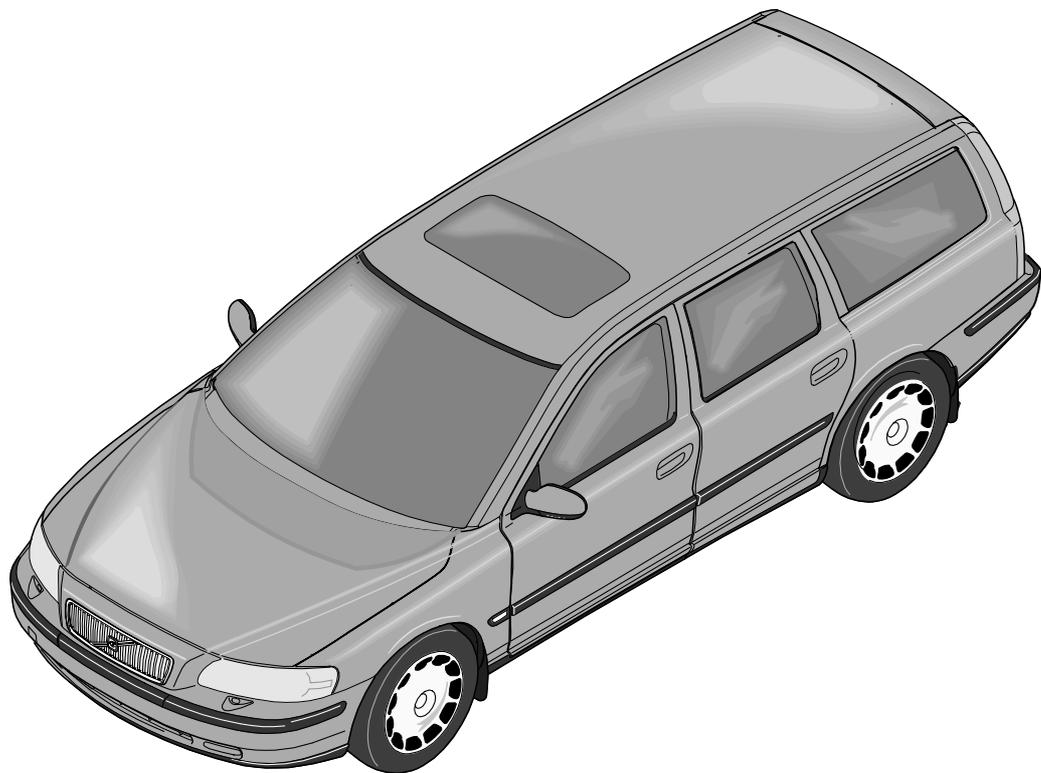


VOLVO
V70, V70 R & XC70

VOLVO
for life

WEB EDITION





Volvo Service

Certain service remedies, which affect the car's electrical system, can only be carried out using electronic equipment specially developed for the car. Always contact your Volvo workshop, before beginning or carrying out any service which affects the electrical system.

Installing accessories

The incorrect connection and installation of accessories can negatively affect the car's electrical system. Certain accessories only function when the appropriate software has been programmed into the car electrical system. Always contact your Volvo workshop, before installing accessories which are connected to or affect the electrical system.

Recording vehicle data

One or several of the computers in your Volvo are capable of recording detailed information which may include specific details - without being limited to - regarding; frequency of seat belt use by the driver and passenger, information on various vehicle system and module functions and status information regarding the engine, throttle, steering, brakes and other systems.

This information may include details regarding the manner in which the driver operates the vehicle. This type of information can include specific details - without being limited to - regarding vehicle speed, use of the brakes, accelerator pedal or steering wheel position. This information can be stored while the car is being driven, during a collision or a near-collision.

The stored information may be read and used by:

- Volvo Car Corporation
- Service and repair facilities
- Police and other authorities
- Other interested parties who are entitled - or receive your permission for - access to this information.

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In addition to describing the standard equipment this manual also covers optional and extra equipment. In addition there are also equipment alternatives, manual or automatic transmission for example. In certain countries statutory requirements affect the level of equipment. This means that it is occasionally necessary to page past sections of the book which describe equipment not installed on your car.

The specifications, design features and illustrations in this Owner's Manual are not binding. We reserve the right to make modifications without prior notice.

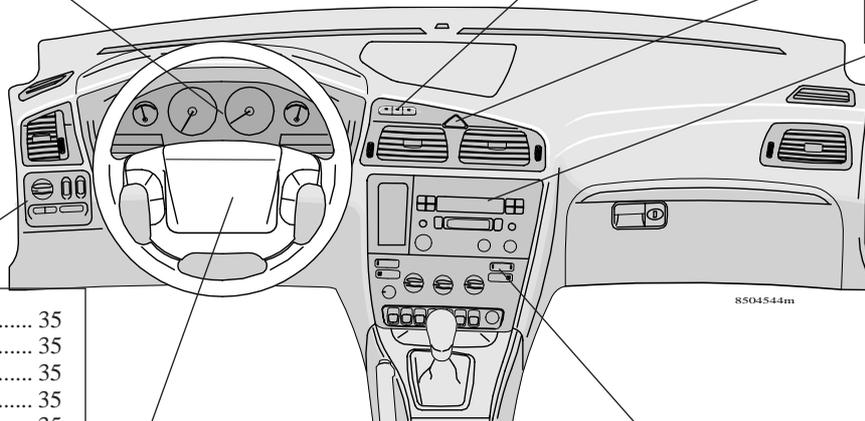
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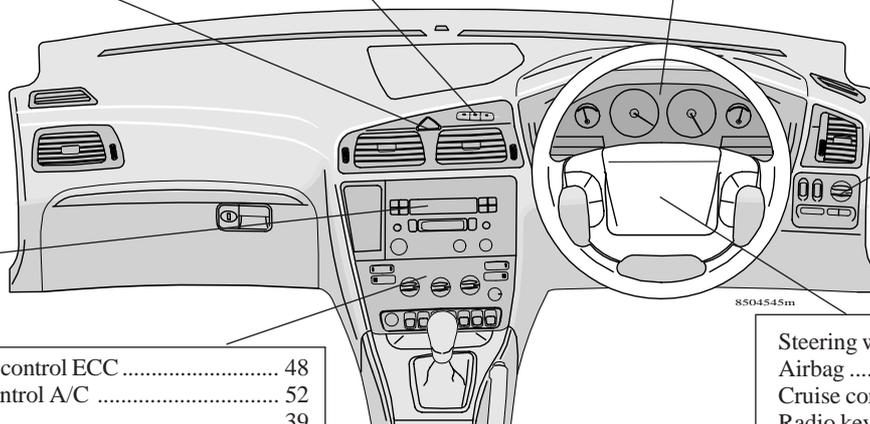
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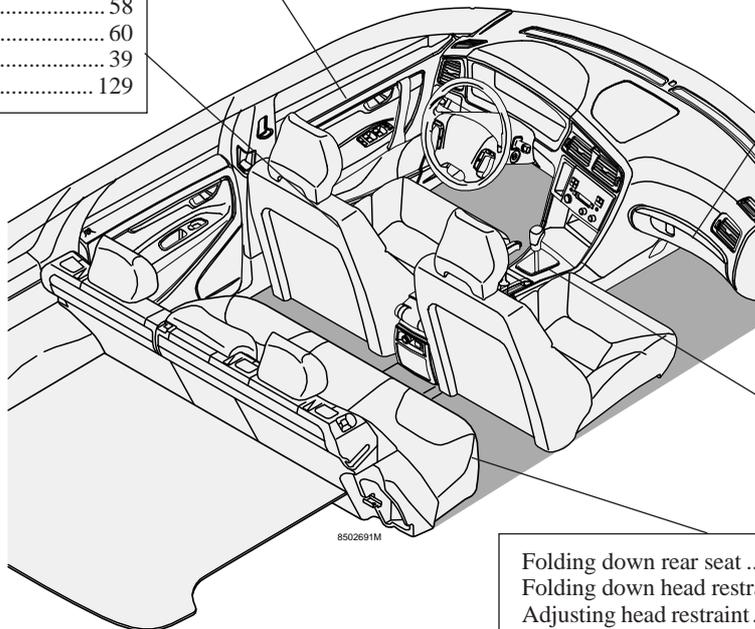
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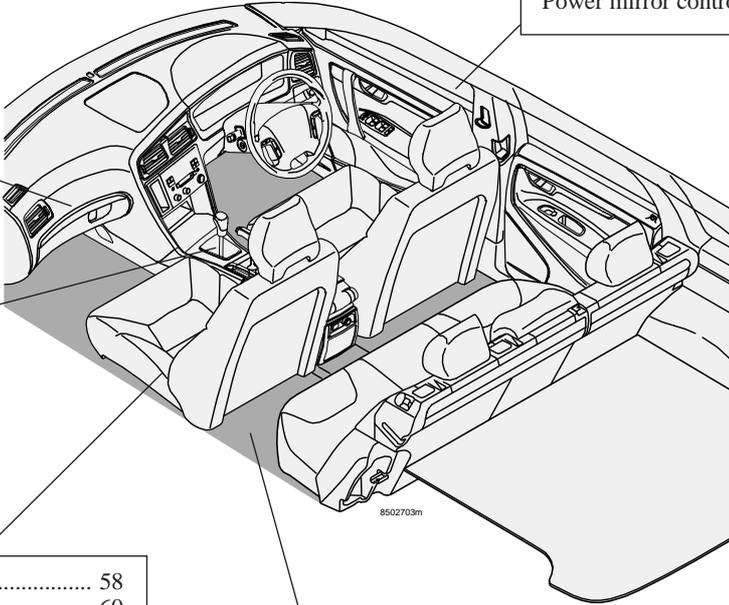
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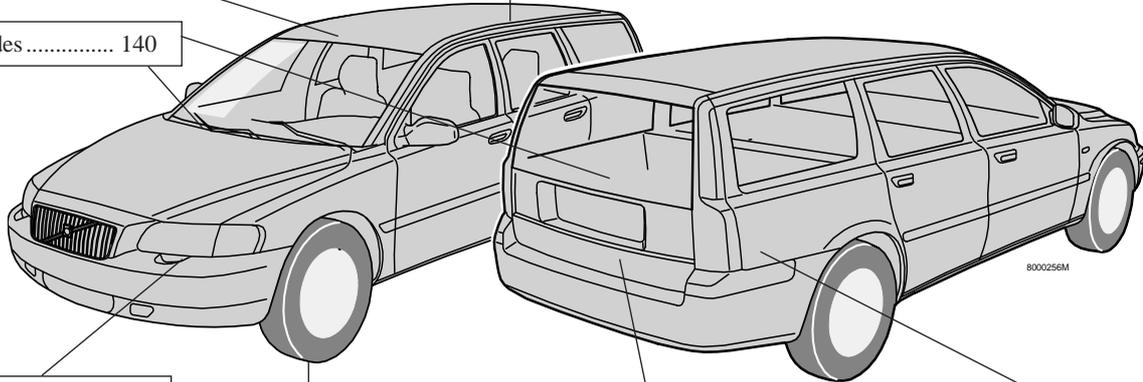
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Seat belts

Use the seat belt for all types of driving

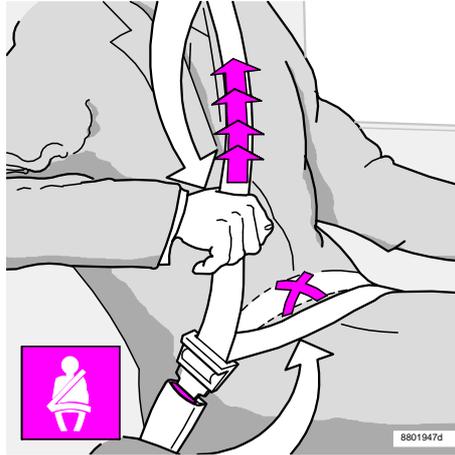
Even hard braking can have dangerous consequences if you are not wearing a seat belt! Therefore, always ask your passengers to use seat belts! Otherwise rear seat passengers may be thrown into the front seat backrests in a collision. Everyone in the car may then be hurt. Use the seat belt as follows: pull the belt out slowly and secure it by inserting the locking tab into the lock. A loud "click" indicates that the belt is locked.

The belt is not normally restricted and you can move freely.

The belt is restricted and cannot be pulled out further:

- if it is pulled out too fast
- during braking and acceleration
- if the car leans excessively
- when cornering

It is important that the belt lies against the body so it can provide maximum protection. Do not lean the backrest too far back. The seat belt is designed to protect in a normal seating position.



*Extending the lap belt
The lap belt should be low*

Keep in mind the following:

- do not use clips or anything else that prevents the belt from lying correctly.
- ensure the belt is not twisted or caught on anything.
- the lap belt should sit low - not over the abdomen.
- stretch the lap belt over the lap by pulling the diagonal shoulder belt as illustrated above.

Each seat belt is intended for **one** person only!

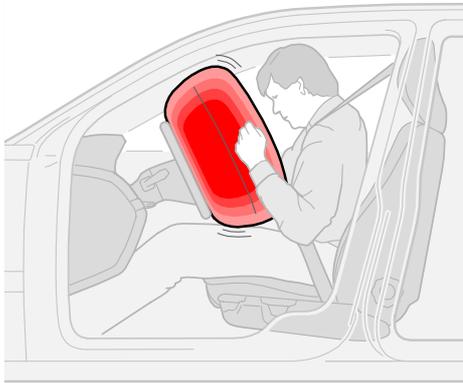
To release the seat belt: Press on the red button in the lock. Allow the reel to pull the belt in.

WARNING!

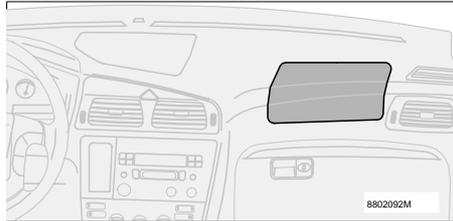
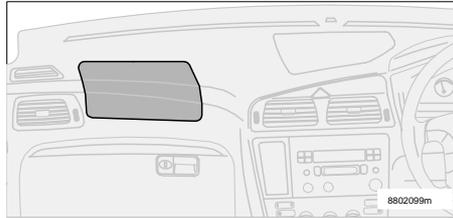


If the seat belt has been exposed to large load strain, in a collision for example, the entire seat belt assembly including reel, mountings, screws, and lock must be replaced. Even if the belt appears undamaged some of the protective properties may have been lost. Replace the seat belt if it is worn or damaged. **Never** make any modifications or repairs to the seatbelt yourself; always allow a Volvo workshop to carry out the work.

SRS (airbag) and SIPS bag (side airbag)



The airbag is located in the centre of the steering wheel, marked SRS



The side airbag is above the glovebox, marked SRS



The side impact airbags are installed in the front seat backrest frames

SRS (airbag) and SIPS bag (side impact airbag)

To further increase interior safety, your car is equipped with airbags (SRS) to complement the standard three point seat belt. The car is marked SRS on the steering wheel and on the dashboard in front of the passenger, if the car has a passenger side airbag. The inflatable airbag is installed folded up in the centre of the steering wheel. On the passenger side it is folded up in a compartment above the glovebox.

SIPS (side impact airbags) further increase the interior safety of the car. The side impact airbags are installed in both front seat backrest frames.

WARNING!



Airbags (SRS) are installed as an addition to - not as a replacement for - the standard seat belts.

The side impact airbags are supplied as an addition to the existing SIPS* system. For maximum protection: **Always wear a seat belt.**

*Side Impact Protection System

SRS system (airbags in the steering wheel and the dashboard)

The system consists of a gas generator (1) surrounded by the inflatable airbag (2). Upon a sufficiently violent collision, a sensor (3) reacts, activating the gas generator igniter, and the airbag inflates as it heats up. To cushion the impact, the airbag deflates when compressed. When this occurs, smoke escapes into the car. This is completely normal. The entire process, including inflation and deflation of the airbag, occurs in tenths of a second.

NOTE! The sensor (3) reacts differently depending on whether the driver's seat belt or front passenger seat belt is used or not. Crash situations can occur where only one airbag is deployed.

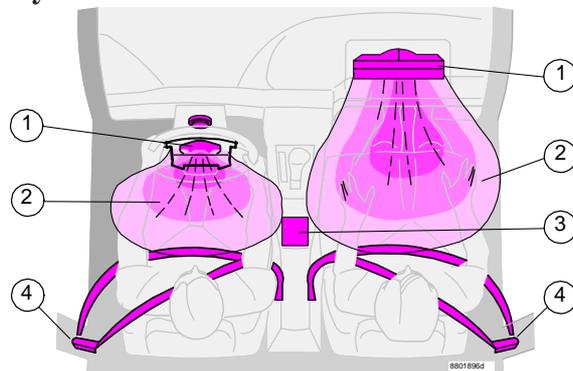
Volvo Dual-Stage Airbag

In the event of lesser collisions, substantial enough to cause injury, the airbags inflate to slightly more than half their full capacity. In the event of collisions of greater force, the airbags inflate to their full capacity.

Seat belts and seat belt tensioners

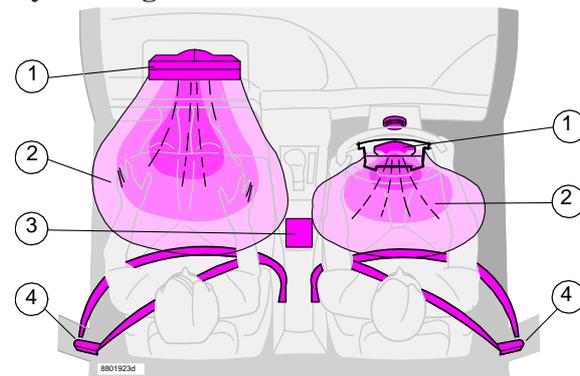
All seat belts are equipped with a pyrotechnic seat belt tensioner (4). A small charge, integrated into the seat belt reel, ignites at the moment of impact and tensions the belt over the body so that any slack, caused by clothing etc., is minimized. The belt restrains the occupant more rapidly. The front seat seat belt tensioners are only triggered if the seat belt is connected.

SRS system left-hand drive



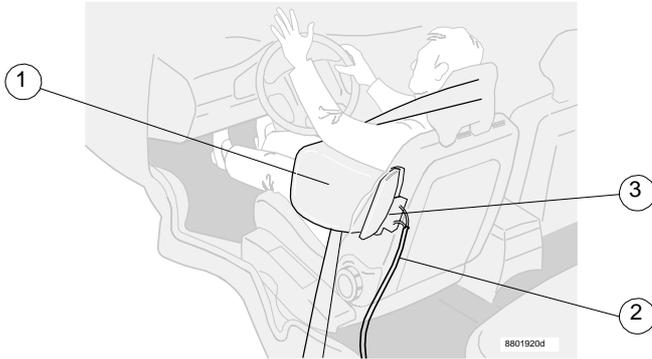
- | | |
|------------------|------------------------|
| 1. Gas generator | 3. Sensor |
| 2. Airbag | 4. Seat belt tensioner |

SRS system right-hand drive



- | | |
|------------------|------------------------|
| 1. Gas generator | 3. Sensor |
| 2. Airbag | 4. Seat belt tensioner |

SIPS bag system left-hand drive

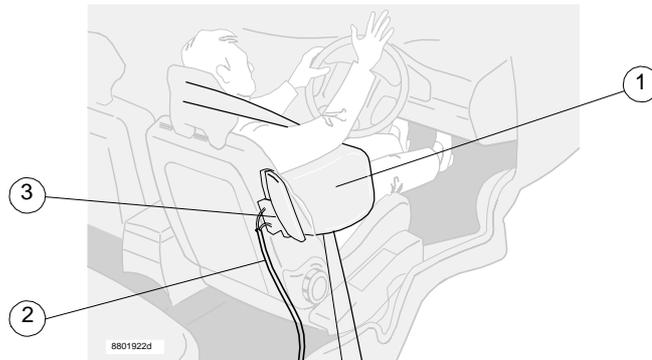


1. Airbag

2. Cable

3. Gas generator

SIPS bag system right-hand drive



1. Airbag

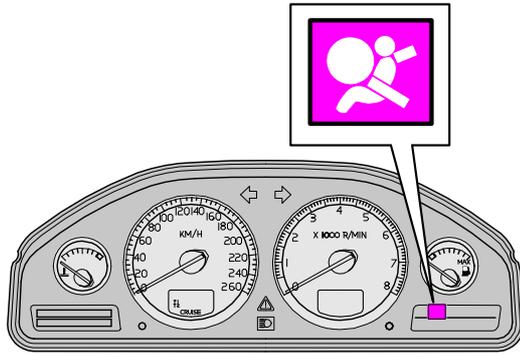
2. Cable

3. Gas generator

SIPS bag system (side impact airbag)

This system consists of a gas generator (3), electric sensors, cables (2) and side impact airbags (1). In the event of a sufficiently violent collision the sensors react, activating the gas generator which inflates the side airbag. The airbag inflates between the occupant and the door panel, cushioning the impact at the moment of collision and then deflates. The side impact airbag only inflates on the side of the collision.

SRS (airbag) and SIPS bag (side airbag)



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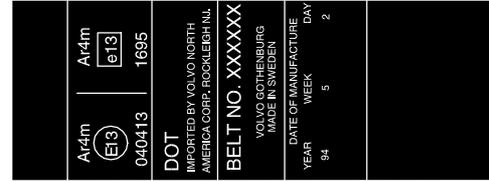
Warning lamp in the combined instrument panel

The SRS system is continuously monitored by the sensor/control module and there is a warning lamp in the combined instrument panel. This lamp lights when the ignition key is turned to positions I, II or III. The lamp goes out when the sensor/control module has checked that the SRS system is fault-free. This normally takes approximately 7 seconds.

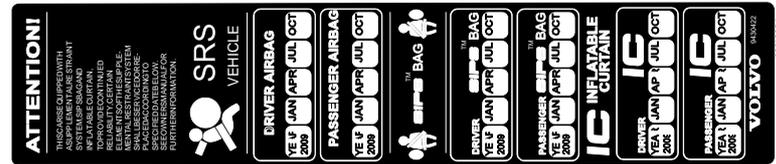
WARNING!



If the warning symbol SRS remains lit while driving it means that the SRS system is not functioning fully. Contact an authorised Volvo workshop.



Marking on seat belts with seat belt tensioners



This decal is located in the rear left door opening

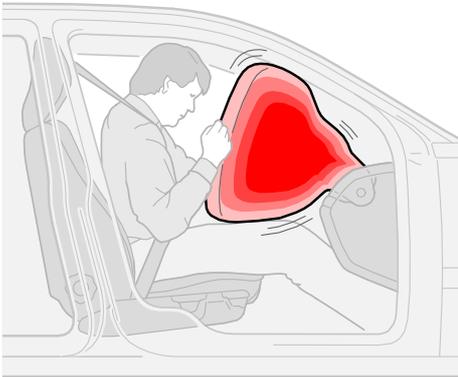
The year and the month given on the decal on the door pillar/s is the date when you should contact your Volvo workshop to inspect and if necessary replace the airbags and seat belt tensioners. If you have any question concerning either system, contact an authorised Volvo workshop.

WARNING!



Never try to repair any part of the SRS or SIPS bag systems yourself. Any interference can cause malfunction and serious injury and any work should be carried out by an authorised Volvo workshop.

SRS (airbag) and SIPS bag (side airbag)



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Passenger side airbag deployment

Airbag - passenger side (option)

When the airbag is inflated the volume is approximately 150 litres on the passenger side, while the driver's side airbag, because of the location of the steering wheel, is approximately 65 litres. The crash protection is the same in both locations.

WARNING!



Airbag - passenger side

- The passenger in the front seat should never sit bent over the dashboard, at the front of the seat, or in another abnormal seating position. The passenger should sit as upright as is possible and comfortable, back against the backrest. The seat belt should be under some tension.
- Ensure that the passengers keep their feet on the floor (not on the dashboard, on the seat, in the map and newspaper compartment, or on the side window).
- Never allow children to sit or stand in front of the passenger seat.
- **Never** put a child seat or booster cushion on the front passenger seat if the car is equipped with SRS (Airbag) on the passenger side.
- **No one** shorter than 140 cm should sit in the front seat.
- No objects or accessories may be positioned or stuck on or near the SRS panel (above the glovebox) or in the area affected by the airbag.
- Do not place loose objects on the floor, seat, or on the dashboard.
- Never interfere with the SRS components in the steering wheel hub or in the panel above the glovebox.

WARNING!



Do not stick or mount your own emblems or decals on the steering wheel or dashboard!

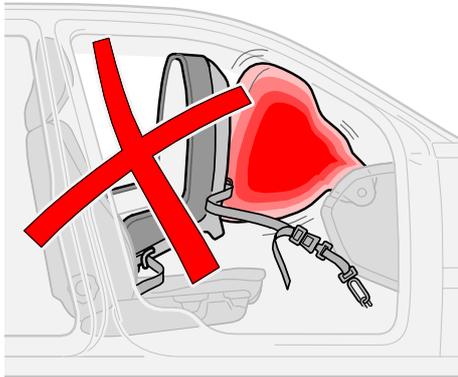
WARNING!



SIPS airbag

- Extra seat covers must not be used on the front seats if they are not Volvo Genuine covers or Volvo approved seat covers for SIPS airbags.
- No objects or accessories may be placed between the outer side of the seat and the door panel because this area may be affected by the SIPS airbag.
- Never interfere with the SIPS airbag system.

SRS (airbag) and SIPS bag (side airbag)



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Airbags and child seats are not compatible!

Child seat and airbag

A child can be seriously injured if a child seat or booster cushion is used in the front seat of a car equipped with a passenger side airbag.

The safest place for a child and child seat/booster cushion is the rear seat, if the car is equipped with passenger side airbag.

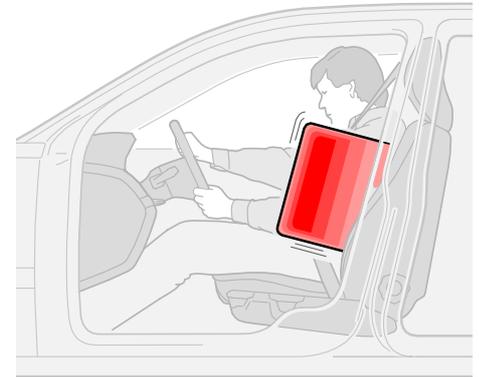
If the car is only equipped with SIPS airbags child seats/booster cushions can be placed in the front seat.

Never allow a child to sit in the front passenger seat if your car is equipped with an SRS (Airbag) on the passenger side (child refers to any person whose height is 140 cm or less). Place the child instead in a child seat or on a booster cushion in the backseat.

WARNING!



Never put a child seat or booster cushion on the front passenger seat if the car is equipped with SRS (Airbag) on the passenger side.



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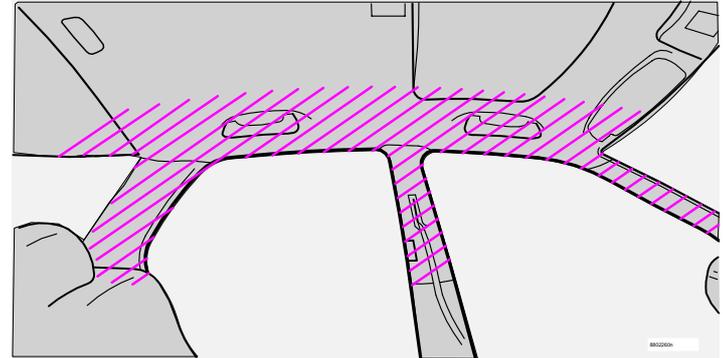
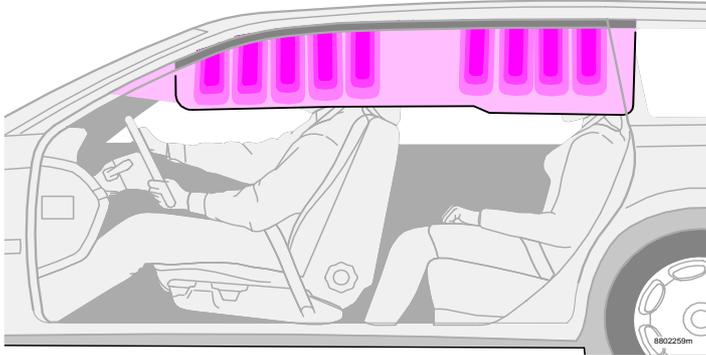
Inflated SIPS airbag

SIPS airbag

The SIPS system is an electrical system, consisting of two main components: the side impact airbags and sensors. The side impact airbags are installed in the front seat backrest frames and the sensors are in the insides of the centre and rear pillars. The volume of the inflated side impact airbags is approximately 12 litres.

The side impact airbag normally inflates only on the side of the collision.

IC system (Inflatable Curtain)



IC system (Inflatable Curtains)

The IC system protects the head from blows against the car interior. The curtain also protects against objects that the car is in collision with. The IC system protects both those travelling in the front and outer rear seats. The curtain is hidden inside the headlining. The IC system - inflatable curtains - covers the upper part of the car interior next to the front and rear seats. The IC system is activated by the SIPS system collision sensors, when the car is hit from the side. When the IC system is activated the curtain is filled with gas from the gas generator, which is located in the rear end of the curtain.

WARNING!

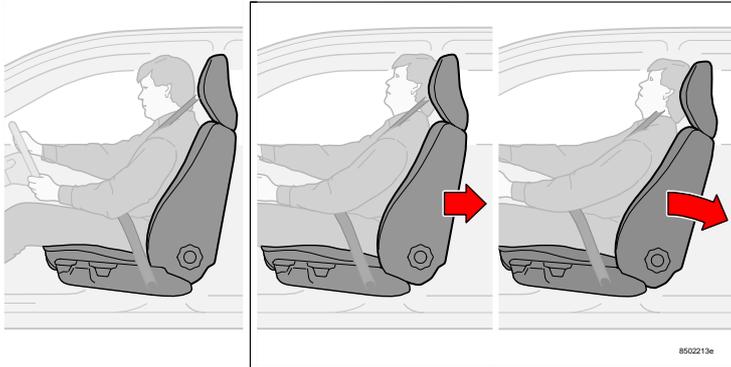


- Do not screw or mount anything to the headlining, door pillars or side panels. The intended protection may be compromised.
- When the rear seat backrest is folded down, do not load objects higher than 50 mm from the top edge of the rear passenger door window. Otherwise, the protection offered by the inflatable curtain hidden inside the headlining will be compromised.

Always use the safety belts!

If you have passengers in the rear seat, ensure that the rear seat head restraints are folded up and that the centre head restraint is correctly adjusted for a passenger.

WHIPS (Whiplash Protection System)



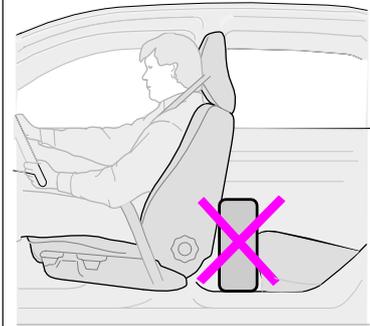
WARNING!



Never obstruct WHIPS system functions!

If a rear backrest has been lowered, adjust the corresponding front seat in order to avoid contact with the lowered backrest.

Avoid placing boxes or similar cargo so that they are clamped between the rear seat cushion and the front seat backrest.



WHIPS

This system consists of energy absorbing backrests and specially developed head restraints in both front seats.

WHIPS seat

WHIPS is activated in event of a collision from behind, based on the collision angle, speed and nature of the colliding vehicle. Upon activation the backrests of the front seats, if occupied, move backwards and the seating position of the occupants in the front seats is altered. This diminishes the risk of whiplash injury.

Correct seating position

For the best possible protection, you and your front seat passenger should sit in the centre of your seats with as little distance as possible between the head restraints and your heads.

WHIPS and child seat

The WHIPS system does not negatively affect the protective properties of the car with regard to child seats. As long as there is no passenger side airbag (SRS) a child seat may be placed on the front passenger seat. The WHIPS system stills functions if a rear-facing child seat is placed on the rear seat, supported against the front seat backrest.

WARNING!



If the seat has been exposed to a heavy load strain, for example a collision, the WHIPS system should be inspected at an authorised workshop. Even if the seat does not appear damaged the WHIPS system may have deployed without causing visible damage to the seat. Parts of the WHIPS protective capacity may have been lost. Allow an authorised Volvo workshop to check the system even after minor collision from behind. Never modify or repair the seat or the WHIPS system yourself!

SRS (airbag), SIPS bag (side airbag) and Inflatable Curtain (IC)

When do the airbags and curtain inflate?

The SRS system senses the collision in the level of braking and the speed reduction caused by the collision. The sensor determines whether the collision is of the character and nature requiring airbag deployment.

Note that it is **not only** the deformation of the bodywork which affects the car's sensors but also the speed reduction at the moment of impact. This means that SRS sensor senses those occasions when there is a risk that occupants in the front seats may be injured by blows against the dashboard or steering wheel.

The above applies to the SIPS system (side airbags), and inflatable curtains except that side impact airbags and inflatable curtains are only deployed in **side-on collisions**, when the car is hit by an object with sufficient force.

NOTE! Deployment of the SRS, SIPS and IC systems occurs only once in a collision in the relevant direction.

If the airbags have been deployed, we recommend the following:

- Tow the car to a Volvo workshop. Do **not** drive the car with the airbags deployed even if the car can be driven after an accident.
- Let an authorised Volvo workshop replace components to the SRS, SIPS, and IC systems.

WARNING!



The SRS sensors are located in the centre console. If the passenger compartment floor has been drenched with water, remove the battery leads in the cargo compartment. Do not try to start the car; the airbags may deploy. Tow the car to an authorised Volvo workshop.

WARNING!



Never drive with deployed airbags! They can hinder the steering of your car. Other safety systems may also be damaged. Intensive exposure to the smoke and dust released when the airbags are deployed can cause eye and skin irritation. If irritated, wash with cold water and/or contact a doctor. The speed of deployment can, in conjunction with the airbag fabric, cause friction burns to the skin.

If a brake circuit fails

If a fault should occur in one of the circuits it is still possible to stop the car. Press the pedal hard once - not repeatedly. The brake pedal can be depressed further and feels a little softer than usual. It also requires more pressure on the pedal to achieve a normal braking effect.

The brake servo only works when the engine is running

If the car is rolling or being towed with the engine switched off you must apply approximately five times more pressure on the brake pedal than when the engine is running.

The brake pedal feels rigid and hard.

Moisture on the brake discs and brake lining alter braking characteristics!

The brake components become wet when the car is driven in heavy rain, through pools of water, or when the car is washed. This alters brake pad friction characteristics so that there is a delay before braking effect is noticed. Depress the brake pedal lightly from time to time when driving long distances in rain or slush or before parking the car in such conditions. The brake pads are thus able to warm up and dry out. You should also do this when driving after washing the car or when starting in very damp or cold weather conditions.

If the brakes are heavily loaded

When driving in the Alps or other roads with similar characteristics, the brakes are heavily loaded even if you are not pressing the pedal particularly hard. Because the speed is often low

the brakes are not cooled as effectively as when driving on flat roads.

So as not to overload the brakes **shift down** and use the same gear both uphill and downhill instead of using the brake (manual transmission). In this way engine braking is used more effectively and the brake is only required for short periods.

Keep in mind that the brakes are even more heavily loaded when driving with a trailer.

ABS - Anti-lock brakes

The ABS system (Anti-lock Braking System) is designed so that the wheels do not lock when braking. This retains the best possible steering response when braking. This improves your ability to swerve to avoid obstacles. The ABS system does not increase your total braking capacity. However, as the driver you have increased ability to steer and thus better control over the car, which in turn increases safety.

After the engine has started and reached a speed of about 20 km/h (12 mph), a short self-test can be both heard and felt. When the ABS system functions, you can hear and feel pulses in the brake pedal. This is completely normal.

NOTE! You must depress the brake pedal fully to take maximum advantage of the ABS system. Do not release the pedal when the ABS pulses are felt and heard. Practice braking with the ABS system in a suitable place.

The ABS symbol shines with a steady light:

- For approximately two seconds when you start the car to test the system.
- If the ABS system has shut down due to a fault.

Electronic Brakeforce Distribution (EBD)

The EBD system (Electronic Brakeforce Distribution) is an integrated part of the ABS system. The EBD system controls the brake force to the rear wheels so that the best possible braking force is always available. Pulses in the brake pedal can be felt and heard as the system controls the brake force.

WARNING!

If both the **BRAKE**  and **ABS**  warning symbols are lit up there is a risk that the rear end will have a tendency to slide during heavy braking. If the brake fluid reservoir level is normal in these circumstances, you may, very carefully, drive the car to the nearest authorised Volvo workshop to have the brake system checked.





Stability and Traction Control STC/DSTC*

The STC system (Stability and Traction Control) contains the functions TC and SC. The DSTC system (Dynamic Stability and Traction Control) contains the functions TC, SC, AYC and EBA

Traction Control - TC (Traction Control, TC)

The traction control transfers the motive power from a drive wheel that spins on the road surface to the drive wheel that does not spin by braking the wheel that starts to spin. In order to increase accessibility in this situation you may need to press the accelerator harder than usual. A pulsing sound can be heard when traction control is working. This is completely normal for the system. The TC function is mostly active at low speeds. It cannot be deactivated.

Stability Control - SC (Stability Control, SC)

Stability Control is designed to prevent the drive wheels spinning on the road surface during acceleration, by lowering the engine torque on the drive wheels. This improves accessibility and road safety in slippery road conditions. In specific conditions, for example, driving with snow chains, in deep snow or sand, it can be beneficial to deactivate the SC function to increase traction. This is then done using the DSTC button.

Active Yaw Control - AYC (Active Yaw Control, AYC)

The anti-skid function performs automatic braking on one or more of the car's wheels. This stabilises the car if it starts to skid. If in this situation you attempt to apply the brakes yourself, the brake pedal will feel harder than normal and a pulsing sound will be heard. The AYC function is active the whole time and, for reasons of safety, it cannot be deactivated.

AYC in the V70 R

In the V70 R, this function can be switched off with the DSTC button. However, the procedure requires that function deactivation/reactivation is repeated three times (push the button five times in succession) in order to completely deactivate the AYC function. "DSTC ANTI-SKID OFF" will be shown on the display.

Emergency Brake Assistance (EBA) (Emergency Brake Assistance)

The EBA function is an integrated part of the DSTC system. The system is designed to provide full braking force immediately when rapid braking is necessary. The system senses when you need to brake heavily by registering how quickly you press down the brake pedal. The EBA function is active at all speeds and, for reasons of safety, cannot be deactivated.

NOTE! When the EBA function is active the brake pedal sinks at the same time as the car has maximum brake force available. Continue applying the brakes without releasing the pressure on the brake pedal. The EBA function disengages when the pressure on the brake pedal is eased.

STC/DSTC button

The STC/DSTC button in the centre console is used to reduce or reactivate the STC/DSTC system.

When **the LED in the button comes on** the STC/DSTC system **is activated** (if no fault arises).

When reduced the stability control (SC) is deactivated and the active yaw control (AYC) is reduced. Other functions are not affected.

NOTE! In order to reduce the effect of the STC/DSTC system for reasons of safety the button must be held in for at least a half second.

The LED in the button goes out and the display shows: "**STC SPIN CONTROL OFF**"/"**DSTC SPIN CONTROL OFF**". R version: "**DSTC REDUCED FUNCTION**" will be displayed.

The STC/DSTC system is automatically activated each time the engine is started.

* The STC and DSTC system is an option on some markets. The system is standard in the R version.

Stability and Traction Control STC/DSTC (Contd)

The warning symbol  flashes when...

- ...the SC function works to prevent the car's drive wheel from spinning.
- ...the TC function works to improve the car's traction.
- ...the AYC function works to prevent the car from skidding.

The warning symbol  comes on and goes off after approximately 2 seconds when...

- ...the car starts. (The lamp comes for a system check.)

The LED in the button goes out and the text "STC SPIN CONTROL OFF"/DSTC SPIN CONTROL OFF" is shown on the display. R version: "DSTC REDUCED FUNCTION" will be displayed when...

- ...the STC/DSTC system's SC function has been reduced using the DSTC button.

The warning symbol  lights yellow and the text "TRACTION CONTROL TEMPORARILY OFF" is shown on the display when...

- ...the brake system's TC function has been temporarily reduced due to a high brake temperature. The TC function is automatically reactivated when the brake temperature has returned to normal.

The warning symbol  lights yellow and the text "ANTI-SKID SERVICE REQUIRED" is displayed when...

- ...the DSTC system is deactivated due to a fault.

WARNING!



Under normal driving conditions, the STC/DSTC system improves the car's road safety, but this should not be taken as a reason to increase speed. Always follow the usual precautions for safe cornering and driving on slippery surfaces. Keep in mind that the driving characteristics of the car change if you deactivate the STC/DSTC system.

Road Friction Detection (RFD) system (option)

Road Friction Detection is an advanced system which discerns the amount of friction between the tyres and the road.

The system is designed as an early warning system which alerts the driver when road conditions are slippery.

The RFD system is active at low speed and upwards and cannot be switched off for reasons of safety.

The warning symbol  lights when...

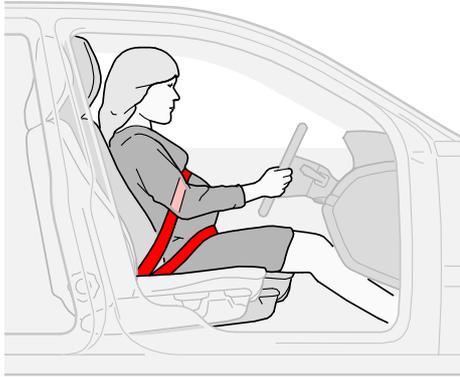
- ...the RFD system detects low road surface friction.

The warning symbol  lights with a fixed, yellow glow and the additional text "RFD SERVICE REQUIRED" when...

- ...the RFD system has been switched off due to a fault.

* The STC and DSTC system is an option on some markets.

Children in the car



The lap belt should be low

8801888e

Pregnant women

Pregnant women should be extra careful when using seat belts! Always remember to position the seat belt so that there is no unnecessary pressure on the womb. The lap belt on the three point seat belt should be low.

Children should sit comfortably and safely

Remember that children, regardless of age or size, should always be securely strapped into the car. Never allow a child to sit on the knee of a passenger!

Location and equipment must be selected with regard to the weight of the child.

Volvo's own child safety equipment is designed for your car. If you select Volvo equipment, you can be sure that the mounting points and attachments are correctly positioned and sufficiently strong.

The smallest children should sit in rear-facing seats. These give children up to the age of 3 years maximum protection.

NOTE! Many countries have statutory requirements covering where a child may be located in the car. Find out which rules apply in the countries you visit.

WARNING!



Never put a child seat/booster cushion in the front seat if the car is equipped with SRS (airbag) on the passenger side.

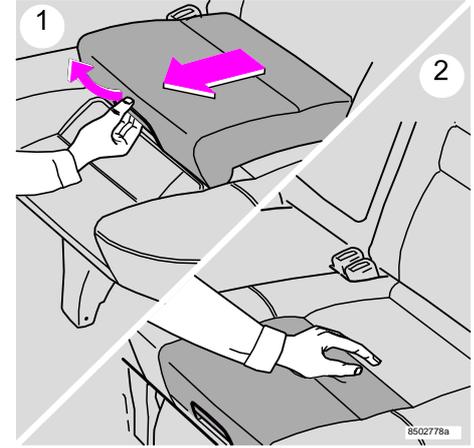
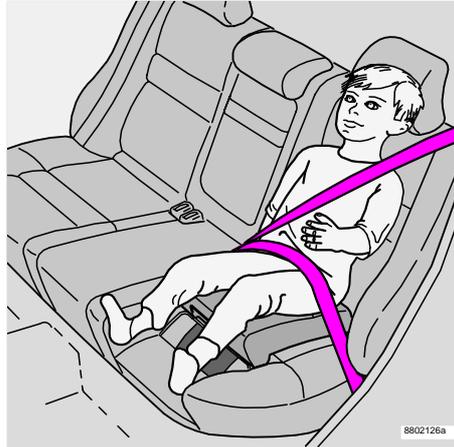
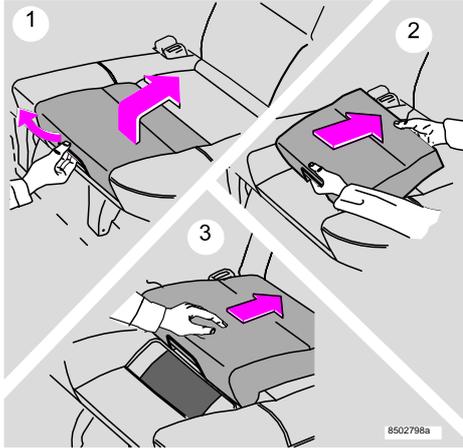
Important tips!

When using other child safety products available on the market it is **important** that the installation instructions are carefully read and closely followed. These are some points that you should consider:

- Child cushions and/or child seats with steel frames or other parts which could press against the seat belt release button must not be used as they could accidentally cause the belt buckle to open.
- Volvo has child safety products, which are designed and tested for use in Volvo cars.
- The child seat should always be located according to the manufacturer's description.
- **Do not** attach the child seat straps to the seat springs, rails or any of the rails and struts under the seat which may have sharp edges.
- Arrange the child seat backrest so that it rests against the dashboard.
- **Do not** allow the top portion of the child seat to rest against the windscreen.
- **Never** install a child seat on the front seat if the car is equipped with an airbag (SRS) on the passenger side.

NOTE! If you have difficulties installing the child safety product, contact the manufacturer for clearer installation instructions.

Integrated booster cushion for outer seats (option)



Outer seat - raising

1. Pull the handle so that the booster cushion rises up.
2. Grasp the cushion in both hands and move it rearwards.
3. Press the cushion until it locks into place.

Check that the seat belt is in contact with the child's body and is not slack or twisted. Make sure that the belt runs correctly over the shoulder and that the lap belt is positioned low down to afford maximum protection. The belt must not touch the child's neck or run below the shoulder.

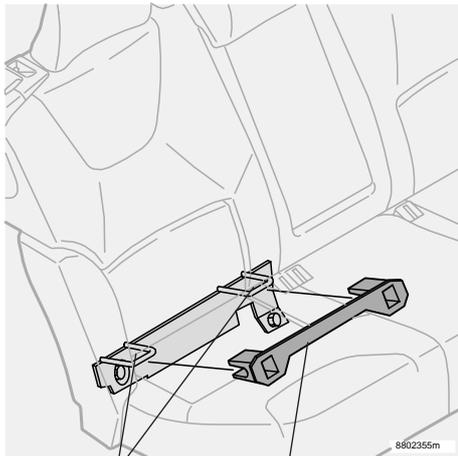
Outer seat - lowering

1. Pull the handle.
2. Move the seat down and press on it until it locks into place.

NOTE! Remember to lower the seat cushion first if you want to tip the seat backrest forwards.

Volvo's own integrated booster cushions for the **outer rear seats** are specially designed to provide optimum safety for the child. In combination with the regular seat belts, the booster cushions are approved for children weighing between 15 and 36 kg.

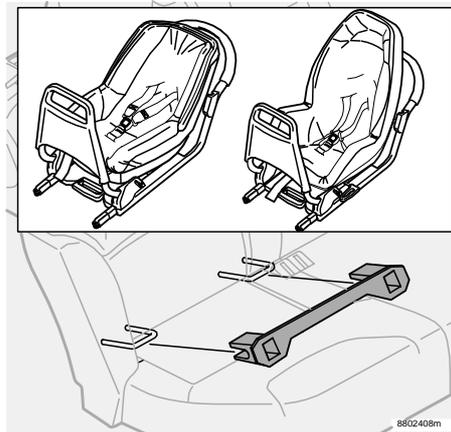
Isofix bracket system for child seats (option), accessories



Isofix attachment points Rail

Isofix bracket system for child seats

The car can be equipped with an Isofix bracket system for child seats in the outer rear seats. Contact your Volvo dealer for further information on child safety equipment.



NOTE: Isofix attachment points are located on both outer rear seats. The rail can be moved from one side to the other as needed.

Child safety accessories

Volvo is well in the lead when it comes to child safety. Volvo continuously develops and improves its child safety products. You can confidently turn to your Volvo dealer for information about new solutions and developments in the field of child safety. Volvo's child safety products are specially designed for your car. They ensure maximum safety for your children.

WARNING!



If the integrated booster cushion has been exposed to heavy load, in a collision for example, the entire booster cushion, including the seat belt and screws, must be replaced. Even if the integrated booster cushion appears undamaged some of the protective properties may have been lost. The booster cushion should also be replaced if it is very worn or damaged. The booster seat cushion should also be replaced if it is very worn or damaged. Note that cushion replacement must be carried out professionally, because it is important for passenger safety that the cushion is correctly installed. Therefore the replacement and any repairs should be referred to your Volvo workshop. If the cushion becomes dirty it should initially be cleaned in situ. If the cushion is so dirty that it requires separate cleaning, the above instructions for replacing and installing the cushion should be followed. Do not alter or add anything to the child seat cushions.

Location of the child in the car

Weight / Age	Front seat, alternatives*	Outer rear seats, alternatives	Centre rear seat, alternatives
<10 kg (0 - 9 months)	1. Rear-facing child seat, secured with seatbelt. L: Type approval no. E5 03160 2. Rear-facing child seat, secured in ISOFIX attachment. L: Type approval no. E5 03162 3. Rear-facing child seat, secured with seatbelt and securing strap. L: Type approval no. E5 03135	1. Rear-facing child seat, secured with seatbelt and support arm. L: Type approval no. E5 03160 2. Rear-facing child seat, secured in ISOFIX attachment and with support arm. L: Type approval no. E5 03162 3. Rear-facing child seat, secured with seatbelt, support arm and securing strap. L: Type approval no. E5 03135	1. Rear-facing child seat, secured with seatbelt, support arm and securing strap. L: Type approval no. E5 03135
9 - 18 kg (9-36 months)	1. Rear-facing child seat, secured with seatbelt. L: Type approval no. E5 03161 2. Rear-facing child seat, secured in ISOFIX attachment. L: Type approval no. E5 03163 3. Rear-facing child seat, secured with seatbelt and securing strap. L: Type approval no. E5 03135	1. Rear-facing child seat, secured with seatbelt and support arm. L: Type approval no. E5 03161 2. Rear-facing child seat, secured in ISOFIX attachment and with support arm. L: Type approval no. E5 03163 3. Rear-facing child seat, secured with seatbelt, support arm and securing strap. L: Type approval no. E5 03135	1. Rear-facing child seat, secured with seatbelt, support arm and securing strap. L: Type approval no. E5 03135
15 - 36 kg (3-12 years)	Not a suitable placement for this age group.	1. Booster cushion with or without backrest. L: Type approval no. E5 03139 2. Integrated booster cushion. B: Type approval no. E5 03159	1. Booster cushion with or without backrest. L: Type approval no. E5 03139

***) WARNING!**



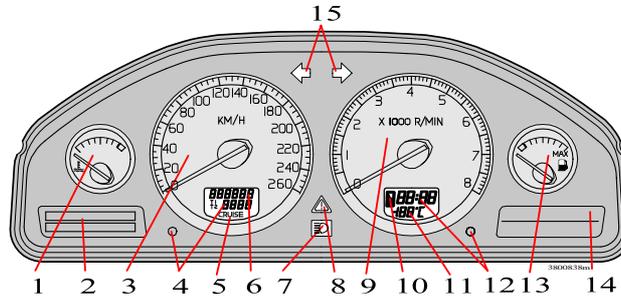
NEVER place a child seat or booster cushion in the front seat if the car is equipped with a passenger side airbag.

L: Suitable for certain child seats, as listed. The child seats may be vehicle-specific, limited, half universal or universal.
B: Integrated and approved for this age group.

Instruments, switches and controls

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Combined instrument panel



1. Temperature gauge

Displays the engine cooling system temperature. If the temperature is abnormally high and the needle enters the red field, a message is shown in the display. Remember that extra headlamps in front of the radiator grille reduce the cooling capacity at high outside temperatures and high engine loads.

2. Display

The display shows information and warning messages.

3. Speedometer

Shows the speed of the car.

4. Trip odometer

The trip odometer is used for measuring shorter distances. The right hand digit gives 100 metre units. Depress the button for more than 2 seconds to reset. Change between the trip odometers using one short press on the button.

5. Cruise control indicator

See page 34.

6. Odometer

The odometer indicates the total mileage of the car.

7. Main beam on/off

8. Warning symbol

If a fault occurs, the symbol lights up and a message is displayed.

9. Tachometer

Gives engine speed in thousands of revolutions per minute (RPM). The needle on the tachometer must not enter the red field.

10. Automatic transmission indicator

The selected gearshift programme is displayed here. If you have Geartronic automatic transmission and are using the manual function the current manual gear is displayed.

11. Outside temperature sensor

Displays the outside temperature. When the temperature lies between +2°C and -5°C, a snowflake symbol is shown in the display. This symbol warns that the road surface may be slippery.

When the car is or was stationary, the outside temperature gauge may read a higher reading than is actual.

12. Clock

Turn the button to set the time.

13. Fuel gauge

The fuel tank holds 70 litres. There are approximately 8 litres of usable fuel remaining when the low fuel lamp lights up.

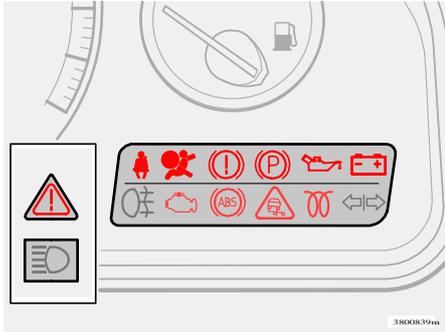
14. Indicator and warning symbols

15. Direction indicators - left - right

Indicator and warning symbols

The indicator and warning symbols light when the ignition key is turned to driving position (position II) before starting. This shows that the symbols are functioning. When the engine is started all the symbols go out. If the engine is not started within 5 seconds all the

symbols go out except  and . Certain symbols may not have the function indicated, depending on the car's equipment. The symbol for the parking brake goes out when the parking brake is released.



Warning symbol in centre of dashboard

This symbol shines as an **yellow** or **red** light depending on the severity of the fault discovered. See next page for more information!

WARNING!

If both the **BRAKE** and **ABS** warning symbols are lit up there is a risk that the rear end will have a tendency to slide during heavy braking.



Warning - fault in brake system

If the BRAKE symbol lights up the brake fluid level may be too low.

- Stop the car in a safe place and check the brake fluid reservoir level.
- If the reservoir level is below MIN the car should not be driven further. Have it towed to an authorised Volvo workshop to check the brake system.



Warning - fault in brake system

If the ABS warning symbol lights up, the ABS system is not functioning. The car's normal braking system continues to function normally but without the ABS function.

- Stop the car in a safe place and switch off the engine.
- Start the engine again.
- If the warning symbol goes out, the fault was temporary and it is not necessary to visit a workshop.
- If the warning symbol remains lit, drive carefully to an authorised workshop to check the ABS system.



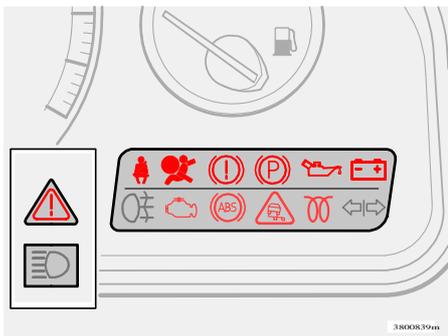
If **BRAKE** and **ABS** warning symbols light up at the same time, there may be a problem in the brake force distribution.

- Stop the car in a safe place and switch off the engine.
- Start the car again.
- If both warning symbols go out the fault was temporary and it is not necessary to visit a workshop.
- If the warning symbol remains lit, first check the level in the brake fluid reservoir.
- If the reservoir level is below MIN the car should not be driven further. Have it towed to an authorised Volvo workshop to check the brake system.
- If the brake fluid reservoir level is normal in these circumstances, you may, very carefully, drive the car to the nearest authorised Volvo workshop to have the brake system checked.

Indicator and warning symbols

The indicator and warning symbols light when the ignition key is turned to driving position (position II) before starting. This shows that the symbols are functioning. When the engine is started all the symbols go out. If the engine is not started within 5 seconds all the

symbols go out except  and . Certain symbols may not have the function indicated, depending on the car's equipment. The symbol for the parking brake goes out when the parking brake is released.



Warning symbol in centre of dashboard

This symbol shines as an **yellow** or **red** light depending on the severity of the fault discovered.

Red symbol - Stop the car. Read warning message in display.

Orange symbol - Read the message in the display. Remedy!



Stability and Traction Control STC* and DSTC*

The STC/DSTC system is described in detail on pages **19, 20 and 31**. The system includes various different functions



Risk of traction loss

If the warning symbol flashes this indicates that the STC/DSTC system is working. At the same time it may seem that the engine does not respond to normal acceleration. This situation can arise if you attempt to accelerate more than what road surface's friction permits.

- Drive carefully!



Reduced traction control

The symbol lights when the STC/DSTC system has reduced the function due to a too high brake temperature. The text "TRACTION CONTROL TEMPORARILY OFF" is shown on the display.

Reduced stability control

The LED in the button goes out when the effect of the STC/DSTC system has been reduced by using the STC/DSTC button in the centre console. The text "STC SPIN CONTROL OFF" / "DSTC SPIN CONTROL OFF" is shown on the display. R version: "DSTC REDUCED FUNCTION" will be displayed.



Fault in the STC or DSTC system

If the symbol comes on and the additional text "ANTI-SKID SERVICE REQUIRED" and you have not deactivated any of the system, this indicates a fault in a part of the system.

- Stop the car in a safe place and switch off the engine. Start the car again.
- If the warning symbol goes out this was just a temporary indication fault and you do not need to visit a workshop.
- If the warning symbol remains on, drive to an authorised Volvo workshop to check the system.

* The STC and DSTC system is an option on some markets. The system is standard in the R version.

WARNING!



Under normal driving conditions, the STC/DSTC system improves the car's road safety, but this should not be taken as a reason to increase speed. Always follow the usual precautions for safe cornering and driving on slippery surfaces.

Indicator and warning symbols

The indicator and warning symbols light when the ignition key is turned to driving position (position II) before starting. This shows that the symbols are functioning. When the engine is started all the symbols go out. If the engine is not started within 5 seconds all the

symbols go out except  and . Certain symbols may not have the function indicated, depending on the car's equipment. The symbol for the parking brake goes out when the parking brake is released.



Fault in car emissions systems

Drive to a Volvo workshop to have it checked.



Rear fog lamp

The lamp lights up when the rear fog lamp is on.



Trailer indicator lamp

Flashes when the car and trailer direction indicators are used. If the lamp does not flash, one of the direction indicators is defective.



Fault in SRS

If the symbol remains lit or lights while driving a fault has been found in the SRS system. Drive to a Volvo workshop to have it checked.



Parking brake applied

Remember that the light indicates **that** the parking brake is applied, not how hard. Check by pulling the lever! **You must always apply it sufficiently hard that the brake fastens in a "notch".**



Generator not charging

If the lamp lights while driving there is probably a fault in the electrical system. Contact a Volvo workshop.



Low oil pressure

If the lamp lights while driving engine oil pressure is too low. Stop the engine immediately and check the engine oil level.



Seat belt reminder

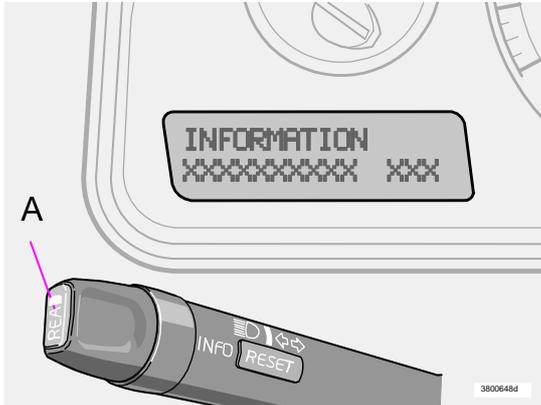
The lamp shines until the driver connects his/her safety belt.



Engine pre-heater (diesel)

The lamp lights to inform that the engine is pre-heating. When the lamp goes out, the car may be started. Only applies to diesel-powered cars.

Messages in the display



Messages in the display

Whenever a warning or indicator symbol lights up, a message is displayed. When you have read and understood, press the **READ** button (A). Read messages are then erased from the display and are put into the memory. The message remains in the memory until the fault is remedied.

Very serious fault messages cannot be erased from the display. They remain in the display until the fault is remedied.

NOTE! If a warning message interrupts when you, for example, are in the trip computer menu or wish to use the telephone, you must first acknowledge the message by pressing the **READ** button (A).

Messages stored in the memory can be read again. Press the **READ** button (A) if you wish to see the stored message. You can scroll through the messages in the memory by pressing the **READ** button (A). Press the **READ** button (A) to return read messages to the memory.

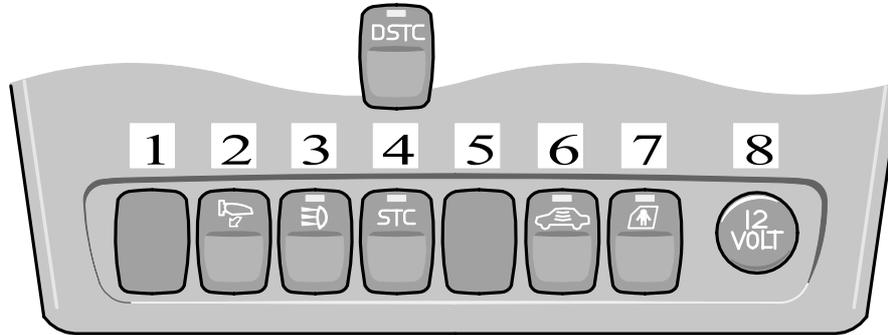
Message:	Significance/Action:
STOP SAFELY	Stop and switch off the engine. Serious risk of damage.
STOP ENGINE	Stop and switch off the engine. Serious risk of damage.
SERVICE URGENT	Take your car in for service immediately.
SEE MANUAL	Consult your Owner's Manual.
SERVICE REQUIRED	Take your car in for service as soon as possible.
FIX NEXT SERVICE	Have your car checked at the next service interval.
TIME FOR REGULAR SERVICE	When the message is displayed, the car is due for service. The message is displayed as a function of the distance travelled, the number of months since last service and engine running hours.
1) OIL LEVEL LOW - FILL OIL*	Low engine oil level. Check and remedy as soon as possible. See page 136 for more information.
2) OIL LEVEL LOW - STOP SAFELY*	Low engine oil level. Stop the car safely and check the oil level. See page 136.
2) OIL LEVEL LOW - STOP ENGINE*	Low engine oil level. Stop the car safely, switch off the engine and check the oil level. See page 136.
2) OIL LEVEL LOW - SEE MANUAL*	Low engine oil level. Stop the car safely, switch off the engine and check the oil level. See page 136.

1) Displayed together with the **orange** warning triangle.

2) Displayed together with the **red** warning triangle.

* R version only

Switches in the centre console



3602791m

1. Not in use

2. Retractable door mirrors (option)

This button is used to retract the door mirrors if they are folded out or to fold them out if they are retracted.

Do as follows if a door mirror has been accidentally folded in or out:

- Manually fold the door mirror forward as far as possible.
- Turn the ignition key to position II.
- Fold the door mirror inward and then outward using the button. The door mirrors have now returned to their original fixed positions.

3. Auxiliary lamps (option)

Use this button to switch the auxiliary lamps on or off. The LED in the button is lit when the lamps are on.

4. The STC/DSTC system*

This button is used to reduce or reactivate the functions in the STC/DSTC system.

When the LED in the button comes on, the STC/DSTC system is activated (if no fault arises).

In order to reduce the effect of the STC/DSTC system for reasons of safety the button must be held in for at least a half second. (The R version requires that system deactivation - reactivation be repeated three times in order to deactivate the system.)

The text "STC SPIN CONTROL OFF" / "DSTC SPIN CONTROL OFF" is shown on the display. R version: "**DSTC REDUCED FUNCTION**" will be displayed.

Reduce the system if you must use a wheel of a different dimension than the other wheels. The STC/DSTC system is reactivated when the engine is started.

WARNING!



Keep in mind that the driving characteristics of the car change if you deactivate the STC/DSTC system.

5. Not in use

* Option on some markets.
The system is standard in the R version.

Switches in the centre console

6. Deactivating the deadlock function and detectors

Use this button if you wish to shut off the deadlock function (deadlock means that the doors cannot be opened from the inside when they are locked). This button is also used to deactivate the movement and tilt detectors in the alarm system. The LED lights when these systems are deactivated.

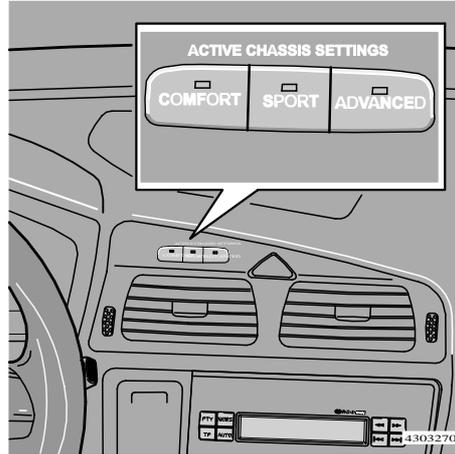
7. Child safety locks in the rear doors (option)

Use this button when you wish to activate or deactivate the electric child safety locks in the rear doors. The ignition key must be in position I or II. When the child safety locks are activated, the LED in the button lights. A message is shown in the display when you activate or deactivate the child safety locks.

8. Electric outlet/Cigarette lighter (option)

The electric outlet can be used for various 12 V accessories, such as mobile phones or coolers. The cigarette lighter is activated by pushing in the button. Once the lighter is heated, the button will pop out. Pull out the lighter to use it. For reasons of safety, always keep the lighter in the socket when it is not in use. The maximum current is 10 A.

NOTE! The relative positions of the buttons can vary.



Active chassis, FOUR-C*

The V70 R is equipped with an advanced, electronically-controlled active chassis system.

The buttons on the dashboard can be used at random in order to select from the three different settings: Comfort, Sport and Advanced.

*R version only.

Comfort

This setting adjusts the chassis setting so that the car “floats” over uneven surfaces in the road. Shock absorption is softer and body movements are minimal.

Sport

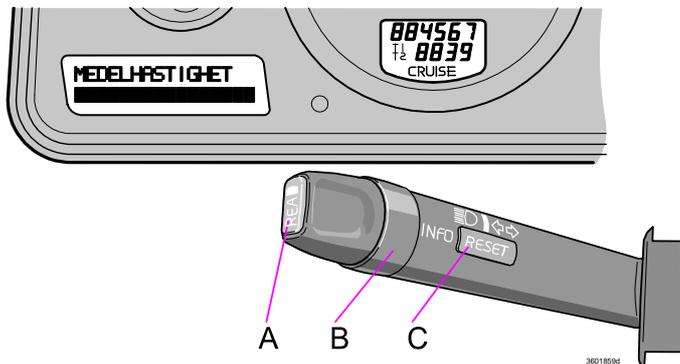
Shock absorption is harder in order to reduce roll during hard cornering. The car responds like a typical sports car.

Advanced

In this setting, the shock absorber movements are minimal, acceleration response is more direct and roll during cornering is minimised.

See page 96 for more detailed information about the system.

Trip computer (option)



Trip computer

The trip computer receives data which is continuously evaluated by a micro-processor. The system has four menus, which are shown in the display:

- **Range to empty fuel tank**
- **Average fuel consumption**
- **Current fuel consumption**
- **Average speed**

NOTE! If a warning message interrupts while you are using the trip computer, you must acknowledge the warning message. Then press the **READ** button (A) to return to the trip computer.

Controls - trip computer

In order to access the trip computer information turn the ring (B) in steps, either forwards or backwards. By turning again you return to the starting point.

Average speed

The average speed since the last reset (**RESET**). When the ignition is switched off, the average speed is stored and used as the basis of the new value when you continue driving. This can be reset with the **RESET** button (C) on the lever.

Current fuel consumption

Continuous information on current fuel consumption. Fuel consumption is calculated every second. The figure in the display is updated every few seconds. When the car is stationary “----” is displayed.

NOTE: The displayed value may be slightly off if a fuel-driven heater is used.

Average fuel consumption

The average fuel consumption since the last reset (**RESET**). When the ignition is switched off, the average fuel consumption is stored and remains until reset with the **RESET** button (C) on the lever.

NOTE: The displayed value may be slightly off if a fuel-driven heater is used.

Range to empty fuel tank

Displays the range available with the remaining fuel, calculated using the average fuel consumption over the last 30 km (18 miles) and the quantity of fuel remaining. When the range to empty is less than 20 km (12 miles) “----” is displayed.

NOTE: The displayed value may be slightly off if a fuel-driven heater is used.

Cruise Control (option)



Activating

The controls for cruise control are to the left in the steering wheel.

Setting desired speed:

- Press the CRUISE button. “CRUISE” is displayed in the combined instrument panel.
- The speed can be increased or decreased by pressing the + or - button.

NOTE! Cruise control cannot be engaged at speeds below 35 km/h (22 mph).

- Press + or - lightly to lock desired speed.

Temporary disengagement

Press **0** to temporarily disengage the cruise control.

The previously set speed is disengaged when the brake or clutch pedal is depressed. The previously set speed is stored in the memory.

Cruise control will also temporarily disengage if:

- the speed goes below the engagement limit.
- the gear selector is put in position N.
- wheel spin/wheel lock occurs.

Resuming speed

Press  and the car will resume the previously set speed.

Acceleration

A temporary increase in speed, when overtaking for example, does not affect the cruise control setting. The car resumes the previously set speed. When cruise control is already engaged the speed can be increased or decreased by holding the + or - button depressed. A short press corresponds to 1 km/h. The speed the car has when the button is released will be programmed instead.

Disengagement

Press CRUISE to disengage the cruise control. “CRUISE” will disappear from the combined instrument panel.

Cruise control automatically disengages when ignition is switched off.

NOTE! If any cruise control buttons are held depressed for longer than a minute, the system will disengage. To reset cruise control, car ignition must be switched off.

Headlamps, Fog lamps, Beam length control, Instrument lighting

A - Headlamps and position/parking lamps

0 All lighting off.

Cars with daytime running lights:

Ignition key in position II: Dipped beam lit (and front and rear position/parking lamps, numberplate lighting and instrument lighting).

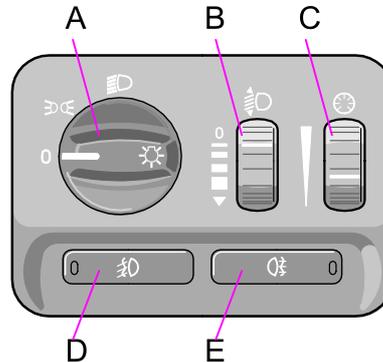
Dipped beam lights automatically when the ignition key is turned to the “driving position” and cannot be switched off.

 Position/Parking lamps front and rear.

 **Ignition key in position 0:** all lighting off.

Ignition key in position II: headlamps lit (and position/parking lamps front and rear, numberplate lighting and instrument lighting).

NOTE! It is necessary to turn the light switch



to the  position before the main beam can be switched on.

B - Beam length control

Certain models are equipped with an actuator motor at each headlamp in order to control the headlamp beam length with different loads in the car. Beam length is controlled using the beam length control in the dashboard. Cars with Bi-Xenon lighting (option) have automatic headlamp levelling.

C - Instrument lighting

Move control upwards - brighter lighting
Move control downwards - dimmer lighting

A twilight sensor (see page 48) automatically regulates all instrument lighting.

D - Front fog lamps (option)

Ignition key in position II: Press the button. The fog lamps light in combination with the parking lamps and main/dipped beam. The LED in the button lights when the fog lamps are lit.

NOTE! In certain countries, dipped beam may not be used in conjunction with fog lamps.

E - Rear fog lamp

Ignition key in position II. Press the button. The rear fog lamps light in combination with the main/dipped beam. The LED in the button and the symbol in the combined instrument panel light at the same time.

Please remember: Regulations for use of front and rear fog lamps vary from country to country.

Cars with daytime running lights

Before trips to certain countries, your Volvo workshop can help you deactivate the daytime running lights.

Ignition and steering wheel lock, Steering wheel adjustment



Ignition and steering wheel lock

0 Locked position

The steering wheel locks when the ignition key is removed.



I Intermediate position - "radio position"

Certain electrical components can be connected. The engine electrical system is not connected.



II Driving position

The key position while driving. The car's entire electrical system is connected. **Diesel:** Wait until pre-heating is finished. See page 88.



III Start position

The starter motor is connected. Release the key when the engine has started. The key springs back to the driving position automatically.

If the key is difficult to turn the front wheels are positioned so that there is tension in the steering wheel lock. Turn the steering wheel back and forth while turning the key.

Ensuring that the steering wheel is locked when you leave the car minimises the risk of theft.

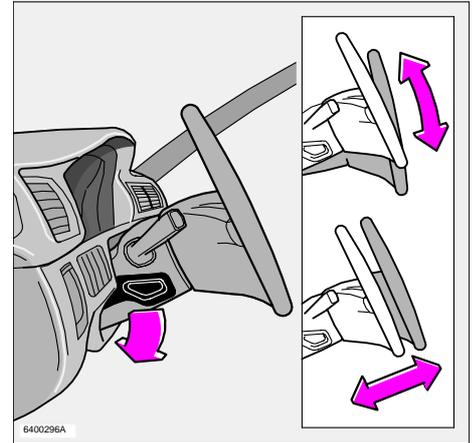
Ignition keys and electronic immobilizer

Do not let several ignition keys, each containing a chip, dangle on the same keyring when inserting the key in the ignition switch. The immobilizer could be activated. If this happens, take away the excess keys and restart the car.

WARNING!



Never switch off the ignition (key in the position 0) or pull out the ignition key while the car is moving. This can activate the steering lock, which makes the car impossible to drive.



Steering wheel adjustment

The steering wheel can be adjusted both vertically and front-rear.

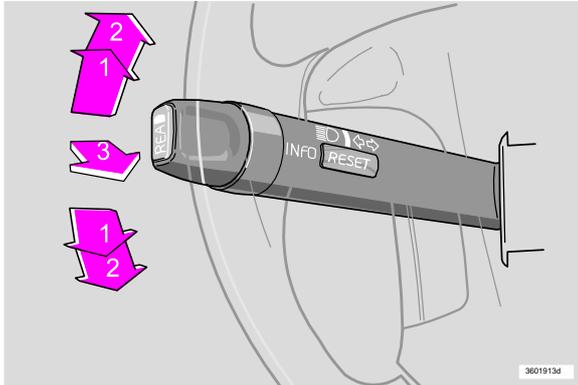
Push down the control on the left-hand side of the steering column. Then adjust the steering wheel to the position that suits you best. Ensure that the steering wheel fastens in a determined position (notch). Press the control back into place to lock the steering wheel.

WARNING!



Adjust the steering wheel before driving, never while driving. Ensure that the steering wheel is locked.

Direction indicators, Follow-me-home



Follow-me-home

Do as follows when you **leave your car** when it is dark out:

- Remove the key from the ignition switch.
- Pull the left hand lever towards you (as in main beam flash)
- Lock the doors.

The dipped beam, position/parking lamps, number plate lighting, side marker lamps and door mirror lamps are now lit. These lamps will remain lit for 30, 60 or 90 seconds. The time settings for your car can be changed by an authorised Volvo workshop.

Direction indicators, main/dipped beam switch and main beam flash

1 “Resistance point position”

For turns requiring small steering adjustments (lane changing, overtaking) move the lever up or down and hold it with a finger. The lever returns immediately to the neutral position when it is released.

2 Normal turns

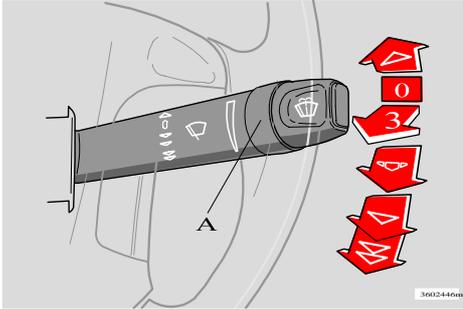
3 Main beam flash

Press the lever lightly towards the steering wheel (until you feel a slight resistance). The main beam is lit until the lever is released.

3 Main/dipped beam switch (Switch on headlamps)

Press the lever towards the steering wheel past the “flash position” and release it again. The headlamps change between main and dipped beam.

Windscreen wipers/washer



Wiper/washer function - windscreen

Windscreen wipers

0 - Windscreen wipers switched off. If the lever is in the **0** position and you draw it upwards, the wipers will continue one swipe at a time as long as you hold the lever up.

 - **Intermittent wiping.** You can adjust and set the speed of the intermittent wipe. Twisting the ring (see A in illustration) upwards increases the frequency of wiper strokes. Twisting the ring downwards decreases the frequency of wiper strokes.

Rain sensor (option)

The rain sensor replaces the intermittent function. The windscreen wipers automatically increase or decrease speed based on how much water the sensor indicates is on the windscreen.

Sensitivity can be adjusted using the ring (see illustration).

To activate the rain sensor function:

- Switch on the ignition.
- Move the lever from position 0 to the position for intermittent wiping.

The rain sensor is deactivated when the ignition is switched off completely.

To reactivate the rain sensor function:

- Switch on the ignition.
- Move the lever to position 0 and then to the position for intermittent wiping.

NOTE:

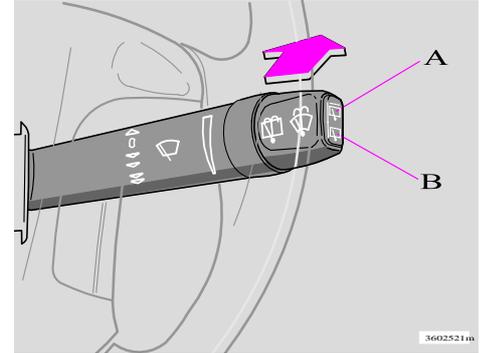
When using a car wash: Disengage the rain sensor (move the lever to position 0) or switch off the ignition completely. Otherwise, the windscreen wipers will begin swiping and can be damaged.

 - Wipers operate at normal speed.

 - Wipers operate at high speed.

3 - Windscreen washer/headlamp washer

Pull the lever **towards the steering wheel** to start the windscreen and headlamp washers.



Wiper/washer function - rear window

Rear window washer - tailgate

Press the lever **forward** to start the rear window washer.

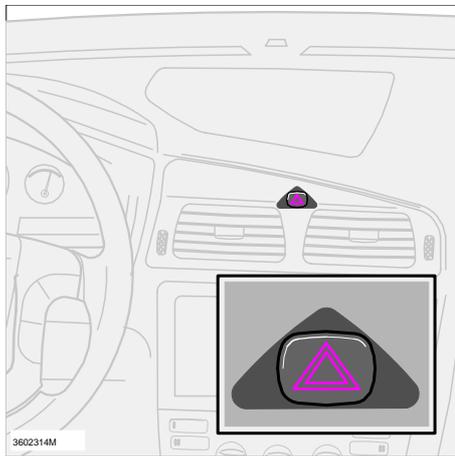
A - Rear window wiper - intermittent wiping.
B - Rear window wiper - normal wiping.

Rear window wiper – Reversing

If you put the car in reverse when the windscreen wiper is engaged, the rear window wiper will be set to intermittent mode*. If the rear window wiper is already set to normal speed, this function will not be altered.

* This function (intermittent wiping when reversing) can be disengaged. Contact a Volvo workshop.

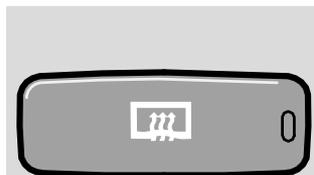
Hazard warning flashers, Rear defroster, Heated seats



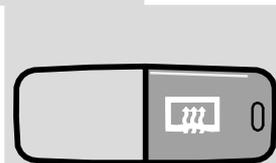
Hazard warning flashers

The hazard warning signal flashers (all direction indicator lamps flash) should be used when you are forced to stop or park the car where it is a hazard or hindrance to traffic.

Please remember: Regulations for the use of hazard warning flashers vary from country to country.



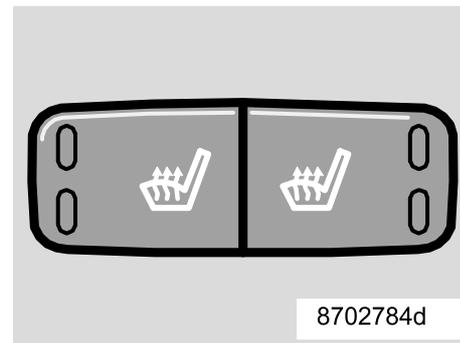
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Heated door mirrors , Rear defroster

Use the defroster to remove ice and misting from the rear window and door mirrors. Pressing the switch starts heating the rear window and the door mirrors at the same time. The LED in the switch lights. A built-in timer automatically disconnects the defroster from the door mirrors after approximately 6 minutes and from the rear window after approximately 12 minutes.



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Front seat heater switch

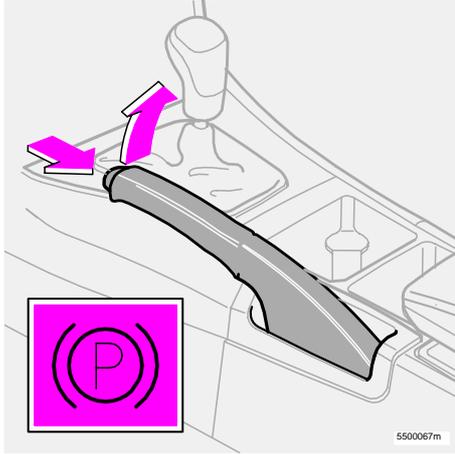
Heated front seats

If you wish to have extra heat in the front seat(s) carry out the following:

- Press **once**: High heat - both LEDs in the switch light up.
- Press **once again**: Low heat - one LED in the switch lights.
- Press **once again**: heating switched off (no LEDs are lit).

Your Volvo workshop can adjust the temperature.

Parking brake, Electrical socket/cigarette lighter



Parking brake lever

Parking brake (handbrake)

The lever is located between the front seats. The parking brake operates on the rear wheels. The warning symbol in the combined instrument panel lights when the brake is applied. Pull up the lever slightly and press in the button to release the brake.

Remember that the warning symbol in the combined instrument panel lights even if the parking brake is only “slightly” applied. Check that the brake is applied correctly. **You must always pull the lever hard enough to fasten it in a “notch”.**

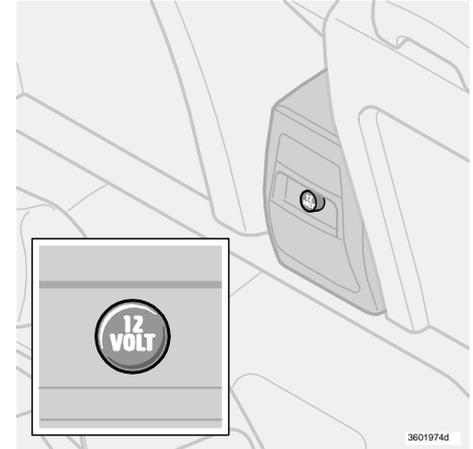


Electrical socket at the front seat

Electrical socket/cigarette lighter

The cover should always be in position if the socket is not in use as a power source or as a cigarette lighter socket.

The maximum current is 10 A.



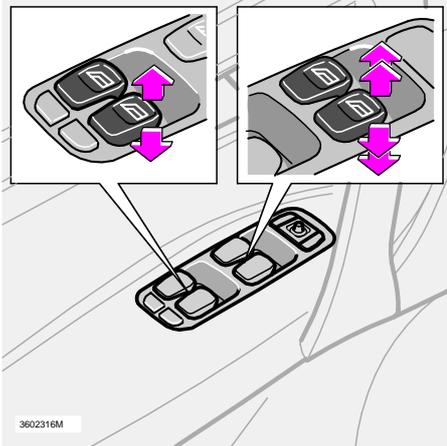
Electrical socket for the rear seat

Electrical socket/rear-seat cigarette lighter (option)

The cover should always be in position if the socket is not being used as a power source or as a cigarette lighter socket.

The maximum current is 15A.

Power windows



Windows can be opened or closed from the front seat two ways.

1. Press the switch **gently** downwards or pull it **gently** upwards. The power windows go up or down as long as the switch is actuated.
2. Press the switch **all the way down**, or pull it **all the way up**, and then **release it**. In this position (AUTO-DOWN - AUTO-UP), the power windows open or close automatically.

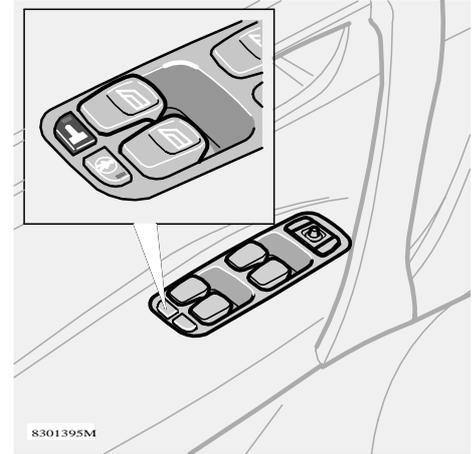
If you close the **front** windows using the AUTO function an integrated clamp protection is activated if the window is blocked by any object.

NOTE! The AUTO-UP function on the **passenger side** is only available on some markets.

Power windows

The power windows are operated using the switches in the door armrests. The ignition key must be turned to the radio or driving position* for the power windows to function. The window opens when you **depress** the front section of the switch and closes when you **pull up** the front section of the switch.

*When you have finished your trip and removed the ignition key, you can still close or open the windows **as long as you have not opened either of the front doors**.



Switch to deactivate rear power windows

The power window switches in the rear seat can be blocked from the switch on the driver's door switch panel. Always remember to break the current to the power windows (that is to say remove the ignition key and open one of the front doors*) when you leave children in the car unattended.

LED in the switch unlit:

The rear door windows can be operated both by the switch in each door but also by the switch in the driver's door.

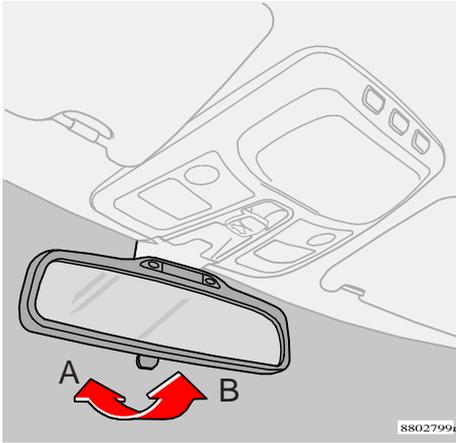
LED in the switch lit:

The rear door windows can only be operated from the driver's door.

WARNING!

If you have children in the car, make sure that their hands are clear when closing rear windows.





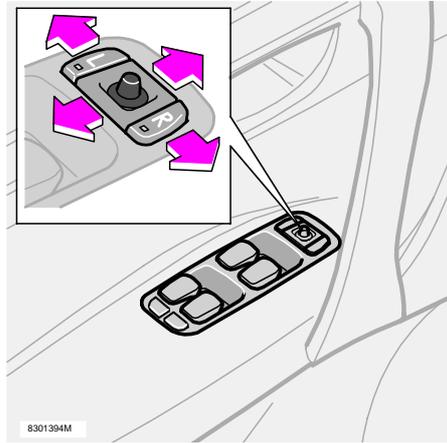
Rearview mirror

- A Normal position.
- B Dimming position. Use this if headlamps from the cars behind irritate you.

Certain models have an **autodim** function, which means that dimming is automatic, based on current light conditions.

Seat belt reminder

The seat belt warning symbol above the rearview mirror flashes as long as the **driver's** seat belt has not been connected. In certain models, the seat belt reminder switches off after 6 seconds. If the driver has not fastened his seat belt, the reminder is



Switches, power door mirrors

switched back on when speed exceeds 10 km/h (6 mph) and switches off when speed falls below 5 km/h (3 mph). If the belt is unfastened, this function is activated again when speed exceeds 10 km/h (6 mph).

Door mirrors

The switches for setting the two outer door mirrors are furthest forward on the driver's door armrest. Press the switch. L = left door mirror. R = right door mirror. LED in the switch lit: Adjust the position with the adjustment knob. When you have set the position press the switch once. The LED should no longer be lit.

Storing mirror settings in the remote control

Unlocking the car with one of the remote controls and changing the mirror settings will cause the new positions to be saved in the remote control. The next time the car is unlocked with the same remote control and the driver's door is opened within two minutes, the mirrors will assume the saved positions.

NOTE! The above applies only if your Volvo is equipped with a driver's power seat.

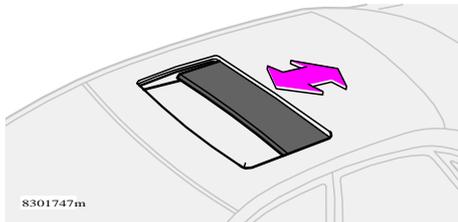
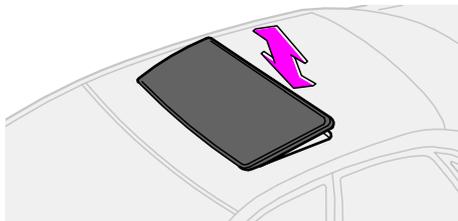
Do not use ice scrapers with steel blades to remove ice from the mirrors as the glass could be scratched!

WARNING!



Adjust the mirrors before you begin driving! The outer half of the door mirror on the driver's side is a "wide-angle mirror" that eliminates the "blind spot". **Bear in mind that the mirror distorts angles and distances!**

Sunroof



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Power sunroof (option)

Sunroof controls are located in the headlining. The sunroof can be opened in two different ways:

- Raise/lower trailing edge (ventilation position)
- Rearwards/forwards (opening position/comfort position*)

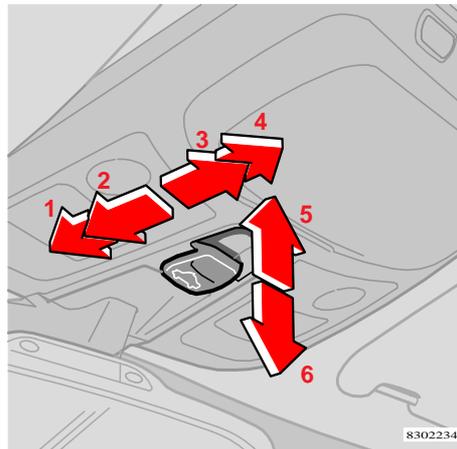
The ignition key must be in position I or II.

Ventilation position

Open: Push the trailing edge of the switch (5) upwards.

Close: Pull the trailing edge of the switch (6) downwards.

It is possible to switch directly from the **ventilation position to comfort position***: pull the control backwards to its end position (4) and release.



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1. Automatic closing
2. Manual closing
3. Manual opening
4. Automatic opening
5. Opening ventilation position
6. Closing ventilation position

*In comfort position, the sunroof is not completely open in order to reduce the level wind noise.

Opening position/comfort position*

Automatic control

Move the control over the resistance point position (3) to the rearmost end position (4) or over the resistance point position (2) to the front end position (1) and release. The sunroof will open to the **comfort position*** or will close completely. Open from **comfort position*** to max. opening: pull the control to the rear once more to the end position (4) and release.

Manual control

Open: Pull the switch rearwards to the resistance point position (3). The sunroof will move towards maximum opening position as long as the switch is held in this position.

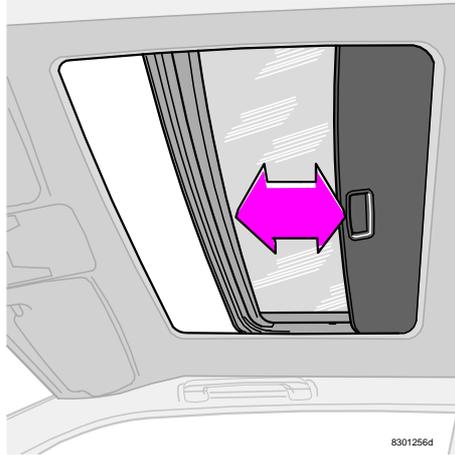
Close: Press the switch forwards to the resistance point position (2). The sunroof will move towards its closing position as long as the switch is held in this position.

Make sure the sunroof is properly closed before leaving the car.

WARNING!



If children are present in the car, make sure their hands are clear of the sunroof before closing.



Pinch protection

NOTE! The sunroof pinch protection function is activated if the hatch is blocked by an object. If blocked, the sunroof will stop and automatically open to the previous open position. This function will be activated only when the sunroof is in the open position.

WARNING!



Pinch protection functions only in the open position - not in ventilation position.

Sun screen

The sunroof also has an inner manually sliding sun screen. The sun screen slides back automatically when the sunroof is opened.

Laminated front and rear side windows

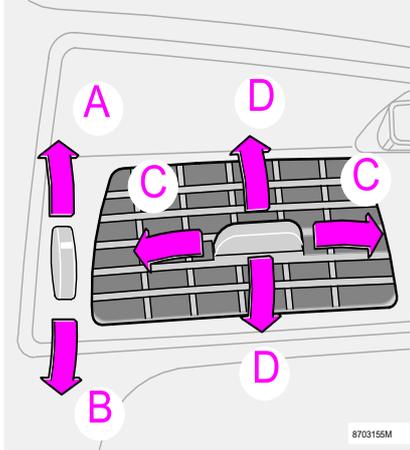
Inform your rear seat passengers of the following:
Due to the refraction of light through the side windows, rear seat passengers may find angles and distances distorted when looking **through the front side window on the same side as they are sitting.**

Laminated side windows provide extra protection against attempted break-ins.

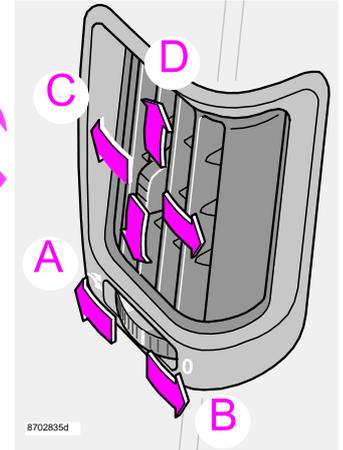
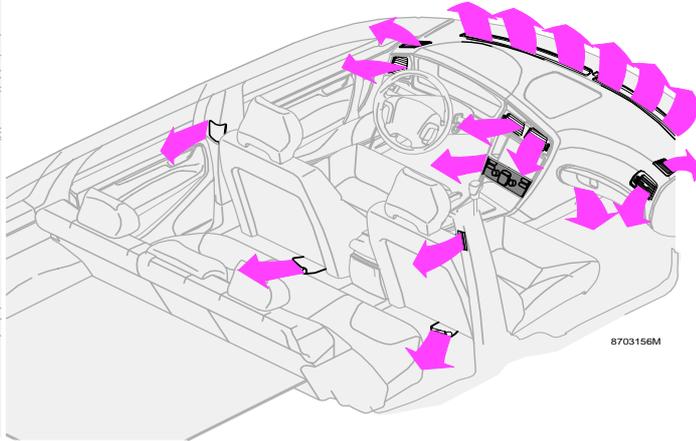
Climate control

Air distribution	46
Useful hints	47
Electronic Climate Control ECC	48
Manual climate control with air conditioning A/C	52
Parking heater	54

Air distribution



Air vents in the dashboard



Air vents in the door pillars

Air vents in the dashboard

- A Open
- B Closed
- C Directing airflow sideways
- D Directing airflow vertically

- Aim the outer vents towards the side windows to remove misting.
- In cold climates: close the centre vents for the most comfortable climate and best demisting.

Air distribution

The incoming air is distributed through 14 different air vents located in different parts of your car.

Air vents in the door pillars

- A Open
- B Closed
- C Directing airflow sideways
- D Directing airflow vertically

- Aim the vents toward the rear side windows to remove misting.
- Aim the vents inwards into the car if you wish to have a comfortable climate in the rear seat.
- Bear in mind that small children are sensitive to airflow and draughts.

Your climate control system - useful hints

Misting on window interiors

A good way to reduce the problem of misting on the insides of the windscreen and other windows is to clean them. Use a normal window cleaner. Bear in mind that you must clean them more often if someone smokes in the car.

Ice and snow

Remove ice and snow from the climate control air intake (the grille between the bonnet and the windscreen).

Particle filter

Make sure the particle filter is replaced regularly. Consult your Volvo workshop.

Actual temperature - ECC

The temperature you select corresponds to the physical experience with reference to air speed, humidity, exposure to sun, etc. which affect the interior and exterior of the car.

Sensors - ECC

The sun sensor is on the upper portion of the dashboard. Remember not to cover it. Do not cover the passenger compartment temperature sensor on the climate control panel.

When it is hot outside - sun heated car

In order to cool the car more rapidly when it is very hot outside you can “air” the car at the beginning of your journey by opening the windows and sunroof for a short time. This assists the car to cool the interior.

Side windows and sunroof

For the air conditioning (A/C) system to operate satisfactorily the side windows and sun roof should be closed. Remember not to block the evacuation channels on the parcel shelf.

Acceleration

The air conditioning system switches off temporarily at full acceleration. You may feel a temporary rise in temperature.

Condensation / After Blow

In warm weather conditions condensation from the air conditioning (A/C) system may drip under the car. This is completely normal. If necessary, the fan starts 50 minutes after the ignition switch is returned to position 0 and dries the climate control systems within 7 minutes. The fan will afterwards switch off automatically.

Fault tracing

Your Volvo workshop has the instruments and tools required for any fault tracing or repair of your climate control system. Entrust checks and repairs only to trained personnel.

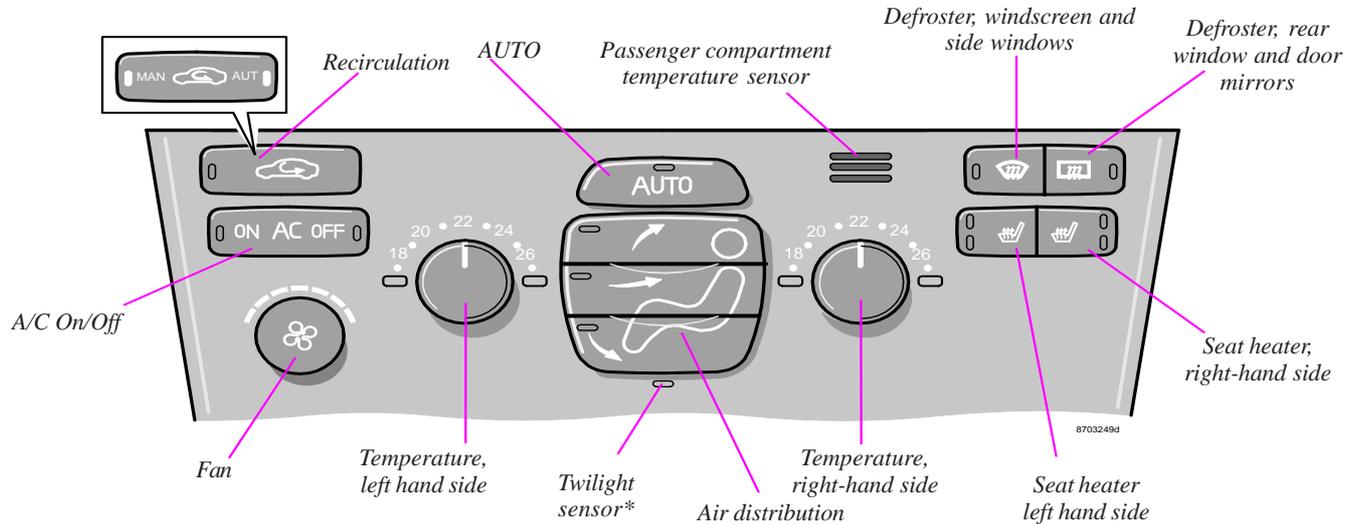
Environmental care

Refrigerant R134a is in the air conditioning system. This contains no chlorine, which means it is harmless to the ozone layer.

Use only R134a when topping up/refilling refrigerant. This work should be performed by an **accredited workshop**.

Electronic Climate Control ECC

Recirculation/Interior Air Quality System



* Automatically regulates all instrument lighting.

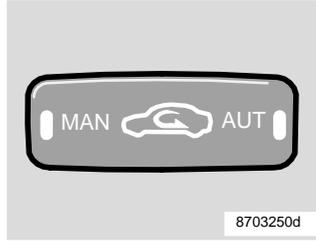
Automatic climate control ECC with Interior Air Quality system (option)

Multifilter with

Air quality sensor (option)

Some cars are equipped with a multifilter and air quality sensor. The multifilter separates gases and particles, reducing the volume of odours and contaminants entering the car. The air quality sensor detects increased levels of contaminants in the outside air. When the air quality sensor detects contaminated outside air, the air intake is closed and the air inside the compartment is recirculated. The multifilter also cleans the air recirculating in the compartment.

When the air quality sensor is connected, the green *AUT* LED lights in .



Operation:

Press  to activate the air quality sensor (normal setting).

Or select one of three functions by pressing



1. Press : the LED *AUT* lights. The air quality sensor is now activated.

2. Press : no LED lights. Recirculation is not activated unless needed to cool.

3. Press : the LED *MAN* lights. Recirculation is now activated.

You can switch between these three functions

by repeatedly pressing .

Points to remember:

- Make it a rule to have the air quality sensor activated at all times.
- Recirculation is limited in cold climates to avoid misting.
- In the event of misting, you should disconnect the air quality sensor.
- In the event of the windows misting up you can also use the windscreen and side window defroster functions. See next page.
- The recommended interval for changing the combination filter is at every other scheduled service. The multifilter may need to be changed more often if you drive in heavily polluted environments.

Electronic Climate Control ECC (option)



AUTO

The **AUTO** function regulates climate control so that the selected temperature is attained. The automatic function controls heating, air conditioning, fan speed, recirculation and air distribution.

If you select one or more functions manually, the other functions continue operating automatically.

All manual settings are switched off when **AUTO** is switched on.

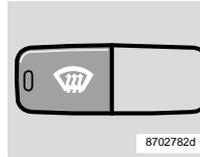
Fuel economy - Electronic climate control ECC

With ECC, the air conditioning system is controlled automatically and is used just enough to cool the passenger compartment and dehumidify the incoming air. This provides better fuel economy compared to conventional systems where the air conditioning cools the air to just above freezing point.



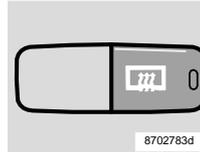
Temperature

The two knobs can be used to set the temperature for the passenger and driver's sides of the car. Remember that it will not heat or cool any quicker even if you select a higher or lower temperature than you wish to have in the passenger compartment.



Defroster - windscreen and side windows

Use this button to quickly remove misting and ice from the windscreen and side windows. The air flows to the windows at high fan speed. The LED in the defroster button lights when this function is activated. The air conditioning system is now controlled so that the air is maximally dehumidified. The air is not recirculated.



Defroster - rear window and door mirrors

Use this button to quickly remove misting and ice from the rear window and door mirrors. See page 39 for more information about this function.

Electronic Climate Control ECC - manual settings

Recirculation

(see also page 49)



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The best cooling in warm climates is achieved by selecting the **AUTO function**.

The recirculation is then controlled automatically.

Manual recirculation can be selected if you wish to shut out bad air, exhaust fumes etc. The air in the passenger compartment is recirculated; no air from outside the car is taken into the car when  is activated. The LED in the switch is lit.

If you allow the air in the car to recirculate there is a danger of misting and icing in the car, especially during the winter.

The **timer function (cars with multifilters and air quality sensors have no timer function)** minimises the risk of ice, misting and bad air.

Carry out the following to activate it. Press  for more than 3 seconds. The LED flashes for 5 seconds. The air in the car now recirculates for 3-12 minutes depending on the outer temperature. Each time you press  the timer function is activated. If you wish to switch off the timer function, press  again for more than 3 seconds. The LED lights for 5 seconds to confirm your selection.

If you select **Defroster** , recirculation is always disconnected.



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A/C - ON/OFF



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When the ON LED lights the air conditioning (A/C) system is controlled automatically by the system. In this way incoming air is cooled and moderately dehumidified. When AC OFF is selected and the OFF LED lights the air conditioning (A/C) system is always disconnected, other functions are still controlled automatically. The air conditioning (A/C) system operates down to approximately 0°C.

When you select **Defroster**  the air conditioning system is controlled so that air is maximally dehumidified.

Fan

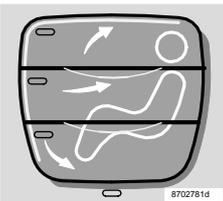


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Fan speed can be increased or decreased by turning the knob. If **AUTO** is selected, fan speed is controlled automatically. The previously set fan speed is disconnected.

NOTE! If the knob for the fan has been turned so far that the left LED above the knob lights up with an orange light, the fan and the air conditioning (A/C) system are switched off.

Air distribution



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Air to windows.

Air to head and body.

Air to legs and feet.

Press **AUTO** to return to automatic air distribution.

Heating the front seats



8702784d

See page 39 for further information

Manual climate control with air conditioning (A/C)

Recirculation



8702776d

Recirculation, together with your air conditioning (A/C) control, helps to cool a warm cabin more quickly. This function can also be used to exclude bad air, exhaust fumes etc. The air in the passenger compartment is recirculated; no air from outside the car is taken into the car when the button  is activated. The LED in the switch is lit. If you allow the air in the car to recirculate there is a danger of misting and icing in the car, especially during the winter.

The timer function minimises the risk of ice, misting and bad air. To activate the function: press  for more than 3 seconds. The LED flashes for 5 seconds. The air in the car recirculates for 3-12 minutes depending on the outer temperature. Every time you press  the timer function is activated. If you wish to switch off the timer function, press  for more than 3 seconds again. The LED lights for 5 seconds to confirm your selection.

Recirculation is always disconnected when you select  **Defroster**.

A/C - ON/OFF

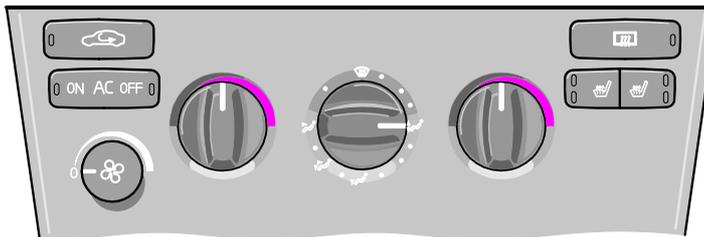


8702777d

The air conditioning is connected to the **cooling and dehumidification function** with the ON LED lights. The air conditioning

is disconnected with the OFF LED lights.

When you select Defroster , the air conditioning is connected as long as the fan is not set to position 0.



8702811d

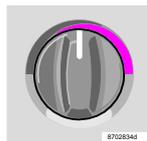
Fan



8702831d

Fan speed can be increased or decreased by turning the knob. If the knob is set to 0, the air conditioning is disconnected.

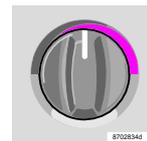
Heating/Cooling - left side



8702834d

Turn to set how hot or cold you wish the incoming air to be. To receive cooled air, the air conditioning must be connected.

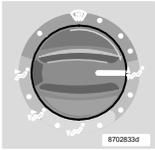
Heating/Cooling - right side



8702834d

Turn to set how hot or cold you wish the incoming air to be. To receive cooled air, the air conditioning must be connected.

Manual climate control with air conditioning (A/C)



Use the air distribution control positions (marked with dots) between the different symbols to fine-tune air distribution for maximum comfort.

Air distribution

Use...



Air through front and rear air vents.

When you want good cooling in a warm climate.



Air to windows In this position the air does not recirculate. The air conditioning (A/C) system is always connected. There is a certain amount of airflow to the vents.

When you want to remove ice and misting. High fan speed is good for this.



Air to both floor and windows. There is a certain amount of airflow to the air vents.

When you want comfortable conditions and good demisting in a cold climate. Not too low a fan speed.



Air to floor. There is a certain amount of airflow to the air vents and the defroster vents for the windscreen and side windows.

When you want to warm your feet.



Air to floor and air vents.

In sunny weather with cool outside temperature.

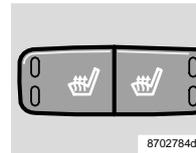
Here is some supplementary advice and information:

- You must turn the fan knob (from the 0 position) to connect the air conditioning.
- Use the air conditioning at low temperatures (0 - 15 °C) to dehumidify incoming air.



Defroster - rear window and door mirrors

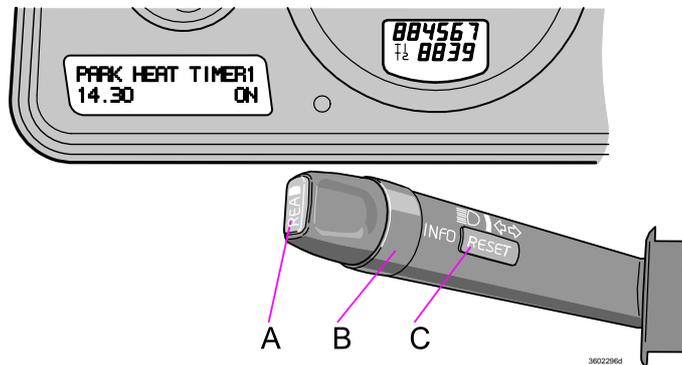
Use this button to rapidly remove misting or ice from the rear window and the door mirrors. See page 39 for further information about this function.



Heating the front seats

See page 39 for further information.

Parking heater (option)



Short push on RESET (C)

Setting of hours and minutes

Long push on RESET

The timer is activated (ON)

Long push on RESET

The timer is turned off (OFF)

ON lamp lights with a steady glow

The timer is activated

ON lamp flashes

The parking heater is activated

The parking heater can be started immediately or set to two different start times using TIMER 1 and TIMER 2.

Here, start time refers to the time point the car should be completely warmed up.

Vehicle electronics calculates start time based on current outside temperature. If the outside temperature exceeds 25°C, heating is not switched on.

At temperatures of -7°C and below, the parking heater runs a maximum of 60 minutes.

If repeated attempts to start the parking heater are unsuccessful, an error message is shown in the display - contact a Volvo workshop.

The car must be outdoors

Remember that the car must be outdoors when using petrol and diesel heaters.

Parking on a hill

If you park your car on a steep incline, the front of the car should be facing up the slope to ensure the supply of fuel to the parking heater.

Direct start of heater

1. Use the thumb wheel (B) to select DIRECT START.
2. Press the RESET button (C) to make ON and OFF selections available.
3. Select ON. The heater will now run for 60 minutes. Heating of the passenger compartment will begin as soon as the engine coolant has reached a temperature of 20°C.

Deactivation of heater after direct start

1. Use the thumb wheel (B) to select DIRECT START.
2. Press the RESET button (C) to make ON and OFF selections available.
3. Select OFF.

Parking heater (option)

Setting TIMER 1 or 2

For reasons of safety, you can only programme times for the following 24 hours, not several days in a row.

1. Use the thumb wheel (B) to select TIMER 1.
2. Briefly press the RESET button (C) so that the hours setting starts to flash.
3. Use the thumb wheel to set the desired number of hours.
4. Briefly press the RESET button so that the minutes setting starts to flash.
5. Use the thumb wheel to set the desired number of minutes.
6. Briefly press the RESET button to confirm your setting.
7. Press the RESET button to activate the timer.

Once you have set TIMER 1, you can toggle to TIMER 2. Make settings the same way as for TIMER 1.

Deactivation of timer-started heater

Do as follows to manually switch off the heater before the set time has elapsed:

1. Press the READ button (A)
2. Use the thumb wheel (B) to scroll to the text PARK HEAT TIMER 1 or 2. The text ON flashes.
3. Press the RESET button (C). The text OFF is displayed with a steady glow and the heater is switched off.

Messages in the display

Once TIMER 1, TIMER 2 or DIRECT START is activated, the amber warning symbol in the combined instrument panel lights and explanatory text is shown in the display.

When you leave the car, you will receive a message regarding the current settings of the system.

Car clock/timer

For reasons of safety, all timer settings will be cleared if the car clock is reset after timer settings have been made.

Battery and fuel

If the battery is not sufficiently charged or the petrol tank is close to empty, the parking heater will be switched off.

If this is the case, you will receive a message in the display. Confirm the message using the READ button (A).

IMPORTANT!

Repeated use of the parking heater combined with only short journeys can discharge the battery and impair starting.

In order to ensure that the generator receives sufficient time to produce the amount of energy needed without discharging the battery as a result of regular heater use, drive the car for a period equalling the time during which the heater has been active.

Interior

Seats	58
Interior lighting	61
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Rear seat and cargo area	66
Loading	71
Cargo net	72
Cargo area cover, Extra seat in cargo area	74
Spare wheel	75
Extra handle (XC70)	76

Front seats

Height adjustment - front seat

The front edges of the driver's and passenger seats can be adjusted to seven different settings and the rear edges to nine different settings.

The front lever (A) - adjusting the front edge of the seat.

The rear lever (B) - adjusting the rear edge of the seat.

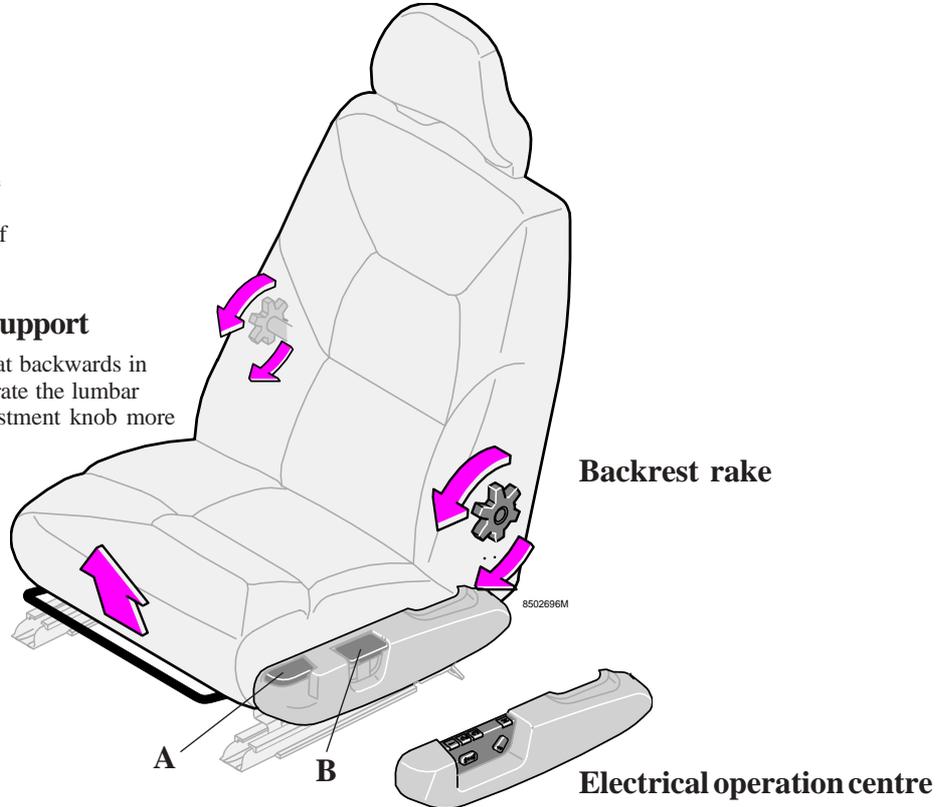
Lumbar support

Move the seat backwards in order to operate the lumbar support adjustment knob more easily!

Front-rear adjustment

The seat can be moved forward or backward when the bracket is lifted.

Check that the seat has locked into position after adjusting.

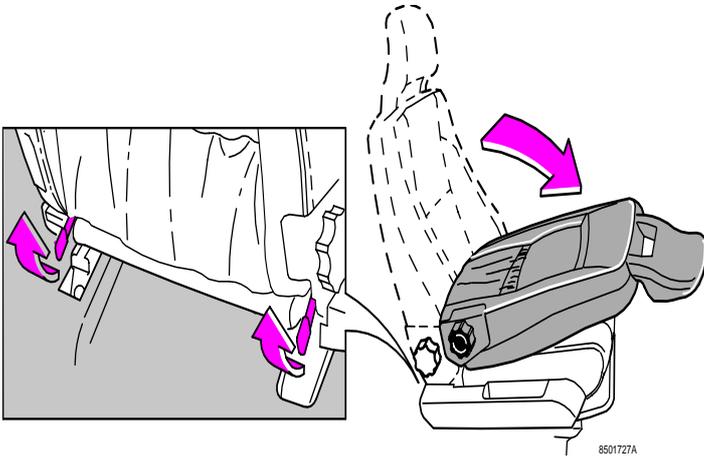


WARNING!



Adjust the seat before you begin driving.

Folding the front passenger seat



Folding the front passenger seat

The front passenger seat backrest can be folded to a horizontal position to make room for a long load. Fold the backrest as follows:

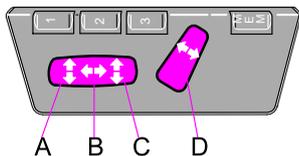
- Move the seat as far back as possible.
- Adjust the backrest to upright position.
- Lift the catches on the rear of the backrest.
- Fold the backrest forward.

Front seats

Power seat (option)

If your Volvo is equipped with power seats, the following may be adjusted with the two switches at the side of the seat:

- A - Height of seat front edge
- B - Front - rear
- C - Height of seat rear edge
- D - Backrest rake



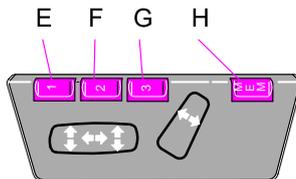
NOTE! The power seats have an overload protector which activates if the seat is blocked by any object. If this occurs switch off the ignition (ignition key in position 0) and wait for 20 seconds before using the seat again.

Emergency stop

If the seat accidentally begins to move, press one of the buttons to stop the seat.

Seats with memory function (option)

Three positions can be stored. After adjusting the position of the seat, hold the MEM button (H) depressed, while simultaneously pressing button E. Further seat and door mirror settings can be stored in the memory using memory buttons F and G.



Setting preset positions

Keep memory button E, F or G depressed until the seat and door mirrors stop.

If one of the setting buttons is released, adjustments will for reasons of safety immediately cease.

Ignition key

Passenger seat: The seat can only be adjusted if the ignition key is in position I or II.

Driver's seat: The seat can be adjusted if the ignition key is in position I or II. It can also be adjusted in the following circumstances:

1. Within 40 seconds of the ignition key being turned to position 0 or removed from the ignition switch.
2. After you have unlocked the driver's door with the key or remote control, the driver's seat can be adjusted during a 10 minute period **if the door remains open**. If the door is closed, the seat can be adjusted for 40 seconds. The ignition key can be in position 0 or not yet inserted in the ignition switch.

Storing seat positions in the remote control

Unlocking the car with one of the remote controls and changing the driver's seat settings, will save the new position in the remote control. The next time the car is unlocked with the same remote control and the driver's door is opened within two minutes, the driver's seat will assume the saved position.

WARNING!



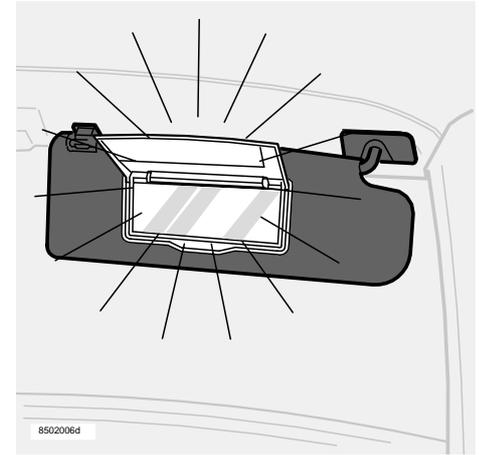
When adjusting, ensure that there are no objects in front of or behind the seat. Ensure that none of the rear seat passengers will be pinched. To avoid this possibility, ensure that children do not play with the switches.



General lighting and front reading lamps



Rear reading lamps



General lighting

General lighting lights up and goes out when you press the button. The general lighting has a built-in automatic function which means that the general lighting lights up and remains lit for 30 seconds:

- When you unlock the car from the outside using the key or remote control.
- When you have stopped the engine and turned the ignition key to position 0.

General lighting lights up and remains lit for 10 minutes:

- When one of the doors is open.

General lighting goes out:

- When the engine is started.
- When you lock the car from the outside using the key or remote control.

General lighting can be switched off or on in all situations by briefly pressing the button. When you switch the light on, it remains lit for 10 minutes.

You can disconnect the automatic function by pressing the button for more than 3 seconds. When you then briefly press the button, the automatic function reconnects.

The pre-programmed times of 30 seconds and 10 minutes can be changed. Contact an authorised Volvo workshop.

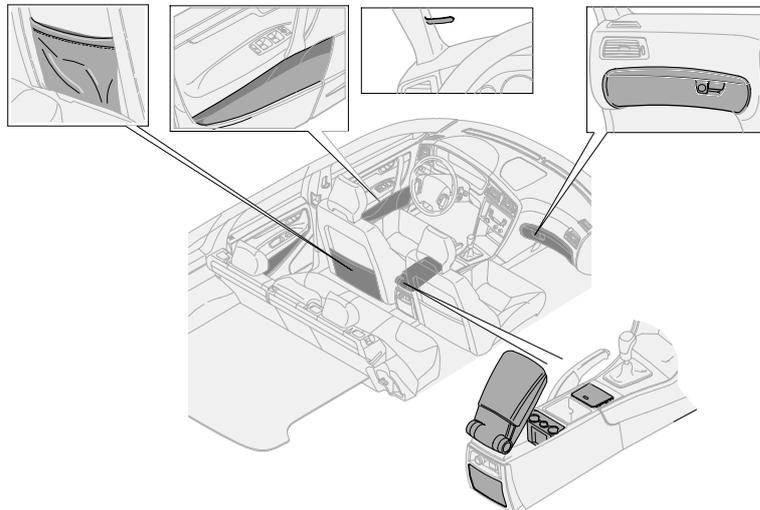
Vanity mirror

The lamp comes on when you open the cover.

Front and rear reading lamps

Reading lamps in the front and rear seats can be switched on or off by pressing the respective button. Reading lamps are switched off automatically after 10 minutes if not switched off manually.

Storage compartments, front and rear seats



Ashtray (option)

To empty the ashtrays:
Front seat: open the ashtray, pull out the insert.
Rear seat: as above.

Cup holder (option)

Some models are equipped with cup holders for the front and rear seat occupants.
You can also use the centre console's storage compartment for cassette tapes, CDs, etc.

Coin compartment (option)

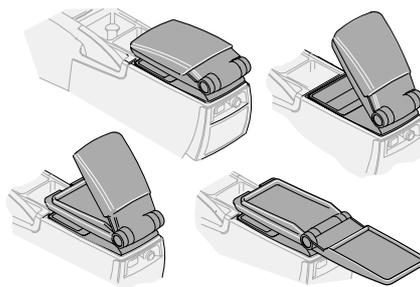
To remove the coin compartment: press the middle of the compartment and simultaneously pull it straight up.

8902267.3mm

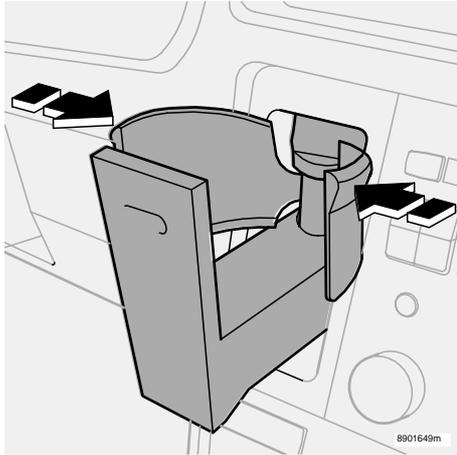
WARNING!



Make sure that no hard, sharp or heavy objects lie on or in any of the storage compartments where they might cause injury during heavy braking. Always fasten large heavy objects with one of the seat belts.



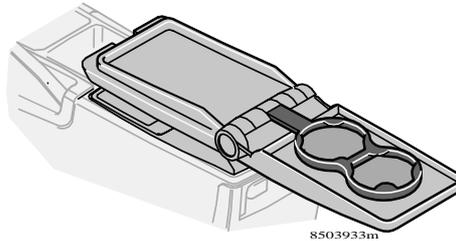
Storage compartments



Cupholder (option)

- Press on the holder to open it.
- Adjust the holder by pressing its arms inwards.
- Press the holder back in place after use.

NOTE! Never use glass bottles. Also bear in mind that hot beverages could scald you.

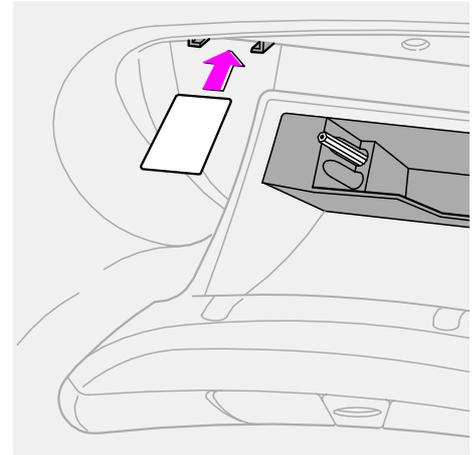


Rear centre console cup holder (option)

This cup holder is only available as an option on V70 Cross Country models with a 3-portion rear seat.

- To use the cup holder, pull the lid up over the centre console. The cup holder and the lid will simultaneously open.
- The cup holder and lid can be closed separately.

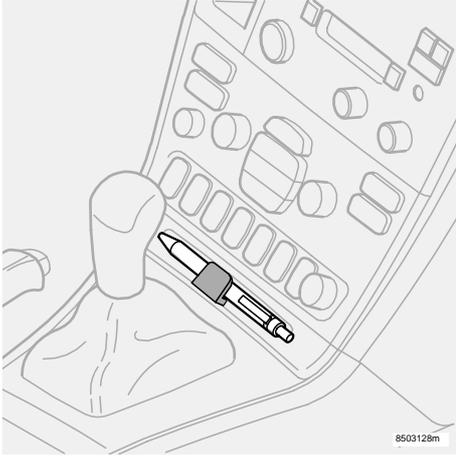
NOTE! If the cupholder is loaded with more than 5 kg, it will automatically be pressed down so as to avoid damage to the hinges.



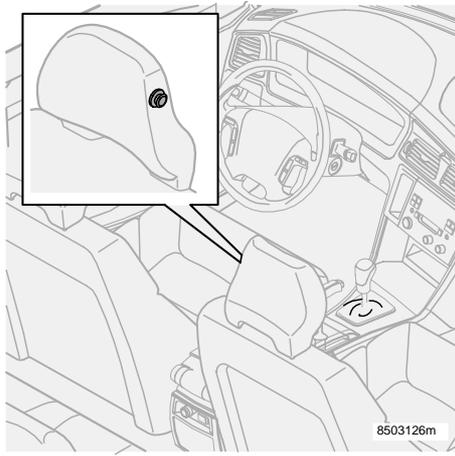
Storage in the glove box

You can keep pencils, credit cards, etc. in the glove box.

Storage compartments, front



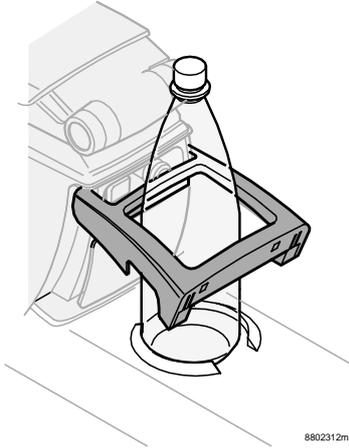
Pen holder on the dashboard



Coat hanger

Use the coat hanger for clothes of normal weight.

Waste bin, Collapsible table in rear seat



NOTE!

- There are no specially made waste bags for the holder - use ordinary plastic bags.
- For reasons of safety, never keep glass bottles in the car!

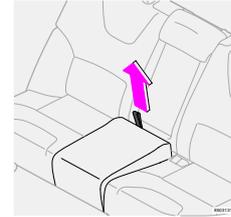
Waste bin/bottle holder in rear seat (option)

To change the waste bag:

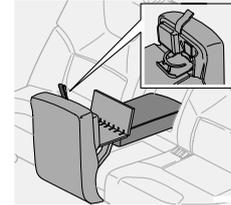
1. Open the holder.
2. Using both hands, press out the lower part of the holder.
3. Fit the bag round the lower part. Press the lower part back onto the upper part.
4. Empty the bag as necessary.

The waste bin can also be used as a holder for larger bottles etc.

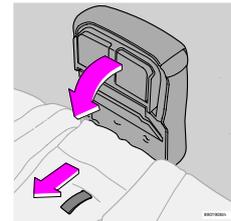
Collapsible table (option)



Pull the tab and fold the table section forwards.

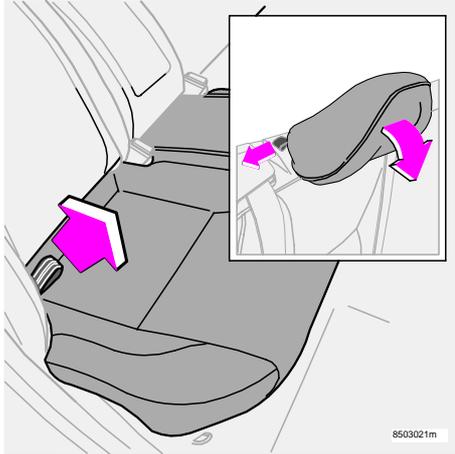


To completely fold out the table, fold the armrest in the backrest forward. Fold out the table so that it rests on the armrest. Press to release the cup holder. If you wish to fold out the cup holder by itself, you do not need to fold out the table.

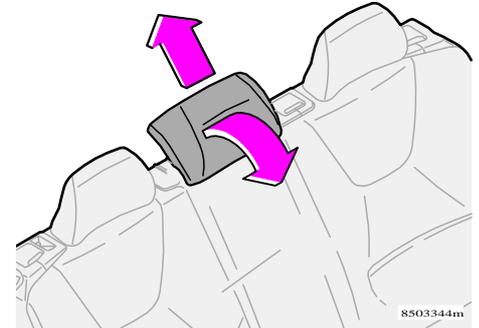
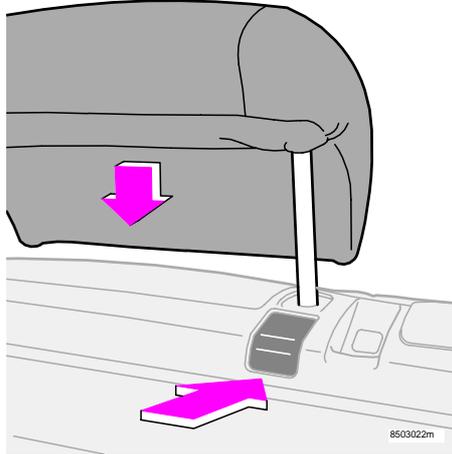


To close: Fold the table section upwards into place. Fold the arm inwards under the table. Mind your hand. Pull the tab and fold the table section back into place.

Rear seat and cargo area



Folding the head restraints



Extension of cargo area

The rear seat is in two sections and each section can be folded forward separately.

1. Tip the front seat backrests into a more upright position if they are excessively reclined.
2. Pull the strap on the seat cushion and fold the cushion towards the front seat backrest.
3. Fold the outboard head restraints forward by pulling on the head restraint strap.

Centre seat head restraint (V70)

Lower the centre seat head restraint if it is raised. Press the release button behind the right-hand support. See illustration.

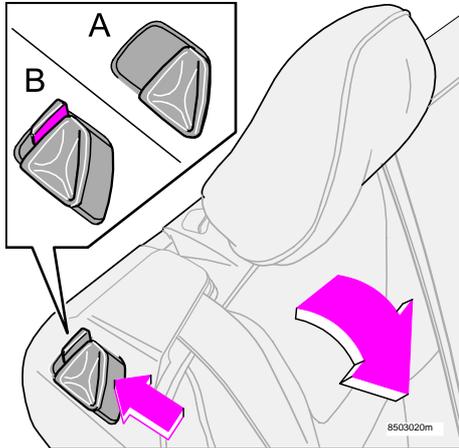
Centre seat head restraint (XC70)

(Models with 3-portion rear seat)

Raise - Pull the head restraint upwards.

Lower - Pull the head restraint slightly forward and press down.

Rear seat and cargo area



A - Catch in closed position
B - Catch in open position

Tipping the backrest forwards

Press the backrest catch to the rear and tip the backrest forwards.

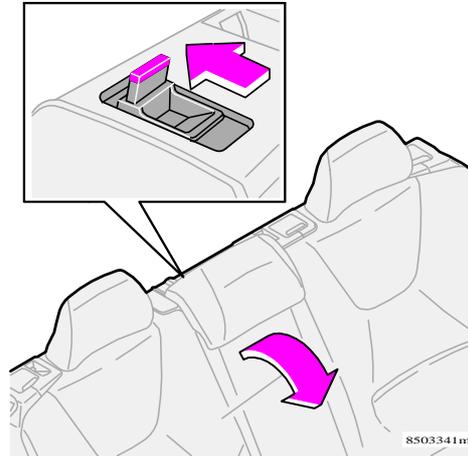
Folding the centre portion of the backrest (XC70)

(Models with 3-portion rear seat)

The left-hand and centre portions of the backrest can be folded individually.

The centre portion must be folded to fold the right-hand portion.

To fold the centre portion of the backrest (without folding the outer portions): Be sure



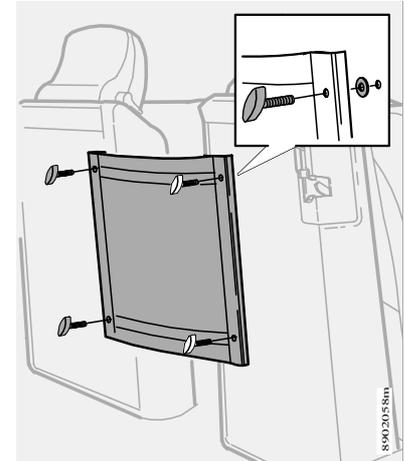
Centre seat backrest
(XC70 with 3-portion rear seat)

the head restraint is pressed completely down. Press the button on the top edge of this portion of the backrest to release the catch. Then fold the backrest forward.

WARNING!



Make sure the backrest locks into place when returning it to an upright position. The word "UNLOCKED" should not be visible on the catch.



Divider with storage pockets (XC70 – accessory)

(Models with 3-portion rear seat)

A divider with storage pockets is available as an accessory to the XC70 with a 3-portion rear seat.

The divider can prevent objects in the cargo area from being thrown forward during hard braking.

To fit the divider, see the accompanying directions in the kit or contact a Volvo workshop.

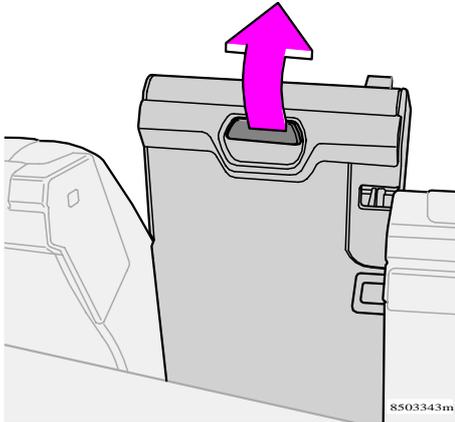
Rear seat and cargo area

Refitting the centre seat backrest

(Models with 3-portion rear seat)

- The right-hand portion of the backrest must be upright when refitting the centre portion.
- Refit the backrest by pressing the lower portion onto the rod until it locks into place.

Contact your Volvo dealer for information on accessories that can be placed between the outer portions of the backrest and seat cushion.



Removing the centre seat backrest (XC70)

(Models with 3-portion rear seat)

- Press the button on the top edge of this portion of the backrest to release the catch.
- Fold the backrest slightly forward.
- Pull the handle on the back or the backrest (see above illustration) to release the lower portion of the backrest from the rod. Lift out the backrest.

Contact your Volvo dealer for information on accessories that can be placed between the outer portions of the backrest.

WARNING!



(XC70 with 3-portion rear seat)

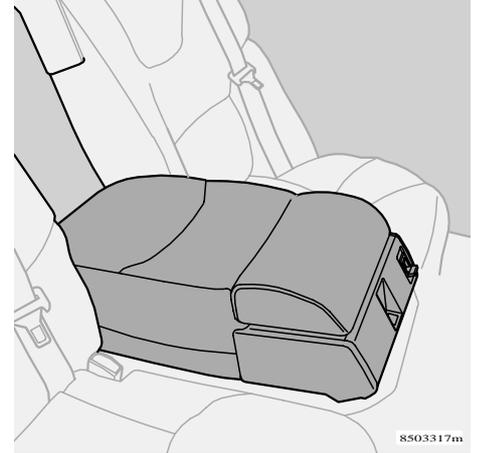
- For reasons of safety, the centre seat backrest should never be left loose in the car.
- If the centre seat backrest is removed, hard braking may cause unsecured objects in the cargo area to be thrown forward between the outer backrests.
- The right-hand side of the backrest must be upright when the centre seat backrest is folded into place. Otherwise, the centre seat backrest cannot lock into place and the centre seatbelt cannot be used.

Centre armrest (XC70)

(Models with 3-portion rear seat)

The centre seat backrest can be used as an armrest.

- Remove the centre seat backrest as described to the left.



Centre seat backrest as an armrest

- Turn the backrest over (the front of the backrest should be up)
- Press the backrest back onto the rod until it locks into place.

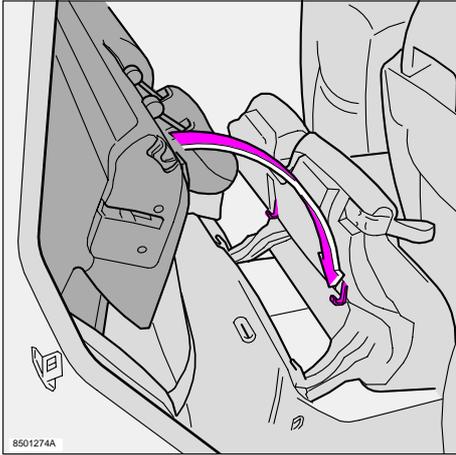
To reset the backrest to its normal position, pull the handle (which is now on the bottom of the front) to release it from the rod. Refit the backrest following the directions to the left.

WARNING!

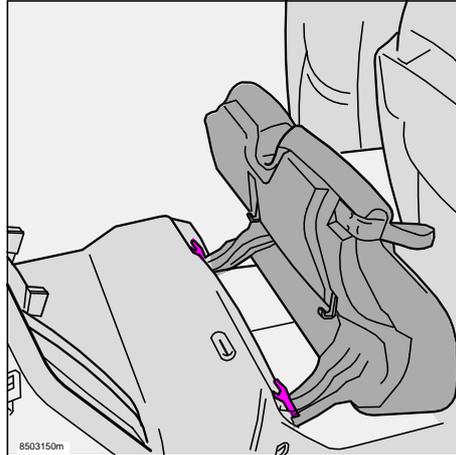


If the centre seat backrest is removed, unanchored objects in the cargo area can be thrown forward through the outer portions of the backrest during hard braking.

Rear seat and cargo area



NOTE! Make sure that the holes in the plastic ferrules on the top of the backrest engage with the hooks on the bottom of the seat cushion. When you later raise the backrest and seat cushion, the head restraints must be returned to their normal positions.

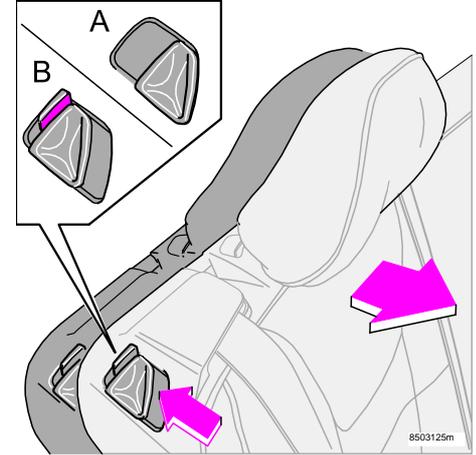


Removing the seat cushion (2 or 3 portion rear seat)

The seat cushion can easily be removed. You will then have a somewhat longer cargo compartment. Pull the red lock pins forward to unlock the seat cushion. Then lift the seat cushion. Do this in the reverse order when replacing the seat cushion.

WARNING!

Do not position heavy items right up against the front seats. The forward-folded backrest will then be pressed down unnecessarily hard. Never load above the level of the backrests. If you do, the cargo could be thrown forward during heavy braking or in a collision and seriously injure you or your passengers. Also remember to secure the cargo properly to prevent it moving about.



*A - Catch in closed position
B - Catch in open position*

Rear seat backrest position

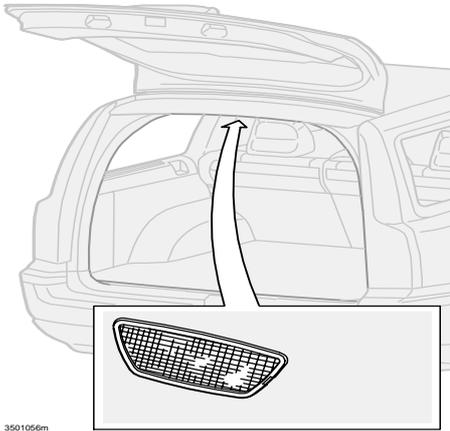
You can adjust the positions of the two rear seat backrests. To adjust a backrest to the **cargo position***:

- Press the catch until the red mark is visible.
- Pull the backrest forwards to a new locked position.
- Make sure that the backrest is secured in a locked position and that the red mark is no longer visible.

Follow the same procedure to adjust the backrest to an upright position.

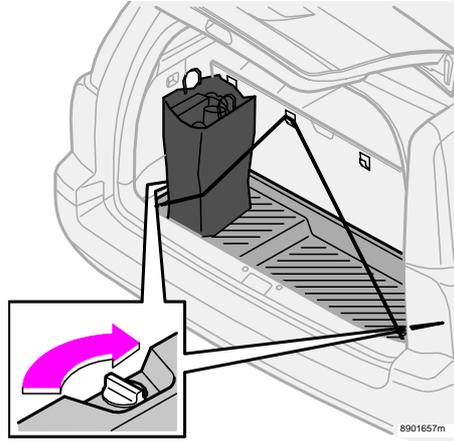
* the cargo position increases the cargo area.

Cargo area



Cargo area lighting

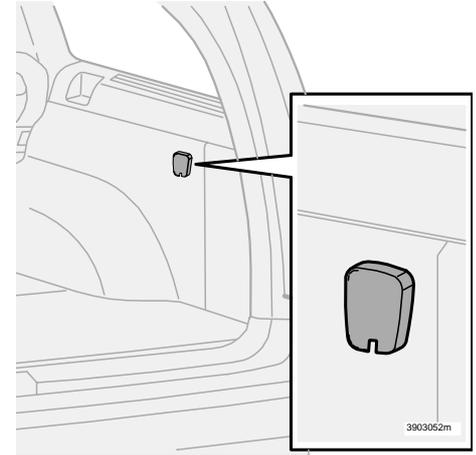
An extra roof lamp is fitted at the end of the cargo area.



Holder for grocery bags (option)

Open the tailgate. Hang or secure your grocery bags by means of tensioning straps or holders.

To remove the **plastic trough** (option), turn the two knobs at the sides.



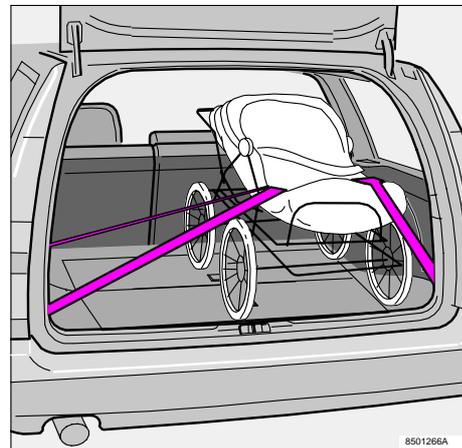
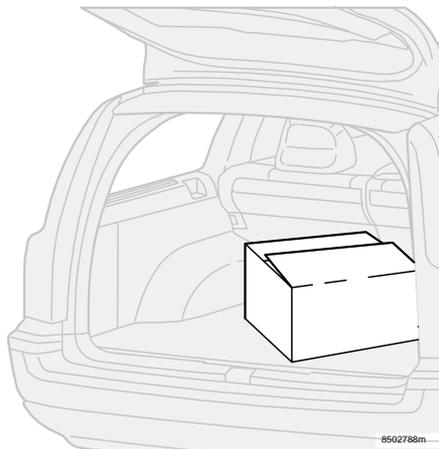
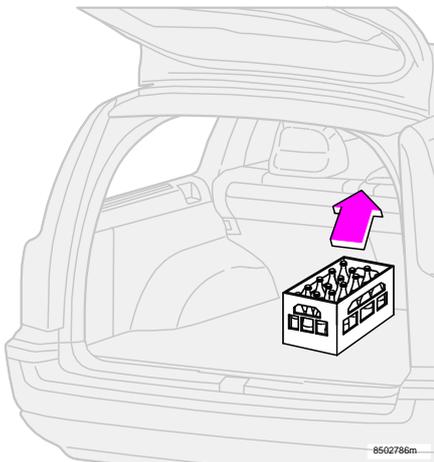
Electric socket in cargo area (option)

Remove the cover when you wish to use the electric socket. The socket is live regardless of whether or not the ignition is switched on. If the ignition is switched off and cargo with power consumption of more than 0.1A is connected to the socket, you will get a warning message in the display panel.

The maximum current for the electric socket is 15A.

Remember not to use the socket when the ignition is switched off, if there is a risk of draining the battery.

Loading



Loading in the cargo area

Seat belts and airbags afford the driver and front seat passenger excellent protection, especially in a frontal collision. You must also think of protecting yourself from behind. When loading cargo you should bear in mind that objects in the cargo area, if they are not properly anchored and correctly positioned, can be thrown forward at great speed and considerable force in a collision or during heavy braking and cause serious injury.

Remember that in a frontal collision at 50 km/h (31 mph) an object weighing 20 kg corresponds to a collision weight of 1 000 kg.

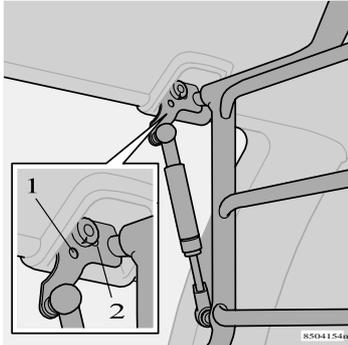
Bear the following in mind when loading cargo:

- Place the load close up **against** the backrest.
- Place heavy objects as low down as possible.
- Place wide objects on either side of the backrest split.
- Secure the load using suitable straps attached to the cargo lashing eyes.
- Never load above the level of the backrest without using a cargo net.

WARNING!



- Do not position heavy items right up against the front seats. The forward-folded backrest will then be pressed down unnecessarily hard. Never load above the level of the backrests. If you do, the cargo could be thrown forward during heavy braking or in a collision and seriously injure you or your passengers. Also remember to secure the cargo properly to prevent it moving about.
- When the rear seat backrest is folded down, do not load objects higher than 50 mm from the top edge of the rear passenger door window. Otherwise, the protection offered by the inflatable curtain hidden inside the headlining will be compromised.



Red marking - unlocked
Green marking - locked

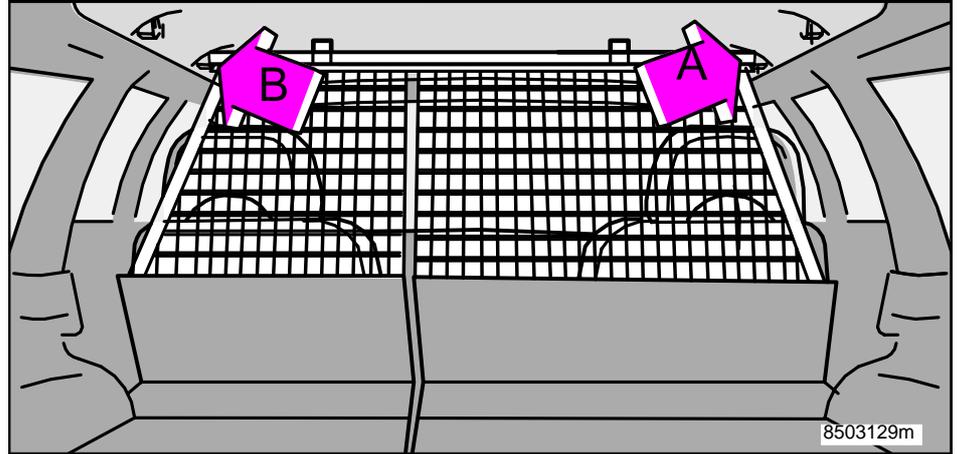
Protective grate XC70

For reasons of safety, the protective grate in the cargo compartment must always be fastened and secured correctly.

Do the following to fit the protective grate:

- Fold down the backrests.
- Use a Torx screwdriver* to press in and turn the knob (1) to red (to unlock).
- Insert the spring-loaded ends of the protective grate into the attachment points (see illustration).
- Press in and turn the knob (1) to green (to lock).

NOTE: The green marking on the bracket (2) and the marking on the knob (1) must be opposite each other after installation. Otherwise there is no impact protection.



Do the following to remove the protective grate:

- Fold down the backrests.
- Use a Torx screwdriver to press in and turn the knob (1) towards red so that the marking on the knob matches the marking on the bracket.
- Press the protective grate towards the opposite mounting until it comes out of the ceiling panel. Reduce the amount of pressure once the mounting has come past the ceiling panel and pull the grate carefully towards you so that the grate also releases on the other side. Do not angle the grate too much as it could become wedged and be difficult to pull out.

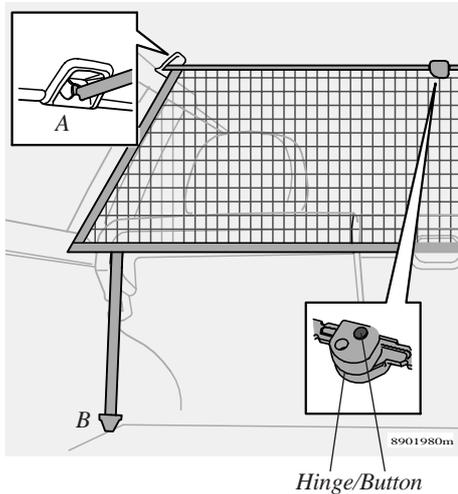
Nylon cargo net V70 (2-portion rear seat)

The car is equipped with a cargo net made of strong nylon fabric which can be unrolled from the rear seat backrest. The cargo net will upon unrolling, self-lock after about a minute, if the rear seat backrests are in an upright position.

- Pull up the right-hand cargo net.
- First hook the rod in the bracket on the right-hand side (A). Then pull the rod out and hook it on the left-hand side (B).
- Pull up the left-hand cargo net and secure it to the rod.
- Remove in reverse order.

The cargo net can also be used when the rear seat is folded forwards.

Cargo net XC70



Nylon cargo net

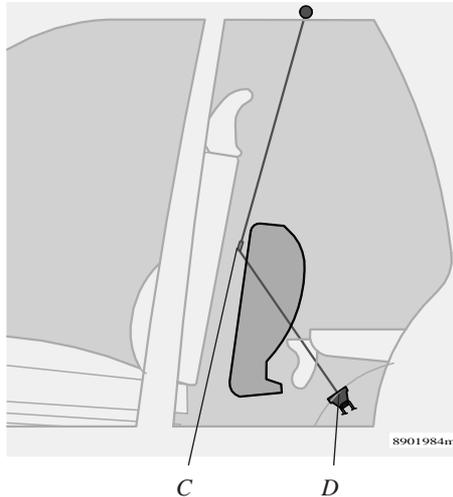
(Models with 3-portion rear seat)

Volvo XC70 can be equipped with a cargo net made of strong nylon fabric, attachable to designated brackets in the roof headlining and tightened from eyelets on the floor*.

The net can be fastened behind the upright backrests of the rear seats. If the rear seats are folded down, the net can also be fastened behind the front seats (see illustrations).

The upper and lower rods are equipped with hinges in the centre, allowing you to fold the cargo net together. If necessary, fold the rods out until they lock.

* If your car is equipped with a rear-facing extra seat.



- Secure the upper rod in the front or rear ceiling bracket (A)
- Secure the other end of the rod in the ceiling bracket on the other side.
- Secure the cords of the cargo net in the eyelets on the floor: (B) when the net is secured in the rear ceiling brackets, (D) when the net is secured in the front ceiling brackets.
- Tighten the cargo net with the cords.

NOTE:

- If the cargo net is fitted to the front ceiling brackets and the seat cushions of the rear

seat are folded forward, the cargo net should be pulled in front of the seat cushions and behind the backrests of the front seats (C).

- The cords of the cargo net must not be fastened to the eyelets on the floor under the front seats. If these eyelets are used and the front seats are moved back, the net or upper attachments might be damaged.

Folding the cargo net

The cargo net can be folded together and placed under the floor of the cargo area in cars not equipped with an auxiliary bass speaker (option) or auxiliary child seat (option).

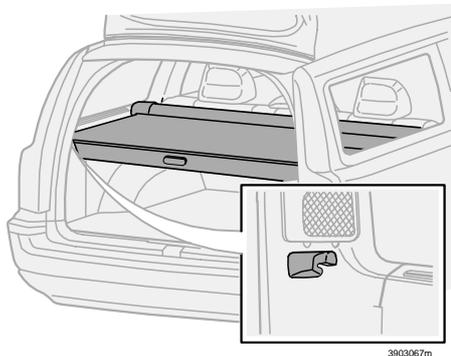
Press the buttons in the cargo net hinges (see inset in the illustration to the far left) to release them and fold the net.

WARNING!



- For reasons of safety, the cargo net must not be used if a child is sitting in the optional auxiliary seat that can be installed in the cargo area.
- It is important to check that the upper attachments of the cargo net are correctly mounted and that the cords are securely fastened.
- Do not use a damaged net.

Cargo area cover, Extra seat in cargo area

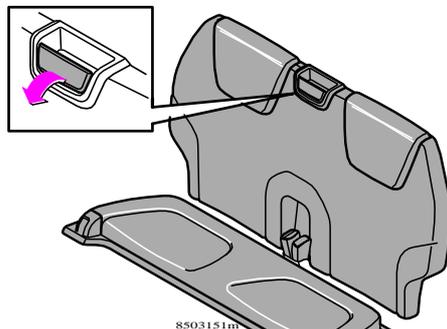


Cargo area cover (option)

Withdraw the cargo area cover, pull it over the luggage and hook it in the holes in the rear cargo area pillars.

Removing the cargo area cover:

- Press the end pieces of the cargo area cover inwards, pull up and remove.
- To fit in place: press the end pieces of the cargo area cover down into the holders.



Extra seat (option)

The auxiliary seat is designed for two children, each weighing between 15 and 36 kg and up to 140 cm in height. The maximum total weight is 72 kg.

Raising

- Remove the cargo area cover if your car is equipped with such.
- Fold the backrest section forwards until it locks in place.
- Fold the seat cushion forwards.

Lowering

- Fold the seat cushion rearwards.
- Pull the backrest section's handle to open it and then fold it downwards.

WARNING!



If your car is equipped with an extra seat, the tailgate must have a **lock cylinder**. The tailgate can now be unlocked from outside as normal (key in driver's door and/or with remote control) **as well as with** the key in the tailgate lock.

WARNING!



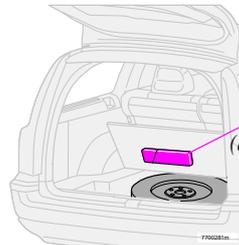
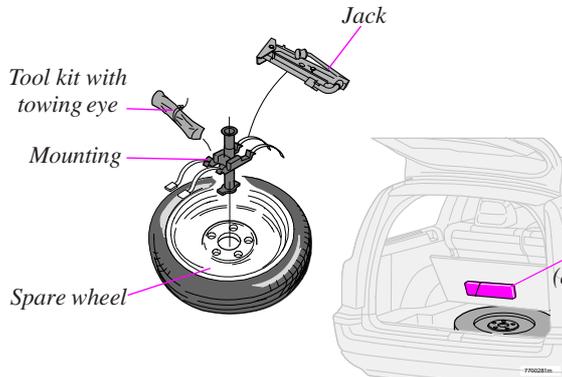
When the extra seat is used, the two rear seat backrests must be in the raised position, the cargo net removed and the child safety lock open. This is so that in the event of an accident the children will be able to get out of the car themselves.

If your car is fitted with a **steel cargo grid**, it must be removed before the extra seat is used. This is mandatory.

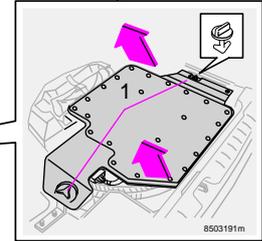
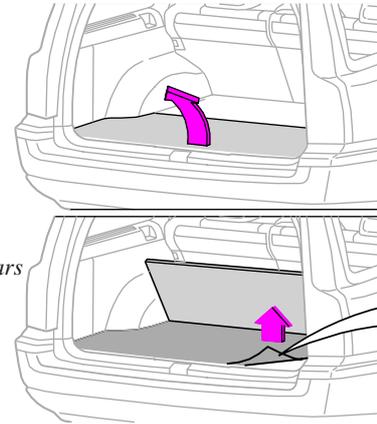
NOTE! If you **must** take the cargo area cover along on a trip while using the extra seat in the cargo area, do as follows:

- Fold both backrests of the backseat into a more upright position (see page 71).
- Carefully place the loose cargo area cover between the backrest of the backseat and the extra seat. Put up the neck support of the extra seat.

Spare wheel



Warning triangle
(another location for cars
with extra seat)



Spare wheel, tools, jack

The spare wheel with the tools and jack can be found under the floor of the cargo area. Carry out the following to remove the spare wheel.

- Remove the back floor hatch by unlocking it and pulling back 45°. Unlock the forward floor hatch.
- Undo the screws in the plastic trough (accessory) and lift it out.
- Lift out the jack and tool kit.
- Unscrew the mounting and remove the spare wheel.
- Screw everything back in place and secure in reverse order. Make sure that the spare wheel is fixed in place and that the jack and tool kit are properly secured.

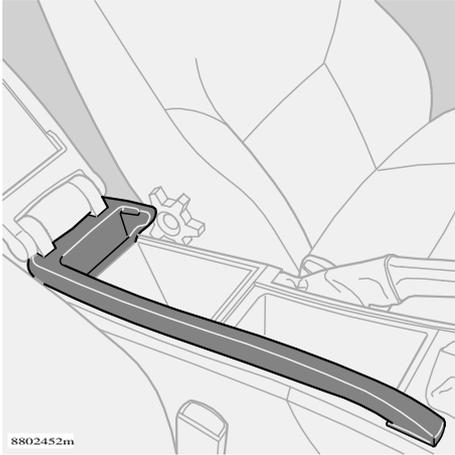
Warning triangle (certain countries)

Follow the regulations concerning warning triangles of the country you are in. **NOTE!** If the car is equipped with an auxiliary seat in the cargo area, the warning triangle is located in a special compartment in the front of the wheel well.

Spare tyre, tools, jack - cars with bass speakers (option)

The jack and tool kit are in a compartment above the spare wheel. Do the following to remove the spare wheel:

- Remove the back floor hatch by unlocking it and pulling back 45°. Unlock the forward floor hatch.
- Remove the carpet over the bass speaker.
- Loosen the wheel and turn the clip 90° (1).
- Remove the bass speaker by gripping the upper right-hand and lower left-hand corners. Lift upwards and inwards and then let the bass speaker rest against the left side of the cargo area.
- Return, close and fasten everything in reverse order. Make sure that the spare tyre is firmly fixed and that the jack and tool kit are fastened securely.

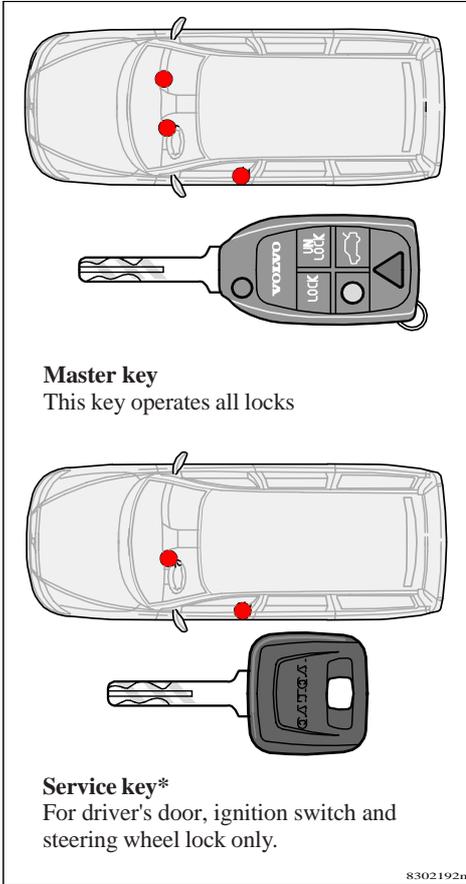


Extra handle

Volvo XC70 is equipped with an extra handle on the passenger side of the centre console storage compartment. This handle gives extra support when driving gravel roads, etc.

Locks and alarm

Immobilizer, Remote control	78
Locking and unlocking	79
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Master key

This key operates all locks

Service key*

For driver's door, ignition switch and steering wheel lock only.

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Keys - Immobilizer

Your car is delivered with two master keys and one service key. One of the master keys is foldable and equipped with an integrated remote control.

Loss of key

If you should lose one of your keys, bring the remaining keys to an authorised Volvo workshop. As a crime prevention measure, the code for the lost key is erased from the system and the other keys must be re-coded in the system. The mechanical code numbers for the keys are recorded on a separate label accompanying the keys. Store the label in a safe place. Take the label to your Volvo dealer if you wish to order new keys. A maximum of six remote controls/keys can be programmed and used.

Immobilizer

Each key has an integrated coded chip. The code must be the same as the code in the ignition switch receiver. The car can only be started if the correct key with the correct code is used.

Remote control functions

1. Unlocking

Button (1) unlocks all doors, boot lid and fuel filler flap.



1. Unlock
2. Open boot lid
3. Alarm function
4. Approach lighting
5. Lock
6. Fold/open key

2. Boot lid

Press button (2) to unlock the boot lid only.

3. Alarm function

The alarm function can be used to attract attention during emergency situations. If the red button (3) is held for at least 3 seconds or is pressed twice in succession during the same amount of time, the direction indicators and horn will be activated. The alarm can be deactivated with any of the remote control buttons or it will shut off automatically after 25 seconds.

* certain markets only

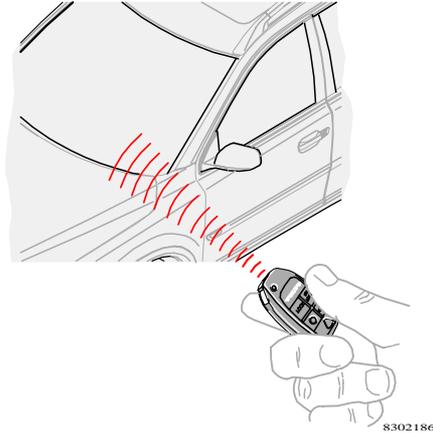
Locking and unlocking

4. Approach lighting

Do the following when you approach the car:
Press the yellow button (4) on the remote control.

The interior lighting, parking lamps, number-plate lighting and the lamps in the door mirrors (option) will switch on. If a trailer is attached to the car, the trailer lights will also be switched on. These lights will remain lit for 30, 60 or 90 seconds. An appropriate time setting for your car can be performed at an authorised Volvo workshop.

In order to switch off Approach lighting:
press the yellow button again.

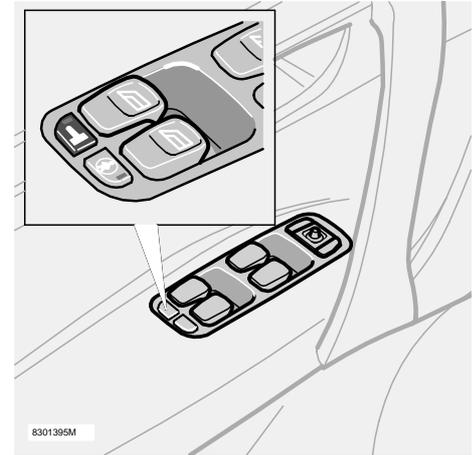


5. Locking

Lock all doors, boot lid and fuel filler flap with button (5). There is a delay of approx. 10 minutes for the fuel filler flap.

6. Folding/opening key

The key can be folded by pressing button (6) while folding the key blade into the keypad. The folding key will open automatically with one press of the button.



Locking and unlocking the car from the outside

All doors and the tailgate can be locked simultaneously from the outside using the master key or its remote control. In this mode, the door lock buttons and the interior door handles are disconnected. All doors and the tailgate can be unlocked simultaneously from the outside using the master key or the remote control.

If the car is locked from the outside, the fuel filler flap locks after a 10-minute delay.

Locking and unlocking the car from the inside

Using the switch in the door panel, you can lock or unlock all doors and the tailgate simultaneously (applies if the vehicle is opened with the master key).

All doors can also be unlocked and locked using the lock buttons.

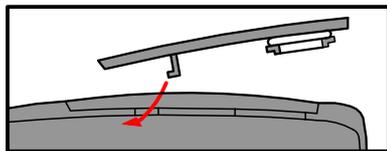
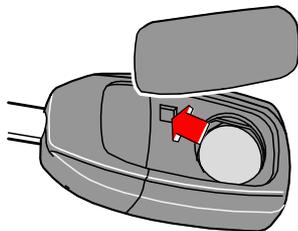
The above situation is valid, as long as you haven't locked the car from the outside!

If the car is locked from the inside using the switches in the door panel, the fuel filler flap remains unlocked.

Locking and unlocking

Locking the glovebox

The glovebox can be locked with the master key.



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Replacing the remote control battery

If the locks repeatedly fail to react to signals from the remote control at a normal distance, the battery should be replaced at the next service interval or within the course of a couple of weeks.

- Remove the cover by carefully prising up the rear edge with a small screwdriver.
- Replace the battery (type CR 2032, 3 volt) - the plus side should face up. Avoid touching the battery or its contact surfaces with your fingers.
- Refit the cover. Make sure the rubber seal is properly fitted and free from damage to prevent water from entering.
- Turn the old battery in to your Volvo workshop so that it can be disposed of in an environmentally- friendly manner.

Automatic relocking

If none of the doors or the tailgate are opened within two minutes of the car being unlocked **with the remote control from outside**, all locks will be automatically relocked. This function prevents you from inadvertently leaving the car unlocked.

For cars with an alarm, see page 83.

Locking/unlocking the tailgate with the remote control

To unlock the tailgate only: Press the button on the remote control (see illustration) **two times slowly within 3 seconds**. If all doors are locked when the tailgate is closed, it remains unlocked and has no alarm function after it is closed. The other doors remain locked and continue to have their alarm function. To lock the tailgate and set its alarm function once it is closed, press the LOCK button again.

NOTE! Automatic relocking:

If you use this button to unlock the tailgate without opening it, it will automatically relock after approx. 2 minutes.

The automatic relocking function will, on the other hand, *not* operate if you open and then shut the tailgate.

Manual opening of tailgate

Press the opening button on the tailgate.

When it is dark, deadlocks

When it is dark

Approach lighting

Carry out the following **when you approach the car**:

- Press the yellow button on the remote control.

Now the interior lighting, parking lamps, numberplate lighting and door mirror lamps light up. (certain models).

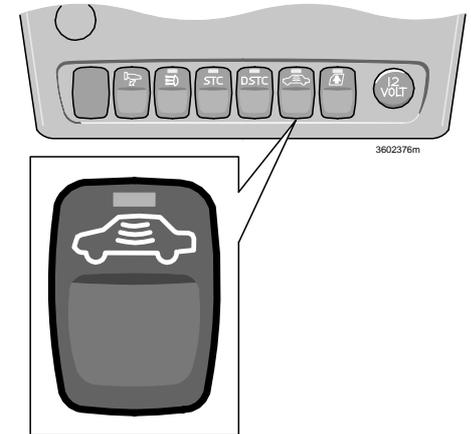
Deadlocks

Your car has a special deadlock position which means that the doors cannot be opened from the inside if they are locked. Deadlocks can only be activated from the outside by the driver's door being locked with the key or remote control. All doors must be shut before the deadlock can be activated. The doors then cannot be opened from the inside. The car can only be unlocked from the outside via the driver's door or by using the remote control. The car cannot be opened by manipulating the door buttons from the outside.

WARNING!



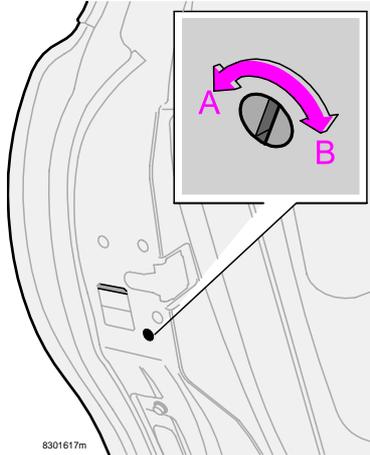
Do not allow anyone to remain in the car without deactivating the deadlock.



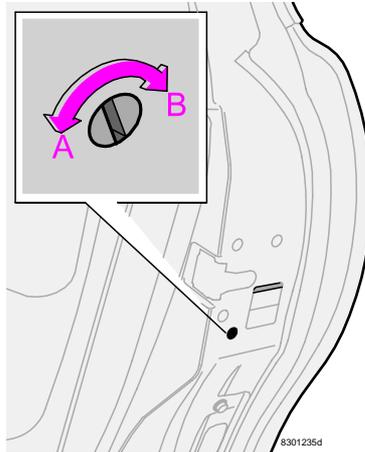
Deactivating deadlocks

If someone wishes to remain in the car but you still wish to lock the doors from the outside the deadlocks can be disconnected. From the time the key is turned from position II until you lock the car, or as long as the centre console is supplied with current, you can press the button. The LED in the button then comes on and stays on until you lock the car using the key or remote control. A message is displayed as long as the key remains in the ignition switch. The deadlock is now disconnected. The deadlocks will be activated again next time you switch on the ignition.

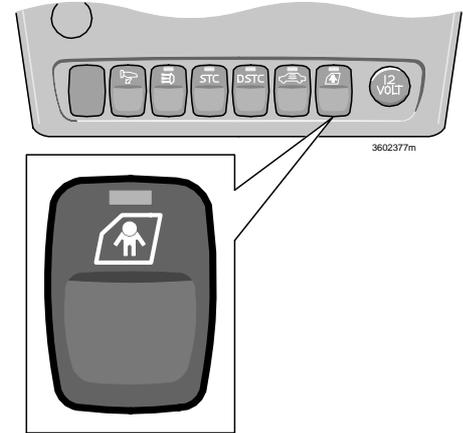
Child safety lock



Control for child safety lock - left rear door



Control for child safety lock - right rear door



Electric child safety catch

Manual child safety locks - rear doors

The controls for the child safety locks are in the rear edges of the rear doors and are only accessible when the door is open. Use the ignition key to turn the control and thus activate or deactivate the child safety lock.

- A The doors cannot be opened from the inside (twist outwards).
- B The doors can be opened from the inside (twist inwards).

WARNING!



Remember that in the event of an accident, rear seat passengers cannot open the rear doors from the inside if the child safety locks are activated. **Therefore, keep the lock buttons pulled up while driving!** In the event of an accident, rescue personnel will then quickly be able to get into the car **from the outside**.

NOTE! When you **activate** the electric child safety catch, you deactivate the manual child safety catch at the same time.

Electric child safety catch - rear doors (option)

Use the button on the centre console to activate or deactivate the child safety catches in the rear doors. The ignition switch must be in position I or II. When the LED in the button comes on it indicates that the child safety catch is activated. A message will also appear in the display when you activate or deactivate the child safety catches.

NOTE! As long as the **electric** child safety catches are activated, the rear doors cannot be opened from the inside.

The alarm system (option)

When the alarm is connected, it continually monitors all alarm points. The alarm is triggered if:

- the bonnet is opened.
- the tailgate is opened.
- a side door is opened.
- the ignition switch is turned with a non-approved key or subjected to force.
- a movement is detected in the passenger compartment (if a movement detector is installed - extra equipment).
- the car is lifted or towed away (if it is equipped with a tilt detector - extra equipment).
- the battery cable is disconnected.
- anyone tries to disconnect the siren.

Activating the alarm

Press the LOCK button on the remote control. A long flash signal from the car's direction indicator confirms that the alarm is active and that **all** doors are closed. In certain markets the key or the switch in the driver's door can be used to alarm the car.

Deactivating the alarm

Press the UNLOCK button on the remote control. Two short flash signals from the direction indicators of the car confirm that the alarm is deactivated. In certain markets, the key can be used to deactivate the alarm.

Deactivating a triggered alarm

Press the UNLOCK button on the remote control if the alarm sounds and you wish to deactivate it. Two short flashes of the direction indicators are given as confirmation.

Audio signal - Alarm

The audio signal is given from a siren with a reserve battery. Each alarm signal lasts 25 seconds.

Visual signal - Alarm

When the alarm is triggered the direction indicators flash for 5 minutes and the car interior lighting lights for 5 minutes or until you deactivate the alarm as described above.

NOTE! Even if your remote control does not work or you have lost it, you can start the car as follows: open the driver's door with the key. The alarm is triggered and the siren sounds. Start the car as usual. The alarm will then be deactivated.

Automatic alarm reset

If neither the side doors or rear door are opened within two minutes of the alarm being disarmed, and the car is unlocked with the remote control, the car automatically rearms the alarm. The car is simultaneously locked. This function prevents you from accidentally leaving the car unalarmed.

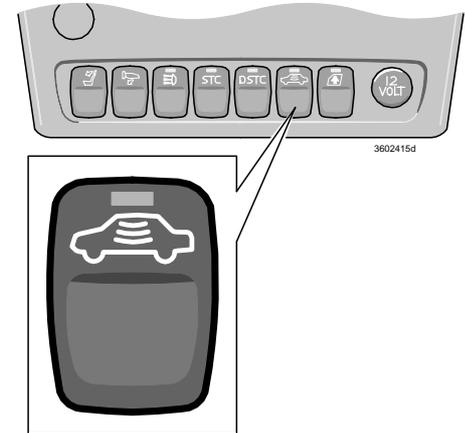
Status indicator lamp on the dashboard

An indicator lamp (LED) at the top of the dashboard gives a description of the alarm system status:

- Lamp not lit: Alarm is deactivated.
- Lamp flashes once a second: The alarm is activated.
- Lamp flashes quickly, after deactivating the alarm and until the ignition is switched on: The alarm has been triggered.
- If a fault has occurred in the alarm system, a message is shown in the display with instructions for appropriate measures.

IMPORTANT!

Do not attempt to repair or modify alarm system components. All such attempts can affect terms of insurance.



Temporary deactivation of detectors

To avoid triggering the alarm inadvertently, for example when leaving a dog in the car or during a ferry crossing, the movement and tilt detectors can be temporarily deactivated. The button can be pressed at any time between the key being turned from position II to the car being locked, or as long as the power to the centre console is on. The LED in the button is displayed as long as the key remains in the ignition lock. A message is displayed as long as the key remains in the ignition lock. The detectors will be reactivated the next time you switch on the ignition. If your car is equipped with deadlocks, these will be simultaneously activated. See page 81.

Testing the alarm system

Testing the movement detector for the passenger compartment:

1. Open all windows.
2. Activate the alarm. Alarm activation is confirmed by the LED flashing slowly.
3. Wait 30 seconds.
4. Test movement detector in the passenger compartment by lifting a bag or similar from the seat. The alarm should now sound and flash.
5. Deactivate the alarm by unlocking with the remote control.

Testing the doors:

1. Activate the alarm.
2. Wait 30 seconds.
3. Unlock with the key on the driver's side.
4. Open one of the doors. The alarm should now be triggered.
5. Repeat the test for the other door.
6. Deactivate the alarm by unlocking with the remote control.

Testing the bonnet:

1. Get into the car and deactivate the movement detector as described on page 84.
2. Arm the alarm (remain in the car and lock the doors with the button on the remote control).
3. Wait 30 seconds.
4. Open the bonnet with the handle under the dashboard. The alarm should now sound and flash.
5. Deactivate the alarm by unlocking with the remote control.

Testing the tailgate (if the tailgate has a lock cylinder):

1. Activate the alarm.
2. Wait 30 seconds.
3. Unlock with the key on the driver's side.
4. Open the tailgate. The alarm should now sound and flash.
5. Deactivate the alarm by unlocking with the remote control.

If the alarm system does not work correctly, have the car examined by an authorised Volvo workshop.

Starting, driving, gearshifting

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Immobilizer

Use the car key. Do not let several ignition key head dangle next to each other from the same key ring when starting.

The new car - slippery road surface

Driving on a slippery road may feel different depending on whether you choose a car with a manual or an automatic gearbox. Practice handling skids under controlled conditions so that you know how your new car reacts.

Never rev the engine hard after a cold start!

If the engine fails to start or misfires, contact the nearest Volvo workshop.

Automatic gearbox safety systems

Cars with automatic gearbox have special safety systems:

Keylock - Ignition switch interlock

In order to move the gear selector from **P** position to other gear positions the ignition key must be in position **I**. In order to remove the ignition key after driving, the gear selector must be in the **P** position.

Shift lock

In order to move the gear selector from **P** position to the other gear positions when the key is in position **I** or **II**, the brake pedal must be depressed.

If you have started the engine and the car remains stationary: hold your foot on the brake pedal when you move the gear selector to another position!

Automatic gearbox adaptive system

The gearbox is controlled by an “adaptive system”. The control module continually “**learns**” how the gearbox behaves. It senses how the gearbox shifts gear and achieves optimal gear shifts each time. The control module also senses your driving style, such as how hard you depress the accelerator pedal, and adjusts the shift schedule to your specific driving style.

Automatic transmission - Cold starter

When starting in low temperatures, gear shifts may feel harder. This is due to viscosity of the gearbox oil at low temperatures.

To **minimise** engine emissions, the gearbox shifts up later than normal if the engine has been started at low temperatures.

When driving with a cold engine the gearbox will shift at a higher engine speed. This is done to faster attain the correct temperature for the catalytic converter.

Do not allow the engine and cooling system to overheat

Under certain conditions, e.g. when driving in hilly terrain and with a heavy load, especially in warm weather, there is a risk of the engine and cooling system overheating.

To avoid the cooling system overheating:

- Drive at low speeds if driving with a trailer up a long incline.
- Switch off the air conditioning temporarily.
- Avoid letting the engine idle.
- Do not turn the engine off immediately when you stop, if the car has been driven hard.
- Remove any auxiliary lamps from in front of the grille if driving in extremely high temperatures.

To avoid the engine overheating:

Do not exceed engine speeds of 4500 rpm if driving with a trailer or caravan in hilly terrain. The oil temperature can become too high.

Economical driving, Some important tips!

Drive with anticipation

Economical driving results from driving gently with anticipation and adapting your driving style and speed to the situation.

Keep in mind the following:

- Drive the engine to operating temperature as soon as possible! That is to say: do not let the engine idle, but drive with a light load as soon as you can.
- A cold engine consumes more fuel than a warm one.
- Avoid driving short distances where the engine never has time to reach operating temperature.
- Drive gently! Avoid unnecessary quick accelerations and heavy braking.
- Do not drive with unnecessary, heavy loads in the car.
- Do not drive with winter tyres when the roads are clear and dry.
- Remove the load carrier when it is not in use.
- Do not open side windows unnecessarily.

Speed-dependent power steering

Your car can be equipped with speed-dependent power steering as an option. This means that the car can be steered more easily at low speeds, which in turn facilitates parking, etc.

When speed is increased, the steering force will be adjusted in order to provide the driver with an improved feeling for the road.

Those of you who drive with trailers - here are some “special tips”

- When parking on hills, you should apply the parking brake **before** moving the gear selector to P. When you start on a hill, you should first put the gear selector in drive and **then** release the parking brake.
- Select a low gear in the gearbox when driving on steep inclines or when driving slowly. This prevents the gearbox from upshifting if you have an automatic gearbox. The gearbox oil will be cooler.
- If you have a Geartronic gearbox, do not use a higher manual gear than the engine can “handle”. It is not always economical to drive in high gears.

Driving characteristics and tyres

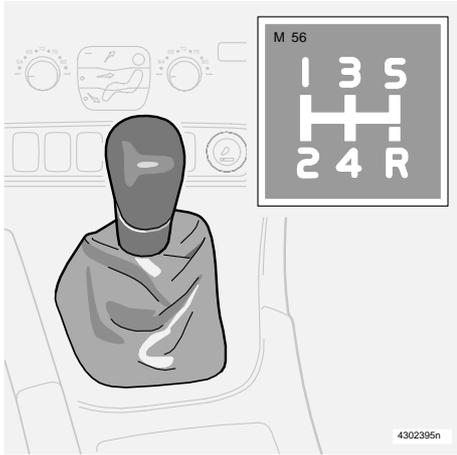
The tyres have great influence on the handling of the car. Both tyre type, dimension and tyre pressure are all important to how the car behaves. When you change tyres, ensure that you have the same type, size and brand of tyre on all four wheels. Also follow the recommendations as regards air pressure.

Do not drive with tailgate open!

If you drive with the tailgate open, some of the exhaust gases and therefore poisonous carbon monoxide could be sucked into the car through the cargo compartment. If you are forced to drive with the tailgate open over a shorter distance carry out the following:

- Close all windows.
- Distribute the air between the windscreen and floor while running the fan at high speed.

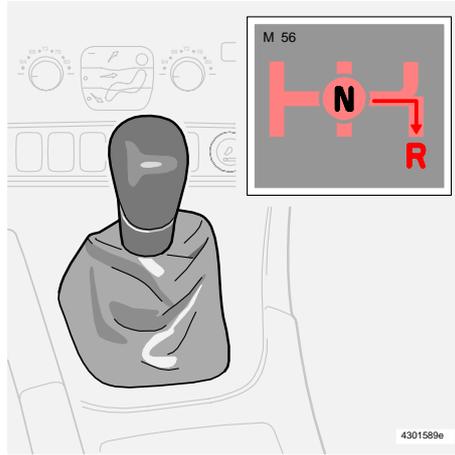
Manual gearbox



Gear positions, 5-speed

Depress the clutch pedal fully with every gear change. Remove your foot from the clutch pedal between changes! Be sure to follow this shifting pattern.

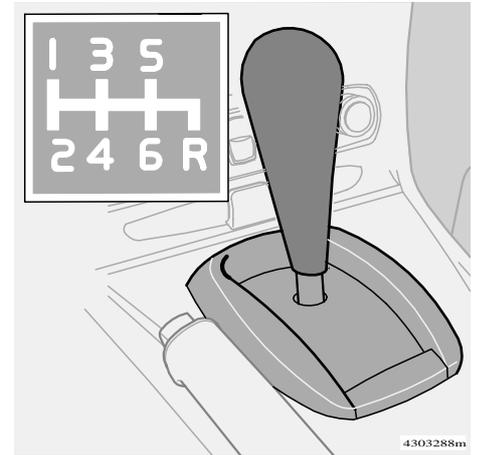
Use the 5th gear as often as possible for speeds over 70 km/h (43 mph) in order to obtain the best fuel economy.



Reverse gear detent

Engage the reverse gear when the car is stationary!

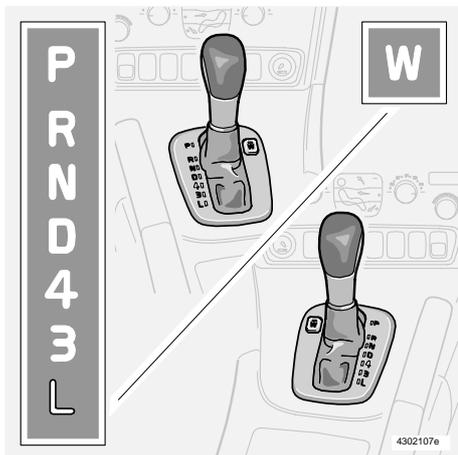
To put the car into reverse, the lever must first be moved to neutral position (between 3rd and 4th gear). Reverse gear cannot be selected directly from 5th gear because of the reverse gear inhibitor.



Gear positions, 6-speed

Use the higher gears as often as possible to achieve the best possible fuel economy.

Automatic gearbox



Gear selector positions

P – Parking

Select this position when you wish to start the engine or park the car.

The car should be stationary when you select position P!

In position P the transmission is mechanically locked. Always apply the parking brake when parking!

R – Reversing position

The car should be stationary when you select R!

N – Neutral position

N is the neutral position. The engine can be started, but no gear is selected. Apply the parking brake when the car is stationary with the gear lever in N.

D – Driving position

D is the normal driving position. The car automatically shifts between the different gears of the gearbox based on the level of acceleration and speed. The car should be stationary when selecting D from position R.

4 – Low gear

Shifting up and down between the 1st, 2nd, 3rd, and 4th occurs automatically.

The 5th gear will not be engaged.

Position 4 can be used:

- for mountain driving
- when driving with a trailer
- to increase engine braking

3 – Low gear

Shifting up and down between 1st, 2nd and 3rd occurs automatically.

The 4th gear will not be engaged.

Position 3 can be used:

- for mountain driving
- when driving with a trailer
- to increase engine braking

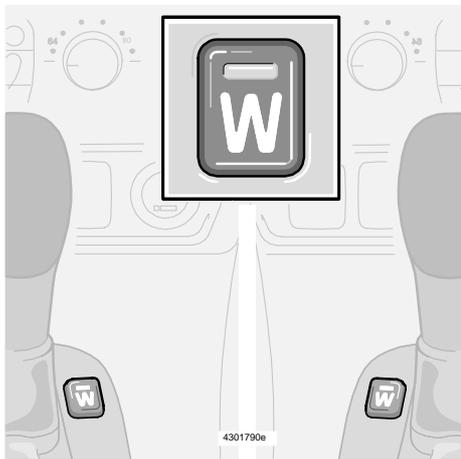
L – Low gear position

Select L if you wish to drive in 1st or 2nd. Position L gives the best engine braking for mountain driving, etc.

Downshift inhibitor

This is a built-in inhibitor in the gearbox that prevents over-revving in the engine when you select one of the low gears.

Automatic gearbox



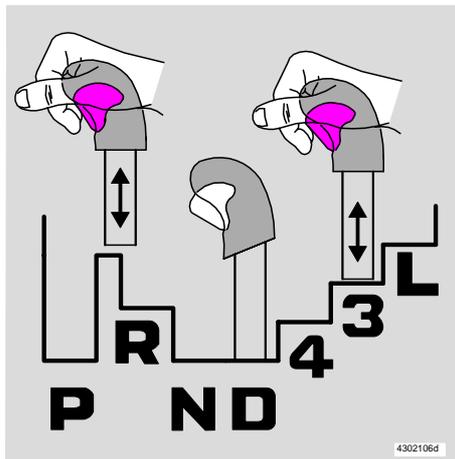
W - Winter

Use the button to switch the winter program **W** on and off.

The winter program makes it easier to drive at low speed in slippery road conditions. When the program is engaged, the driving wheels receive less power than normal and all upshifting occurs at a lower engine rpm.

The symbol **W** is displayed in the combined instrument panel.

NOTE! The **W** program cannot be selected if you have selected the manual positions. Program **W** can only be selected in position **D**.



Gear selector inhibitor

You can always move the gear selector freely forward or backward between **N** and **D**. Other positions are locked with a latch that you can control with the inhibitor button on the gear selector.

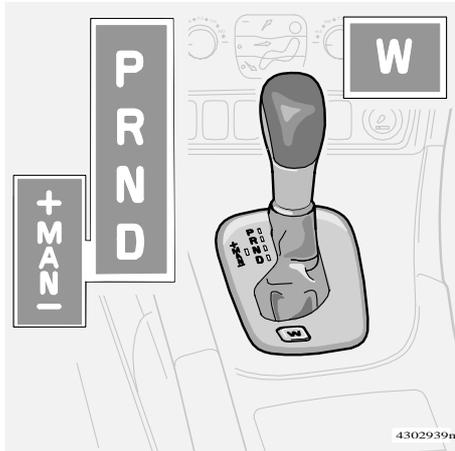
Press the inhibitor button to move the gear selector forward or backward between **R** and **N**, and between **D**, **4**, **3** and **L**.

”Kick-down”

When you press the accelerator all the way down - beyond the position normally regarded as full acceleration - a lower gear is automatically engaged. This is called ”kick-down” downshifting. When you reach the maximum speed for the gear or release the accelerator pedal from the ”kick-down” position, there is an automatic upshift. Use ”kick-down” when you want maximum acceleration, such as when overtaking.

The transmission is equipped with a downshift inhibitor on all gears.

Geartronic (option)



P – Parking

Select this position when you wish to start the engine or park the car.

The car should be stationary when you select P! In the position P the transmission is mechanically locked. Always apply the parking brake when parking!

R – Reversing position

The car should be stationary when you select R!

N – Neutral position

N is the neutral position. The engine can be started, but no gear is selected. Apply the parking brake when the car is stationary with the **gear lever in N**.

D – Driving position

D is the normal driving position. The car automatically shifts between the different gears of the gearbox based on the level of acceleration and speed. The car should be stationary when selecting **D** from position **R**.

Gear selector manual position

If you wish to move from the automatic position **D** to the manual positions, press the selector to the left. If you wish to move from **MAN** to position **D**, press the selector to the right. 3rd, 4th and 5th gear have a Lock-up function (locked gears), which provides better braking and lower fuel consumption.

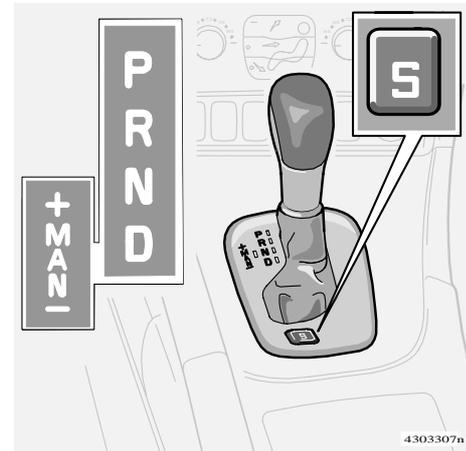
While moving

The manual gear positions can be selected at any time in the journey. The selected gear is locked until another gear is selected. The transmission downshifts only if you slow down to a very slow speed.

Holding the gear selector in minus (-) downshifts the car one gear position while simultaneously engine braking. Holding the gear selector in (+) shifts the car up one gear position.

3rd is the highest gear you can use when starting.

The Kick-down function is not available while you are in manual shifting mode. You must return to automatic position **D**.



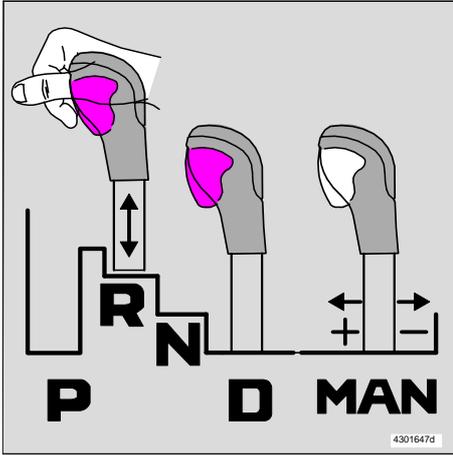
Geartronic for V70 R (option)

The V70 R is equipped with an automatic gearbox which has an S-button instead of a W-button located near the gear selector.

Activate the gearbox sport program with the S button; an LED in the button lights when the program is active.

The S-program allows for sportier performance and higher gear rpm as well as a more rapid acceleration response.

Use of a lower gear is prioritised during active driving - which implies delays during upshifts.



Gear selector inhibitor - Geartronic

You can always move the gear selector freely forward or backward between positions **D**, **N**, and **manual shifting mode**. Other positions are locked with a latch that you can control with the inhibitor button on the gear selector. Pressing the inhibitor button allows the gear selector to be moved forward or backward between positions **P**, **R**, **N** and **D**.



W - Winter*

Use the button to switch the winter program **W** on and off.

The winter program makes it easier to drive at low speed in slippery road conditions. When the program is engaged, the driving wheels receive less power than normal and all upshifting occurs at a lower engine rpm.

The symbol **W** is displayed in the combined instrument panel.

NOTE! The **W** program cannot be selected if you have selected the manual positions. Program **W** can only be selected in position **D**.

* Not in the R version with S-button.

“Kick-down” - Automatic shifting

When you press the accelerator all the way down - beyond the position normally regarded as full acceleration - a lower gear is automatically engaged. This is called “kick-down” downshifting. When you reach the maximum speed for the gear or release the accelerator pedal from the “kick-down” position, there is an automatic upshift. Use “kick-down” when you want maximum acceleration, such as when overtaking.

The transmission is equipped with a downshift inhibitor on all gears.

NOTE! You cannot use the kick-down function as long as you are in the manual gears. You must return to automatic position **D**.

AWD - All Wheel Drive (option)

The all wheel drive on your Volvo is always engaged and corresponds to the very high demands made on technical solutions. Used correctly all wheel drive gives the driver greater possibilities to solve situations in different road conditions compared to conventional front or rear wheel drive.

All wheel drive means that the vehicle drives simultaneously on all four wheels. Power is distributed automatically between the front and rear wheels. An electronically controlled clutch system distributes the power to the wheel pair that has the best grip in the prevailing road conditions. This is to give the best possible grip and prevent wheel spin.

In normal driving condition the majority of the power is distributed to the front wheels. The improved front wheel drive increases road safety in rain, snow and icy conditions.

Tyre dimensions and air pressure

Volvo recommends that you only drive with tyres of the same brand, dimensions, specifications and with the same load and speed designation. Air pressure can be read from the table on the inside of the fuel filler flap. See page 109.

Snow chains

Snow chains may only be fitted to the front wheels on cars equipped with all wheel drive. Only chains adapted for AWD models may be used.

Important!

Only Volvo-approved snow chains are permitted. Use of other snow chains could damage your car.

Never drive faster than 50 km/h when snow chains are fitted!

Never use “quick links” because the space between the disc brakes and the wheels is too small.

Active chassis – FOUR-C*

The R version is equipped with the advanced, electronically-controlled active chassis system FOUR-C (Continuously Controlled Chassis Concept). System functions are based on a number of sensors which continuously adjust vehicle movements and reactions, for example vertical and lateral acceleration, vehicle speed and wheel movement.

The FOUR-C control unit analyses data from the sensors and performs the necessary shock absorber setting adjustments up to 500 times per second. This results in extremely fast and accurate individual shock absorber control, which explains how chassis characteristics can be varied.

The buttons on the dashboard (see the illustration on page 32) can be used at random in order to select from the three different settings: Comfort, Sport and Advanced.

The driver can adjust the chassis characteristics while driving - when switching driving style or when the character of the road surface changes. Adjustments occur within a few milliseconds.

The effect which occurs when depressing the

accelerator pedal is related to the chassis setting selection: the Advanced setting provides a quicker acceleration response.

Comfort

Comfort adjusts the chassis setting so that the body is insulated from uneven sections of the road surface, which allows for better glide. Shock absorption is softer and body movements are minimal. This setting is recommended for long-distance driving or driving on slippery road surfaces.

When the ignition is switched off in Comfort setting, the chassis will resume the same mode when the car is re-started.

Sport

The Sport setting provides quicker steering response than the Comfort setting. The suspension is harder and the body follows the road in order to reduce roll during rapid cornering. When the ignition is switched off in Sport setting, the chassis will resume the same mode when the car is re-started.

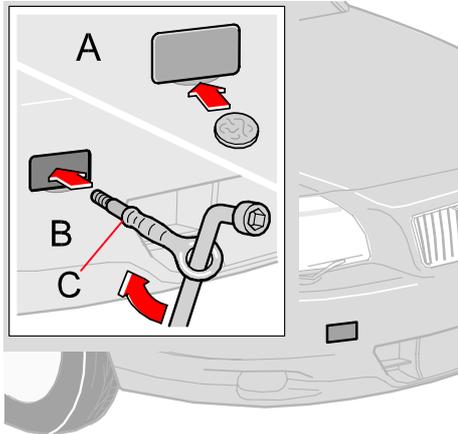
Advanced

With the Advanced setting, shock absorber movements are minimal and optimised for maximum traction and minimal roll when cornering. This setting is recommended for flat, even road surfaces only. Response to acceleration is more direct and the automatic gearbox shift schedule is sportier.

When the ignition is switched off in Advanced setting, the chassis will resume the same mode when the car is re-started.

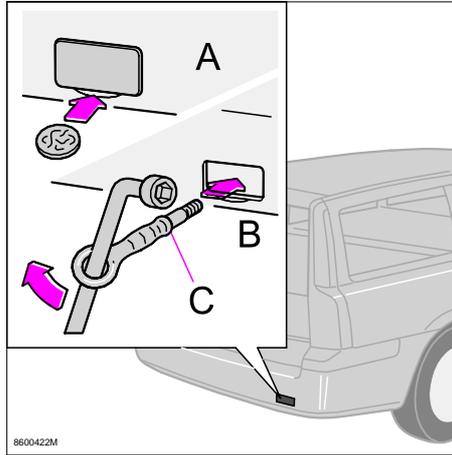
*R version only.

Towing - General information



Towing eye, front

8600306a



Towing eye, rear

8600422M

If you need to be towed

- Unlock the steering wheel lock so that the car can be steered.
- **Keep in mind the highest legally permissible speed.**
- Remember that the brake and power steering servos do not function with the engine is switched off! You must exert approximately five times more pressure on the brake pedal and steering is considerably harder than usual.
- Drive gently. Keep the towline taut to avoid unnecessary jerking.

For automatic gearboxes

- The gear selector should be in position N.

- Maximum permitted speed for automatic gearbox: 80 km/h.
Maximum permitted distance: 80 km (50 miles).
- Cars equipped with automatic gearbox must only be towed facing forward.
- The engine cannot be towed to start (bump started). See "Jump starting" on the next page.

To tow start (bump start) the engine

If you tow start a car with a manual gearbox, the three-way catalytic converter (TWC) can

be damaged. Cars with automatic gearboxes cannot be tow started. Use a booster battery if the battery is discharged.

Towing eye*

The towing eye is located in the tool kit in the cargo compartment. You must screw the towing eye into place before towing. The sockets and covers for the towing eye are located on the right-hand side of each bumper.

Remove the cover as follows:

A. Loosen the bottom edge of the cover with a coin.

B. Screw the towing eye securely into place up to the flange (C). You can use a wheelbrace.

After use, unscrew the towing eye and refit the cover.

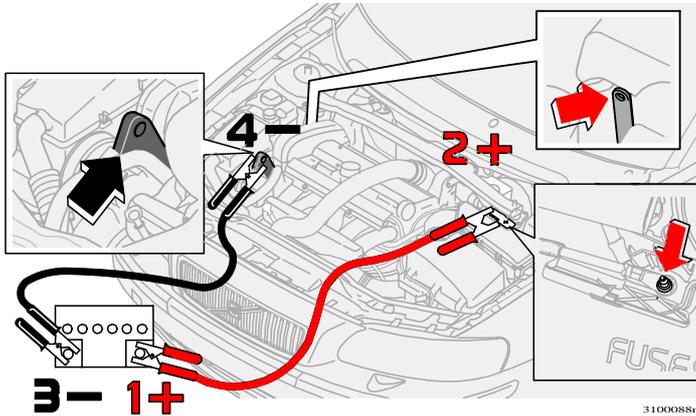
Towing

NOTE! The towing eye may only be used for towing on the road, not for salvage after driving into a ditch or similar. Professional help should be called for salvage towing.

* (certain models) To be able to screw the towing eye into place, you must first loosen a plastic screw in the console for the rear towing eye. Use the flange of the tool bag to loosen the plastic screw. Rescrew the plastic screw after use.

Jumpstarting

Lifting eye - diesel engine (under bonnet on right in engine bay)



WARNING!



Remember that batteries, especially the booster battery, contain oxyhydrogen which is highly explosive. A spark, which can be caused if you incorrectly install the jump leads, is enough to cause the battery to explode and both damage the car and injure you. The battery also contains sulphuric acid, which can cause serious corrosive damage. If the acid comes into contact with your eyes, skin or clothes, flush with large quantities of water. If acid splashes into your eyes contact a doctor immediately.

Jumpstarting with a booster battery is as follows:

If for some reason the battery in your car is discharged, you can “borrow” current from a spare battery or another car’s battery to start the engine. Always check that the clamps are secure so that there are no sparks during the start attempt.

To avoid the risk of explosion, we recommend you do exactly as follows.

- Turn the ignition key to position 0.
- Ensure that the booster battery has **12 volt current**.
- If the booster battery is in another car, stop the engine of that car and make sure the cars are not touching.
- Connect the red cable to the booster battery’s positive terminal (1+) and the red connection in your car’s engine by (2+).
The clamp should be attached to the contact point located under a little black cover with a plus sign on it. The cover is connected to the cover of the fuse box.

- Connect one end of the black cable to the booster battery’s negative terminal (3).
- Connect the other end of the black cable to the lifting eyes on your car. No. 4 in the illustration.
- Start the engine of the “booster car”. Let the engine run a few minutes at a speed slightly higher than idle, 1500 rpm.
- Start the engine of the car with the discharged battery.
- **NOTE! Do not move the clamps during the start attempt (risk of spark buildup).**
- Remove the clamps in reverse order.

Driving with braked trailer

Driving with trailer

- The towing bracket on the car must be of an approved type. Your Volvo dealer can advise you as to which towing bracket to use.
- Distribute the load in the trailer so that the weight on the towing bracket is approximately 50 kg for trailer weights under 1200 kg and approximately 75 kg for trailer weights over 1200 kg.
- Increase tyre pressure to correspond to the pressure for full load. See the tyre pressure table!
- Clean the towing bracket regularly and grease the towball* and all moving parts to prevent unnecessary wear.
- Do not drive with a heavy trailer when your car is brand new! Wait until it has gone at least 1000 km (620 miles).
- The brakes are loaded much more than usual on long and steep downhill slopes. Downshift to a lower gear and adjust your speed.
- If the car is driven with a heavy load in a hot climate, the engine and gearbox may overheat. The temperature gauge in the combined instrument panel goes into the red zone when the car overheats. Stop and let the engine idle a few minutes..
- If the car overheats, the air conditioning system can be temporarily switched off.
- The gearbox reacts with a built-in protection function if the car overheats. See the message in the display!
- The engine is loaded more heavily than usual when driving with a trailer.
- For reasons of safety, you should not drive faster than 80 km/h (50 mph), even if the laws of certain countries permit higher speeds.
- The highest permissible weight for a trailer without brakes is 750 kg.
- If you park with a trailer, always move the gear selector to the P position (automatic transmission), or engage a gear (manual gearbox). If you park on steep hills always put chocks under the wheels.
- Avoid driving with trailer weights above 1200 kg on inclines greater than 12%. You should not drive with a trailer on inclines above 15%.

* Does not apply to ball hitch with vibration damper.

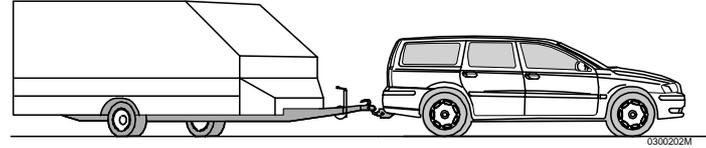
Driving with trailer - automatic transmission

- When parking on a slope you should apply the parking brake before moving the gear selector to the P position. When starting on a slope you should first move the gear selector to the driving position and then release the parking brake.
- Select an appropriate low gear position on the gearbox when driving on steep slopes or if driving slowly. In doing so, you prevent the gearbox from changing up if you have an automatic transmission. The gearbox oil will be cooler.
- If you have a Geartronic transmission, do not use a higher manual gear than what the engine can "handle". It is not always economical to drive in high gears.

NOTE! Some models must be fitted with an oil cooler for the automatic transmission when driving with a trailer. You should therefore check with your closest Volvo dealer about just your car if a towbar has been fitted at a later date.

Driving with braked trailer

NOTE! The following are the highest trailer weights permitted by the Volvo Car Corporation. Remember that national traffic regulations may further limit trailer weight and speed. The towbar may be certified for higher tow weights than the car should tow.



Maximum permitted
trailer weight
for braked
trailer

Recommended
ball pressure

0-1200 kg	50 kg
1201-1600 kg	75 kg
1601-1800 kg	75 kg

Level control

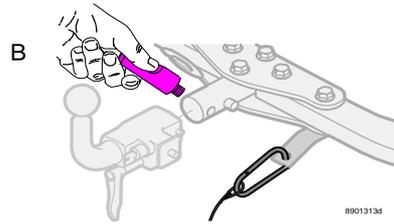
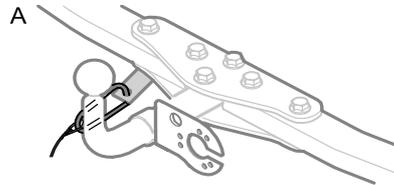
If your car is equipped with automatic levelling, the rear suspension always retains the correct ride height regardless of the load. When the car is stationary, the rear suspension sinks, which is completely normal.

WARNING!

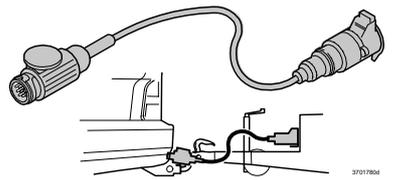


If you do not follow the given recommendations, the trailer and car may be difficult to control during evasive manoeuvres and braking, which can be dangerous to you and others on the road.

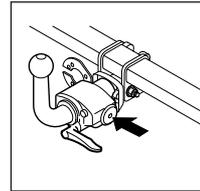
Towing bracket



8901313d



3201785d



Fixed tow hitch (A)

Always remember to fasten the trailer's safety cable to the attachment. See the illustration!

Detachable tow hitch (B)

Always follow installation instructions carefully.
Always remember to fasten the trailer's safety cable to the attachment!
Always remember to clean and grease the connector pin regularly. Use recommended grease 8624203.

NOTE! Your car may have a tow bar with a 13-pin electrical contact which you need to connect to a trailer with a 7-pin electrical contact. If this is the case use only an original Volvo Genuine adapter cable. Ensure that the cable does not drag on the ground.

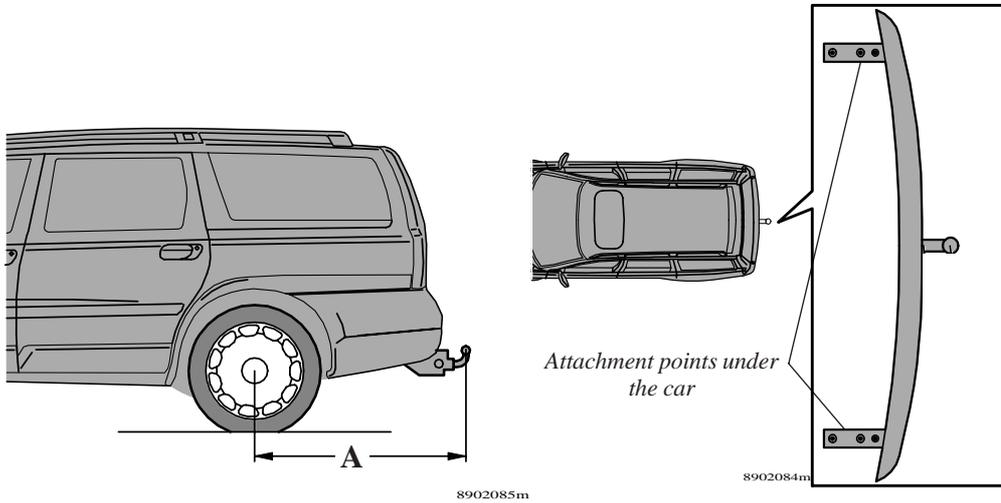
WARNING!



If your car is fitted with Volvo's detachable tow hitch: make sure that the hitch is locked before you drive off.

- The red signal pin (see the arrow in the illustration to the left) should not be visible!
- Use the key to lock it.
See description on page 103.

Towing bracket



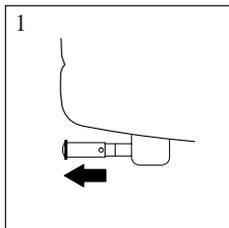
Distance A above:

V70/V70 AWD: 1084 mm

XC70: 1122 mm

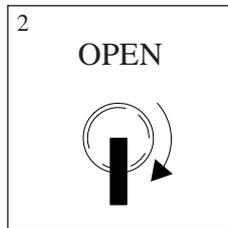
Max. ball pressure: 75kg

Detachable towbar - mounting the ball section



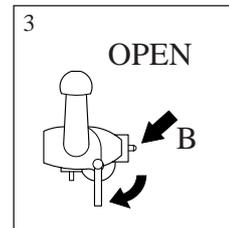
8902079M

Remove the connector pin cover.



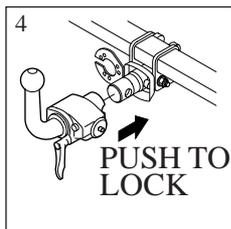
8902078M

Put in the key and turn it clockwise to the unlocked position.



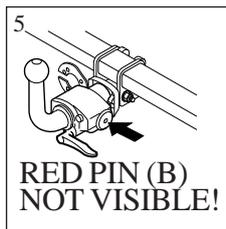
8902074M

Take the towball section and turn the handle clockwise until it stops.



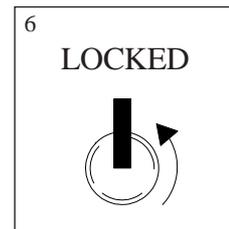
8902075M

Push the part with the ball in until it locks.



8902076M

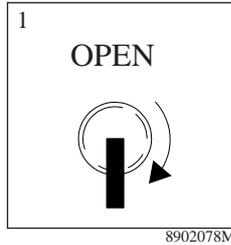
Check that the signal pin (B) is pushed in.



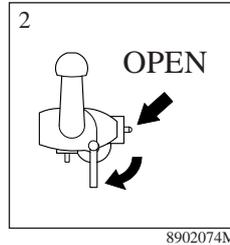
8902076M

Turn the key anticlockwise to the locked position and remove it from the lock.

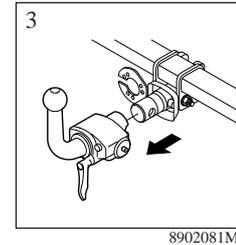
Detachable towbar - removing the ball section



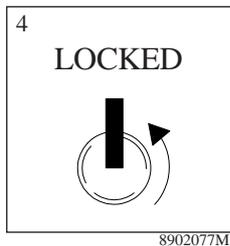
Put in the key and turn it clockwise to the unlocked position.



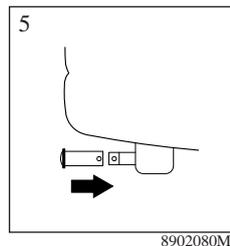
Turn the handle clockwise until it stops.



Pull the towball section from the connector pin.

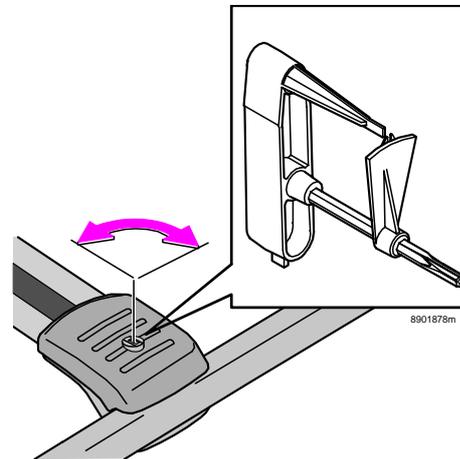
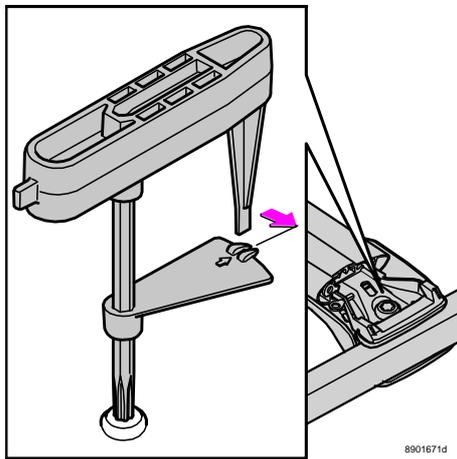
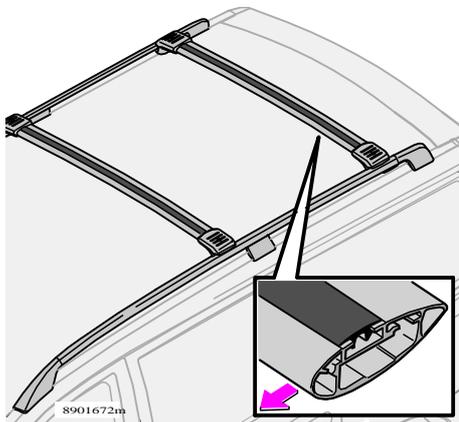


Turn the key anticlockwise to the locked position and remove it from the lock.



Refit the connector pin cover as in the illustration.

Roof loads - roof rails and the load carriers



Position of load carriers

Make sure that the load carriers are placed the right way round on the roof rails. The load carriers can be placed anywhere along the roof rail.

When driving *without* a roof load, the front load carrier should be positioned about 50 mm in front of the centre roof mounting and the rear load carrier positioned about 35 mm in front of the rear roof mounting (illustrated above). This is to keep wind noise to a minimum.

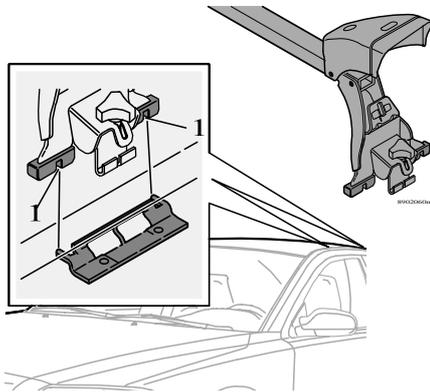
Fitting the load carriers

Make sure that the load carrier is pressed firmly out against the roof rail. Screw the load carrier in place. Use the supplied torque wrench, tightening to the mark on the wrench (corresponding to 6 Nm). See illustration!

Load carrier cover

Use the lug on the on the torque wrench (see illustration) or the ignition key to unscrew or secure the cover. Turn a quarter turn.

Load carrier - Roof loads



Load carrier attachment points

Fitting the load carriers

1. Make sure the load carrier is placed in the right direction (see the marking on the decal under the cover).
2. Fit the guide pins into the guide holes (1).
3. Carefully lower the bracket on the other side to the roof.
4. Screw the knob up a bit.
Press the knob against the roof bracket catch the hook **in the roof bracket** under the roof rail.
5. Screw the load carrier in place.
6. Fit the guide pins of the other brackets into the guide holes.

7. Screw the load carrier in place.
8. Check that the hook is properly secured in the roof bracket.
9. Tighten the knobs alternately until the carrier feels secure.
10. Replace the cover.
11. **Regularly check that the knobs are securely tightened.**

If you use load carriers

- To avoid damaging your car and to achieve the best level of safety when driving, we recommend that you only use load carriers that Volvo has specially designed for your car.
- **Check periodically that the load carriers and load are properly secured.** Lash the load securely with suitable straps.
- You can carry a **maximum of 100 kg** on the roof (including load carriers).
- Distribute the load evenly over the load carriers. Do not load lopsidedly. Place the heaviest items at the bottom.
- Remember that the car's centre of gravity and driving characteristics change if you have a load on the roof.
- Keep in mind that the car's wind resistance and fuel consumption increase in proportion to the size of the load.
- Drive gently. Avoid quick accelerations, heavy braking and taking curves hard.

Wheels and tyres

General about wheels and tyres	108
Tyre pressures	109
Wear, Spare wheel	110
Changing wheels	111

General about wheels and tyres

All tyres have a dimension designation, such as 215/55R16 93W.

These tyre size designations, which are used by all tyre manufacturers, can be interpreted as follows:

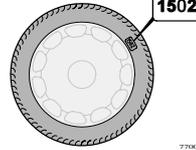
215	section width (mm)
55	relationship between the section height and width (%)
R	means radial tyre
16	wheel rim diameter in inches (")
93	code digits for maximum permissible tyre load, in this case 650 kg
W	specifies that the tyre is manufactured for speeds up to 270 km/h (168 mph).

Your car is fully approved, which means that you may not deviate from those dimensions and performance ratings indicated in the vehicle registration. The only exception from these regulations concerns winter tyres and studded tyres, which may have different dimensions and a different speed rating than indicated in the registration. If you select tyres with different dimensions, do not drive at speeds faster than those permitted. The most common speed ratings are indicated in the following table:

Q	160 km/h, used most often with studded tyres
T	190 km/h
H	210 km/h
V	240 km/h
W	270 km/h

Note: maximum permissible speeds indicated.

When you change tyres: be sure to use the same type (radial), dimension, designation, and brand on all four wheels. Otherwise, there is a risk that the handling characteristics of the car could change. Check with your dealer regarding dimensions which are available for your car. Keep in mind that the road surface can determine how fast you may drive, not the tyre speed rating.



New tyres

Bear in mind that tyres are perishable goods - after a few years they begin to harden while their friction properties deteriorate little by little. Try to use fresh tyres when changing.

This is especially important for winter tyres.

The week and year of manufacture is indicated with 4 digits (e.g. 1502 indicates tyres manufactured week 15, 2002)

Winter tyres

We recommend winter tyres of dimension 195/65 R15 except for cars with turbo engines. 205/55 R16, 215/65 R16 (for XC70) and 225/45 R17 (for V70R) are recommended for these vehicles.

Always use winter tyres on all four wheels!

NOTE: Always consult your Volvo dealer as to which wheel and tyre type is appropriate for your car.

Studded winter tyres

Studded winter tyres should be run in for 500-1000 kilometres (300-600 miles), softly and gently so that the studs sit in the tyre correctly. This extends the service life of both the tyres and the studs while making the drive a bit quieter. Ensure that the studded tyres have the same direction of rotation throughout their lifetime. If you wish to shift wheels, see to it that they remain on the same side as previously.

Please remember: The regulations for using studded tyres vary from country to country.

Snow chains

Snow chains may only be used on the front wheels. Because of the limited space in the wheel arch we recommend that you do **not** use conventional snowchains. (Conventional snow chains can be used with 195/65R15 dimension tyres). Volvo has approved snowchains for recommended standard tyre/wheel rim combinations. Seek advice from your Volvo dealer.

Tyre pressures

Snow chains and All Wheel Drive (AWD)

On vehicles equipped with All Wheel Drive (AWD), snow chains may only be fitted to the front wheels. Only use chains adapted for AWD models.

NOTE! You should never drive faster than 50 km/h (30 mph) with snow chains! Do not drive on bare roads unnecessarily because it wears away both your snow chains and tyres.

Driving characteristics and tyres

Tyres affect driving characteristics greatly. Tyre type, size and pressure are important to how the car performs. When you change tyres, be sure to use the same type, size and brand on all four wheels. Follow the recommendations regarding tyre pressure.

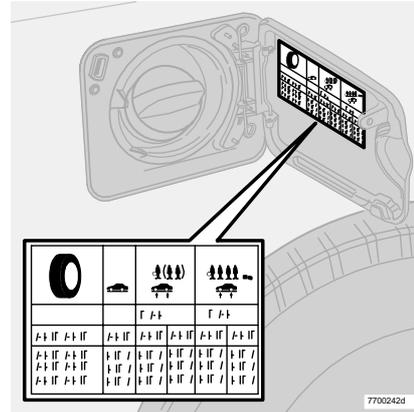
Tyre pressure is important!

Check the tyre pressure regularly. The correct pressure is listed in the adjacent table and on the decal on the inside of the fuel filler flap.

If you drive with incorrect pressure the car's handling is markedly impaired and the tyre wear is also increased.

Note that the values in the table refer to cold tyres (outside temperature). Tyres get warm and pressure increases after just a few kilometres driving. This is normal, so do not let out air if you check the pressure when the tyres are warm. However, you should increase pressure if it is too low.

Remember that tyre pressure can vary depending on outside temperature. Therefore, check the tyres outdoors when the tyres are cold.



Tyre pressure table

The tyre pressure decal on the inside of the fuel filler flap indicates what tyre pressure your car should have.

WARNING!

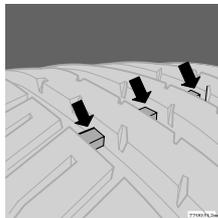
The only Volvo approved “special wheel rims” are those rims that have been checked by Volvo and are **Volvo Genuine accessories**.



Wheels and tyres

Tyres with tread wear indicators

Tread wear indicators are narrow, raised areas across the tread that have approximately 1.6 mm less tread depth than the remainder of the tyre (the letters TWI are on the side of the tyre). When this bar is visible, only 1.6 mm of tread remains and the tyre should be replaced **immediately**. Bear in mind that road grip and the tyre's ability to push water out of the way is already affected markedly when there is 3-4 mm of remaining tread.



Changing the tyres - summer/winter

When you change between summer and winter tyres; mark on the tyre which side they were fitted: For example, L = left, R = right.

NOTE! Tyres should have the same direction of rotation throughout their life. Tyres with tread designs that are made to roll only in one direction, have the direction of rotation marked with an arrow on the tyre. If the tyres are fitted incorrectly this will impair the car's braking characteristics and the ability to disperse rain, snow and slush.

IMPORTANT!

Tyres with the greatest tread depth should always - irrespective of rear or front wheel drive - be fitted at the rear.
Contact your closest Volvo dealer to check if you are unsure.

Storage

Wheels should be stored horizontally or suspended, not vertically.

“Temporary Spare”

The “Temporary Spare” should only be used for the short time it takes to repair or replace the normal tyre.

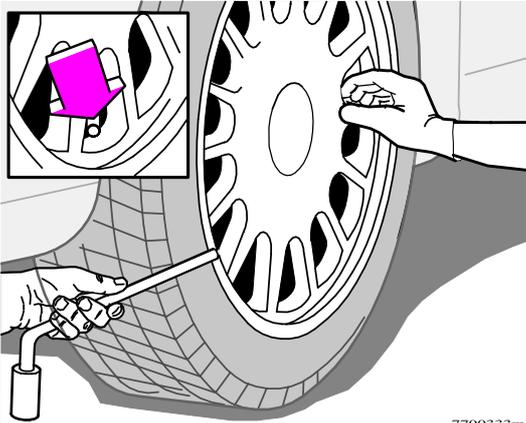
By law it is only legal to use the spare wheel/tyre temporarily in connection with damage to a tyre. A wheel/tyre of this type should therefore be replaced by a normal wheel/tyre as soon as possible.

Remember also that the “temporary spare” in combination with normal wheels/tyres can have different driving characteristics.

The maximum speed with a “Temporary Spare” is therefore 80 km/h (50 mph).

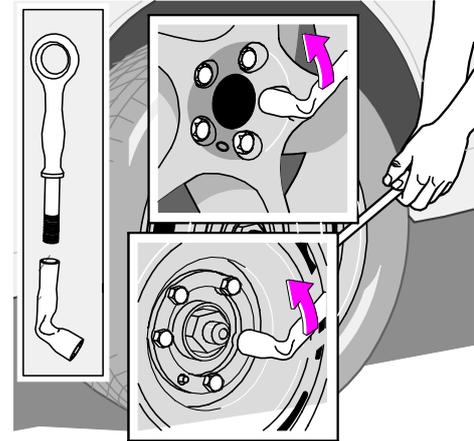
NOTE! Only use the car's own genuine spare wheel! Tyres with other dimensions may cause damage to your car. Only **one** tyre may be used at a time.

Changing wheels



7700333m

*Insert socket wrench and turn
Pull the hub cap straight out (steel wheel rim)*



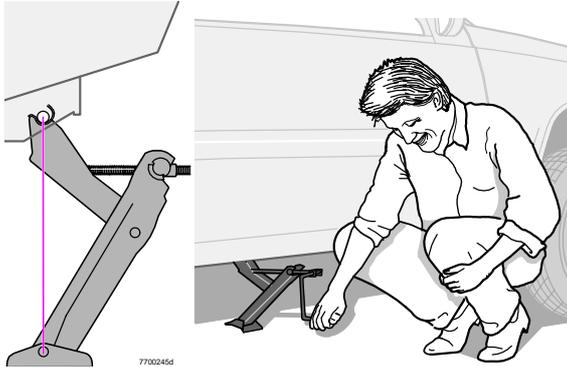
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Remove wheel studs

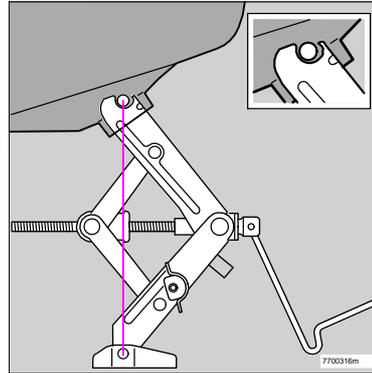
The spare wheel is under the plastic trough in the cargo compartment. Remember to set out the warning triangle.

- Apply the parking brake and put the car into first gear if it has a manual gearbox - position P on cars with automatic gearbox. Put chocks in front of and behind the wheels to remain on the ground.
 - Cars with aluminum rims with a cover: remove the cover using the socket wrench.
 - Cars with **steel rims** have removable wheel covers. Prise off the wheel cover with a thick screwdriver or the like. If tools are not available, the wheel cover can be prised off by hand. Use protective gloves. When you reinstall the wheel covers: ensure that the wheel cover valve hole is opposite the wheel's air valve.
- Loosen the wheel nuts 1/2-1 with the socket wrench. The nuts are loosened by turning anticlockwise. There are two jacking points on each side of the car. The jacking points are marked on the door sill trims.

Changing wheels



The jack should be located so



*Jack for cars with all-wheel drive
(AWD and XC)*

- Hold the jack against the pin in the jacking point as illustrated and wind down the jack foot so that it is pressed **flat against the ground**.
- **Check again that the jack is mounted correctly as in the illustration and that the foot is positioned vertically under the mounting.**
- Lift the car so that the wheel is free.
- Remove the wheel studs and lift off the wheel.

Fitting

- Clean the contact surfaces on the wheel and hub.
- Mount the wheel and tighten the wheel bolts.
- Lower the car so that the wheels cannot rotate. Tighten the wheel studs crosswise and in torque steps. Tightening torque: 140 Nm (14.0 kpm). It is important that they are tightened to the correct torque. Tightening should be checked with a torque wrench.
- Fit the hub cap.
- Screw the jack together before returning it to the cargo compartment.
- Ensure that the jack and tool kit are properly secured and do not rattle.

WARNING!



- **Never crawl under the car when it is raised on a jack!**
- The car and the jack should be on a solid **horizontal** surface.
- The car's original jack should be used for wheel changing. All other work on the car should be carried out using workshop jacks and axle stands under the part of the car which is raised.
- Apply the parking brake, put the car in 1st gear or reverse on manual gearbox and position P on the automatic gearbox.
- Put chocks in front of and behind the wheels to remain on the ground. Use large wooden blocks or large stones.
- The jack screw should be kept well lubricated.

NOTE! See page 110 for information on the spare wheel.

Fuses, bulb replacement

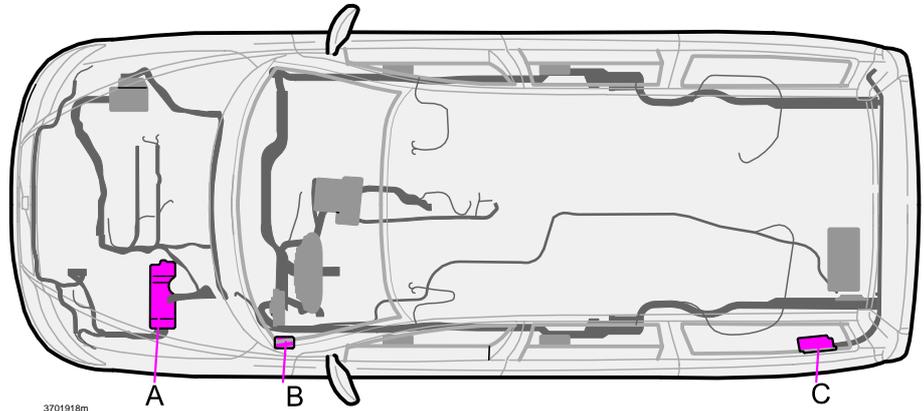
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Fuses

All electrical functions and components are protected with a number of fuses to protect your car's electrical system from damage by short-circuits or overloads.

Fuses are located in three different locations in the car:

- A - Integrated relay/fuse box in engine compartment.
- B - Fuse box in passenger compartment.
- C - Integrated relay/fuse box in the cargo compartment.



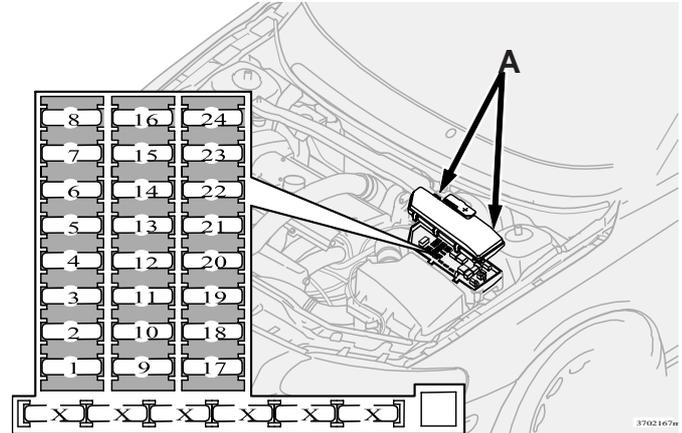
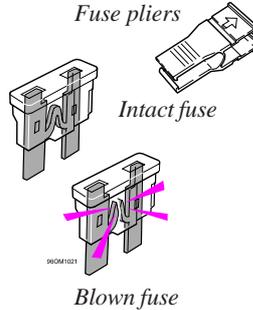
If an electrical component or function does not operate it may be because the component fuse was temporarily overloaded and burned out. Look in the fuse diagram to locate the affected fuse. Pull out the fuse and look at it from the side to see if the curved wire is burned out. Replace with a new fuse **of the same colour and amperage**. The fuse box in the engine compartment contains a number of spare fuses. There are also pliers to assist you in pulling out and replacing the fuses.

If the same fuse burns out repeatedly, there is a fault in the component, and you should visit your Volvo workshop to have it checked.

Fuses

Relay/Fuse box in the engine compartment

There are 24 fuse positions in the fuse box in the engine bay. Be sure to replace a blown fuse with a new one of the same colour and amperage.



Fuses

No	Ampere rating
1. Parking heater (option)	25
2. Auxiliary lamp (option)	20
3.	15
4. Lambda sonds, engine control module (diesel), high pressure valve (diesel)	20
5. Crankcase ventilation heater, solenoid valves, Fuel distributor (Bi-Fuel)	10
6. Mass air flow sensor, engine control module, injectors	15
Mass air flow sensor (diesel)	5
7. Throttle module	10
8. AC compressor, accelerator position sensor, fan electronic box	10
9. Horn	15
10. Rear window washer	10
11. AC compressor, ignition coils, solenoid valves (diesel)	20
12. Brake light contact	5
13. Windscreen wiper	25

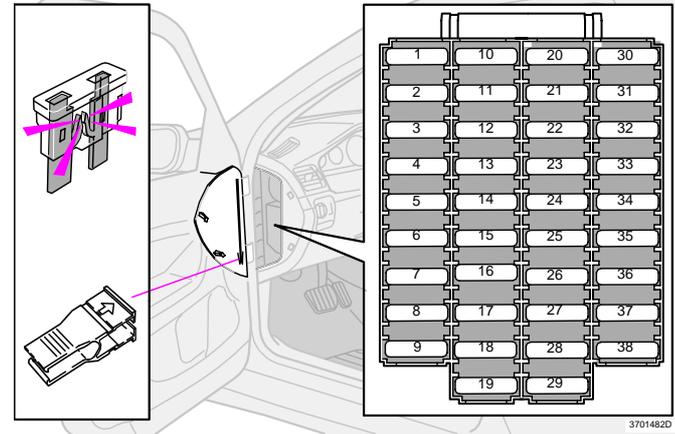
A. Press in the catches on the rear of the box and pull the cover up.

14. ABS/STC/DSTC	30
15. Gas tank valve (Bi-Fuel)	15
16. Washer (windscreen), headlamp cleaner	15
17. Dipped beam (right)	10
18. Dipped beam (left)	10
19. ABS/STC/DSTC	30
20. Main beam (left)	15
21. Main beam (right)	15
22. Starter motor	40
23. Engine control module	5
24.	

Fuse box in passenger compartment

Fuses are located inside the access panel on the end face of the dashboard. Be sure to replace a blown fuse with a new one of the same colour and amperage.

No	Ampere rating
1. Headlamp (dipped beam), Bi-Xenon (option)	15
2. Headlamp (main beam)	20
3. Power seat (driver)	30
4. Power seat (passenger)	30
5. Speed-dependent power steering, vacuum pump.....	15
6. Gas tank valve (Bi-Fuel)	5
7. Heated seat (front left)	15
8. Heated seat (front right)	15
9. ABS/STC/DSTC	5
10.	
11.	
12. Headlamp levelling, headlamp wiper	15
13. 12 V socket	15
14. Power seat (passenger), Seatbelt catch (front)	5
15. Audio, RTI (option)	5
16. Audio	20
17. Audio amplifier	30
18. Fog lamp (front)	15
19. RTI display (option)	10
20.	
21. Extended D2 feed: Automatic gearbox, shiftlock	10
22. Direction indicator	20
23. Control unit lights, control unit climate control, diagnostic socket, control unit steering wheel levers	5
24. Extended D1 feed: Climate control unit, power seat (driver), combined instrument panel, parking heater (option)	10
25. Ignition switch (30 feed), central electronic module, relay starter motor, engine control module	10
26. Fan, climate control unit	30

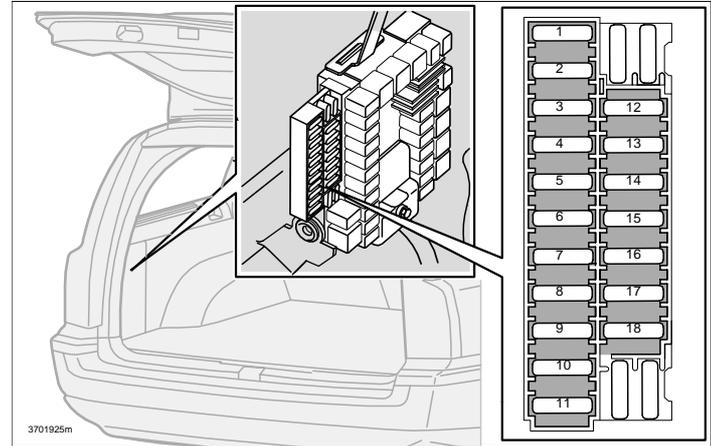
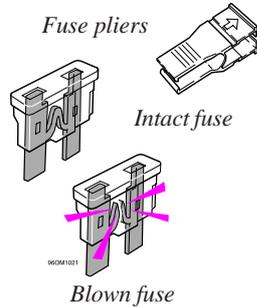


27. Active chassis FOUR-C	15
28. Electronic module (ceiling), interior lighting (ceiling)	10
29. Telephone (option)	10
30. Position/Parking lamp (left, front and rear)	7.5
31. Position/Parking lamp (right, front and rear), numberplate lighting	7.5
32. Central electronic module, vanity mirror lighting, power steering, general lighting, glovebox lighting	10
33. Fuel pump	15
34. Sunroof	15
35. Central locking, defroster, door mirror lighting, power window (left, front)	25
36. Central locking, defroster, door mirror lighting, power window (right, front)	25
37. Power windows (rear), child safety lock	30
38. Alarm siren	5

Fuses

Integrated relay/fuse box in the cargo compartment

The fuses are located behind the trim on the left-hand side. Be sure to replace a blown fuse with a new one of the same colour and amperage.

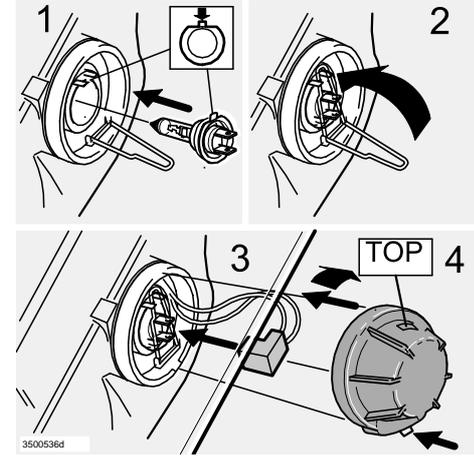
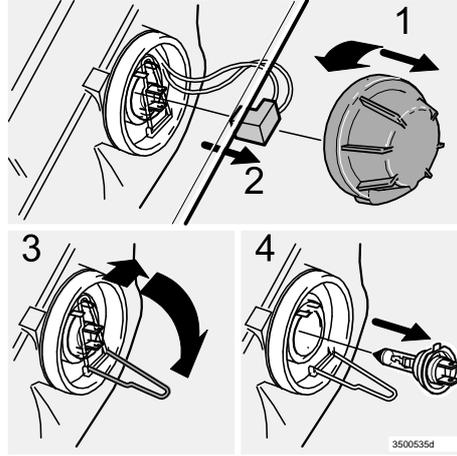
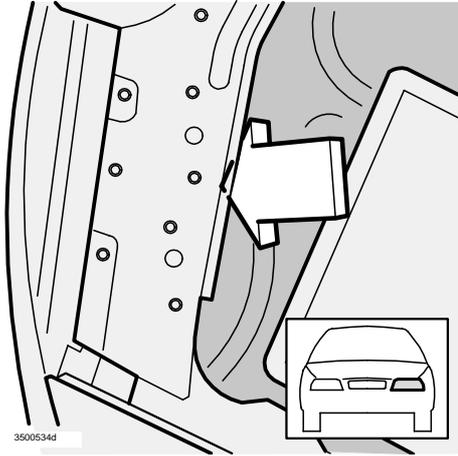


Fuses

No	Ampere rating
1. Rear electronic module (REM), lighting (cargo compartment)	10
2. Rear fog lamp	10
3. Brake light	15
4. Reversing lamp	10
5. Heated rear window, relay 15I feed (rear)	5
6. Unlocking tailgate/boot lid	10
7. Socket, cargo compartment	15
8. Central locking, rear doors, tailgate/boot lid fuel filler flap	20
9. Towing bracket (30 feed)	15
10. CD changer (option), RTI (option)	10

No	Ampere rating
11. Electronic module - AEM (option)	15
12. Rear window wiper	15
13. Bass speaker (option),	15
14. Brake light	7.5
15. Towing bracket (15I feed)	20
16.
17. Heated fuel filter (diesel), Control unit all wheel drive (AWD)	7.5
18. Heated fuel filter (diesel)	15

Replacing bulbs



Replacing dipped and main beam bulbs*

(does not apply to Bi-Xenon)

Replace headlamp bulbs from the engine compartment.

NOTE! Never touch the bulb glass directly with your fingers. Grease and oil from your fingers evaporate in the heat and will leave a deposit on the reflector, destroying it.

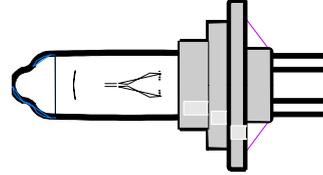
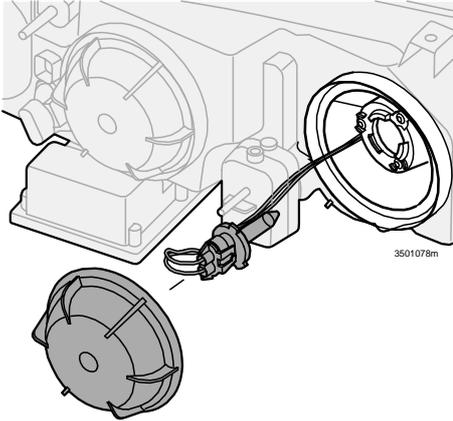
* See the warning on the next page if your car is equipped with Bi-Xenon headlamps.

Dipped beam bulb (H7)

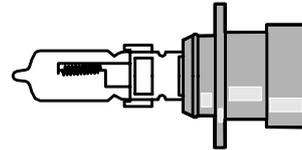
- Switch off all lights and turn ignition key to position 0!
- Open the bonnet
- Remove the cover by twisting anticlockwise (1).
- Pull off the connector (2).
- Disconnect the spring clamp. First push to the right so that the spring disconnects and then out and down (3).
- Pull the bulb out and replace with a new one (4).
- Replace the bulb (1). It can only be fitted in one position.

- Press the clamp spring upwards and a little to the left so that it secures in its catch (2).
- Press the connector back into place (3).
- Screw the cover back into place; “TOP” should be upwards (4)!

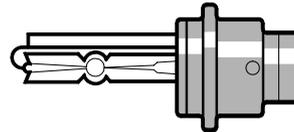
Replacing bulbs



Dipped beam bulb – H 7



Main beam bulb – HB 3



Bi-Xenon - D2R

WARNING!



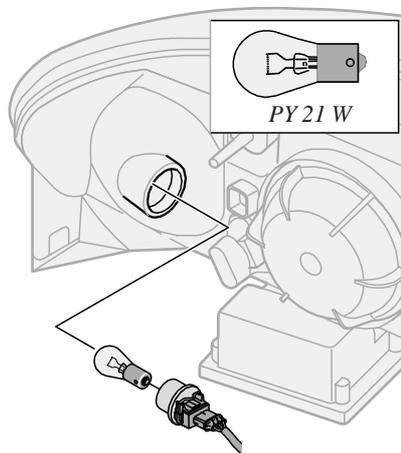
If your car is equipped with Bi-Xenon headlamps (option), the bulbs must be replaced by an authorised Volvo workshop due to the high voltage.

NOTE: Because Bi-Xenon lamps contain a little bit of mercury they must be handled correctly. Consult your Volvo dealer or Volvo workshop.

Main beam bulb (HB3)

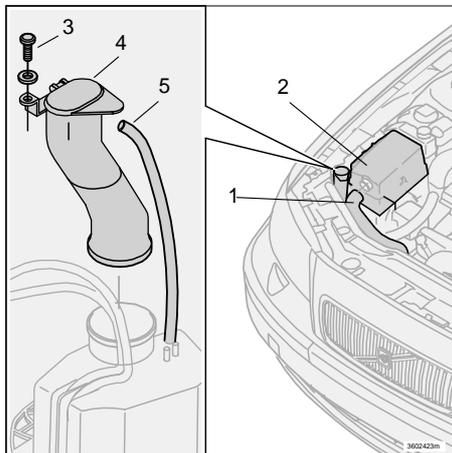
- Switch off all lights and turn ignition key to position 0!
- Open the bonnet.
- Remove the cover by twisting it anticlockwise.
- Twist the bulb holder anticlockwise, pull it out and fit a new bulb. Note its position.
- Refit the bulb holder. It can only be fitted in one way.
- Screw the cover back into place, Screw the cover back on. The word "TOP" should be uppermost.

Replacing bulbs



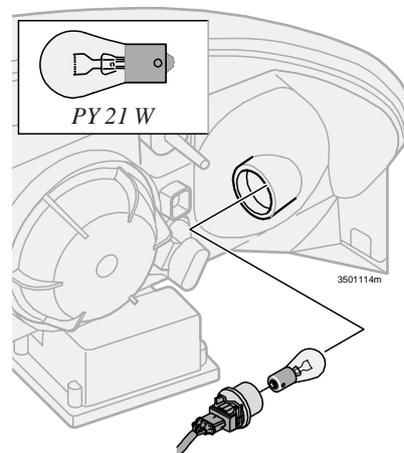
Replacing the bulb in front left corner

- Switch off all lights and turn ignition key to position 0.
- Twist the bulb holder anticlockwise and remove it.
- Press the bulb inwards, turn it anticlockwise and remove it from the bulb holder.
- Replace with a new bulb and refit the bulb holder in the lamp housing.
- Switch on the ignition and check that the new bulb lights.



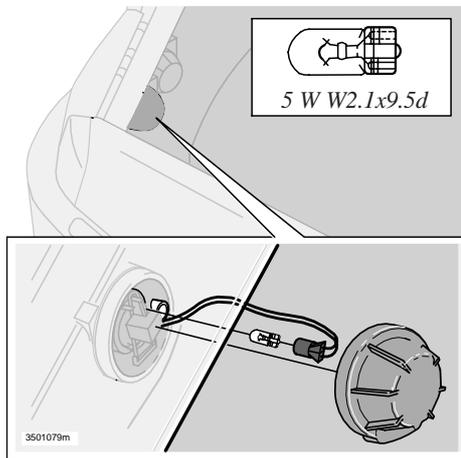
Changing the bulb in the front right corner

- Switch off all lights and turn ignition key to position 0.
- Remove the radiator tube (1) from the cooler box.
- Remove the cover (2) of the cooler box.
- Unscrew the filling pipe (3).
- Pull the pipe upwards (4).
- Remove the bleeder hose of the pipe (5).
- Remove Turn the bulb holder **clockwise** to remove it.
- Press the bulb inwards, turn it anticlockwise and remove it from the bulb holder.



- Replace with a new bulb and refit the bulb holder in the lamp housing.
- Check that the fluid reservoir packing between the filling pipe and the reservoir is positioned properly.
- Replace the filling pipe (4).
- Replace the bleeder hose to the filling pipe (5).
- Rescrew the filling pipe (4).
- Replace the cover over the cooler box (2).
- Replace the radiator tube on the cooler box (1).

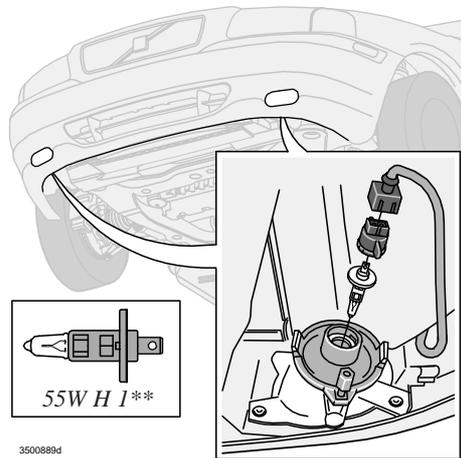
Replacing bulbs



Replacing front position/ parking lamp bulb*

- Switch off all lights and turn ignition key to position 0.
- Remove the dipped headlamp cover by twisting anticlockwise.
- Pull out the bulb and its socket. Replace the bulb.
- Press the bulb and its socket back into place.
- Check that the new bulb lights.
- Screw the cover back into place; "TOP" should be up!

* On cars with Bi-Xenon headlamps, these bulbs sit in the direction indicator lamp housing. See previous page.

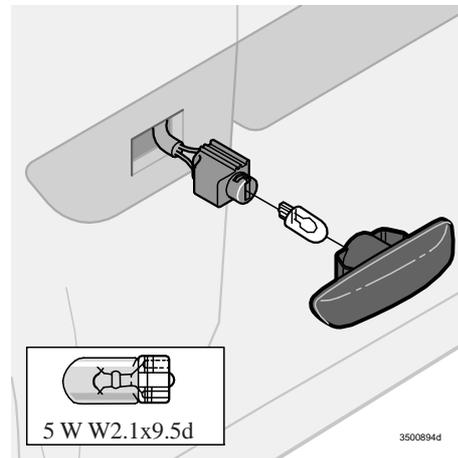


Replacing front fog lamp bulb

NOTE: Never touch the headlamp glass directly with your fingers.

- Switch off all lights and turn ignition key to position 0.
- Turn the bulb holder slightly anticlockwise.
- Remove the bulb and replace with a new.
- Reinstall the bulb. (The profile of the bulb holder matches the foot of the lamp).
- Reinstall the bulb holder by twisting slightly clockwise, with "TOP" facing upwards!

** H3 lamp in V70 R



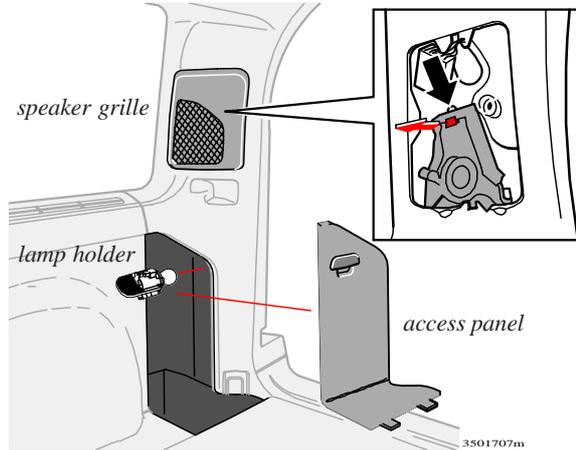
Replacing side direction indicator bulb

- Open the front door halfway.
- Insert your hand behind the front fender and press out the lamp. Allow the cables to remain in the bulb holder.
- Twist the bulb holder a quarter turn anticlockwise and pull straight out.
- Pull the defective bulb straight out.
- Replace the bulb and press the lamp straight in.

Replacing bulbs

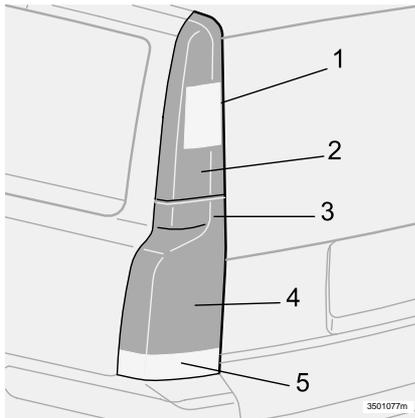
Replacement of tail, position/parking, and fog lamps in the rear

- Switch off all lights and turn ignition key to position 0.
- Open the access panel.
- Twist the bulb holder anti-clockwise and remove it.
- Press the bulb inwards, turn anti-clockwise and take out the bulb.
- Replace the bulb.
- Fit the bulb holder in place and twist it clockwise.
- Close the access panel.



Replacement of bulbs in position (direction indicator) lamp and brake light bulbs

- Switch off all lights and turn ignition key to position 0.
- Carefully prise off the speaker grille.
- Pull out the red tab in the speaker.
- Then press on the black pin above the extracted red tab and twist out the speaker.
- Twist the bulb holder anticlockwise and withdraw it.
- Replace the bulb.
- Fit the bulb holder in place and twist it clockwise.
- Refit the speaker and press in the red tab.
- Press the speaker grille back into position.



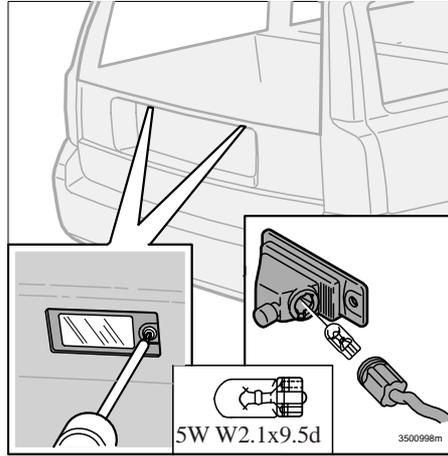
1. Direction indicator lamp
2. Brake light
3. Position/Parking lamps
4. Position/Parking lamps, Fog lamps (left side only)
5. Reversing light

- 21 W BAU 15 s (yellow)
21 W BA 15 s
5 W BA 15 s
21/4 W BA 5 s
21 W BA 15 s

High level brake light

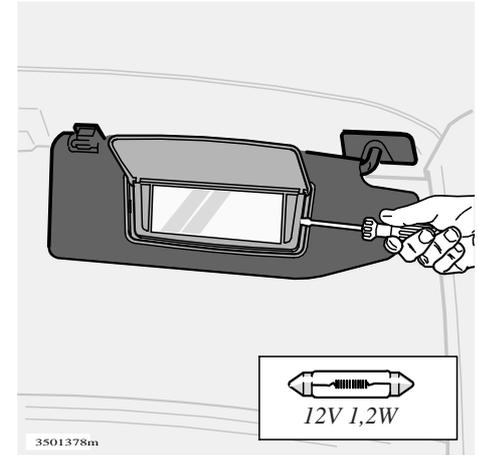
These bulbs are of a special type. We recommend that you ask your Volvo workshop to replace this bulb.

Replacing bulbs



Replacing numberplate lighting bulb

- Switch off all lights and turn ignition key to position 0!
- Remove the screw with a screwdriver.
- Loosen the whole lamp housing carefully and pull it out.
- Turn the connector anticlockwise and pull out the bulb.
- Replace the bulb.
- Reinstall the connector and turn it clockwise.
- Reinstall and screw the whole lamp housing into place.



Insert screwdriver and turn carefully

Replacing - Vanity mirror

- Insert a screwdriver and gently turn so that the glass loosens.
- Prise out the bulb and replace with a new one.
- First press the bottom of the lamp glass back into place above the four hooks. Then press the top in place.

Replacing bulbs



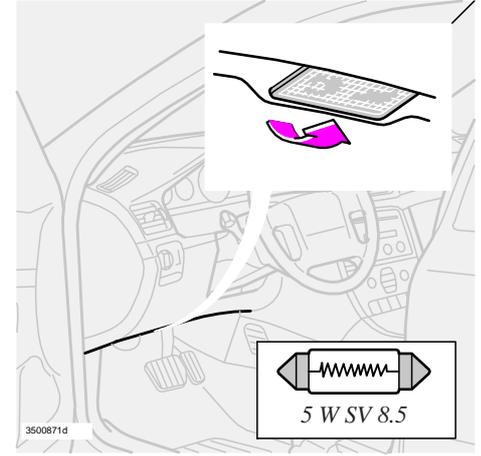
Roof lighting with front reading lamps

These bulbs are of a special type. We recommend that you ask your Volvo workshop to replace this bulb.



Rear reading lamps

These bulbs are of a special type. We recommend that you ask your Volvo workshop to replace this bulb.



Replacing - Courtesy lighting - front seat

The courtesy lighting is under the dashboard on the driver's and passenger sides. Carry out the following to replace:

- Insert a screwdriver and twist lightly so that the lamp housing loosens.
- Remove the faulty bulb and install a new bulb.
- Check that lamp lights. Reinstall lamp housing.

Car care and Service

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Rustproofing - check and repair

Your Volvo received a very thorough and complete rustproofing at the factory. The body consists of galvanized sheet steel. The underbody is protected by a wear-resistant anti-corrosion compound. Members, cavities and enclosed sections are sprayed internally with a thin, penetrating rust inhibitor.

The car's rustproofing is maintained by doing the following:

- Keep the car clean! Wash the underbody with a high-pressure hose. When high pressure washing - hold the spray nozzle at least 30 cm away from painted surfaces!
- Check and repair eventual rustproofing regularly.

The car's rustproofing does not normally require treatment for approximately 8 years. After that time, it should be treated at three year intervals. If your car requires treatment, consult your Volvo workshop.

Improvement

If you want to repair the rustproofing yourself, make sure the area is clean and dry. Hose down, wash and dry the car thoroughly. Use a rustproofing agent in a spray can or one that is intended for brush application.

Two types of rustproofing agent are available:

- a) thin (colourless), for visible places
- b) thick, for wear areas on the underbody

Possible repair areas with these agents:

- Visible welds and sheet metal joints - thin fluid
- Underbody - thick fluid
- Door hinges - thin fluid
- Bonnet hinges and catch - thin fluid

When you have finished applying the rustproofing agent, wipe off any surplus fluid using a cloth moistened with a recommended detergent.

Parts of the engine and suspension strut mountings in the engine compartment are treated at the works with a wax-based colourless rustproofing agent. This withstands normal detergents without dissolving and losing its rustproofing ability. On the other hand, if you wash the engine using aromatic solvents such as turpentine or white spirit (especially those which do not contain emulsifiers), the protective wax should be renewed after washing. Your Volvo dealer has such waxes in stock.

Repairing paintwork damage

Paint

Paint is an important part of the car's rustproofing and should therefore be checked regularly. Repair paintwork damage immediately so that it does not start to rust. The most common types of paintwork damage that you can repair yourself are:

- minor stone chips and scratches
- damage on wing edges and doors

When repairing paintwork, the car should be clean and dry with a temperature above + 15°C.

Colour code

Make sure you have the right colour. The colour code number is on the data plate in the engine compartment.

VOLVO CAR CORP.		MODEL NO. (ENGINE)
●	KG	
1.	KG	
2.	KG	

8100503A

Colour code

Minor stone chips and scratches

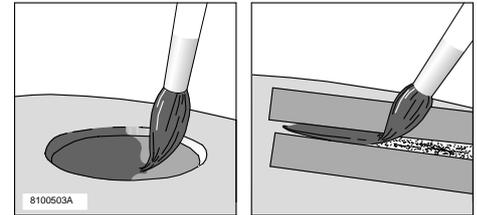
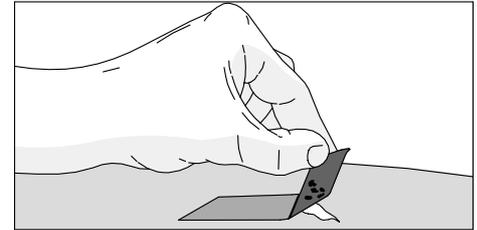
Material:

- Primer in a can
- Paint in a can or a touch-up pen
- Brush
- Masking tape
- If the stone chip has not gone down to the bare metal and an unpainted colour coat remains, you can add paint immediately after removing dirt.

Do as follows if the stone chip went down to the bare metal:

- Fasten a piece of masking tape over the damaged surface. Then remove the tape, removing any paint residue (illustration 1).
- Stir the primer thoroughly and apply using a fine brush or matchstick (illustration 2).
- When the primer is dry, apply the surface coat with a brush.
- Ensure that the paint is well stirred and apply several thin coats allowing it to dry between coats.
- The procedure is the same for scratches, but masking tape can be used to protect undamaged paintwork (illustration 3).
- Wait a day or so and then finish the repair by polishing. Use a soft rag and apply lapping paste sparingly.

Remove any paint residue with tape



Mask if necessary

Wash the car frequently!

Wash the car as soon as it becomes dirty, especially in the winter when road salt and moisture can lead to corrosion.

Wash the car as follows:

- Thoroughly hose off the dirt on the car underbody.
- Rinse the whole car until the dirt has softened.
- When using high pressure hose:
Ensure that the high pressure hose nozzle does not come nearer than 30 cm from the bodywork. Do not spray directly at the locks.
- Wash with a sponge using a lot of water with or without detergent.
- You can use lukewarm (maximum 35 °C) but not hot water.
- If the dirt is ingrained, you can wash the car with cold degreasing agent, but then be sure that there is a drain separator where you are washing the car. When using cold degreasing agent, ensure that the car is not in direct sunlight or that the paint is warm from sunlight or a warm engine. Sunlight and heat can cause permanent damage. Consult your Volvo workshop.
- Dry the car with a clean, soft chamois.
- Clean the wiper blades with a lukewarm soap solution.

Suitable detergent:

Car shampoo.

Keep in mind the following:

Always wash off **bird droppings** from the paintwork as fast as possible. Bird droppings contain chemicals that affect and discolour paintwork quickly. The discoloration cannot be polished off.

WARNING!



After washing: always test the braking so that moisture and corrosion do not affect the brake pads and impair the brakes! Depress the brake pedal lightly now and again when driving longer distances in the rain or slushy snow to warm up and dry the brake discs and pads. You should also do this when starting in very damp or cold weather conditions.

WARNING!



Do not wash the engine when it is still warm. Fire risk!

Washing

Automatic car wash

An automatic car wash is a simple and fast way of washing the car. Remember that an automatic car wash can never replace a proper handwash.

The brushes of an automatic car wash do not fully reach all areas. During the first months of the car's life it is recommended that you only handwash the car.

Polishing and waxing

Polish and wax the car when you feel the paintwork is matte and when you wish to give the paintwork extra protection, such as before winter. The car does not usually need polishing until after one year. It can be waxed earlier.

Wash and dry the car thoroughly before you begin polishing and/or waxing. Clean off asphalt and tar stains with white spirit. More stubborn marks can be removed with fine rubbing paste designed for paintwork. Polish first with a polish and then wax with fluid or solid wax. Carefully follow the instructions on the package. Many preparations contain both polish and wax.

Do not polish or wax surfaces warmer than 45 °C.

Cleaning the upholstery

Treating marks on fabric

A special cleaning agent available at your Volvo dealer is recommended when cleaning fabric upholstery. Other chemicals can impair the fire retardant qualities of the upholstery.

Treating marks on vinyl

Never scrape or rub a mark. **Never** use strong stain remover. Wash with a weak soap solution and lukewarm water.

Treating marks on leather

A special cleaning agent available at your Volvo dealer is recommended when cleaning leather upholstery.

Use the Volvo leather care kit once or twice a year to preserve suppleness and comfort.

Never use strong detergent, petrol, alcohol, white spirit, etc. as such strong substances can damage fabric, vinyl and leather upholstery.

Cleaning seat belts

Use water and synthetic detergent.

Volvo Service programme

Before the car left the factory, it was thoroughly test driven. It was checked again in accordance with Volvo Car Corporation regulations before it was handed over to you.

In order for you to keep your Volvo at the highest level of traffic safety, driving safety and reliability you should follow the Volvo service programme which is specified in the Warranty and Service schedule. We advise you always to let a Volvo workshop carry out the servicing and repair work. Your Volvo workshop has the personnel, the special tools and the service literature which guarantees you the highest quality of service. Your Volvo workshop always uses Volvo Genuine parts. The Volvo Service schedule is developed for the normal motorist.

IMPORTANT!

For the Volvo warranty to apply, check and follow the instructions in the Service and Warranty Manual.

Adverse driving conditions

Change engine oil and replace air and oil filters more often than recommended in the Service and Warranty Booklet when driving in adverse conditions.

Adverse driving conditions include:

- Prolonged driving in dusty/sandy conditions
- Prolonged driving with caravan or trailer
- Prolonged driving in mountainous areas
- Prolonged driving at high speeds
- Prolonged idling and/or driving at low speeds
- Driving in low temperatures - below 0°C - along shorter distances; less than 10 km.

WARNING!



The car ignition system has very high voltage!
The voltage in the ignition system is dangerous!
Do not touch spark plugs, ignition cables or the ignition coil when the engine is running or the ignition is switched on!

The ignition should be switched off when:

- Conducting engine tests.
- Replacing parts in the ignition system, such as spark plugs, ignition coil, distributor, ignition cables, etc.

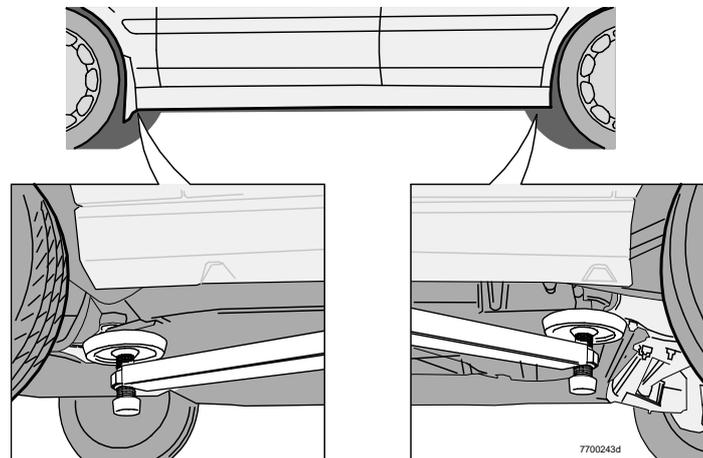
Note the following before you begin working on your car:

Battery

- Ensure that the battery cables are correctly connected and tightened.
- Never disconnect the battery when the engine is running (e.g. when replacing the battery).
- Never use a fast charger to charge the battery. The battery cables should be disconnected when recharging.

Environmental care

The battery contains acid that is both corrosive and poisonous. It is important that the battery is handled in an environmentally friendly way. Let your Volvo dealer assist you.



Lifting the car

If the car is lifted with a workshop jack, it should sit with the front edge on the engine support arm. Do not damage the splashguard under the engine. Ensure that the jack is positioned so that the car cannot slide off the jack. Always use axle stands or the like.

If you lift the car using a two pillar workshop lift, ensure that the front and rear lift arms are fixed under the lifting points on the door sill. See the illustration.

Environmental care, Fuel consumption

Environmental care

There are many examples of environmental care within the Volvo field of activity. We use a chlorine free refrigerant in our climate control systems which is totally harmless to the ozone layer and which has only a very limited effect on the greenhouse effect. Asbestos-free brakes, engines with catalytic converters and compressed natural gas (CNG) drive are other examples of what we at Volvo Car Corporation are doing for the environment. Our specific services are also of importance to the environment, such as using Volvo Genuine parts, maintaining ignition and fuel systems, and other measures that directly reduce exhaust emission. We would also like to point out the care taken by our Volvo workshops in regards to handling environmentally dangerous substances.

Catalytic converter

The catalytic converter is an additional part of the exhaust system. Its purpose is to purify exhaust. The converter primarily consists of a housing with two monoliths that are designed so that the exhaust gases pass through a honeycomb of channels. The channel walls are lined with a thin layer of platinum, rhodium and palladium. These metals act as catalysts, i.e. they participate in and accelerate a chemical reaction without being used up themselves.

Lambda-sond™ (heated oxygen sensor, petrol engines only)

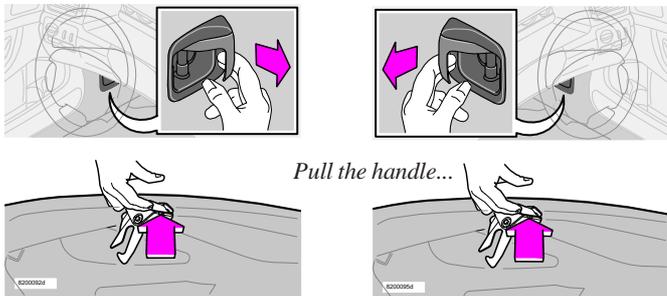
The lambda sensor is part of a management system intended to reduce emissions and improve fuel economy. An oxygen sensor monitors the oxygen content of the exhaust gases leaving the engine. These values are fed into an electronic system that continuously controls the injectors. The ratio of air to fuel is continuously adjusted. These adjustments create optimal conditions for efficient combustion, and together with the three-way catalytic converter reduce harmful emissions (hydrocarbons, carbon monoxide and nitrous oxides).

Official fuel consumption figures are based on a standard driving cycle; EU directive 80/1268 comb. Fuel consumption figures can be altered if the car is equipped with extra options which affect car weight. The manner in which the car is driven and other non-technical factors can affect fuel consumption.

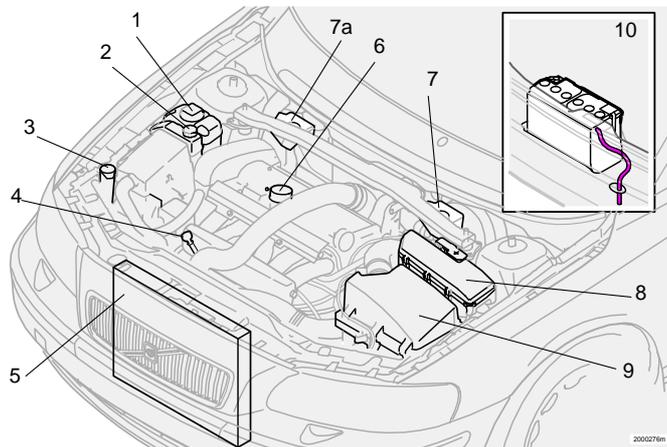
Fuel consumption and carbon dioxide emissions

Engine	Transmission	Fuel cons. litres/100 km	Carbon dioxide emissions (CO ²) g/km
B5204T5	Manual	9.2 - 9.4	219 - 223
	Automatic	10.2 - 10.4	243 - 247
B5234T3	Manual	9.3 - 9.4	221 - 225
	Automatic	10.6 - 10.8	254 - 258
B5244S (170 bhp)	Manual	9.2 - 9.3	220 - 221
	Automatic	9.8 - 9.9	234 - 237
B5244S2 (140 bhp)	Manual	9.0 - 9.1	214 - 217
	Automatic	9.7 - 9.8	231 - 235
B5254T2 (2.5T)	FWD	Manual	9.2 - 9.3
		Automatic	10.1 - 10.3
	AWD	Manual	10.0 - 10.2
		Automatic	10.6 - 10.8
XC	Manual	10.4	249
	Automatic	11.1 - 11.3	266 - 270
B5254T4 (R)	AWD	10.7 - 10.9	256 - 261
	Automatic	11.1 - 11.3	266 - 270
D5244T (D5)	FWD	Manual	6.5 - 6.7
		Automatic	7.9 - 8.1
	AWD	Manual	7.3 - 7.5
		Automatic	8.4 - 8.5
XC	Manual	7.5 - 7.6	199 - 202
	Automatic	8.4 - 8.5	223 - 226
D5244T2 (2.4D)	Manual	6.5 - 6.7	171 - 177
	Automatic	7.9 - 8.1	209 - 215
D5244T3 (2.4D)	Manual	6.5 - 6.7	171 - 177

Bonnet, Engine compartment



...press up and open



Opening the bonnet

Pull the handle on the far left or right under the dashboard. You hear when the lock releases. Insert your hand in the centre of the front edge of the bonnet and press up the safety catch handle. Open the bonnet.

Engine compartment

1. Expansion tank, cooling system
2. Power steering fluid reservoir
3. Washer fluid reservoir
4. Dipstick, engine
5. Radiator
6. Oil filler pipe, engine
7. Clutch/brake fluid reservoir (LHD)
- 7a. Clutch/brake fluid reservoir (RHD)
8. Integrated relay/fuse box
9. Air cleaner
10. Battery (in cargo compartment)

WARNING!



Check that the bonnet locks properly when you close it!

WARNING!



Electric engine cooling fan:

Cooling fan may start itself **after** the engine has been switched off!

Fuel system

Diesel engines are very sensitive to contamination. Only use diesel fuel from well known oil companies. Never use diesel of doubtful quality. The major oil companies can also offer a special diesel fuel for winter use. This fuel is much thinner when the temperature is low, which reduces the risk of waxing in the fuel system. The risk of condensation building up in the tank is reduced if the tank is kept well filled.

During filling you should check that the area around the filler pipe is clean. If you do the refuelling from a tank of your own, you should filter the fuel.

Avoid spilling onto the paintwork. Wash off any spills with detergent and water.

Empty tank

No special procedures are required if the tank runs dry. The fuel system is bled automatically.

RME (Rape Methyl Ester)

- 5% RME may be added to diesel.

Draining condensation water from fuel filter

The fuel filter removes condensation, which could otherwise affect engine function, from the fuel. The fuel filter should be drained as specified in the Service and Warranty Manuals, and when you suspect that the car has been filled with contaminated fuel.

Engine oil

Oilgrade:

Petrol engines: ACEA A1

ACEA A3 grade oil can also be used.

Note that the same oil can comply with both ACEA A1 and ACEA B1, regardless of whether it is a mineral, semi-synthetic or fully synthetic oil.

For engines in V70 R cars, engine oil which complies with ACEA A3 is recommended.

Diesel engines: ACEA B4

Note that the same oil can comply with ACEA A3, ACEA B3 and ACEA B4.

Regardless of whether it is a mineral, semi-synthetic or fully synthetic oil.

Do not use extra additives. These can damage the engine.

Castrol® fully synthetic engine oil is recommended for turbocharged petrol and diesel engines.

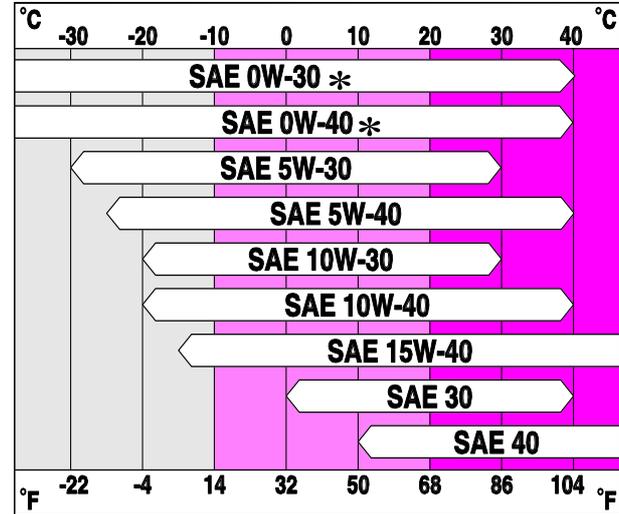
Volvo recommends Castrol® oil products.

Changing the oil and oil filter

Your Service and Warranty Manuals contain instructions regarding suitable intervals for changing oil and oil filters.

Shorter intervals are recommended for driving in adverse conditions*.

*: see page 130



* Oils with viscosity 0W-30 and 0W-40 must fulfil the requirements of ACEA A3 (petrol engines).

2200243h

Viscosity (assumes constant air temperature)

For extreme driving conditions that produce abnormally high oil temperatures or oil consumption, such as driving in mountainous terrain with a great deal of engine braking or high-speed motorway driving, oil grade **ACEA A3 (petrol engines)** is recommended.

Check engine oil regularly when refuelling

Volvo recommends that the oil level be checked every 2500 km (1500 miles). It is especially important to check the engine oil level during the period up to the first scheduled oil change. Park the car on a level surface and wait at least five minutes after switching off the engine so that the oil can run back to the oil sump. The most accurate measurement is made on a cold engine before starting. Wipe dipstick before check.

V70 R version

The V70-R is also equipped with a system in the combined instrument panel which warns the driver when the engine oil level is too low. When the orange warning triangle is visible and the warning message "OIL LEVEL LOW - FILL OIL" is displayed, top up with one litre of oil. After filling, check that the oil level is within the marked area on the dipstick before restarting the engine.

When the red warning triangle is visible and the warning message "OIL LEVEL LOW - STOP SAFELY/- STOP ENGINE/- SEE MANUAL" is displayed, top up with at least one litre oil but no more than 1.5 litres. After filling, check that the oil level is within the area indicated on the dipstick before restarting the engine.

For more information regarding oil level checking for the V70 R, see page 30.

The oil level should fall within the markings on the dipstick.

The distance between MAX and MIN on the dipstick corresponds to approx. 1.5 litres for petrol engines and 2 litres for diesel engines.

If the level is at MIN fill with...

...cold engine:	1.0 litres.
...warm engine:	0.5 litres.



*Approx. 1.5 litres for petrol engines.**
Approx. 2.0 litres for diesel engines.
**Approx. 1.2 litres for the V70 R*

WARNING!

Do not spill oil on the hot exhaust pipes. Risk of fire!



Coolant

Never top up with ordinary water only! Use a mixture of half water, half **Volvo coolant** all year round.

NOTE! Certain engine components are manufactured of an aluminium alloy and it is therefore important that Volvo coolant is always used. It has especially good anti-corrosion properties! When the car is new it is filled with engine coolant to withstand approximately -35°C .

Check coolant regularly!

The level should lie between the MIN and MAX marks on the expansion tank. Top up the coolant if the level falls below the MIN mark. If you need to top up the coolant when the engine is warm, unscrew the expansion tank cap slowly so that the overpressure dissipates.

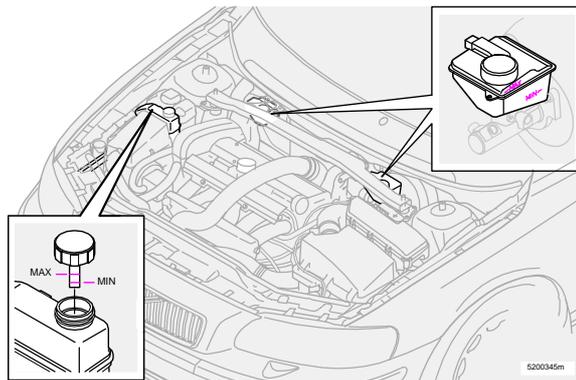
NOTE! The engine must only be run with a well-filled cooling system. If the system is not well filled, high temperatures can occur, causing a risk of cracks in the cylinder head.

WARNING!

If you need to top up the coolant when the engine is warm, unscrew the expansion tank cap slowly so that the overpressure dissipates.



Brake fluid, Power steering, Windscreen washer fluid



Power steering

The level should lie between the MIN and MAX marks.

Oil grade: Power steering fluid of type Pentosin CHF 11S or the like.

Check level at every service. Replacing the oil is not necessary.

NOTE! If a fault occurs in the power steering (or if the car has no power and is to be towed) the car can still be steered. Remember that the steering will be much heavier than normal and more strength is required to turn the steering wheel.

Clutch and brake fluid reservoir

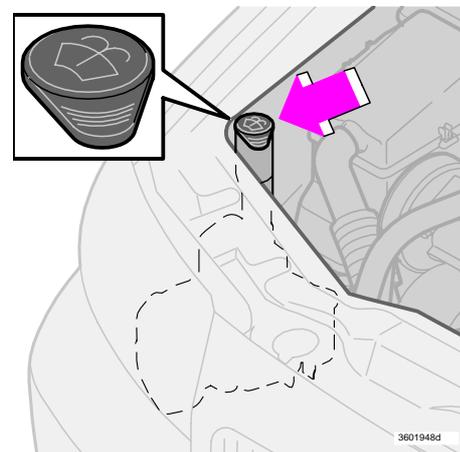
The brake and clutch have the same reservoir. The level should lie between the MIN and MAX marks.

Fluid type: Brake fluid DOT 4+.

Check level regularly

Change the fluid every other year or at every other regular service interval.

NOTE! The fluid should be changed annually on cars which drive in conditions requiring hard and frequent braking, driving in mountains or tropical climates with high humidity. Replacement is not part of a service schedule but should be carried out in conjunction with a service at the Volvo workshop.



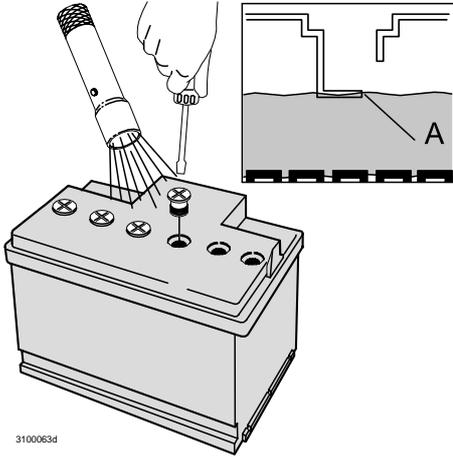
Washer fluid reservoir

Washer fluid reservoir

The windscreen, tailgate and headlamp washers all share the same fluid reservoir. It is in the engine compartment and has a capacity of 4.5 litres.

Use washer fluid during the winter so that the fluid does not freeze in the pump, reservoir and hoses.

Battery care



Battery

The function and life of the battery are affected by driving conditions, driving style, number of starts, climate conditions, etc. For the battery to function satisfactorily, you should consider the following:

- Regularly check that the battery fluid level is correct (A).
- Check **all** battery cells. Use a screwdriver to remove the cover. A flashlight is useful for checking the fluid level. Each cell has a maximum mark (A).
- If necessary: fill the battery with water to the maximum level in the battery. **NOTE!** Do not fill above the maximum mark (A).

- Do not use normal tapwater. Use distilled or deionized water (battery water).
- If you wish to charge your battery for any reason, you must check the fluid level **after** charging and top up with water as needed.
- Ensure that the plugs are tight.

NOTE! The number of times the battery is run flat negatively affects its service life.

WARNING!



- Remember that the battery contains oxyhydrogen, which is highly explosive. A naked flame or smoking near the battery is enough to cause the battery to explode and cause injury and/or damage the car.
- The battery also contains sulphuric acid, which can cause serious corrosive damage. If the acid comes into contact with your eyes, skin or clothes, flush with large quantities of water. If acid splashes into your eyes contact a doctor immediately.

Symbols:



Use protective goggles.



Further information in the Owner's Manual.



Store the battery out of the reach of children.



The battery contains corrosive acid.

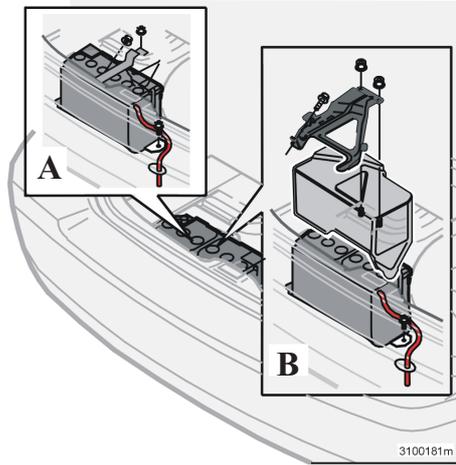


Avoid sparks and naked flames.



Risk of explosion.

Battery care



Replacing the battery

A. Battery without cover (see illustration)

- Check that the ignition is switched off.
- **Wait** at least 10 minutes before touching any electrical terminals (so that the information in the car's electrical system can be stored in the different control modules).
- Undo the bolts from the lock brace over the battery and remove the brace.
- **Disconnect the negative lead first.**
- Fold up the plastic cover over the positive terminal of the battery.
- Disconnect the positive lead and remove the plastic cover from the positive terminal.

- Detach the oxyhydrogen gas evacuation hose from the battery.
- Undo the nut from the lower bracket and remove the bracket.
- Lift out the old battery.
- Put the new battery in place.
- Fit the lower bracket and tighten the nut.
- Press the plastic cover of the positive battery terminal in place and connect the positive lead.
- Fold down the plastic cover over the positive terminal and then connect the negative lead.
- Make sure the evacuation hose is correctly connected to both the battery and the outlet in the bodywork.
- Fit the lock brace over the battery and tighten the bolts.

B. Battery with cover (see illustration)
Once you have unscrewed the bracket and the cover from over the battery, remove the battery as described in version A.

Important!

Repeated use of the parking heater and other great power consumers in combination with short trips can lead to battery discharge and thereby difficulty starting.

If great power consumers are used regularly, the car should be driven for the same amount of time as these consumers were connected in order to ensure that the generator is able to produce enough energy to compensate for the amount consumed.

WARNING!



Oxyhydrogen gas evacuation

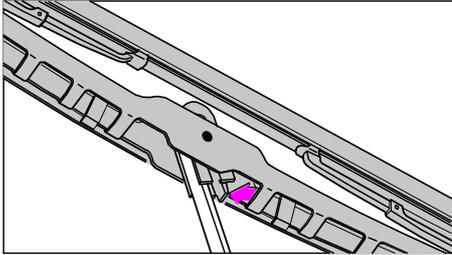
The battery can develop oxyhydrogen gas, which is extremely explosive. To prevent oxyhydrogen gas from remaining in the cargo and passenger compartments, there is an evacuation hose that leads any oxyhydrogen gas from the battery to the outside of the car.

If the battery must be replaced for some reason, make certain that the evacuation hose is connected to the new battery and it is run downwards to its intended outlet in the bodywork.

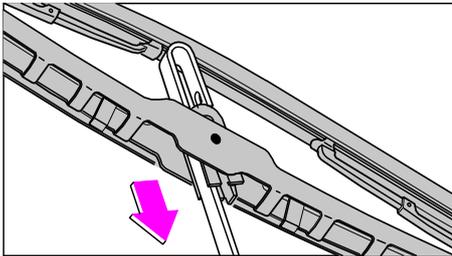
Replacing wiper blades

Replacement of windscreen wiper blades

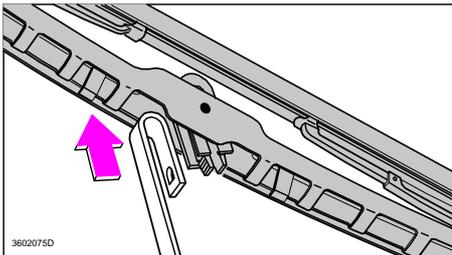
Fold out the wiper arm and hold the wiper blade at 45° to the wiper arm. Press in the spring on the wiper blade.



Press the entire wiper blade down so that the wiper arm eye passes through the hole in the wiper blade mounting.



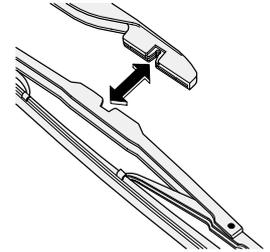
Then pull the blade up so that the wiper arm eye passes beside the wiper blade mounting.



3602075D

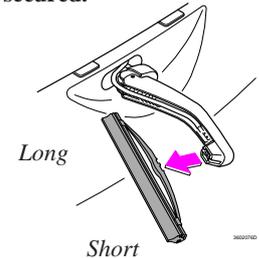
Install the new blade in reverse order and **check that it is securely in place.**

NOTE! Bear in mind that the wiper blade on the driver's side is straight and has a spoiler while the one on the passenger's side is curved. The spoiler on the driver's wiper should be fitted on the lower side of the blade. The curve of the blade should follow the curve of the windscreen at the bottom where the wiper rests.



Replacement of rear window wiper blades

Pull the wiper arm out away from the glass. Pull the wiper blade out towards the tailgate. Press the new wiper blade into place. **Check that it is properly secured.**



Replacement of headlamp wiper blades

Fold the wiper arm forward. Pull the wiper blade outwards. Press the new wiper blade into position. **Check that it is properly secured.**

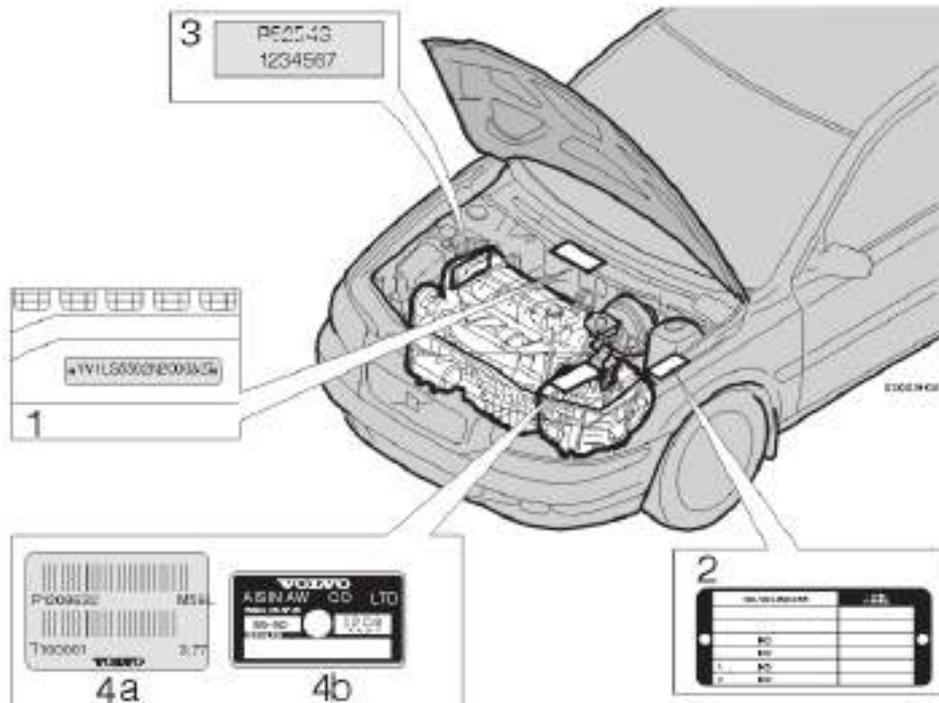
Specifications

Type designations	142
Weights and measurements, Capacities	143
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Electrical system	146
Engine specifications	147

Type designation

When contacting your Volvo dealer about your car and when ordering spare parts and accessories, it makes things easier if you know your car's type designation, vehicle identification number and engine number.

- 1 **Type, model year designation and vehicle identification number**
Stamped in the engine compartment beneath the windscreen.
- 2 **Type designation, vehicle identification number, maximum permissible weights and codes for paint and upholstery and type approval number.**
Plate on wing liner behind right-hand headlamp.
- 3 **Engine type designation, component and serial number**
On right-hand side of engine.
- 4 **Transmission type designation, and serial number**
 - a: Manual gearbox: on the front side
 - b: Automatic gearbox (AW55-50): on the upper side



Weights and measurements, Capacities

Weights and measurements

Length	471 (XC70 473) cm
Width	180 (XC70 186) cm
Height*	147-149 (AWD 148-151/XC 155-156/R 145-149) cm
Wheelbase	276 cm
Front track	156 (XC70 161) cm
Rear track	156 (XC 155/R 154) cm

* depending on wheel and tyre size

Cargo area volume (measured with 1-litre boxes):

Rear backrest raised, load up to top edge of backrest	485
Rear backrest lowered, load up to top edge of front seat backrests	745
Rear backrest lowered, load up to headlining	1641

Permissible weight (excluding driver) = Total weight-kerb weight

Chassis data plate with weight specification on the plate in the engine compartment

1. Max. total weight
2. Max. train weight (car+trailer)
3. Max. front axle load
4. Max. rear axle load



Max load, see registration papers

Max roof load	100 kg
Maximum trailer weight	1800 kg

Capacities

Fuel tank	70 litres
AWD, XC, R, Diesel	68 liter

Engine oil (incl. filter change)*

B5204T5	approx. 5.5 litres
B5234T3	approx. 5.5 litres
B5234T7	approx. 5.5 litres
B5244S (170 bhp)	approx. 5.5 litres
B5244S2 (140 bhp)	approx. 5.5 litres
B5254T2 2.5T	approx. 5.5 litres
B5254T4 R	approx. 5.5 litres
D5244T D5	approx. 7.0 litres
D5244T2 2.4D	approx. 7.0 litres
D5244T3 2.4D	approx. 7.0 litres

Gearbox oil

Manual (5-speed)	2.1 litres
Manual (6-speed)	2.0 litres
Automatic	7.2 litres

Power steering	0.9 liter
Power steering R version	1.1 liter
Windscreen washer reservoir	4.5 litres
Brake and clutch fluid	0.6 liter
Air conditioning (A/C) system	1000 grams

* To verify which engine is in the car - see the type designation stamped into the engine compartment (previous page, point 3).

Important!

After changing the oil, use the dipstick to check that the engine has the correct amount of oil. Warm up the engine and then check the oil a few minutes after the engine is switched off.

Lubricants

Engine

Petrol engines: ACEA A1

ACEA A3 grade oil can also be used.

Note that the same oil can comply with both ACEA A1 and ACEA B1, regardless of whether it is a mineral, semi-synthetic or fully synthetic oil.

Diesel engines: ACEA B4

Note that the same oil can comply with ACEA A3, ACEA B3 and ACEA B4, regardless of whether it is a mineral, semi-synthetic or fully synthetic oil.

Do not use extra additives. These can damage the engine.

Volvo fully synthetic engine oil is recommended for turbocharged petrol and diesel engines.

Viscosity (assumes constant air temperature)

For extreme driving conditions that produce abnormally high oil temperatures or oil consumption, such as driving in mountainous terrain with a great deal of engine braking or high-speed motorway driving, oil grade **ACEA A3 is recommended (petrol engines)**

NOTE! Oils with viscosity 0W-30 and 0W-40 must fulfil the requirements of ACEA A3 (petrol engines).

Transmission

Oil grade

Manual: Use only Volvo's synthetic gearbox oil.

Automat: **Only** Volvo's gearbox oil part no 1161540-8.
Do not mix with any other oil.

Power steering

Oil grade: Power steering fluid of type Pentosin CHF 11S or the like

Capacity: approx. 0.9 litres

Important!

If in doubt about the correct oil grade - contact a Volvo workshop.

Brake fluid

Fluid type: Brake fluid DOT 4+

Capacity: approximately 0.6 litres

Cooling system

Type: Closed overpressure

Capacity: Petrol without turbo approx. 8.0 litres
Petrol with turbo approx. 9.0 litres
Diesel approx. 12.5 litres

Thermostat starts to open at: 90°C

Refrigerant

Type: R134a

Oil: PAG P/N=1161627-3

Power transmission

Petrol

The engine can be run with octane ratings of 91, 95 and 98 RON.

- 98 RON is recommended for maximum effect and minimum fuel consumption.
- 95 RON can be used for normal driving.
- 91 RON should only be used as an exception. However, the engine will not be damaged by this fuel grade.

Standard	DIN 51600
Min.	91 octane RON unleaded

Diesel

Standard	SS-EN 590
----------	-----------

Power transmission - Automatic gearbox

Electronically controlled 5-speed automatic gearbox consisting of a hydraulic torque converter with planetary gear set.

Power transmission - Manual gearbox

Synchromesh on all gears, including reverse. Integrated final drive. Selection with floor-mounted gear lever.

Rear suspension

Independent suspension with individually sprung wheels with shock absorbers. The suspension consists of rear-facing trailer arms, upper and lower control arms, track rods and anti-roll bar.

Front end

McPherson type spring strut. Unitary construction of shock absorbers and spring. Rack and pinion steering. Safety type steering shaft. The values apply to an unladen car with full tank, coolant and spare wheel.

Electrical system

Electrical system

12-volt system with voltage regulated alternating current generator. Single pole system in which the chassis and engine block are used as conductors. The negative pole is connected to the chassis.

Battery

Voltage	12V	12V	12V (Diesel)
Cold start capacity (CCA)	520 A	600 A	800 A*
Reserve capacity (RC)	90 min	115 min	135 min

If you must replace your battery, be sure to replace it with a battery of **the same cold start capacity and reserve capacity** as the original (See the decal on the battery).

Generator max current	140 A	
Starter motor , power	1.4 kW	2.2 kW

* Cars with a parking heater are also equipped with an 800 A battery.

Bulbs

Bi-Xenon headlamp

 Main beam

 Dipped beam

Fog lamps

Front parking lamps

Side indicator

Direction indicators, front (yellow)

Direction indicators, rear (yellow)

Position light rear

Stop (brake) lamps

Back-up (reversing) lamps

Rear fog light

Position light rear

Numberplate lighting

Courtesy lighting front

Cargo compartment

Glovebox lighting

Vanity mirror

Output

35 W

60 W

55 W

55 W

5 W

5 W

21 W

21 W

5 W

21 W

21 W

21 W

4 W

5 W

5 W

5 W

3 W

1.2 W

Socket

D2R

HB3

H 7

H 1

W 2.1x9.5 d

W 2.1x9.5 d

PY

PY

BA 15

BA 15

BA 15

BA 15

BA 15

W 2.1x9.5 d

SV 8.5

SV 8.5

BA 9

SV 5.5

Engine specifications

Engine	B5204T5*	B5234T3*	B5234T7*	B5244S* (170 bhp)	B5244S2* (140 bhp)	B5254T2* 2.5T FWD/AWD/XC
Output** [kW/rps] [bhp/rpm]	132/88 180/5300	184/87 250/5200	147/83 200/5000	125/100 170/6000	103/75 140/4500	154/83 210/5000
Torque** [Nm/rps] [kpm/rpm]	240/37-88 24.5/2200-5300	330/42-87 33.7/2400-5200	285/33-83 29.1/2000-5000	225/75 23.0/4500	220/55 22.5/3300	320/25-75 32.6/1500-4500
No. of cylinders	5	5	5	5	5	5
Bore [mm]	81	81	81	83	83	83
Stroke [mm]	77	90	90	90	90	93,2
Cylinder displacement [dm ³ (l)]	1.98	2.32	2,32	2.44	2.44	2.52
Compression ratio	9.5:1	8.5:1	8.5:1	10.3:1	10.3:1	9.0:1
Spark plugs						
Electrode gap [mm]	0.7-0.8	0.7-0.8	0.7-0.8	1.2	1.2	0.7-0.8
Tightening torque [Nm]	30	30	30	30	30	30

To verify which engine is in the car - see the type designation stamped into the engine compartment (Type designations - page 141, point 3).

* **The engine can be run with octane ratings of 91, 95 and 98 RON.**

- 98 RON is recommended for maximum effect and minimum fuel consumption.
- 95 RON can be used for normal driving.
- 91 RON should only be used as an exception. However, the engine will not be damaged by this fuel grade.

** : Output and torque as per testing standard EU 80/1269. For petrol engines, 98 octane is used for this test.

Important!

Fill with correct petrol

You car has a catalytic converter and may only be driven using unleaded petrol. Otherwise, the catalytic converter could be damaged.

Engine specifications

Motor	B5254T4*	D5244T	D5244T2	D5244T3	B5244SG	B5244SG2
	R	D5	2.4D	2.4D	CNG (gas)	LPG (gas)
Output** [kW/rps]	220/92	120/67	96/67	85/67	103/97	103/85
[bhp/rpm]	300/5500	163/4000	130/4000	116/4000	140/5800	140/5100
Torque** [Nm/rps]	400/31-95	340/29-50	280/29-50	280/29-50	192/75	214/75
[kpm/rpm]	40.7/1850-5700	34.7/1750-3000	28.6/1750-3000	28.6/1750-3000	19.6/4500	21.8/4500
No of cylinders	5	5	5	5	5	5
Bore [mm]	83	81	81	81	83	83
Stroke [mm]	93.2	93.2	93.2	93.2	90	90
Cylinder displacement [dm ³ (l)]	2.52	2.40	2.40	2.40	2.44	2.44
Compression ratio	8.5:1	18.0:1	18.0:1	18.0:1	10.3:1	10.3:1
Spark plugs						
Electrode gap[mm]	0.7	-	-	-	1.2	1.2
Tightening torque[Nm]	28	-	-	-	30	30

* **The engine can be run with octane ratings of 91, 95 and 98 RON.**

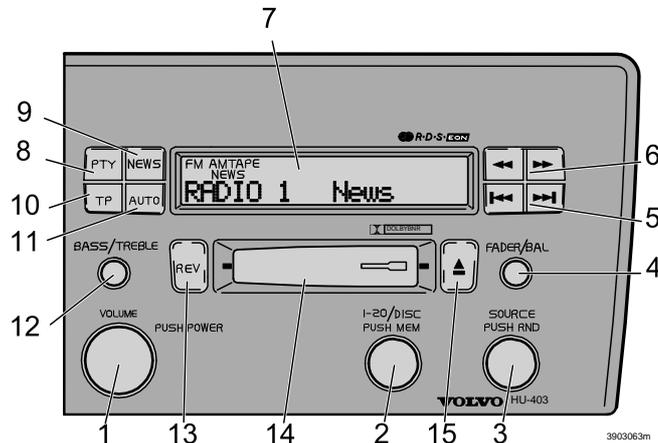
- 98 RON is recommended for maximum effect and minimum fuel consumption.
- 95 RON can be used for normal driving.
- 91 RON should only be used as an exception. However, the engine will not be damaged by this fuel grade.

** : Output and torque as per testing standard EU 80/1269. For petrol engines, 98 octane is used for this test.

Audio (option)

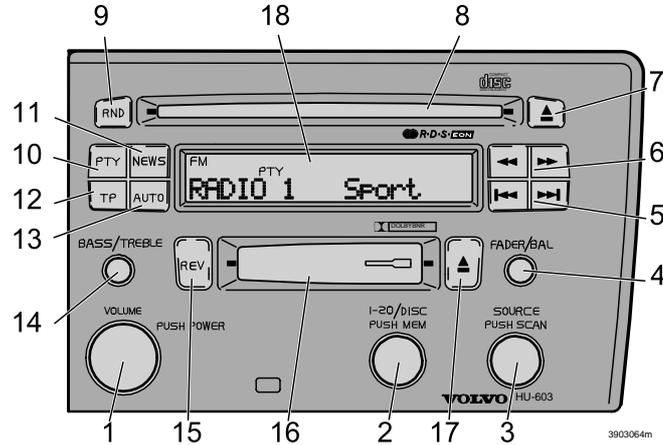
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Audio system HU-403



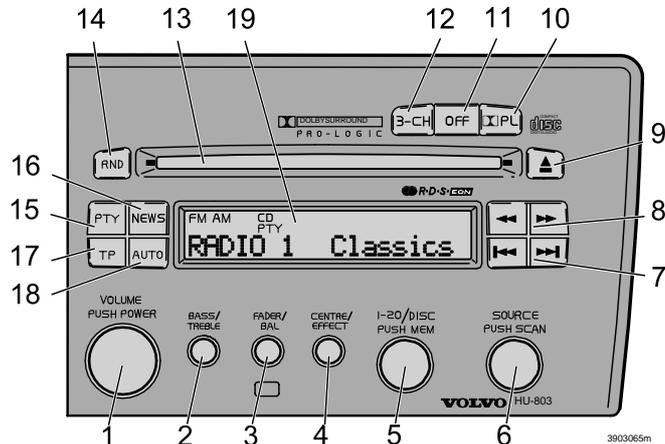
- | | | |
|--|--|---|
| <p>1. On/off (press)
Volume (turn)</p> <p>2. Selector knob:
Stored radio stations
CD changer (option)</p> <p>3. Selector knob for:
Radio - FM, AM
Cassette
CD changer (option)
TV (option)</p> | <p>4. Fader - press and turn
Balance - press, pull and turn</p> <p>5. Radio - Station seek up/down
Cassette - select next/previous track</p> <p>6. Radio - manual station selection
Cassette - Fast forward/rewind</p> <p>7. Display</p> <p>8. Programme type</p> <p>9. News + Radio text</p> <p>10. Traffic information</p> | <p>11. Automatic station pre-setting stations</p> <p>12. Bass - press and turn
Treble - press, pull and turn</p> <p>13. Tape direction selector</p> <p>14. Cassette opening</p> <p>15. Cassette eject</p> |
|--|--|---|

Audio system HU-603

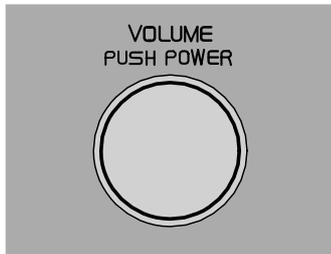


- | | | |
|---|--|--|
| 1. On/off (press)
Volume (turn) | 5. Radio - Station seek up/down
Cassette - Select next/previous track | 13. Automatic station pre-setting |
| 2. Selector knob:
Stored radio stations
CD changer (option) | 6. Radio - manual station selection
Cassette - Fast forward/ rewind | 14. Bass - press and turn
Treble - press, pull and turn |
| 3. Selector knob for:
Radio
Cassette
CD
CD changer (option)
TV (option) | 7. CD eject | 15. Tape direction selector |
| 4. Fader - press and turn
Balance - press, pull and turn | 8. CD opening | 16. Cassette opening |
| | 9. CD random | 17. Cassette eject |
| | 10. Programme type | 18. Display |
| | 11. News + Radio text | |
| | 12. Traffic information | |

Audio system HU-803



- | | | |
|--|--|---|
| <p>1. On/off (press)
Volume (turn)</p> <p>2. Bass - press and turn
Treble - press, pull and turn</p> <p>3. Fader - press and turn
Balance - press, pull and turn
Output volume - press, pull and turn</p> <p>5. Selector knob:
Stored radio stations
Internal CD changer - Selecting disc
External CD changer (option)</p> | <p>6. Selector knob:
Radio
CD
CD changer (option)
TV (option)</p> <p>7. Radio - Station seek up/down
CD - Select next/previous track
CD - Fast forward/rewind</p> <p>8. Radio - manual station selection
CD - Fast forward/rewind</p> <p>9. CD eject</p> <p>10. Dolby Pro Logic</p> <p>11. 2-channel stereo</p> | <p>12. 3-channel stereo</p> <p>13. CD opening</p> <p>14. CD random</p> <p>15. Programme type</p> <p>16. News + Radio text</p> <p>17. Traffic information</p> <p>18. Automatic station pre-setting stations</p> <p>19. Display</p> |
|--|--|---|



3902418d

On/Off switch

Press button to switch the radio on or off.

Volume control

Turn the knob clockwise to increase volume. Volume control is electronic and does not have an end stop. If you have a keypad in the steering wheel, increase or decrease volume with the + or - buttons.

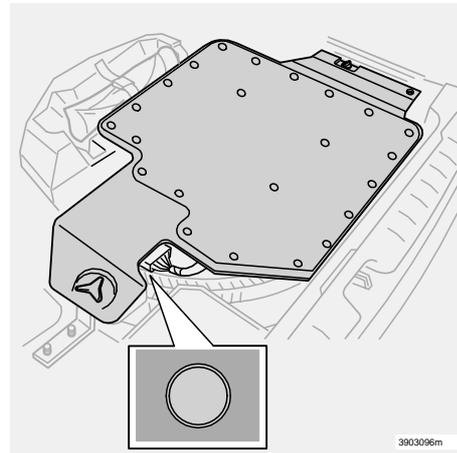
Volume control - TP/PTY/NEWS

If a cassette or a CD is playing when the radio receives traffic information, news, or a selected programme type, the function is interrupted, and the message will be heard at the pre-set volume for traffic information, news or programme type. Volume is adjusted with the volume control.

The unit will thereafter return to the previously set volume and continue playing the cassette or the CD.

Volume control for integrated telephone (option)

If the telephone should ring while the radio is playing, the volume will automatically lower while the call is taken. When the call is concluded, the volume will return to its previously set level. The volume can also be adjusted during the call so that the new volume level is kept after the call. When in active mode, telephone information is always shown in the display. This function only applies to the Volvo integrated telephone system.



3903096m

Volume control - bass speakers (option)

Turn the knob **clockwise** to increase volume (+6dB).

Turn the knob **anticlockwise** to decrease volume or turn off the speaker.

The knob in the centre position = normalised position.



3901856d

Bass

Set the bass by pressing out the knob and turning it to the left or right. Bass is normalised in the centre position. Press the knob back to its original position after setting.

Treble

Set the treble by pressing out the knob and turning it to the left or right. Treble is normalised in the centre position. Press the knob back to its original position after setting.



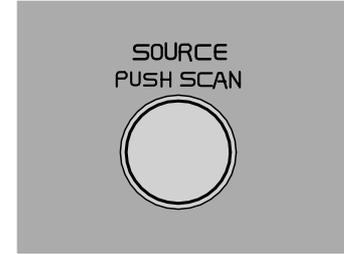
3901858d

Fader - Balance front/rear

Set a suitable balance between the front and rear speakers by pressing out the knob and turning it to the right (volume of front pair higher) or the left (volume of rear pair higher). Balance is normalised in the centre position. Press the knob back to its original position after setting.

Balance right/left

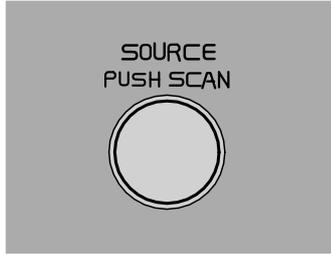
Set the balance by pressing and pulling out the knob, and turning it to the left or right. Balance is normalised in the centre position. Press the knob back to its original position after setting.



3901855d

Wavelength selector

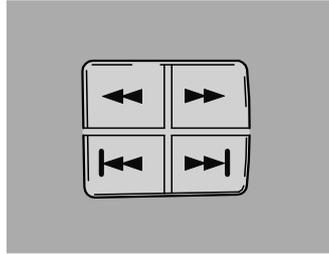
Turn the **SOURCE** knob to select FM or AM. The station and wavelength are displayed. You can also select cassette deck, CD or CD changer, if connected, with this knob.



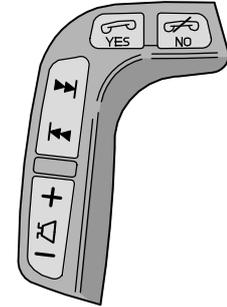
3901855d

A

B



3901855d



3901873d

Scanning

Press the **SOURCE** knob to start scanning. When the radio finds a station, it stops scanning for a few seconds. It then resumes scanning. When it has found a station you wish to listen to, press the **SOURCE** knob. If the audio system is in cassette mode (HU-403/603), each track is played for a few seconds. If the system is in CD mode (HU-603/803), each track will be played for a number of seconds. When it has found a song or track to which you wish to listen, press the **SOURCE** knob.

A - Setting station

Press the left button to select a lower frequency and the right button for a higher frequency. Set frequencies are displayed.

B - Station seek up/down

Press the left or right-hand side of the button to seek lower or higher frequencies. The radio seeks the next audible station and sets it. Press the button again to continue seek.

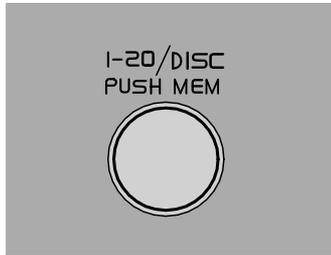
Steering wheel keypad

If you have a keypad in the steering wheel, press the right or left arrow to select preset stations.

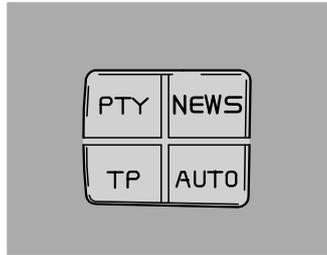
NOTE:

If the car is equipped with an integrated telephone, the steering wheel keypad can only be used for telephone functions when the telephone is activated. When in active mode, telephone information is always shown in the display.

Deactivate the telephone by pressing . Switch off the telephone if you do not have an SIM card. See page 170.



3901854d



3901860d

Programming stations

1. Set the desired frequency.
2. Press the **1-20/DISC** button with a short push. Select a number by turning forwards or backwards. Press again to store the desired frequency and station.

Preset

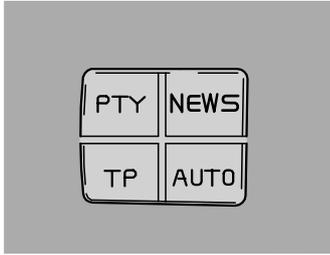
To choose a preselected radio programme, turn the **1-20/DISC** button to the stored number. The set programme is displayed.

AUTO - Automatic station preset

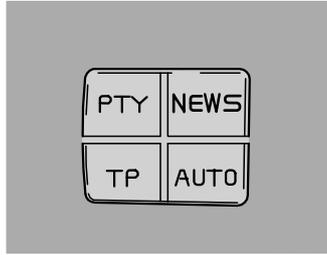
This function automatically seeks and stores up to 10 strong AM or FM stations in a separate memory. This function is especially useful in areas where you are not familiar with the radio stations.

1. Press and hold the **AUTO** button for at least 2 seconds. A number of stations with strong signals (maximum 10) from the set wavelength are now stored automatically in the memory. "AUTO" is displayed. If there is no station with sufficient signal strength, "NO STATION" is displayed.

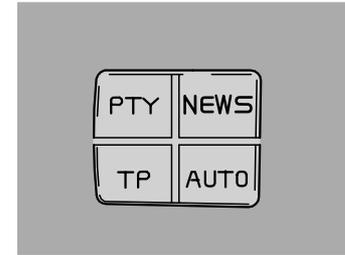
2. Turn the **1-20/DISC** button if you wish to change to another of the preset stations. A new station is set with every turn (A0 - A9).
3. To once again choose from programmed settings, press **AUTO** again. **AUTO** will disappear from the display.



3901860d



3901860d



3901860d

Traffic information (TP)

A short push on the **TP** button (less than 2 seconds) gives the traffic information from RDS stations. "TP" is displayed when the function is connected. When the unit is in cassette or CD mode in the background, the radio automatically seeks an FM station with a strong signal which sends traffic information. If the cassette or CD is playing when the radio receives a traffic bulletin, the function is interrupted and the bulletin is broadcast with the volume selected for traffic information. As soon as the bulletin is over, the system returns to the previously set volume and resumes playing the cassette or CD.

- Traffic information can only be heard when TP and TP are displayed at the same time.
- If only TP is displayed it means that no traffic information is being broadcast by the current broadcaster.

- If you do not wish to listen to an ongoing traffic bulletin, press the **TP** button. The TP function, however, is still connected and the radio waits for the next traffic bulletin.
- Press the **TP** button to switch off the TP function. TP will no longer be shown in the display.

News on/off

A short press on the **NEWS** button activates the news function. The text NEWS is shown with small letters in the display. Press the **NEWS** button again to switch off the function. As soon as the news broadcast starts, the cassette, CD or CD changer is interrupted so the news can be heard.

If you do not wish to listen to the news programme when it is sent, press the **NEWS** button. The current programme is interrupted.

The news function, however, is still connected and the radio waits for the next news broadcast. Press **NEWS** again to switch off the function. NEWS then disappears from the display.

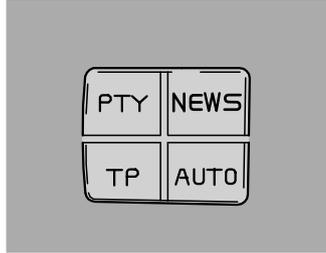
Radio text

Some RDS stations send information about programme content, artists, etc. This information is shown in text form in the display. Push the **NEWS** button for a few seconds to access any transmitted radio text, which is then shown in the display. A short press on the **NEWS** button will end the display of radio text.

Programme types

Displayed

New features	New features
Current affairs	Current
Information	Info
Sports	Sports
Education	Educ
Theatre	Theater
Culture and Art	Culture
Science	Science
Entertainment	Enterta
Pop music	Pop
Rock music	Rock
Easy listening	Easy list
Light classical	L Class
Classical music	Classical
Other music	Other M
Weather	Weather
Economy	Economy
For children	For children
Social questions	Social
Spiritual questions	Spiritual
Telephone watch	Telephone
Travel and holiday	Travel
Leisure and hobby	Leisure
Jazz music	Jazz
Country music	Country
National music	Nation M
Golden oldies	“Oldies”
Folk music	Folk
Documentary	Document
Alarm test	Alarm test
!!ALARM!!	!!Alarm!!
PTY missing	PTY Miss



Programme type

The PTY function allows you to directly select programmes with different subject types. Seek a certain programme type as follows:

1. Press the **PTY** button. The programme type of the set station is shown in the display.
2. You can scroll through the list of programme types by turning the **1-20/DISC** knob.
3. Once you have found the desired programme type, press the **1-20/DISC** knob to confirm your selection and start the search.
4. If the radio finds a station with the selected programme type, it sets it. If no station with the selected programme type is found, the radio returns to its previous function. PTY is then in standby mode and remains so until a programme of the selected type begins. The radio then automatically changes to the station broadcasting the selected programme type.

5. If there is more than one station with the selected programme type, you can select using or the SCAN button. The PTY function is active until the radio finds the selected programme type and as long as the selected station broadcasts that programme type.
6. To return to standby mode, press PTY again. The CD or cassette will resume playing until the selected programme type is sent again.
7. Press PTY once again to deactivate PTY standby. The PTY symbol goes out.

Advanced User Mode

- With the radio switched off, press and hold the Volume knob at least 5 seconds to start the AUM function.
- Turn the **1-20/DISC** button to select an AUM function (see the function list to the right).
- Once you have selected a function, the function's default will blink. Press the **1-20/DISC** knob to select other alternatives of the function (ON/OFF, LOW/MID/HIGH, etc., depending on the function).
- Continue selecting functions/alternatives.

To *restore* all AUM functions to factory settings, turn the **1-20/DISC** button until “**SET TO DEFAULT**” shows in the radio display. Then press the same button. All AUM settings are then restored to their defaults and the radio returns to its normal mode (music, news, etc.).

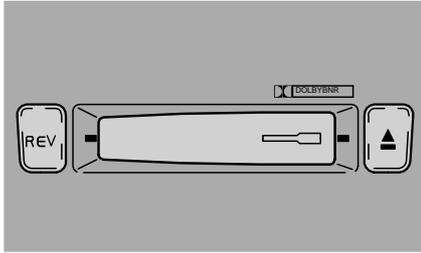
To *save* any changes and return to the normal mode, turn the **1-20/DISC** knob until “**BACK and SAVE**” is shown in the radio display. Then press the same dial. Confirm by pressing the **1-20/DISC** knob once again.

To return to normal mode *without saving* any changes, turn the **1-20/DISC** knob until “**BACK without SAVE**” is shown in the radio display. Then press the same dial. Confirm by pressing the **1-20/DISC** knob once again.

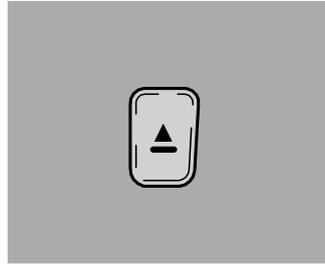
List of AUM functions

(**default is underlined**)

- SET TO DEFAULT (See left column).
- AF SWITCHING ON/OFF (Automatic frequency update) – The AF function makes sure that the strongest available transmitter for a chosen programme is used.
- REGIONAL ON/OFF (Regional radio programmes) – This function makes it possible to stay tuned to a regional transmitter even if the signals are not very strong.
- EON (Enhanced Other Networks) LOCAL/DISTANT – This function is used to indicate if the radio programme you are listening to is to be interrupted for traffic messages or news broadcasts (if these functions are selected) only if the signal is strong (LOCAL) or if the radio should also try to pick up weaker signals (DISTANT).
- NETWORK ALL/TUNED – This function is used to indicate if the radio programme you are listening to is to be interrupted for traffic messages or news broadcasts (if these functions are selected) only if the message comes from the channel you are listening to, such as P1 (TUNED), or if the programme is to be interrupted regardless of which radio channel the message/broadcast comes from (ALL).
- LANGUAGE – Select which language is to be used in the radio display (English, German, French or Swedish). Only works for PTY information.
- ASC (Active Sound Control) ON/OFF (active volume control) – The ASC function automatically adjusts the radio volume according to the speed of the car.
- ASC TABLE – Choose a level for the ASC function (LOW/MID/HIGH).
- SRC ON/OFF – This is used to activate/deactivate the function that reduces the treble when reception is poor. This might seem like improved reception.
- SRC TABLE - Choose a level for the SRC function (LOW/MID/HIGH).
- TAPE DOLBY ON/OFF – Activate/deactivate Dolby Noise Reduction when you listen to a cassette (HU 403/603).
- BACK and SAVE (See left column).
- BACK without SAVE (See left column).



3901857d



3901876d

Cassette opening

Slide cassette into the cassette opening with the tape to the right. TAPE Side A is shown in the display. When one side has finished playing the system will automatically begin playing the other side (auto reverse). If a cassette is already installed in the cassette deck select cassette play by turning the **SOURCE** knob.

Changing tape direction

Press the **REV** button to if you wish to play the other side of the tape. The display shows which side is being played.

Cassette eject

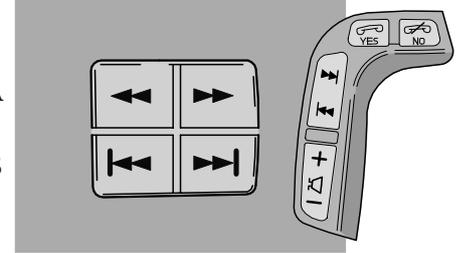
If you press the button, the tape stops and the cassette is ejected. Turn the **SOURCE** knob to select a new programme source. The cassette can be inserted or ejected even if the system is switched off.

Dolby B Noise Reduction

This function is preset. Do as follows to switch it off: hold the **REV** button depressed until the Dolby symbol  in the display goes out. Press the same button again to reactivate the Dolby function.

Scanning (HU-603)

See page 155 for more information.



3901859d

3901875d

A

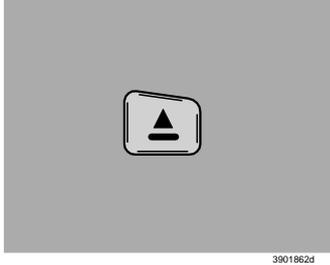
B

A - Fast forward/rewind

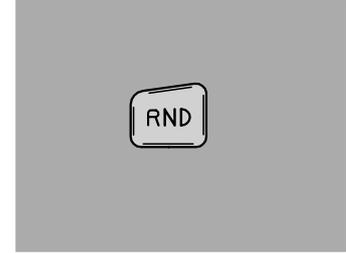
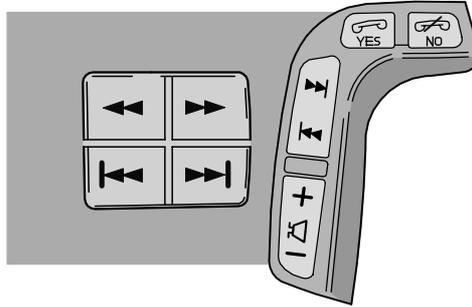
The tape can be wound forward with  and backwards with . During fast forward/rewind “FF” (forward) respectively “REW” (backward) is displayed. Fast forward/rewind is interrupted if you press the button again.

B - Next track, Previous track

If you press in the  button, the cassette is automatically wound forward to the next track. If you press in the  button, the cassette is automatically rewound to the previous track. There must be a five second break between each track for this function to work. If you have a keypad in the steering wheel, you can use the arrows.



A
B



CD player

Insert a CD. If this was already done, select CD by turning the **SOURCE** knob.

CD eject

If you press this button the CD stops playing and the disc is ejected. (See illustration above)
NOTE: For reasons of traffic safety, you have 12 seconds to handle the ejected CD. The CD player then pulls it back in and continues play.

A - Fast forward/rewind

Press or to seek within a track.

B - Changing tracks

Press to skip to the next track or to skip to the previous track. The track number is shown in the display. If you have a keypad in the steering wheel, you can use the corresponding buttons.

Scanning

See page 155 for further information.

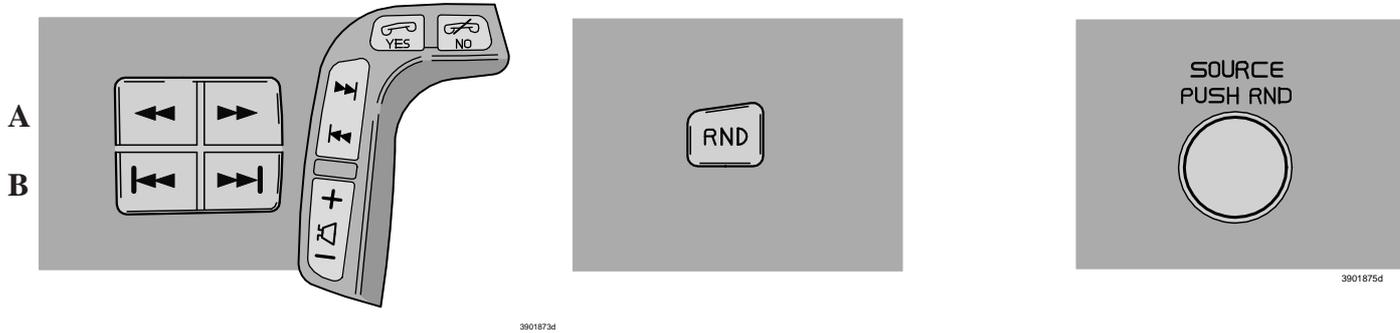
Random

Press **RND** to connect the random function. The unit plays tracks from the disc in random order. "RND" (random) is displayed as long as the function is activated.

Important!

Never use CD discs that have had a disc label attached. The heat generated in the CD player can result in the label on the disc releasing. And in doing so there is risk of damaging the CD player.

External CD changer



CD changer

Turn the **SOURCE** knob to activate CD changer mode. The CD changer resumes playing the disc and track that was playing last. If the CD changer magazine* is empty “LOAD CARTRIDGE” is displayed.

Selecting disc number

Turn the **1-20 DISC** knob. The numbers of the disc and the track are shown in the display.

*CD changer function can only be used if the unit is connected to Volvo’s CD changer which is standard on certain models and available as an accessory on others.

A - Fast forward/rewind

Press or to seek within a track.

B - Changing tracks

Press to skip to the next track or to skip to the previous track. The disc and track numbers are shown in the display. If you have a keypad in the steering wheel, you can use the corresponding buttons.

Scanning (HU-603 803)

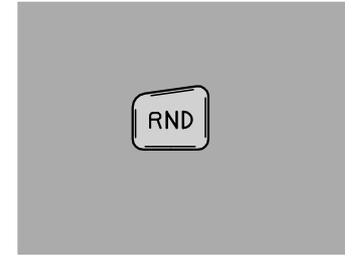
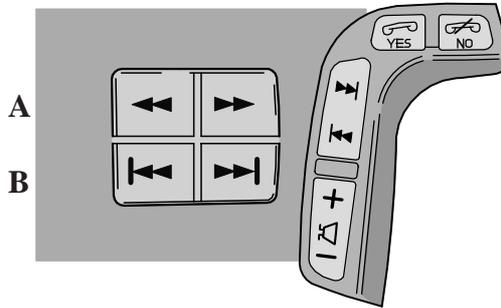
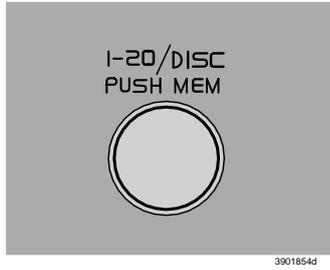
See page 155 for further information.

Random

Press **RND** (for HU-603 and 803) to connect the random function. If you have radio HU-403 press the **SOURCE** knob. A randomly selected track is chosen from a randomly selected disc. Then a new track is selected in the same way. “RND” (random) is displayed as long as the function is activated.

NOTE! Never use CD discs that have had a disc label attached. The heat generated in the CD player can result in the label on the disc releasing. And in doing so there is risk of damaging the CD player.

NOTE! Use only CD discs with Ø 12 cm. Do not play CD discs with smaller dimensions!



External CD changer

HU-803 includes an internal 4-disc CD changer. Turn the **SOURCE** knob to activate the CD player. The CD player resumes playing the disc and track last played. You can insert 4 discs in the CD player. To insert a new disc, you must have an available position in the player. Turn the **1-20/DISC** knob to find an available position. Make sure that "LOAD DISC" is displayed before inserting a new disc.

CD eject

If you press this button the CD stops and the disc that was playing is ejected.

NOTE: For reasons of traffic safety, you have 12 seconds to handle the ejected CD. The CD player then pulls it back in and continues play.

Selecting disc number

Turn the **1-20/DISC** knob. The numbers of the disc and the track are shown in the display.

A - Fast forward/rewind

Press or to seek within a track.

B - Changing tracks

Press to skip to the next track or to skip to the previous track. The disc and track numbers are shown in the display. If you have a keypad in the steering wheel, you can use the corresponding buttons.

Scanning (HU-803)

See page 155 for further information.

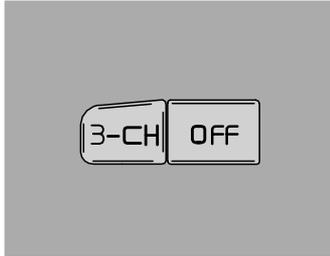
Random

Press **RND** to connect the random function. A randomly selected track is chosen from a randomly selected disc. Then a new track is selected in the same way. "RND" (random) is displayed as long as the function is activated.

NOTE! If the quality of the CD does not comply with the standard EN60908, or if it has been recorded using poor equipment, sound quality may be poor or playback interrupted.

Important!

Never use CD discs that have had a disc label attached. The heat generated in the CD player can result in the label on the disc releasing. And in doing so there is risk of damaging the CD player.



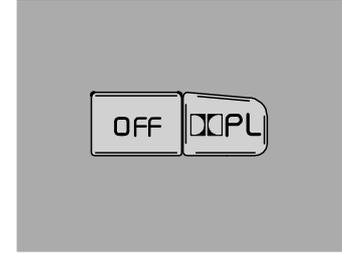
3901877d

Dolby Surround Pro Logic

Dolby Surround Pro Logic together with a centre loudspeaker in the dashboard offers you a sound experience very close to reality. The normal left - right stereo channels are divided to left - centre - right. In addition, ambient surround sound is produced by the rear loudspeakers. This ambient surround sound mirrors the resonance in the recording studio.

Most recordings today are made so that the vocalist/soloist is heard from straight ahead while the orchestra is heard over the entire

left-right panorama and from behind. The result with Dolby Surround Pro Logic is a sound experience very close to being there. Note that the sound experience for rear seat passengers when using Dolby Surround Pro Logic is different than that of the driver and front seat passenger.

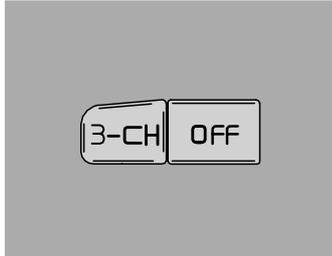


3901878d

Dolby Surround Pro Logic Mode*

To select Dolby Surround Pro Logic Mode press “**DOLBY PL**”. “Dolby Pro Logic” is displayed. Press **OFF** to return to 2-channel stereo.

* Dolby Surround Pro Logic Mode works in CD, cassette and FM modes. If listening to a radio transmission, select 3-channel stereo (3-CH) instead.



3901877d

3-channel stereo

To select 3-channel stereo press **“3-CH”**. **“3-CH”** is displayed. Press **“OFF”** to return to 2-channel stereo.



3902419d

Centre loudspeaker volume

Set the centre loudspeaker volume by pressing out the button and turning it left or right. In the centre position the volume is “normalised”. Press the button back after setting.



3902419d

Rear loudspeaker output level (surround sound)

Set the power output of the rear channels by pressing out the button, pulling it further out and turning it left or right. In the centre position the power output is “normalised”. Press the button back after setting. This control regulates the surround speaker level when using Dolby Surround Pro Logic.

Technical data - Audio

HU-403

Output: 4 x 25 W
Impedance: 4 Ohm
Voltage required: 12 V, negative ground

Radio

Frequency: U (FM) 87.5 - 108 MHz
M (AM) 522 - 1611 kHz
L (AM) 153 - 279 kHz

HU-603

Output: 4 x 25 W
Impedance: 4 Ohm
Voltage required: 12 V, negative ground
External amplifier: 4 x 50 W or 4 x 75 W (option)

Radio

Frequency: U (FM) 87.5 - 108 MHz
M (AM) 522 - 1611 kHz
L (AM) 153 - 279 kHz

Bass speaker

Built-in amplifier: 150 W

Alarm

“Alarm!” is shown in the radio display when an alarm message is transmitted. The function is used to warn the driver of serious accidents or catastrophes, such as collapsed bridges, earthquakes or nuclear accidents.

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Dolby Surround Pro Logic is a trademark of Dolby Laboratories Licensing Corporation. Manufacturing rights for Dolby Pro Logic Surround System are licensed from Dolby Laboratories Licensing Corporation.

HU-803

Output: 1 x 25 W (Centre speaker)
Impedance: 4 Ohm
Voltage required: 12 V, negative ground
External amplifier: 4 x 50 W or 4 x 75 W (option)

HU-803 must be connected to separate power amplifier.

Radio

Frequency: U (FM) 87.5 - 108 MHz
M (AM) 522 - 1611 kHz
L (AM) 153 - 279 kHz

Telephone (option)

Telephone system	168
Operating	170
Call options	171
Memory functions	174
Menu functions	175
Miscellaneous information	179

Telephone system

General rules

- **Put traffic safety first!** If you as the driver must use the privacy handset in the armrest, park the car in a safe place.
- Switch off the system when refuelling the car.
- Switch off the system near blasting work.
- Let only authorised personnel service your telephone system.

Emergency calls

Emergency calls to emergency services can be made without the ignition key or the SIM card.

- Press the ON/OFF button.
- Ring the emergency number that applies to your region (**within EU: 112**).
- Press the green button .

1. Keypad in centre console

All telephone system functions can be controlled from the keypad in the centre console.

2. Steering wheel keypad

Most functions of the telephone system can be accessed using the steering wheel keypad. When the telephone is activated, the steering wheel keypad can only be used for telephone functions in the display. When in active mode, telephone information is always shown in the display. To use the buttons to set the radio, the telephone must be deactivated. See page 170.

3. Display

The display shows menu functions, messages, telephone numbers, etc.

4. Privacy handset

The privacy handset can be used for private conversations when you do not wish to be disturbed.

5. SIM card

The SIM card is inserted in the front of the centre console keypad. Switch off and deactivate the telephone if no SIM card is inserted, otherwise messages from other functions cannot be displayed.

6. Microphone

The microphone is built into the rearview mirror.

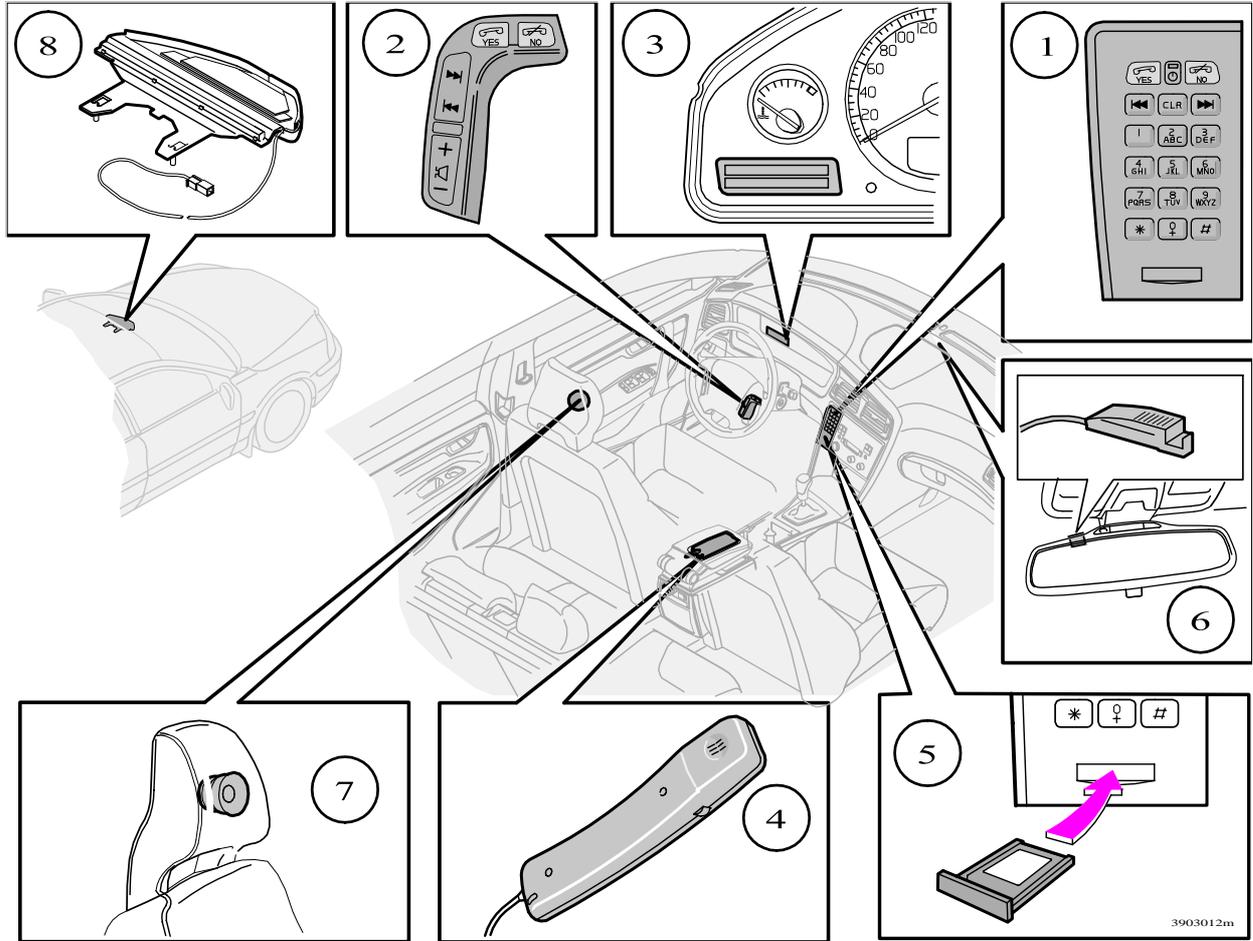
7. Loudspeaker

The loudspeaker is built into the driver's seat head restraint.

8. Antenna

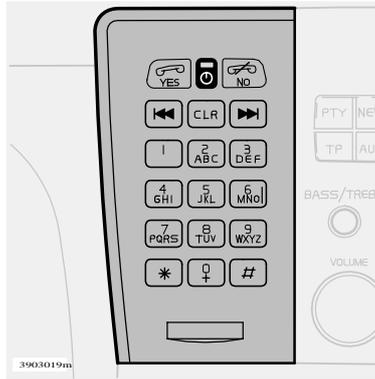
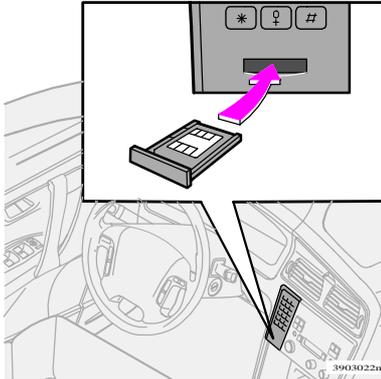
The antenna is mounted against the windscreen in front of the rearview mirror.

Telephone



Telephone

Operating



SIM card

The telephone can only be used in conjunction with a valid SIM card (Subscriber Identity Module). Obtain the card from your service provider.

Always insert the SIM card to use the telephone. The name of your service provider will then be displayed.

Switch off and deactivate the telephone if there is no SIM card inserted. Otherwise, messages from other functions cannot be shown in the display and the steering wheel keypad cannot be used for the radio.

Switching the system on and off

To switch the system on: Turn the ignition key to position I. Press the button marked in the illustration.

To switch the system off: Press the same button a few seconds. If you switch off the car ignition without first switching off the telephone, the telephone will be on the next time you turn on the ignition.

Telephone calls cannot be received if the telephone system is switched off.

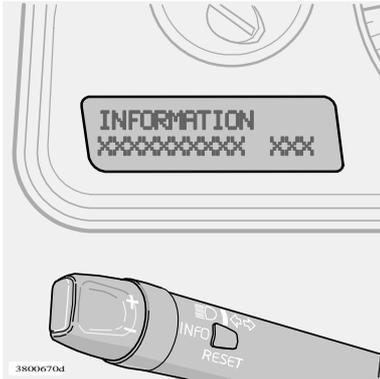
Active mode

A prerequisite for using the telephone system functions is that the telephone must be in its active mode (does not apply for receiving calls).

Activate the telephone by pressing  in the centre console or steering wheel keypad. When in active mode, telephone information is always shown in the display.

Press  to deactivate the telephone.

Call options



Display

The display shows the current function, such as menu alternative, message, telephone number, or setting.

Making and receiving calls

To **place a call**: enter the number and press  on the steering wheel or centre console keypad (or lift up the handset).

To **receive** an incoming call: Press the  button (or lift the privacy handset). You can also use Automatic answer, see menu function 4.3.

The audio system is automatically muted during conversation. See menu alternative 5.6.5 regarding audio system volume.

Ending a call

To conclude a call, press  on the steering wheel or centre console keypad or put the handset back in place. The audio system will resume its previous activity.

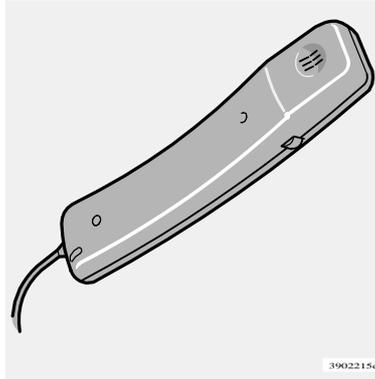
Call options (cont.)



Last number called

The telephone automatically stores the last telephone numbers/names called.

1. Press  on the steering wheel or centre console keypad.
2. Use the arrows to scroll forward  or backward  through the last numbers called.
3. Press  (or lift the privacy handset) to make the call.



Privacy handset

If you wish to talk undisturbed, use the **privacy handset**.

1. Lift up the handset. Enter the chosen number on the centre console keypad. Press  to place a call. Adjust the volume with the knob on the side of the handset.
2. The call is terminated when you replace the handset in its holder.
If you wish to change to handsfree without ending the call: press  and select Handsfree. Press  and put down the handset, see the following page.

Speed dial

Storing speed dial numbers

A number stored in the telephone book can be linked to a speed dial button (0-9) as follows:

1. Go into active mode. Scroll with  to Edit memory (Menu 3) and press .
2. Scroll to Speed dial (Menu 3.4) and press .
3. Choose the digit that is to be the speed dial number. Press  to confirm.
4. Find the desired name or telephone number in the memory and press  to select it.

Using speed dial

Press the desired speed dial button for about 2 seconds to make a call.

NOTE! When you turn on the telephone, wait a moment before using the speed dial function. To enter a speed dial number, Menu 4.5 must be activated, see page 178.

Telephone

Functions during a call

The following functions are available **during** a call (scroll with arrows):

Secret mode on/off	Secret mode
Hold/No hold	Choose if the current call is to be parked, i.e. put on hold
Handset/ Handsfree	Use the handset or handsfree
Memory	Show stored numbers

The following functions are available when you have a **current** call and a **parked** call (scroll with arrows):

Secret mode on/off	Secret mode
Handset/ Handsfree	Use the handset or handsfree
Memory	Show stored numbers
Three-way calling	Speak with both parties simultaneously (conference call)
Switch	Switch between the two calls

The following functions are available during **three-way calling** (scroll with arrows):

Secret mode on/off	Secret mode
Handset/ Handsfree	Use the handset or handsfree
Memory	Show stored numbers

Call waiting

If you hear a beep in your receiver followed immediately by two beeps (double beep) during a phone call, someone else is calling. The double beep is then repeated until you either answer or the caller hangs up. In this mode, you can choose to either take the call or ignore it.

If you **do not** wish to take the call, press  or do nothing. If you **do** wish to take the call, press . Your current call will be put in “park mode”. If you press , both calls will be terminated.

SMS

A double beep informs you that a SMS-message has been received.



Volume

Increase volume by pressing on the + button on the steering wheel keypad. Reduce volume by pressing on the - button.

When the telephone has been activated, the steering wheel keypad can only be used for telephone functions.

To use this keypad for radio settings the telephone has to be deactivated, see page 170.

Memory functions

Telephone numbers and names can be stored in either the telephone memory or the SIM card memory.

If the number of the person calling is in the memory, their name is shown in the display.

Up to 255 names can be stored in the telephone memory.

Storing telephone numbers with names

1. Press and scroll to Edit memory (Menu 3). Press YES.
2. Scroll to Enter item in memory (Menu 3.1) and press YES.
3. Enter a number and press YES.
4. Enter a name and press YES.
5. Choose in which memory to save with and press YES.

Enter a name (or message)

Press the button with the desired character: once for the first character, twice for the second, etc. Press 1 to enter a space.

	space 1- ? ! , . . ' ()
	a b c 2 ä å à á â æ ç
	d e f 3 è é ê
	g h i 4 ì í î ï
	j k l 5
	m n o 6 ñ ò ó ô
	p q r s 7 ß
	t u v 8 ü ù ú û
	w x y z 9
	if you enter two letters in a row from the same button, press * between them or wait a few seconds
	+ 0 @ * # & \$ £ / %
	change between capital and lower case letters
	delete the last letter or number entered. If you press for a long time, the enter number or text is deleted.



Calling from the memory

1. Go into active mode and press .
2. Choose from the following alternatives:
 - Press YES and scroll with the arrows until you find the desired name.
 - Press the key of the first letter in the name (or enter the name) and press YES.
3. Press YES to call the selected number.

Menu functions

The menu function is used to check and alter settings and programme new functions in your system. The different menus are shown in the display.

Menu function

Go into active mode. Press  to come to the menu function.

The following applies in the menu function:

- A long press on  means you exit the menu function.
- A short press on  means that you retract, cancel or reject an alternative.
- A press on  means that you confirm or select, or that you scroll from a submenu to the next submenu.
- The right arrow  leads to the next side menu. The left arrow  leads to the previous side menu.



Shortcuts

When you use the right arrow  to enter the menu system, you can use numbers instead of the arrows and the green button  to select the right menu on **the main menu level** (1, 2, 3, etc.), **first submenu level** (1.1, 2.1, 3.1, etc.) and the **second submenu level** (1.1.1, 2.1.1, etc.). The numbers are shown in the display together with the menu alternative.

Traffic safety

For reasons of safety, the menu system cannot be accessed at speeds in excess of 8 km/h (5 mph). You may only complete activities in the menu system that have already been started.

The speed limiter can be disconnected using menu function 5.7.

Main menus/submenus

1. Call register

- 1.1 Missed calls
- 1.2 Received calls
- 1.3 Dialed calls
- 1.4 Erase list
 - 1.4.1 All
 - 1.4.2 Missed
 - 1.4.3 Received
 - 1.4.4 Dialed
- 1.5 Call duration
 - 1.5.1 Last call
 - 1.5.2 Number of calls
 - 1.5.3 Total time
 - 1.5.4 Clear

2. Messages

- 2.1 Read
- 2.2 Write
- 2.3 Voice message
- 2.4 Settings
 - 2.4.1 SMSC number
 - 2.4.2 Validity
 - 2.4.3 Type

3. Edit memory

- 3.1 Enter item
- 3.2 Search
 - 3.2.1 Edit
 - 3.2.2 Erase
 - 3.2.3 Copy
 - 3.2.4 Move
- 3.3 Copy all
 - 3.3.1 SIM to phone
 - 3.3.2 Phone to SIM
- 3.4 Speed dial
- 3.5 Empty SIM
- 3.6 Empty memory
- 3.7 Status

4. Call options

- 4.1 Transmit number
- 4.2 Call waiting
- 4.3 Automatic answer
- 4.4 Automatic redial
- 4.5 Speed dial
- 4.6 Call divert service
 - 4.6.1 All calls
 - 4.6.2 When busy
 - 4.6.3 When not answered
 - 4.6.4 If unreachable
 - 4.6.5 Fax calls
 - 4.6.6 Computer calls
 - 4.6.7 Cancel all divers

5. Settings

- 5.1 Factory settings
- 5.2 Network selection
- 5.3 Language
 - 5.3.1 English UK
 - 5.3.2 English US
 - 5.3.3 Svenska
 - 5.3.4 Dansk
 - 5.3.5 Suomi
 - 5.3.6 Deutsch
 - 5.3.7 Nederlands
 - 5.3.8 Français FR
 - 5.3.9 Français CAN
 - 5.3.10 Italiano
 - 5.3.11 Español
 - 5.3.12 Português P
 - 5.3.13 Português BR
- 5.4 SIM security
 - 5.4.1 On
 - 5.4.2 Off
 - 5.4.3 AUTO
- 5.5 Change codes
 - 5.5.1 PIN code
 - 5.5.2 Telephone code
- 5.6 Volume
 - 5.6.1 Ringer volume
 - 5.6.2 Ringer tone
 - 5.6.3 Button click
 - 5.6.4 Speed volume
 - 5.6.5 Radio Auto Suppression
- 5.7 Traffic safety

Menu 1. Call register

1.1 Missed calls:

A list of missed calls is shown here. You can choose to call, erase or store the number in the telephone or SIM card memory for later use.

1.2 Received calls:

A list of received calls is shown here. You can choose to call, erase, or store the number in the telephone or SIM card memory for later use.

1.3 Dialed calls:

A list of dialed numbers is shown here. You can choose to call, erase, or store the number in the telephone or SIM card memory for later use.

1.4 Erase list: This option can be used to erase the list of menus 1.1, 1.2 and 1.3 as follows.

- 1.4.1 All
- 1.4.2 Missed
- 1.4.3 Received
- 1.4.4 Dialed

1.5 Call duration: Here you can see the duration of all your calls or the most recent. You can also see the number of calls and clear the call timer.

- 1.5.1 Last call
- 1.5.2 Number of calls
- 1.5.3 Total time
- 1.5.4 Clear timers

You need the telephone code to clear the call timer (see Menu 5.5).

Menu 2. Messages

2.1 Read: Here you can read received text messages. You can then choose to erase the last message, forward it, change or save the entire message or parts of it.

2.2 Write: Using the keypad, you can write a text message. Then choose to save or send it.

2.3 Voice message: Listen to received messages.

2.4 Settings: Enter the number (SMSC number) of the message centre you wish to transfer your messages. Specify also how the message is to reach the addressee and how long it is to be stored in the message centre.

- 2.4.1 SMSC number
- 2.4.2 Validity
- 2.4.3 Type

Contact your service provider for information about these settings and for the SMSC number.

Menu 3. Edit memory

3.1 Enter item: You can store names and telephone numbers in the telephone or SIM card memory. See the section on memory functions for more information.

3.2 Search: Changes in the memory can be made here.

- 3.2.1 Edit: Change data in the different memories.
- 3.2.2 Erase: Remove a saved name.
- 3.2.3 Copy: Copy a saved name.
- 3.2.4 Move: Transfer information between the memory of the telephone and the SIM card.

3.3 Copy all: Copy the telephone numbers and names on the SIM card to the telephone's memory.

- 3.3.1 From SIM to telephone memory
- 3.3.2 From Telephone to SIM memory

3.4 Speed dial: A number stored in the telephone book can be stored as a speed dial number.

3.5 Empty SIM: The entire memory of the SIM card can be erased.

3.6 Empty memory: The entire memory of the phone can be erased.

3.7 Status: See how many places in the SIM card or telephone memory are occupied by names and numbers.

Menu 4. Call options

4.1 Transmit number: Choose whether or not to display your number to the person you call. Contact your service provider for a permanently concealed number.

4.2 Call waiting: Choose whether or not you want to be alerted during a phone call that there is another call coming in.

4.3 Automatic answer: Chose to answer without using the keypad.

4.4 Automatic redial: Choose to call a previously dialled number that was busy.

4.5 Speed dial: Here you set whether or not speed dial is to be activated. In order to use speed dial, the function must be activated.

4.6 Call divert service: Here you can choose when and what type of calls are to be diverted to a specified telephone number.

- 4.6.1 All calls (this setting only applies during the current call).
- 4.6.2 When busy
- 4.6.3 When not answered
- 4.6.4 If unreachable
- 4.6.5 Fax calls
- 4.6.6 Computer calls
- 4.6.7 Cancel all diverts

Menu 5. Settings

5.1 Factory settings: Function to return to the system's factory settings.

5.2 Network selection: Choose a network automatically or manually.

- 5.2.1 Auto
- 5.2.2 Manual

5.3 Language: Here you can choose which language the telephone is to display.

- 5.3.1 English UK
- 5.3.2 English US
- 5.3.3 Svenska
- 5.3.4 Dansk
- 5.3.5 Suomi
- 5.3.6 Deutsch
- 5.3.7 Nederlands
- 5.3.8 Français FR
- 5.3.9 Français CAN
- 5.3.10 Italiano
- 5.3.11 Español
- 5.3.12 Português P
- 5.3.13 Português BR

5.4 SIM security: Choose if the PIM code is to be on, off, or automatic.

- 5.4.1 On
- 5.4.2 Off
- 5.4.3 AUTO

5.5 Change codes: Change the PIN code or telephone code.

- 5.5.1 PIN code
- 5.5.2 Telephone code (use 1234 before you change to a personal code) The telephone code is used to clear the call timer.

NOTE! Make a note of the code and store it in a safe place.

5.6 Volume

5.6.1 Ringer volume: Here you can choose the volume of the ringer for incoming calls.

5.6.2 Ringer tone: There are eight different ringer tones to choose from.

5.6.3 Button click: On or off.

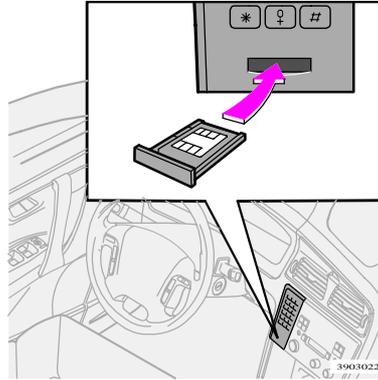
5.6.4 Speed volume: Choose whether the volume should be adjusted according to speed.

5.6.5 Radio Auto Suppression: Here you choose whether the volume of the radio should remain the same during telephone calls.

5.6.6 New SMS: Choose whether you want the telephone to signal an incoming SMS or not.

5.7 Traffic safety: Here you can choose to disengage the speed limiter for the menu system, i.e. choose to use the menu system even while driving.

Miscellaneous information



Specifications

Output	2W
SIM card	small
Memory positions	255*
SMS (Short Message Service)	Yes
Computer/Fax	No
Dual band	Yes (900/1800)

* 255 memory positions in the telephone memory. The number of memory positions on the SIM card varies depending on your subscription.

Radio - Telephone

The four lowest buttons in the steering wheel keypad are for both radio and telephone.

To use these buttons to control the telephone functions, the system must be activated, see page 170. If you wish to adjust the radio settings with these buttons, exit the telephone active mode. Press  .

Double SIM card

Many service providers offer double SIM cards, one for the car and a second one for another telephone. Double SIM cards give you the same telephone number for two separate telephones. Ask your service provider about the use and availability of double SIM cards.

IMEI number

To block the telephone, inform the service provider of the telephone IMEI number. This is a 15 digit serial number programmed in the telephone. Dial *#06# to display this number. Make a note of the number and store it in a safe place.

Notes

A series of 15 horizontal dotted lines for writing notes.

Notes

A series of 15 horizontal dotted lines for writing notes.

Notes

A series of 15 horizontal dotted lines for writing notes.

Notes

A series of 12 horizontal dotted lines for writing notes.

Notes

A series of 15 horizontal dotted lines for writing notes.

Notes

A series of 12 horizontal dotted lines for writing notes.

Notes

A series of 15 horizontal dotted lines for writing notes.

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		Combined instrument panel
		Condensation
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		Courtesy lighting
		Cruise control
		Current fuel consumption
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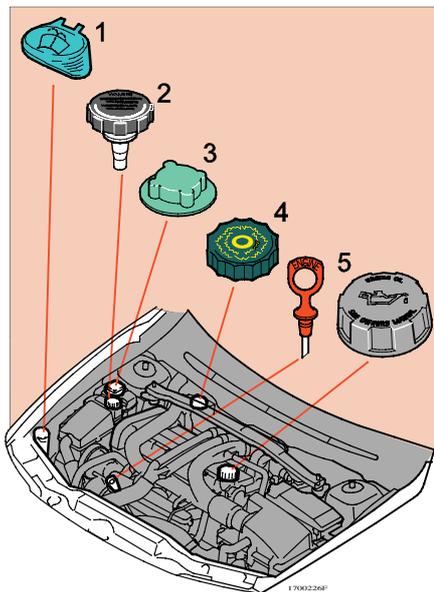
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The following should be regularly checked:



1. Washer fluid: Ensure that the reservoir is always well filled. In the winter use a washer fluid with anti freeze! See page 137.

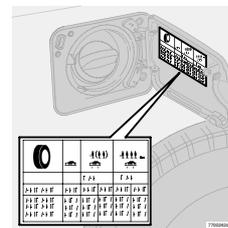
2. Power steering: The level should lie between the MIN- and MAX marks. See page 137.

3. Engine coolant: The level should lie between the MIN- and MAX marks on the expansion tank. See page 136.

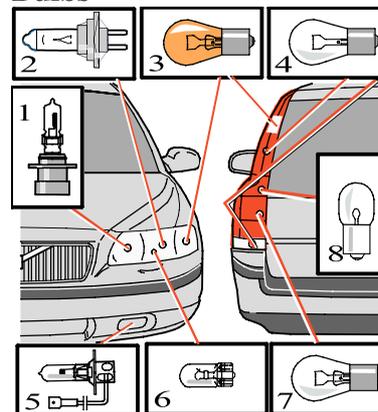
4. Brake fluid level: The level should lie between the MIN- and MAX marks. See page 137.

5. Oil level: The level should lie between the marks on the dipstick. See page 136.

Tyre pressures



Bulbs



- | | | |
|----|--------|-----------|
| 1. | 60 W | HB 3 |
| 2. | 55 W | H 7 |
| 3. | 21 W | PY |
| 4. | 21 W | BA 15 |
| 5. | 55 W | H 1 |
| 6. | 5 W | W2.1x9.5d |
| 7. | 21/4 W | BA 15d |
| 8. | 5 W | BA 15 |

VOLVO

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