

Diesel

Owner's Manual

Model year 1986

VOLVO 240



Vehicle identification

Vehicle type designation	
Chassis number	
Engine type designation	
Engine number	
Colour code	
Registration number	
Fuel	
Tyre type	
Max load	

Type designation, chassis number, engine number, colour code, see page 92.

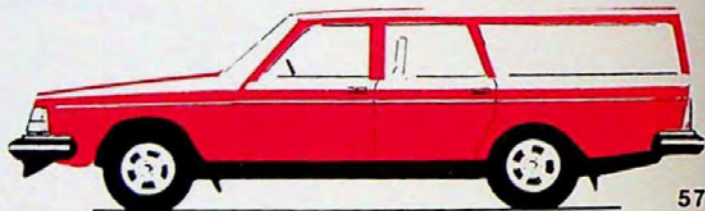
Tyre type, see page 53.

Fuel, see page 80.

When your car needs servicing, authorized Volvo workshops will repair your car according to the instructions by Volvo and always with genuine Volvo spare parts.

A comprehensive index is located at the back of this manual

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Living and care of your Volvo 240

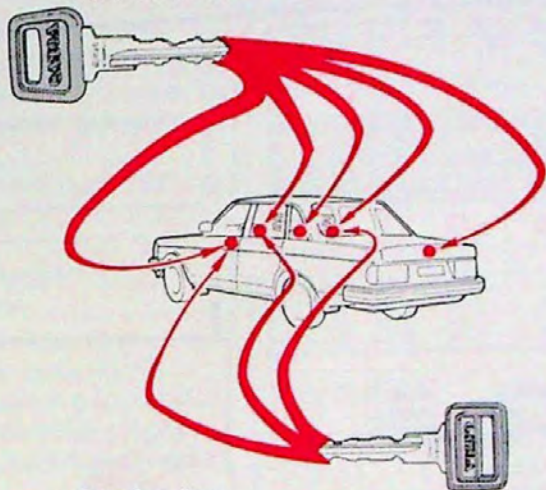
The quality of Volvo cars are written this manual with these concerning your car and lots of use and running. ty booklet.

Should you require more detailed information with regard to adjustments or repairs refer to our Service Manuals which can be ordered from your Volvo dealer. When you change cars please leave this manual in the car for the next owner.

Keys

Master key

This key unlocks all the locks of the car



Service key

Front doors
Ignition switch, steering wheel lock

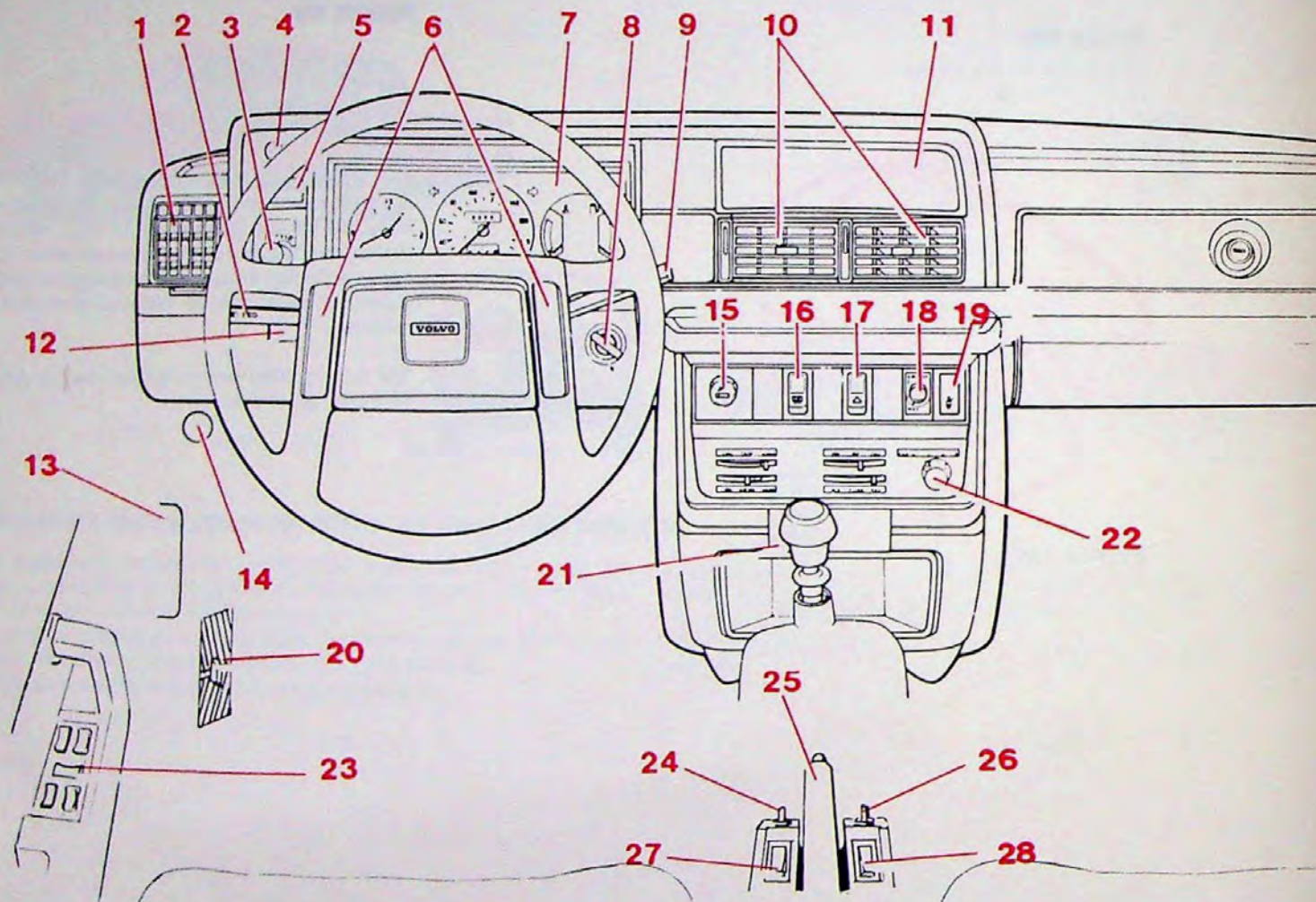
Number tag



The master and service keys have the same number, found on the separate number tag. In case you should lose the set of keys, remove the number tag and store it in a safe place (the back of the tag is coated with adhesive tape). Duplicate keys can be ordered from Volvo dealers.

The door locking system is described in detail on pages 32 and 33.

Instruments, switches and controls



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The vehicles instruments and controls are described in detail on pages 6–24.

Note that vehicles may be differently equipped depending on special legal requirements.



- 5 Fuel gauge
- 6 Clock reset knob
- 7 Tripmeter reset knob
- 8 Tripmeter

Quartz clock

To adjust the clock, push in the reset knob and turn as required.

Fuel gauge

The fuel tank holds about 60 litres (13 Imp galls). The red section corresponds to 8 litres (1.8 Imp galls).

Temperature gauge

Indicates the temperature of the coolant in the engine.

The pointer should be midway between C and H (approximately horizontal) when driving. If it repeatedly enters the red section, the coolant level and fan belt tension should be checked as soon as possible, see pages 92 and 93.

For further information see page 45.

Tripmeter

The digit at the extreme right = 100 meters (or 1/10th mile).

Tripmeter reset knob

Push in to reset the meter.

Indicator and warning lamps

- 1 Left direction indicator
- 2 Right direction indicator
- 3 Lights on
- 4 Preheating glow plug indicator
The check lamp comes on when the start key is turned to "Drive/Glow"
- 5 Low battery charge
- 6 Oil pressure too low
- 7 Headlamp main beams
- 8 Parking brake applied
- 9 Brake circuit failure
- 10 Bulb failure warning lamp



Bulb failure warning lamp



The light will come on if any of the following bulbs are defective:

Day running lights (the warning lamp comes on even if the main/dipped beams or parking lights are switched on)

Dipped beams

Tail lights

Brake lights (if the lamp glows when the brake pedal is depressed)

Check the fuse and bulb.

Should the warning lamp come on after a defective outside bulb has been replaced, the corresponding bulb on the other side of the car should also be replaced.

The warning lamps described on this page should never be on when driving

When the starting key is turned on, and before the engine starts, all of the warning lamps should be on to test the function of the bulbs. Should a lamp remain on after the engine has started, the system indicated

should be inspected. (However, the parking brake reminder lamp will not go off until the parking brake is fully released.)

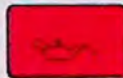
Battery charge failure



The warning lamp glows when the alternator is not charging the battery. If the lamp remains on, or comes on while driving, either the electrical system is faulty or the fan belts are too slack, see page 93.

Note! If the fan belts jump off or slip so that the alternator does not charge, not only will this lamp come on but also warning lamps 8, 9 & 10. This is due to special legislative requirements in some countries and is quite normal.

Low oil pressure



If this lamp comes on when the engine is running, the oil pressure is too low. Switch off the engine immediately and check the oil level. The lamp may come on with the engine ticking over after a prolonged period of running under heavy load. This is of no consequence provided the lamp goes out immediately the accelerator is depressed.

Brake circuit failure



If the lamp glows while driving and the brake pedal travel is longer than is usual, one of the brake circuits is defective.

Stop immediately and check the level of fluid in the brake reservoir (see page 84/85 for location).

If the reservoir is empty, **do not drive on**. Have the vehicle towed to a service station for an inspection of the brake system.

If there is some fluid in the reservoir proceed with caution to the nearest service station.

Pre-heating (glow) indicator



When the starting key is turned to "Drive/Glow" and the pre-heating light goes on, this indicates that the glow plugs (one in each cylinder) are switched on.

The engine can be started when the light goes out.

Glow time is determined by engine temperature. The colder the engine the longer the glow time. If the engine is warm, the light will remain on only for a few seconds or it may not go on at all.

Parking brake



The lamp lights up when the parking brake (handbrake) is applied.

Starting switch/steering wheel lock



Starting switch/steering wheel lock

If difficulty is encountered in turning the key due to the lock position of the steering wheel, turn the wheel a little to the left and then to the right.

If the key is advertently left in the starting switch (or if the parking or headlights are left on) and the driver's door is opened, a reminder buzzer sounds.

The lock also incorporates a start inhibitor. If the engine fails to start first time the key must be turned back to the off position before the starter can be used again.



0 Lock position

The steering wheel is locked when the key is withdrawn from the lock.



I Intermediate position

"Radio"

Certain electrical components (e.g. heater fan, cigar lighter, radio, headlamps) can now be operated.



II Drive/Glow

Key position during driving and when glow plugs are engaged before starting engine. Day running lights, tail lights and numberplate lamps on.



III Start position

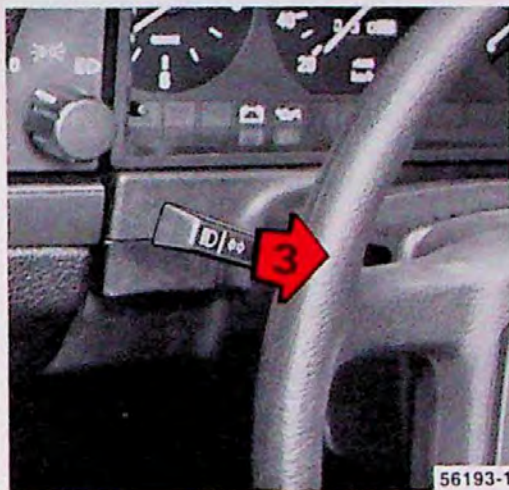
The starter motor is engaged. Release the key as soon as the engine starts. It automatically springs back to position II.

Direction indicators, headlamp flasher



Direction indicators

- 1 Lane changing, overtaking**
Light pressure upwards or downwards.
The stalk will return to the neutral position when released.
- 2 Normal turns**



Main/dipped beams and headlamp flasher

- 3 Main beam/dipped beam switching (headlamps on)**
Pull the stalk towards the steering wheel and release it.
- 3 Headlamp flasher (headlamps off)**
Pull the stalk towards the steering wheel.
The main beams remain on until you release the stalk.

A blown direction indicator bulb will cause the indicator light to flash more rapidly than usual.

Hazard warning lamps



Hazard warning lamps

All exterior direction indicators flash when the switch is actuated. Use it to inform other road users of an obstruction or hazard caused by your own vehicle.
Regulations concerning the use of the hazard warning lamps vary from country to country.

Windscreen wash/wipe, headlamp wash/wipe



Windscreen wash/wipe



Headlamp wash/wipe

1 Intermittent wiping

Useful when driving in misty weather conditions or light rain. The wipers will make a single sweep every 6th second.

2 Single sweep

Slightly depress the stalk. The wipers return to the park position when the stalk is released. Especially useful in light rain.

3 Normal speed

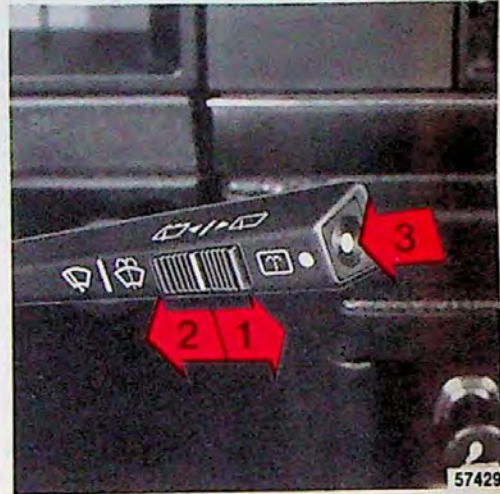
4 High speed

5 Windscreen wash/wipe + headlamp wash/wipe

The washers are operated in this position and the windscreen wipers make 2 or 3 sweeps after the stalk is released. The headlamp washers operate at the same time as the windscreen washers. Check operation of headlamp wash/wipe regularly.

Note! The headlamp wipers are protected against overloading by a resistor which disengages the wipers if for instance the blades are blocked by snow or ice. Once the obstruction is removed, it takes approximately 1 minute until the wipers can be used again.

Tailgate wash/wipe



Tailgate wash/wipe

The tailgate window wash/wipe is operated by the switches on the windscreen wiper stalk. See illustration above.

1 Tailgate wiper

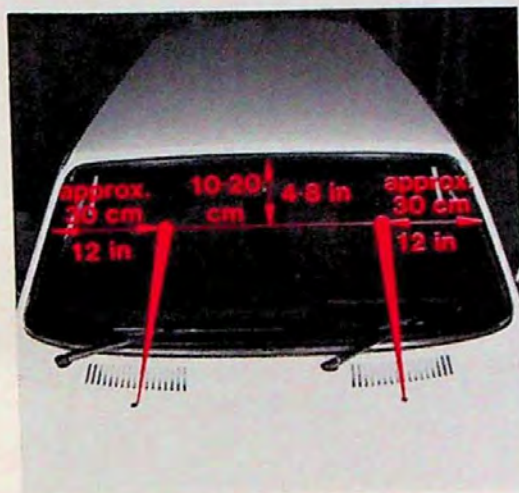
2 Intermittent sweep position (certain models)

With the button in this position, the tailgate wiper makes one sweep about every fifteen seconds.

3 Tailgate washer

The wiper makes 2-3 double sweeps after the button has been released (certain models).

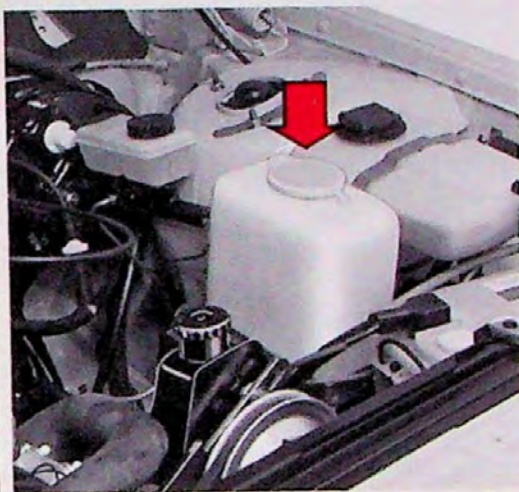
Washer nozzles



Adjusting the washer nozzles

The washer spray should strike the windscreen as shown above. To adjust, insert a piece of 0.6 mm wire into the nozzle and turn to the desired position. Do not use a needle as it will damage the nozzle causing too wide a spray.

Washer reservoir



Washer reservoir

The windscreen and headlamp washers (also tailgate washer on estate models) have a common fluid reservoir, located in the engine compartment. It holds approx. 6 litres. De-icer should be used in cold weather to prevent the reservoir and hoses from freezing, and the windscreen from icing.

Headlamps and parking lights



Light switch

0 Day running lights

Automatically switched on when the starting switch is turned on. (Also tail lights, number plate lights and instrument lighting.)

The use of day running lights is prohibited in certain markets. To disconnect the lights, simply remove fuse No. 5.

☰ Parking lights

The parking lights should only be used when the vehicle is parked, **never when driving**.

☰ Headlamps

In this position the headlamps, parking lights, tail lights, number plate lights and instrument lighting are on.

The headlamps should be used for night driving and when visibility is poor during the day.

Rear foglamp



Rear foglamps (certain markets)

The rear foglamps are considerably stronger than the normal tail lights and should be used while driving in conditions of poor visibility. (The headlamps must be switched on first.) An indicator lamp in the switch lights up when the fog lamps are switched on.

Note that regulations governing the use of these lamps may vary from market to market.

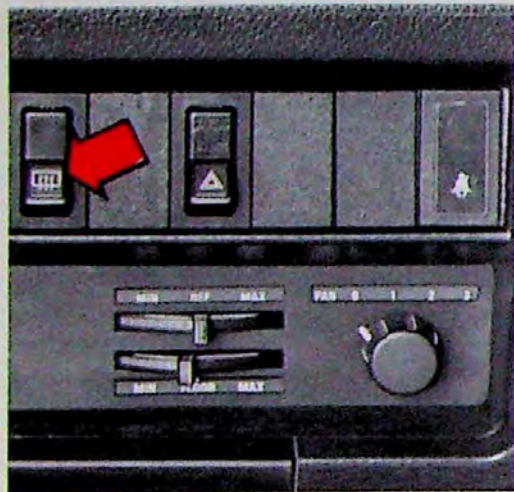
Instrument illumination intensity



Adjustment knob

Clockwise: brighter
Anticlockwise: dimmer

Heated rear window

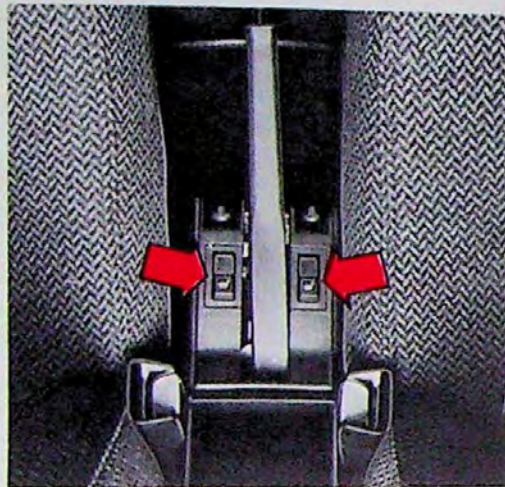


Switch, heated rear window

Use the heated rear window to remove mist or frost from the glass. Do not use it for longer than necessary otherwise the battery will be unduly overloaded.

Do not place items against the inner surface of the window that may damage the electrical conductors. Do not use scrapers, sharp instruments or window cleaners containing abrasives to clear the window.

Heated front seats



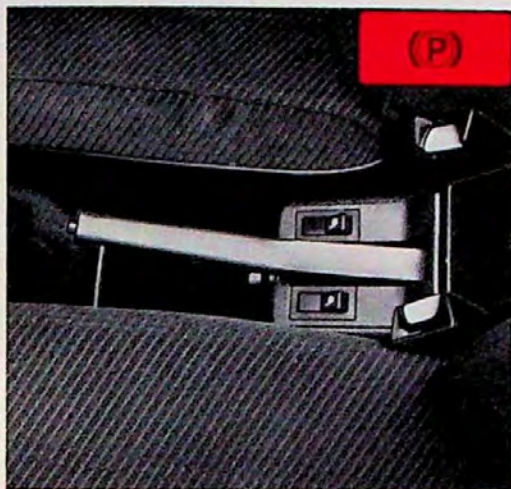
Switches, front seat heating

Front seat heating is operated by depressing the switch.

The heating is thermostatically controlled and starts if seat temperature is below 15°C and cuts out at 35°C.

Turn off passenger seat heating if seat is unoccupied.

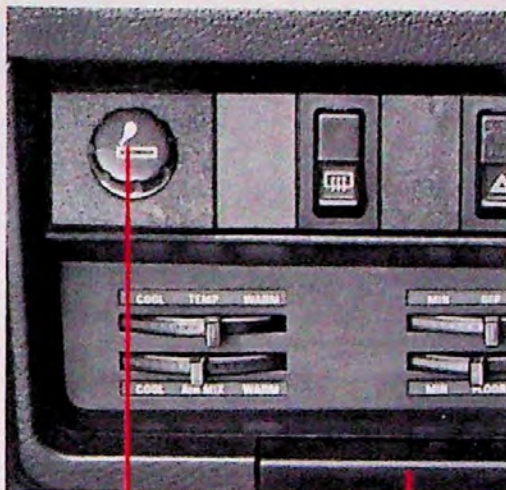
Parking brake (handbrake)



Parking brake lever

The parking brake lever is located between the front seats, and operates on the rear wheels. A warning lamp on the dashboard lights up when the parking brake is applied. To release, depress the button, lift the lever slightly, and ease it fully down.

Cigar lighter

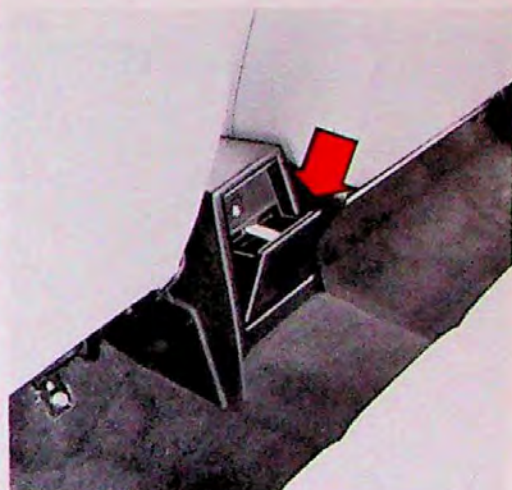


Cigar lighter

Ashtray

To operate the lighter, push it in fully, after 6-8 seconds it will spring back ready for use.

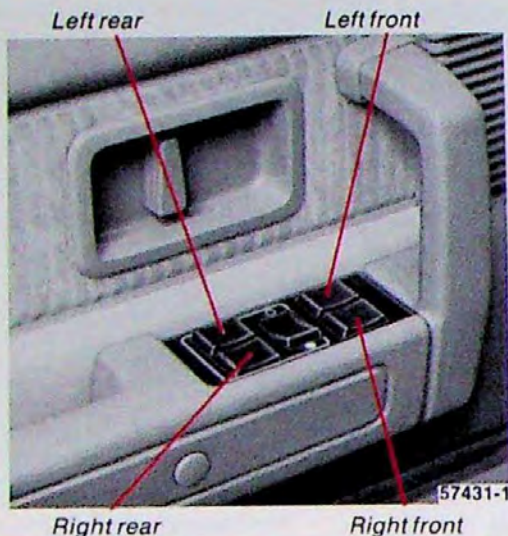
Ashtrays



Rear seat ashtray

To empty the ashtrays, pull out fully and depress the tongue.

Electrically operated windows



The rocker switches for operating the window winders are located in the door armrests. The driver's door panel is shown above. The window winders only operate when the key is turned on (position "II"). To lower the windows, depress the rear part of the switch, to raise press the front part.



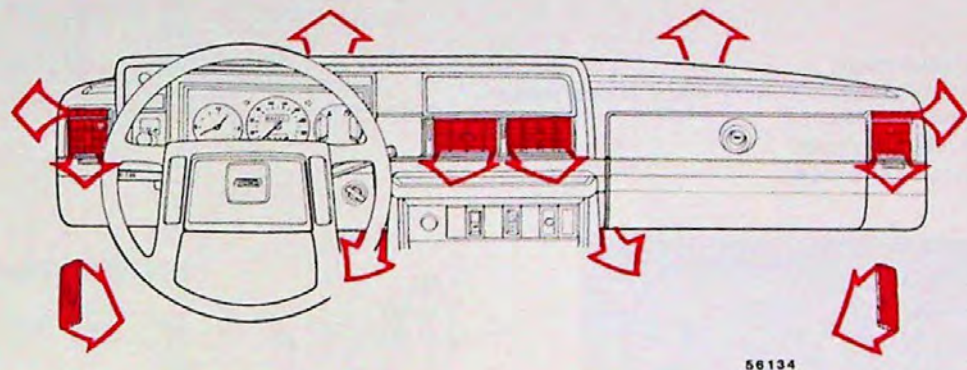
Cut-out switch for rear windows

If the vehicle is equipped with electrically operated rear windows as well, the driver can override the rear rocker switches by means of a cut-out switch on the door armrest panel.

- The rear door windows can be raised or lowered with the respective door switch as well as the switch on the driver's door.
- **Override position.** Only the driver can operate the rear windows.

Be sure to remove the key (thereby cutting off current to the electrically operated windows) if children are left alone in the car.

Heating and ventilation



Described on the next four pages are the three different heating and ventilation systems in use on the various model types, and the best way of using them.

The illustration at the top of this page shows the location of the various ducts and vents. Also shown are the two additional footwell vents which can be opened or closed by means of a lever, to supply fresh air to the feet. (Forward = open, Rearward = closed).

Air vents



Air vents

- A closed
- B open
- C lateral adjustment
- D vertical adjustment

It should be noted that the four vents are operated differently. The air flow from the two outer vents is regulated by the defroster control lever, whereas the two centre outlets can only be controlled by the thumbwheel to the side.

Standard heating system

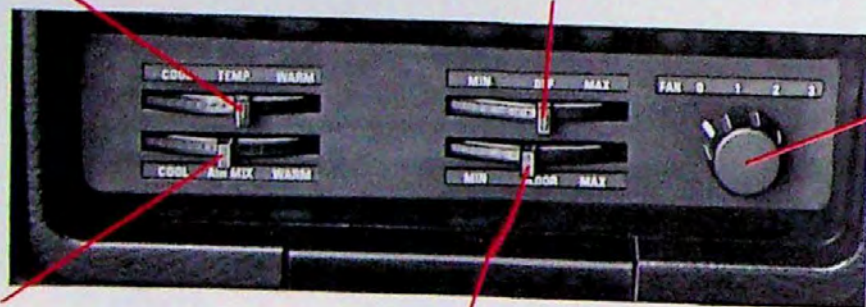
TEMP

Left = COOL
Right = WARM

DEF (defroster)

Air from windscreen demist and side window defroster vents.

Left (MIN) = closed
Right (MAX) = open



FAN

0 = off
3 = max.

AIR MIX

Air from two centre vents

Left = COOL — fresh air
Right = WARM — heated fresh air

FLOOR

Left (MIN) = no air to floor
Right (MAX) = air to floor

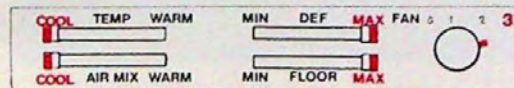
Cool and heated fresh air can be mixed to desired temperature i.e. to temperature at which TEMP is set.

Optimum heating



Close all dashboard air vents and footwell vents.

Maximum ventilation



To increase ventilation even more, open the footwell vents and reduce the fan speed.

Optimum demist



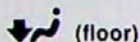
Close the dashboard air vents and footwell vents.

Always keep the air inlet grille in front of the windscreen clear of obstructions (leaves, ice, snow, etc).

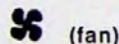
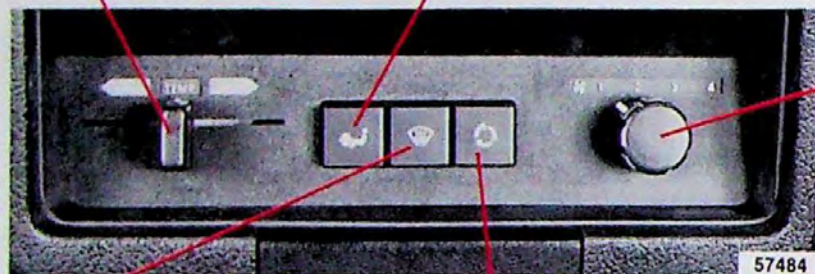
Combined unit heating system (optional)

TEMP

Left = COOL
Right = WARM



(floor)
Out = no air to floor
In = air to floor



(fan)
Four speed fan.



(Defroster)
Out = min defrost
In = defrost



(recirculation)
Only intended for use if vehicle is equipped with air conditioning. Should not be used during heating.

Optimum heating

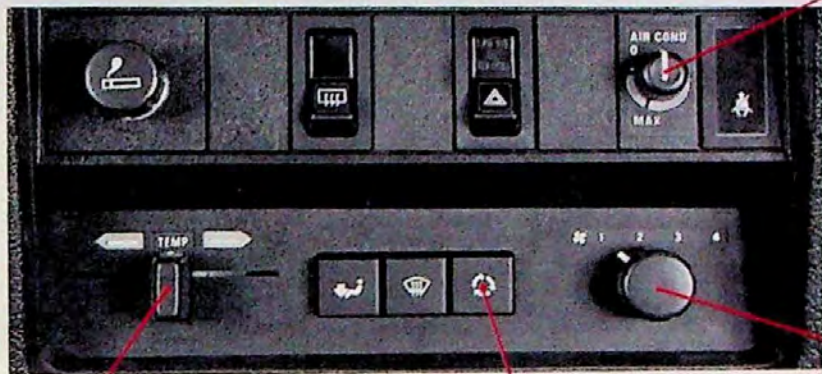
TEMP – move to right
push button depressed
3 or 4
All air vents closed
Footwell vents closed

Optimum demist

TEMP – move to right
push button depressed
4

All air vents closed
Close footwell vents.
Always keep the air inlet grille in front of the windscreen clear of obstructions (leaves, ice, snow, etc).

Air conditioning (optional)



TEMP

To operate the air conditioning system, first move the control lever to the far left, and then regulate the temperature with the AIR COND knob.



(recirculation)

Depress the push button during the cooling down phase and if ambient temperature and/or air humidity is high.

AIR COND (compressor)

The compressor is started by turning the AIR COND knob to MAX. To cool the vehicle quickly in warm conditions (if for instance the vehicle has been parked in direct sunlight), turn the knob past MAX into the red section. When the desired temperature is reached, turn the knob back into the blue section.

Note: The knob should be kept within the blue section during highway and motorway driving. Otherwise the air conditioning system could ice up and reduce efficiency.



(fan)

Select position 4 for max cooling.

Optimum cooling

All the car windows and the footwell vents should be closed when operating the air conditioning system.

Provided that the  and  buttons are not depressed, all air is released from the dashboard vents.

Operating hints: The air conditioning system offers the possibility of removing mist from the windows even if it is relatively cold outside. This is because ambient air is dehumidified before being blown into the passenger compartment.

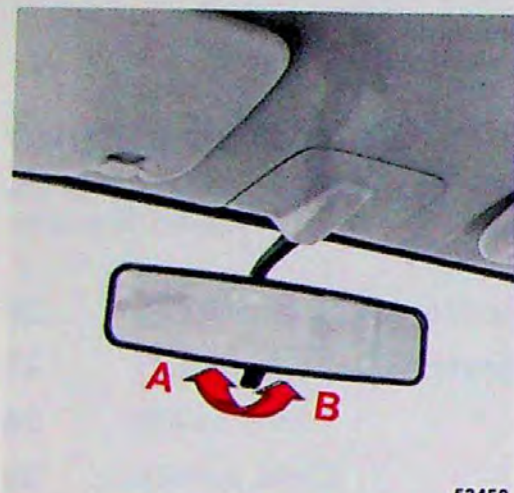
Let a Volvo workshop check the air conditioning system each year.

Body and interior

The seats, seat belts, doors etc. are described on the following 12 pages.

Rear view mirrors, inner and outer	26
Courtesy light, sun roof	27
Front seats	28
Child safety	29
Seat belts	30
Doors and locks	32
Bonnet	32
Boot	33
Child safety lock	34
Cargo space	36
Carrying long loads, fuel tank lid	37

Rear view mirrors

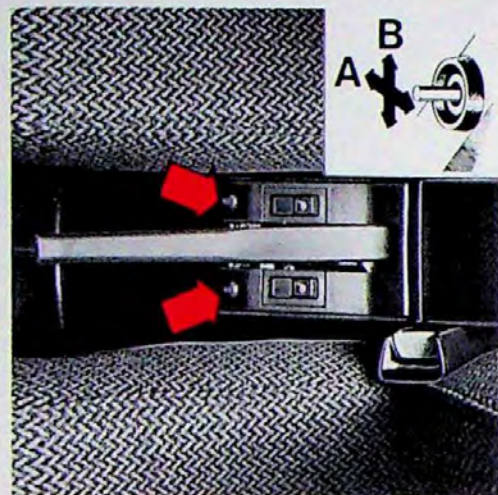


B = anti-dazzle position

- A Normal position
- B Anti-dazzle position. Use this position to reduce the glare from the headlamps of cars behind you.

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Electrically adjustable door mirrors



Switch, door mirror

- A Lateral adjustment
- B Vertical adjustment

The switches for adjusting the two outside mirrors are located in the front edge of the handbrake console.

Manually adjustable door mirrors



Adjustment of mirror

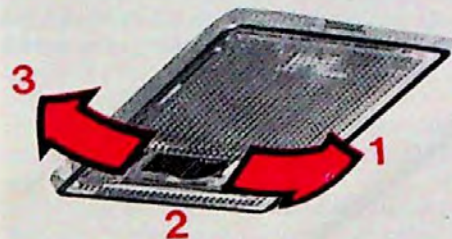
- A Lateral adjustment
- B Vertical adjustment

Always adjust the mirrors before driving away.

Never use ice scrapers made of metal as they can easily scratch the mirror surface.

Some models are fitted with wide angle door mirrors to eliminate blind spots. **Remember that these mirrors distort angles and distances.**

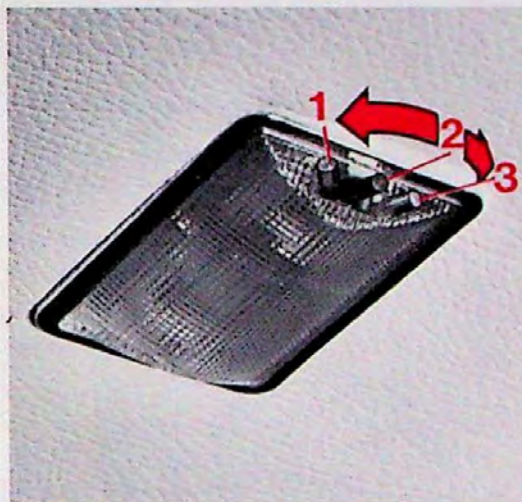
Courtesy lighting, 4-door models



Switch, courtesy light

- 1 ON
- 2 OFF
- 3 Light comes on when one of the doors is opened.

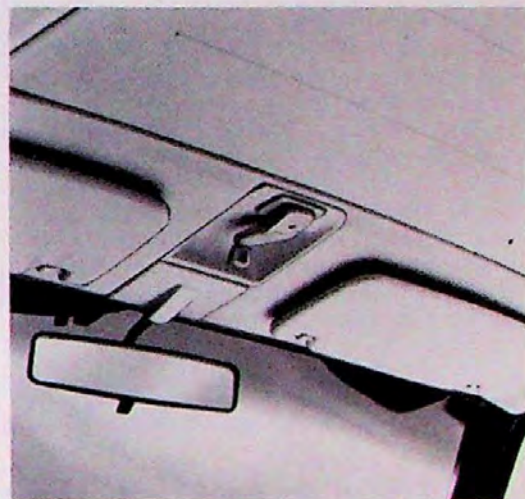
Courtesy lighting, estates



Switch, courtesy light

- 1 ON
- 2 OFF
- 3 Light comes on when one of the doors is opened.

Sun roof (optional)



Crank

To open: Pull out the crank handle and turn it anticlockwise.

To close: Turn the crank clockwise.

For reasons of safety the crank should always be pushed back into the recess while driving.

Front seats

Height adjustment

The front and rear sections of the driver's seat can each be adjusted to three different heights by means of the levers shown below. The best position to reach the rearmost lever is from the rear seat.

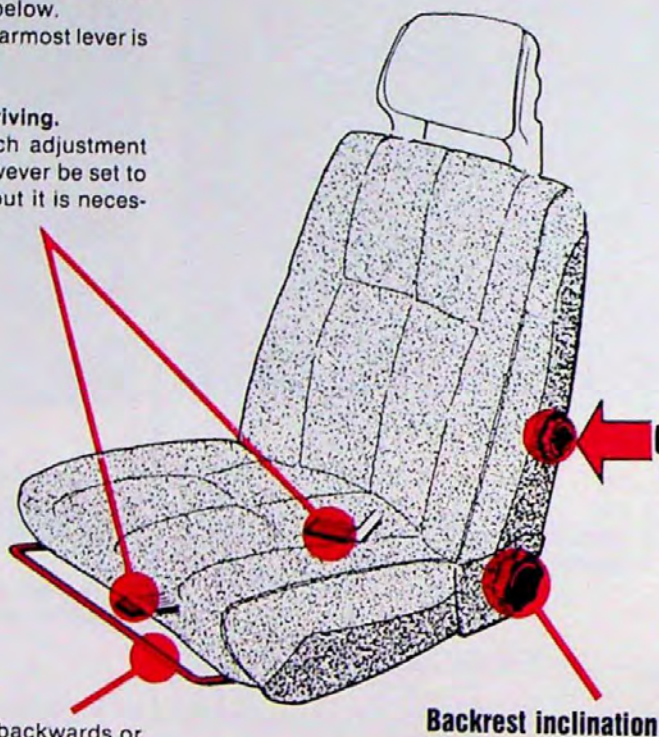
Do not adjust the seat while driving.

The passenger seat has no such adjustment mechanism. The height can however be set to the same number of positions but it is necessary to use a spanner to do so.

Fore-aft adjustment

Pull up the bar to slide the seat backwards or forwards.

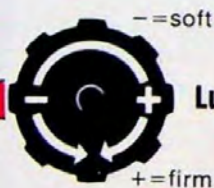
Make sure that the seat adjusters have latched after adjusting the position.



Heated front seats

The heating is thermostatically controlled and only starts if seat temperature is below 15°C. It cuts out at about 35°C.

The heat can be switched on and off with the switches located on each side of the hand-brake. See page 16.



Lumbar support

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Child safety

Children in the car

An adult with a fastened seat belt in a Volvo is assured of good protection in the event of an accident, a sudden swerve or sharp braking.

Here we advise you how to protect your children, in the best possible way, from injury in accidents.

Remember that, irrespective of age and size, a child must always be safely restrained in the car. Above all, small children should not sit on the laps of passengers.

In many countries there is legislation governing how and where children should be carried in a car. Find out the regulations existing in your country.

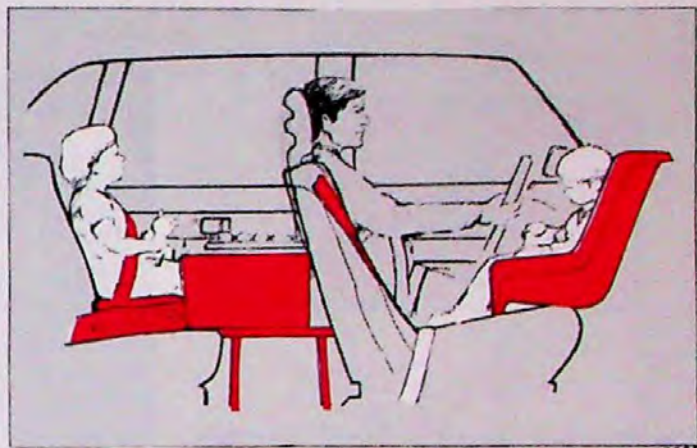
What can be recommended as the most effective type of protection depends upon the size and build of the child. Children may be classified for this purpose in groups as follows:

Babies (children so small that they cannot sit)

Children who are so small that they cannot sit should lie in a carry cot, detachable pram top, or something similar, which is placed on the rear seat with the head of the child pointing towards the middle of the car. In order to prevent the cot from falling between the front and back seats in the event of sudden braking, the rear seat belts can be used to restrain the cot. Alternatively the Volvo cot bench (available from your Volvo dealer) can be installed, providing a continuous level surface between the front and rear seats.

Children from the age when they can sit and to a height of about 117 cm (less than 18 kg)

Children in this group should always travel in a child safety seat. The seat you use should comply with the regulations in force in your country.



Not available on certain markets. Consult your Volvo dealer.

Never use the type of seat which solely hooks on or suspends from the rear seat backrest. The child safety seat may be positioned against the backrest but should be secured independently to the body of the car. An approved seat is available from your Volvo dealer.

Children taller than 117 cm (more than 18 kg)

When the child has outgrown the child safety seat, he/she should use the rear seat with the standard seat belt fastened. The best way to protect the child here is to place him/her on a cushion so that the seat lap belt is as far down on the hips as possible.

A specially designed and tested safety cushion for this purpose can be obtained from your Volvo dealer.

The use of seat belts is described in detail overleaf.

Seat belts should be worn at all times



Two warning lamps, one on the centre console and one between the front seats, flash as a reminder to occupants to fasten their seat belts.

Even abrupt stops can result in serious consequences if you or your passengers do not use the seat belts.

Ask all passengers to use the belts. Remember if an accident happens, unbelted rear seat passengers will be thrown forward against the front seats which will then be placed under considerable strain, much more than they are intended to take. As a result all occupants may be seriously injured.

The front and rear seats are equipped with inertia-reel seat belts.



Fastening front seat belt

To fasten:

Pull the belt slowly from the holder and insert the belt tongue into the buckle until you hear a snap and feel the latch engage.

The belt allows greater freedom of movement but the reel locks the belt immediately:

- if the belt is pulled too quickly
- when braking and accelerating
- if the car is at a very sharp angle
- during hard cornering.



Keep below hip bone

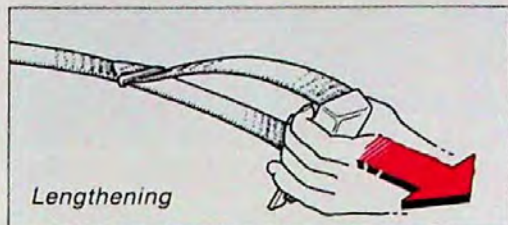
To ensure maximum protection it is important that the belt is adjusted to obtain a snug fit. Remember:

- the belt must not be twisted
- the lap must be positioned **low**, below the hip bone
- Adjust the fit of the lap belt by pulling the shoulder portion of the belt as illustrated. Each belt is intended for one person only.

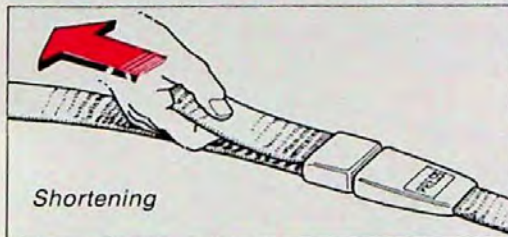
To release:

Press in the red button and allow the belt to retract fully into the holder.

Rear seat, centre belt



Lengthening



Shortening

Adjusting lap belt

The centre seat belt fastens across the lap and should always be adjusted to the right length.

Checking the seat belts

Check to make sure that the strap does not fasten or fray against sharp edges and now and then check that the bolts are well-tightened and that the belt is otherwise in good condition.

Use water and a good quality detergent for cleaning the belt.

The locking function of the inertia-reel belt can be checked as follows:

- Take hold of the belt and jerk it.
- Brake the car abruptly at about 50 km/h (30 mph) or drive round in a narrow circle (traffic conditions permitting). Pull the belt. During the above-mentioned tests, it should **not be possible to pull the belt out.**

Pregnant women



57655

Lap belt low on hips

Pregnant women should always wear seat belts.

It is very important that care is taken when adjusting the belt to ensure that the lap belt is worn low and snug to prevent any possible pressure on the abdomen. See illustration above.

WARNING!

If a seat belt has been exposed to a powerful strain in connection with a collision, for example, it must be replaced even if it does not appear to be damaged. Consult your Volvo dealer for advice.

Remember that **the belt must be replaced complete**, that is, the **entire** belt together with the roller, all the anchorages, retaining bolts, nuts and **locking mechanism** as well as the belt lock between the seats.

Change a belt even if only one of the straps is very worn or damaged.

Never repair or modify a seat belt.

Doors and locks



Large key fits door lock

Both front doors can be locked and unlocked with the key.

The doors are locked when the lock knob is depressed.

When the key is turned counter clockwise (clockwise on the right door), the lock knob is pushed up and the door can be opened.

The driver's door can only be locked from the outside with the key.

The other doors can be locked by depressing the lock knob and then closing the door.

To unlock a locked door from the inside, the lock knob must be pulled up.

Use lock de-icers in cold weather to prevent the locks from freezing. If, however the lock does ice up, do not force the key. It usually helps to heat the key or lock.

CAUTION!

Remember that if the doors are locked while driving and the car is involved in an accident, it will be difficult for others to reach you!

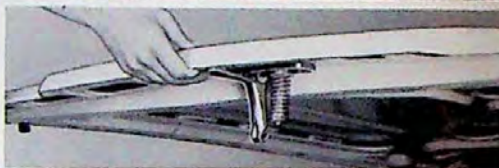
Central locking

Some models are equipped with a central locking system. When the driver's door is unlocked so are the other doors as well as the boot (and tailgate on estate models).

The doors can be locked or unlocked from the inside by pushing down or lifting up the lock knob on the driver's door panel, slightly harder than normal.

The position of the lock knobs enables you to see at a glance whether all the doors are locked.

Bonnet



Pull the bonnet release knob (to the extreme left under the facia).

You can hear when the lock releases.

Lift up the front of the bonnet slightly and put your fingers under the front edge and press the safety catch upwards.

Open the bonnet.

Make sure it is properly fastened when you close it again.

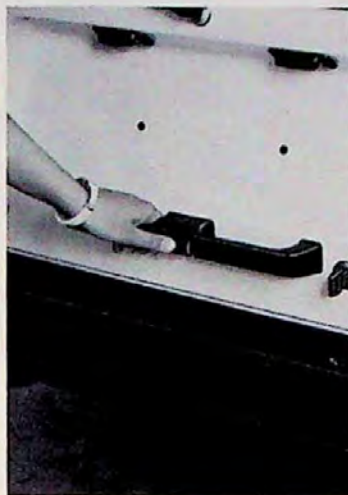
Bonnet lighting

Switch positions

A OFF all the time

B ON when bonnet is opened

Boot lock



Large key operates boot lock

The boot lock is incorporated in the central locking system. This means that you can either lock or unlock the boot by means of the driver's door lock.

You can also operate the boot lock directly with the owner's key even if the vehicle is centrally locked.



56718/1
Unlocking

Withdraw key in vertical position



56718/2
Locking



56718/3

Withdraw key in horizontal position

The boot is now always locked.

This option can be used for instance if you lend your car to somebody. If you hand over the service key to the driver it will not be possible to open the boot.

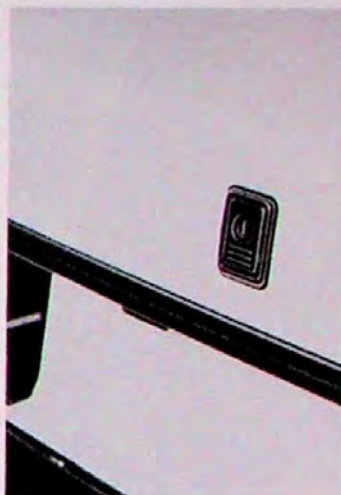
To reconnect the lock to the central locking system:

Withdraw key in vertical position



56718/4

Tailgate lock



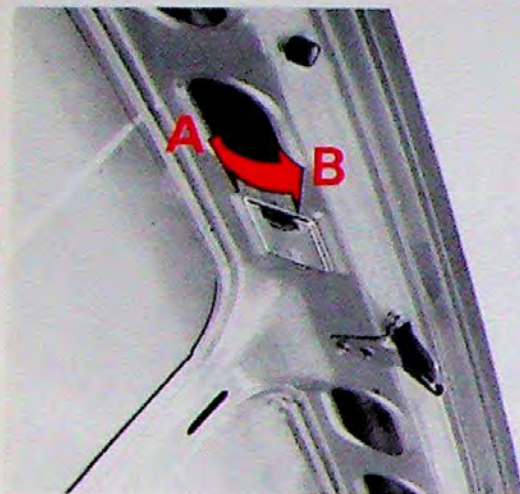
Large key fits the tailgate lock

To unlock the tailgate: Turn the key anticlockwise and let it spring back to its original position, see fig.

To lock. Turn the key clockwise and let it spring back to its original position.

If the vehicle is equipped with a central locking system, the tailgate can be locked/unlocked from the driver's door lock.

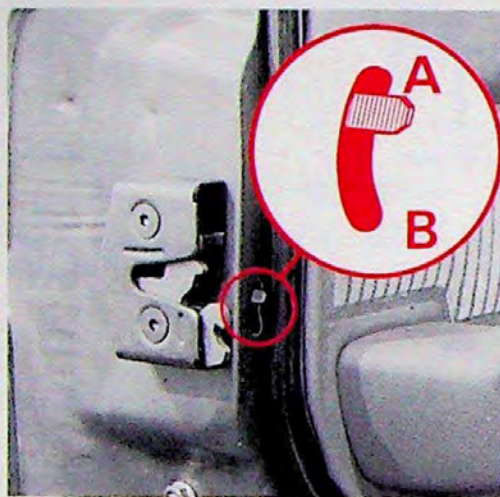
Boot light



Switch positions

- A OFF all the time
- B ON when boot is opened.

Child safety lock

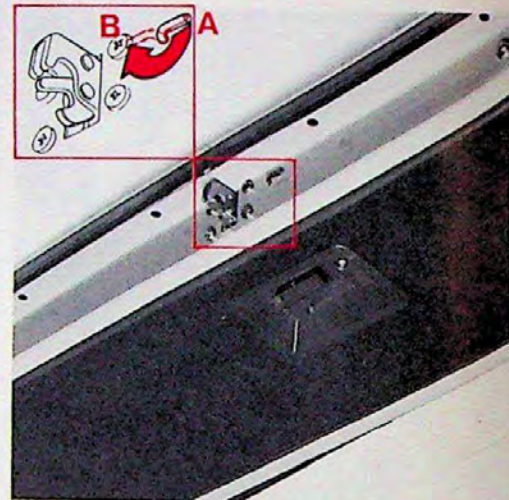


Rear doors

The child safety lock can only be adjusted with the rear door open.

- A the door lock functions normally
- B the door **cannot** be opened from the inside

Child safety lock, tailgate



Location and setting of child safety lock

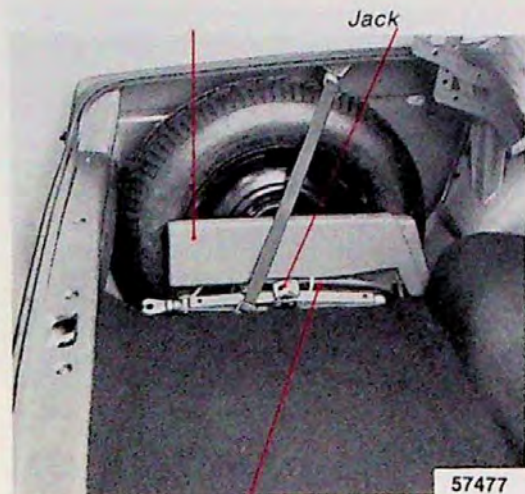
Engage the safety lock to prevent children from opening the tailgate from the inside.

- A the tailgate can be opened
- B the child cannot open the tailgate from the inside

CAUTION!

Remember, in the event of an accident, the rear seat passengers cannot open the doors from the inside if the levers are set to position B.

Boot



Tool kit

10-11 mm &
12-13 mm
spanners



Socket spanner
for wheel nuts
and spark plugs

Extension bar



Phillips/flat-blade screwdriver

57479

Spare tyre, jack Estate models



Spare tyre, jack, estates

The spare tyre and jack are stowed behind a panel at the left of the cargo space. To remove the panel turn the two screws 1/4 turn.

The jack should be secured to the tyre to prevent it from rattling, see fig.

To lift out the jack, it is first necessary to unscrew the centre bolt a few turns.

Extra stowage spaces

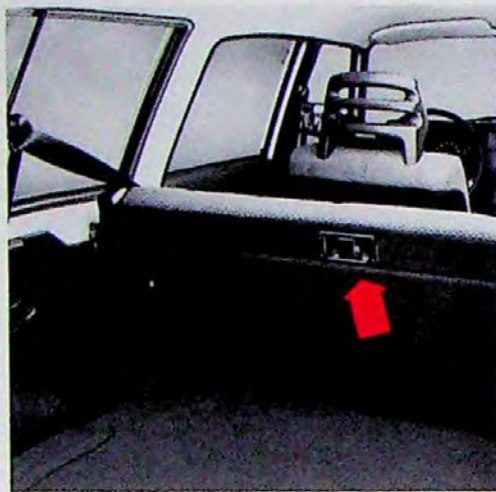


Stowage spaces, estates

There are two useful stowage spaces under the cargo space floor.

An additional fold-away seat designed to be fitted facing the rear of the vehicle (estate models only), is available from Volvo dealers.

Folding rear seat, estate



- Push down the release lever under the front of the seat.
- Take a hold of the rear of the seat cushion and pull it upwards toward the back of the front seats.

- Move the release lever on the back of the backrest, to one side and fold down the backrest.
Make sure that the seat belts are correctly located when returning the seat to its original position.

WARNING!

Do not pile luggage higher than the seat backrests. This will help prevent such articles from being thrown about and injuring passengers during a sudden manoeuvre, braking or accident.

Securing luggage



Securing luggage

As a safety precaution, the cargo space is equipped with six eyelets to which straps can be attached to secure luggage and heavy articles. Four of the eyelets are shown above, the other two are situated beneath the rear seat backrest.

Suitable straps can be purchased from your Volvo dealer.

Boot hatch



Extra long articles such as skis, can be carried inside the car by using the hatch in the rear seat.

It is advisable to protect the seats from soiling and also to secure the luggage firmly, see 'Warning' above.

Please note that only light loads, such as skis, should be carried in this manner.

Max length 2 m = 6½ ft

Max weight 15 kg = 33 lbs

WARNING!

If use is made of the boot hatch to carry luggage it is essential that the load is secured safely to prevent injury to occupants in the event of sudden braking. Sharp edges on the load should be covered for protection.

WARNING!

Take care when loading/unloading the vehicle. Always turn off the engine and apply the parking brake. This will prevent the vehicle from moving if the gear lever is accidentally moved out of neutral.

Filling up with fuel



Place cap here

The filler cap is located behind the flap on the right hand rear wing. The cap can be placed in the holder on the inside of the lid when refuelling.

After filling the tank, screw on the cap until a click is heard.

A lockable cap is available from your Volvo dealer.

See pages 82 & 98 for fuel specifications.

The tank holds approximately 60 litres (13 Imp galls).

Starting and driving

This section on starting and driving contains items such as starting the engine, gear changing, towing, trailers.

Running-in	38
Economical driving	39
Starting the engine	40
Manual gearbox	42
Points to remember	43
Towing	44
Starting with an auxiliary battery	45
Brakes	46
Towing a caravan	47
Winter driving	48
Before a long distance trip	49
Vehicle storage	50

Running-in

During the running-in period the following speeds should not be exceeded.

	1000 km (600 miles)	1000-2000 km (600-1200 miles)
1st gear	30 km/h (20 mph)	35 km/h (20 mph)
2nd gear	55 km/h (35 mph)	65 km/h (40 mph)
3rd gear	80 km/h (50 mph)	100 km/h (60 mph)
4th gear	110 km/h (70 mph)	130 km/h (80 mph)
5th gear	130 km/h (80 mph)	150 km/h (90 mph)

However, do not drive at low speeds in top gear.

Economical driving

Driving economically means smooth driving at moderate speeds, avoiding flying starts and abrupt stops whenever possible.

To operate your car as economically as possible, observe the following driving suggestions:

- Warm up the engine quickly. A cold engine uses 2–3 times more fuel than a warm engine—and is subject to increased wear.
- Whenever possible, avoid using the car for driving short distances with a cold engine.
- Drive smoothly. Avoid racing starts, and abrupt stops.
- By maintaining a moderate speed on highways and motorways you can save as much as 30% in fuel costs.
- Avoid carrying unnecessary loads.
- Avoid driving with snow tyres when no longer needed. Fuel costs can be reduced by 5%.
- Use a roof rack only when necessary and you will cut fuel costs by 10%.
- Do not open the side windows unnecessarily.

Gear changing

Utilizing the gears correctly will also improve fuel economy. Choose the correct gear.

- Change from 1st to 2nd at approx.
15 km/h (10 mph)
Change from 2nd to 3rd at approx.
30 km/h (20 mph)
Change from 3rd to 4th at approx.
40 km/h (25 mph)
Change from 4th to 5th at approx.
50 km/h (30 mph).

Car care

Other factors which ensure good fuel consumption are

- clean air filter
- correct valve clearance
- correct idle speed
- correct engine oil
(oil change interval+filter)
- correctly set fuel pump
- brakes which do not drag
- correct front end geometry
- correct tyre pressures—up to 10% saving

Preheating (glow) indicator lamp



0 Lock position



I Intermediate position
"Radio"



II Drive/Glow



III Start position



When the starting switch is turned to position II (Drive/Glow) the preheating lamp lights as an indication that the glow plugs are switched on. Once the lamp goes out the engine can be started.

The length of time the lamp remains lit (the glow time) depends on the temperature of the engine. The colder the engine the longer the glow time. If the engine is hot the lamp may only remain on for a few seconds, if at all.

If it is necessary to repeat the preheating e.g. if the engine fails to start, the key must be returned to position "0" and then to Drive/Glow.

Warm-up the engine as soon as possible!

Experience has shown that engines in cars used regularly for short trips are subject to more rapid wear because the engine does not have the opportunity of reaching operating temperatures. It is therefore important that the engine reaches its normal operating temperature as quickly as possible. Do not try to warm up the engine by letting it idle for a time or by revving up in neutral, but drive off as soon as possible without subjecting the engine to excessive load.

Stopping the engine

The engine is stopped by turning the starting key back from the Drive/Glow position. This causes a solenoid valve to cut off the supply of fuel to the engine.

If the engine does not stop see "Troubleshooting" on page 69.

Gear lever positions



R = reverse

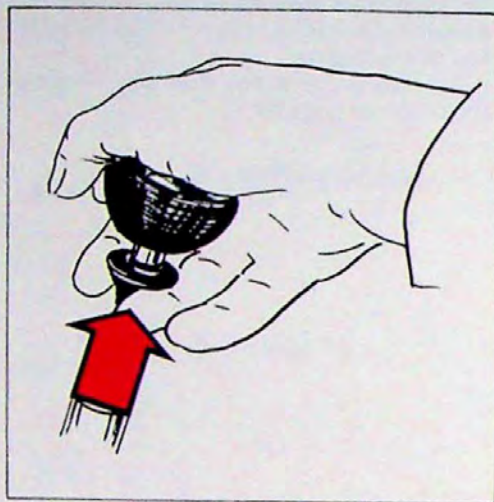
Depress the clutch pedal fully when changing gear.

Never rest your foot on the clutch pedal while driving.

The 5th gear is used to improve fuel economy at speeds over 70 km/h (40 mph).

This varies according to driving conditions.

Reverse gear detent



Detent collar

The detent collar on the gear lever must be lifted before selecting reverse gear to prevent inadvertant selection of the gear.

Points to remember

Weight distribution affects handling

At the specified kerb weight your car has a tendency to understeer which means that the steering wheel has to be turned more than seems appropriate for the curvature of the bend. This ensures good stability and reduces the risk of rear wheel skid. Remember that these properties can alter with load. The heavier the load in the boot, the smaller the tendency to understeer.

Handling, road holding and tyres

Tyres play an important part in the handling and road holding of a car. The type of tyre (radial), size and pressure are important for proper handling. When fitting new tyres, it is therefore very important to fit tyres of the same size and type (and preferably made by the same manufacturer) as those previously fitted, and follow the recommendations concerning tyre pressures on page 55.

Do not drive with the boot/tailgate open

If you drive with the boot/tailgate open, it is possible that some of the exhaust gases (including carbon monoxide) could be drawn into the car. To prevent any risk to the occupants:

- Close all windows.
- Set the FLOOR and DEF controls to MAX and turn the fan switch to the highest speed.

Overheating

The possibility of the cooling system overheating increases in hot weather, if:

- You drive up long, steep inclines at full throttle and low engine revs (too high a gear) towing a trailer.
- The car idles with the air conditioning switched on.
- You switch off the engine directly after driving at high speed.

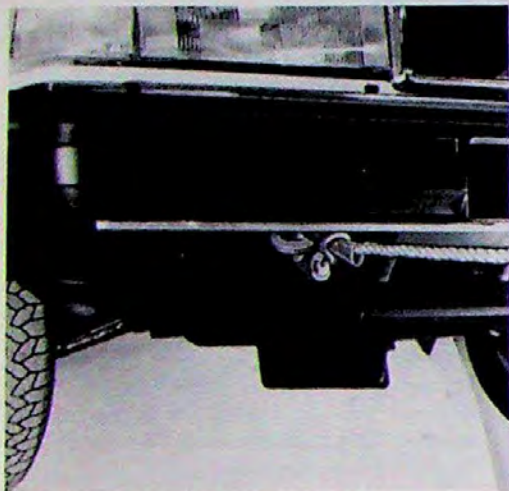
To avoid overheating:

- Reduce speed and change down in good time if you are towing a trailer up long steep inclines. Also switch off the air conditioning for a while.
- Do not let the engine idle unnecessarily.
- Allow the engine to idle for a few minutes before switching off after long high speed driving.

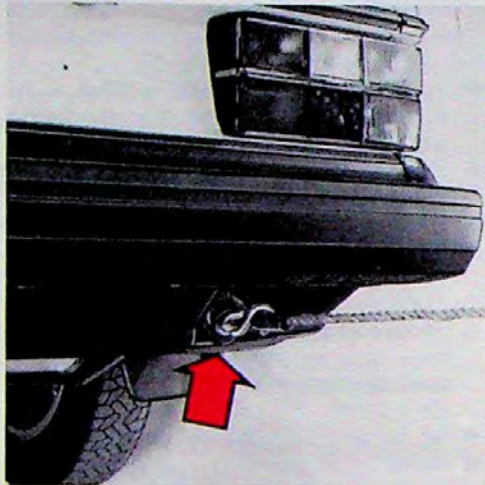
Roof racks

- Use a sturdy roof rack which is designed for your Volvo and can be used securely fitted to the car roof.
- Max. roof load **100 kg**.
- Spread the load evenly over the rack.
- Place the heaviest load nearest the car roof.
- Remember that the centre of gravity of the car alters with the weight of the load on the roof rack, thus changing the driving characteristics.
- Anchor the load securely and recheck during journey.
- Drive smoothly. Avoid rapid starts, hard cornering and abrupt stops.
- Remove the rack when it is no longer needed. This reduces wind resistance and improves fuel consumption.

Towing



Towing eyelet, front



Towing eyelet, rear

The following precautions should be taken if it is necessary to tow the car:

- Unlock the steering wheel.
- In most countries vehicles on tow are subject to regulations regarding maximum towing speed.
- With the engine stopped the **brake servo** will not work so that approx four times more pedal pressure will have to be applied when braking. In addition the steering will feel heavier than normal.
- Drive as smoothly as possible. Try to keep the tow-line stretched to avoid unnecessary jerking.

Starting the engine by towing

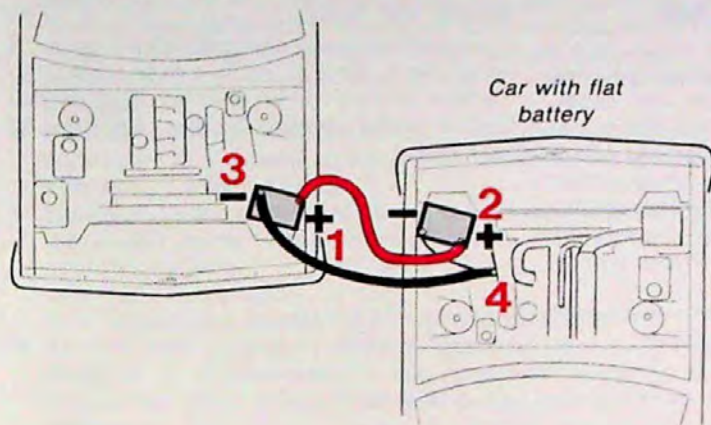
The towing car is started and driven at a constant speed.

In towed car:

- switch on the ignition.
- depress the clutch pedal and engage 3rd or 4th gear. Wait until the car picks up speed and release the clutch pedal gradually. As soon as the engine starts, depress the clutch pedal once more.

Starting with a flat battery

Assisting car



If the battery is flat, an auxiliary battery may be used for starting the engine. To avoid any risk of explosion, we strongly recommend that you **carefully follow** the procedure described below.

- Check that the auxiliary battery is rated at 12 Volts.
- If the auxiliary battery is in another car make sure the cars are not touching (electrical contact!).
- Using jump leads, first connect the **positive** terminal (red lead, "P" or "+") of the auxiliary battery (1) to the **positive** terminal of the discharged battery (2).
- Next connect the black lead to the negative terminal (blue, "N" or "-") of the assisting car (3).

WARNING!

To prevent possible explosion never expose battery to open flame or electric spark. Do not smoke near battery. Batteries generate hydrogen gas which is flammable and explosive.

Battery fluid contains sulphuric acid.

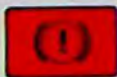
Do not allow battery fluid to contact eyes, skin, fabrics or painted surfaces. If contact occurs, flush affected area immediately with water.

Obtain medical attention if eyes are affected.

- And connect the other end of this lead to a suitable earth point away from the battery in your car e.g. the point where the battery earth strap is connected to the body (4).
- Start the engine of the assisting car and allow it to run for a few minutes at higher than idling speed (around 1500 rpm).
- Start the engine.
Do not move the clamps during start attempts!
Do not lean over the batteries!
- After the car has started, remove the clamps in the **reverse** order.

Brakes

If one of the brake circuits malfunctions the red warning lamp will come on



The brake pedal travel increases slightly and can feel softer but the pedal pressure required to obtain normal braking does not increase noticeably.

If the warning lamp comes on, stop immediately and check the level of fluid in the brake reservoir (see page 82/83 for location).

If the reservoir is empty, **do not drive on.**

Have the vehicle towed to a service station for an inspection of the brake system.

If there is some fluid in the reservoir proceed with caution to the nearest service station.

The brake servo functions only when the engine is running

If your car is being towed or is coasting to a halt with the engine switched off, then you must depress the brake pedal approximately four times harder than normal because the brake servo is inoperative.

The brake pedal feels stiff and hard.

Diesel engined vehicles are equipped with separate vacuum pump to maintain sufficient vacuum in the brake servo cylinder. At idle speeds 5–10 seconds are necessary before a working vacuum is attained. If the brake pedal has been depressed repeatedly with the engine off wait a few seconds (without touching the brake pedal) before driving away.

Moisture on the brake discs and brake pads affects braking

Driving in heavy rain and slush or passing through an automatic car wash can cause water to collect on the brake discs and pads. This will cause a delay in the braking effect when the pedal is depressed. In such situations it is therefore advisable to lightly depress the brake pedal now and again when driving. The heat that is generated will then evaporate any moisture on the brakes.

This should also be done after washing or starting the car in very damp weather.

Severe use of brakes

When driving in mountainous areas, the car can be exposed to extremely severe loading even if you do not depress the brake pedal particularly hard. Since the car's speed is also quite often very low, the brakes are not cooled as efficiently as when driving on level roads. In order to avoid excessive loading of the brakes, you should engage the same gear as you would have used to ascend the hill.

In this way, the braking power of the engine is more effectively utilized and it is only necessary to use the footbrake now and again.

Do not forget that if you are towing a caravan or trailer, the brakes will be exposed to more load than is normal.

Spoiler (air dam)

If your vehicle is equipped with a front spoiler it should be noted that the flow of cooling air to the front brakes will be affected. Only certain types of wheel rims may be used. See page 52 for details.

Towing a caravan or trailer

- Only approved towing brackets should be used. Information on which types are approved can be obtained from your Volvo dealer. Towing brackets which are designed to be attached to the bumper must not be used. The bumpers on our cars are designed to absorb impacts and consequently should not be used to mount towing brackets.
- It should be noted that the wiring for the trailer lighting must be connected in a special way to avoid disturbing the circuit for the bulb failure warning lamp.
- Maximum trailer weight and towing speeds recommended by Volvo are shown below. Observe legal requirements in force in your country or state.
Max. 1500 kg general
Max. 1600 kg not exceeding 45 mph (70 km/h).
- Volvo's level regulating system, available from your dealer, is designed to compensate for the increased weight on the rear suspension which arises when towing. See your dealer for further details.
- If your car is equipped with the retractable type towing bracket, remember to secure the bar with the lock pin.
- Clean the towing bracket regularly and grease the towbar head and all movable parts to avoid unnecessary wear. Grease the nipples on the retractable type towing bracket.
- Do not tow heavy trailers when the car is new. Wait until it has been run-in for at least 1000 km (600 miles).
- Avoid slipping the clutch more than strictly necessary. It is important to make sure that the clutch does not overheat, especially when frequently stopping and starting on inclines.
- Distribute the load on the trailer so that the weight acting on the towing bracket is approximately 50 kg for trailers up to 1200 kg, and 70 kg for trailers heavier than 1200 kg.
- Long steep descents put an extra heavy load on the brakes. The risk of overheating can be minimized by selecting a lower gear and adjusting the speed of the vehicle to suit.
- A car/caravan combination is apt to be **sensitive** to cross winds.
- The legislation regarding **maximum permitted** speed with a caravan or trailer can vary from country to country.
- Acceleration will be slower than normal.
- Braking distances will be **longer** than normal.
- The pressure in the rear tyres should be increased because of the weight exerted on the towing bracket.
- Greater demands are placed on the cooling system. Avoid overheating by observing the precautions described on page 43.
- The output of a car engine is generally reduced at high altitudes and consequently its pulling ability. This applies to both manual and automatic transmission vehicles.

Frost precautions

If you wish to check your car before the approach of the cold season, the following advice is worth noting:

- Make sure that the **engine coolant** contains at least 50% antifreeze, i.e. 5 litres Volvo type C (blue-green) glycol additive. This gives protection against freezing down to -35°C . See page 87.
- Try to keep the **fuel tank** well filled—this prevents the formation of condensation in the tank.
- Use diesel fuel intended for winter conditions, see page 80.
- Use the correct grade of **engine oil** to avoid difficulties when starting from cold. See pages 84 and 85.
- The load placed on the **battery** is greater during the winter since the heater, windscreen wipers, lighting etc. are used more often. Moreover the capacity of the battery decreases as the temperature drops. In very cold weather, a poorly charged battery can freeze and be rendered useless. It is therefore advisable to check the state of charge more frequently and spray an anti-rust oil to the poles of the battery.
- To prevent the **washer reservoir** from freezing, add a de-icer. This is most important since dirt is often splashed onto the windscreen and headlamps during winter driving, thus requiring frequent use of the washers and wipers.
Volvo de-icer should be diluted as follows:
Down to -10°C 1 part de-icer to 4 parts water.
Down to -14°C 1 part de-icer to 3 parts water.
Down to -18°C 1 part de-icer to 2 parts water.
Down to -28°C 1 part de-icer to 1 part water.
- Lubricate all **locks** with a de-icer type lock oil to ensure trouble free operation.



Before a long distance trip

It is always worthwhile to have your car checked at a Volvo dealer before driving long distances. Your dealer will also be able to supply you with bulbs, fuses, sparking plugs and wiper blades in special kits. A list of Volvo service stations in Europe is also available if you intend to drive abroad.

If you prefer to check your car yourself, the following hints are worth noting.

- Check that the engine runs smoothly and that the fuel consumption is normal.
- Check the engine for oil, coolant and possible fuel leakage.
- Check the gearbox and rear axle for oil leakage.
- Check the condition of the drive belts.
- Check the state of charge of the battery.
- Examine the tyres carefully, the spare tyre as well and replace those that are worn.
- The brakes, front wheel alignment and steering gear should be checked by trained mechanics.
- Check the lighting.
- Check the tool box.
- Warning triangles are legal requirements in some countries.
- On trips abroad to countries with left hand traffic, the headlamps should be adjusted to avoid blinding oncoming traffic. The triangular section on the headlamp lens should be covered with black tape for this purpose.
- If, during a trip abroad you do not require the day running lights, fuse no. 5 can be removed from the fusebox.



If you do not intend to use your car for a long time

The following points may be of use if you do not intend to use your car for a long time, e.g. because of a long holiday, winter etc.

- Fill the fuel tank to prevent water from condensing on the sides of the tank.
- Wash the car carefully and wax it to protect the paintwork—don't forget the chromed parts.
- The vehicle should be left in a dry, well ventilated garage.
- Do not apply the handbrake, use chocks instead.
- Make sure that no electrical consumers are switched on e.g. lights, radio, engine compartment light, boot light, courtesy lighting etc. The clock uses very little current—but if you wish, you can remove fuse number 8 to disconnect it, see page 68.
- Lift off the wiper arms from the windscreen and headlamps.
- Open one of the windows slightly for ventilation.
- Ensure that the coolant contains sufficient anti-freeze to provide protection down to—35°C. Volvo anti-freeze also provides resistance against corrosion.
- Remove all valuables and lock the car.
- Check the battery voltage every 6 weeks.





Wheels and tyres

The handling and riding comfort of the vehicle is dependant on the inflation pressure and the type of tyres fitted. Read the following pages carefully.

General	51
Tread wear indicators	52
Special rims	52
Worn tyres	53
Inflation pressures	53

Your vehicle is equipped with radial tyres according to the following sizes:

Saloon 175 SR 14

Estate 185 SR 14

Some estate variants have 185 SR 14 R tyres where "R" represents reinforced.

S, T and H represent maximum speed recommended for these particular tyres. S = 180 km/h (110 mph). T = 190 km/h (120 mph). H = 210 km/h (130 mph).

When replacing tyres, be sure that the new tyres are the same size (designation), type (radial) and preferably from the same manufacturer, on all four wheels. Otherwise there is a risk of altering the car's road holding characteristics.

Tread wear indicators

The tyres incorporate tread wear indicators in the form of sections of the tyre pattern with a slightly less deep bed. When these sections become prominent there is only 1½ mm of the tread left, and you should change the tyre as soon as possible.

Remember that tyre treads worn down to less than 1½ mm have very poor road grip when driving in rain or snow.

To avoid unnecessary tyre wear

- Maintain the correct tyre pressure.
- Drive smoothly, avoid fast starts, hard cornering and heavy braking.
- Remember that tyre wear increases with speed.
- Do not change round the wheels unless necessary.
- Correct front wheel alignment is very important.
- Unbalanced wheels impair tyre economy and driving comfort.
- Do not scrape the tyres against the kerb when parking.

Flat spots

All tyres become warm during use. On cooling, when the vehicle is parked, the tyres have a tendency to distort slightly forming flat spots. These flat spots can cause vibrations similar to the vibrations caused by imbalanced wheels.

They do however disappear when the tyre warms up. The tendency to form flat spots depends on the type of cord used in the tyre. Remember in cold weather it takes longer for the tyre to warm up and consequently longer for the flat spot to disappear.

Snow tyres, studded tyres, snow chains

Studded tyres should be run-in 500–1000 km (300–600 miles) during which the car should be driven as smoothly as possible to give the studs the opportunity of bedding properly in the tyres. The car tyres should have the same rotational direction throughout the entire lifetime. In other words if you wish to change round the wheels make sure that the same wheels are always on the same side of the car.

Snow chains can be fitted on the rear wheels only and only provided they have fine links and do not project from the tyre so that they scrape the brake fittings or other components.

Volvo dealers can supply snow chains specially designed by Volvo.

Note! Do not exceed 60 km/h (40 mph) if snow chains are fitted.

On no account may **grip links** be fitted since the space between the brake components and the wheel rims is inadequate.

WARNING!

Special rims

The only rims approved by Volvo are those, which have been tested by Volvo and are available from your Volvo dealer.

Spoiler

The spoiler affects the flow of air to the front wheel brakes. Use only light alloy Volvo rims or steel rims (1980 models and later) with ventilated brake discs. If in doubt consult your Volvo dealer.

Inflation pressures

Check the tyre pressure each time you fill up with petrol. The correct tyre pressures are shown in the table on the right.

Incorrect tyre pressures have an adverse effect on the handling and ride of the vehicle and apart from this cause rapid tyre wear.

Inflation pressure increases as the tyres become hot. It is therefore recommended to set inflation pressures when the tyres are cold. If however you must inflate the tyres when hot set them 10–30 kPa (1.5–4.0 psi) more than the values shown in the table.

Cold inflation pressures in kPa and (psi)*

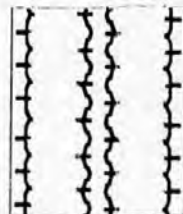
kPa: kilopascal, 100 kPa = 1 kp/cm² = 14 psi

Car model	Tyre	1–3 occupants		Full load	
		Front	Rear	Front	Rear
Saloon Estate	175 SR 14	190 (27)	190 (27)	190 (27)	230 (32)
	185 SR 14	190 (27)	210 (30)	200 (28)	280 (40)
"Special Spare"		280 (40)	280 (40)	280 (40)	280 (40)

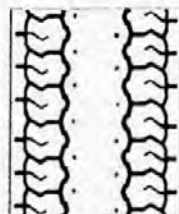
Set inflation pressure to 30 kPa (4 psi) more than values shown above if you intend to drive for long periods at high speeds (more than one hour at speeds in excess of 120 km/h = 75 mph) or if you are using winter tyres. This does not apply to special spare.

* Australia: increase 1 psi

Examples of different types of tyre wear



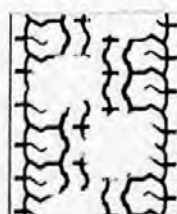
Underinflated



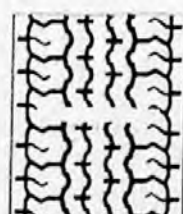
Overinflated



Faulty toe-in



Imbalance



Tread wear indicator,
normal wear

In case of emergency

Even if you maintain your car in good running order there is always the possibility that something might go wrong and prevent you from driving on e.g. a puncture, blown fuse or bulb...

Changing a wheel	55
Replacing bulbs	58
Replacing wipers	65
Troubleshooting	66
Replacing fuses	68

Changing wheels

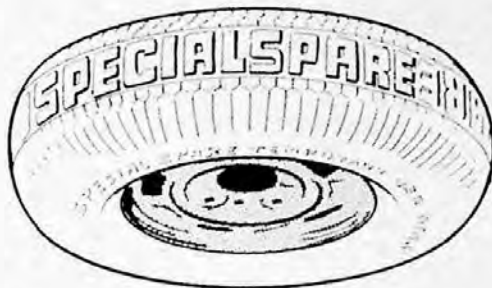
Always make a note of the position of the standard wheels before fitting winter tyres. (i.e. front left...)

Also, to help prevent wheel imbalance the wheels must be aligned with the stud on the brake disc. The stud fits into a hole which has been drilled between two of the wheels studs.



Stud fits into small hole in rim

Spare tyre



Special Spare (not UK)

The spare wheel supplied with your car is of the special spare type. On saloon models the tyre has a 6 ply rating and on estates, 8 ply. The inflation pressure of the tyre is 280 kPa (40 psi) irrespective of load and where the wheel is mounted on the car.

The special purpose spare wheel may be used only as a temporary replacement for a wheel with a flat tyre and must be replaced as soon as possible by a standard tyre.

Remember that the special spare used in combination with standard tyres, can have some effect on the handling of the car. We advise that you observe a maximum speed of 100 km/h (60 mph) although the tyre itself is quite suitable for higher speeds.

Changing wheels



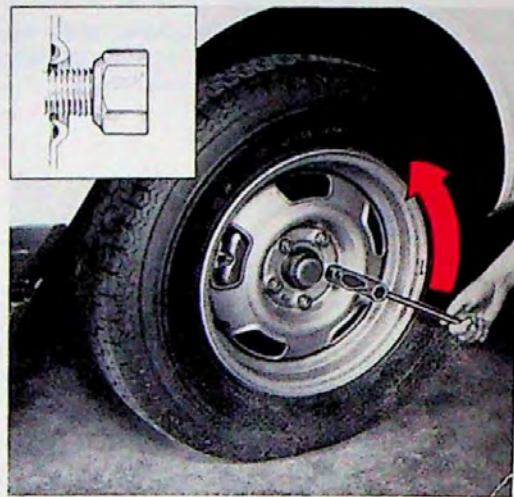
Spare tyre Jack

The spare tyre, jack and tool kit are stowed in the luggage compartment.
Estate models: remove the jack by unscrewing the centre bolt a few turns.



Ease off emblem

- On wheels with emblems:
Ease off the emblem with a screwdriver (supplied with the tool kit).
Next lift off the wheel cap with your hands.

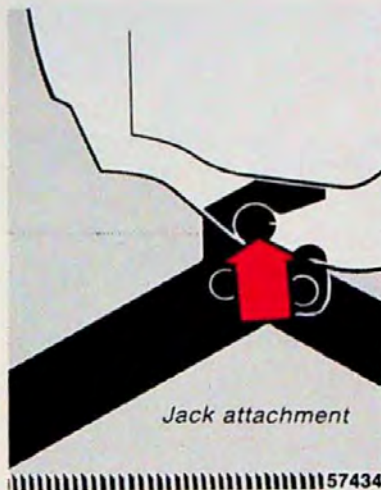


Unscrew wheel nuts

- Unscrew the wheel nuts 1/2–1 turn (anti-clockwise).

Removal

- Apply the parking brake and engage first or reverse gear (position P—auto).
Place chocks in front of the wheels.



Jack attachment

57434

Jack must be firmly lodged
in body



Stand next to car body

- Place the jack attachment next to the wheel to be raised. Crank down the foot of the jack until it rests on the ground. **Make sure that the arm is lodged well in the attachment**, see fig.
- Raise the car with the jack to lift the wheel clear of the ground.
- Remove the wheel nuts and lift off the wheel. Take care not to damage the threads on the studs.

WARNING!

- **Never crawl under the car when it is raised.**
- The jack should stand on firm level ground.
- The jack supplied with the car should only be used for changing wheels. Axle stands or a garage jack must be used in all other cases.
- Apply the parking brake, engage first or reverse gear.
- Place chocks in front of and behind the wheels still on the ground. Use thick wooden blocks or large stones.
- The jack should be kept well greased.

Fitting

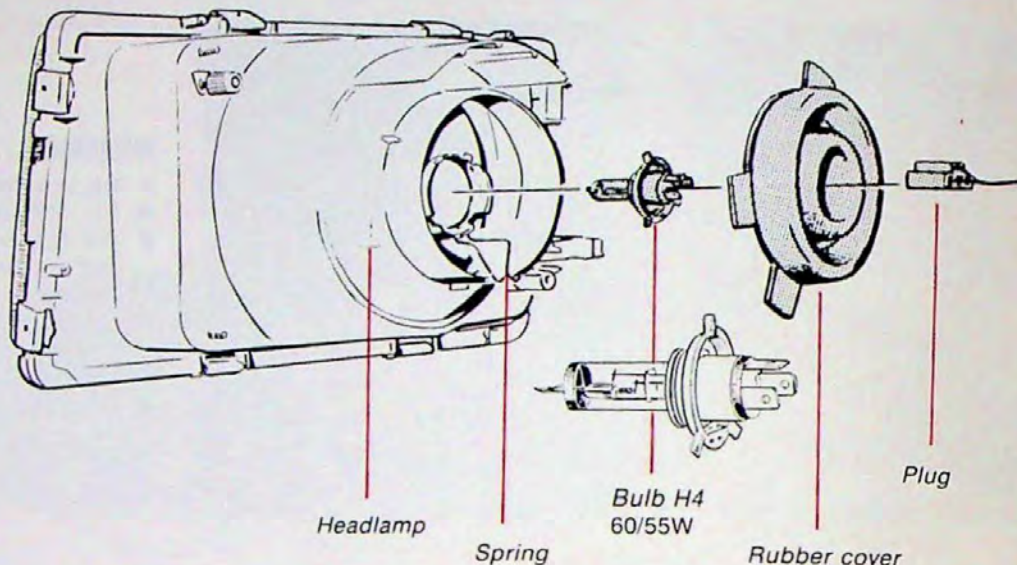
- Clean the mating surfaces on the wheel and hub.
- Mount the wheel, noting the position of the small guide stud on the brake disc. Refit the nuts with the tapered ends facing the wheel, see right hand illustration on previous page.
- Lower the jack and fully retighten the nuts progressively in diagonal sequence. Tightening torque 100–130 Nm (10–13 kpm).
- Refit the hub cap and emblem. Some models are equipped with hub caps which cover the whole rim. The symbol on the back of the cap should point towards the air valve.

Changing headlamp bulbs



Plug

Rubber cover



Headlamp

Spring

Bulb H4
60/55W

Rubber cover

Plug

Both headlamp bulbs are accessible from the engine compartment. **Do not handle the glass envelope of the bulb. If the glass is touched and heated, grease will be baked onto the surface and the fumes given off will quickly damage the reflector.**

To change a bulb:

- Switch off the headlamps.
- Open the bonnet.
- Withdraw the headlamp plug.
- Remove the rubber cover.
- Press in the spring and ease it off.
- Lift out the bulb.

● Insert the new bulb as shown above. There are three guide lugs on the bulb holder. The lugs are asymmetrically located to ensure that the bulb is properly fitted.

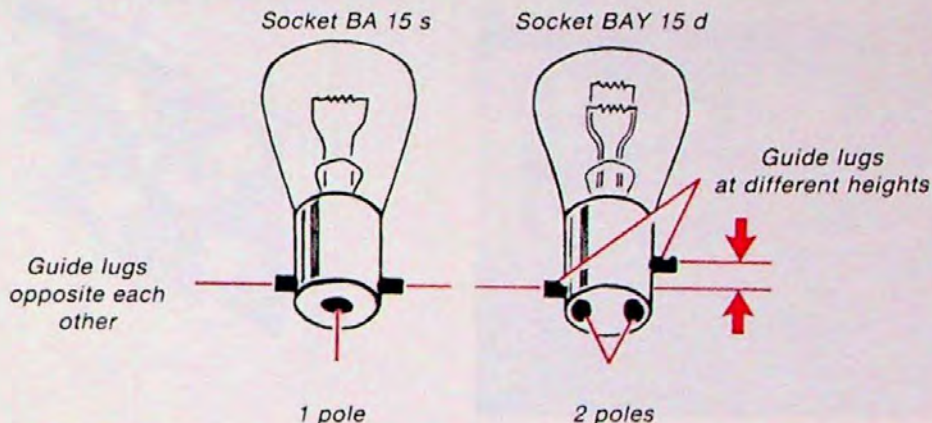
Replacing bulbs at front of vehicle



Bulb location

Note!

Two types of bulbs are in use.



Unscrew the **three** Phillips screws and lift off the lens.

Press bulb gently into holder, turn anti-clockwise and take out.

Place new bulb in holder, press and turn clockwise.

Make sure that the rubber seal is properly positioned when refitting the lens.

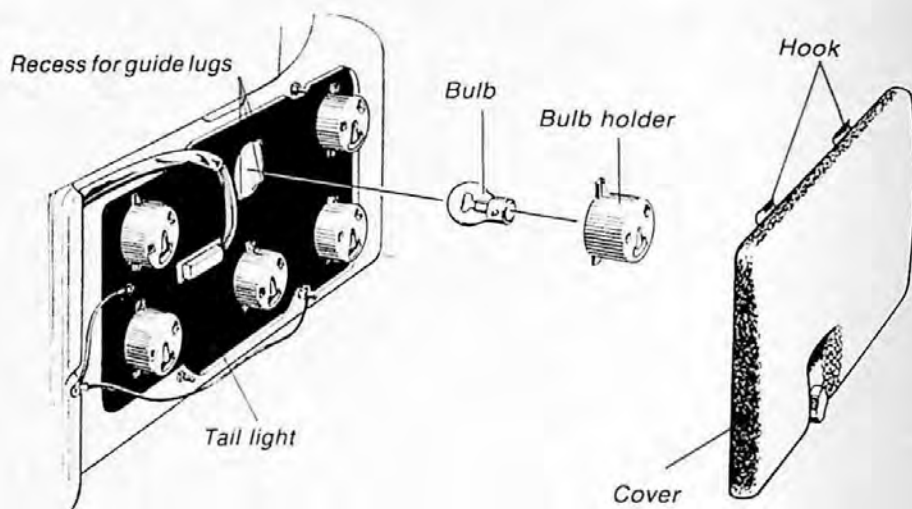
The guide lugs on the twin-pole bulb are at different heights, and it is only possible to fit the bulb in one way. Try at first to turn the bulb gently a few millimeters. **Do not use force.** If this does not work, take out the bulb and turn it half a turn and try again.

Bulb	Wattage	Socket
1 Parking light day running light	21/5 W	BAY 15 d
2 Directions indicators	21 W	BA 15 s

Replacing bulbs at rear of vehicle



Bulb location, right side



All the tail light bulbs are accessible from the boot.

To remove:

- Turn off the lights and remove the starting key.
- Unscrew and lift off the cover in the boot. The top of the cover is hinged.
- Turn the bulb holder 1 cm anti-clockwise and take out. Gently press the bulb into the holder, turn a few mm anticlockwise and take out.
- Fit a new bulb in the holder and reinstall the bulb holder in the tail light cluster.

One of the guide lugs on the bulb holder is slightly wider than the other two and this lug fits into the widest recess.

- Turn the bulb holder clockwise.
- Check that the bulb lights. Refit the cover.

Bulb (right side)

- 1 Brake light
- 2 Reversing light
- 3 Direction indicator
- 4 Tail light
- 5 Tail light
- 6 Fog light*

Wattage

- 21 W
21 W
21 W
5 W
5 W
21 W

Socket

- BA 15 s
BA 15 s
BA 15 s
BA 15 s
BA 15 s
BA 15 s

*Certain markets 5 Reflector
6 Tail light, 5 W

Replacing bulbs at rear of vehicle, estate models

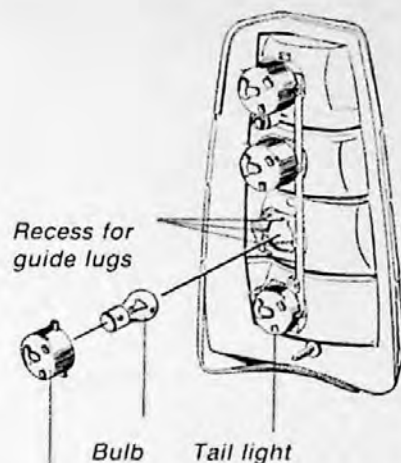


Bulb location

All bulbs in the tail light cluster are accessible from the cargo space:

- Turn off the lights and remove the starting key.
- **Left side:** Unclip the side cover and lift out the spare tyre.
- **Right side:** Lift off the floor cover. Unclip and move the side panel to one side.
- Turn the bulb holder 1 cm anticlockwise and take out. Gently press the bulb into the holder, turn a few mm anticlockwise and take out.
- Fit a new bulb in the holder and reinstall the bulb holder in the tail light cluster.

One of the guide lugs on the bulb holder is slightly wider than the other two and this lug fits into the widest recess.



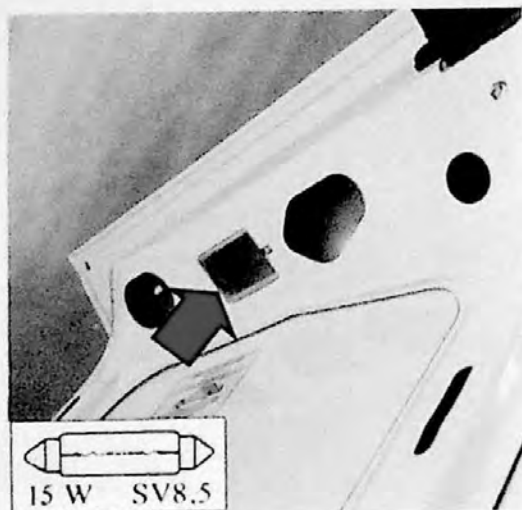
Bulb holder

- Turn the bulb holder clockwise.
- Check that the bulb lights. Refit the cover.

Bulb	Wattage	Socket
1 Fog light*	21 W	BA 15 s
2 Reversing light	21 W	BA 15 s
3 Direction indicator	21 W	BA 15 s
4 Brake light and parking light (tail light)	21/5 W	BAY 15 d

* Certain markets : 1 Brake light, 21 W, BA 15 s
2 Reversing light, 21 W, BA 15 s
3 Direction indicator, 21 W, BA 15 s
4 Parking light, 5 W, BA 15 s

Boot light



Remove screw first

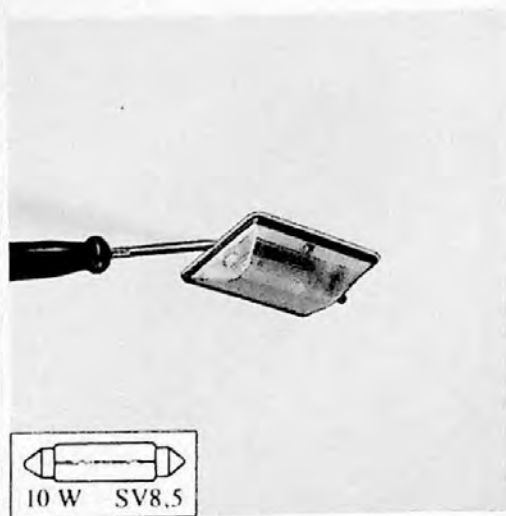
To replace bulb, remove the screw securing the lamp and lift the lamp outwards towards the right.

Fit new bulb.

Place guide lugs and left side of lamp in body and press right side into position.

Refit screw.

Courtesy light



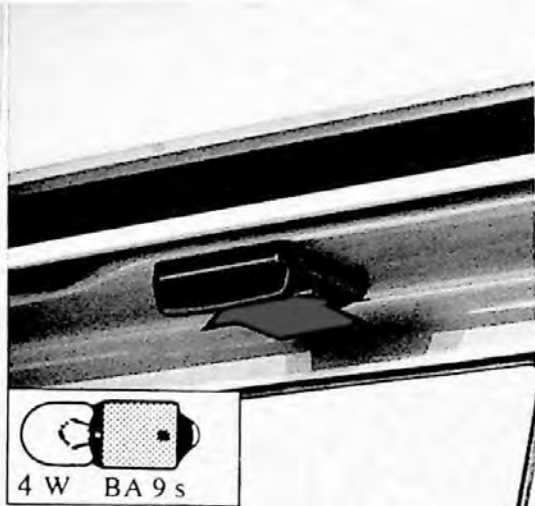
Twist screwdriver

To remove lamp, depress the spring clip with a screwdriver, twist and lift out the housing. Take bulb out and fit a new one.

Instrument lighting

The bulbs behind the instrument panel are difficult to remove. Replacement is best left to your Volvo dealer.

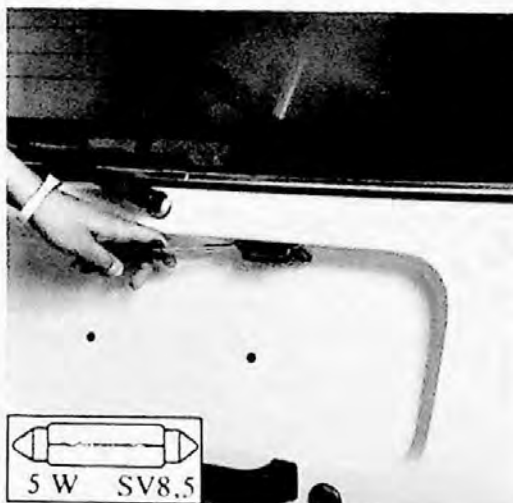
Number plate light



Slide to rear

Remove the lamp housing by sliding it to the rear until the front end is released from the boot. Take the bulb out and fit a new one. To fit: Place front end of housing in body and press rear upwards.

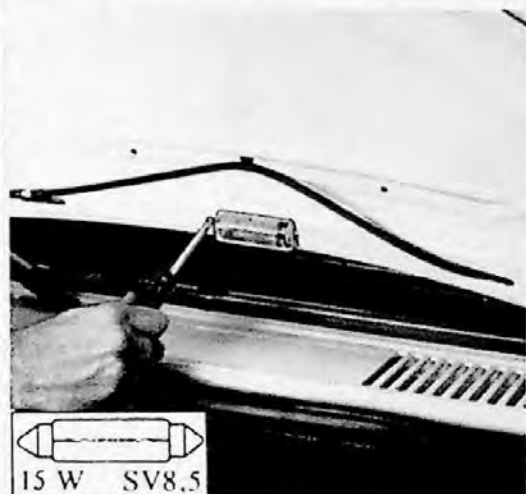
Number plate light, estate



Depress spring clamp

Depress spring clamp at side of lamp housing and lift out housing. Take out old bulb and fit a new one.

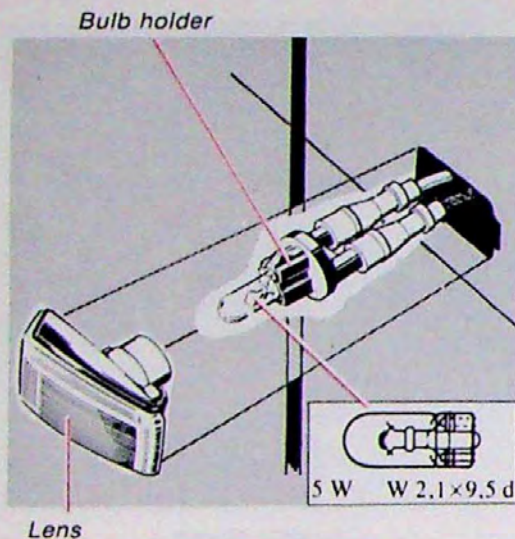
Engine compartment lighting



Loosen screws

Turn off lighting. Loosen screws as shown and remove lamp housing. Replace bulb and replace lens.

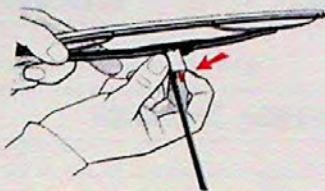
Side Indicator lights



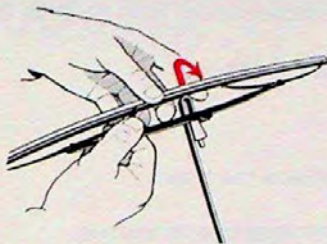
The bulb is accessible after the lens is removed.

To remove: Slide the lens forward and withdraw the rear edge. Pull out the bulb holder but do not disconnect the wiring. Take out the bulb and fit a new one.

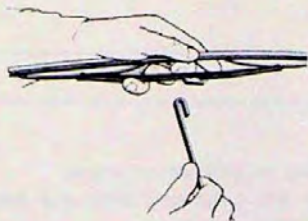
Replacing wiper blades



Lift off the wiper arm from the windscreen and hold blade at right angles to arm. Then crimp the ends of the plastic clip at the back of the arm.



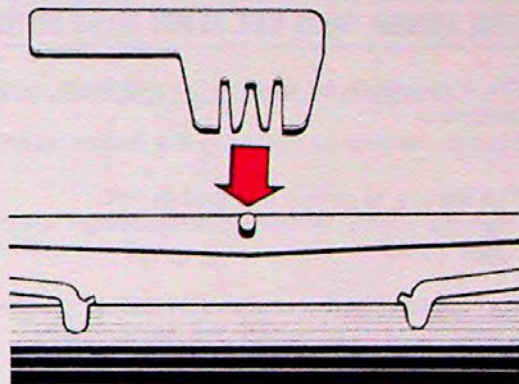
Slide the wiper blade along the arm to release it from the hook.



Fit new blade in reverse order to removing and make sure that it is properly attached to the wiper arm.

For reasons of road safety, you should change the windscreen wiper blades as soon as they start to leave marks on the windscreen or fail to wipe efficiently and cleanly.

Replacing headlamp wiper blades



Pull out the wiper arm from its pivot point and withdraw the blade.

Click the new blade into position, making sure that the longer of the two support arms points towards the radiator grille.

Troubleshooting

This section contains information which can be of help in the event of a breakdown. Only those faults which can be rectified with the vehicle's tool kit are listed.

THE ENGINE DOES NOT START OR IS DIFFICULT TO START

The instructions for starting the engine of pages 40–41 have not been followed.

Start the engine by following the instructions.

The battery is poorly charged or flat.

Start the vehicle by towing or by using the auxiliary battery. Refer to pages 44–45.

Poor contact in the engine's electrical system.

Check all leads to battery and starter motor.

Fuel does not reach the engine.

Check that there is fuel in the tank.

Check that none of the hoses in the fuel system are loose or kinked.

Check that the fuse for the fuel injection solenoid valve. Fuse No. 13 see page 68.

MISFIRING AND ERRATIC ENGINE OPERATION

Blocked fuel filter.

Drain the water from the fuel filter or replace the filter (use diesel fuel intended for use in below zero temperatures) refer to page 80–81.

Fuel injection solenoid valve fuse faulty.

Check/replace fuse No. 13.

Water or dirt in fuel.

Drain water from fuel filter or replace the filter.

Wax deposits in fuel filter (below zero temperatures)

Park vehicle in warm garage, replace fuel filter and add a fuel line deicer to the fuel system.

MOTOR DOES NOT STOP

Shut off valve seized.

Rev-up engine and try to turn off the engine once more.

If this fails to work, engage 3rd or 4th gear and stall the engine by depressing the brake and releasing the clutch.

ENGINE OVERHEATS

Radiator hose cracked or leaking.

Check and replace if necessary.

Insufficient coolant.

Check and fill coolant. Refer to page 89.

Ifan belt frayed or belt tension incorrect.

Replace or adjust tension.

TYRE IMBALANCE OR VIBRATIONS DURING DRIVING

Wheels out of balance.

Have the wheels re-balanced.

HEAVY STEERING

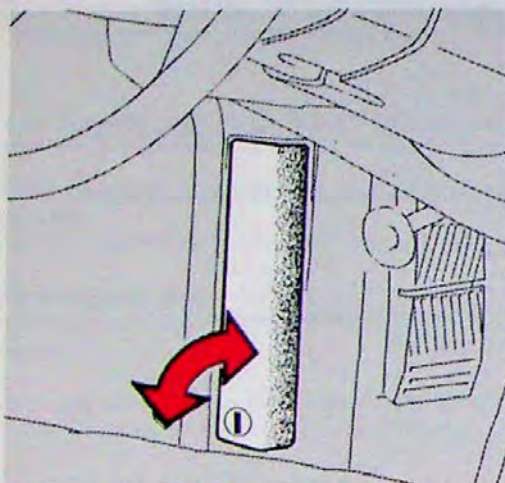
Incorrect tyre pressure.

Check and adjust.

Oil level in power-assisted steering pump too low.

Check and fill oil. Refer to page 83.

Fuse replacement



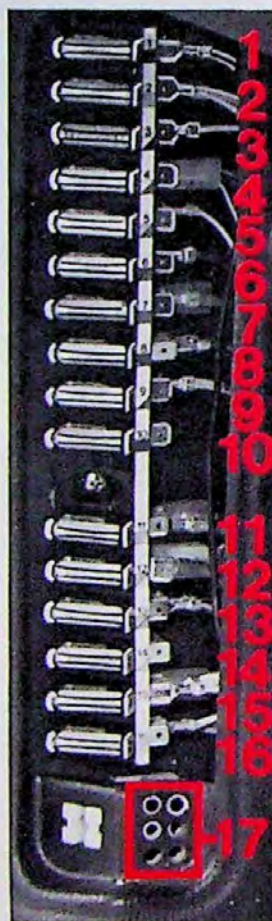
Fuse box cover

The fuses are located in a fuse box in the left foot well next to the door.

To remove the cover turn the screw a quarter of a turn.

When replacing fuses make sure that the right amperage is used. Never use a fuse with a higher amperage. If fuses repeatedly blow then have the electrical system checked by your dealer.

The headlamps are not wired via a fuse.



	Amperage
1 Cigar lighter	8 A
Tailgate wash/wipe	
Power door mirrors*	
Radio	
2 Windscreen wash/wipe	16 A
Headlamp wiper	
Horn	
3 Heater fan	25 A
4 Spare	
5 Day running lights*	8 A
6 Spare	
7 Brake light	8 A
8 Courtesy light, glove compartment light	8 A
Boot light, engine compartment light	
Quartz clock	
Central locking*	
Electrically operated antenna*	
9 Hazard warning lights	8 A
10 Electric windows*	16 A
11 Heated rear windows	16 A
Heated front seats	
12 Reversing light	8 A
Relay, window lifts	
Air conditioning*	
13 Relay, electrical cooling fan	8 A
Direction indicator	
Solenoid (fuel shut off)	
Time delay relay, glow plugs	
Seat belt reminder	
14 Rear fog light	8 A
15 Left parking light	8 A
Number plate light	
16 Right parking light	8 A
Instrument and panel lighting	
17 Space for spare fuses	

* Certain models/markets

Car care

Car care does not only involve maintaining the appearance of your car. It involves protecting the car exterior from the effects of air pollution, rain and mud. The rustproofing compound under the car should be checked regularly and if necessary damaged areas covered. The paintwork should also be touched-up immediately if damaged to prevent rust formation.

Rustproofing	70
Paintwork damage	72
Washing the car	74
Cleaning the upholstery	76

Rustproofing, inspection and touching-up

Your Volvo was carefully and thoroughly rustproofed at the factory. The underbody and wheelarches were sprayed with a thick, durable rustproofing compound and the beams, internal cavities and end sections were sprayed with a low viscous, penetrating rustproofing agent.

As a car owner what can you do to maintain the rustproofing?

There are two very effective methods of maintaining this protection:

- Keep your car clean. Clean the underbody, wheelarches and the edges of the wings using water at high pressure.
- Inspect the rustproofing and if necessary touch it up.

The invisible rustproofing

The invisible rustproofing (used for beams, internal cavities and end sections) **must be treated after not more than 3 years and thereafter every third year.**

Bear in mind, if good results are to be obtained these sections must be treated with a fine spray of rustproofing compound at a workshop with the correct spraying equipment. Consult your local dealer.

The visible rustproofing

You should check the visible (external) rustproofing at regular intervals. If it is necessary to touch-up the rustproofing, this should be done immediately to prevent moisture ingress. Consult your Volvo dealer.

If you wish to do the work yourself wash and dry the car and make sure that the surface to be repaired is thoroughly dry and free from all traces of dirt. Use spray-on or brush-on rustproofing compounds.

There are two different types of rustproofing compounds:

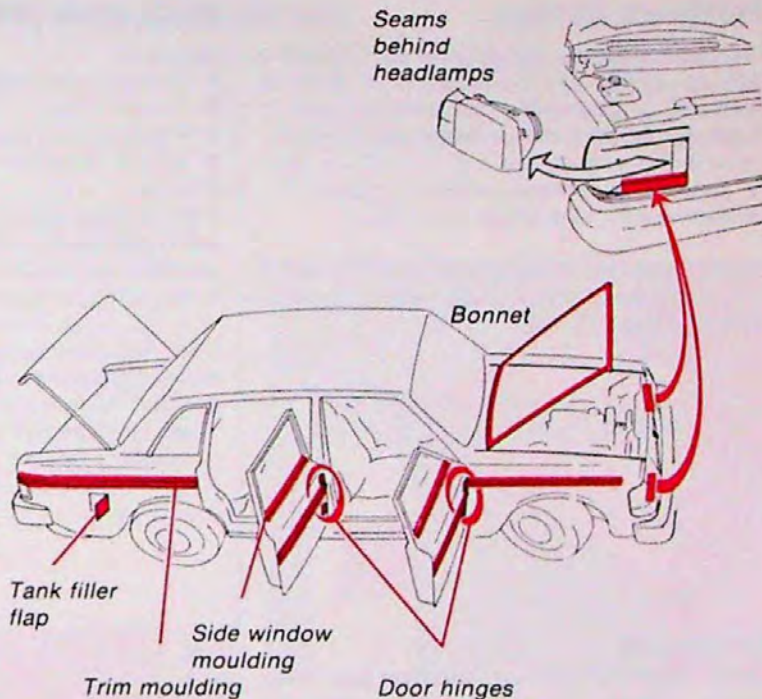
- a) Thin transparent, for visible sections (class II)
- b) Thick, for sections on the underbody and wheel housings which experience most wear (class V).

Parts of the car which may need to be touched-up and the rustproofing compound recommended are:

- visible welded seams and panel seams (type a)
- underbody and wheel housings (type b)
- bonnet (type a)
- door hinges (type a)
- bonnet hinges and locks (type b)

The engine compartment has been sprayed with a wax-based, transparent rustproofing compound which is resistant to normal (non-aromatic) engine cleaners.

If, however, you use an engine cleaner which contains solvents such as white spirits or turpentine it will be necessary to apply a suitable wax-based rustproofing compound to re-obtain the original protection.



Paintwork damage

Paintwork damage requires immediate attention to avoid the formation of rust. It is therefore a good idea to make a habit of regularly checking the paintwork and to touch-up where necessary e.g.:

- stone chips and scratches
- flaking e.g. wing edges and sills.

When touching-up the paintwork of the car, it should be clean and dry and have a temperature in excess of 15°C.

Colour code

When ordering touch-up paint from your Volvo dealer, use the colour code number shown on the type designation plate on the right hand wheelarch in the engine compartment.

Colour code

VOLVO		USA IN
	kg	
	kg	
1	kg	
2	kg	

Minor stone chips and scratches

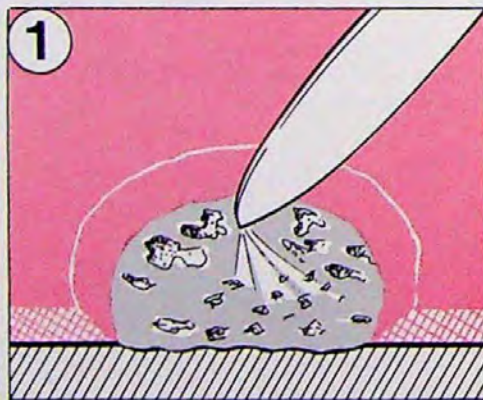
Materials

- Rust remover: tube or tin
- Primer — tin
- Paint — tin — touch-up paint
- A knife or similar
- Brush

If the damage has not penetrated down to the metal and there is still a layer of undamaged enamel, scour away any dirt and apply the paint to the damaged spot.

If the damage has penetrated down to the metal, proceed as follows:

- Grind the damaged surface clean and then bevel off the paint edges with for instance a penknife (see fig. 1).



Scrape surface clean

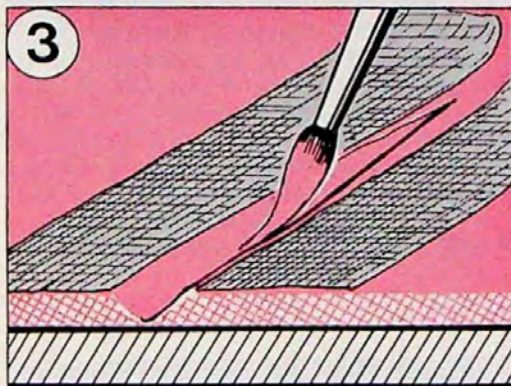
- Apply rust remover (protect eyes and skin), wait a few minutes and then rinse well with water.
- Stir the primer well and apply to the damaged area with a fine brush or matchstick



Apply primer

- When the primer has dried, apply a surface coat with a brush. Make sure that the paint has been well stirred and apply it thinly in several layers, allowing it to dry between each application.

- For **scratches** proceed as already described but it may be advisable to use masking tape to protect the undamaged paintwork.



Mask surrounding surfaces

- Wait a day or two before applying the finishing coat. Use a soft rag to apply the grinding paste and polish off any blemishes. Apply the paste sparingly.

Touching-up damaged wing edges and sills

Materials

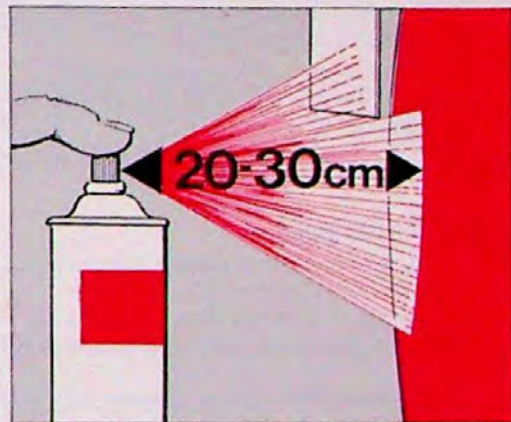
- Rust remover: tube or tin
- Primer: aerosol spray
- Paint: aerosol spray
- Abrasive paper (grade 150–300)
- Thinner

When large surfaces have to be repainted, suitably mask the surrounding area with tape or paper.

Remove this masking immediately the final coat has been sprayed on, before the paint dries.

- 1 Remove flaked paint.
- 2 Sandpaper the damaged surface and wash clean with thinner.
- 3 Apply rust remover (protect eyes and skin), wait several minutes and then rinse well with water. Wipe dry.

- 4 Shake the aerosol spray for at least 1 minute. Spray on the primer. Move the spray can slowly and regularly from side to side over the spot, about 20–30 cm (8–12 inches) from the surface. Suitably mask the surrounding area.



- 5 When the primer has dried, apply the surface enamel in the same way. Spray on several times and allow the paint to dry a few minutes between each application.

Washing the car

The car should be washed as frequently as possible, particularly during the winter when road salt and moisture can easily start corrosion.

The car can be washed as follows:

- Hose off the dirt underneath the body (wheelarches, wing edges etc.)
- Hose down the entire car to soften up any dirt etc.
- If the car is exceptionally dirty, first wash it with a cold degreasing agent.
- Wash with a sponge (with or without detergent) using plenty of water. Use preferably tepid but not hot water.
- Hose down with cold water.
- Dry with a clean, soft chamois leather.
- Electrical aerials (optional equipment) should be lubricated sparingly with a rag coated in oil.
- Use a nail brush and luke-warm water containing washing-up liquid, to clean wiper blades.

Suitable detergents

Car wash detergent or a dessert spoon of ordinary washing-up liquid diluted with 10 litres of water.

Spots on trim mouldings around windows, wings and doors can be removed with a suitable polish (never use abrasive cutting paste or steel wool).

Other chromed parts can be cleaned with a chrome restorer.

Bird droppings

Remove from paintwork as soon as possible.

Otherwise the finish will be irreparably damaged.

CAUTION!

When the car is driven away immediately after washing, gently apply the brakes several times as the car is moving slowly in order to dry off the brakes.

When washing the car, remember to remove dirt from the drain holes in the doors and sills.



Drain holes

Automatic car wash — simple and quick, but:

An automatic wash is a simple and quick way to clean your car, but it is worth remembering that it can never be as thorough as when you yourself go over the car with sponge and water. Keeping the underbody clean is most important, especially in the wintertime. Not all automatic car washes have facilities for washing the underbody.

Before driving into an automatic wash, make sure that outside rear mirrors, auxiliary lamps, etc., are secure, otherwise there is risk of the machine dislodging them. You should also remove or retract the aerial. Also position the headlamp wiper blades below the lower stop to prevent the machine brushes from damaging the wiper mechanism. (Do not forget to return the wiper arms to their original position.)

Use only automatic washers with clean brushes.

Wash the car by hand during the first few months because the paint will not have hardened sufficiently.

An automatic wash can never do as good a job as a manual wash.

Polishing and waxing

The car should be polished and waxed when the surface finish begins to lose its lustre.

Normally it is not necessary to polish the car during the first year after delivery, however, waxing may be beneficial.

Wash and dry the car thoroughly before polishing and/or waxing. Remove tar spots with white spirit or a tar remover. Larger spots may require a fine rubbing compound.

First polish with the polishing agent and then wax, either with a fluid or solid wax.

Several commercially available products contain both polish and wax. Read the instructions carefully.

Volvo dealers supply genuine Volvo polishes and waxes.

A wide range of polymer based car waxes can be purchased today. The waxes are easy to use and produce a long-lasting high gloss finish which protects the bodywork against oxidation, road dirt and fading.

Cleaning the upholstery

Generally speaking, the upholstery and trim can be cleaned with soapy water or a detergent.

Avoid using hard brushes.

Remove stains as soon as possible before they have dried.

Stains should be dissolved and not removed by rubbing or brushing.

Stain removers

Ammonia solution: 1 tsp ammonia (approx. 90%) plus 3 dl water.

Ammonia-soap solution: Mix the above ammonia solution with 1 dl soapy water.

Perchloroethylene-petrol: (Chemically pure petrol): Do not use this solution on wet materials. Allow the solution to evaporate before washing with water.

Methylated spirits

White spirit

Removing stains from fabrics and floor mats

Remove stains as soon as possible.

Scrape off the dirt with a blunt knife and remove surplus dirt with a vacuum cleaner.

Apply a suitable solvent with a clean white cloth. Remove the solvent and dirt with cotton wool.

Bear in mind

- Take extra care when removing stains such as ink, lipstick, since the colouring can spread.
- Use solvents sparingly. Too much solvent can damage the seat padding.
- Start from the outside of the stain and work towards the centre.

Cleaning the seat belts

Use lukewarm water and a mild detergent only.

Removing stains from leather and vinyl

Never scrub or rub a stain.

Never use concentrated stain removers.

Careful use of white spirit may help to remove difficult stains. Wash afterwards with soapy water followed by lukewarm water.

Further information on cleaning the upholstery is available from your Volvo dealer.

WARNING!

Perchloroethylene fumes are poisonous. Ensure that the car is well ventilated when using this cleaning agent.

Perchloroethylene, methylated spirit and white spirit are inflammable solvents.

Service – an investment!

An investment which will pay dividends in the form of reliability, durability and also when the time comes to change to a newer car.

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Volvo Service

Pre-delivery service

Your Volvo underwent a thorough quality check and was carefully test run and adjusted before leaving the factory. Prior to being handed over to you, it was subjected to a comprehensive **pre-delivery service** by your Volvo dealer in order to ensure that it fully meets Volvo standards.

Warranty service

Your Volvo will be given a warranty service by your Volvo dealer on submission of the service coupon in the service booklet.

The Warranty Service Inspection should be carried out between 1,000 and 2,000 kilometres. There is no charge to you for the warranty service except for oil filter and oils.

The Volvo Service Programme

In order to benefit continually from the high level of safety and reliability that your Volvo can provide, you should follow the Volvo Service Programme provided in the Service booklet.

We strongly recommend that the work listed in these service schedules should be entrusted to your Volvo dealer who has the expertise, technical information and equipment to ensure that the work is done to the high level of quality that you, as a Volvo owner, will expect. You can also rest assured that your Volvo dealer will use only genuine Volvo replacement parts which are of the same high quality as the parts used during the original manufacture of your Volvo.

The Volvo Service Programme has been designed for Volvo cars being used under **average conditions**. It consists of a **minor service** every six months, or at a maximum of 10,000 km with high mileage use, and a **major service** once a year, or at a maximum of 20,000 km. If you feel that the uses to which you put your Volvo are not average, consult your Volvo dealer; he will be happy to advise you of any special maintenance that may be required.

Bear in mind that ...

- regular service is necessary to keep your car in good order from both the **reliability** and the traffic **safety aspects**
- neglecting a service can result in your car **emitting exhaust gases** with an unacceptably high level of substances harmful to the environment
- servicing is best done by a **Volvo workshop**, since it has trained personnel familiar with the products and has specialised tools and reliable service literature from Volvo
- your **service booklet** should be **stamped** after each service. A "wellstamped" service booklet is an indication that the car has been well cared for and raises its market value.

Important

If our warranty is to apply we make the following absolute conditions:
that the above-mentioned warranty inspection is carried out at approximately the correct mileage
that the car maintained is carried out in accordance with the instructions in this manual
and that both service inspections and repairs are done by an authorized Volvo workshop.

Service manuals

If you are technically interested and require more detailed information than is available in this booklet we refer you to our Service manuals which are available from your Volvo dealer or from us here at Volvo. The manuals contain precise information about repairs and adjustments as well as the design and function of the components in your car. They are in fact the same manuals that are used by Volvo personnel.

The following precautions must be observed when working on the vehicle.

Fuel injection system

Utmost cleanliness must be observed in connection with any work on the fuel injection system. All repair work should be carried out by an authorized Volvo workshop.

Jacking up the car

Workshop jack

Jack up the car at one of the four jacking points. A trolley jack can also be used to jack up the car beneath the final drive casing or between the front wheels beneath the front axle member (remove the engine splashguard first).

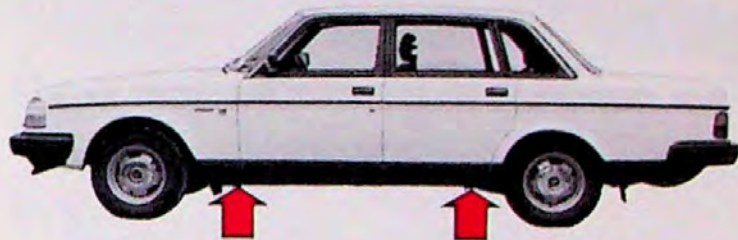
Make certain that the jack is securely positioned so that the car cannot slide from it.

Never place the jack under one of the steering(tie) rods or the engine splashguard.

Battery

Be sure that the battery cables are correctly connected and well tightened.

- Never disconnect a battery when the engine is running, for example, when changing the battery.
- The battery should be disconnected when a boost charger is used. The boost charger can be used as an aid in starting the car but should be disconnected when the leads are replaced or removed.

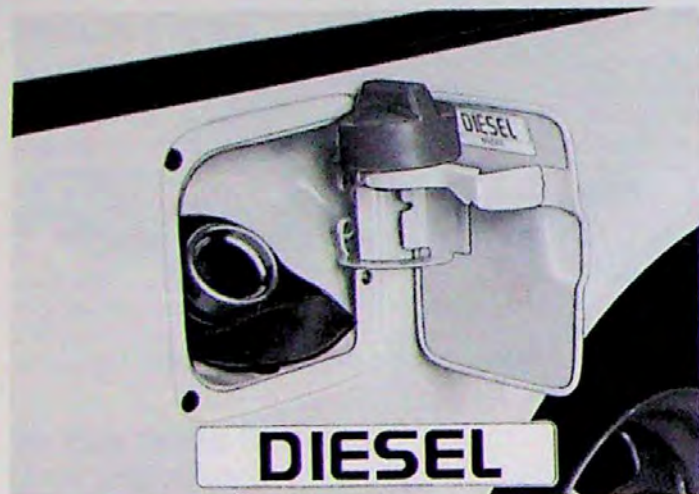


Jack attachment points (two on each side)

WARNING

- The jack should stand on firm level ground.
- Never crawl under the car when it is raised.
- The jack supplied with the car should only be used for changing wheels. Axle stands or a garage jack must be used in all other cases.
- Apply the parking brake, engage first or reverse gear (position P-auto).
- Place chocks in front of and behind the wheels still on the ground. Use thick wooden blocks or large stones.
- The jack should be kept well greased.

Fuel system



Utmost cleanliness must be observed with diesel engines. Always use diesel fuels supplied by well-known oil companies. Never use diesel fuels of doubtful quality.

If temperatures fall below zero in winter it is recommended to use the special winter diesel fuels supplied by the large oil companies. These fuels flow more easily than standard diesel fuels thus reducing the risk of wax formation in the fuel system. If such fuels are not available it is possible to add paraffin oil to the tank. Do not add more than 40% otherwise lubricating properties of diesel will be affected. (Note that in the United Kingdom the use of paraffin as an additive is prohibited by law.) Moreover, always keep the tank wellfilled to counteract the formation of condensation on the inside walls.

If you refuel your vehicle at a service station make sure that the area around the tank filler tube is clean as well as the cap. Alternatively, if you use your own works tank, the diesel fuel should always be filtered before refueling.

Note

The anti-tamper seals on the injection pump must not be broken by unauthorized mechanics, otherwise the guarantee becomes null and void.

If you run out of fuel

It is not necessary to take any special steps after refilling an empty fuel tank. Unlike some diesels the injection pump is automatically bled, thus it is not necessary to bleed the system manually.

It is however necessary to crank the engine longer than usual to allow time for the diesel fuel to reach the injection pump and injectors.

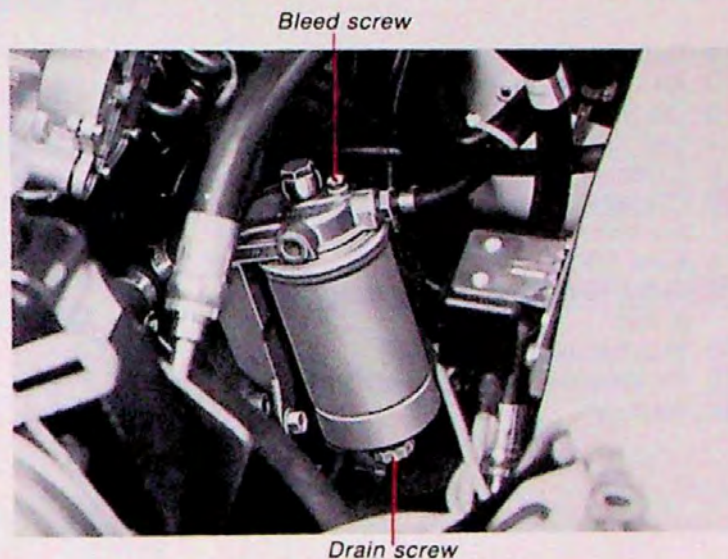
Draining water from the fuel filter

Water which has condensed on the walls of the fuel tank is separated from the fuel by the fuel filter in the engine compartment.

If this water reaches the engine via the injection pump, it can cause a malfunction in the system. The water in the fuel filter must, therefore, be drained at each service.

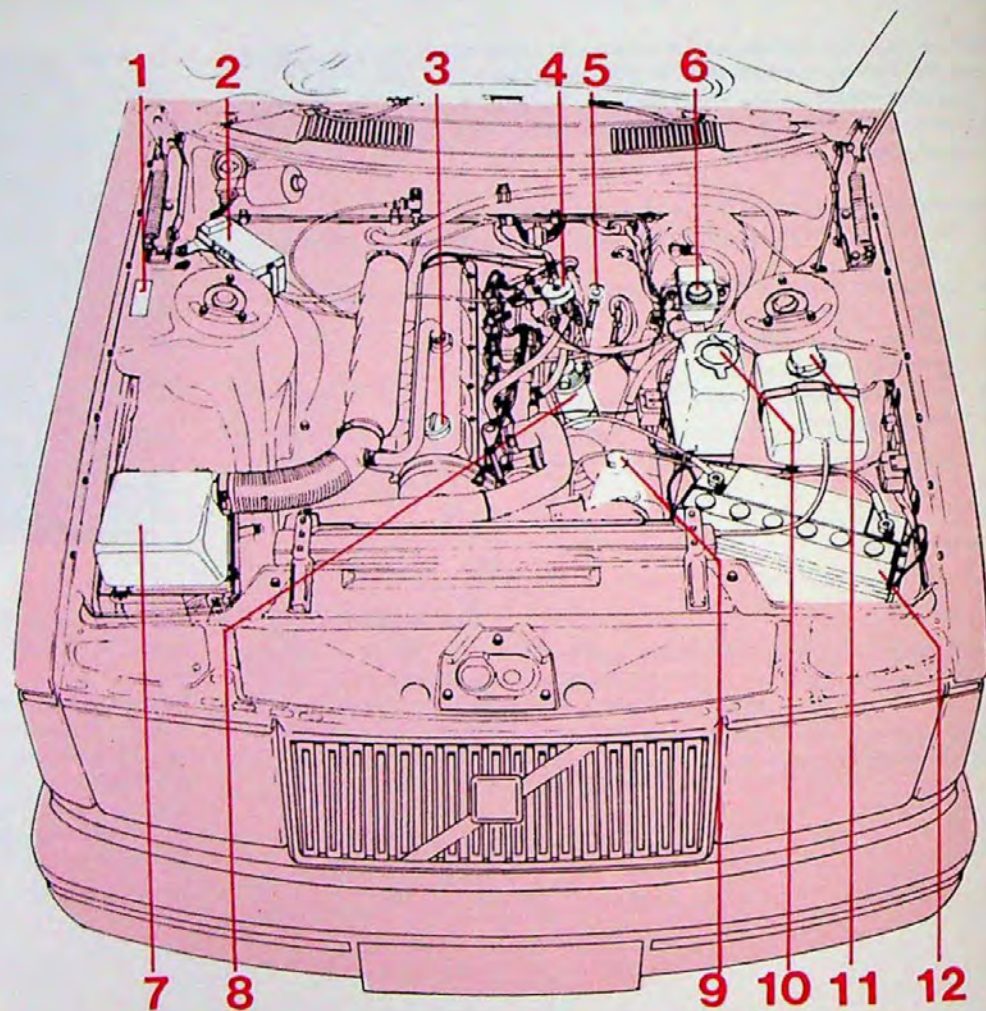
Draining is very simple. Proceed as follows:

- Place a tray or similar container under the drain screw in the bottom of the filter.
- Loosen the bleed screw a couple of turns with a screwdriver.
- Loosen the drain screw by hand.
- Drain until only fuel runs out.
- Tighten the drain screw.
- Tighten the bleed screw with a screwdriver.
- Remove the tray.

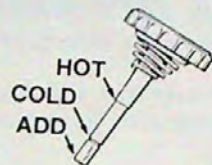


Engine

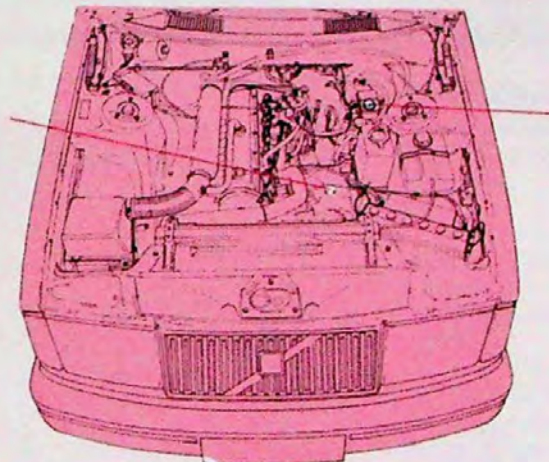
- 1 Data plate
- 2 Kilometer counter (Sweden only)
- 3 Oil filler cap
- 4 Injection pump
- 5 Dipstick, engine oil
- 6 Brake fluid reservoir
- 7 Air filter
- 8 Fuel filter
- 9 Fluid reservoir, power steering pump
- 10 Washer reservoir
- 11 Expansion tank, coolant
- 12 Battery



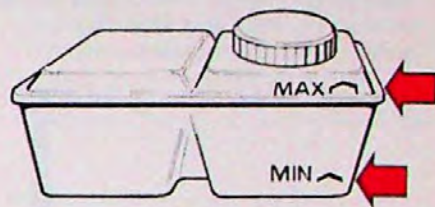
Power-assisted steering



Dipstick,
power steering pump



Brake fluid



Brake fluid reservoir

The dipstick has different graduation marks for hot and cold fluid. When cold the fluid must not be above the **COLD** mark, and similarly, when hot it must not be above the **HOT** mark.

Top up with ATF if the level drops to below the **ADD** mark.

Fluid quality: ATF*

Fluid capacity: 0.7 litres (1.2 Imp. pints)

Fluid-level check: Every 10 000 km (6 000 miles)

Fluid change: No change needed.

* ATF = Automatic transmission fluid.

Fluid level should be between the MIN and MAX marks.

Fluid type: Brake fluid DOT 4 (or SAE J 1703)

Fluid level check: When refuelling.

Fluid change: Every second year.

Brake fluid should be changed every year if the brakes are used frequently and severely. The fluid change is not included in any of the services but should be done in conjunction with a service at an authorized Volvo workshop.

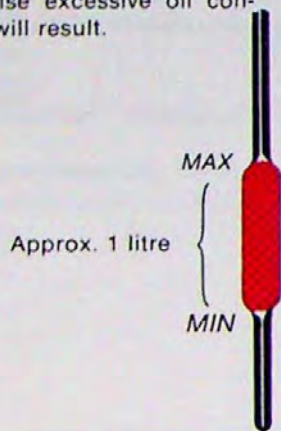
Topping up

Top up with the same grade of oil as is in the engine, see next page.

Oil change: Including oil filter = 7 litres

Excluding oil filter = 6.2 litres

After an oil change, the oil level will lie between the two marks on the dipstick i.e. MAX and MIN. This is quite normal. Do not add too much oil otherwise excessive oil consumption will result.

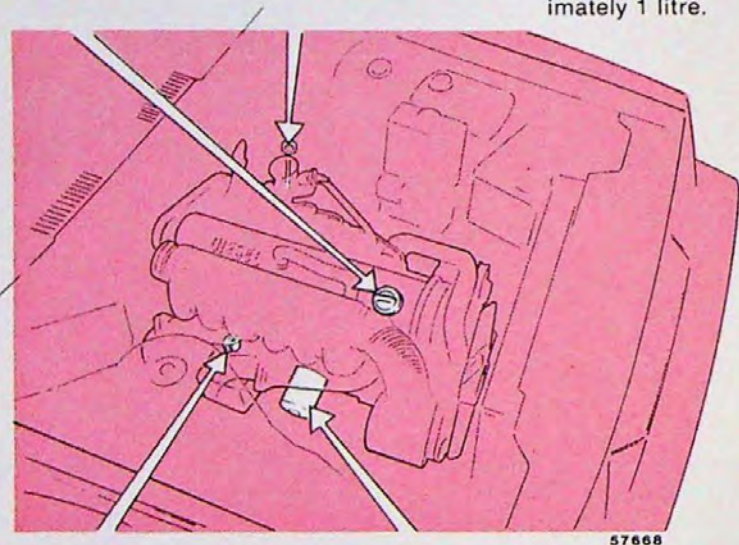


Check the oil level each time you refuel

Ensure that the vehicle is standing on a level surface and wait one minute before checking the level with the dipstick (wipe before checking).

The oil level should lie between the MAX and MIN marks on the dipstick.

The difference represents approximately 1 litre.



57668

Draining the oil

The drain plug is located at the rear of the sump, at the bottom of the engine. Drain the oil when it is warm.

CAUTION! The oil may be very hot.

Change oil filter every second oil change

Follow the instructions on the cartridge.

Do not attempt to clean and reuse the old filter.

Oil quality:

According to API not less than CD*

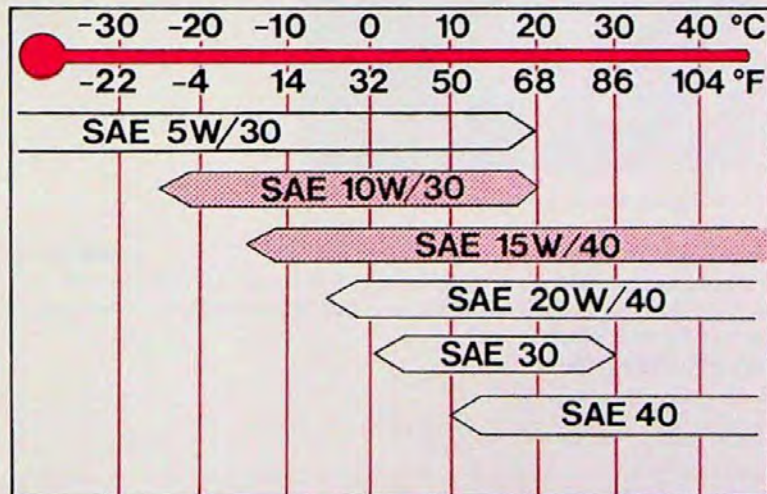
* Oils with designation SE/CD and SF/CD meet this requirement.

According to CCMC class D2/D3.

Synthetic or semi-synthetic oils may be used if their specifications comply with the above.

Volvo do not recommend the use of supplementary additives because of potential damage to engine.

Viscosity*



57348/1

* Refers to stable ambient temperatures.

SAE 15W/40 or SAE 20W/40 oils are recommended for use in extreme driving conditions that involve high oil consumption and high oil temperatures e.g. mountain driving with frequent decelerations or fast motorway driving.

Oil fill quantity:

Excl. oil filter: 5.0 litres (8.8 Imp. pints)

Incl. oil filter: 6.0 litres (10.6 Imp. pints)

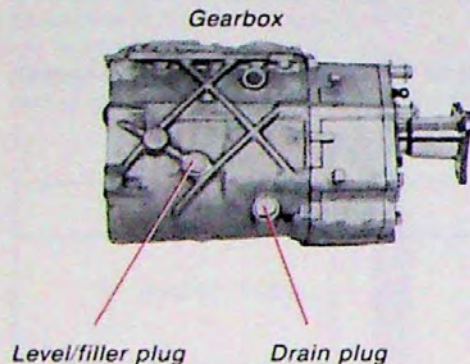
Oil-level check: When refuelling

Oil and filter changes

The oil and filter are changed for the first time at the Warranty service after 1000–2000 km (600–1200 miles), and thereafter according to the table below.

Driving conditions	Changing interval
Unfavourable conditions such as... ● long distance driving in dusty/sandy areas ● long distance towing ● long distance driving in hilly terrain ● stop-start driving ● low temperatures, (below 0 °C), driving short distances (less than 10 km = 7 miles) ● sustained high speed driving	Each 5000 km (3000 miles), or 3 months, whichever occurs first, and filter change every second oil change
Average i.e. conditions not mentioned above	Each 10 000 km (6000 miles) or 6 months, whichever occurs first.

Manual gearbox



The gearbox oil should be up to the mouth of the level/filler plug hole.
If necessary top-up with ATF* type F or G.

Oil quality: ATF type F or G (all year round).

Volvo thermal oil is recommended for use in areas where the temperature seldom drops below -10°C (14°F).

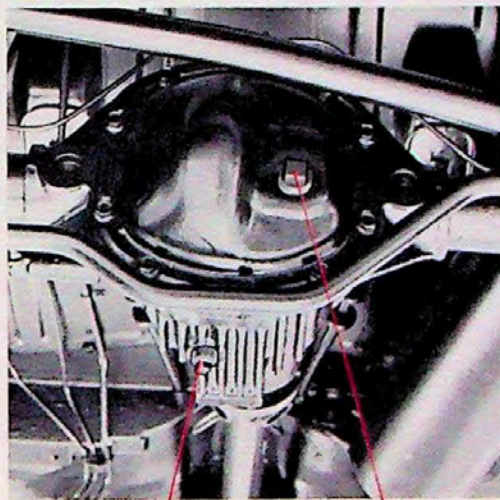
Note! Do not mix ATF and engine oil!

Oil level check: At each service.

Oil change: After the first 1000–2000 km (600–1200 miles) only, i.e. at the Warranty service.

* ATF = Automatic transmission fluid.

Final drive



Drain plug

Filler plug

Level check

The oil level should be up to the filler plug.
Top-up with oil specified at top right of page.

Draining and filling

Remove the plug beneath the transmission to drain the oil.

Note! The oil can be very hot.

Add oil through the filler plug hole.

Oil quality:

API-GL-5 (MIL-L-2105 B or C)

Vehicles with limited slip differential: use special additives.

Viscosity:

SAE 90 or 80 W/90

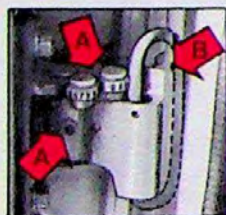
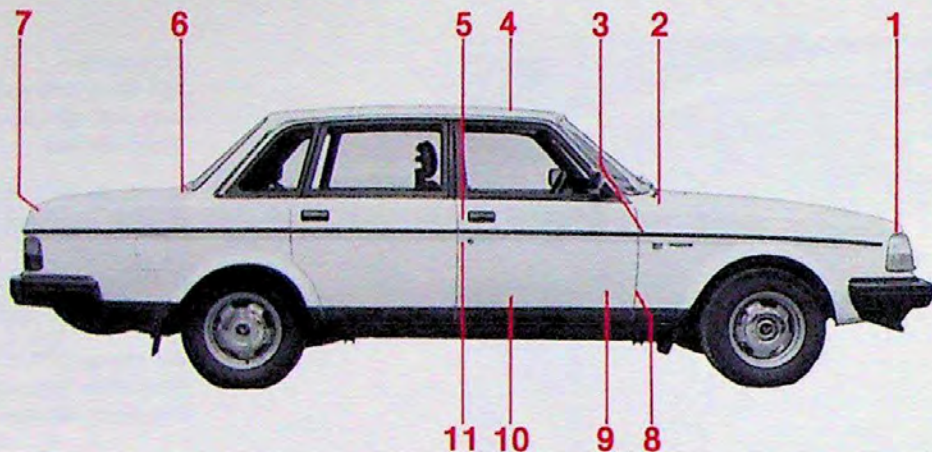
Level check:

At each service

Oil change:

Only after first 1000 km (600 miles) i.e. at the Warranty service.

Body lubrication



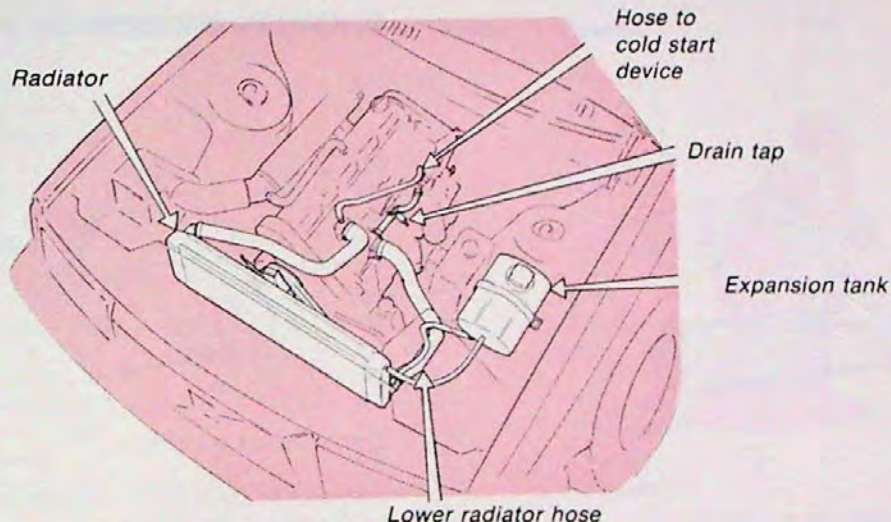
8 Door hinge, lower
Door stop

A Grease
B Oil

No. Lubricating points (qty)	Lubricant	No. Lubricating points (qty)	Lubricant
1 Bonnet lock and latch (1)	Oil and Paraffin wax	8* Door hinges, lower (4)	Grease
2* Bonnet hinges (2)	Oil	Door stop (4)	Oil
3* Door hinges, upper (4)	Grease	9 Window Winders (4)	Oil, grease
4 Sun roof wind deflector (1)	Oil	Locks (4)	Silicone grease
5 Striker plates (4)	Paraffin wax	(on inside of door)	
6* Boot lid hinges (2)	Oil	10 Front seat rails (4)	Oil
7 Boot lid lock (1)	Oil	and latches (2)	Oil
		11 Door locks, outer surfaces (4)	Paraffin wax

* Included in the 10 000 km (6 000 miles) service.

Coolant



Check the coolant level when refuelling

The level should be between the MAX and MIN marks on the expansion tank.

The cooling system is under pressure when hot.

Unscrew the cap slowly to release the pressure.

Change the coolant every second year

To drain

- 1 Move the heater controls to MAX heat.
- 2 Remove the expansion tank cap (slowly if engine is hot).
- 3 Open the drain tap on the right side of the engine block.
- 4 Disconnect the lower radiator hose from the radiator.

To fill

- 5 Reconnect the radiator hose.
- 6 Close the drain tap.
- 7 Disconnect the upper hose from the cold start device and place a drip pan beneath the hose.

- 8 Fill the expansion tank to MAX or slightly above.
- 9 Warm-up the engine for 5 minutes, topping-up with coolant as required. Check for leaks.
- 10 Reconnect the hose to the cold start device and add coolant to the expansion tank until it is completely full i.e. above MAX. Refit the tank cap.

Coolant mixture

Do not top up with water only. Use a mixture of 50% Volvo anti-freeze type C (blue-green) and 50% water all year round.

Do not mix different types of anti-freeze.

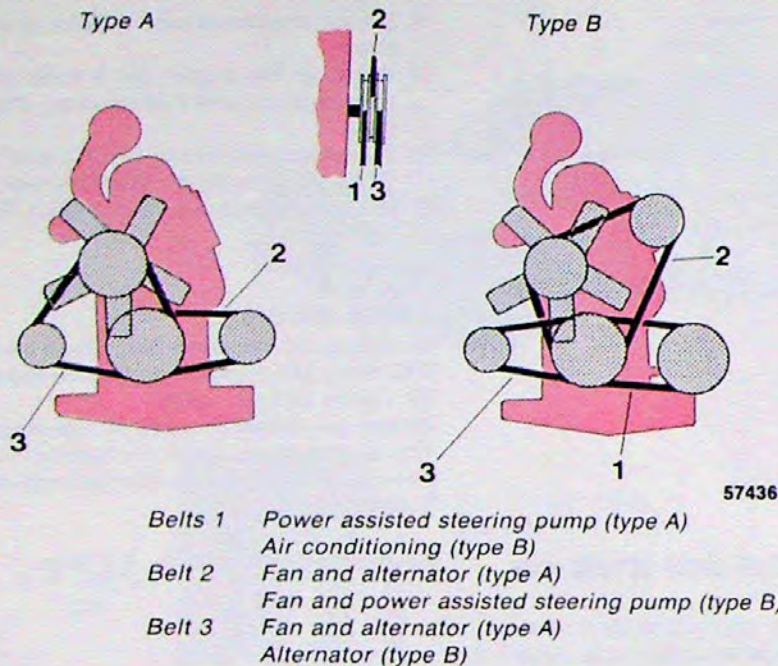
The car is delivered from the factory filled with a coolant that provides protection against frost down to -35°C .

Cooling system capacity: 9.4 litres.

Note!

Always keep the cooling system well-filled. Otherwise high local temperatures can result which may cause the cylinder head to crack.

Drive belts (fan belts)

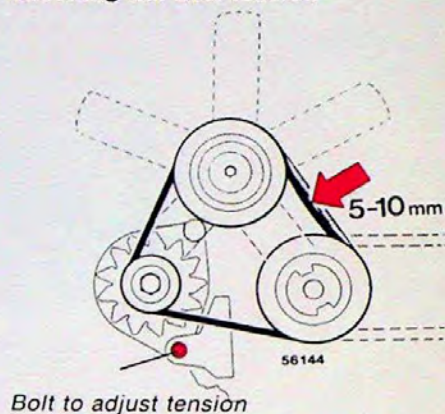


Belt adjustment and replacement

Since the belts are difficult to reach it is advisable to let your Volvo workshop adjust the tension of the belts, or replace them if necessary.

Belts 2 & 3 must always be replaced in pairs!

Checking the belt tension



It should be possible to depress the belts by 5–10 mm in the centre of one of the runs. If the belts have just recently been renewed, the tension should be rechecked after 1000–2000 km (600–1200 miles).

Belt check

Check the belts regularly to make sure they are in good condition and are clean. Worn or dirty belts can cause poor cooling and alternator output as well as impair the operation of the power-assisted steering and the air conditioning unit.

Specifications and technical data

Dimensions and weights

	4-door models	Estates
Length	479 (188)	479 (188)
Width	171 (67.2)	171 (67.2)
Height, unladen	143 (56.2)	146 (57.5)
Wheelbase	265 (104.3)	265 (104.3)
Track, front	143 (56.3)	143 (56.3)
rear	136 (53.6)	136 (53.6)
Turning circle	9.8 m (32 ft)	9.8 m (32 ft)
Kerb weight (depending on the equipment)	1355-1370 (2985-3020)	1415 (3120)
Permitted gross laden weight	1850 (4076)	2000 (4410)
Max. load	480-495 (903-969)	590 (1123-1167)
Max. axle load front*	900 (1985)	900 (1985)
rear*	990 (2183)	1180 (2602)
Max. roof load	100 (221)	100 (221)
Max. trailer (caravan) weight	1500 (3308)	1500 (3308)

* Must not be exceeded

Dimensions are given in centimetres (inches)

Weights are given in kilogrammes (lbs)

Cargo space, estate

Length with rear seat up	113 (44.5)
rear seat down	188 (74.0)
Overall width	135 (53.2)
Overall height	83 (32.7)
Luggage space with rear seat up	1.2 m ³ (42 ft ³)
rear seat down	2.15 m ³ (71 ft ³)
Tailgate, aperture max. width	116 (45.7)
max. height	78 (30.7)

Capacities

Fuel tank	60 (13 Imp gall)
Cooling system	9.4
Engine oil, incl. filter	6.0
excl. filter	5.0
Transmission oil, 5 speed gearbox	1.3
Final drive oil	1.3
Power steering oil	0.7
Windscreen reservoir	6.0

Litres

Type designations

In all correspondence concerning your vehicle and when ordering parts, the type designation chassis and engine numbers should always be quoted.

1 Type and model year designation

Chassis number stamped in front right door pillar and on a plate at rear of boot.
Estate: on right hand panel on inside of large storage compartment.

2 Type designation, max permissible loads and colour code

Inside right wing.

Australia: Also includes date of manufacture.

3 Type designation and part number of engine

Left side of engine.

4 Type designation, serial number and part number of gearbox

Manual gearbox:

Under gearbox.

Automatic gearbox:

Left side of gearbox.

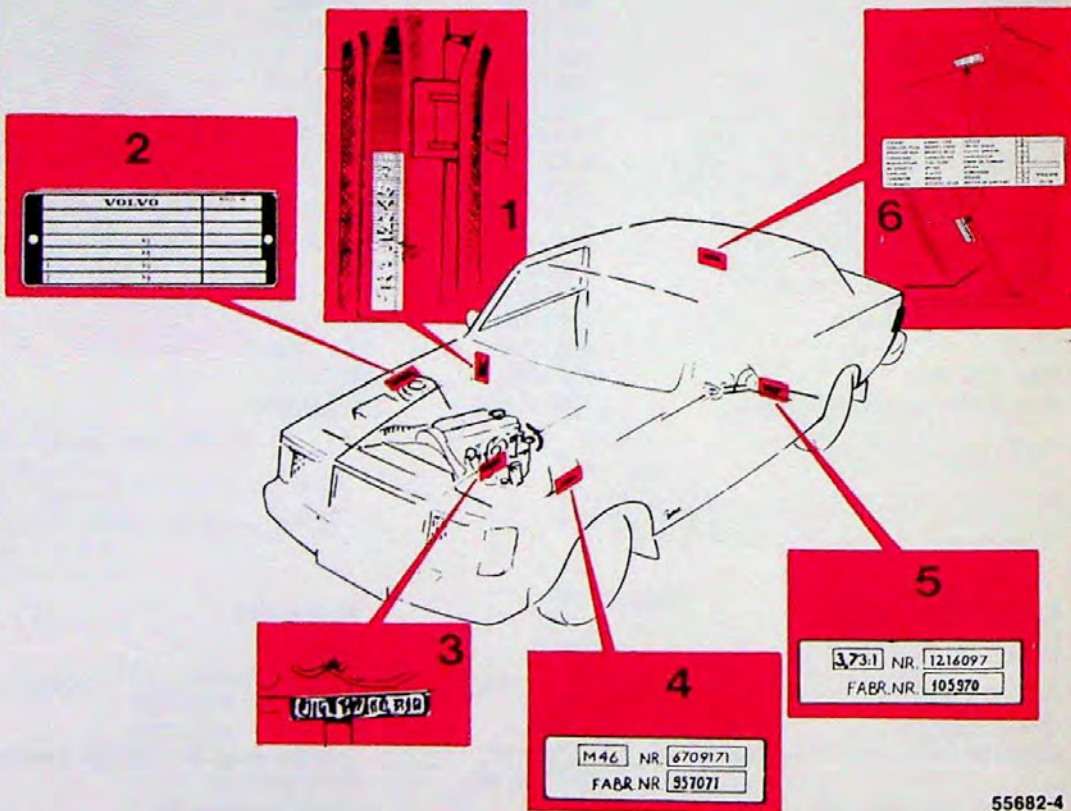
5 Final drive reduction ratio, part number and serial number

Left rear side of rear axle.

6 Service plate

Below rear window to right of boot.

Estate: in large storage compartment.



Oils

Oil quality: According to API min CD*

* Oils with designation SE/CD and SF/CD meet this requirement.
According to CCMC class D2.

Synthetic or semi-synthetic oils may be used if their specifications comply with the above.

Volvo do not recommend the use of supplementary additives because of potential damage to engine.

Capacity: excl. oil filter 5.0 litres (8.8 Imp pints)
incl. oil filter 6.0 litres (10.6 Imp pints)

Transmission

Quality: manual: ATF type F or G

Capacity: 1.3 litre

Final drive

Quality: API-GL-5 (MIL-L-2105 B or C)
SAE 90 or 80W/90

Capacity: 1.3 litre

Power steering

Quality: ATF

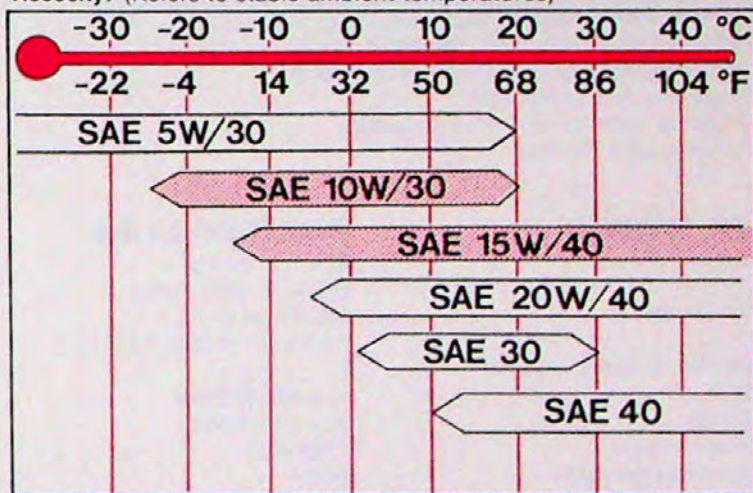
Capacity: 0.7 litre

Brake system

Brake fluid type: DOT 4 or SAE J 1703

Capacity: 0.4 litre

Viscosity: (Refers to stable ambient temperatures)



SAE 15 W/40 or SAE 20W/40 oils are recommended for use in extreme driving conditions which involve high oil consumption and high oil temperatures e.g. mountain driving with frequent decelerations or fast motorway driving.

For cars with a limited slip differential use final drive oil API-GL-5 (MIL-L-2105 B or C) with a special additive.

Specifications

ENGINE

In-line 6 cylinder fluid cooled diesel engine.
Cylinder block made of cast iron.
Cylinder bores machined directly in block.
Light alloy cylinder head with swirl chambers.
Single overhead camshaft.
Oil pump, belt driven from crankshaft.
Full-flow type oil filter.

Injection pump comprising: high pressure pump, feed pump, governor and injection timing mechanism. Belt driven from camshaft.
Cold start device automatically regulates injection timing in relation to engine temperature.
Pressurized cooling system with expansion tank.

Type designation

Output DIN

Torque DIN

Number of cylinders

Bore

Stroke

Displacement

Compression ratio

Firing sequence

Low idle

High idle (warm engine)

Valve clearance, mm

Intake valve, warm engine

cold engine

Exhaust valve, warm engine

cold engine

Diesel engine 2.4 litre

60 kW at 80 r/s

(82 hp at 4800 r/min)

140 Nm at 47 r/s

(14.3 kpm at 2800 r/min)

6

76.5 mm (3.012")

86.4 mm (3.402")

2.383 dm³

23.0:1

1-5-3-6-2-4

13.3 r/s (800 r/min)

90 r/s (5400 r/min)

Checking mm (in)

0.20-0.30 mm (0.008-0.012)

0.15-0.25 mm (0.006-0.010)

0.40-0.50 mm (0.016-0.018)

0.35-0.45 mm (0.014-0.018)

Adjusting mm (in)

0.25 mm (0.010)

0.20 mm (0.008)

0.45 mm (0.018)

0.40 mm (0.016)

The SI system (Système International d'Unités) is used in the specifications in the following pages.
Formerly used units are also shown between brackets in some cases.

kW – kilowatt: indicates output
formerly hp (horsepower)
100 kW = approx. 136 hp

r/s – Revolutions per second
formerly rpm (revs per minute)
100 r/s = 6000 rpm

Nm – Newton metres: indicates torque
Formerly kpm or kgm (kilopond metre
or kilogram metre)
100 Nm = approx. 10 kgm

Specifications

Cooling system

Type	Pressurized system
Capacity	9.4 litres
Thermostat	Begins to open at 87°C

Fuel system

Injection pump	Bosch VE 6/10 F 2400 L 32
Injector, nozzle	Bosch DNO SD 193 or DNO SD 293
opening pressure	12–13 MPa (120–130 kp/cm ²)

Fuel (diesel oil)

Standard	DIN 51 601, CEC-ERF-DI BS 2869 Class A2
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Specifications

POWER TRANSMISSION

Single, dry disc clutch, mechanically operated by a wire.
Fully synchronized 4-speed gearbox with overdrive (M 46). Without overdrive (M 45), certain models.
Hypoid-type final drive.
Limited slip differential as optional equipment.

Clutch

Clutch fork free travel 1–3 mm.

Gearbox

Type designation	Manual 5-speed (M 47)
Reduction 1st gear	4.03:1
2nd gear	2.16:1
3rd gear	1.37:1
4th gear	1.00:1
5th gear	0.82:1
Reverse	3.68:1

Final drive

3.73:1 cars with manual transmission.

Vehicle speed, km/h (mph) at 17 r/s (1000 engine r/min)

Gearbox	M 47 5-speed
Final drive reduction	3.73:1

1st gear	8.0 (5.0)
2nd gear	14.0 (9.0)
3rd gear	22.0 (14.0)
4th gear	31.0 (19.0)
5th gear	39.0 (24.0)
Reverse	8.0 (5.0)

Note that these values are only approximate. In practice, they can vary depending on the size, pressure and wear of the tyres fitted.

Recommended min. and max. speeds km/h (mph)

Gear	1st	2nd	3rd	4th
Diesel	0–35 (0–20)	15–65 (10–40)	25–105 (15–65)	35*– (22*–)

Specifications

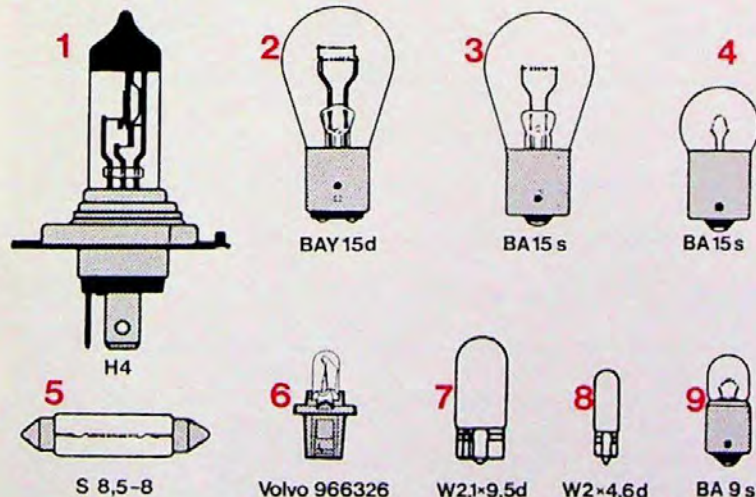
ELECTRICAL SYSTEM

12-volt system with voltage-regulated alternator.
Single-pole system where chassis and engine frame are used as conductors. Negative pole connected to chassis.

Voltage	12 volt
Battery	Noak 12 MB 88*
Capacity	88 Ah
Electrolyte, specific gravity	1.28
Re-charge at	1.21
Alternator, max. output	770 W
Starter motor, output	2 kW (2.7 hp)

* or corresponding

Bulbs, 12 V



	Wattage	Socket	Number
Headlamps	60/55 W	1	2
Parking light/			
Day running lights, front	21/5 W	2**	2
Dir. indicators, front	21 W	3**	2
rear	21 W	3**	2
side	5 W	7	2
Tail lights	5 W	4**	2
Brake lights***	21 W	3**	2
Brake lights/tail lights, Estate	21/5 W	2**	4
Reversing lights	21 W	3**	2
Rear foglights	21 W	3**	2
Number plate light, Saloon	4 W	9**	2
Estate	5 W	5**	2
Interior light	10 W	5	1 (2)
Boot light	15 W	5	1
Glove compartment	2 W	9	1
Instrument panel light	3 W	7	2
Engine compartment	15 W	5	1
Lighting,			
control panel	1.2 W	6 (8)	3
selector panel (auto)	1.2 W	6 (8)	1
seat belt lock	1.2 W	6 (8)	2
ashtray, rear	1.2 W	6 (8)	1
Warning lights,			
battery charging	1.2 W	6 (8)	1
oil pressure	1.2 W	6 (8)	1
parking brake	1.2 W	6 (8)	1
brake failure	1.2 W	6 (8)	1
bulb failure	1.2 W	6 (8)	1
Check lamp,			
glow plugs	1.2 W	6 (8)	1
seat belts	2 W	9	1
dir. indicators	1.2 W	6 (8)	2
main beams	1.2 W	6 (8)	1
rear foglights	1.2 W	6 (8)	1
hazard warning lights	1.2 W	6 (8)	1
heated rear window	1.2 W	6 (8)	1

** Note! Volvo long life bulbs are recommended. These bulbs last up to 3 times longer than ordinary car bulbs.

*** Estate models with rear foglights. Wattage 21/5 W. Socket BAY 15 d³.

Specifications

TYRES

Tyre pressure 100 kPa (kilopascal) = 1 kp/cm² = 14 psi

The figures in brackets are in pounds per square inch (psi).

Car model	Tyre type	Air pressure cold tyres kPa (psi)			
		1-3 persons		Full load	
		Front	Rear	Front	Rear
4-door Estate	175 SR 14	190 (27)	190 (27)	190 (27)	230 (32)
	185 SR 14	190 (27)	210 (30)	200 (28)	280 (40)
Special Spare		280 (40)	280 (40)	280 (40)	280 (40)

Set inflation pressure to 30 kPa (4 psi) more than values shown above if you intend to drive for long periods at high speeds (more than one hour at speeds in excess of 120 km/h = 75 mph).

This does not apply to the "Special Spare".

FRONT END

McPherson type spring-strut suspension. Shock absorbers housed in strut casing. Rack and pinion steering.

Safety-type steering column.

The alignment specifications apply to an unladen car but include fuel, coolant and spare wheel.

Toe-in, measured

on the rim

2.5±1 mm

1.5±1 mm (with power assisted steering)

Camber

0.5±0.25°

TOOL KIT

Spark plug spanner

Wheel nut spanner

Extension arm

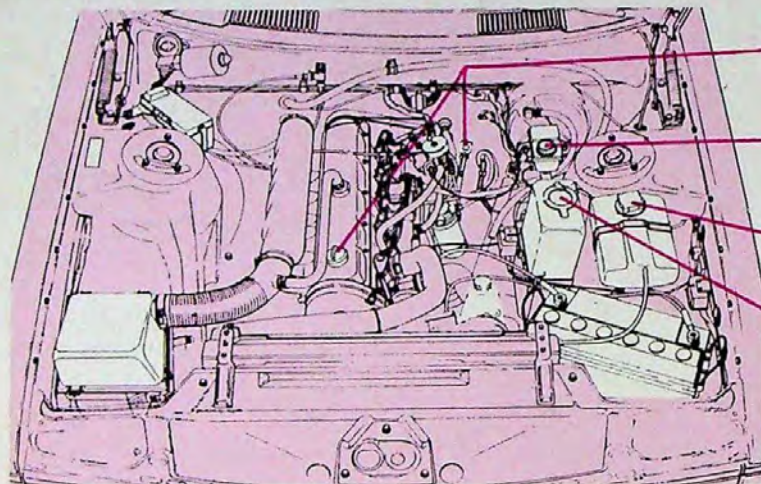
Philips screwdriver

Screwdriver

Two open end spanners

Handwritten notes on lined paper, mostly illegible due to blurring. The notes are organized into several paragraphs, with some lines starting with "The" or "This".

Check the following when refuelling



Fuel: Diesel

Oil level—should be between the marks on the dipstick. The distance between the marks corresponds to about 1 litre (approx. 2 pints) oil.

Brake fluid level—should be above the MIN mark. No need to remove the cap to check. If necessary top up with brake fluid DOT 4.

Coolant level—should be between MAX and MIN marks on expansion tank. Top up with a mixture of 50% anti-freeze and 50% water. See page 89.

Washer reservoir for windscreen, tailgate (estates) and headlamps—fill with water (+ de-icer in cold weather).

Battery — maintenance free type — it is only necessary to check the electrolyte level at each service.

Electrolyte level should be 5–10 mm (3/8") above the cell plates. If necessary top up with distilled water.

Tyre pressure, cold tyres kPa (psi)

Model	Tyre	1–3 occupants		Full load	
		Front	Rear	Front	Rear
Saloon Estate	175 R 14	190 (27)	190 (27)	190 (27)	230 (32)
	185 R 14	190 (27)	210 (30)	200 (28)	280 (40)

Changing a wheel, see pages 55–57
a bulb, see pages 58–64
a fuse, see page 68

VOLVO

Volvo Car Corporation

Gothenburg, Sweden