

# SERVICE MANUAL

CARS AND VANS

PV 444—445

Part 14

ACCESSORIES

*Export Service Department*

AKTIEBOLAGET

**VOLVO**

GÖTEBORG . SWEDEN

## INSTRUCTIONS FOR INSTALLATION

This part of the Service Manual for PV 444-445 is concerned with instructions for the installation of the accessories sold by our Spare Parts Department.

The accessories and the installation methods used are carefully tested at our factory. They can therefore be recommended and they are situated in the most convenient positions in the car.

It is particularly important that accessories installed are suitable for the purpose desired. Ensure that work carried out results in correct and stable installation of the accessories in question.

The instructions below are intended to serve as a guide for installation work.

In certain cases alternative methods are given in order to satisfy individual requirements.

### Aerial

The aerial, as shown in Fig. 1, is specially constructed for installation on the windscreen central pillar. The advantage of this is that it is better protected than an aerial fitted to the side of the car.

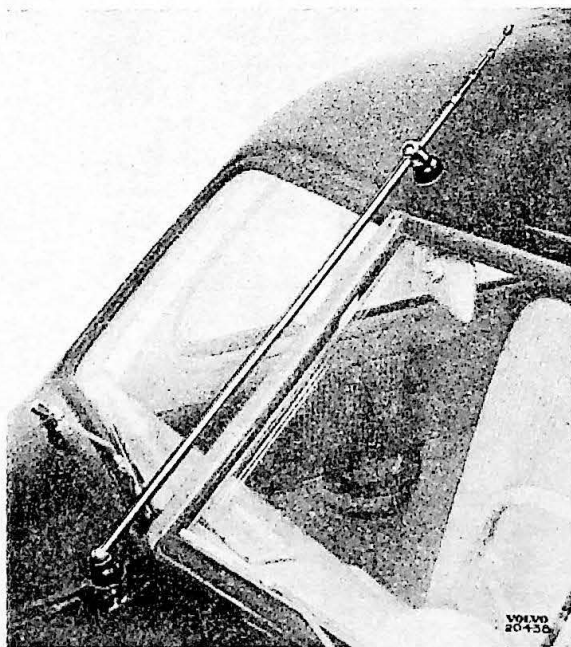


Fig. 1.

Installation, which should be carefully carried out, is as follows:

Let an upholsterer loosen the forward part of the roofing cloth. This is hung up backwards out of the way. The same upholsterer should be employed to replace the cloth afterwards.

Measure up and bore the two holes required for the attachment of the aerial. See Fig. 2. Make sure that the holes are at the highest points. Smooth if necessary with a round file. Since the cowl and the roof are fashioned, the lower part of the bakelite units must be filed down until they fit into the fashioning. Test aerial position before commencing filing. Since both halves of the bakelite units may be turned relative to each other, accuracy in installation is essential.

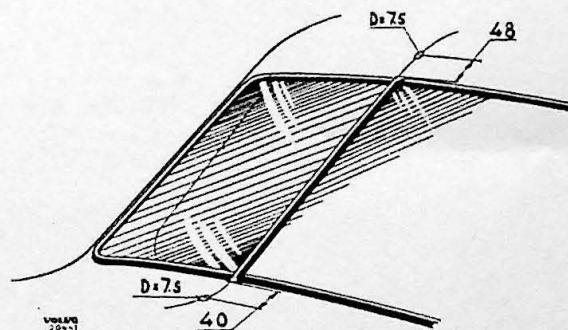


Fig. 2.

Scrape the plate thoroughly on the underside of the lower hole. The aerial lead screening sleeve must be well earthed to the body. Make sure that the various parts are fitted in the right place and that the washers are turned in the right direction. See Fig. 3. Aerial attachment screws must not come into contact with the body. When the aerial has been installed, connect the aerial lead to the radio.

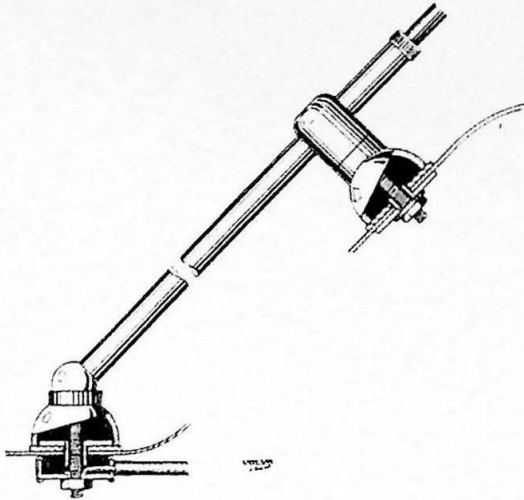


Fig. 3.

Fig. 4 shows an aerial intended for installation on the side of the cowl. The distance between the holes and the angle of the aerial may be adjusted as desired. Installation is otherwise as described above.

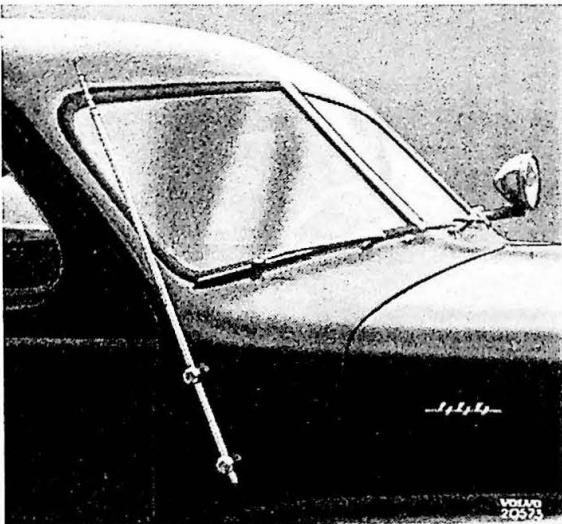


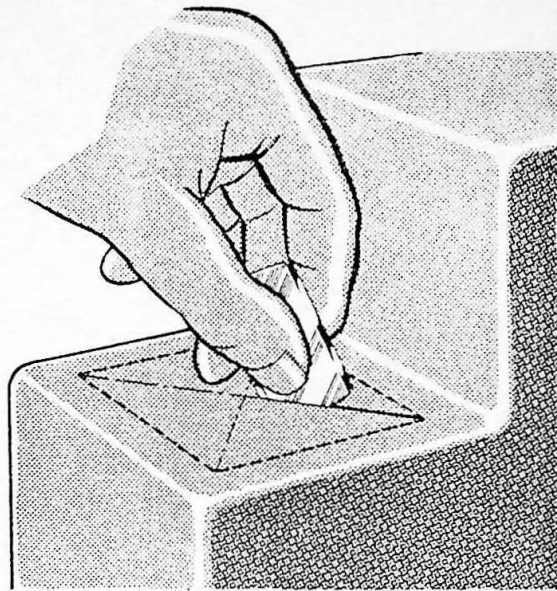
Fig. 4.

## Ash trays (PV 444 A)

The standard model PV 444 A is not fitted with ash trays.

Ash trays may be fitted in the rear seat arm rests if desired.

1. Slit up the cloth with a razor blade or something similar as shown in Fig. 5.
2. Remove the cardboard sheet from under the cloth.
3. Bend down the four corners in the ash tray recess and attach them firmly with tacks.
4. Place in the ash tray outer casing and screw it down. Press in the ash tray itself.



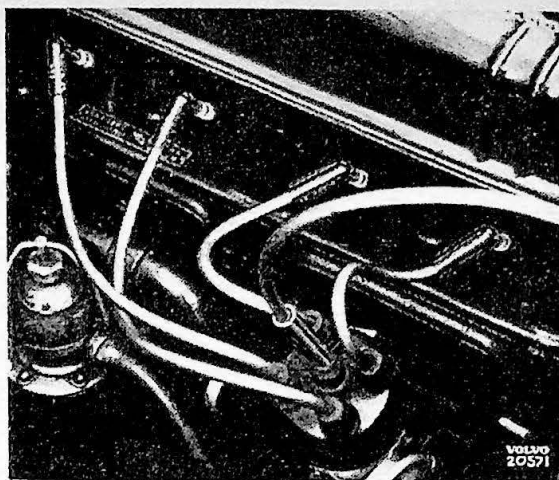
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Fig. 5.

## Disturbance eliminator for car radio

In order that the car radio should function as freely as possible from disturbance, the following eliminator is fitted:

1. A condenser (4, Fig. 7) of about 3 microfarads is connected between the screw on the ignition switch (1), where the radio cable (2) is connected, and earth (car body). (3) is the cable screening sleeve. The normal connecting points for this condenser are the feed side of the ignition coil and earth. This cannot be done in this case since the ignition switch and the ignition coil are connected by means of a screened cable.
2. A condenser (1, Fig. 8) of about 3 micro-



farads is connected between the live brush on the dynamo (2) and earth. The condenser may not be connected to the field winding (3). The contact point where the condenser is to be attached to the dynamo housing must be thoroughly cleaned.

3. A special resistance of about 5000 ohms is connected in series with the high tension cable as near the distributor head as possible. The resistance is screwed into the ends of the clipped-off cable. See Fig. 6.

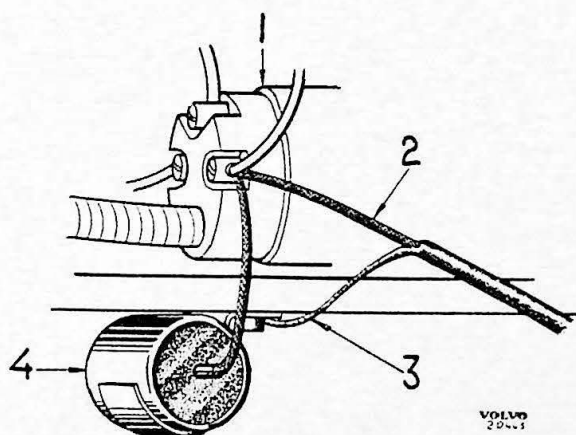


Fig. 7.

4. A special resistance of about 10000 ohms is attached to each sparking plug as shown in Fig. 6.

N. B. When buying these units, be sure to mention that they are intended for use in a car radio. Usual condensers and resistances as used in a mains radio may not be used for this purpose.

If there is disturbance on the short-wave bands, fit a condenser (1, Fig. 9) of about 8000 pF.

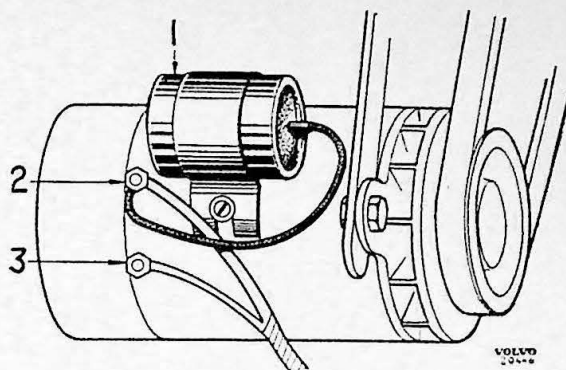


Fig. 8.

Possible disturbance on the medium-wave band is eliminated by means of a condenser (2, Fig. 9) of 0,5 pF.

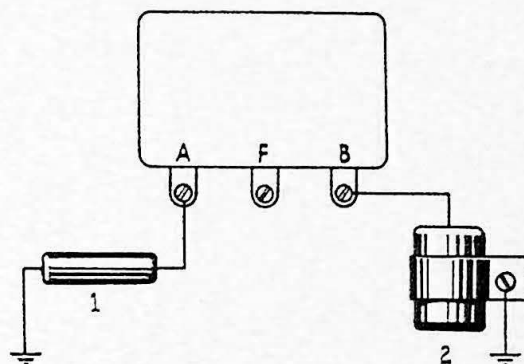


Fig. 9.

### Rear light

Part number 79027. (Round)

Part number 79503. (Rectangular)

The rear light (intended for reversing at night) is attached to the left support on the rear bumper. Attachment is shown in Fig. 10.

Connection is carried out by taking a cable from the rear light to the rear compartment and through the tunnel under the left-side door. Loosen the side-wall upholstery to the left of the pedals and take the cable through up to the switch (Volvo part number 79202) which should be attached in a suitable position under the instrument panel.

If there is an extra fuse-box (see "Spot light") the cable from the switch is attached to one of the fuses which is not connected in another circuit. From PV 444 C onwards there is a fuse reserved for similar accessories. If no fuses are available for the purpose, instal an extra fuse-box.

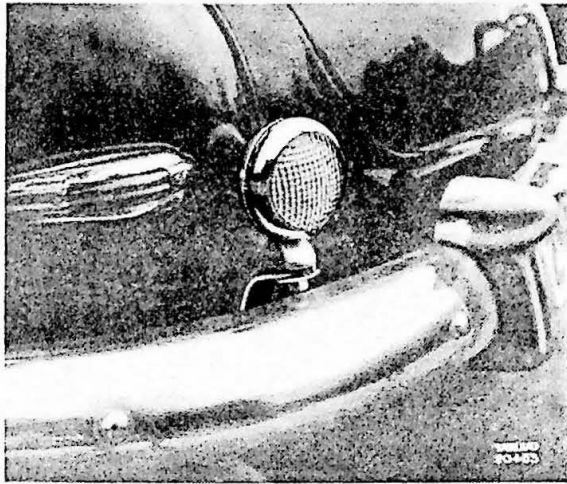


Fig. 10.

The rear light is adjusted so that the horizontal centre line of the beam, 2 metres (7 ft.) from the car, is  $0.8 \times H$  from the ground. See Fig. 11. At the same distance from the car, the centre of the beam should be 0.25 m (10") on the outside of a line drawn along the left-hand side of the car.

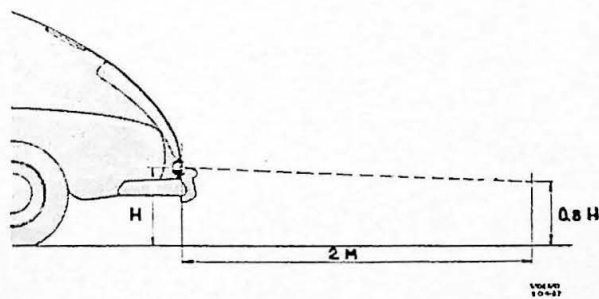


Fig. 11.

## Driving mirror with clock

Part number 79351

The driving mirror with clock is attached in the same way as the normal driving mirror.

Loosen the two screws, change the mirror and screw tight again.

The clock, which is electric, has a separate fuse and should, therefor, be connected directly to the ammeter.

The cable is taken through the inner wind-screen moulding and a hole is bored in the instrument panel shelf for the cable.

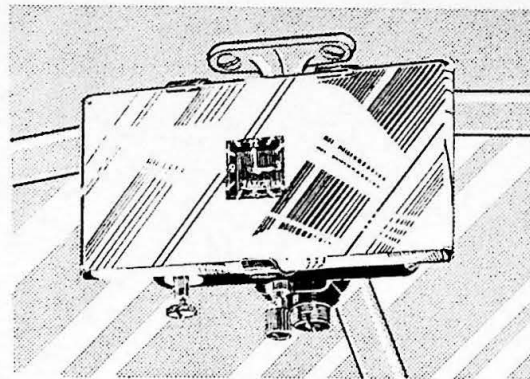


Fig. 12.

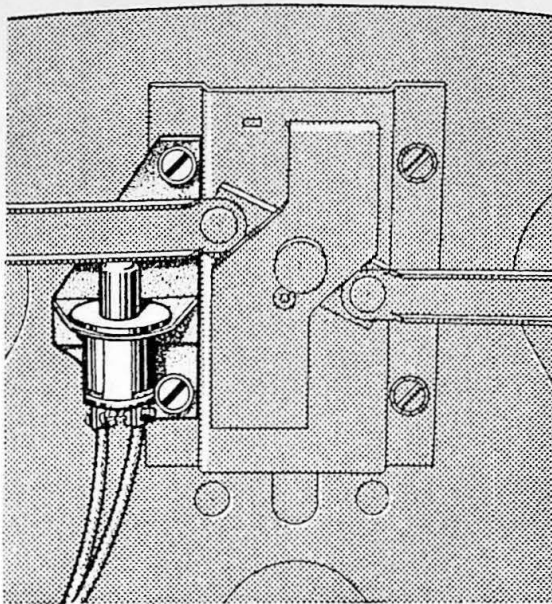
## Rear compartment lighting

Part number 79367

The rear compartment lighting for PV 444 is installed as shown in the illustrations below.

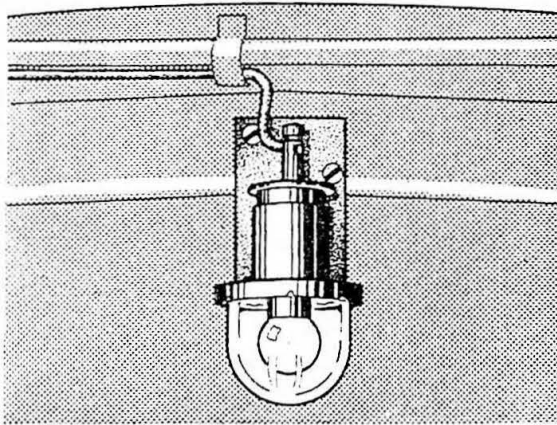
The switch is fitted on the two left-hand attaching screws on the rear compartment lock. The light itself is attached by means of two screws to the rear compartment hinge reinforcement plate. The point of attachment should be carefully scraped in order to obtain good contact.

Connection is carried out by taking the cable from the switch through the back of the rear compartment and through the tunnel under the left-hand door. Loosen the side-wall upholstery to the left of the pedals and take the cable through the mounting plate to the fuse box. It is connected to an available fuse or any other 8 amp. fuse, the circuit of which is not broken by the ignition switch. From PV 444 C onwards, there is a fuse reserved for similar accessories. Connect the switch and the lamp. Use a cable with an area of at least 1,5 mm<sup>2</sup>.



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Fig. 13.



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Fig. 14.

### Cigarette lighter

PV 444 A. Part number 93927

PV 444 B, C, D and E. Part number 94872

The cigarette lighter is fitted in the hole intended for the purpose on the instrument panel to the right of the steering column.

Remove the protector plate from the hole. Insert the cigarette lighter unit and tighten the nut on the inside of the instrument panel.

Connect to the dynamo side of the ammeter.

### Fog lights

Part number 79139

The fog lights may not be fitted at a level

exceeding that of the head lights. They should be adjusted so that they illuminate the whole of the road evenly. A suitable location for the fog lights is shown in Fig. 15.

The lights are attached to the inner bumper supports by means of brackets.

They should be adjusted so that, at a point 5 metres (16 ft.) in front of the car, the centres of the beams lie 150 mm (6") under the horizontal centre line of the lights. At the same distance from the car the distance between the two beam centres should be 600 mm (24") more than the distance between the lights.

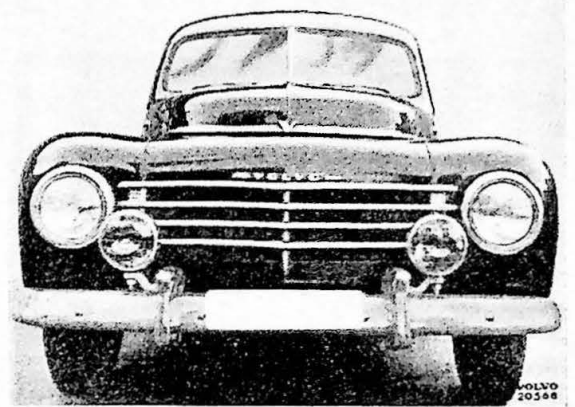


Fig. 15.

The switch for the fog lights should be fitted to the instrument panel in a convenient position according to individual desire.

Fog lights on PV 444 A and B and on PV 445 A and B may not be connected to existing fuse boxes. The cables would not tolerate such overloading. When fog lamps are fitted, an extra fuse-box must be installed beside the normal fuse-box. See "Spot light". Use an 8 amp. fuse. The cable used must be at least 2.5 mm<sup>2</sup>.

For PV 444 C and PV 445 C onwards there is a fuse reserved for the installation of fog lights.

### Extra head light

Part number 79209

When an extra head light is fitted, it should be placed between the other two but may not be at a higher level. The best position is shown in Fig. 16.

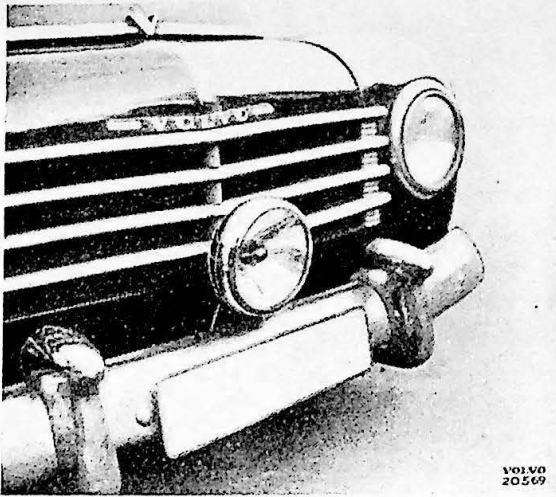


Fig. 16.

The light may be attached either directly to the bumper by boring a hole in it or else to the bumper inner support by means of a bracket.

The light should be adjusted so that the beam is directed forwards as an extension of the centre line of the car. The beam should also be directed slightly downwards so that at a point 5 metres (16 ft.) in front of the car the beam centre height above the ground is  $\frac{2}{3}$  of the height of the light itself above the ground.

On PV 444 A and B as well as on PV 445 A and B an extra fuse-box must be fitted beside the normal fuse-box. See "Spot light". From PV 444

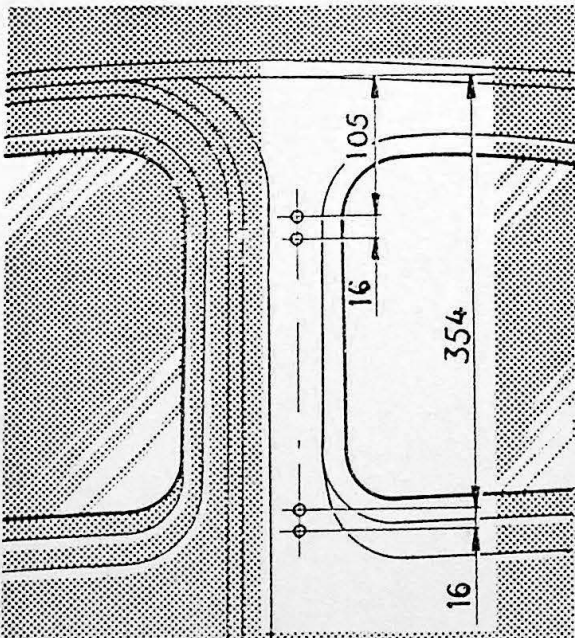


Fig. 17.

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C and PV 445 C onwards there is a fuse reserved for this purpose in the normal fuse-box.

Use an 8 amp. fuse and a cable of at least 2,5 mm<sup>2</sup>.

## Hand straps

Part number 93623

The hand straps are attached to the central pillar between the windows. A suitable height for these straps is shown in Fig. 17. Bore the holes and attach the straps with four screws. Diameter of drill, 3 mm ( $\frac{1}{8}$ ").

## Luggage rack

The luggage rack is fitted by means of two vertical pillars on the bumper supports as shown in Fig. 18. When not in use, the luggage rack is folded and packed away in the rear compartment.

The luggage rack is Part number 79308 on PV 444 A and Part number 79345 on PV 444 B, C and E.

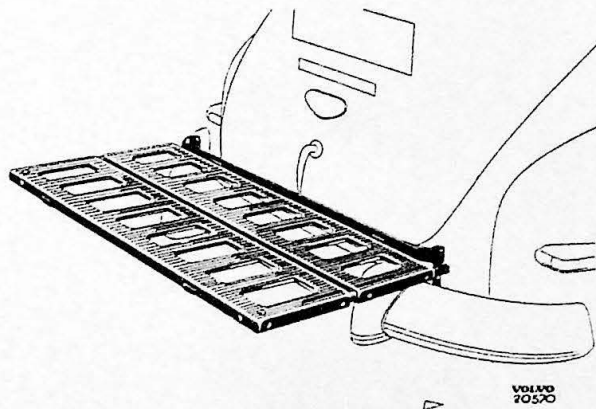


Fig. 18.

## Oil cleaner (PV 444 A and PV 445 A)

Part number 54703

The oil cleaner is attached to the forward part of the cylinder head by means of the threaded holes existing for the purpose. The cleaner feed is attached to the front end of the engine behind the dynamo. Remove the plug and screw in the oil tube nipple. The cleaner outlet is connected to the left side of the engine under the petrol pump. Remove the plug and connect the nipple. See Fig. 19.

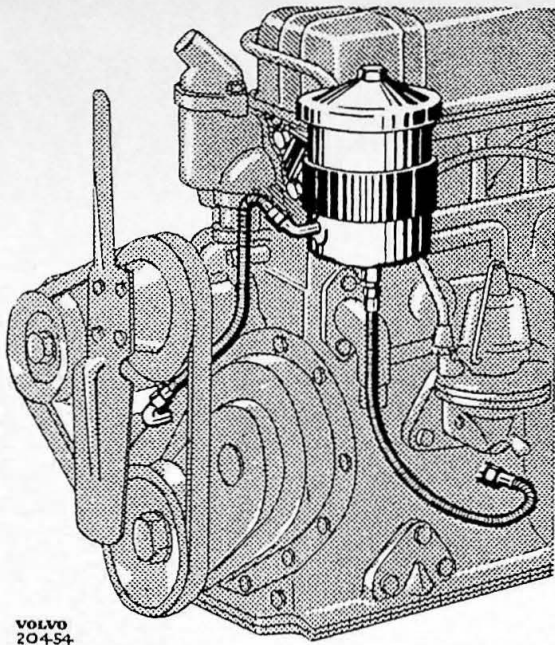


Fig. 19.

## Radio

### Interference eliminator for car radio

See Page 2.

### Installation of Philips car radio NX 524V and 624V

The position of the radio is shown in Fig. 20 and Fig. 21. The receiver unit is designed for fitting in the centre of the instrument panel. It is then easily accessible from both front seats. The power unit is installed to the right on the inside of the mounting plate.

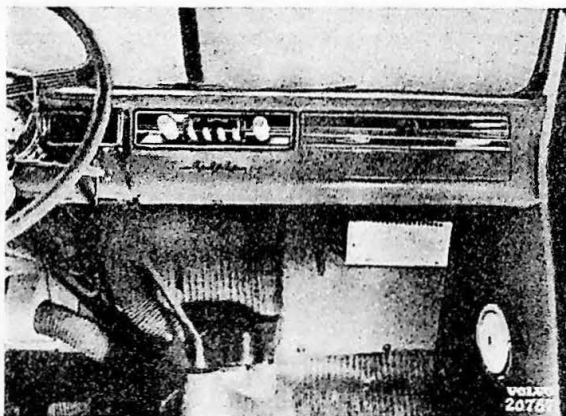


Fig. 20.

The loudspeaker may be fitted in the upholstery on the right-hand side, Fig. 20, or else in the shelf above the rear seat as shown in Fig. 22.

Installation is carried out in the following way:

1. Place the templet supplied on the instrument panel moulding and cut the holes required for the control knob shafts and the wavelength scale.
2. Remove the control knobs by loosening the screws. Do this carefully so that the wave-change knob and the spring behind it do not jump off. Then remove the hexagonal nuts, the chromium-plated washers and the cardboard sheet.
3. Screw in the two remaining nuts on the threaded bushings until they are 5 mm ( $\frac{13}{64}$ " ) plus the thickness of the instrument panel from the outer end of the bushings.

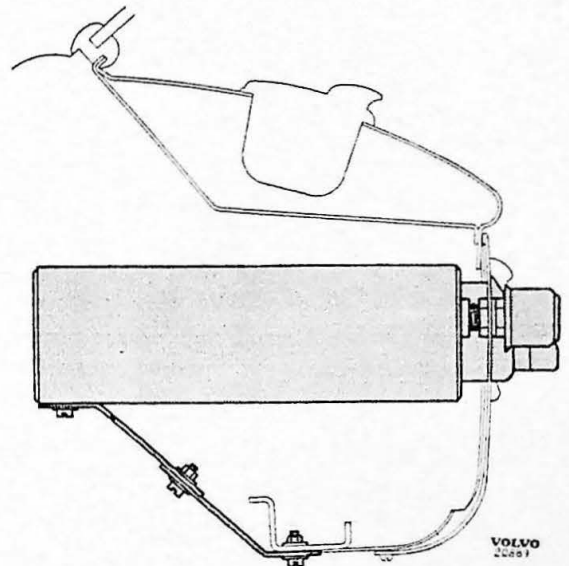


Fig. 21.

Then slide the receiver unit into position, replace the chromium-plated washers on the bushings and tighten the receiver unit on the instrument panel by means of the two hexagonal nuts. Tighten the knobs (with the spring on the inside).

4. Attach the two-piece support to the receiver unit and the lower shelf of the instrument panel with the help of screws. Scrape round the holes very thoroughly in order to ensure good contact.
5. Place the power unit templet on the mounting plate above and to the right of the propeller shaft tunnel and drill a hole. Scrape

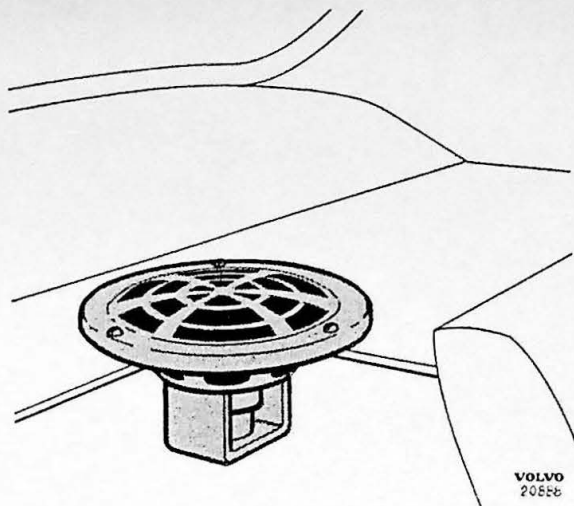


Fig. 22.

thoroughly round the hole to ensure good contact.

6. Tighten the attaching bolt with the shortest threaded length in the casing. Fit the power unit to the mounting plate with the 8-point connector upwards. This is to disperse the heat generated.
7. Drill a hole for the loudspeaker (110 mm (= 4 11/32") or 140 mm (= 5 1/2") depending on the size of the loudspeaker). Drill three 4 mm (= 5/32") holes round the loudspeaker opening. These are for the attachment of the loudspeaker grille.
8. Screw the loudspeaker in position.
9. Connections between the various units are carried out as follows:
  - a. Connect the cable from the receiver unit to the 8-point contact on the power unit. This fits in only one position.
  - b. Connect the cable from the power unit to the right-hand terminal on the ignition switch (as seen from the front).
  - c. Connect the aerial cable to the aerial contact on the receiver unit.
  - d. Connect the power unit and the loudspeaker by means of the 3-point terminal board. The screening of the loudspeaker cable "A" is connected to the same terminal as the screening of the power unit cable. The black cable "ZW" is connected to the same terminal as the black cable from the power unit. The grey cable "CR" is attached to the same terminal as the grey cable from the power unit.

If the loudspeaker is installed in the rear of the car, then the cable must be lengthened. Use screened cable designed for the purpose and ensure that it is connected in the same way.

The radio may be equipped with a short-wave unit if so desired. In this case, use the special connection instructions. These may be obtained from the nearest Philips Radio dealer.

## Inspection lamp contacts

Inspection lamp contacts should be installed on the lower edge of the instrument panel to the left of the steering column.

The contacts are fitted to the upper side of the lower edge so that holes for the contacts themselves, as well as for the holes, are bored in the plate.

Connect to the fuse-box. An extra fuse-box should be fitted on PV 444 A and B as well as on PV 445 A and B. See "Spot light".

## Sun visor

Part number 40928

An extra sun visor on the right-hand side of the windscreen is fitted as follows:

Under the upholstery in the right-hand corner, there is an attachment plate in the place corresponding to the attachment plate position for the left-hand sun visor. This plate is already drilled with the required number of holes. When the position of the attachment plate has been determined, the sun visor is attached by means of three screws. In this way the upholstery not not be disturbed in the least.

## Mud shields

Part number 79214

The mud shields with the above number are intended for installation under the rear mudguards and are attached to the stays. Make sure that the mud shields are attached vertically and sufficiently far out so that they give ample protection against mud that is thrown backwards from the wheels.

## Spot light

Part number 79108

The spot light is fitted as shown in Fig. 23. Cut out the templet accompanying the spot light and place it in position according to directions. Mark

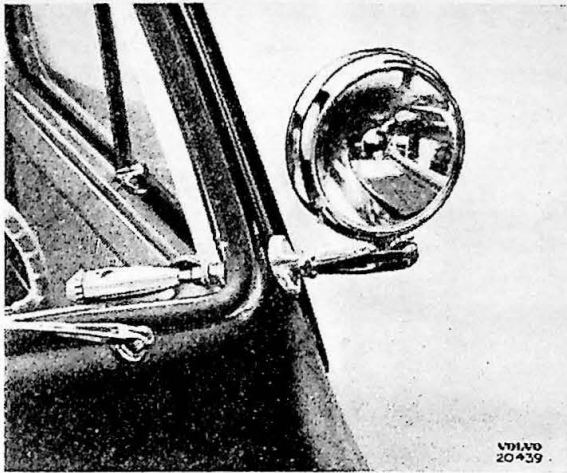


Fig. 23.

the positions of the holes carefully and then drill them. Use a 3 mm ( $= 1/8''$ ) drill. Drill only through the outer plate.

Then drill a third hole midway between the other two but 2—3 mm ( $= 5/64'' - 1/8''$ ) nearer the windscreen. Calculate the angle of the drill so that the hole comes out in the centre of the inside pillar. Diameter of drill 10 mm ( $= 25/64''$ ).

Remove the spot light handle according to the enclosed directions.

Smooth the edges of the hole with a round file and check the angle. When the hole is sufficiently large, push the shaft of the spot light through it and tighten the screws of the outside attachment plate to the body. Do not forget the rubber insert. Thread the inner attachment plate

onto the shaft and turn it until both ends lie against the pillar. Drill holes and screw down the plate, one end at a time. Use a drill of 3 mm ( $= 1/8''$ ) diameter. Replace spot light handle according to the enclosed directions and tighten it thoroughly.

The spot light in PV 444 A and B as well as PV 445 A and B should not be connected to the existing fuse-box. If this is done, the cables might be overloaded. Connection to the ignition switch may not be carried out. An extra fuse-box (3, Fig. 24) is therefore fitted beside the normal fuse-box. Disconnect the positive lead from the accumulator. Connect a cable (2,5 mm<sup>2</sup>) between the ammeter (1) (dynamo side) and the extra fuse-box. Connect the spot light to this extra fuse-box by means of a cable (4) which is taken through the cowl and fitted with a suitable rubber sheath. Fit an 8 amp. fuse and connect the accumulator cable.

From PV 444 C onwards, there is a fuse reserved for this purpose and connection is made directly without any alterations being necessary.

## Vacuum tank

Part number 79224

This vacuum tank is intended for installation under the right front mudguard behind the wheel as shown in Fig. 25.

1. Loosen the wheel nuts on the right front wheel. Jack up the car and remove the wheel.

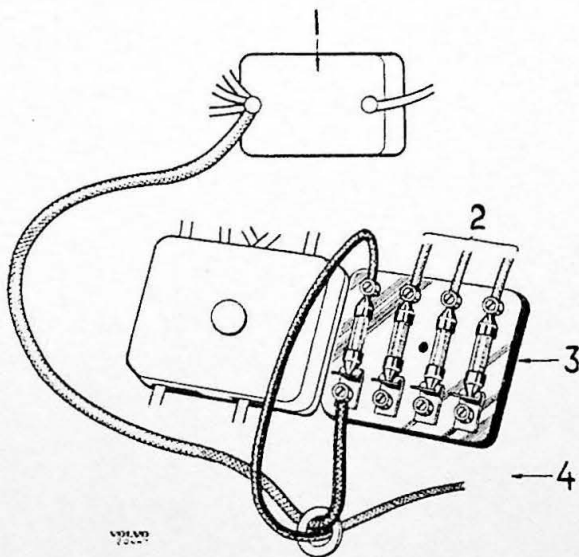


Fig. 24.

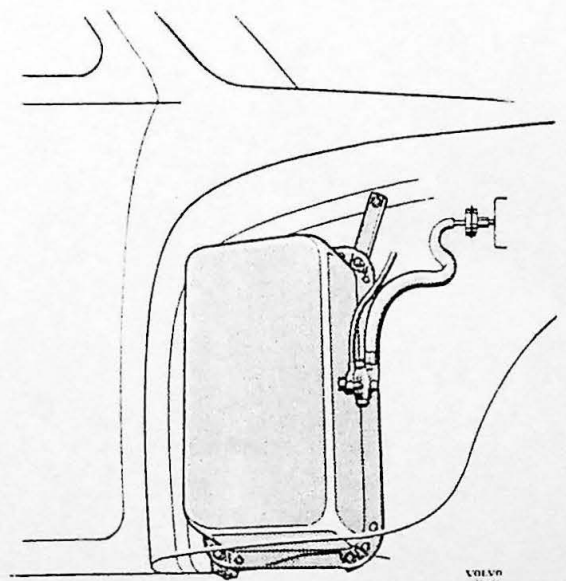


Fig. 25.

2. Remove the 5th. mudguard nut from the bottom and attach the longer attachment bar.
3. Place the tank in position and secure it to the attachment bar.
4. Secure the lower part of the tank with the other two attachment bars. That at the rear is attached to the bottom mudguard screw and that at the front with a body screw.
5. Attach the valve housing to the tank and the filter to the rear end of the intake manifold.
6. Connect the accompanying tube to the filter and the outer (thicker) nipple.
7. Extend the tube to the windscreen wiper with the smaller tube and connect it to the valve housing inner (thinner) nipple.

The filter mentioned above must always be fitted in conjunction with this vacuum tank. The function of this is, in the case of a leak in the vacuum pipes or tank, to prevent dust and dirt from gaining access to the engine.

## Windscreen spray

Part number 79291

The windscreen spray nozzles (2 and 5, Fig. 27) are best fitted on the upper part of the cowl midway between the windscreen wipers and the central pillar as shown in Fig. 26. Measure up and mark these positions very carefully one of which is shown in 1. Then drill the holes 25 mm (1") from the edge of the rubber weatherstrip. Use

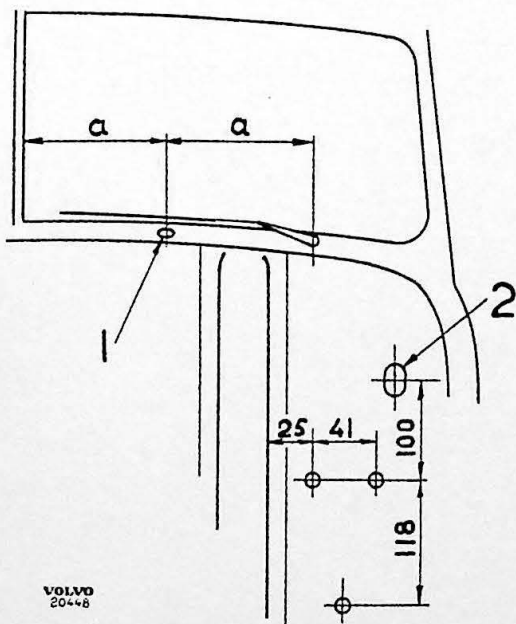


Fig. 26.

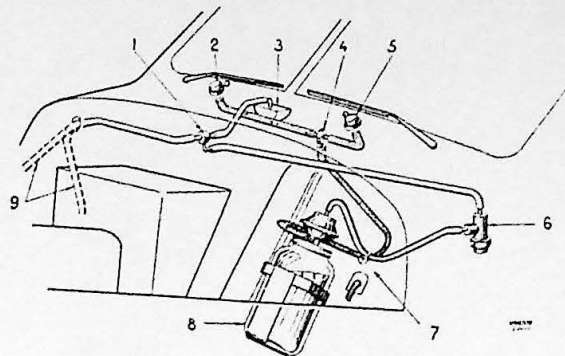


Fig. 27.

an 8 mm ( $\frac{5}{16}$ " ) drill and work carefully so that the drill does not damage any of the equipment mounted under the cowl.

Secure the nozzles. If necessary, remove glove compartment.

Mark out and drill holes for the water container (8) and screw it into position. See Fig. 26. Hole 2 shows the position of the hand brake cable.

On cars fitted with heater BV-6, the water reservoir may be fitted on the left-hand side under the regulator.

The valve (6) is best fitted on the left-hand side of the instrument panel where a hole with a diameter of 12,5 mm ( $\frac{1}{2}$ " ) is drilled.

Connect the T-joint (4) to the pipes leading to the nozzles (2 and 5). The third connection is to the nipple on the side of the water container cover. The mounting panel (7) is drilled, the hole fitted with a rubber sheath and the pipe taken through.

Connect the nipple above the water container cover to the horizontal tube on the valve (6). The other tube on the valve is connected to a T-joint (1) for pipes to the windscreen wipers (3). 9 shows either the engine intake manifold or the vacuum tank.

Fill the container with water and start the engine. Press the button on the valve and release it after a few seconds. Water is then forced through the pipes to the nozzles. While the water is spraying out, adjust so that the centre of the spray is half-way across each panel and level with the top edge.

On the windscreen wiper motors which are fitted with an extra nipple (from PV 444 B and PV 445 B onwards) installation is carried out in the following way:

Connect a pipe from the extra nipple to the upper nipple on the water container cover. The T-joint (1) between the windscreen wiper motor and the vacuum tank as well as the operating button (6) are no longer required.

When spraying of the windscreen is required, the knob for the windscreen wipers is turned in an anti-clockwise direction and held in this position for a few seconds. Then release the knob and turn it in a clockwise direction. The windscreen wipers then operate as the same time as the windscreen is sprayed.

The only disadvantage with this system is that the windscreen wipers cannot operate while the knob is turned in an anti-clockwise direction.

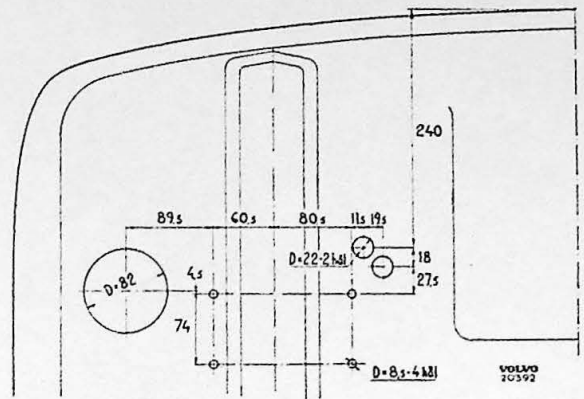


Fig. 29.

h81 = hole. Dim. in mm.

## Heater, Type BV-1

Part number 94123

The position of the heater is shown in Fig. 28 and Fig. 31. The heater itself is attached to the mounting panel by means of two brackets.

Drill the holes in the cowl and the air duct on the right-hand side of the radiator as shown in Fig. 29 and Fig. 30. These holes are already drilled on PV 444 from chassis number 20800 onwards.

The holes for the hoses in the mounting panel and the funnel in the air duct are arranged as "knock-out" plates. This facilitates installation since it is only necessary to knock out these plates and cut a corresponding hole in the insulation.

Fit the air intake (1, Fig. 31) on the right-hand side of the heater (2). Screw the brackets (16) tightly onto the heater. Fit a rubber bushing

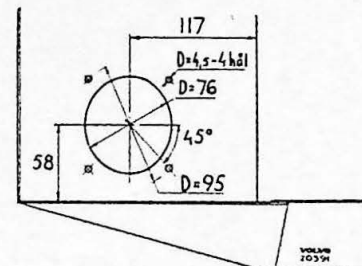


Fig. 30.

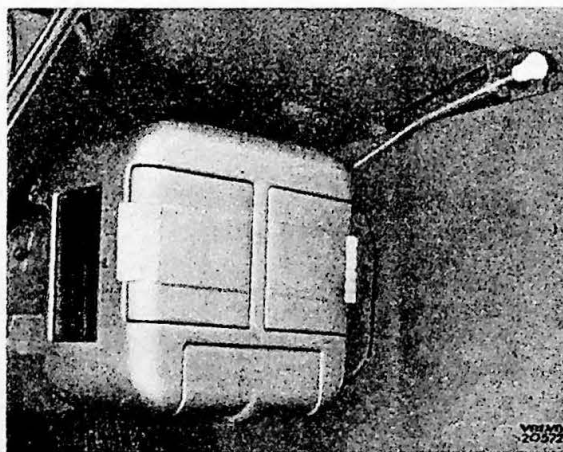


Fig. 28.

on each side of the brackets to decrease vibration. Fit the heater to the mounting panel.

Push in the fresh air hose (14) and connect it to the heater with a circular clip (17). Thread the rubber bushing (15) onto the fresh air hose and then attach it to the mounting panel with several chassis screws.

Install the funnel (12) on the air duct and then connect the hose with a clip (13). The funnel should be fitted with a brass netting screen at the front to prevent flies etc. from coming into the air intake. The fresh air hose is attached to the right-front wheel housing by means of two semi-circular supports.

Connect the inlet (10) and outlet (9) hoses. Make sure that the hoses are attached correctly. The inlet hose is connected to the thermostat housing where the cock (11) is fitted. During earlier installation the cock was placed on the engine head but since the heater did not receive the required amount of warm water is has now been moved to its present position on the thermostat housing.

Install the funnel and hose (7) for the defroster.

Fit the rheostat switch (4) on the underside of the instrument panel. Connect the motor cable to the terminal marked "Mot" (motor). The other terminal is connected to the cable from the feed side of the fuel gauge (5). Connect the earthing cable from the motor (6) to a suitable point under the instrument panel. Make sure that a good contact is obtained.

The control knob (3) for the fresh air shutter (8) should be attached to the underside of the instrument panel and the wire (piano wire) to the shutter.

When the heater is to be filled, the air is let out by loosening the hose at the heater after which coolant is added to the radiator.

The heater is not emptied when the cocks on the engine block and the radiator are opened and for this reason anti-freeze should be used in the heater to avoid damage by frost.

## Heater and defroster, Type BV-6

This heater is specially constructed for PV 444-445 D and E but can also be fitted to other models.

The air intake (3, Fig. 32) which is mounted on the left-hand side of the air duct, is connected with the fan housing (33) by means of a hose (34). The heater itself (30) is screwed to the mounting

plate and is built into the same unit as the fan housing. The distribution duct (29), which is attached to the inside of the mounting plate with the same screws as the heater, is fitted with two openings. Through the left-hand opening the warm air passes out above the pedals. The right-hand opening is connected with the support by means of a hose (11). This is equipped with an opening (13) in the right-hand wall, through which warm air passes out to the right in the car.

The heater is fitted with a thermostat (28) by means of which the temperature in the car is controlled.

The defroster fan (15) is fitted to the support between the tunnel and the accumulator holder and is connected with the openings for warm air to the windscreen by means of a hose (16).

The heater, the thermostat and the defroster are regulated by means of a control unit (20) which is fitted to the left-hand side of the instrument panel. There are switches for the fresh-air and defroster motors (24 and 21) and controls for the fresh-air shutter and the thermostat (23 and 22).

From PV 444 D and 445 D onwards, there is a great deal already carried out to facilitate installation. The holes for the air intake, thermostat and heater are fitted as "knock-out" plates. The hole in the instrument panel is covered with a plate. A hole for the defroster fan motor is also

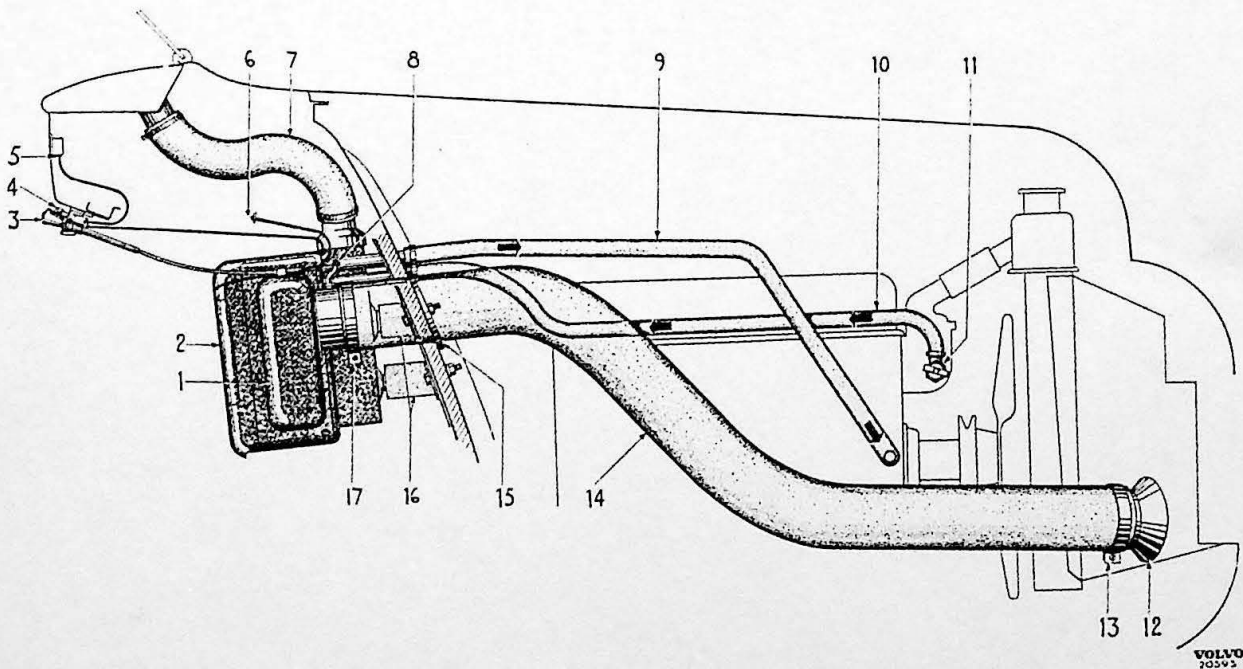
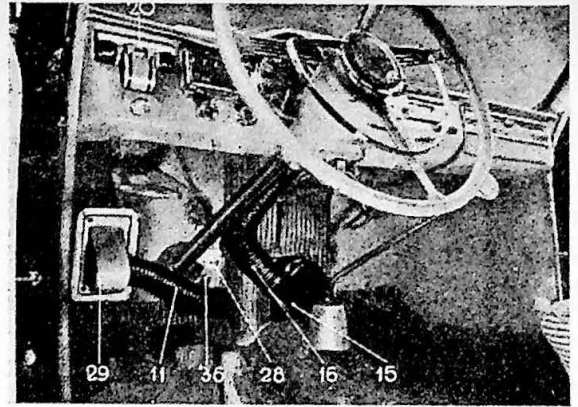


Fig. 31.

already cut out and covered by the rubber mat.

Installation of the heater and defroster is carried out as follows:

1. Remove the "knock-out" plate in the air duct (2). Place the air intake (3) in the right position. Mark up and drill the hole for the screw (35) through the front-left wheel housing plate. Diameter of hole = 3.3 mm (1/8"). Place the netting screen (1) between the air duct and the air intake and screw it securely into position on the air duct and the wheel housing plate.
2. Remove the "knock-out" plates in the mounting plate for the thermostat (28) and the heater (30). Cut a hole in the mounting plate insulation. Cut away so much that the flange on the distribution duct lies directly against the mounting plate.
3. Place the thermostat in position and attach it to the mounting plate.
4. Screw the bracket (31) to the heater fan housing (33). Place the heater in position and screw it to the mounting plate and the wheel housing plate.
5. Fit the air hose (34) between the air intake and the fan housing.
6. Remove the plugs on the engine thermostat housing (5) and the elbow bend (6) for the water intake and fit in their places the elbow bend and the pipe (4 and 7).
7. Connect the rubber hose (10) between the

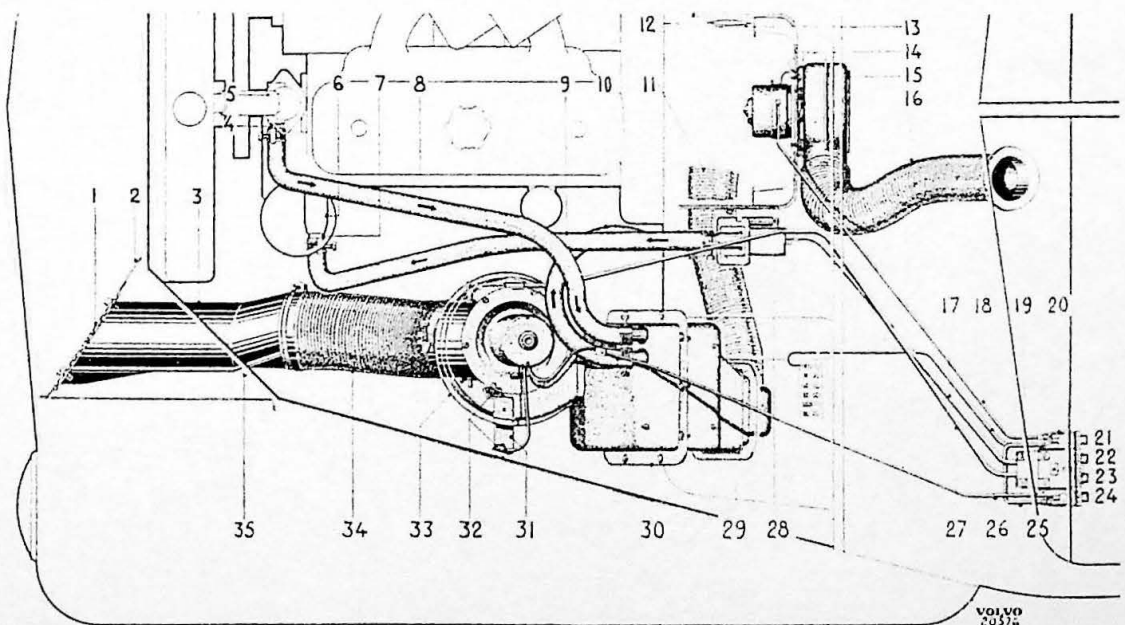


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Fig. 33.

lower bent pipe connection of the thermostat and the left-hand pipe connection on the heater. Then connect the hose (8) between the right-hand heater connection and the pipe (4) on the engine thermostat housing. Finally connect the hose (9) between the upper straight connection on the thermostat and the pipe elbow (7) on the water inlet pipe. Tighten all clips very thoroughly so that the joints are completely tight.

8. Cut a hole in the rubber mat (12) for the defroster fan (15). Fit the defroster hose (16) on the fan (15) and take the long cable (18) through the hole and out at the upper



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Fig. 32.

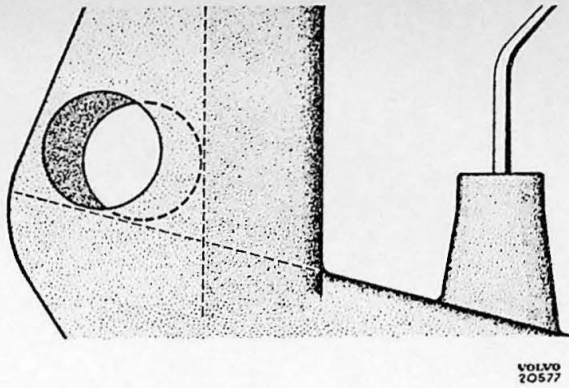


Fig. 34.

handle pin. Press the escutcheon plate in edge of the mat. Tighten up the defroster fan (15) and motor (14) and earth the short cable to one of the defroster fan screws. Connect the hose (16) to the funnel on the underside of the instrument panel.

9. Cut holes in the rubber mat (12) on both sides of the tunnel. The position of the holes is shown in Fig. 34. In later models, these holes are already cut in the mat during the construction of the car. The vertical broken line shows the front edge of the tunnel. The sloping broken line shows the forward extension of the propeller shaft. Fit one end of the warm air hose to the right-hand warm air take-off on the distribution duct and push the other end through the hole in the support. Cut a hole in the hose and fit the pipe (36, Fig. 33) in position so that the warm air is directed onto the thermostat. The pipe (36) is fastened by means of a clip which is attached to the thermostat housing lower screw. The bevelled end is pushed down into the hose (11) with the opening facing the air flow.
10. Remove the plate on the instrument panel and fit the control unit (20) in its place. This unit is attached by means of a flange at the top under the instrument panel and by a bracket attached to the windscreen wiper control at the bottom.
11. Thread the wire (27) for the fresh air shutter through the speedometer wire hole in the mounting panel. Connect the spiral end to the fan housing by means of a clip and the wire itself to the shutter lever.
12. Connect up the thermostat control (17).
13. Connect up the cable (18) for the defroster

motor (11) to the right-hand terminal (21) on the control unit, right-hand screw.

14. Connect the cable (26) for the heater motor to the left-hand terminal of the control unit (24), right-hand screw.
15. Connect a cable (25) between both the terminal screws marked BAT. To the BAT-marked screw on the right-hand terminal is connected a cable (19) to the fuse-box connection marked "Värmeledning". Use a 25 amp. fuse (short type).

The heater is fitted with a draining cock on the underside. The heater system may thus be emptied completely when there is a risk of damage by frost and should be opened at the same time as the other drainage cocks and the radiator filler cap.

## Protector covers for upholstery

When fitting protector covers, the following procedure is followed:

1. Remove both front seats. Press the adjuster handle to the side and move the seats forward until they are clear of the guide bars and can be lifted out.
2. Remove the arm rests, door handles and window regulators from the insides of the doors. The arm rests are attached by means of screws. The door handles and window regulators are held in place by means of a

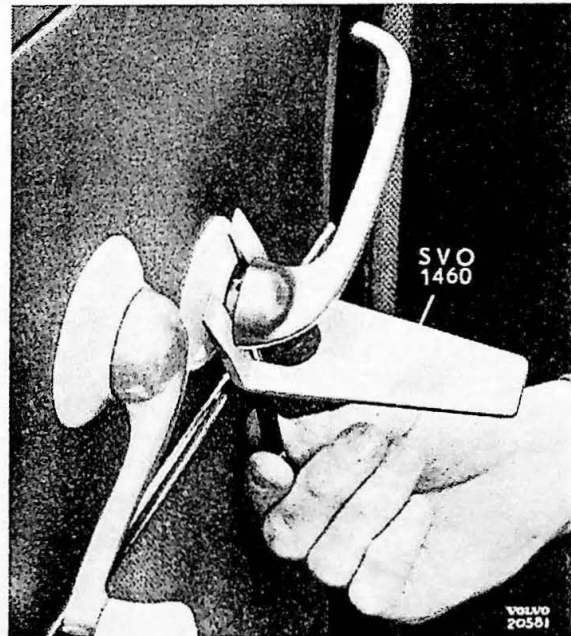


Fig. 35.

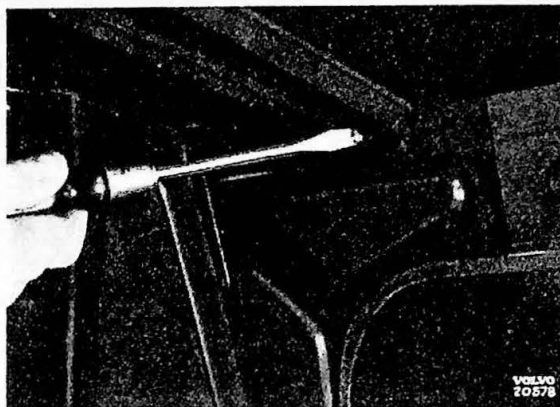


Fig. 36.

handle pin. Press the escutcheon plate inwards with tool SVO 1460 and push out the pin with a small punch as shown in Fig. 35. This should be done carefully in order to avoid damage to the escutcheon plates.

Remove the door upholstery by bending carefully outwards until the tacks are free.

3. Lift out the back seat. The seat, which is held in place by two dowels, is lifted upwards and forwards.
4. Remove the back of the rear seat. This is attached by two screws in the upper part. These screws are accessible from the rear compartment as shown in Fig. 36.
5. Remove the rear arm rests. They are attached to the body by means of a screw in each end and a catch in the middle. Loosen the screws and pull the arm rests upwards.
6. Remove the side pieces over the rear arm rests.

When fitting the protective covers make sure that they are properly stretched and, if the material is patterned, make sure that the pattern lies in the right direction.

Start by fitting the protector covers on the side

pieces over the rear arm rests. Stretch the material evenly and attach it by means of tacks (6-7 mm long =  $15/64''$  -  $9/32''$ ).

Remove the ash tray and ash tray retainer from the rear arm rests. Stretch the material and attach it to the rear end with tacks. Cut the material diagonally over the ash tray recess. Bend down the corners and secure them with tacks. Use a razor blade or similar sharp tool for cutting. Push in the ash tray retainer and secure it with a few nails. Push the ash tray into position.

Attach the material to the back of the rear seat. Use tacks and ensure that it is properly stretched.

Material on the rear seat is attached by means of tacks with the exception of the propeller shaft tunnel where it is sewn or clipped in position. (Clips have Part number 94772).

Material on the front seats is held by clips or sewn into position. Make sure that the material is properly stretched under the seats. Draw the material over the backs of the front seats and secure it underneath by pleating and sewing or using clips.

If there is a chromium edge plate on the doors, this is removed by pushing it in one direction. Remove the retainers. Stretch the material and secure it with tacks on the side. Replace retainers and chromium edge plates. Holes for the window regulators and door handles are cut out after the material has been attached.

The parts removed are replaced in the reverse order. Ensure that all parts are replaced in the correct way. Be careful to see that the catch on the body engages in the rear seat arm rests. Be very careful when replacing window regulators and door handles that the escutcheon plates are not damaged when the handle pins are inserted.