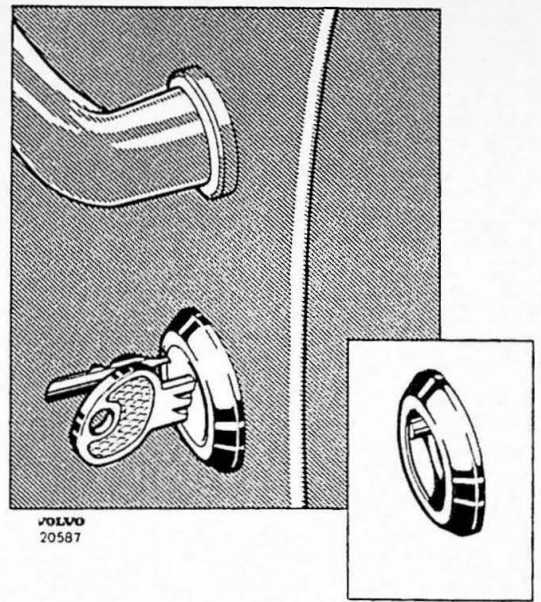


Fig. 22.

5. Loosen the screws holding the lock (2, Fig. 21), the guides (6) for the link (5) and the remote control (4). Lift out the door lock in a downwards direction.
6. Assembly is carried out in the reverse order.
7. If the lock unit itself is to be removed from the lock cylinder, then the key is inserted and turned into its left-hand position. Then push in a small, pointed object such as a pen nib in the small recess in the lock plate. In this way a small catch is released and the lock unit may be drawn out after rotating slightly in an anti-clockwise direction as shown in Fig. 22.

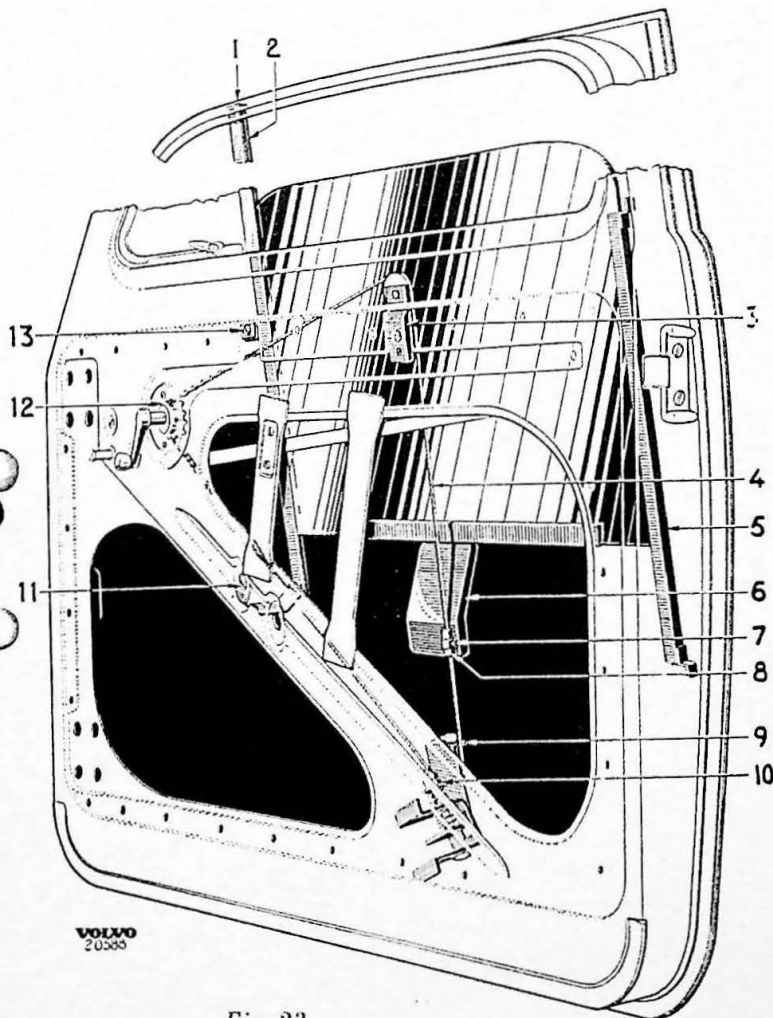


Fig. 23.

1. Screw for front run channel
2. Front run channel
3. Roller, upper
4. Wire
5. Front run channel
6. Regulator channel
7. Connector sleeve
8. Connector
9. Tension device with lower roller
10. Nuts for tension screw
11. Screw for front run channel
12. Window regulator cog
13. Screw for front run channel

Windows and window regulators

Disassembly and assembly

1. Remove the arm rest. This is attached by means of four screws.
2. Remove window regulator and inner door handle. These are removed by using tool SVO 1460 as shown in Fig. 14.
3. Remove the door upholstery. Use a screwdriver which is inserted under the upholstery and bent outwards as shown in Fig. 15.
4. Loosen the window weatherstrip and lift out this as well as the ventilator.
5. Remove the upper screw (1, Fig. 23) and the central screw (13) which retain the forward front run channel (2).
6. Remove connector sleeve (7) which retains connector to regulator channel (6).
7. Release load on the tension device (9) by loosening the nuts (10) to the tension screw on the lower roller. Remove the wire and chain.
8. The upper roller (3), the lower roller with tension device (9) and the window regulator cog (12) as well as the front run channels are removed if required.

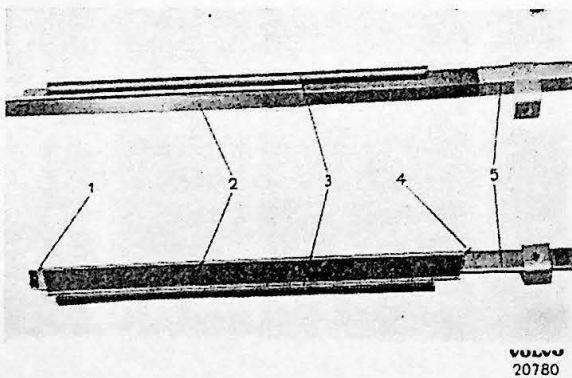


Fig. 24.

9. Assembly is carried out in the reverse order.

Before installing the window make sure that the weatherstrips are in good condition. Worn or damaged weatherstrips should be replaced. The weatherstrip on the ventilator in the forward front run channel is taken out by removing the two nails (1 and 4, Fig. 24) by pulling the retainer (2) from the channel (5). The new weatherstrip (3) is fitted so that it lies on the front run channel after which the retainer is slid on and the nails driven home.

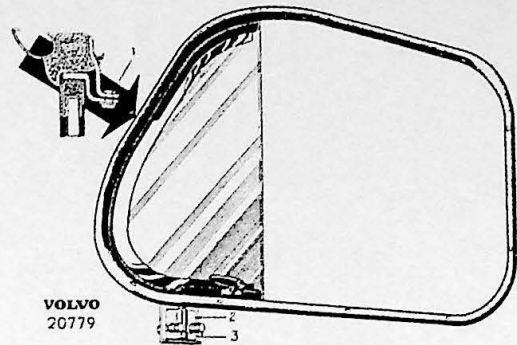


Fig. 25.

The wire should be properly stretched but not too much.

After re-assembly, check that the window runs smoothly in the channels. The channels may be adjusted by bending their brackets into the desired position. Lubricate the wire and the chain with grease and use a few drops of oil on the rollers and window regulator cog.

Ventilator window

The ventilator window is attached to the window frame and is removed before work on the window frame is commenced or weatherstrips are to be replaced.

Remove the rivet (1, Fig. 25) which holds the upper side of the ventilation window to the window frame. Loosen both the tension screws (3) and remove the lower cap (2). Lift out the window and the rubber weatherstrip is then accessible for replacement.

The rubber weatherstrip on ventilation windows of later models is fitted with a drainage point at the rear end and is of improved tighter fitting. When fitting this improved rubber weatherstrip on a ventilation window of earlier production, a hole must be drilled in the holder for the collar which has been added to the rubber weatherstrip. The hole is drilled 10×18 mm ($25/64'' \times 45/64''$) and is begun at a point 5 mm ($1/5''$) from the rear edge.

Assembly is carried out in the reverse order to disassembly.

The opening action of the ventilation window may be adjusted so as to be harder or easier by adjusting the tension of the spring on the lower pivot pin. This may only be carried out after the window frame has been removed from the door.

Weatherstrips

The lower weatherstrip on the door and the weatherstrip on the door flanges are attached by means of strips which are spot-welded to the door.

This weatherstrip is removed by pulling outwards until the edge is free from the welded strips.

When fitting weatherstrips, the inner edge is laid in its position in the welded strip after which the outer edge is pushed behind the strip with a screw-driver. See Fig. 26.

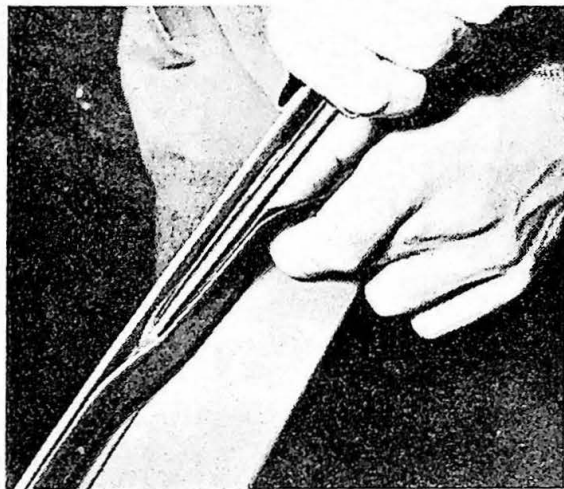


Fig. 26.

Windows with rubber weatherstrips

Windscreen

Disassembly

1. Spread a blanket or similar soft cloth over the cowl and the top of the instrument panel.
2. Loosen the three screws holding the inner and outer garnish mouldings at the central pillar and lift out both these and the outer rubber weatherstrips.
3. Remove the rubber weatherstrip adhesive from the body.
4. Press hard on the glass outwards in the outer corners and the rubber weatherstrip clears the guide edge in the windscreen opening. Remove the rubber weatherstrip from the glass at the central pillar and push out the other pane. Lift out the pane and the rubber weatherstrip.

5. Clean thoroughly so as to remove all traces of the sealing compound. Damaged or hardened rubber weatherstrips should be replaced.

Assembly

1. Check that the windscreen opening is not deformed in any way by holding a glass pane pressed against the opening. The pane should be in close contact with the metal all the way round. The edge must be straightened if there is any indication of unevenness or deformation.
2. Fit one of the panes in its rubber weatherstrip and lay the cord in the groove in front of the guide edge of the bodywork. See Fig. 27.
3. Lay the pane with the rubber weatherstrip in the opening and push it firmly against the body. Use the other hand to pull the cord so that the edge of the rubber weatherstrip comes into its place. See Fig. 28.

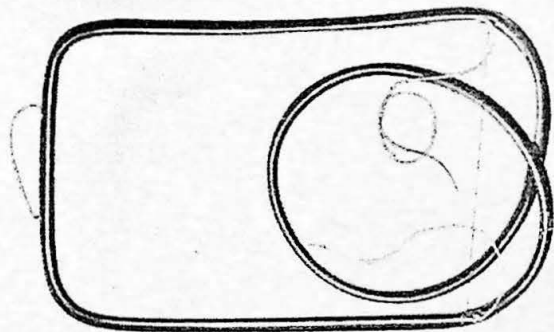


Fig. 27.

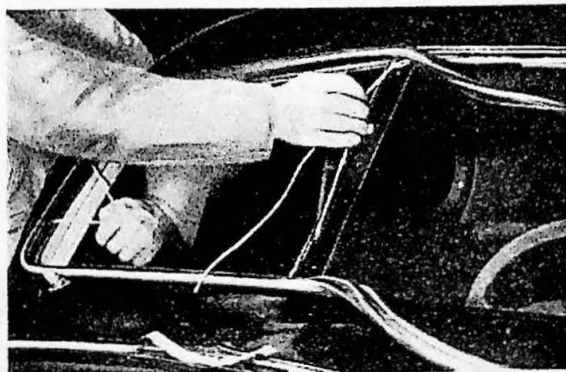


Fig. 28.

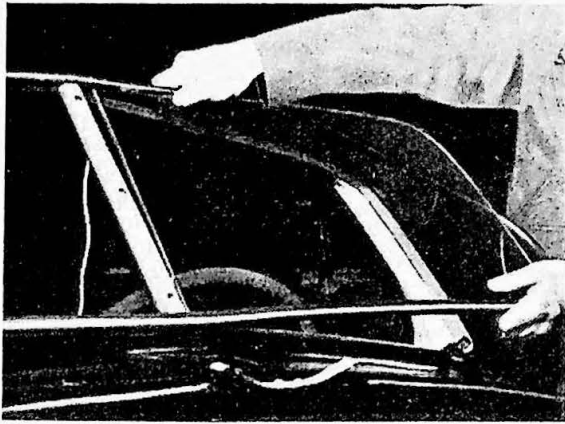


Fig. 29.

4. Place the centre pillar rubber weatherstrip in its position.
5. Fit the other pane in its weatherstrip and lay the cord in the groove. See Fig. 29. Press the pane against the opening and pull away the cord.
6. Place the outer rubber weatherstrip on the central pillar and fit the outer and inner garnish mouldings.
7. Press in the sealing compound under the outer flanges of the rubber weatherstrip. See Fig. 30.

Rear side windows and rear window

1. The side windows or the rear windows are removed, after the rubber weatherstrip adhesive has been removed from the body,

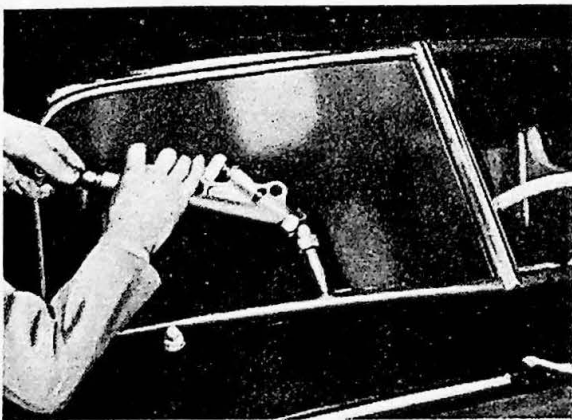


Fig. 30.

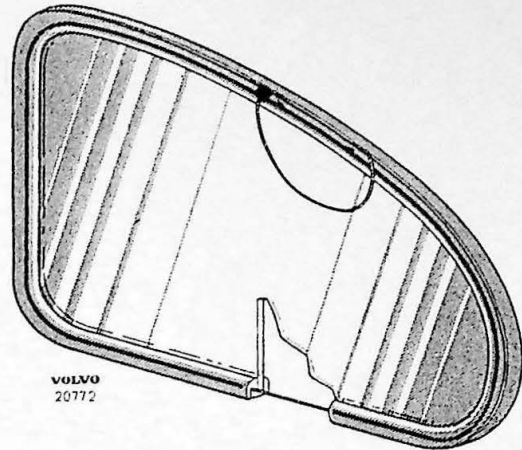


Fig. 31.

- by pressing two corners of the pane inwards until the edge of the rubber weatherstrip clears the guide edge on the body.
2. Clean the rubber weatherstrip and the guide edge very carefully until free of sealing compound. Damaged or hardened weatherstrips are replaced.
3. Check by holding a pane pressed against the opening so that it is in contact with the metal all the way round. If there is any indication of deformation or unevenness then the edge is straightened.
4. The pane is fitted by placing both it and the cord in the rubber weatherstrip as shown in Fig. 31. Hold the pane pressed against the opening and pull the cord, Fig. 32.
5. After fitting, press in sealing compound under the outer flanges.

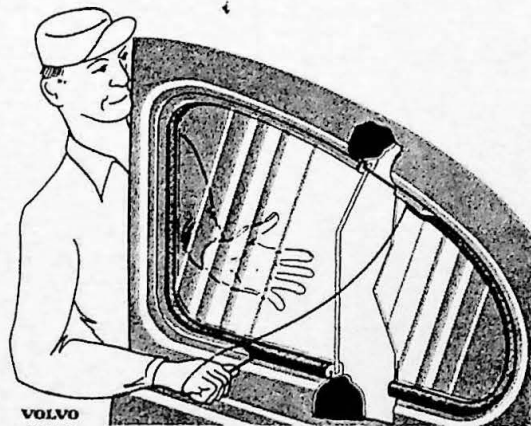


Fig. 32.

Support arms

The support arms are replaced in the following way.

1. Lift up the rear of the car by using the jack. Block up the body forward of the rear wheels and lay wooden wedges in front of the front wheels.
2. Disconnect the propeller shaft from the companion flange on the rear axle gear.
3. Disconnect the brake line between the body and the rear axle.
4. Loosen the shock-absorbers from the rear axle and the snubber bands from the support arms.
5. Unload the springs by lowering the jacks. Release the springs from the support arms.
6. Loosen the U-bolts from the rear axle and the support arms from the body.
7. Assembly of the support arms is carried out in the reverse order. Fit new rubber bushings. Do not forget to bleed the brake system.

Track bar

The track arm is replaced in the following way:

1. Loosen the track bar from the body member by removing the cotter pin, nut and washer and pulling off the track bar from the bolt.
2. Loosen the track bar from the rear axle housing in the same way.

3. When assembling, the track is attached first to the body cross member and then to the rear axle. Always fit new rubber bushings.

Windscreen wiper

Disassembly and assembly

1. Remove the arms (1, Fig. 33).
2. Remove the nut (2) on the bearing (4) and remove washer and seal (3).
3. Release the control unit from the instrument panel.
4. Take off the rubber hose from the windscreen wiper motor and loosen this from the mounting panel.
5. Assembly is carried out in the reverse order. Ensure that all seals are in good condition.

Instruments

All the instruments (Fig. 34) are attached to a panel which is secured by means of two clips and screws.

Disconnect one of the accumulator cables before commencing work on the bodies of instruments behind the instrument panel.

The actual panel with the instruments is removed in the following way. Remove the bulbs for the instrument lighting and the check lamps. Loosen the speedometer cable and the pipe connection to the oil pressure meter. Remove the sensitive head of the thermometer from the engine and disconnect the cables to the ammeter

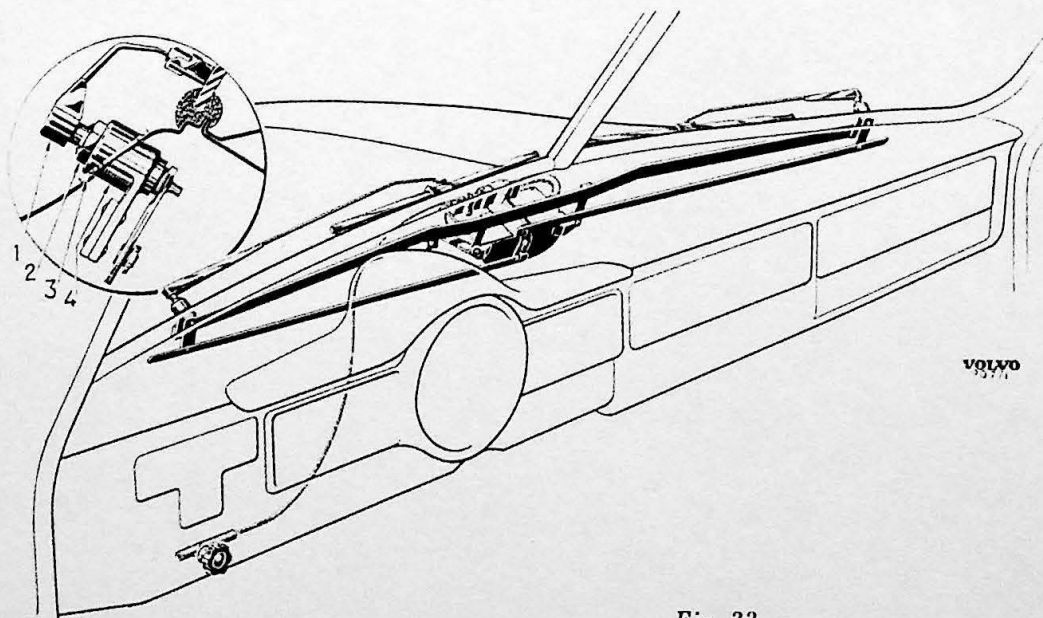
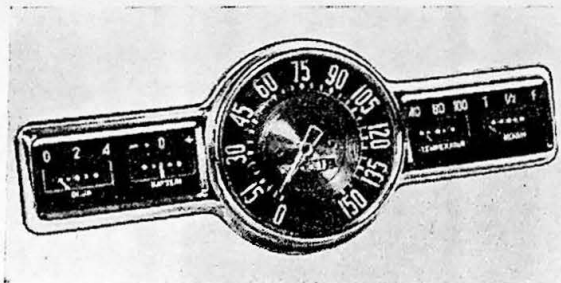


Fig. 33.



VOLVO
20770

Fig. 34.

and the fuel gauge. Notice the cable markings very carefully so that they are connected correctly when re-assembling.

Remove the nuts and clips which hold the panel in position and remove it.

When replacing individual instruments see under headings for the instrument in question.

Replacement of speedometer

If the speedometer does not register at all or the mileometer does not show the correct distance travelled, then the matter should be placed in the hands of an instrument maker. In the case of more extensive repairs being necessary then it is best to replace the instruments in question.

If the instrument fails to register both speed and the distance travelled or there is excessive swing on the pointer then it is very likely that the transmission cable is either broken or else jamming in the sheath.

Replace of speedometer is carried out in the following way:

1. Disconnect one of the accumulator cables.
2. Loosen the cable from the instrument.
3. Pull out the bulb-holders for the check and instrument lights in the speedometer.
4. Remove the screws with which the speedometer is attached to the panel and lift it out.
5. Assembly is carried out in the reverse order.

Replacement of thermometer or fuel gauge

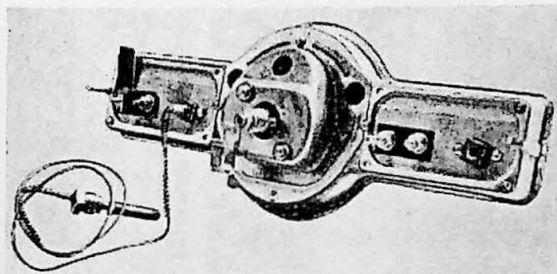
The thermometer and the fuel gauge are fitted to a mounting plate which is screwed to the rear of the instrument panel. See Fig. 35. On cars of later construction they are, however, fitted separately so that they may be removed indi-

vidually. Replacement procedure is as follows:

1. Disconnect one of the accumulator cables.
2. Loosen the cables from the fuel gauge and be careful to note which cable comes from which terminal.
3. Remove the screws which hold the mounting plate to the instrument panel. Use a small screw-driver fitted with a screw-holder or else a magnetic screw-holder.
4. Lift out the instruments and take great care to avoid sharp bends in the thermometer tube. Remove the faulty instrument from the mounting plate and, if it is the thermometer which is faulty, remove also the sensitive head from the engine.
5. Fitting of new instruments takes place in the reverse order. Make sure that the contact screws on the fuel gauge, which also serve as attachment screws, do not come into contact with the mounting plate and that the cables are connected correctly. Wrongly connected cables burn out the instruments.

Replacement of the fuel gauge tank unit

1. Make sure that the ignition key is in the neutral position.
2. Loosen and lift out the spare wheel holder. The work is facilitated if the box over the wheel is also removed.
3. Blow the tank unit thoroughly clean.
4. Disconnect the cable and the tank unit and remove.
5. Assembly is carried out in the reverse order. Always use a new cork gasket which should be smeared with sealing compound (Plastifix or similar) in order to prevent the smell of petrol in the car.



VOLVO
20769

Fig. 35.

The cable from the tank unit to the instrument is very difficult to replace in the case of serious damage and it is much simpler to pull a new cable from the rear compartment through the tunnel under the left-hand door, behind the wall panel to the left of the pedals and to the instrument panel.

Replacement of ammeter or oil pressure gauge

The ammeter is fitted together with the oil pressure gauge on a mounting plate which is attached to the rear side of the instrument panel as shown in Fig. 35. On later models, these two instruments are fitted separately so that they may be removed individually. Replacement is carried out as follows:

1. Disconnect one of the accumulator cables.
2. Disconnect the cables from the ammeter. Mark the cables which are attached to one of the screws.
3. Disconnect the tube on the oil pressure gauge.
4. Remove the screws holding the mounting plate to the instrument panel. Use a small screw-driver fitted with a screw-holder or else a magnetic screw-driver.
5. Lift out the instruments and remove the faulty instrument from the mounting plate.
6. Assembly is carried out in the reverse order. Make sure that the contact screws on the instruments do not come into contact with the mounting plate and that the cables are correctly connected. If the cables from the instrument to the regulator and the accumulator happen to get exchanged then the instrument in question will register in the wrong direction.

Do not forget to connect the oil pressure gauge tube before the engine is started.

Fuel tank

The fuel tank is replaced in the following way:

1. Remove the bottom plug and empty the tank into a clean receptacle. While the fuel is running out, remove the spare-wheel shelf and disconnect the tank unit cable.
2. Disconnect the tube to the filler pipe, the air tube and the fuel pipe to the engine.

3. Remove the screws with which the tank is secured to the body.
4. Lift up the tank and clean it thoroughly externally.
5. Remove the tank unit of the fuel gauge.
6. The fuel tank is assembled in the reverse order. Ensure that all joints are tight by using sufficient sealing medium.

Radiator

The radiator is replaced in the following way:

1. Disconnect the radiator blind wire while the coolant is draining from the engine. If there is anti-freeze in the tank, collect it in a clean receptacle.
2. Disconnect the hose clips on the upper and lower radiator hoses.
3. Remove the two screws on each side of the radiator, after which the radiator may be lifted up.
4. Assembly of the radiator is carried out in the reverse order. Ensure that the hoses and clips are in good condition.

Fittings and upholstery

The inside of the body is insulated by means of specially treated "waffle" paper. This serves as heat insulation and prevents vibrations in the body.

Front seat

Both the seats and the backs of the front seats are built on a tubular steel frame. Springs in both seat and back consist of spiral springs. These are formed to one unit through the use of binding springs. Stuffing consists of jute, fibre-matting and wadding in that order and the top upholstery.

The front seats are retained in place by brackets on the front seat adjustor assembly. The seats may be removed by holding the adjustor knob to the side and pushing the seat forwards.

Rear seat

Both the seats and the backs of the rear seat are constructed in the same way as the front seats the only difference being that the frame is constructed of wood. Upholstery stuffing is the same as that in the front seats. There is, however, no fibre matting in the back section.

The actual seat portion of the rear seat is held in place by two pins on the rear seat support and is accessible from the rear compartment. In cars of later production the back of the seat is held in position by the arm rests and may be removed merely by lifting upwards.

Door and side-wall upholstery

Door and side-wall upholstery consists of 3 mm ($\frac{1}{8}$ ") thick masonite covered with wadding and surface cloth. Sections are attached to the doors and body by means of clips.

The front seat arm rests consist of brackets which are covered with sponge rubber over which the cloth is stretched. They are attached to the inner plate on the door by means of screws.

Head lining

The headlining consists of cloth which is stretched on the roof bows and attached to the former rib at the upper limit of the side section.

Mounting plate and floor

The sides of the mounting plate are covered with embossed paper sheeting which is attached by means of screws. The mounting plate itself is covered by a rubber mat which is held in place by means of studs.

The floor is covered with rubber mats which are attached by studs in the floor plate.

For removal and installation of fittings and upholstery, see Part 14.

TOOLS

SVO 1460 Depressor tool for escutcheon plates when fitting and removing inner door handles and window regulators (see Fig. 14).

SPECIFICATIONS

Dimensions and weight of complete body

Overall length 4100 mm (161¹/₂"")
 Overall width 1450 mm (57")
 Overall height 1305 mm (51¹/₂"")
 Weight with doors and rear compartment lid .. about 230 kg (507 lbs.)

influence on the track and the driving characteristics of the car are marked with an asterisk for check and to facilitate work on the body when repairing damage etc. Dimensions given are in mm.

Body dimensions check

The most important body dimensions are shown in Fig. 36. Dimensions which have a direct

Framaxel = front axle
 Bakaxel = rear axle
 Centrumlinje (CL) = car centre line
 Hjulbas = wheel base

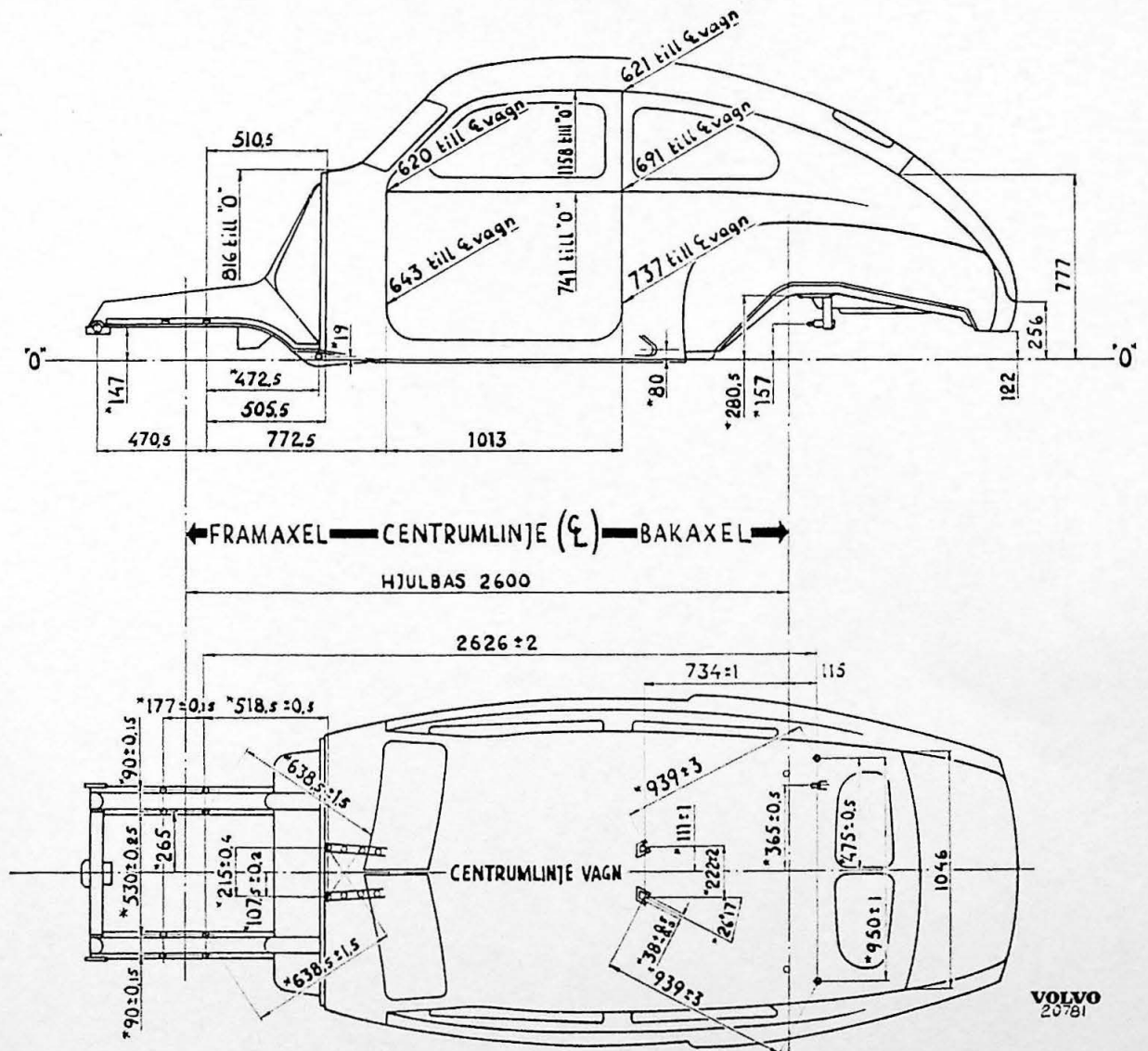


Fig. 36.