



Part 8

BODY

P 120-series

CARS

**SERVICE
MANUAL**

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DESCRIPTION

P 120, 4-DOOR

Body frame

The Volvo P 120 has an integral body so that there is no chassis frame. The body is composed of a number of pressed steel plates, each of which forms part of the supporting construction.

The body can be suitably divided up into the floor, side sections, rear section, scuttle, roof, front mudguards, doors, luggage compartment and bonnet. The floor and frame sections (Fig. 1) consist of a front and rear floor plate (1 and 4) and an inner cantrail (2), front and rear cross-members (8 and 6), tunnel (3) and scuttle (Fig. 2). The floor plates are welded together with the rear seat support. The tunnel (3), which accommodates the propeller shaft is spot-welded to the floor plates. The rear floor plate has a longitudinal reinforcing member (5) on each side at the bottom and between these a number of cross-members. One of the cross-members (6) is provided with an attachment (7) for the rear axle tie rod. There is a flanged hole in the rear floor plate for mounting the fuel tank, the upper

part of which forms part of the floor in the luggage compartment. The scuttle section (Fig. 2) consists of the bulkhead (7), wheel arches (5), front upper cross-member (4) and side plates (3), as well as lower cross-members (1 and 2). The bulkhead forms the front transverse wall of the body and is shaped with welded end pieces. Two front side members (8) project from the front floor. At the front they are joined together by means of a cross-member (2) and at the rear they are connected to the front cross-member under the front seats. Upper side members (6) project from the upper corner between the bulkhead and front pillar. These are spot welded to the front pillar, the front side plate and wheel arch plates. The front axle member and bumper support bars are attached to the side members.

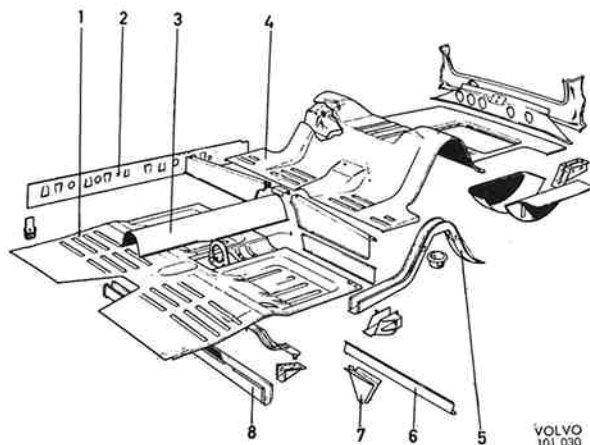


Fig. 1. Floor section (2- and 4-door)

- | | |
|-----------------------|-------------------------------------|
| 1. Front floor plate | 6. Rear cross-member |
| 2. Inner cantrail | 7. Attachment for rear axle tie rod |
| 3. Tunnel | 8. Front cross-member |
| 4. Rear floor plate | |
| 5. Reinforcing member | |

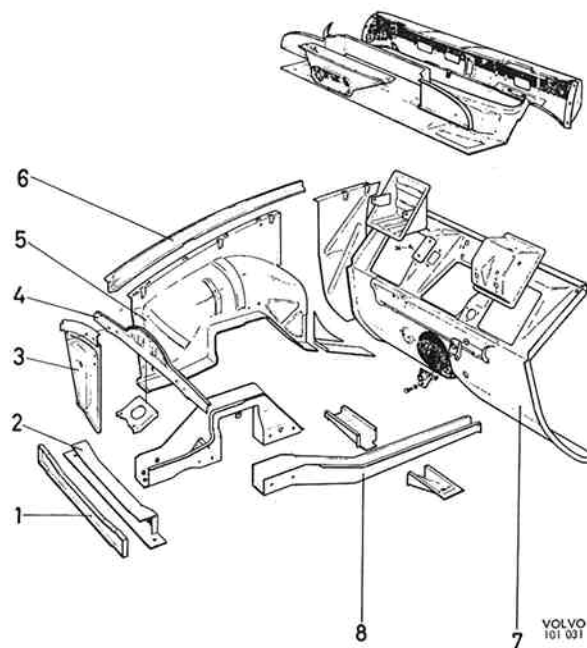


Fig. 2. Scuttle section

- | | |
|-----------------------------|-----------------------------|
| 1. Front lower cross-member | 4. Front upper cross-member |
| 2. Front lower cross-member | 5. Wheel arch |
| 3. Side plate | 6. Upper side member |
| | 7. Bulkhead |
| | 8. Front side member |

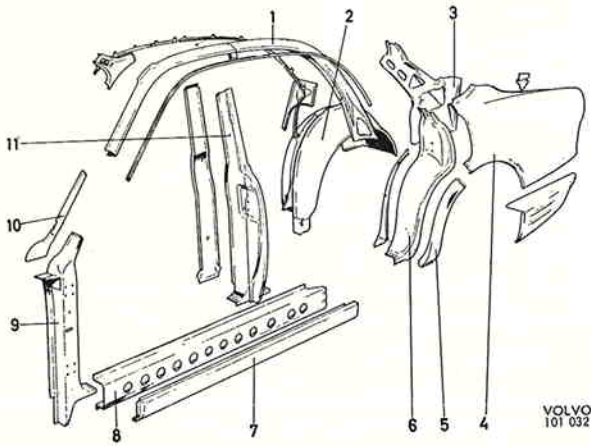


Fig. 3. Side section (4-door)

- | | |
|----------------------|--------------------------|
| 1. Roof former | 7. Outer cantrail |
| 2. Rear wheel arch | 8. Intermediate cantrail |
| 3. Joining plate | 9. Front pillar |
| 4. Rear mudguard | 10. Windscreen pillar |
| 5. Wheel arch member | 11. Intermediate pillar |
| 6. Rear pillar | |

On 4-door models the side section (Fig. 3) consists of the front pillar (9), intermediate pillar (11), rear pillar (6), intermediate and outer cantrails (8 and 7), roof former (1), windscreen pillar (10), rear wheel arch (2) with wheel arch member (5), rear mudguard (4), back plate and joining plate (3). The cantrail and wheel arch member are manufactured of galvanized sheet metal.

The roof section (Fig. 4) consists of a number of pressed steel plates. The roof plates form the upper part of the scuttle section, windscreen opening, the roof itself, the opening for the rear window and the upper limit of the luggage compartment. The front mudguards, front section and bonnet make up the front end.

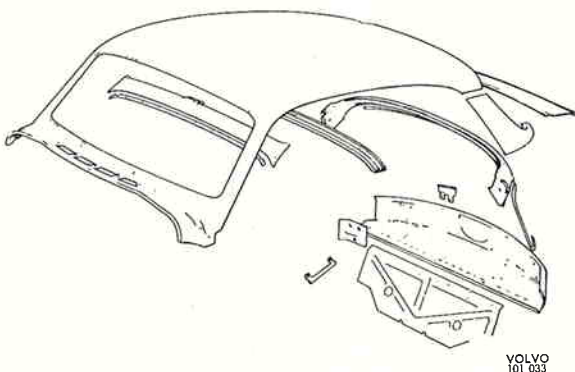


Fig. 4. Roof section (2- and 4-door)

The front end is bolted to the upper side members, front cross-member and front pillar. The front mudguards are pressed in one piece and bolted to the wheel arch plate. The front section forms the front part of the front end as well as the air duct to the radiator. The body is noise- and heat-insulated. The insulation consists of "waffle" board which is stuck on to the plate.

Bonnet

The bonnet is pivoted at the rear on two hinges. In the closed position, the bonnet is secured by a bonnet lock fitted on the front section. The lever for the bonnet lock is operated by means of a control placed underneath the dashboard inside the vehicle.

Doors and openings

The doors are built up of an outer and inner plate together with door arch which is flanged and spot-welded in one unit. The hinges are fitted to the inner plate. The doors are adjustable both longitudinally, vertically and laterally. The doors are provided with a door check. This consists of a flat bar attached to the door pillar and runs against a roller in the door. In the open position the flat bar obstructs the movement of the roller and thus limits the movement of the door. The door checks are fitted to the doors with screws. The press-button of the outside door handles operates a lever which in turn disengages a rotating toothed roller (tumbler). The inside door handles are fitted to the remote control which is attached to the inner door plate with screws. The handle transmits the movement to the toothed roller by means of a link rod. The lock insert is fitted in the press-button on the door handle. The doors can be locked from inside the vehicle by pressing down the locking knobs.

The window winders are of the cable and chain type. The movement of the window winding handle is transmitted to the window itself by a cable and chain which are joined together forming an endless "drive". This is mounted on two pulleys and a sprocket. The lower pulley is provided with a spring device for tensioning.

The luggage compartment lid is built up of an outer and inner plate. The catch for the locking device is fitted on the lower edge of the luggage compartment lid. The hinges are fitted at the upper edge of the lid. The hinges are bolted to the plate under the rear window through a reinforcing plate. The

luggage compartment lid is counter-balanced with torsion rods and can be set in any position when opening. On chassis up to number 20999, the locking device is placed on the body below the lid, and on vehicles with effect from chassis number 21000, the locking device is fitted on the lid.

Interior fittings and upholstery

FRONT SEATS, LATE PRODUCTION

The front seats are built up on a tubular frame. The padding consists of foam plastic which is covered by fabric-backed vinyl. The seat can be adjusted longitudinally by releasing the catch (3, Fig. 5), and sliding the seat. The seat can be adjusted vertically at the attachment (4) which is provided with holes at different heights. The seat can be tilted to the desired position by means of the adjusting device (5). The backrest inclination is variably adjustable by means of the handwheel (2) which operates an eccentric. The seat is provided with an adjustable lumbar support (see Fig. 7), the tension of which

is adjusted with a screw (1, Fig. 5 and 3, Fig. 7) on each side of the backrest. The seat cushions are attached to the seat frame by means of press-fasteners.

REAR SEAT

The rear seat and backrest are built up in principle in the same way as the front seats, although in this case the seat frame consists of a wooden frame.

DOOR UPHOLSTERY

The door upholstery consists of wood-fibre sheeting lined with non-woven padding and covered with upholstery material. It is secured to the door by means of clips. The front armrest is made of moulded plastic and is screwed to the inner plate of the door.

HEADLINING

The headlining consists of plastic material stretched on roof ribs and secured in retainers fitted on the upper limit of the body sides.

COVERING FOR BULKHEAD AND FLOOR

The sides of the bulkhead are lined with millboard which is attached with clips. The bulkhead is covered with plastic-lined felt matting. The floor is covered with rubber mats.



Bild 5. Front seat (4-door)

1. Adjustment of lumbar support
2. Adjustment of backrest inclination
3. Longitudinal adjustment
4. Adjustment of seat height
5. Adjustment of seat inclination

Bumpers

The bumpers are composed of three parts and the upper joints are provided with overrides. The bumpers are fitted on four support bars, of which the front ones are attached to the front side members and the rear ones to the rear side members.

P 120, 2-DOOR

Body frame

The body frame is largely similar to that of the 4-door model. However, the side part is altered so that there is no longer an intermediate pillar and the rear mudguard (3, Fig. 6) is extended. The side section consists of front and rear door pillars (7 and 4), intermediate and outer cantrails (6 and 5), roof former (1), windscreen pillar (8), rear wheel arch (2) and rear mudguard (3).

Bonnet

See the 4-door model.

Doors and openings

See the 4-door model.

Interior fittings and upholstery

FRONT SEATS

The front seats on the 2-door vehicle can be hinged forwards in order to facilitate entry to the rear seats. They are provided with catches (4) in order to prevent tilting forwards (see Fig. 7).

OTHER INTERIOR FITTINGS

Concerning other fittings and the bumpers, see the 4-door model.

P 120 STATION WAGON

Body frame

The front end is the same as that on the 2-door and 4-door models. The floor section (Fig. 8) consists of the front (11), intermediate (3) and rear (4) floor plates, tunnel, inner cantrail (1), side members (6), front (10), intermediate (8) and rear (5) cross-members.

The front and intermediate floor plates are welded together at the rear seat support. The tunnel is spot-welded to the front floor plate (11). Two rear side members (6) are welded to the lower side of the intermediate (3) and rear (4) floor plates, one on each side, and between these a number of cross-members. One of the cross-members (8) is provided with an attachment (9) for the rear axle tie rod. Both the rear side members are provided with attachments for the rear axle support arms. The spare wheel well (7), which is provided with a lid in the floor, is welded on the lower side of the rear floor plate. There is a flanged hole in this for the fuel tank.

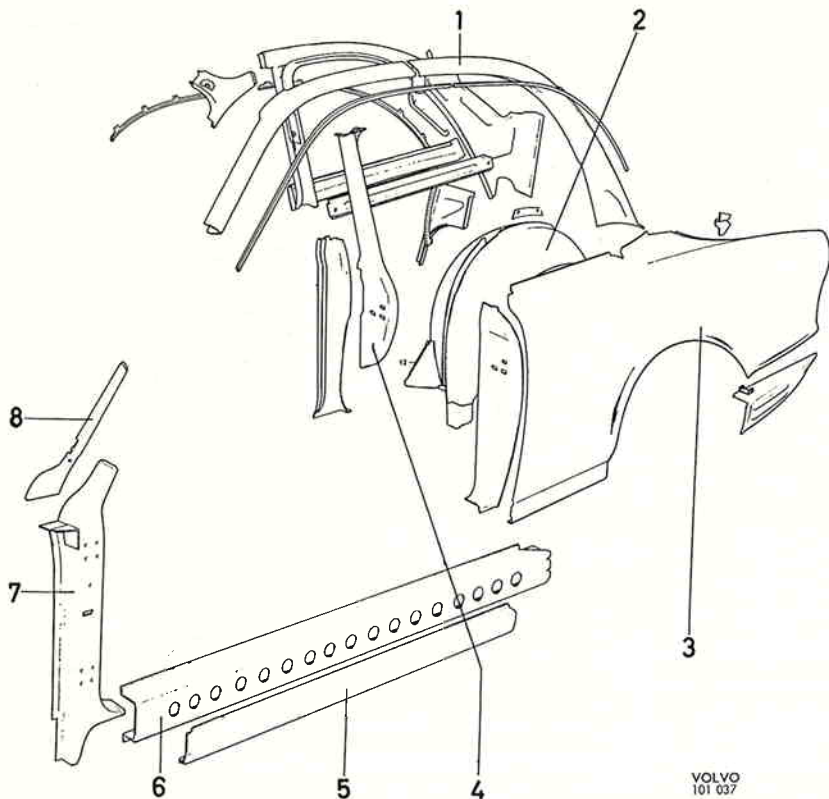


Fig. 6. Side section (2-door)

- 1. Roof former
- 2. Rear wheel arch
- 3. Rear mudguard
- 4. Rear pillar
- 5. Outer cantrail
- 6. Intermediate cantrail
- 7. Front pillar
- 8. Windscreen pillar

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Fig. 7. Front seat (2-door)

1. Adjustment of seat inclination
2. Adjustment of seat height
3. Adjustment of lumbar support
4. Longitudinal adjustment of seat
5. Adjustment of backrest inclination

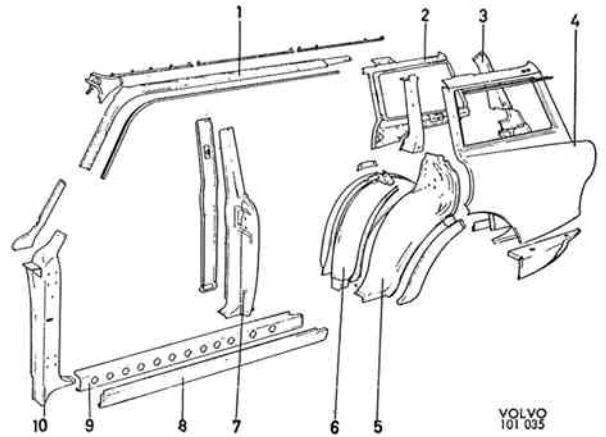


Fig. 9. Side section, Station Wagon

- | | |
|--------------------------------|------------------------------|
| 1. Roof former | 6. Rear wheel arch |
| 2. Inner frame for side window | 7. Front intermediate pillar |
| 3. Upper rear pillar | 8. Outer cantrail |
| 4. Rear mudguard | 9. Intermediate cantrail |
| 5. Rear intermediate pillar | 10. Front pillar |

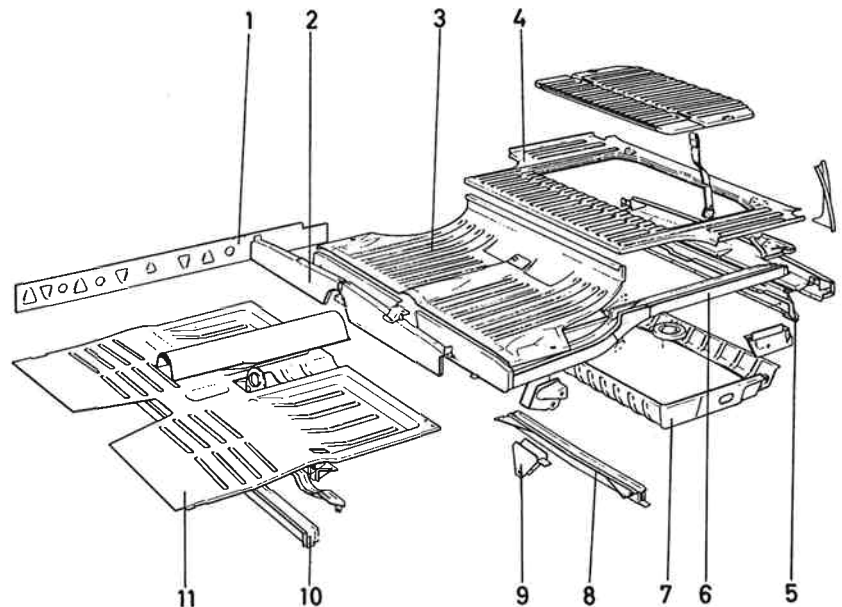
The scuttle section is similar to that on the 2- and 4-door models.

The side section (Fig. 9) consists of the front pillar (10), intermediate pillar (7), rear section, intermediate (9) and outer (8) cantrails, inner and outer

roof formers (1) and windscreen pillar. The rear section is composed of the rear wheel arch (6), rear mudguard (4), inner frame (2) for rear side window and upper (3) and lower rear pillar. The upper part of the rear mudguard is extended upwards and forms the outer frame for the rear side window.

Fig. 8. Floor section, Station Wagon

1. Inner cantrail
2. Rear seat support
3. Intermediate floor plate
4. Rear floor plate
5. Cross-member
6. Side member
7. Spare wheel well
8. Cross-member
9. Attachment for rear axle support arms
10. Cross-member
11. Front floor plate



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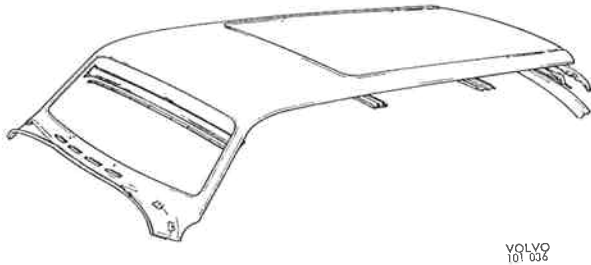


Fig. 10. Roof section, Station Wagon

The roof section (Fig. 10) consists of the roof plate, windscreen member, two roof arches and rear member.

Doors and openings

The doors on the Station Wagon are similar to those on the 4-door model. The tailgate consists of an upper and lower part. The hinges of the upper tailgate are attached to the rear edge of the roof section and those of the lower tailgate are bolted in the rear cross-member. The inside of the lower tailgate is provided with a cover plate and mat which are attached by means of screws. Both tailgate sections are locked by means of a common lock which is bolted on to the lower tailgate. Each of the tailgate sections is provided with a support for holding it in the open position. Opening of the upper tailgate is facilitated by means of a gas spring, i.e. a piston which runs in an enclosed gas-filled cylinder. There are four different opening positions.

Interior fittings and upholstery

FRONT SEATS

See the corresponding section for the 4-door model.

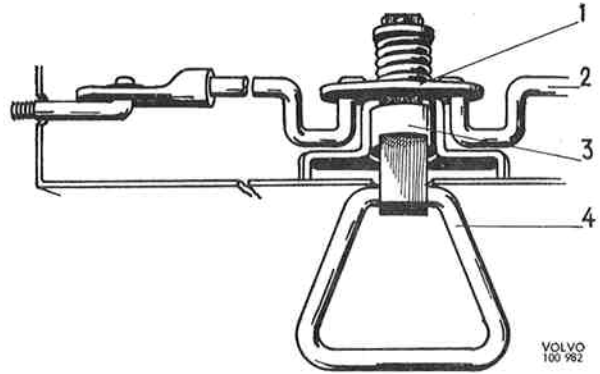


Fig. 11. Catch device for rear seat, Station Wagon

- | | |
|--------------|-----------------|
| 1. Eccentric | 3. Catch sleeve |
| 2. Pull rods | 4. Handle |

REAR SEAT

The rear seat is built up of springs on a frame and has foam plastic padding which is covered with vinyl. The seat cushion is provided with two hinges at the lower front edge and can if necessary be tipped up against the front seats. It is covered with a mat underneath and forms the front limit of the loading space when in the tipped-up position.

The backrest consists of a back plate fitted with rubber bands. The padding consists of foam plastic and the upholstery of fabric-backed vinyl. The rear side of the back plate is provided with a mat and when folded down forms an extension of the floor in the loading space. The backrest is locked in the normal position by a spring-loaded catch device, see Fig. 11, the handle (4) of which operates the latches through an eccentric (1) and pull rods (2). The lower corners of the backrest rest partly on a fixed catch and partly (on the left-hand side) on a sprung catch.

Bumpers

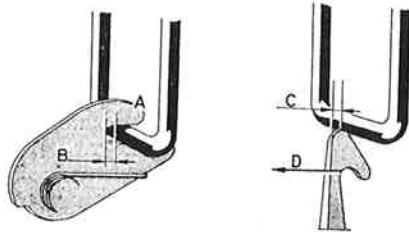
The bumpers are the same as on the 4-door model except that the rear overrides serve as footsteps, the upper sides of which are rubber-covered.

REPAIR INSTRUCTIONS

FRONT END

Front mudguards

The front mudguard is removed by taking out the following screws: the screw between the mudguard and stay at the lower side member, the screw between the mudguard and body side behind the above-mentioned stay, the screws in the front side section and the screws in the upper side member. In addition, the headlamp with leads must be removed. Concerning removing the headlamp, see Part 3. Fitting is done in the reverse order.

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C=2—3 mm (0.08—0.12") B=max. 3 mm (0.12") D=0.1 kg (0.22 lb.)

Fig. 12. Bonnet lock, early production

Front section

The front section is attached to the front mudguards, wheel arch plates and the upper and lower cross-members.

When removing, take out the headlamps, the screws between the front section and splash guard under the headlamp, the screws in the upper and lower cross-members and the screws in the wheel arch plates.

Bonnet and bonnet lock

The bonnet is attached by means of screws in each hinge. The bonnet is removed by taking out the screws between the hinges and bonnet. The hinges are attached to the body with four screws each. All the holes in the hinges are oval in order to permit the bonnet to be adjusted.

There are two types of bonnet lock. The early production lock (up to chassis number about 10 000) is illustrated in Fig. 12. The bonnet lock is adjusted as follows.

When the bonnet is locked the U-shaped catch should lie right inside the lock catch groove and the measurement B, Fig. 12 must not exceed 3 mm (0.12"). Any adjustment should be made on the catch itself. It should be adjusted vertically so that the gap between the bonnet and the front section

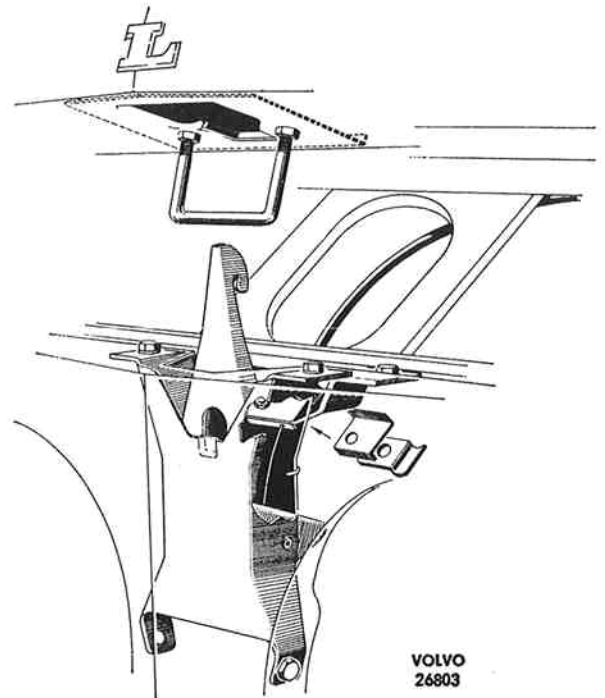
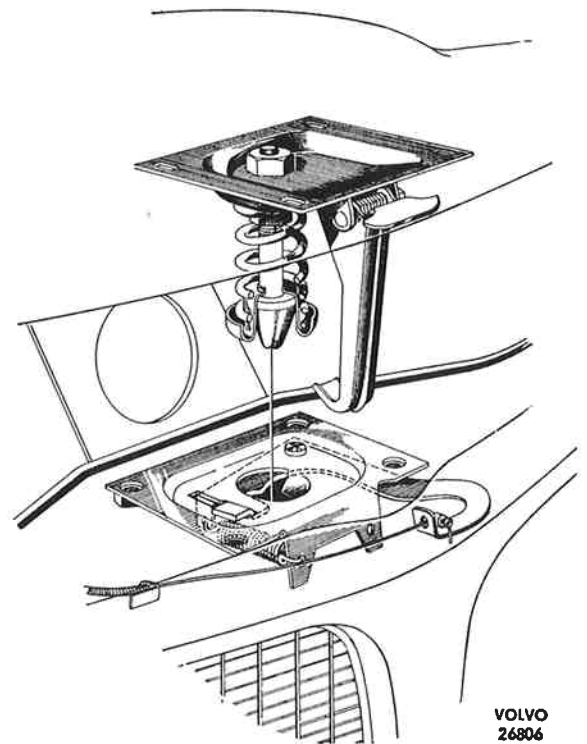
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Fig. 13. Bonnet lock, late production
of the body is 4.5 ± 1 mm (0.18 ± 0.04 "). The tension of the safety catch spring should be at least 0.1 kg (0.22 lb.) measured at D, Fig. 12, in order to move it from its rest position.

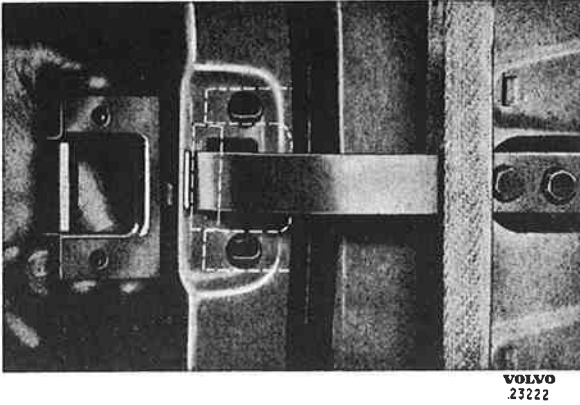


Fig. 14. Door check

When the bonnet is closed, the U-shaped catch should meet the safety catch as close to the top as possible, but not so high as to cause the hook to be pushed forwards, measurement C, Fig. 12. A small adjustment of 1—2 mm (0.04—0.08") can be made by bending the safety catch. If a larger adjustment is found to be necessary, this means that the whole locking device has been displaced. In this case the complete bonnet lock must be reset. The late production lock, with effect from chassis number about 10 000, is illustrated in Fig. 13. The lock can be adjusted laterally and longitudinally since the holes in the front section are larger than the diameter of the attaching screws. The length of the latch is adjustable by means of nuts. The latch and spring are lubricated with grease.

DOORS

Removing front door

1. Remove the door check, see Fig. 14. The attaching bolts for this are accessible after the side insulation material on the body has been removed. The door check can also be removed by unscrewing the guide roller and pulling it off. In order to get at the guide roller, the door upholstery must be removed, see under "Removing the door handle and upholstery".
2. Unscrew the four countersunk screws which hold the door to the upper and lower hinges. The door sealing strip must be moved in order to get at the hinge screws. This is done by releasing the two plates over the hinges to which the strip is glued and carefully pulling to one side, see Fig. 15. When doing this, make sure that the rubber strip does not come away from the plate or door.

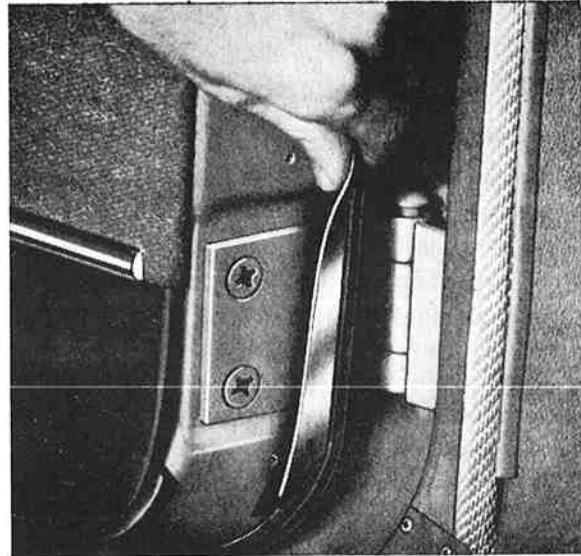


Fig. 15. Plate over hinge

Fitting the door is done in the reverse order to removing. Since the holes in the door are larger than the diameter of the bolt, and the nut plates are movable, the hinge attachment can be adjusted both vertically and laterally. The door is adjusted longitudinally at the hinge attachments in the body.

Removing rear door

(See also under "Removing front door")

1. Remove the door check. The attaching bolt for this is accessible after the rubber plug in the centre pillar has been removed.
2. Remove the plates over the hinges.

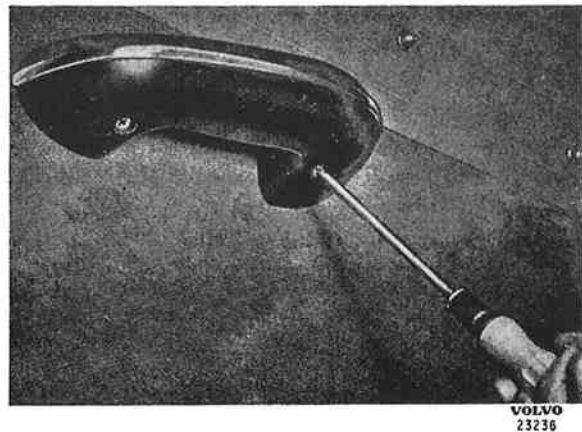


Fig. 16. Removing armrest