



VOLVO XC60

OWNERS MANUAL

Web Edition



Volvo. for life



DEAR VOLVO OWNER

THANK YOU FOR CHOOSING VOLVO

We hope you will enjoy many years of driving pleasure in your Volvo. The car has been designed for the safety and comfort of you and your passengers. Volvo is one of the safest cars in the world. Your Volvo has also been designed to satisfy all current safety and environmental requirements.

In order to increase your enjoyment of the car, we recommend that you familiarise yourself with the equipment, instructions and maintenance information contained in this owner's manual.



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Important information

Reading the Owner's Manual

Introduction

A good way of getting to know your new car is to read the owner's manual, ideally before your first journey. This will give you the opportunity to familiarise yourself with new functions, to see how best to handle the car in different situations, and to make the best use of all the car's features. Please pay attention to the safety instructions contained in the manual.

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

© Volvo Car Corporation

Option

All types of option/accessory are marked with an asterisk*.

In addition to standard equipment, this manual also describes options (factory fitted equipment) and certain accessories (retrofitted extra equipment).

The equipment described in the owner's manual is not available in all cars - they have different equipment depending on adaptations for the needs of different markets and national or local laws and regulations.

In the event of uncertainty over what is standard or an option/accessory, contact a Volvo dealer.

Special texts

WARNING

Warning texts advise of a risk of personal injury.

IMPORTANT

Important texts advise of a risk of material damage.

NOTE

NOTE texts give advice or tips that facilitate the use of features and functions for example.

Footnote

There is footnote information in the owner's manual that is located at the bottom of the page. This information is an addition to the text that it refers to via a number. If the footnote refers to text in a table then letters are used instead of numbers for referral.

Message texts

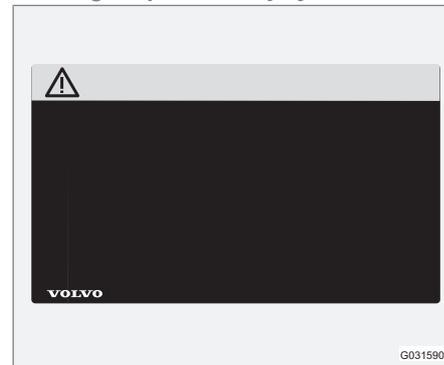
There are displays in the car that show text messages. These text messages are high-

lighted in the owner's manual by means of the text being slightly larger and printed in grey. Examples of this are in menu texts and message texts on the information display (e.g. **Audio settings**).

Decals

The car contains different types of decal which are designed to convey important information in a simple and clear manner. The decals in the car have the following descending degree of importance for the warning/information.

Warning for personal injury



Black ISO symbols on yellow warning field, white text/image on black message field. Used to indicate the presence of danger which, if the

Important information

warning is ignored, may result in serious personal injury or fatality.

Risk of property damage



White ISO symbols and white text/image on black or blue warning field and message field. Used to indicate the presence of danger which, if the warning is ignored, may result in damage to property.

Information



White ISO symbols and white text/image on black message field.

NOTE

The labels shown in the owner's manual are not provided as exact reproductions of those in the car. The purpose is to show their approximate appearance and location in the car. The information that applies to your car in particular is available on the label in question in your car.

Procedure lists

Procedures where action must be taken in a certain sequence are numbered in the owner's manual.

- 1 When there is a series of illustrations for step-by-step instructions each step is numbered in the same way as the corresponding illustration.
- A There are numbered lists with letters adjacent to the series of illustrations where the order of the instructions is not significant.
- ➔ Arrows appear numbered and unnumbered and are used to illustrate a movement.

If there is no series of illustrations for step-by-step instructions then the different steps are numbered with normal numbers.

Position lists

- 1 Red circles containing a number are used in overview images where different components are pointed out. The number recurs in the position list featured in connection with the illustration that describes the item.

Bulleted lists

A bulleted list is used when there is a list of points in the owner's manual.

Example:



Important information

- Coolant
- Engine oil

To be continued

▶▶ This symbol is located furthest down to the right when a section continues on the following page.

Recording data

The driving and safety systems in the car use computers which check and share information with each other on the car's function. One or more of these computers may store information on the systems they check during normal driving, during the course of a collision or near-collision. Stored information may be used by:

- Volvo Car Corporation
- Service or repair workshops
- Police or other authorities
- Other parties who claim legal entitlement for access to the information or someone who has permission from the owner to access the information.

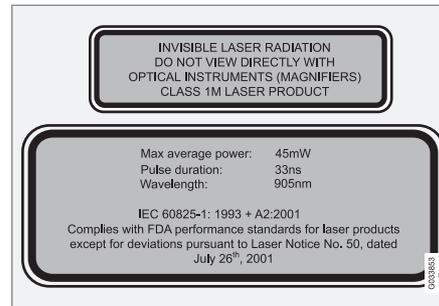
Accessories and extra equipment

The incorrect connection and installation of accessories can negatively affect the car's electrical system. Certain accessories only function when their associated software is installed in the car's computer system. Volvo therefore recommends that you always contact an authorised Volvo workshop before installing accessories which are connected to or affect the electrical system.

Laser sensor

This vehicle is equipped with a sensor which transmits laser light. It is absolutely essential to follow the prescribed instructions when handling the laser sensor.

The following two labels in English are fitted directly on the laser sensor unit:



The upper label in the figure describes the laser beam's classification:

- Laser radiation - Do not look into the laser beam with optical instruments - Class 1M laser product.

The lower label in the figure describes the laser beam's physical data:

- IEC 60825-1:1993 + A2:2001. Complies with FDA (U.S. Food Administration) standards for laser product design with the exception of deviations in accordance with "Laser Notice No. 50" from 26 July 2001.

Radiation data for the laser sensor

The following table specifies the laser sensor's physical data.

Maximum pulse energy	2.64 μJ
Maximum average output	45 mW
Pulse duration	33 ns
Divergence (horizontal x vertical)	$28^\circ \times 12^\circ$

**Important information**** WARNING**

If any of these instructions are not followed then there is a risk of eye injury!

- Never look into the laser sensor (which emits spreading invisible laser radiation) at a distance of 100 mm or closer with magnifying optics such as a magnifying glass, microscope, lens or similar optical instruments.
- Testing, repair, removal, adjustment and/or replacement of the laser sensor's spare parts must only be carried out by a qualified workshop - we recommend an authorised Volvo workshop.
- To avoid exposure to harmful radiation, do not carry out any readjustments or maintenance other than those specified here.
- The repairer must follow specially drawn up workshop information for the laser sensor.
- Do not remove the laser sensor (this includes removing the lenses). A removed laser sensor does not fulfil laser class 3B as per standard IEC 60825-1. Laser class 3B is not eye-safe and therefore entails a risk of injury.

- The laser sensor's connector must be unplugged before removal from the windscreen.
- The laser sensor must be fitted onto the windscreen before the sensor's connector is plugged in.
- The laser sensor transmits laser light when the remote control key is in position **II** and also with the engine switched off (see page 74 on key positions).

For more information on the laser sensor, see page 177.

Information on the Internet

At www.volvocars.com there is further information concerning your car.



Volvo and the environment

Volvo Cars' environmental philosophy



Environmental care is one of Volvo Car Corporation's core values which influence all operations. We also believe that our customers share our consideration for the environment.

Your Volvo complies with strict international environmental standards and is also manufactured in one of the cleanest and most resource-efficient plants in the world. Volvo Car Corporation has global ISO certification, which includes the environmental standard ISO 14001 covering all factories and several of our other units. We also set requirements for our partners so that they work systematically with environmental issues.

fuel consumption

Volvo cars have competitive fuel consumption in each of their respective classes. Lower fuel consumption generally results in lower emission of the greenhouse gas, carbon dioxide.

It is possible for the driver to influence fuel consumption. For more information read under the heading, **Reducing environmental impact**.

Efficient emission control

Your Volvo is manufactured following the concept "Clean inside and out" – a concept that encompasses a clean interior environment as well as highly efficient emission control. In

many cases the exhaust emissions are well below the applicable standards.

Clean air in the passenger compartment

A passenger compartment filter prevents dust and pollen from entering the passenger compartment via the air intake.

A sophisticated air quality system, IAQS* (Interior Air Quality System) ensures that the incoming air is cleaner than the air in the traffic outside.

The system consists of an electronic sensor and a carbon filter. The incoming air is monitored continuously and if there is an increase in



Volvo and the environment

the level of certain unhealthy gases such as carbon monoxide then the air intake is closed. Such a situation may arise in heavy traffic, queues and tunnels for example.

The entry of nitrous oxides, ground-level ozone and hydrocarbons is prevented by the carbon filter.

Textile standard

The interior of a Volvo is designed to be pleasant and comfortable, even for people with contact allergies and for asthma sufferers. Extreme attention has been given to choosing environmentally-compatible materials. This means that they also fulfil the requirements in the Oeko-Tex 100 standard¹, a major advance towards a healthier passenger compartment environment.

Oeko-Tex certification covers seatbelts, carpets and fabrics for example. The leather in the upholstery undergoes chromium-free tanning and fulfils the certification requirements.

Volvo workshops and the environment

Regular maintenance creates the conditions for a long service life and low fuel consumption for your car. In this way you contribute to a cleaner environment. When Volvo's workshops are entrusted with the service and maintenance of your car it becomes part of our sys-

tem. Volvo makes clear demands regarding the way in which our workshops are designed in order to prevent spills and discharges into the environment. Our workshop staff have the knowledge and the tools required to guarantee good environmental care.

Reducing environmental impact

You can easily help reduce environmental impact - here are a few tips:

- Avoid letting the engine idle - switch off the engine when stationary for longer periods. Pay attention to local regulations.
- Drive economically - think ahead.
- Perform service and maintenance in accordance with the owner's manual's instructions - follow the Service and Warranty Booklet's recommended intervals.
- If the car is equipped with an engine block heater*, use it before starting from cold - it improves starting capacity and reduces wear in cold weather and the engine reaches normal operating temperature more quickly, which lowers consumption and reduces emissions.
- High speed increases consumption considerably due to increased wind resistance - a doubling of speed increases wind resistance 4 times.

- Always dispose of environmentally hazardous waste, such as batteries and oils, in an environmentally safe manner. Consult a workshop in the event of uncertainty about how this type of waste should be discarded - an authorised Volvo workshop is recommended.

Following this advice can save money, the planet's resources are saved and the car's durability is extended. For more information and further advice, see the pages 218 and 302.

Recycling

As a part of Volvo's environmental work, it is important that the car is recycled in an environmentally sound manner. Almost all of the car can be recycled. The last owner of the car is therefore requested to contact a dealer for referral to a certified/approved recycling facility.

The owner's manual and the environment

The FSC symbol shows that the paper pulp in this publication comes from FSC certified forests or other controlled sources.

¹ More information on www.oekotex.com



Volvo and the environment



Mixed Sources

Product group from well-managed forests, controlled sources and recycled wood or fibre

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01

SAFETY





Seatbelts

General information



Heavy braking can have serious consequences if the seatbelts are not used. Ensure that all passengers use their seatbelts.

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

Putting on a seatbelt

Pull the belt out slowly and secure it by pressing its locking tab into the seatbelt buckle. A loud "click" indicates that the belt has locked.

The buckles only fit the intended lock in the rear seat¹.

Releasing the seatbelt

Press the red button on the seatbelt buckle and then let the belt retract. If the seatbelt does not retract fully, feed it in by hand so that it does not hang loose.

The seatbelt locks and cannot be withdrawn:

- if it is pulled out too quickly
- during braking and acceleration
- if the car leans heavily.

Make sure that you:

- do not use clips or anything else that can prevent the seatbelt from fitting properly
- ensure that the seatbelt is not twisted or caught on anything
- the hip strap must be positioned low down (not over the abdomen)
- tension the hip strap over the lap by pulling the diagonal shoulder belt up towards the shoulder.

WARNING

The seatbelts and airbags interact. If a seatbelt is not used or is used incorrectly, this may diminish the protection provided by the airbag in the event of a collision.

WARNING

Each seatbelt is designed for only one person.

WARNING

Never modify or repair the seatbelts yourself. Volvo recommends that you contact an authorised Volvo workshop.

If a seatbelt has been subjected to a major load, such as in conjunction with a collision, the entire seatbelt must be replaced. Some of the protective characteristics of the seatbelt may have been lost, even if it appears to be undamaged. In addition, replace the seatbelt if the belt is worn or damaged. The new seatbelt must be type-approved and intended for installation in the same position as the replaced seatbelt.

¹ Certain markets.



Seatbelts

Seatbelts and pregnancy



The seatbelt should always be worn during pregnancy. But it is then crucial that it be worn in the correct way. The diagonal section should wrap over the shoulder then be routed between the breasts and to the side of the abdomen.

The lap section should lay flat over the thighs and as low as possible under the abdomen. – It must never be allowed to ride upward. Remove the slack from the seatbelt and ensure that it fits as close to the body as possible. In addition, check that there are no twists in the seatbelt.

As the pregnancy progresses, pregnant drivers should adjust their seats and steering wheel such that they can easily maintain control of the vehicle as they drive (which means that they must be able to easily operate the foot pedals

and steering wheel). The aim should be to position the seat with as large a distance as possible between abdomen and steering wheel.

Seatbelt reminder



Unbelted occupants will be reminded to fasten their seatbelts by means of an audio and visual reminder. The audio reminder is speed dependent, and in some cases time dependent. The visual reminder is located in the roof console and the combined instrument panel.

Child seats are not covered by the seatbelt reminder system.

Rear seat

The seatbelt reminder in the rear seat has two subfunctions:

- Provides information on which seatbelts are being used in the rear seat. A message appears in the information display when the seatbelts are in use, or if one of the rear doors has been opened. The message is cleared automatically after driving for approximately 30 seconds or after pressing the indicator stalk's **READ** button.
- Provides a warning if one of the rear seatbelts is unfastened during travel. This warning takes the form of a message on the information display along with the audio/visual signal. The warning stops when the seatbelt is re-fastened, or it can also be acknowledged manually by pressing the **READ** button.

The message on the information display showing which seatbelts are in use is always available. Press the **READ** button to see stored messages.



Seatbelts

Certain markets

An acoustic signal and indicator lamp remind the driver and front seat passenger to use a seatbelt if either of them is not wearing one. At low speed, the audio reminder will sound for the first 6 seconds.

Seatbelt tensioner

All the seatbelts are equipped with belt tensioners. A mechanism in the seatbelt tensioner tightens the seatbelt in the event of a sufficiently violent collision. The seatbelt then provides more effective restraint for the occupants.



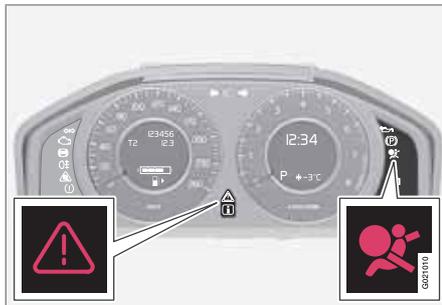
WARNING

Never insert the tongue of the passenger's seatbelt into the buckle on the driver's side. Always insert the tongue of the seatbelt into the buckle on the correct side. Do not make any damages on seatbelts nor insert any foreign objects into a buckle. The seatbelts and buckles would then possibly not function as intended in the event of a collision. There is a risk of serious injury.



Airbags

Warning symbol on the combined instrument panel



The warning symbol in the combined instrument panel illuminates when the remote control key is in key position II or III. The symbol clears after approx. 6 seconds provided the airbag system is fault-free.

WARNING

If the warning symbol for the airbag system remains illuminated or illuminates while driving, it means that the airbag system does not have full functionality. The symbol indicates a fault in the seatbelt tensioner system, SIPS, the IC system or some other fault in the system. Volvo recommends that you contact an authorised Volvo workshop immediately.

As well as the warning symbol, a message may appear on the information display in appropriate cases. If the warning symbol malfunctions, the warning symbol illuminates and **SRS Airbag Service required** or **SRS Airbag Service urgent** appears in the display. Volvo recommends that you contact an authorised Volvo workshop immediately.

Airbag system



Airbag system, left-hand drive car.



Airbag system, right-hand drive car.

The system consists of airbags and sensors. A sufficiently violent collision trips the sensors and the airbag(s) are inflated with hot gas. 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 within tenths of a second.

WARNING

Volvo recommends that you contact an authorised Volvo workshop for repair. Defective work in the airbag system could cause malfunction and result in serious personal injury.



Airbags

NOTE

The sensors react differently depending on the course of the collision and whether or not the seatbelts on the driver and passenger side are used.

It is therefore possible that only one (or none) of the airbags may inflate in a collision. The airbag system senses the force of the collision on the car and adapts accordingly so that one or more airbags are deployed.

The capacity of the airbags is also adapted to the collision force to which the vehicle is subjected.



Location of the front passenger airbag in a left-hand drive car.



Location of the front passenger airbag in a right-hand drive car.

Airbag on the driver's side

The car has an airbag to supplement the protection afforded by the seatbelt on the driver's side. It is folded up into the centre of the steering wheel. The steering wheel is marked **AIRBAG**.

WARNING

The seatbelts and airbags interact. If a seatbelt is not used or is used incorrectly, this may diminish the protection provided by the airbag in the event of a collision.

Passenger airbag

The car has an airbag to supplement the protection afforded by the seatbelt on the passenger side. It is folded up into a compartment above the glovebox. Its cover panel is marked **AIRBAG**.

WARNING

To minimise the risk of injury if the airbag deploys, passengers must sit as upright as possible with their feet on the floor and backs against the backrest. Seatbelts must be secured.

WARNING

Do not put objects in front of or above the dashboard where the passenger airbag is located.

 **WARNING**

Never place a child in a child seat or on a booster cushion in the front seat if the airbag is activated.

Never allow anybody to stand or sit in front of the front passenger seat.

No one shorter than 140 cm should ever sit in the front passenger seat if the airbag is activated.

Failure to follow the advice given above can endanger life.



Activating/deactivating the airbag*

Key switch off - PACOS*

General information

The airbag for the front passenger seat can be deactivated if the car is equipped with a switch, PACOS (Passenger Airbag Cut Off Switch). For information on how to activate/deactivate, see under the heading Activating/deactivating.

Key switch off/switch

The switch for the passenger airbag (PACOS) is located on the passenger end of the instrument panel and is accessible when the passenger door is open (see under the heading below, Activating/deactivating).

Check that the switch is in the required position. Volvo recommends that the remote control key's key blade be used to change position.

For information on the key blade, see page 49.

WARNING

Failure to follow the advice given above could endanger the life of passengers in the car.

WARNING

If the car is equipped with a front passenger airbag, but does not have a PACOS switch (Passenger Airbag Cut Off Switch), then the airbag will always be activated.

WARNING

Never place a child in a child seat or on a booster cushion in the front seat if the airbag is activated and the symbol  in the roof console is illuminated. Failure to follow this advice could endanger the life of the child.

WARNING

Do not allow anyone to sit in the front passenger seat if the message in the roof panel (see page 25) indicates that the airbag is deactivated and if the warning symbol for the airbag system is also displayed in the combined instrument panel. This indicates that there has been a severe malfunction. Visit a workshop as soon as possible. Volvo recommends that you contact an authorised Volvo workshop.

Activating/deactivating



Switch location.

- A** The airbag is activated. With the switch in this position, persons taller than 140 cm can sit in the front passenger seat, but never children in a child seat or on a booster cushion.
- B** The airbag is deactivated. With the switch in this position, children in a child seat or on a booster cushion can sit in the front passenger seat, but never persons taller than 140 cm.



Activating/deactivating the airbag*

! WARNING**Activated airbag** (passenger seat):

Never place a child in a child seat or on a booster cushion on the front passenger seat when the airbag is activated. This applies to everyone shorter than 140 cm.

Deactivated airbag (passenger seat):

No one taller than 140 cm should ever sit in the front passenger seat when the airbag is deactivated.

Failure to follow the advice given above could endanger life.

Messages

Indicator showing that the passenger airbag is deactivated.

A text message and a symbol in the roof panel indicate that the airbag for the front passenger seat is deactivated (see preceding illustration).



Indicator showing that the passenger airbag is activated.

A warning symbol in the roof panel indicates that the airbag for the front passenger seat is activated (see preceding illustration).

i NOTE

When the remote control key is turned to key position II or III the warning symbol for the airbag is displayed on the combined instrument panel for approx. 6 seconds (see page 21).

Following which, the indicator in the roof console is illuminated showing the correct status for the front passenger seat airbag. For more information about the different key positions for the remote control key, see page 74.

* Option/accessory, for more information, see Introduction.



Side airbags (SIPS bags)

Side airbag



In a side impact collision a large proportion of the collision force is transferred by the SIPS (Side Impact Protection System) to beams, pillars, the floor, the roof and other structural parts of the body. The side airbags at the driver's and front passenger seats protect the chest area and the hip and are an important part of the SIPS.

The SIPS bag system consists of two main components, side airbag and sensors. The side airbags are located in the front seat backrests.

WARNING

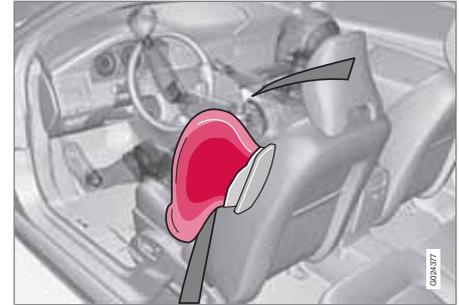
- Volvo recommends that repairs are only carried out by an authorised Volvo workshop. Defective work in the SIPS-bag system could cause malfunction and result in serious personal injury.
- Do not put objects in the area between the outside of the seat and the door panel, since this area is required by the side airbag.
- Volvo recommends the use only of car seat covers approved by Volvo. Other seat covers may impede the operation of the side airbags.
- The side airbag is a supplement to the seatbelts. Always use a seatbelt.

Child seats and side airbags

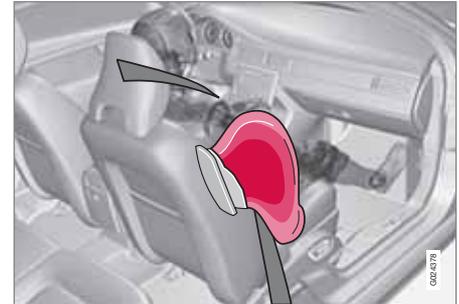
The protection provided by the car to children seated in a child seat or on a booster cushion is not diminished by the side airbag.

A child seat or booster cushion can be placed on the front passenger seat provided that the car does not have an activated¹ passenger airbag.

Location



Driver's seat, left-hand drive.



Front passenger seat, left-hand drive.

The SIPS bag system consists of side airbags and sensors. A sufficiently violent collision trips

¹ For information on activating/deactivating the airbag, see page 24.

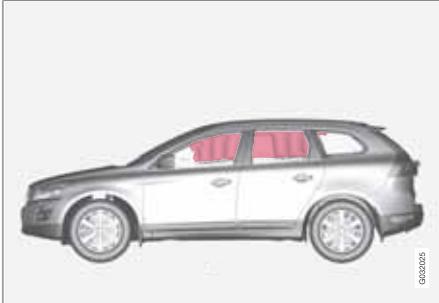
**Side airbags (SIPS bags)**

the sensors and the side airbags are inflated. The airbag inflates between the occupant and the door panel and thereby cushions the initial impact. The airbag deflates when compressed by the collision. The side airbag is normally only deployed on the side of the collision.



Inflatable Curtain (IC)

Properties



The inflatable curtain IC (Inflatable Curtain) is a part of SIPS and the airbags. It is fitted in the headlining along both sides of the roof and protects the car's occupants sitting in the outer seats. A sufficiently violent collision trips the sensors and the inflatable curtain is inflated. The inflatable curtain helps to prevent the driver and passengers from striking their heads on the inside of the car during a collision.

WARNING

Never hang or attach heavy items onto the handles in the roof. The hook is only designed for light clothing (not for solid objects such as umbrellas for example).

Do not screw or install anything onto the car's headlining, door pillars or side panels. This could compromise the intended protection. Volvo recommends that you only ever use Volvo genuine parts that are approved for placement in these areas.

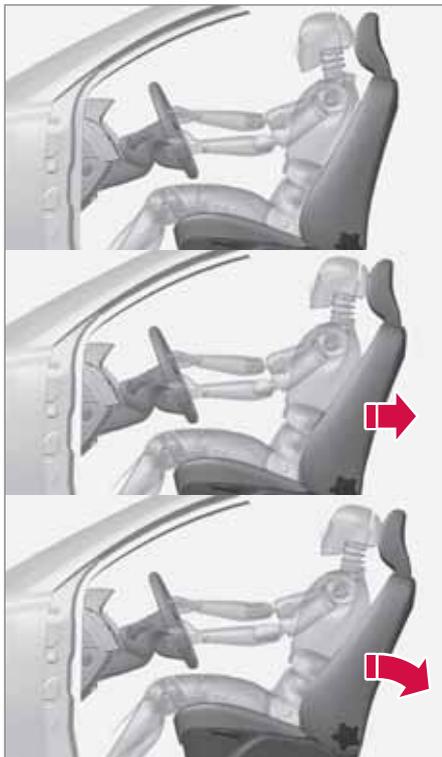
WARNING

Do not load the car higher than 50 mm under the top edge of the door windows. Otherwise, the intended protection of the inflatable curtain, which is concealed in the headlining, may be compromised.

WARNING

The inflatable curtain is a supplement to the seatbelts.

Always use a seatbelt.

**WHIPS****Protection against whiplash injury – WHIPS**

The whiplash protection system (WHIPS) consists of energy absorbing backrests and specially designed head restraints in the front seats. The system is actuated by a rear-end collision, where the angle and speed of the collision, and the nature of the colliding vehicle all have an influence.

WARNING

The WHIPS system is a supplement to the seatbelts. Always use a seatbelt.

Properties of the seat

When the WHIPS system is deployed, the front seat backrests are lowered backward to alter the seating position of the driver and front seat passenger. This reduces the risk of whiplash injury.

WARNING

Never modify or repair the seat or WHIPS system yourself. Volvo recommends that you contact an authorised Volvo workshop.

WHIPS system and child seats/booster cushions

The protection provided by the car to children seated in a child seat or on a booster cushion is not diminished by the WHIPS system.

Correct seating position

For the best possible protection, the driver and front seat passenger should sit in the centre of the seat with as little space as possible between the head and the head restraint.

Do not obstruct the WHIPS system

Do not leave any objects on the floor behind the driver's seat/passenger seat that may prevent the WHIPS system from functioning.

WARNING

Do not squeeze rigid objects between the rear seat cushion and the front seat backrest. Make sure you do not obstruct the function of the WHIPS system.



WHIPS



Do not place objects on the rear seat that may prevent the WHIPS system from functioning.

WARNING

If a rear seat backrest is folded down, the corresponding front seat must be moved forward so that it does not touch the folded backrest.

WARNING

If a seat has been subjected to extreme forces, such as due to a rear-end collision, the WHIPS system must be checked. Volvo recommends that it is checked by an authorised Volvo workshop.

Part of the WHIPS system's protective capacity may have been lost even if the seats appear to be undamaged.

Volvo recommends that you contact an authorised Volvo workshop to have the system checked even after a minor rear-end collision.



Roll-Over Protection System - ROPS

Function

Volvo's Roll-Over Protection System (ROPS) has been designed to reduce the risk of the car overturning and to provide the best possible protection in the event of such an accident.

The system consists of a stabiliser system, Roll Stability Control (RSC) that minimises the risk of overturning, for example, during sudden evasive manoeuvres or if the car skids.

The RSC system uses a sensor which registers changes in the car's lateral inclination angle. This information is used to calculate the risk of the car overturning. If a risk exists, the DSTC system engages, engine torque is lowered and one or more wheels are braked until the car has regained its stability.

For more information on the DSTC system, see page 161 .



WARNING

Under normal driving conditions, the RSC system improves the car's road safety, but this must not be taken as a reason to increase speed. Always follow the usual precautions for safe driving.



When the systems deploy

When the systems deploy

System	Triggered
Seatbelt tensioner, front seat	In the event of a frontal collision, and/or side-impact collision, and/or rear-end collision and/or overturning
Seatbelt tensioner, rear seat	In the event of a frontal collision and/or overturning
Airbags (SRS)	In a frontal collision ^A
Side airbags (SIPS)	In a side-impact accident
Inflatable Curtain IC	In the event of a side-impact collision and/or overturning
Whiplash protection WHIPS	In a rear-end collision

^A The bodywork of the car could be greatly deformed in a collision without airbag deployment. A number of factors such as the rigidity and weight of the object hit, the speed of the car, the angle of the collision etc. affects how the different safety systems of the car are activated.

If the airbags have deployed, the following is recommended:

- Recovering the car. Volvo recommends that you have it conveyed to an authorised Volvo workshop. Do not drive with deployed airbags.
- Volvo recommends that you engage an authorised Volvo workshop to handle the replacement of components in the car's safety systems.
- Always contact a doctor.



NOTE

The SRS, SIPS, IC and belt tensioner systems are deployed only once during a collision.



WARNING

The airbag control module is located in the centre console. If the centre console is drenched with water or other liquid, disconnect the battery cables. Do not attempt to start the car since the airbags may deploy. Recovering the car. Volvo recommends that you have it conveyed to an authorised Volvo workshop.



WARNING

Never drive with deployed airbags. They can make steering difficult. Other safety systems may also be damaged. The smoke and dust created when the airbags are deployed can cause skin and eye irritation/injury after intensive exposure. In case of irritation, wash with cold water. The rapid deployment sequence and airbag fabric may cause friction and skin burns.



Safety mode

Driving after a collision



If the car is involved in a collision, the text **Safety mode See manual** may appear on the information display. This means that the car has reduced functionality. Safety mode is a protective state that is enforced when the collision may have damaged any of the car's vital functions, such as the fuel lines, sensors for one of the safety systems, or the brake system.

Attempting to start the car

First, check that no fuel is leaking from the car. There must be no smell of fuel either.

If everything seems normal and you have checked for indications of fuel leakage, you may attempt to start the car.

Remove the remote control key and open the driver's door. If a message is now shown to the

effect that the ignition is on, press the start button. Then close the door and reinsert the remote control key. The car's electronics will now try to reset themselves to normal mode. Then try to start the car.

If the message **Safety mode See manual** is still shown on the display then the car must not be driven or towed, but a vehicle recovery service used instead. Even if the car appears to be driveable, hidden damage may make the car impossible to control once moving.

Moving the car

If **Normal mode** is shown after **Safety mode See manual** has been reset, the car can be moved carefully out of a dangerous position. Do not move the car further than necessary.

WARNING

Never attempt to repair your car or reset the electronics yourself if the car has been in safety mode. This could result in personal injury or the car not functioning as normal. Volvo recommends that you engage an authorised Volvo workshop to check and restore the car to normal status after **Safety mode See manual** has been displayed.

WARNING

Never, under any circumstances, attempt to restart the car if it smells of fuel when the **Safety mode** message is displayed. Leave the car at once.

WARNING

If the car is in safety mode it must not be towed. It must be transported from its location. Volvo recommends that it is transported to an authorised Volvo workshop.



Child safety

Children should sit comfortably and safely

Volvo recommends that children travel in rear-facing child seats until as late an age as possible, at least until 3-4 years of age, and then front-facing booster cushions/child seats until up to 10 years of age.

The position of a child in the car and the choice of equipment are dictated by the child's weight and size, for more information, see page 36.

i NOTE

Regulations regarding the placement of children in cars vary from country to country. Check what does apply.

Children of all ages and sizes must always sit correctly secured in the car. Never allow a child to sit on the knee of a passenger.

Volvo has child safety equipment (child seats, booster cushions & attachment devices) which is designed for your particular car. Using Volvo's child safety equipment provides you with optimum conditions for your child to travel safely in the car. Furthermore, the child safety equipment fits and is easy to use.

i NOTE

In the event of questions when fitting child safety products, contact the manufacturer for clearer instructions.

Child seats



Child seats and airbags are not compatible.

i NOTE

When using child safety products it is important to read the installation instructions included.

Do not attach the straps for the child seat to the horizontal adjustment bar, springs, rails or

beams under the seat. Sharp edges can damage the straps.

Look in the installation instructions for the child seat for the correct fitting.

Location of child seats

You may place:

- a child seat/booster cushion on the passenger seat, provided the passenger airbag is not activated¹.
- one or more child seats/booster cushions in the rear seat.

Always fit child seats/booster cushions in the rear seat if the passenger airbag is activated. If a child is sitting on the front passenger seat then he/she could suffer serious injury if the airbag deploys.

¹ For information on activated/deactivated airbag, see page 24.

**! WARNING**

Never place a child in a child seat or on a booster cushion in the front seat if the airbag (SRS) is activated.

No one shorter than 140 cm should ever sit in the front passenger seat if the airbag (SRS) is activated.

Failure to follow the advice given above can endanger life.

! WARNING

Booster cushions/child seats with steel braces or some other design that could rest on the seatbelt buckle's opening button must not be used, as they could cause the seatbelt buckle to open accidentally.

Do not allow the upper section of the child seat to rest against the windscreen.

Label Airbag

Label fitted on the end face of the instrument panel on the passenger side, see the illustration on page 24.



Child safety

Recommended child seats²

Weight	Front seat (with deactivated air-bag)	Outer rear seat	Centre rear seat
Group 0 max 10 kg	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the ISOFIX fixture system.	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the ISOFIX fixture system.	
Group 0+ max 13 kg	Type approval: E5 04301146.	Type approval: E5 03301146.	
	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the car's seatbelt.	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the car's seatbelt.	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the car's seatbelt.
	Type approval: E1 04301146.	Type approval: E1 03301146.	Type approval: E1 03301146.
	Rear-facing child seat (Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps. Use a protective cushion between the child seat and the dashboard.	Rear-facing child seat (Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps.	Rear-facing child seat (Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps.
	Type approval: E5 03135.	Type approval: E5 03135.	Type approval: E5 03135.
	Child seats which are universally approved.	Child seats which are universally approved.	Child seats which are universally approved.

² With regard to other child seats your car should be included in the manufacturer's enclosed list of vehicles or be universally approved in accordance with the ECE R44 legal requirement.



Child safety

Weight	Front seat (with deactivated air-bag)	Outer rear seat	Centre rear seat
Group 1 9-18 kg	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps. Type approval: E5 04192.	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps. Type approval: E5 04192.	
	Rear-facing child seat (Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps. Use a protective cushion between the child seat and the dashboard. Type approval: E5 03135.	Rear-facing child seat (Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps. Type approval: E5 03135.	Rear-facing child seat (Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps. Type approval: E5 03135.
	Britax Fixway – rear-facing child seat, secured with the ISOFIX fixture system and straps. Type approval: E5 03171.	Britax Fixway – rear-facing child seat, secured with the ISOFIX fixture system and straps. Type approval: E5 03171.	
	Child seats which are universally approved.	Child seats which are universally approved.	Child seats which are universally approved.



01 Safety

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Child safety

Weight	Front seat (with deactivated air-bag)	Outer rear seat	Centre rear seat
Group 2 15-25 kg	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps Type approval: E5 04192.	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps Type approval: E5 04192.	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - rear-facing child seat, secured with the car's seatbelt and straps Type approval: E5 04192.
	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - front-facing child seat, secured with the car's seatbelt. Type approval: E5 04191.	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - front-facing child seat, secured with the car's seatbelt. Type approval: E5 04191.	
Group 2/3 15-36 kg	Volvo booster seat with backrest (Volvo Booster Seat with backrest). Type approval: E1 04301169.	Volvo booster seat with backrest (Volvo Booster Seat with backrest). Type approval: E1 04301169.	Volvo booster seat with backrest (Volvo Booster Seat with backrest). Type approval: E1 04301169.
	Booster cushion with and without backrest (Booster Cushion with and without backrest). Type approval: E5 03139.	Booster cushion with and without backrest (Booster Cushion with and without backrest). Type approval: E5 03139.	Booster cushion with and without backrest (Booster Cushion with and without backrest). Type approval: E5 03139.
		Integrated booster cushion (Integrated Booster Cushion) - available as a factory fitted option. Type approval: E5 03168.	



Child safety

Integrated two-stage booster cushions*



Correct position, the seatbelt should be positioned in on the shoulder.



Incorrect position, the head restraint must be adjusted as high as the head and the seatbelt must not be below the shoulder.

The booster cushions are specially designed to provide optimum safety. In combination with the seatbelt they are approved for children who weigh between 15 and 36 kg and who are 95 to 140 cm in height.

Check before driving that:

- the 2-stage integrated booster cushion is correctly set (see table below) and in locked position
- the seatbelt is in contact with the child's body and is not slack or twisted
- the seatbelt does not lie across the child's throat or below the shoulder (see preceding illustrations)
- the lap section of the seatbelt is positioned low over the pelvis to provide optimal protection.

	Stage 1	Stage 2
Weight	22-36 kg	15-25 kg
Length	115-140 cm	95-120 cm

Raising the two-stage booster cushion

Stage 1



- 1 Pull the handle forward and up in order to release the booster cushion.



* Option/accessory, for more information, see Introduction.



Child safety

2 Press the booster cushion backwards to lock.

Stage 2



1 Start from the lower stage. Press the button.



2 Lift the booster cushion up at the front edge and press it back against the backrest to lock.

WARNING

Volvo recommends that repair or replacement is only carried out by an authorised Volvo workshop. Do not make any modifications or additions to the booster cushion. If an integrated booster cushion has been subjected to a major load, such as in conjunction with a collision, the entire booster cushion must be replaced. Even if the booster cushion appears to be undamaged, it may not afford the same level of protection. The booster cushion must also be replaced if it is heavily worn.

NOTE

It is not possible to adjust the booster cushion from stage 2 to stage 1. It must first be reset by being fully folded into the seat cushion. Refer to the heading below, Lowering the two-stage booster cushion.

Lowering the two-stage booster cushion

Lowering can take place from both the upper and lower stage to fully lowered position in the cushion. However, it is not possible to adjust

the booster cushion from the upper stage to the lower stage.



1 Pull the handle forwards to release the cushion.





Child safety

2 Press down with your hand in the centre of the cushion in order to lock it.

WARNING

If the instructions regarding the two-stage booster cushion are not followed then this could cause serious injury to a child in the event of an accident.

IMPORTANT

Check that there are no loose objects (e.g. toys) left behind in the space under the cushion before lowering.

NOTE

The booster cushion must be lowered first when lowering the backrest.

Child safety locks, rear doors

The controls for operating the rear door power windows and the rear door opening handles can be blocked from opening from the inside. For more information, see page 61.

ISOFIX fixture system for child seats

Mounting points for the ISOFIX fixture system are concealed behind the lower section of the rear seat backrest, in the outer seats.

The location of the mounting points is indicated by symbols in the backrest upholstery (see preceding illustration).

Press the seat cushion down to access the mounting points.

NOTE

The ISOFIX fixture system is an accessory for the passenger seat.

Always follow the manufacturer's installation instructions when connecting a child seat to the ISOFIX mounting points.

Size classes

Child seats are in different sizes – cars are in different sizes. This means that not all child seats are suitable for all seats in all car models.

Consequently, there is a size classification for child seats using the ISOFIX fixture system in order to assist users in choosing the correct child seat (see the following table).

Size class	Description
A	Full size, front-facing child seat
B	Reduced size (alt. 1), front-facing child seat
B1	Reduced size (alt.2), front-facing child seat
C	Full size, rear-facing child seat
D	Reduced size, rear-facing child seat
E	Rear-facing infant seat



01 Safety

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Child safety

Size class	Description
F	Transverse infant seat, left-hand
G	Transverse infant seat, right-hand

 **WARNING**
Never place a child in the passenger seat if the car is equipped with an activated airbag.

 **NOTE**
If an ISOFIX child seat has no size classification then the car model must be included on the child seat's vehicle list.

 **NOTE**
Volvo recommends that you contact an authorised Volvo dealer for recommendations about which ISOFIX child seats Volvo recommends.

Types of ISOFIX child seat

Type of child seat	Weight	Size class	Passenger seats for ISOFIX installation of child seats	
			Front seat	Outer rear seat
Infant seat transverse	max 10 kg	F	–	–
		G	–	–
Infant seat, rear-facing	max 10 kg	E	OK	OK
Infant seat, rear-facing	max 13 kg	E	OK	OK
		D	OK	OK
		C	OK	OK
Child seat, rear-facing	9-18 kg	D	OK	OK
		C	OK	OK

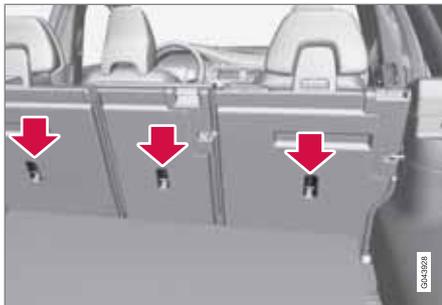


Child safety

Type of child seat	Weight	Size class	Passenger seats for ISOFIX installation of child seats	
			Front seat	Outer rear seat
Front-facing child seat	9-18 kg	B	OK ^A	OK ^A
		B1	OK ^A	OK ^A
		A	OK ^A	OK ^A

A Volvo recommends rear-facing child seats for this group.

Upper mounting points for child seats



The car is equipped with upper mounting points for certain front-facing child seats. These mounting points are located on the rear of the seat.

The upper mounting points are primarily intended for use with front-facing child seats.

Volvo recommends that small children should sit in rear-facing child seats to as late an age as possible.

i NOTE

For cars with folding head restraints on the outside seats the head restraints should be folded to facilitate the installation of this type of child seat.

i NOTE

For cars equipped with a cargo area cover over the cargo area, this must be removed before a child seat can be fitted in the mounting points.

For detailed information on how the child seat should be tensioned in the upper mounting

points, see the seat manufacturer's instructions.

⚠ WARNING

The child seat's straps must always be routed under the rear head restraints before being tensioned at the mounting point.

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02

LOCKS AND ALARM





Remote control key/key blade

General

The car is supplied with 2 remote control keys or PCCs (Personal Car Communicator). They are used to start the car and for locking and unlocking.

More remote control keys can be ordered – up to 6 can be programmed and used for the same car.

The PCC has increased functionality compared with the remote control key. The continuation of this chapter describes the functions available in both the PCC and the remote control key.

WARNING

If there are children in the car:

Always remember to switch off the power supply to power windows and sunroof by removing the remote control key if the driver leaves the car.

Loss of a remote control key

If you lose a remote control key then new ones can be ordered at a workshop - an authorised Volvo workshop is recommended. The remaining remote control keys must then be taken to the workshop. The code of the missing remote

control key must be erased from the system as a theft prevention measure.

The current number of keys registered to the car can be checked under **Car settings** → **Car Key memory** → **Number of keys**. For a description of the menu system, see page 128.

Key memory¹ – door mirrors and driver's seat

The settings are automatically connected to each respective remote control key, see pages 77 and 96 .

The function can be activated/deactivated under **Car settings** → **Car Key memory** → **Seat & mirror positions**.

For a description of the menu system, see page 128.

For cars with Keyless drive system, see page 53.

Indicator for locking/unlocking

When the car is locked or unlocked using the remote control key, the direction indicators confirm that locking/unlocking was correctly performed.

- Locking - one flash
- Unlocking - two flashes.

After locking the indication is only given if all locks have been activated once the doors have been closed.

Selecting the function

The function can be activated/deactivated under **Car settings** → **Light settings** → **Lock confirmation light** and **Car settings** → **Light settings** → **Unlock confirmation light**.

For a description of the menu system, see page 128.

Immobiliser

Each remote control key has a unique code. The car can only be driven with the correct remote control key with the correct code.

The following error messages in the combined instrument panel's information display are related to the electronic immobiliser:

¹ Only in combination with power driver's seat and power mirrors.



Remote control key/key blade

Message	Specification
Key error Try again	Error reading the remote control key during starting - Remove the key, re-insert it and try to start again.
Car key not found (Only applies to Keyless drive with PCC.)	Error reading the PCC during starting - Try to start again. If the error persists: Press the remote control key into the ignition switch and try to start again.
Immobiliser Try start again	Error in immobiliser system during starting. If the fault persists the recommendation is to contact an authorised Volvo workshop.

For starting the car, see page 107.

Functions



Remote control key.

- Locking
- Unlocking
- Approach light duration
- Tailgate
- Panic function



PCC* - Personal Car Communicator.

Information

Function buttons

Locking – Locks the doors and tailgate while the alarm is activated.

Press and hold (at least 2 seconds) to close all the windows and sunroof* simultaneously.

WARNING

If the sunroof and windows are closed using the remote control key, check that no one is in danger of getting hands caught.

Unlocking – Unlocks the doors and tailgate while the alarm is deactivated.



* Option/accessory, for more information, see Introduction.



02 Locks and alarm

Remote control key/key blade

Press and hold (at least 4 seconds) to open all windows simultaneously.

The function can be changed from unlocking all doors simultaneously, to unlocking the driver's door only with one press of the button and, after a further press of the button - within 10 seconds - unlocking the remaining doors.

The function can be changed in the menu system under **Car settings** → **Lock settings** → **Doors unlock** with both the alternatives **All doors** and **Driver door, then all**. For a description of the menu system, see page 128.

 **Approach light duration** – Used to switch on the car's lighting at a distance. For more information, see page 87.

 **Tailgate** - Unlocks and disarms the alarm for the tailgate only. On cars with power tailgate* the tailgate is opened after the button is kept depressed. For more information, see page 58.

 **Panic function** – Used to attract attention in an emergency.

Press and hold the button for at least 3 seconds or press it twice within 3 seconds to activate the direction indicators and the horn.

The function can be turned off with the same button once it has been active for at least

5 seconds. Otherwise the function switches off automatically after 2 minutes and 45 seconds.

Range

The remote control key's functions have a range of about 20 m from the car.

If the car does not verify a button being pressed - move closer and try again.

NOTE

The remote control key functions can be disrupted by surrounding radio waves, buildings, topographical conditions etc. The car can always be locked/unlocked using the key blade, see page 49.

Unique functions PCC*



PCC* - Personal Car Communicator.

- 1** Information button
- 2** Indicator lamps

Using the information button enables access to certain information from the car via the indicator lamps.

Using the information button

- Press the information button .
 - > All indicator lamps flash for approximately 7 seconds and the light travels around on the PCC. This indicates that information from the car has been read.
- If any of the other buttons are pressed during this time then the reading is interrupted.

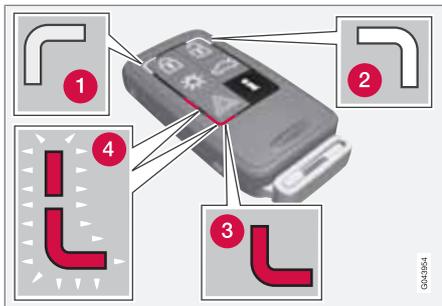


Remote control key/key blade

NOTE

If none of the indicator lamps illuminates with repeated use of the information button and in different locations (as well as after 7 seconds and after the light has travelled around on the PCC), contact a workshop - an authorised Volvo workshop is recommended.

Indicator lamps display information in accordance with the following illustration:



- 1** Green continuous light – the car is locked.
- 2** Yellow continuous light – the car is unlocked.

- 3** Red continuous light – the alarm has been triggered since the car was locked.
- 4** Red light flashing alternately in both indicator lamps – The alarm was triggered less than 5 minutes ago.

Range PCC

The PCC's range for locking, unlocking and tailgate is about 20 m from the car, for other functions up to about 100 m.

If the car does not verify a button being pressed - move closer and try again.

NOTE

The information button functions can be disrupted by surrounding radio waves, buildings, topographical conditions etc.

Out of PCC range

If the PCC is too far away from the car for the information to be read then the status the car was last left in is shown, without the light travelling around on the PCC.

If several PCCs are used for the car then it is only the PCC last used for locking/unlocking that shows correct status.

NOTE

If no indicator lamps illuminate when the information button is used within range then this may be because the last communication between the PCC and the car was disrupted by surrounding radio waves, buildings, topographical conditions etc.

Detachable key blade

A remote control key contains a detachable key blade of metal with which some functions can be activated and some operations carried out.

The key blade's unique code is provided by authorised Volvo workshops, which are recommended when ordering new key blades.

Key blade functions

Using the remote control key's detachable key blade:

- the driver's door can be opened manually if central locking cannot be activated with the remote control key, see page 54.
- the rear doors' mechanical child safety locks can be activated/deactivated, see page 61.



Remote control key/key blade

- access to the glovebox can be blocked.
- the airbag for front passenger seat (PACOS)* can be activated/deactivated, see page 24.

Removing the key blade



- 1 Slide the spring-loaded catch to the side.
- 2 At the same time pull the key blade straight out backwards.

Attaching the key blade

Carefully refit the key blade into its location in the remote control key.

1. Hold the remote control key with the slot pointed up and lower the key blade into its slot.

2. Lightly press the key blade. You should hear a "click" when the key blade is locked in.

Unlocking doors with the key blade

If central locking cannot be activated with the remote control key, e.g. if the batteries are discharged, then the driver's door can be opened as follows:

1. Unlock the driver's door with the key blade in the door handle's lock cylinder.

NOTE

When the door has been unlocked using the key blade and is opened, the alarm is triggered.

2. Deactivate the alarm by inserting the remote control key in the ignition switch.

For a car with the Keyless system, see page 54.

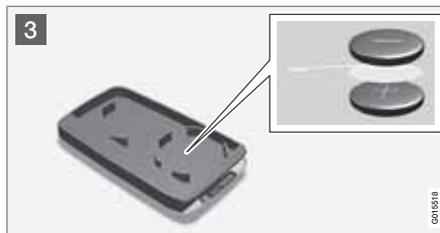


Battery replacement, remote control key/PCC*

Replacing the battery

The batteries should be replaced if:

- the information symbol is illuminated and the display shows **Replace car key battery**
- and/or
- the locks repeatedly do not react to signals from the remote control key within 20 metres from the car.

**Opening**

- 1** Slide the spring-loaded catch to the side.
- 2** At the same time pull the key blade straight out backwards.
- 3** Insert a 3 mm slot screwdriver in the hole behind the spring-loaded catch and gently prize the remote control key up.

i NOTE

Turn the remote control key over with the buttons facing up, this is to avoid the batteries falling out when it is opened.

! IMPORTANT

Avoid touching the battery and its terminals with your fingers, as this could damage their functionality.

Battery replacement

- 3** Closely study how the battery/batteries are secured on the inside of the cover, with regard to their (+) and (-) sides.

Remove control key (1 battery)

- Carefully prize out the battery.
- Install a new one with the (+) side down.

PCC* (2 batteries)

- Carefully prize out the batteries.
- First install one new one with the (+) side up.
- Position the white plastic tab in between and finally install a second new battery with the (+) side down.

Battery type

Use batteries with the designation CR2430, 3V - one in the remote control key and two in the PCC.

Assembly

- Press the remote control key together.
- Hold the remote control key with the slot pointed up and lower the key blade into its slot.
- Lightly press the key blade. You should hear a "click" when the key blade is locked in.



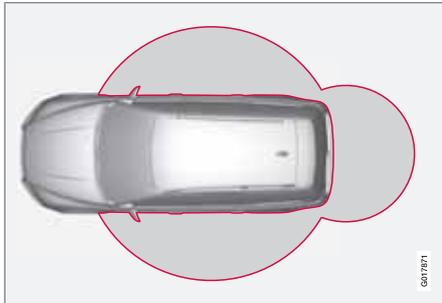
02 Locks and alarm

Battery replacement, remote control key/PCC*

IMPORTANT

Make sure that you dispose of old batteries in an environmentally-friendly way.

02

**Keyless drive*****Keyless lock and ignition system (only PCC¹)****General**

The keyless drive function in the PCC allows the car to be unlocked, driven and locked without the need for a key. You simply have to have the PCC with you. The system makes it easier and more convenient to open the car, e.g. when your hands are full.

Both of the car's PCCs incorporate the Keyless function. Additional PCCs can be ordered, see page 46.

PCC range

In order to open a door or the tailgate, a PCC must be no more than approx. 1.5 metres from

the car door handle or tailgate. This means that the person who wishes to lock or unlock a door must have the PCC with him or her. It is not possible to lock or unlock a door if the PCC is on the opposite side of the car.

The red rings in the preceding illustration indicate the range covered by the system's antennas.

If all PCCs are removed from the car when the engine is running or key position II is active (see page 74) and if all doors are closed, then a warning message is shown in the information display and an audio reminder signal sounds at the same time.

The warning message clears and the audio reminder signal stops when the PCC is brought back to the car after:

- a door has been opened and closed
- the PCC is inserted into the ignition switch
- the **READ** button has been pressed.

Handling the PCC safely

If a PCC with keyless drive function is left in the car, it is deactivated temporarily when the car is locked. This prevents unauthorised entry.

However, if someone breaks into the car, opens the door and finds the PCC, it can be

reactivated. It is therefore important to handle all PCCs with great care.

**IMPORTANT**

Never leave a PCC behind in the car.

Interference to PCC function

Electromagnetic fields and screening can interfere with the keyless drive system. For this reason, do not place the PCC near mobile phones or metallic objects.

If interference is experienced nonetheless, use the PCC and the key blade as a remote control key., see page 47.

¹ Personal Car Communicator, see page 48.



Keyless drive*

Locking



Cars with the keyless system have a button on the outside door handles.

Lock the doors and the tailgate by pressing the lock button on one of the door handles on the outside.

All doors and the tailgate must be closed before the car can be locked - otherwise the car is not locked.

i NOTE

On cars with automatic transmission, the gear selector must be set in the **P** position – otherwise the car cannot be locked or the alarm armed.

Unlocking

Unlocking takes place when a hand grasps a door handle or the tailgate's rubberised pressure plate is actuated - open the door or tailgate as normal.

Unlocking with the key blade



If central locking cannot be activated with the PCC, e.g. if the batteries are discharged, then the driver's door can be opened with the PCC's detachable key blade (see page 49).

To access the lock cylinder the door handle's plastic cover must be detached:

1. Press the key blade approx. 1 cm straight up into the hole on the underside of the door handle/cover - do not prize.

- > The plastic cover is prized loose automatically by the torque when the blade is pushed straight up and into the opening.

2. Insert the key blade in the lock cylinder and unlock the door.
3. Refit the plastic cover after unlocking.

i NOTE

When the driver's door is unlocked using the key blade and is opened, the alarm is triggered. It is switched off by inserting the PCC in the ignition switch, see page 63.

Key memory² – driver's seat and door mirrors

PCC memory function

If several people each with a PCC approach the car, then the settings for seat and mirrors are implemented for the person who opens the driver's door.

After the driver's door has been opened by person A with PCC-A, but person B with PCC-B shall drive, the settings can be changed in three ways:

- Standing by the driver's door, or sitting behind the steering wheel, person B

² Only in combination with power driver's seat and power mirrors.

* Option/accessory, for more information, see Introduction.

**Keyless drive***

presses their PCC's unlock button, see page 47.

- Select one of three possible memories for seat adjustment with seat button 1-3, see page 77.
- Adjust seat and mirrors manually, see page 77 and 96.

Lock settings

The Keyless function can be adapted by indicating in the menu system which doors shall be unlocked, under **Car settings** → **Lock settings** → **Keyless entry**.

For a description of the menu system, see page 128.

Antenna location

The keyless system has a number of integrated antennae located around the car:

- 1 Tailgate, by wiper motor
- 2 Door handle, left rear
- 3 Roof, centre above rear seat
- 4 Cargo area, central and furthest in under the floor
- 5 Door handle, right rear
- 6 Centre console, under the rear section
- 7 Centre console, under the front section.

**WARNING**

People with pacemaker operations should not come closer than 22 cm to the keyless system's antennae with their pacemaker. This is to prevent interference between the pacemaker and the keyless system.



Locking/unlocking

From the outside

The remote control key can lock/unlock all doors and the tailgate simultaneously. Different sequences for unlocking can be selected, see Unlocking with the remote control key, page 47.

If it is not possible to lock/unlock with the remote control key, the battery may be discharged - lock or unlock the driver's door with the detachable key blade, see page 49.

WARNING

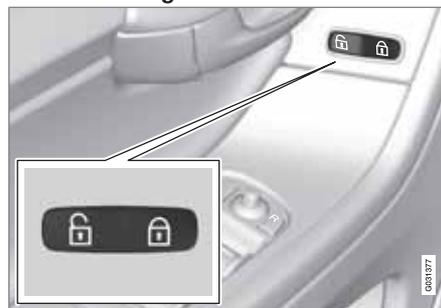
Be aware that there is a risk that you can be locked in the car if it is locked from the outside.

Automatic relocking

If none of the doors or the tailgate is opened within 2 minutes of unlocking, all are locked again automatically. This function reduces the risk that the car is left unlocked unintentionally. (For cars with alarm, see page 62.)

From the inside

Central locking



Central locking.

All of the doors and the tailgate can be locked or unlocked simultaneously using the central locking button on either front door.

- Press one side  of the button to lock - the other side  to unlock.

Unlocking

A door can be unlocked from the inside in two different ways:

- Press the central locking button .

Press and hold (at least 4 seconds) to also open all the side windows* simultaneously.

- Pull the door handle once and release - the door is unlocked. Pull the door handle again to open the door.

Locking

- Press the central locking button  after the front doors have been closed.

Press and hold (at least 2 seconds) to also close all the side windows and the sunroof* simultaneously.

All doors can also be individually locked manually with their lock buttons - the door in question must then be closed.

Global opening

Press and hold the central locking button  (at least 4 seconds) to also open all the windows simultaneously - for example, to quickly ventilate the passenger compartment during hot weather.

Automatic locking

The doors and tailgate are locked automatically when the car starts to move.

The function can be activated/deactivated under **Car settings** → **Lock settings** → **Doors automatic lock**. (For a description of the menu system, see page 128.)



Locking/unlocking

Glovebox



The glovebox can only be locked/unlocked using the remote control key's detachable key blade. (For information on the key blade, see page 49).

Locking the glovebox:

- ➊ Insert the key blade in the glovebox lock cylinder.
 - ➋ Turn the key blade 90 degrees clockwise. The keyhole is horizontal in the locked position.
 - ➌ Pull out the key blade.
- Unlock by carrying this out in reverse order.

Tailgate

Unlocking with the remote control key



The alarm for the tailgate can be disarmed* and the tailgate unlocked on its own by using the remote control key's  button.

If the car is equipped with an alarm* the alarm indicator on the instrument panel stops to show that alarm for the whole of the car is not armed. The alarm's level and movement sensors and the sensors for opening the tailgate are disconnected.

The doors remain locked and armed.

- The tailgate is unlocked, but remains closed - press lightly on the rubberised pressure plate under the outer handle and lift the tailgate.

If the tailgate is not opened within 2 minutes then it is relocked and the alarm is re-armed.

Unlocking the car from inside



To unlock the tailgate:

- Press the lighting panel button (1).
 - > The tailgate is unlocked and can be opened within 2 minutes (if the car is locked from the inside).

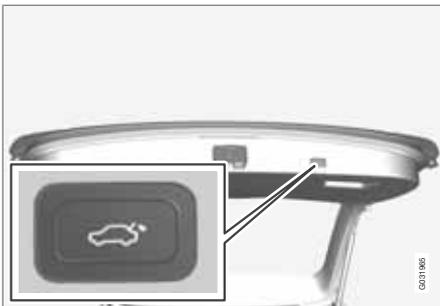
Locking with the remote control key

- Press the remote control key's button for locking, , see page 47.
 - > If the car is equipped with an alarm* the alarm indicator on the instrument panel starts to flash, which means that the alarm is armed.



Locking/unlocking

Power operated tailgate*



! IMPORTANT

Pay attention to the height of the roof when using power operation. Do not use power tailgate operation with low roof heights, see under the heading "Interrupt opening/closing the tailgate".

i NOTE

- If the system has been operating continuously for more than 60 seconds then it is switched off to avoid overloading. It can be used again after about 10 minutes.
- If the battery has been discharged or disconnected then the cover must be opened and closed manually once in order to reset the system.

Snow and wind

If the tailgate is forced down by something just when it is being opened, e.g. snow, ice or strong wind, and this causes the tailgate to lower, then it is closed automatically.

Pinch protection

If something with sufficient resistance prevents the tailgate from opening/closing then the pinch protection is activated.

- During opening - power tailgate operation is deactivated and the tailgate is disengaged.
- During closing - the tailgate returns to the fully open position.

! WARNING

Pay attention to the risk of crushing when opening/closing. Before starting to open/close; make sure that there is nobody close to the tailgate as a crushing injury could have serious consequences.

Always operate the tailgate with caution.

Manual tailgate operation

The system is disengaged if the rubberised pressure plate beneath the outside handle is actuated a second time. The tailgate can then be operated manually.

Opening the tailgate



The tailgate can be opened three ways (two of which involve this button):

- Long press on the button in the lighting panel - hold the button depressed until the tailgate starts to open.
- Long press on the button on the remote control key - hold the button depressed until the tailgate starts to open.
- Lightly press the rubberised pressure plate beneath the outside handle and raise the tailgate.



Locking/unlocking

Closing the tailgate

Close using this button on the tailgate or manually.

- Press the button – the tailgate closes automatically.

Stop the opening/closing of the tailgate

This can be done four ways (of which three involve this button):

- Press the lighting panel button
- Press the remote control key button
- Press the tailgate's button
- Press the rubberised pressure plate beneath the outside handle.

Tailgate movement is stopped following the same pattern as when pinch protection is triggered. Refer to this chapter's section with the heading "Pinch protection".

Deadlocks * 1

Deadlocks means that all lock buttons and door handles are mechanically disengaged, which prevents doors being opened from the inside.

The deadlocks are activated with the remote control key and are set after an approximately

10 second delay after the doors have been locked.

**NOTE**

If a door is opened within the delay time then the sequence is interrupted and the alarm is deactivated.

The car can only be unlocked from a deadlock state with the remote control key. The driver's door can also be unlocked with the detachable key blade.

Temporary deactivation

Active menu options are indicated with a cross.

- 1 Navigation
- 2 ENTER
- 3 MENU
- 4 EXIT

If someone is going to stay in the car but the doors must be locked from the outside, then the deadlocks function can be temporarily switched off. This is carried out as follows:

1. Access the menu system under **Car settings** (for a detailed description of the menu system, see page 128).
2. Select **Reduced guard**.

¹ Only in combination with alarm.



Locking/unlocking

3. Select **Activate once**.

- > The instrument panel display shows the message **Reduced guard See manual** and the deadlocks function is switched off when the car is locked.

or

– Select **Ask on exit**.

- > Each time the engine is switched off the audio system's display shows the message **Press ENTER to reduce guard until engine is started Press EXIT to cancel**. - then select one of the following alternatives:

- Press **EXIT** and lock the car.



NOTE

- Remember that the car's alarm is armed when the car is locked.
- If any of the doors are opened from the inside then the alarm will be triggered.



WARNING

Do not allow anyone to remain in the car without first deactivating the deadlocks to avoid the risk of anyone being locked in.

If you want to switch off deadlocks

- Press **ENTER** and lock the car. (Note that the alarm's movement and tilt detectors* are switched off at the same time, see page 62.)
 - > The next time the engine is started, the system is reset to zero and the instrument panel display shows the message **Full guard** at which the deadlocks function and the alarm's movement and tilt detectors are re-engaged.

If you do not want to change the locking system

- Select no options at all and lock the car.

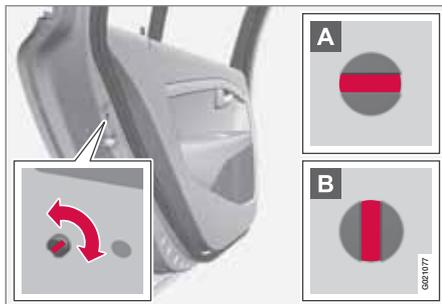
or



Child safety locks

Manual blocking of the rear doors

The child safety locks prevent children from opening a rear door from the inside.



The child safety locks are located on the trailing edge of the rear doors and are only accessible when the doors are open.

To activate/deactivate the child safety locks:

- Use the remote control key's detachable key blade to turn the knob, see page 49.

A The door is blocked against opening from the inside.

B The door can be opened from both the outside and the inside.

NOTE

- A door's knob control only blocks that particular door - not both rear doors simultaneously.
- Cars with an electric child safety lock do not have a manual child lock.

Electrical locking of the rear doors* and power windows

Control panel driver's door.

When the electric child safety lock is active then the rear:

- windows can only be opened with the driver's door control panel
- doors cannot be opened from inside.

The child safety locks are activated/deactivated in all key positions (see page 74 and up to 2 minutes after the remote control key has been removed from the ignition switch. If a door is opened within this time, the function is deactivated.

- Press the button in the driver's door control panel.
- > The information display shows the message **Rear child locks Activated** and the button's lamp illuminates when the locks are active.



02 Locks and alarm

Alarm*

General

Activated alarm is triggered if:

- a door, the bonnet or the tailgate is opened
- a movement is detected in the passenger compartment (if fitted with a movement detector*)
- the car is raised or towed away (if fitted with a tilt detector*)
- the battery's cable is disconnected
- the siren is disconnected.

If there is a fault in the alarm system, the information display shows a message. In which case, contact a workshop - an authorised Volvo workshop is recommended.

NOTE

The movement sensors trigger an alarm in the event of movement in the passenger compartment - air currents are also registered. For this reason the alarm is triggered if the car is left with a window or the sunroof open or if the passenger compartment heater is used.

To avoid this: Close the window/sunroof when leaving the car. If the car's integrated passenger compartment heater (or a portable electric heater) shall be used - direct the airflow from the air vents so that they are not pointing upwards in the passenger compartment.

NOTE

One of the detectors for the alarm is located under the cup holder in the centre console. This detector is sensitive for metals.

Avoid storing coins, keys or similar metal objects in the centre console's cup holder as such objects could accidentally trigger the alarm.

NOTE

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

Alarm indicator



A red LED on the instrument panel indicates the alarm system's status:

- LED not lit – Alarm not armed
- The LED flashes once every other second – Alarm is armed
- The LED flashes rapidly after disarming the alarm (and until the remote control key is inserted in the ignition switch and key position I is selected) – Alarm has been triggered.

Arming the alarm

- Press the remote control key lock button.

Disarming the alarm

- Press the remote control key unlock button.

Deactivating a triggered alarm

- Press the remote control key unlock button or insert the remote control key in the ignition switch.

Other alarm functions

Automatic re-arming of the alarm

This function prevents the car being left with alarm disarmed unintentionally.

If the car is unlocked with the remote control key (and the alarm is disarmed) but none of the doors or the tailgate is opened within 2 minutes, then the alarm is automatically re-armed. The car is relocked at the same time.



Alarm signals

When the alarm is triggered, the following happens:

- A siren sounds for 30 seconds or until the alarm is switched off. The siren has its own battery which works independently of the car battery.
- The direction indicators flash for 5 minutes or until the alarm is switched off.

Remote control key not working

If the alarm cannot be switched off with the remote control key, e.g. if the key's battery is discharged, the car can be disarmed and the engine started as follows:

1. Open the driver's door with the key blade.
 - > The alarm is triggered, the alarm indicator flashes rapidly and the siren sounds.
2. Insert the remote control key in the ignition switch.
 - > The alarm is deactivated and the alarm indicator goes out.
3. Start the engine.

Reduced alarm level

To avoid accidental triggering of the alarm - e.g. if a dog is left in the car or during transport on a car train or a car ferry - the movement and tilt sensors can be temporarily deactivated.

The procedure is the same as with the temporary disengaging of deadlocks, see page 59.

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03

YOUR DRIVING ENVIRONMENT

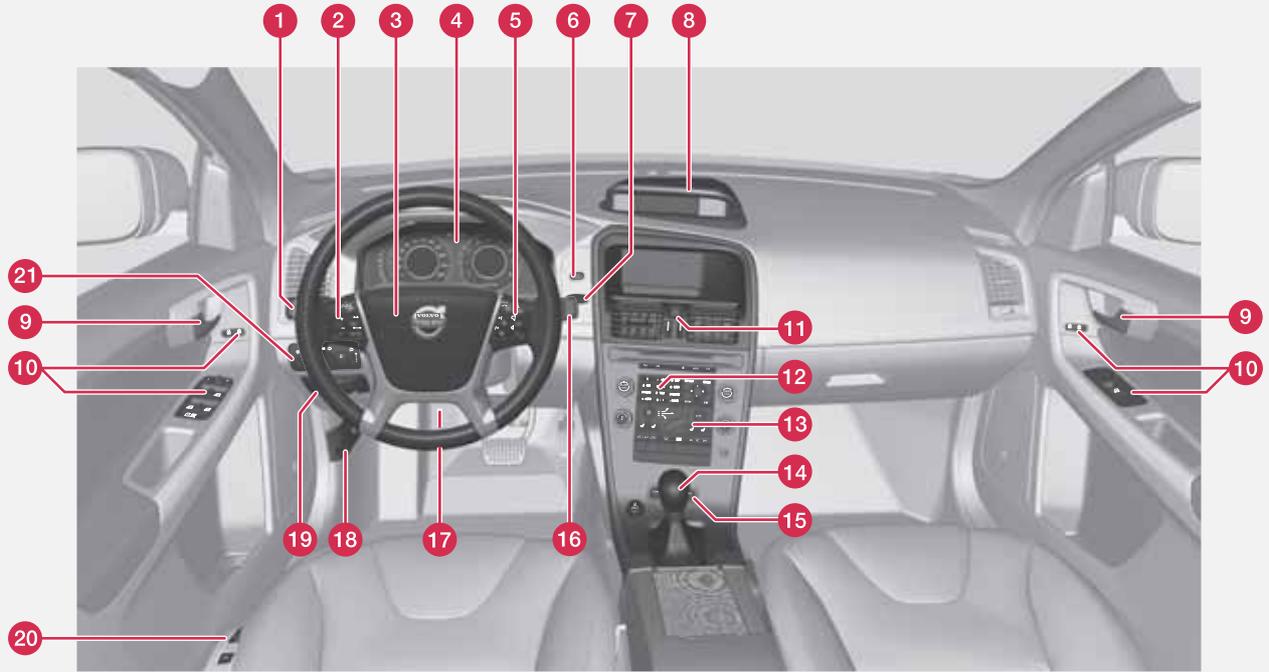




03 Your driving environment

Instruments and controls

Instrument overview



Left-hand drive.

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03



Instruments and controls

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03 Your driving environment

Instruments and controls

03



Right-hand drive.

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Instruments and controls

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Information displays



The information displays show information on some of the car's functions, e.g. cruise control, trip computer and messages. The information is shown with text and symbols.

There are further descriptions under the functions that use the information displays.

Instruments and controls

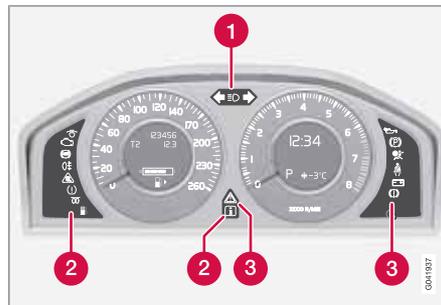
Meters



Meters in the combined instrument panel.

- 1 Speedometer
- 2 Fuel gauge. See also Trip computer, page 159, and Refuelling, page 221.
- 3 Tachometer. The meter indicates engine speed in thousands of revolutions per minute (rpm).

Indicator, information and warning symbols



Indicator and warning symbols.

- 1 Main beam and direction indicator symbol
- 2 Indicator and information symbols
- 3 Indicator and warning symbols¹

Functionality check

All indicator and warning symbols illuminate in key position II or when the engine is started. When the engine has started, all the symbols should go out except the parking brake symbol, which only goes out when the brake is disengaged.

If the engine does not start or if the functionality check is carried out in key position II then all

symbols go out after 5 seconds except the symbol for faults in the car's emissions system and the symbol for low oil pressure.

Indicator and information symbols

Symbol	Specification
	ABL fault
	Emissions system
	ABS fault
	Rear fog lamp on
	Stability system
	Engine preheater (diesel)
	Low level in fuel tank
	Information, read display text
	Main beam On

¹ For certain engine variants, the symbol for low oil pressure is not used. Warnings are made via display text. For information on checking the oil level, see page 257.



Instruments and controls

Symbol	Specification
	Left-hand direction indicators
	Right-hand direction indicators

ABL fault

The symbol illuminates if a fault has arisen in the ABL function (Active Bending Lights).

Emissions system

If the symbol illuminates then it may be due to a fault in the car's emissions system. Drive to a workshop for checking. Volvo recommends that you seek assistance from an authorised Volvo workshop.

ABS fault

If this symbol illuminates then the system is not working. The car's regular brake system continues to work, but without the ABS function.

1. Stop the car in a safe place and turn off the engine.
2. Restart the engine.
3. If the symbol remains illuminated, drive to a workshop to have the ABS system checked. Volvo recommends that you seek assistance from an authorised Volvo workshop.

Rear fog lamp on

This symbol illuminates when the rear fog lamp is on. There is only one fog lamp. It is located on the driver's side.

Stability system

A flashing symbol indicates that the stability system is operating. If the symbol illuminates with constant glow then there is a fault in the system.

Engine preheater (diesel)*

This symbol illuminates during engine preheating. Preheating occurs when the temperature is below -2 °C. The car can be started once the symbol goes out.

Low level in fuel tank

When the symbol illuminates the level in the fuel tank is low, refuel as soon as possible.

Information, read display text

When one of the car's systems does not behave as intended, this information symbol illuminates and a text appears on the information display. The message text is cleared with the **READ** button, see page 132, or it disappears automatically after a time (time depending on which function is indicated). The information symbol can also illuminate in conjunction with other symbols.

 NOTE
When a service message is shown, the symbol and message are cleared using the READ button, or clear automatically after a while.

Main beam On

The symbol illuminates when main beam is on and with main beam flash

Left/right-hand direction indicators

Both direction indicator symbols flash when the hazard warning flashers are used.

Indicator and warning symbols

Symbol	Specification
	Low oil pressure ^A
	Parking brake applied
	Airbags – SRS
	Seatbelt reminder
	Alternator not charging

Instruments and controls

Symbol	Specification
	Fault in brake system
	Warning

^A For certain engine variants, the symbol for low oil pressure is not used. Warnings are made via display text, see pages 257 and 258.

Low oil pressure

If this symbol illuminates during driving then the engine's oil pressure is too low. Stop the engine immediately and check the engine oil level, top up if necessary. If the symbol illuminates and the oil level is normal, contact a workshop. Volvo recommends that you seek assistance from an authorised Volvo workshop.

Parking brake applied

This symbol illuminates with a constant glow when the parking brake is applied. The symbol flashes during application, and then changes over to a constant glow.

A flashing symbol means that a fault has arisen. Read the message on the information display.

Airbags – SRS

If this symbol remains illuminated or illuminates while driving, it means a fault has been detected in the seatbelt buckle, SRS, SIPS, or IC systems. Drive immediately to a workshop

to have the system checked. Volvo recommends that you seek assistance from an authorised Volvo workshop.

Seatbelt reminder

This symbol illuminates if someone in a front seat has not put on their seatbelt or if someone in a rear seat has taken off their seatbelt.

Alternator not charging

This symbol illuminates during driving if a fault has occurred in the electrical system. Visit a workshop. Volvo recommends that you seek assistance from an authorised Volvo workshop.

Fault in brake system

If this symbol illuminates, the brake fluid level may be too low. Stop the car in a safe place and check the level in the brake fluid reservoir, see page 261.

If the brake and ABS symbols illuminate at the same time, there may be a fault in the brake force distribution system.

1. Stop the car in a safe place and turn off the engine.
2. Restart the engine.
 - If both symbols extinguish, continue driving.
 - If the symbols remain illuminated, check the level in the brake fluid reservoir, see

page 261. If the brake fluid level is normal but the symbols are still illuminated, the car can be driven, with great care, to a workshop to have the brake system checked. Volvo recommends that you seek assistance from an authorised Volvo workshop.

WARNING

If the brake fluid is under the **MIN** level in the brake fluid reservoir, do not drive further before topping up the brake fluid.

The loss of brake fluid must be investigated by a workshop. Volvo recommends that you contact an authorised Volvo workshop.

WARNING

If the brake and ABS symbols are illuminated at the same time, there is a risk that the rear end will skid during heavy braking.

Warning

The red warning symbol illuminates when a fault has been indicated which could affect the safety and/or driveability of the car. An explanatory text is shown on the information display at the same time. The symbol remains visible until the fault has been rectified but the text message can be cleared with the **READ** button, see page 132. The warning symbol can



Instruments and controls

also illuminate in conjunction with other symbols.

Action:

1. Stop in a safe place. Do not drive the car further.
2. Read the information on the information display. Implement the action in accordance with the message in the display. Clear the message using the **READ** button.

Reminder – doors not closed

If one of the doors, the bonnet² or tailgate is not closed properly then the information or warning symbol illuminates together with an explanatory text message in the combined instrument panel. Stop the car in a safe place as soon as possible and close the door, bonnet or boot lid, whichever is open.

 If the car is driven at a speed lower than approx. 7 km/h then the information symbol illuminates.

 If the car is driven at a speed higher than approx. 7 km/h then the warning symbol illuminates.

Trip meter



Trip meter and controls.

- 1 Display for trip meter
- 2 Controls for switching between trip meters T1 and T2, as well as resetting the trip meters.

The meters are used to measure short distances.

One short press on the control switches between the two trip meters T1 and T2. A long press (more than 2 seconds) resets an active trip meter to zero. The distance is shown in the display.

Clock



Clock and setting knob.

- 1 Controls for setting the clock.
- 2 Information display for showing the time.

Turn the knob clockwise/anticlockwise to set the time. The set time is shown in the information display.

The clock can be temporarily replaced by a symbol in conjunction with a message, see page 132.

² Only cars with alarm*.



Key positions

Insert and remove the remote control key



Ignition switch with inserted remote control key.

i NOTE

For cars with keyless function*, see page 53.

Insert the key

Hold the end of the remote control key with the detachable key blade and insert the key in the ignition switch. After a gentle press on the key it is drawn into the lock.

! IMPORTANT

Foreign objects in the ignition switch may jeopardise the function or destroy the lock.

Do not press the remote control key incorrectly turned - Hold the end with the detachable key blade, see page 49.

Withdraw the key

The remote control key is ejected after a gentle press on it. (Automatic gearbox* must be in position **P**.)

Functions

The remote control key's 3 different key positions can be reached without the need to start the engine. The table shows the functions available in each key position.

i NOTE

To reach key position **I** or **II** **without** starting the engine - do **not** depress the brake/clutch pedal when the following operations are carried out.

Key position 0

Insert the remote control key in the ignition switch and gently press it - The key is drawn into the lock.

Key position I

With the remote control key inserted into the ignition switch - Briefly press on **START/STOP ENGINE**.

Key position II

With the remote control key inserted into the ignition switch - Press on **START/STOP ENGINE** for about 2 seconds.

Back to key position 0

To return to key position **0** from position **I** or **II** - Briefly press on **START/STOP ENGINE**.



Key positions

Position	Function
0	Odometer, clock and temperature gauge are illuminated. The steering lock is deactivated. The audio system can be used.
I	Panorama roof*, power windows, 12 V socket in the passenger compartment, RTI*, phone*, ventilation fan, ECC and windscreen wipers can be used.
II	The headlamps come on. Warning/indicator lamps illuminate for 5 seconds. All equipment operates apart from heated seats and rear window defroster, which only work when the engine is running.

For information on the audio system's functions with remote control key removed, see page 146.

Starting and stopping the engine

For information about starting/switching off the engine, see page 107.

Towing

For important information about the remote control key during towing, see page 236.

Seats

Front seats



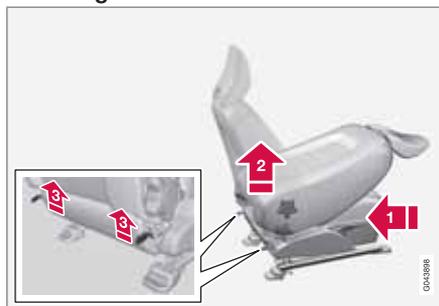
- 1 Lumbar support adjustment, turn the wheel¹.
- 2 Forward/backward: lift the handle to adjust the distance to the steering wheel and pedals. Check that the seat is locked after changing position.
- 3 Raise/lower* front edge of seat cushion, pump up/down.
- 4 Adjust backrest rake, turn the wheel.
- 5 Raise/lower the seat, pump up/down.
- 6 Control panel for power seat*.

¹ Also applies to power seat.

WARNING

Adjust the position of the driver's seat before setting off, never while driving. Make sure that the seat is in locked position in order to avoid personal injury in the event of sudden braking or an accident.

Lowering the front seat backrest



The passenger seat backrest can be folded forward to make room for long loads.

- 1 Move the seat as far back/down as possible.
- 2 Adjust the backrest to an upright position.

- 3 Lift the catches on the rear of the backrest and fold it forward.

4. Push the seat forward so that the head restraint "locks" in under the glovebox.

Raising takes place in reverse order.

WARNING

Grasp the backrest and make sure that it is properly locked after being folded up in order to avoid personal injury in the event of sudden braking or an accident.



Seats

Power seat*



- 1 Front edge of seat cushion up/down
- 2 Seat forward/backward and up/down
- 3 Backrest rake

The power front seats have overload protection which is tripped if a seat is blocked by an object. If this happens, go to key position **I** or **0** and wait a short time before adjusting the seat again.

Only one movement (forward/back/up/down) can be made at a time.

Preparations

The seats can be adjusted for a certain time after unlocking the door with the remote con-

trol key without the key in the ignition switch. Seat adjustment is normally made in key position **I** and can always be made when the engine is running.

Seat with memory function*



Store setting

- 1 Memory button
- 2 Memory button
- 3 Memory button
- 4 Button for storing settings

1. Adjust the seat and the door mirrors.

2. Hold the button depressed to store settings while depressing one of the memory buttons.

Using a stored setting

Hold one of the memory buttons depressed until the seat and the door mirrors stop. If you release the button then the movement of the seat will stop.

Key memory* in remote control key²

The positions of the driver's seat and the door mirrors³ are stored in the key memory when the car is locked with the remote control key.



When the car is unlocked with the same remote control key it was locked with and the driver's

² For key memory for keyless drive, see page 54.

³ Only if the car is equipped with power seat and retractable power door mirrors.

Seats

door is opened, the driver's seat and also the door mirrors automatically adopt the positions stored in the key memory.

NOTE

The seat and the door mirrors do not move if they are already set the relevant position.

It is also possible to use the key memory by pressing the unlock button on the remote control key when the driver's door is open.

The key memory can be activated/deactivated under **Car Key memory** → **Seat & mirror positions**. For a description of the menu system, see page 128.

NOTE

The key memory in the two remote control keys and the seat's three memories are completely independent of each other.

Emergency stop

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

Restarting to reach the seat position stored in the key memory is performed by pressing the unlock button on the remote control key. The driver's door must then be open.

WARNING

Risk of crushing! Make sure that children do not play with the controls. Check that there are no objects in front of, behind or under the seat during adjustment. Ensure that none of the backseat passengers will be trapped.

Heated seats

For heated seats, see page 138.

Rear seats

Head restraint, centre seat, rear



Adjust the head restraint according to passenger height so that the whole of the back of the head is covered if possible. Slide it up as required.

To lower the head restraint again, the button (located in the centre between the backrest and head restraint, see illustration) must be pressed in while the head restraint is pressed down.

Manual lowering of the outer head restraints, rear seat



Pull the locking handle closest to the head restraint to fold the head restraint forward.

The head restraint is moved back manually until a "click" can be heard.



Seats

Lowering the rear seat backrest

! IMPORTANT

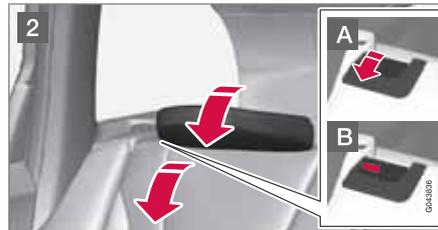
There must be no objects on the rear seat when the backrest is to be folded down. The seat belts must not be connected either. Otherwise there is a risk of damaging the rear seat upholstery.

The triple-section backrest can be folded in different ways.

i NOTE

The front seats may need to be pushed forwards, and/or the backrests adjusted upwards, in order that the rear backrests can be folded forward fully.

- The left-hand section can be folded separately.
- The centre section can be folded separately.
- The right-hand section can only be folded together with the centre section.
- If the entire backrest is to be folded then the different sections should be folded separately.



- 1 If the centre backrest is being lowered - fold and adjust the centre backrest's head restraint downwards, see page 78.
- 2 The outer head restraints are lowered automatically when the outer backrests are lowered. Pull up the backrest's locking handle **A** while folding the backrest forward at the same time. A red indicator on the lock catch **B** shows that the backrest is no longer locked in place.

Raising takes place in reverse order.

i NOTE

When the backrest has been raised, the red indicator should no longer be showing. If it is still showing then the backrest is not locked in place.

! WARNING

Check that the backrests and head restraints in the rear seats are firmly locked after raising.

Electrical lowering of the rear seat's outer head restraints*


* Option/accessory, for more information, see Introduction.



Seats

1. The remote control key must be in position **I** or **II**.
2. Press the button to lower the rear outer head restraints to improve rearward visibility.

WARNING

Do not lower the outer head restraints if there are any passengers using of the outer seats.

Move the head restraint back manually until a click is heard.

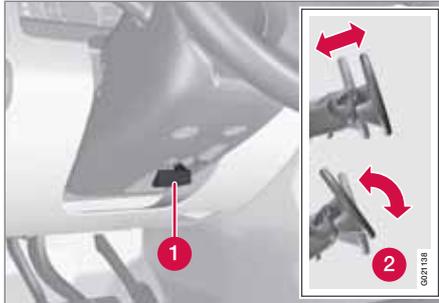
WARNING

The head restraints must be in locked position after being raised.



Steering wheel

Adjusting



Adjusting the steering wheel.

- ❶ Lever - releasing the steering wheel
- ❷ Possible steering wheel positions

The steering wheel can be adjusted for both height and depth:

1. Pull the lever towards you to release the steering wheel.
2. Adjust the steering wheel to the position that suits you.
3. Push back the lever to fix the steering wheel in place. If the lever is stiff, press the steering wheel lightly at the same time as you push the lever back.

WARNING

Adjust and secure the steering wheel before driving.

With speed related power steering* the level of steering force can be adjusted, see page 163.

Keypads*

Keypads in the steering wheel.

- ❶ Cruise control, see page 164
 - Adaptive cruise control, see page 166
- ❷ Audio and phone control, see page 146.

Horn

Horn.

Press the centre of the steering wheel to signal.

Lighting

Light switches



Overview, light switches.

- 1 Thumbwheel for adjusting display and instrument lighting
- 2 Rear fog lamp
- 3 Light switches
- 4 Thumbwheel¹ for headlamp levelling

Instrument lighting

Different display and instrument lighting is switched on depending on key position, see page 74.

The display lighting is automatically subdued in darkness - the sensitivity is set with the thumbwheel.

The intensity of the instrument lighting is adjusted with the thumbwheel.

Headlamp levelling

The load in the car changes the vertical alignment of the headlamp beam, which could dazzle oncoming motorists. Avoid this by adjusting the height of the beam. Lower the beam if the car is heavily laden.

1. Allow the engine to run or have the remote control key in position I.
2. Roll the thumbwheel up/down to raise/lower beam alignment.

Cars with Xenon headlamps* have automatic headlamp levelling and therefore do not have the thumbwheel.

Main/dipped beam



Headlamp control and stalk switch.

- 1 Position for main beam flash
- 2 Position for main beam

¹ Not available for cars equipped with Xenon headlamps*.



Lighting

Position	Specification
0	Automatic ^A /deactivated dipped beam. Only main beam flash.
	Position/parking lamps
	Dipped beam. Main beam and main beam flash work in this position.

^A Applies to certain markets.

NOTE

Main beam can only be activated in position



Main beam flash

Move the stalk switch gently towards the steering wheel to the position for main beam flash. Main beam comes on until the stalk switch is released.

Dipped beam

When the engine is started, dipped beam is activated automatically² if the headlamp control is in position . If necessary, automatic dipped beam for this position can be

deactivated by a workshop. Volvo recommends that you contact an authorised Volvo workshop.

In position dipped beam is always activated automatically when the engine is running or when the remote control key is in position II.

Main beam

Main beam can only be activated when the headlamp control is in position . Activate/deactivate main beam by moving the stalk switch towards the steering wheel to the end position and release.

When main beam has been activated the symbol illuminates in the combined instrument panel.

Active Xenon headlamps - ABL*



Headlamp pattern with function deactivated (left) and activated (right) respectively.

If the car is equipped with active Xenon headlamps (Active Bending Lights - ABL) the light from the headlamps follows the steering wheel movement in order to provide maximum lighting in bends and junctions and so provide increased safety.

The function is activated automatically when the car is started. In the event of a fault in the function the symbol illuminates in the combined instrument panel at the same time as the information display shows an explanatory text and a further illuminated symbol.

² Applies to certain markets.

* Option/accessory, for more information, see Introduction.



03 Your driving environment

Lighting

Symbol	Display	Specification
	Headlamp failure Service required	The system is disengaged. Visit a workshop if the message remains. Volvo recommends that you contact an authorised Volvo workshop.

The function is only active in twilight or darkness and only when the car is moving.

The function³ can be activated/deactivated under **Car settings** → **Light settings** → **Active bending lights**. For a description of the menu system, see page 128.

For headlamp pattern adjustment, see page 87.

³ Activated on delivery from the factory.

Position/parking lamps



Headlamp control in position for position/parking lamps.

Turn the headlamp control to the centre position (number plate lighting comes on at the same time).

Rear position lamps also come on when the tailgate is opened in order to alert anybody behind.

Brake lights

The brake light automatically comes on during braking. For information on the Emergency brake lights and automatic hazard warning flashers, see page 116.

Rear fog lamp



Button for rear fog lamp.

The rear fog lamp consists of one rear lamp and can only be switched on in combination with main/dipped beam.

Press the button for On/Off. The rear fog lamp indicator symbol on the combined instrument panel and the light in the button illuminate when the rear fog lamp is switched on.



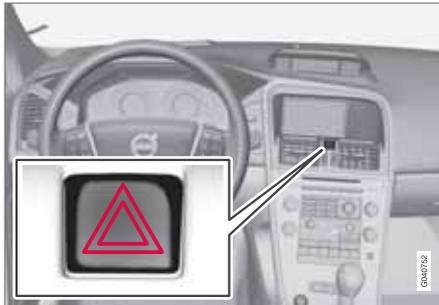
Lighting

The rear fog lamp is switched off automatically when the engine is switched off.

i NOTE

Regulations for using rear fog lamps vary between different countries.

Hazard warning flashers



Button for hazard warning flashers.

Press the button to activate the hazard warning flashers. Both direction indicator symbols in the combined instrument panel flash when the hazard warning flashers are in use.

The hazard warning flashers are activated automatically when the car brakes so suddenly that the emergency brake lights are activated and speed is below 30 km/h. They remain on when the car has stopped and are deactivated

automatically when the car is driven off again or the button is depressed. For more information on Emergency brake lights and automatic hazard warning flashers, see page 116.

Direction indicators/flashers



Direction indicators/flashers.

Short flash sequence

➡ Move the stalk switch up or down to the first position and release. The direction indicators flash three times. The function can be activated/deactivated under **Car settings** ➔ **Light settings** ➔ **Turn indicators**, 3-flash. For a description of the menu system, see page 129.

Continuous flash sequence

➡ Move the stalk switch up or down to the outer position.

The stalk switch remains in its position and is moved back manually, or automatically by the steering wheel movement.

Direction indicator symbols

For direction indicator symbols, see page 70.

Interior lighting



Controls in roof console for the front reading lamps and passenger compartment lighting.

- ➊ Reading lamp, left-hand side
- ➋ Reading lamp, right-hand side
- ➌ Interior lighting



03 Your driving environment

Lighting

All lighting in the passenger compartment can be switched on and off manually within 30 minutes from when:

- the engine has been switched off and the remote control key is in position **0**
- the car has been unlocked but the engine has not been started.

Front roof lighting

The front reading lamps are switched on or off by pressing the relevant button in the roof console.

Rear roof lighting



Rear roof lighting in cars without panorama roof.



Rear roof lighting in cars with panorama roof.

The lamps are switched on or off by pressing each respective button.

Courtesy lighting

Courtesy lighting (and passenger compartment lighting) is switched on and off respectively when a side door is opened or closed.

Glovebox lighting

Glovebox lighting is switched on and off respectively when the lid is opened or closed.

Vanity mirror

The lighting for the vanity mirror, see page 205, is switched on and off respectively when the cover is opened or closed.

Lighting, cargo area

The lighting in the cargo area is switched on and off respectively when the tailgate is opened or closed.

Automatic lighting

The switch for passenger compartment lighting has three positions for the lighting in the passenger compartment:

- **Off** – right-hand side depressed, automatic lighting deactivated.
- **Neutral position** – automatic lighting activated.
- **On** – left-hand side depressed, passenger compartment lighting on.

Neutral position

When the button is in neutral position the passenger compartment lighting is switched on and off automatically in accordance with the following.

The passenger compartment lighting is switched on and remains on for 30 seconds if:

- the car is unlocked with the remote control key or key blade, see pages 47 or 50
- the engine is switched off and the remote control key is in position **0**.

Passenger compartment lighting is switched off when:



Lighting

- the engine is started
- the car is locked.

The passenger compartment lighting comes on and remains on for two minutes if one of the doors is open.

If any lighting is switched on manually and the car is locked then it will be switched off automatically after two minutes.

Home safe light duration

Some of the exterior lighting can be kept switched on to work as home safe lighting after the car has been locked.

1. Remove the remote control key from the ignition switch.
2. Move the left-hand stalk switch toward the steering wheel to the end position and release it. The function can be activated in the same way as with main beam flash, see page 82.
3. Get out of the car and lock the door.

When the function is activated, dipped beam, parking lamps, door mirror lamps, number plate lighting, interior roof lamps and courtesy lighting are switched on.

The length of time for which the home safe lighting should be kept on can be set under **Car settings** → **Light settings** → **Home safe light**

duration. For a description of the menu system, see page 128.

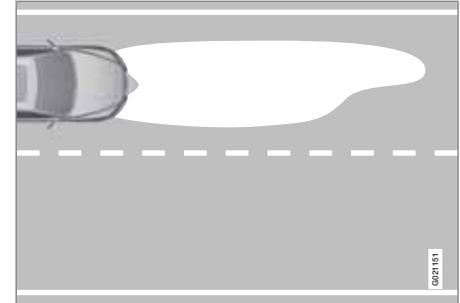
Approach light duration

Approach lighting is switched on with the remote control key, see page 47, and is used to switch on the car's lighting at a distance.

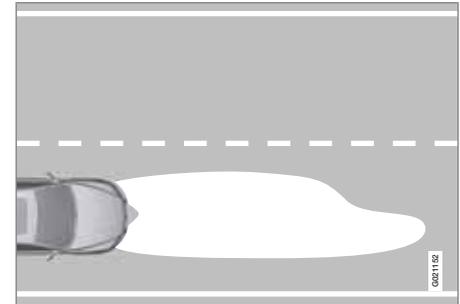
When the function is activated with the remote control, parking lamps, door mirror lamps, number plate lighting, interior roof lamps and courtesy lighting are switched on.

The length of time for which the approach lighting should be kept on can be set under **Car settings** → **Light settings** → **Approach light duration.** For a description of the menu system, see page 128.

Adjusting headlamp pattern



Headlamp pattern, left-hand traffic.



Headlamp pattern, right-hand traffic.

The headlamp pattern must be adjusted to avoid dazzling oncoming motorists and can be set for right or left-hand traffic. The correct pattern will also better illuminate the verge.



Lighting

Active Xenon headlamps*

The car must be stationary with the engine running when the headlamp pattern is shifted between right and left-hand traffic.

1. Access the menu system under **Car settings** → **Light settings**.
2. Select between **Temporary RH lights** and **Temporary LH lights**.

For a description of the menu system, see page 128

Halogen headlamps

The headlamp pattern for halogen headlamps is readjusted by masking the headlamp lens. The headlamp pattern may not be as good.

Masking the headlamps

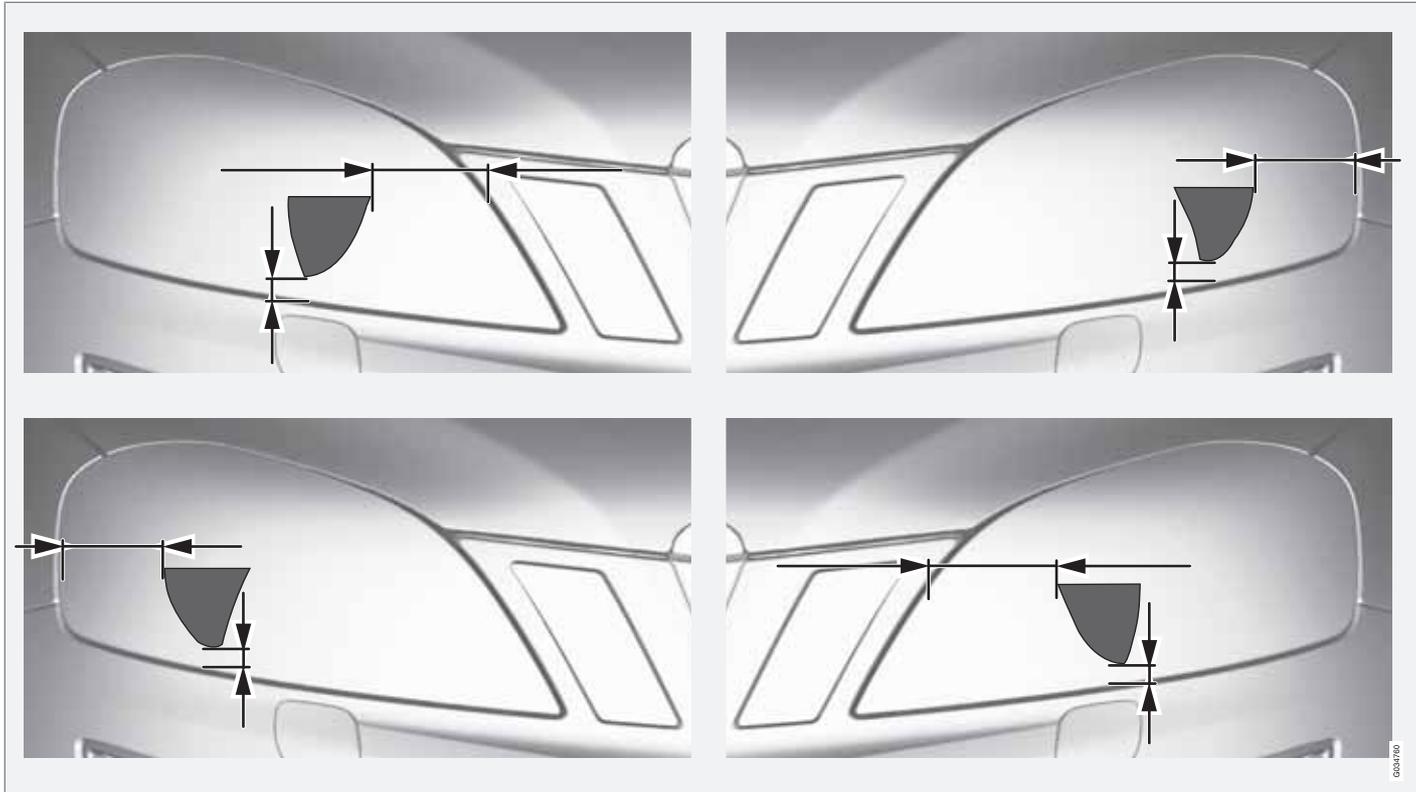
1. Copy the A and B templates for left-hand drive cars or the C and D templates for right-hand drive cars with a scale of 1:1, see page 90:
 - A = LHD Right (left-hand drive, right lens)
 - B = LHD Left (left-hand drive, left lens)
 - C = RHD Right (right-hand drive, right lens)
 - D = RHD Left (right-hand drive, left lens)
2. Transfer the template to a self-adhesive waterproof material and cut it out.

3. Position the self-adhesive templates at the right distance from the edge of the headlamp lens using the illustration, see page 89, and the dimensions in the following list:
 - Templates A and D: horizontal line approx. 104 mm, vertical line approx. 20 mm
 - Templates B and C: horizontal line approx. 167 mm, vertical line approx. 14 mm



Lighting

Aligning the templates

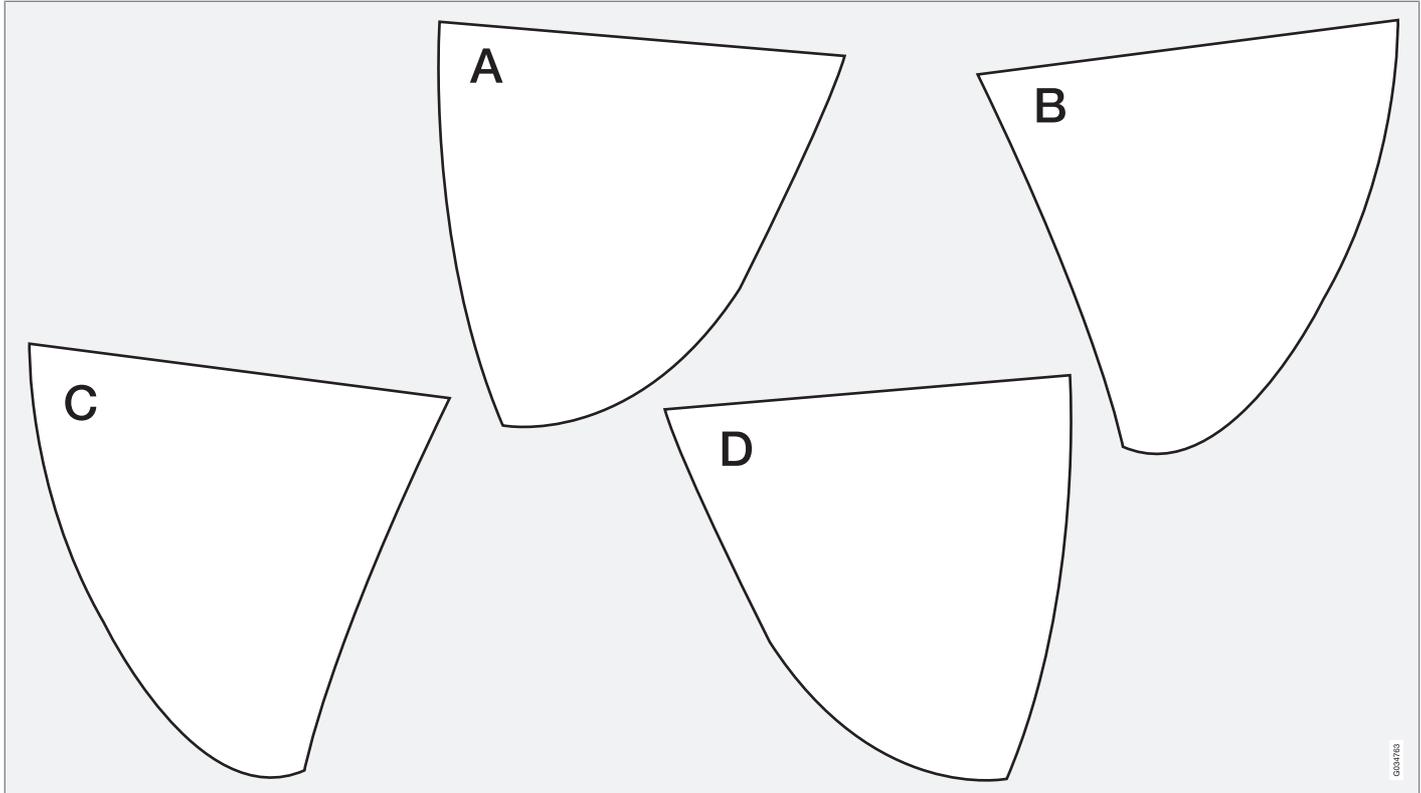


Upper row: masking left-hand drive cars, templates A and B. Lower row: masking right-hand drive cars, templates C and D.



Lighting

Templates for halogen headlamps



0300703



Wipers and washing

Windscreen wipers¹



Windscreen wipers and windscreen washers.

- 1** Rain sensor, on/off
- 2** Thumbwheel sensitivity/frequency

Windscreen wipers off

0 Move the stalk switch to position **0** to switch off the windscreen wipers.

Single sweep

 Raise the stalk switch and release to make one sweep.

Intermittent wiping

INT Set the number of sweeps per time unit with the thumbwheel when intermittent wiping is selected.

Continuous wiping



The wipers sweep at normal speed.



The wipers sweep at high speed.

! IMPORTANT

Before activating the wipers during winter - ensure that the wiper blades are not frozen in and that any snow or ice on the windscreen (and rear window) is scraped away.

! IMPORTANT

Use plenty of washer fluid when the wipers are cleaning the windscreen. The windscreen must be wet when the windscreen wipers are operating.

Service position wiper blade

For cleaning the windscreen/wiper blades and replacement of wiper blades see see page 269 and 282.

Rain sensor*

The rain sensor automatically starts the windscreen wipers based on how much water it detects on the windscreen. The sensitivity of

the rain sensor can be adjusted using the thumbwheel.

When the rain sensor is activated a light in the button the rain sensor symbol  is shown in the right-hand display in the combined instrument panel.

Activating and setting the sensitivity

When activating the rain sensor, the car must be running or the remote control key in position **I** or **II** while the windscreen wiper stalk switch must be in position **0** or in the position for a single sweep.

Activate the rain sensor by pressing the button . The windscreen wipers make one sweep.

Press the stalk switch up for the wipers to make an extra sweep.

Turn the thumbwheel upward for higher sensitivity and downward for lower sensitivity. (An extra sweep is made when the thumbwheel is turned upward.)

Deactivating

Deactivate the rain sensor by pressing the button  or move the stalk switch down to another wiper program.

¹ Replacing the wiper blades see page 269, service position, wiper blade see page 269 and filling washer fluid see page 270.

Wipers and washing

The rain sensor is automatically deactivated when the remote control key is removed from the ignition switch or five minutes after the engine has been switched off.

IMPORTANT

The windscreen wipers could start and be damaged in an automatic car wash. Deactivate the rain sensor while the car is running or the remote control key is in position I or II. The symbol in the combined instrument panel and the lamp in the button go out.

Washing the headlamps and windows



Washing function.

Washing the windscreen

Move the stalk switch toward the steering wheel to start the windscreen and headlamp washers.

The windscreen wipers will make several more sweeps and the headlamps are washed once the stalk switch has been released.

Heated washer nozzles*

The washer nozzles are heated automatically in cold weather to prevent the washer fluid freezing solid.

High-pressure headlamp washing*

High-pressure headlamp washing consumes a large quantity of washer fluid. To save fluid, the headlamps are washed automatically at every fifth windscreen wash cycle.

Wiper and washer, rear window



- 1 Rear window wiper – intermittent wiping
- 2 Rear window wiper – continuous speed

Press the stalk switch forward (see the arrow in the illustration above) to initiate rear window washing and wiping.

NOTE

The rear window wiper is equipped with overheating protection which means that the motor is switched off if it overheats. The rear window wiper works again after a cooling period (30 seconds or longer, depending on the heat in the motor and the outside temperature).



Wipers and washing

Wiper – reversing

Engaging reverse gear while the windscreen wipers are on initiates intermittent rear window wiping². The function stops when reverse gear is disengaged.

If the rear window wiper is already on at continuous speed, no change is made.



NOTE

On cars with rain sensor, the rear window wiper is activated with reversing, if the sensor is activated and it is raining.

² This function (intermittent wiping when reversing) can be deactivated. Visit a workshop. Volvo recommends that you contact an authorised Volvo workshop.



03 Your driving environment

Windows, rearview and door mirrors

General

Laminated glass



The windscreen and panorama roof have laminated glass. It is reinforced which provides better protection against break-ins and improved

sound insulation in the passenger compartment. Other glass surfaces*.

Water and dirt-repellent coating*



Windows are treated with a coating that improves the view in difficult

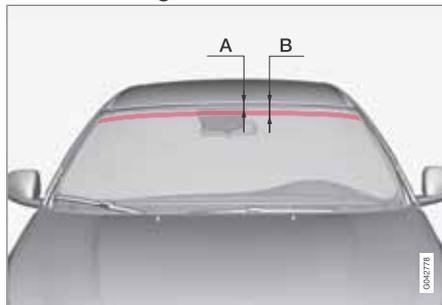
weather conditions. Maintenance, see page 283.



IMPORTANT

Do not use a metal ice scraper to remove ice from the windows. Use the defroster to remove ice from the mirrors, see page 97.

Heat-reflecting windscreen*



Areas where IR film is not applied.

	Dimensions
A	47 mm
B	87 mm

The windscreen is equipped with a heat-reflecting film (IR) that reduces the solar heat radiation into the passenger compartment.

The positioning of electronic equipment, such as a transponder, behind a glass surface with heat-reflecting film may affect its function and performance.

For the optimal function of electronic equipment, it should be positioned on the part of the

windscreen with no heat-reflecting film (see the highlighted area in the above illustration).

Power windows



Driver's door control panel.

- 1 Switch for electric child safety locks* and disengaging rear power window buttons, see page 61.
- 2 Rear window controls
- 3 Front window controls



WARNING

Check that none of the rear seat passengers is in danger of becoming trapped in any way when closing the windows from the driver's door.



Windows, rearview and door mirrors

! WARNING

Make sure that children or other passengers are not in danger of becoming trapped in any way when closing the windows, in particular when the remote control key is used.

! WARNING

If there are children in the car, remember to always switch off the power supply to the power windows by removing the remote control key if the driver leaves the car.

Operating



Operating the power windows.

- 1 Operating without auto
- 2 Operating with auto

All power windows can be operated using the control panel in the driver's door. Each control panel in the other doors can only control its own respective power window. The power windows can only be controlled with one control panel at a time.

In order that the power windows can be used the remote control key must be in position I or II. After the car has been running the power windows can be operated for several minutes even when the remote control key has been removed, but not however after the door has been opened.

Closing of the windows is stopped and the window is opened if anything prevents its movement. It is possible to force the pinch protection when closing has been interrupted, e.g. with ice, by continuously holding the button up until the window is closed. The pinch protection is reactivated after a brief pause.

i NOTE

One way to reduce the pulsating wind noise when the rear windows are open is to also open the front windows slightly.

Operating without auto

Move one of the controls up/down gently. The power windows move up/down as long as the control is held in position.

Operating with auto

Move one of the controls up/down to the end position and release it. The window runs automatically to its end position.

Operating with the remote control key and central locking

To remotely operate the power windows from the outside with the remote control key or from inside with central locking, see pages 47 and 56

Resetting

If the battery is disconnected then the function for automatic opening must be reset so that it can work correctly.

1. Gently raise the front section of the button to raise the window to its end position and hold it there for one second.
2. Release the button briefly.
3. Raise the front section of the button again for one second.

! WARNING

Resetting must be carried out to ensure that pinch protection works.

Windows, rearview and door mirrors

Door mirrors



Door mirror controls.

Adjusting

1. Press the **L** button for the left-hand door mirror or the **R** button for the right-hand door mirror. The light in the button illuminates.
2. Adjust the position with the joystick in the centre.
3. Press the **L** or **R** button again. The light should no longer be illuminated.

WARNING

The mirrors are the wide angle type for optimum surveillance. Objects may appear further away than they actually are.

Retractable power door mirrors*

The mirrors can be retracted for parking/driving in narrow spaces:

1. Press the buttons **L** and **R** simultaneously (the remote control key must be at least in key position **I**).
2. Release them after approximately 1 second. The mirrors automatically stop in the fully retracted position.

Fold out the mirrors by pressing down the **L** and **R** buttons simultaneously. The mirrors automatically stop in the fully extended position.

Storing the position*

The mirror positions are stored in the key memory when the car has been locked with the remote control key. When the car is unlocked with the same remote control key the mirrors and the driver's seat adopt the stored positions when the driver's door is opened.

The function can be activated/deactivated under **Car Key memory** → **Seat & mirror positions**. For a description of the menu system, see page 128.

Angling the door mirror when parking¹

The door mirror can be angled down for the driver to view the side of the road when parking for example.

- Engage reverse gear and press the **L** or **R** button.

When reverse gear is disengaged the mirror automatically returns to its original position after about 10 seconds, or earlier by pressing the button labelled **L** or **R** respectively

Automatic angling of the door mirror when parking¹

When reverse gear is engaged the door mirror is automatically angled down so that the driver can see the side of the road when parking for example. When reverse gear is disengaged the mirror automatically returns to its original position after a while.

The function can be activated/deactivated under **Car settings** → **Side mirror settings** → **Auto tilt left mirror** or **Auto tilt right mirror**. For a description of the menu system, see page 128.

Automatic retraction when locking

When the car is locked/unlocked with the remote control key the door mirrors are automatically retracted/extended.

¹ Only in combination with power seat with memory, see page 77.

Windows, rearview and door mirrors

The function can be activated/deactivated under **Car settings** → **Side mirror settings** → **Fold mirr. when locking**. For a description of the menu system, see page 128.

Resetting to neutral

Mirrors that have been moved out of position by an external force must be reset electrically to the neutral position for electric retracting/extending to work correctly:

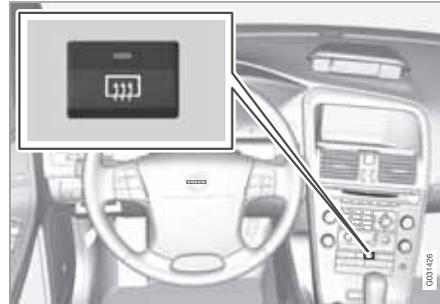
1. Retract the mirrors with the **L** and **R** buttons.
2. Fold them out again with the **L** and **R** buttons.
3. Repeat the above procedure as necessary.

The mirrors are now reset in neutral position.

Home safe and approach lighting

The light on the door mirrors illuminates when approach lighting or home safe lighting is selected, see page 87.

Rear window and door mirror defrosters



Use the defroster to quickly remove misting and ice from the rear window and the door mirrors.

One press of the button starts the heating. The light in the button indicates that the function is active. Disconnect the heating as soon as the ice/misting is cleared in order not to load the battery unnecessarily. However, the heating is switched off automatically after a certain time.

The heating can be engaged automatically if the car is started in an outside temperature lower than +7 °C. The automatic defrosting function must then be activated under **Climate settings** → **Auto. rear defroster**. For a description of the menu system, see page 128.

Interior rearview mirror



- 1 Control for dimming

Manual dimming

Bright light from behind could be reflected in the rearview mirror and dazzle the driver. Use dimming with the dimming control when lights from behind are distracting:

1. Use dimming by moving the control in towards the passenger compartment.
2. Return to normal position by moving the control towards the windscreen.

Automatic dimming*

Bright light from behind is automatically dimmed by the rearview mirror. The control is not available in mirrors with automatic dimming.

* Option/accessory, for more information, see Introduction.



Windows, rearview and door mirrors

The compass* can only be specified for rear-view mirrors with automatic dimming, see page 99.



Compass*

Operation



Rearview mirror with compass.

The upper right-hand corner of the rearview mirror has an integrated display that shows the compass direction in which the front of the car is pointing. Eight different directions are shown with English abbreviations: **N** (north), **NE** (north east), **E** (east), **SE** (south east), **S** (south), **SW** (south west), **W** (west) and **NW** (north west).

The compass is activated automatically when the car is started or in ignition position **II**, see page 74. To deactivate/activate the compass - press in the button on the underside of the mirror using a paper clip for example.

Calibration

The earth is divided into 15 magnetic zones. The compass is set for the geographic area to which the car was delivered. The compass

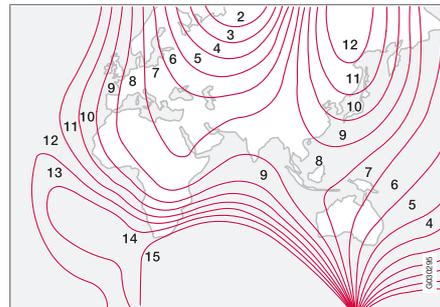
should be calibrated if the car is moved across several magnetic zones.

1. Stop the car in a large open area free from steel structures and high-voltage power lines.
2. Start the car.

 **NOTE**

For optimum calibration - switch off all electrical equipment (climate control system, wipers etc.) and make sure that all doors are closed.

3. Hold the button on the underside of the rearview mirror depressed approx. 6 seconds (using a paper clip for example) until the character **C** is shown.



Magnetic zones.

4. Hold the button on the underside of the rearview mirror depressed approx. 3 seconds. The number of the current magnetic zone is shown.
5. Press the button repeatedly until the required magnetic zone (1-15) is shown. See the map of magnetic zones for the compass.
6. Wait until the display resumes showing the character **C**.
7. Drive slowly in a circle at a speed of no more than 10 km/h until a compass direction is shown in the display, indicating that calibration is complete. Then drive a further 2 circles to fine-tune calibration.
8. Repeat the above procedure as necessary.

Power panorama roof*

General

The panorama roof is divided into two sections. Only the front section can be opened - horizontally or vertically at the rear edge (ventilation position).

The panorama roof has a sun blind made of perforated fabric and located under the glass roof to provide extra protection from factors such as strong sunlight.



The panorama roof and curtain are operated with a control located in the roof. The control is activated when the key is in position **I** or **II**, see page 74.

WARNING

Children, other passengers or objects can be trapped by the panorama roof's moving parts.

- Always operate the panorama roof with caution.
- Do not allow children to play with the controls.
- If leaving the car, always take the remote control key/PCC with you*, and so prevent the panorama roof from being operated.

Operating



1 Opening, automatic

2 Opening, manual

3 Closing, manual

4 Closing, automatic

The panorama roof and curtain can be operated in key position **I** or **II**.

Automatic operation

1. To open the curtain all the way - press the control rearward to the automatic opening position and release.
2. To then open the panorama roof all the way - press the control rearward again to the automatic opening position and release.

Close the roof/curtain by repeating the preceding procedure in reverse order - press the control forward to the automatic closing position instead.

Rapid opening/closing

The panorama roof and curtain can be opened/closed simultaneously:

- To open - press the control rearward to the automatic operation position twice and release.
- To close - press the control forward to the automatic operation position twice and release.



Power panorama roof*

Manual operation

1. To open the curtain - press the control rearward to the point of resistance for manual opening. The curtain moves towards maximum opening as long as the button is depressed.
2. To angle the panorama roof - press the control rearward again to the point of resistance for manual opening
3. To open the panorama roof - press the control rearward to the point of resistance for manual opening a third time. The panorama roof moves towards maximum opening as long as the button is kept depressed.

Close the roof/curtain by repeating the preceding procedure in reverse order - press the control forward to the manual closing position instead.

NOTE

For manual opening, the curtain must be fully open before the panorama roof can be opened. For the reverse procedure, the panorama roof must be fully closed before the curtain can be closed.

Ventilation position



Ventilation position, vertically at the rear edge.

-  Open by pressing the rear edge of the control upward.
-  Close by pulling the rear edge of the control down.

When the ventilation position is selected the front section is raised at its rear edge. If the curtain is fully closed when ventilation position is selected - then it opens automatically approx. 50 mm.

Closing using the remote control key or central locking button



One long press on the lock button, see pages 47 (remote control key) and 56 (central locking button), closes the panorama roof and all the windows. The door mirrors are retracted* and the doors and tailgate are locked. To interrupt closing, press the lock button again.

WARNING

If closing the panorama roof with the remote control key, make sure nothing could become trapped.



03 Your driving environment

Power panorama roof*

Wind deflector



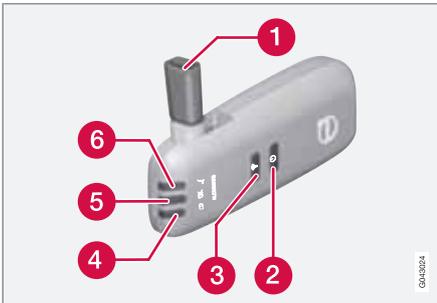
The panorama roof has a wind deflector that is folded up when the panorama roof is in the open position.

**Alcolock*****General information on the Alcolock**

The function of the Alcolock is to prevent the car from being driven by individuals under the influence of alcohol. Before the engine can be started the driver must take a breath test that verifies that he/she is not under the influence of alcohol. Alcolock calibration takes place in accordance with each market's limit value in force for driving legally.

! WARNING

The Alcolock is an aid and does not exempt the driver from responsibility. It is always the responsibility of the driver to be sober and to drive the car safely.

Functions

1. Nozzle for breath test.
2. Switch.
3. Transmission button.
4. Lamp for battery status.
5. Lamp for result of breath test.
6. Lamp indicates ready for breath test.

Operation**Battery**

Alcolock indicator lamp (4) shows battery status:

Lamp (4)	Battery status
Green flashing	Charging in progress
Green	Fully charged
Yellow	Semi-charged
Red	Discharged - fit the charger in the holder or connect the power supply cable from the glovebox.

i NOTE

Store the Alcolock in its holder. This will keep the built-in battery fully charged and the Alcolock is activated automatically when the car is opened.

Before starting the engine

The Alcolock is activated automatically and is then ready for use when the car is opened.

1. When indicator lamp (6) is green the Alcolock is ready for use.
2. Withdraw the Alcolock from its holder. If the Alcolock is outside the car when it is unlocked then it must first be activated with the switch (2).
3. Fold up the nozzle (1), take a deep breath and blow with an even pressure until a "click" is heard after approx. 5 seconds. The result will be one of the alternatives in the following table **Result after breath test**.
4. If no message is shown then the transmission to the car may have failed - in which case, press button (3) to transmit the result to the car manually.
5. Fold down the nozzle and refit the Alcolock in its holder.
6. Start the engine following an approved breath test within 5 minutes - otherwise it must be repeated.



Alcoguard*

Result after breath test

Lamp (5) + Display text	Specification
Green lamp + Alcoguard Approved test	Start the engine - no alcohol content measured.
Yellow lamp + Alcoguard Approved test	Engine starting possible - measured alcohol content is above 0.1 promille but below the limit value in force ^A .
Red lamp + Disapproved test Wait 1 minute	Engine starting not possible - measured alcohol content is above the limit value in force ^A .

^A Limits vary between countries, so find out what limits apply. See also the section entitled General information on the Alcolock on page 103

i NOTE

After a completed period of driving, the engine can be restarted within 30 minutes without a new breath test.

To bear in mind

Before the breath test

In order to obtain correct function and as accurate a measurement result as possible:

- Avoid eating or drinking approx. 5 minutes before the breath test.
- Avoid excess windscreen washing - the alcohol in the washer fluid may result in an incorrect measurement result.

Change of driver

In order to ensure that a new breath test is carried out in the event of a change of driver - depress the switch (2) and the send button (3) simultaneously for approx. 3 seconds. At which point the car returns to start inhibition mode and a new approved breath test is required before starting the engine.

Calibration and service

The Alcolock must be checked and calibrated at a workshop¹ every 12 months.

30 days before recalibration is necessary the display shows **Alcoguard Calibr. required**. If calibration is not carried out within these 30 days then normal engine starting will be blocked - only starting with the Bypass func-

tion will then be possible, see page 105 section Emergency situation.

The message can be cleared by pressing the send button (3) once. Otherwise it goes out by its own after approx. 2 minutes but then reappears each time the engine is started - only recalibration at a workshop¹ can clear the message permanently.

Cold or hot weather

The colder the weather the longer it takes before the Alcolock is ready for use:

Temperature (°C)	Maximum heating time (seconds)
+10 — +85	10
-5 — +10	60
-40 — -5	180

At temperatures below -20 °C or above +60 °C the Alcolock requires additional power supply. The display shows **Alcoguard insert power cable**. In which case, connect the power supply cable from the glovebox and wait until indicator lamp (6) is green.

¹ An authorised Volvo workshop is recommended.

* Option/accessory, for more information, see Introduction.

**Alcoguard***

In extremely cold weather the heating time can be reduced by taking the Alcolock indoors.

Emergency situation

In the event of an emergency situation, or if the Alcolock is out of order or has been removed, it is possible to bypass the Alcolock in order to drive the car.

**NOTE**

All Bypass activation is logged and saved in memory, see page 10 in the section, Recording data.

After the Bypass function has been activated the display shows **Alcoguard Bypass enabled** the whole time while driving and can only be reset by a workshop¹.

The Bypass function can be tested without the error message being logged - in which case, carry out all the steps without starting the car. The error message is cleared when the car is locked.

When the Alcolock is installed, either the Bypass or Emergency function is selected as the bypassing option. This setting can be changed afterwards at a workshop¹.

Activating the Bypass function

- Depress and hold the left-hand stalk switch **READ** button and the button for hazard warning flashers simultaneously for approx. 5 seconds - the display first shows **Bypass activated Wait 1 minute** and then **Alcoguard Bypass enabled** - after which the engine can be started.

This function can be activated several times. The error message shown during driving can only be cleared at a workshop¹.

Activating the Emergency function

- Depress and hold the left-hand stalk switch **READ** button and the button for hazard warning flashers simultaneously for approx. 5 seconds - the display shows **Alcoguard Bypass enabled** and the engine can be started.

This function can be used once, after which a reset must be made at a workshop¹.

Symbols and display messages

In addition to the previously described messages, the combined instrument panel's display can also show the following:

Display text	Meaning/Action
Alcoguard Restart possible	The engine has been switched off for less than 30 minutes - engine starting possible without new test.
Alcoguard Service required	Contact a workshop ¹ .
Alcoguard No signal	Transmission failed - send manually with button (3) or take a new breath test.
Alcoguard Invalid test	Test failed - take a new breath test.
Alcoguard Blow longer	Blowing too short - blow for longer.
Alcoguard Blow softer	Blowing too hard - blow more gently.

¹ An authorised Volvo workshop is recommended.



03 Your driving environment

Alcoguard*

Display text	Meaning/Action
Alcoguard Blow harder	Blowing too weak - blow harder.
Alcoguard wait Preheating	Heating not finished - wait for text Alcoguard Blow 5 seconds.

03



Starting the engine

Petrol and diesel engines



Ignition switch with inserted remote control key and **START/STOP ENGINE** button.

IMPORTANT

Do not press in the remote control key incorrectly turned - Hold the end with the detachable key blade, see page 49.

1. Fit the remote control key in the ignition switch - Gently press the key until it is drawn into the lock. Note that if the car is equipped with an alcohol lock then a breath test must first be approved before the engine can be started, see page 103.

2. Hold the clutch pedal fully depressed¹. (For cars with automatic gearbox - Depress the brake pedal.)
3. Press the **START/STOP ENGINE** button and then release it.

The starter motor works until the engine has started, but for no longer than 10 seconds (diesel up to 60 seconds).

If the engine does not start - try again by holding in the **START/STOP ENGINE** button until the engine starts.

WARNING

Always remove the remote control key from the ignition switch when leaving the car - especially if there are children in the car. For information on how the key is removed from the ignition switch, see page 74.

NOTE

The idling speed can be noticeably higher than normal for certain engine types during cold starting. This is so that the emissions system can reach normal operating temperature as quickly as possible, which minimises exhaust emissions and protects the environment.

Keyless drive

Follow steps 2–3 for starting petrol and diesel engines. For more information on Keyless drive, see page 53.

NOTE

One precondition for starting the car is that one of the car's remote control keys with the keyless drive* function is located inside the passenger compartment or the cargo area.

WARNING

Never remove the remote control key with the Keyless drive* function from the car while driving or during towing.

Stop the engine

To switch off the engine - Press **START/STOP ENGINE**.

If the car has an automatic gearbox and the gear selector is not in a position **P** or if the car is moving - Press twice or hold the button depressed until the engine stops.

Steering lock

The steering lock opens when the **START/STOP ENGINE** button is depressed after the

¹ If the car is moving then it is enough to press the **START/STOP ENGINE** button to start the car.



Starting the engine

remote control key has been pressed into the ignition switch.

The steering lock is activated when the driver's door is opened after the engine has been switched off.

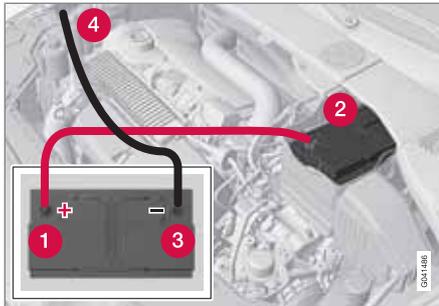
Key positions

For information on the remote control key's different key positions, see page 74



Starting the engine – external battery

Jump starting



If the battery is flat then the car can be started with current from another battery.

The following points are recommended when using a donor battery in order to avoid the risk of an explosion:

1. Insert the remote control key in key position **0**, see page 74.
2. Ensure that the donor battery is 12 volt.
3. If the donor battery is in another car, switch off the donor car's engine in the other car and ensure that the cars do not touch one another.
4. Connect the red jump lead to the positive terminal on the donor battery **1**.

5. Open the clips on the front cover of the battery in your car and remove the cover, see page 272.
6. Connect the red jump lead to the battery's positive terminal **2**.
7. Connect one end of the black jump lead to the donor battery's negative terminal **3**.

! IMPORTANT

Connect the start cable carefully to avoid short circuits with other components in the engine compartment.

8. Connect the other clamp to an earthing point, (right-hand engine mounting at the top, the outer screw head) **4**. Check that the jump lead clamps are fixed securely so that there are no sparks during the starting procedure.
9. Start the engine of the "donor car". Let the engine run a few minutes at a speed slightly higher than idle (1500 rpm).
10. Start the engine of the car with the flat battery. Do not touch the crocodile clips during the start procedure. There is a risk of sparks forming.

11. Remove the jump leads, first the black and then the red.

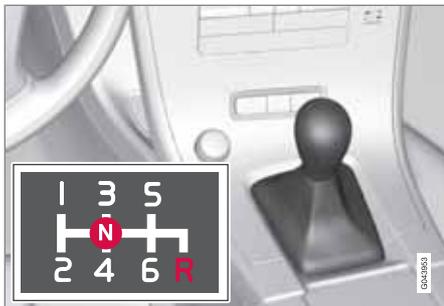
Make sure that none of the clamps on the black jump lead comes into contact with the battery's positive terminal or the clamp connected to the red jump lead.

! WARNING

The battery can generate oxyhydrogen gas, which is highly explosive. One spark, which can be generated if you connect a jump lead incorrectly, is sufficient to make the battery explode. The battery contains sulphuric acid, which can cause serious burns. If the acid comes into contact with eyes, skin or clothing, flush with large quantities of water. If acid splashes into the eyes, seek medical attention immediately.

Gearboxes

Manual gearbox



Gearshift pattern 6-speed gearbox.

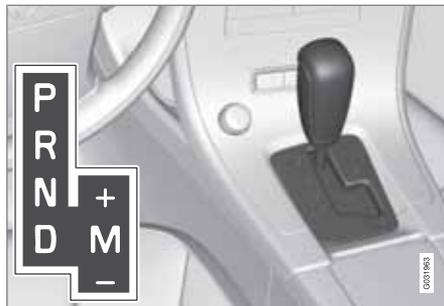
- Depress the clutch pedal fully during each gear change.
- Take your foot off the clutch pedal between gear changes.

Reverse gear inhibitor

The reverse gear inhibitor hinders the possibility of mistakenly attempting to engage reverse gear during normal forward travel.

- Start from neutral position **N** and only engage reverse gear **R** when the car is stationary.

Automatic gearbox, Geartronic*



D: Automatic gear positions. **M (+/-)**: Manual gear positions.

The information display shows the position of the gear selector using the following indications: **P**, **R**, **N**, **D**, **S**, **1**, **2**, **3**, **4** **5** or **6**, see page 69.

Gear positions

Parking position (P)

Select **P** when starting the engine or when the car is parked. The brake pedal must be depressed to disengage the gear selector from the **P** position.

The gearbox is mechanically blocked when the **P** position is engaged. Activate the electric parking brake by pressing the button, see page 120.

IMPORTANT

The car must be stationary when position **P** is selected.

Reverse (R)

The car must be stationary when position **R** is selected.

Neutral position (N)

No gear is engaged and the engine can be started. Apply the parking brake if the car is stationary with the gear selector in position **N**.

Drive (D)

D is the normal driving position. Shifting up and down takes place automatically based on the level of acceleration and speed. The car must be stationary when the gear selector is moved to position **D** from position **R**.

Geartronic – Manual gear positions (+/-)

The driver can also change gear manually using the Geartronic automatic gearbox. The car engine-brakes when the accelerator pedal is released.

Manual gearshift mode is obtained by moving the lever to the side from position **D** to the end position at **+/-**. The information display shifts the indication from **D** to one of the figures **1** – **6**, which is equivalent to the gear that is engaged just then, see page 69.



Gearboxes

- Move the lever forwards towards + (plus) to change up a gear and release the lever, which returns to its rest position between + and -.

or

- Pull the lever back towards - (minus) to change down a gear and release it.

The manual gearshift mode (+/-) can be selected at any time while driving.

Geartronic automatically shifts down if the driver allows the speed to decrease lower than a level suitable for the selected gear, in order to avoid jerking and stalling.

To return to automatic driving mode:

- Move the lever to the side to the end position at **D**.

i NOTE

If the gearbox has a Sport programme then the gearbox will only become manual after the lever has been moved forwards or backwards in its (-+/-) position. The information display then shifts the indication from **S** to show which of the gears 1-6 is engaged.

Geartronic - Sport mode (S)¹

The Sport programme provides sportier characteristics and allows higher engine speed for the gears. At the same time it responds more quickly to acceleration. During active driving, the use of a lower gear is prioritised, leading to a delayed upshift.

Sport mode is obtained by moving the lever to the side from **D** position to the end position at +/- . The information display shifts the indication from **D** to **S**.

Sport mode can be selected at any time while driving.

Geartronic - Winter mode

It can be easier to pull away on slippery roads if 3rd gear is engaged manually.

1. Depress the brake pedal and move the gear lever from the **D** position to the end position at +/- - the instrument panel display shifts the indication from **D** to the figure 1.
2. Scroll up to gear 3 by pushing the lever forward towards + (plus) twice - the display shifts the indication from 1 to 3.
3. Release the brake and accelerate carefully.

The gearbox "winter mode" means that the car moves off with a lower engine speed and reduced engine power on the drive wheels.

Kick-down

When the accelerator pedal is pressed all the way to the floor (beyond the position normally regarded as full acceleration) a lower gear is immediately engaged. This is known as kick-down.

If the accelerator is released from the kick-down position, the gearbox automatically changes up.

Kick-down is used when maximum acceleration is needed, such as for overtaking.

Safety function

To prevent overrevving the engine, the gearbox control program has a protective downshift inhibitor which prevents the kick-down function.

Geartronic does not permit downshifting/kick-down which would result in an engine speed high enough to damage the engine. Nothing happens if the driver still tries to shift down in this way at high engine speed - the original gear remains engaged.

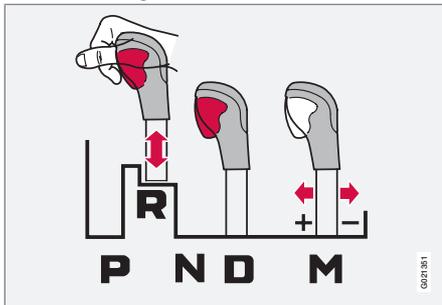
When kick-down is activated the car can change one or more gears at a time depending

¹ Only models D5 and T6.

Gearboxes

on engine speed. The car changes up when the engine reaches its maximum speed in order to prevent damage to the engine.

Mechanical gear selector inhibitor



The gear selector can be moved forward and back freely between **N** and **D**. Other positions are locked with a latch that is released with the inhibitor button on the gear selector.

With the inhibitor button depressed the lever can be moved forwards or backwards between **P**, **R**, **N** and **D**.

Automatic gear selector inhibitor

The automatic gearbox has special safety systems:

Keylock

To remove the remote control key from the ignition switch, the gear selector must be in the **P** position. The remote control key is locked in all other positions.

Parking position (P)

Stationary car with engine running:

Keep your foot on the brake pedal when moving the gear selector to another position.

Electric gear inhibitor – Shiftlock Parking position (P)

To be able to move the gear selector from **P** to other gear positions, the brake pedal must be depressed and the remote control key must be in position **II**, see page 74.

Shiftlock – Neutral (N)

If the gear selector is in the **N** position and the car has been stationary for at least 3 seconds (irrespective of whether the engine is running) then the gear selector is locked.

To be able to move the gear selector from **N** to other gear positions, the brake pedal must be depressed and the remote control key must be in position **II**, see page 74.

Deactivating the automatic gear selector inhibitor



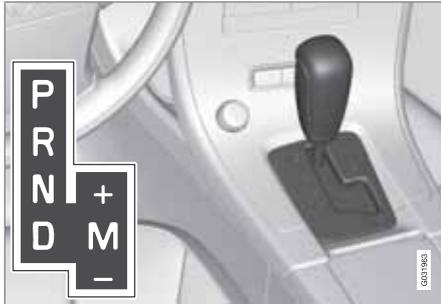
If the car cannot be driven, e.g. due to a flat battery, the gear selector must be moved from the **P** position so that the car can be moved.

- 1 Lift the rubber mat in the compartment behind the centre console and open the hatch.
- 2 Fully insert the key blade. Press the key blade down and hold (For information on the key blade, see page 49.)
- 3 Move the gear selector from the **P** position.



Gearboxes

Automatic gearbox, Powershift*²



D: Automatic gear positions. **M (+/-):** Manual gear positions.

Powershift is a six-stage automatic gearbox that has double mechanical clutch discs in contrast to a conventional automatic gearbox. A conventional automatic gearbox has a hydraulic torque converter that transfers power from the engine to the gearbox.

Powershift transmission operates in the same way and has similar controls and functions as

the Geartronic automatic transmission, described in the previous section.

HSA

The HSA (Hill Start Assist) function means that the pressure in the brake system remains for several seconds while the foot is moved from the brake pedal to the accelerator pedal before setting off or reversing uphill.

The temporary braking effect releases after several seconds or when the driver accelerates.

To bear in mind

The transmission's double clutch has overload protection that is activated if it becomes too hot, e.g. if the car is held stationary with the accelerator pedal on an uphill gradient for a long time.

Overheated transmission causes the car to shake and vibrate, and the warning symbol illuminates and the information display shows a message. The transmission can also overheat

during slow driving in queues (10 km/h or slower) on an uphill gradient, or with a trailer hitched. The transmission cools down when the car is stationary, with foot brake depressed and the engine running at idling speed.

Overheating during slow driving in queues can be avoided by driving in stages: Stop the car and wait with your foot on the brake pedal until there is a moderate distance to the traffic ahead, drive forward a short distance, and then wait another moment with your foot on the brake pedal.



IMPORTANT

Use the foot brake to hold the car stationary on an uphill gradient - do not hold the car with the accelerator pedal. The gearbox could then overheat.

Text message and action

In some situations the display may show a message at the same time as a symbol is illuminated.

² Only 4-cyl. model 2.0, 2.0T, 2.0F.



03 Your driving environment

Gearboxes

Symbol	Display	Driving characteristics	Action
	Transm. overheat brake to hold	Difficulty in maintaining even speed at constant engine speed.	Transmission overheated. Keep the car stationary using the foot brake. ^A
	Transm. overheat park safely	Significant pulling in the car's traction.	Transmission overheated. Park the car immediately in a safe manner. ^A
	Transm. cooling let engine run	No drive due to overheated gearbox.	Transmission overheated. For fastest cooling: Run the engine at idling speed with the gear lever in the N or P position until the message clears.

^A For fastest cooling: run the engine at idling speed with the gear lever in the **N** or **P** position, until the message clears.

The table shows three steps with an increased degree of seriousness should the transmission become too hot. In parallel with the display text the driver is also advised that the car's electronics are temporarily changing the driving characteristics. Follow the instructions on the information display where appropriate.

NOTE

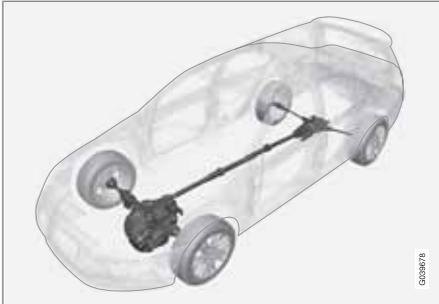
The table's examples are no indication that the car is defective but instead show that a safety function has been activated intentionally to prevent damage to one of the car's components.

WARNING

If a warning symbol combined with the text **Transm. overheat park safely** is ignored then the heat in the gearbox may become so high that the power transmission between engine and gearbox is temporarily halted in order to prevent the clutch from malfunctioning - the car then loses drive and is stationary until gearbox temperature has cooled to an acceptable level.

For more possible display messages with their respective proposals for solutions concerning automatic transmission, see page 132.

A display text clears automatically after the action has been carried out or after one press on the indicator stalk **READ** button.

**All-wheel drive – AWD*****All Wheel Drive is always available**

All Wheel Drive means that the car is driving all four wheels at the same time.

The power is automatically distributed between the front and rear wheels. An electronically controlled clutch system distributes the power to the wheels that have the best grip on the current road surface. This provides the best traction and prevents wheel spin. Under normal driving conditions, the majority of power is transmitted to the front wheels.

All Wheel Drive improves driving safety in rain, snow and icy conditions.



Foot brake

General

The car is equipped with two brake circuits. If one brake circuit is damaged then this will mean that the brakes engage at a deeper level and harder pressure on the pedal is needed to produce the normal braking effect.

The driver's brake pedal pressure is assisted by a brake servo.

WARNING

The brake servo only works when the engine is running.

If the brake is used when the engine is switched off then the pedal will feel stiff and more force must be used to brake the car.

In very hilly terrain or when driving with a heavy load the brakes can be relieved by using engine braking. Engine braking is most efficiently used if the same gear is used downhill as up.

For more general information on heavy loads on the car, see page 297.

Anti-lock braking system

The car is equipped with ABS (Anti-lock Braking System) which prevents the wheels from locking during braking. This means the ability to steer is maintained and it is easier to swerve to avoid a hazard for example. Vibration

may be felt in the brake pedal when this is engaged and this is normal.

A short test of the ABS system is made automatically after the engine has been started when the driver releases the brake pedal. A further automatic test of the ABS system may be made when the car reaches 40 km/h. The test may be experienced as pulses in the brake pedal.

Emergency brake lights and automatic hazard warning flashers

Emergency brake lights are activated to alert vehicles behind about sudden braking. The function means that the brake light flashes instead of - as in normal braking - shining with a constant glow.

Emergency brake lights are activated at speeds above 50 km/h if the ABS system is working and/or in the event of sudden braking. After the car's speed has been slowed below 10 km/h the brake light returns from flashing to the normal constant glow - while at the same time the hazard warning flashers are activated, and they flash until the driver changes engine speed with the accelerator pedal or they are deactivated with their button, see page 85.

Cleaning the brake discs

Coatings of dirt and water on the brake discs may result in delayed brake function. This delay is minimised by cleaning the brake linings.

Manual cleaning is advisable with wet road surfaces, prior to long-stay parking and after the car has been washed. Carry this out by braking gently during a short period while en route.

Emergency Brake Assistance

Emergency Brake Assistance EBA (Emergency Brake Assist) helps to increase brake force and so reduce braking distance. EBA detects the driver's braking style and increases brake force as necessary. The brake force can be reinforced up to the level when the ABS system is engaged. The EBA function is interrupted when the pressure on the brake pedal is reduced.

NOTE

When EBA is activated the brake pedal lowers slightly more than usual, depress (hold) the brake pedal as long as necessary. If the brake pedal is released then all braking ceases.



Symbols in the combined instrument panel

Symbol	Specification
	Constant glow – Check the brake fluid level. If the level is low, fill with brake fluid and check for the cause of the brake fluid loss.
	Constant glow for 2 seconds when the engine is started – There was a fault in the brake system's ABS function when the engine was last running.

WARNING

If  and  illuminate at the same time, there may be a fault in the brake system.

If the level in the brake fluid reservoir is normal at this stage, drive carefully to the nearest workshop and have the brake system checked - an authorised Volvo workshop is recommended.

If the brake fluid is under the **MIN** level in the brake fluid reservoir, do not drive further before topping up the brake fluid.

The reason for the loss of brake fluid must be investigated.



03 Your driving environment

Hill Descent Control (HDC)

General

HDC can be compared to an automatic engine brake. When you release the accelerator on downhill gradients the car is normally braked by means of the engine striving for low engine idling speeds, so-called engine braking. But the steeper the road and the more load there is in the car, the faster the car rolls despite engine braking. In order to then reduce speed the driver has to assist using the footbrake.

The function makes it possible to increase/reduce speed on steep downhill gradients, with a foot only on the accelerator pedal, without using the footbrake. The sensitivity of the accelerator pedal decreases and becomes more precise by means of the full actuation of the pedal being restricted to adjusting engine speed within a limited range. The brake system brakes itself and provides the car with a low and even speed, so allowing the driver to fully focus on steering.

HDC is particularly helpful on steep gradients with an uneven road surface and slippery sections. E.g. when launching a boat on a trailer from a ramp.

WARNING

HDC does not work in all situations, but is instead only intended to be supplementary assistance.

The driver always has ultimate responsibility that the car is driven safely.

Function



HDC is engaged or disengaged using a switch on the centre console. An indicator lamp in the button illuminates when the function is switched on. When HDC is operating the

 symbol illuminates and the display shows **Hill descent control ON**.

The function only operates in first gear position and in reverse gear. For an automatic gearbox,

gear position 1 must be selected, which is shown with the figure 1 in the trip computer display, see page 110.

NOTE

HDC cannot be activated in an automatic gearbox with the gear selector in position **D**.

Operation

HDC allows the car to roll at a maximum of 10 km/h forwards with engine braking and 7 km/h backwards. However, any speed within the gear's speed register can be selected using the accelerator pedal. When the accelerator pedal is released, the car is braked quickly to 10 or 7 km/h respectively, irrespective of the hill's gradient and without the need for the footbrake.

The brake lights come on automatically when the function is operating. The driver can brake or stop the car at any time by using the footbrake.

HDC is deactivated:



Hill Descent Control (HDC)

- with the on/off button on the centre console
- if a gear higher than **1** is selected on a manual gearbox
- if a gear higher than **1** is selected on an automatic gearbox, or if the gear selector is moved to position **D**.

The function can be disengaged at any time. If it takes place on a steep downhill gradient then the braking effect will not release directly, but slowly instead.

NOTE

With HDC activated you may experience a delay between acceleration pedal activation and engine response.



Parking brake

Parking brake, electric

Function

A faint electric motor noise can be heard when the parking brake is being applied. The noise can also be heard during the automatic function checking of the parking brake.

If the car is stationary when the parking brake is applied then it only acts on the rear wheels. If it is applied when the car is moving then the normal foot brake is used, i.e. the brake acts on all four wheels. Brake function changes over to the rear wheels when the car is almost stationary.

Low battery voltage

If the battery voltage is too low then the parking brake can neither be released nor applied. Connect a donor battery if the battery voltage is too low, see page 109.

Applying the parking brake



Parking brake control.

1. Press the foot brake pedal down firmly.
 2. Press the control.
 3. Release the foot brake pedal and make sure that the car is at a standstill position.
- When parking the vehicle, always engage 1st gear (for manual gearbox) or put the gear selector in position **P** (for automatic gearbox).

 The symbol in the combined instrument panel flashes until the parking brake is fully applied. When the symbol illuminates the parking brake is applied.

In an emergency the parking brake can be applied when the vehicle is moving by depressing the control. When the control is released or

the accelerator pedal is depressed the braking is interrupted.



NOTE

In the event of emergency braking at speeds above 10 km/h a signal sounds during the braking procedure.

Parking on a hill

If the car is parked facing uphill; turn the wheels **away from** the kerb.

If the car is parked facing downhill, turn the wheels **towards** the kerb.



WARNING

Get into the habit of always applying the parking brake when parking on a slope - leaving the car in gear, or in **P** if it has automatic transmission, is not sufficient to hold the car in all situation.



Parking brake

Disengaging the parking brake



Parking brake control.

Cars with manual gearbox

Releasing manually

1. Insert the remote control key in the ignition switch.
2. Depress the brake pedal firmly.
3. Pull the control.



NOTE

The parking brake can also be released manually by depressing the clutch pedal instead of the brake pedal. Volvo recommends the use of the brake pedal.

Releasing automatically

1. Start the engine.

2. Ease up the clutch and depress the accelerator.

Cars with automatic gearbox

Releasing manually

1. Insert the remote control key in the ignition switch.
2. Depress the brake pedal firmly.
3. Pull the control.

Releasing automatically

1. Put the seatbelt on.
2. Start the engine.
3. Move the gear selector to position **D** or **R** and depress the accelerator.



NOTE

For safety reasons, the parking brake is only released automatically if the engine is running and the driver is wearing a seatbelt. The parking brake is released immediately on cars with automatic gearbox when the accelerator pedal is depressed and the gear selector is in position **D** or **R**.

Heavy load uphill

A heavy load, such as a trailer, can cause the car to roll backward when the parking brake is released automatically on a steep incline. Avoid this by depressing the control while driv-

ing off. Release the control when the engine achieves traction.

Cars with Keyless drive function

Release manually by pressing the **START/STOP ENGINE** button, then depress the brake or clutch pedal and pull the control.

Symbols

Symbol	Specification
	Read the message on the information display
	A flashing symbol indicates that the parking brake is applied. If the symbol flashes in any other situation then this means that a fault has arisen. Read the message on the information display.



03 Your driving environment

Parking brake

Messages



Park brake not fully released - A fault is preventing the parking brake from being released. Visit a workshop - an authorised Volvo workshop is recommended. A warning signal sounds if you pull away with this error message.

Parking brake not applied - A fault is preventing the parking brake from being applied. Try to apply and release. Visit a workshop if the message remains - a Volvo workshop is recommended.

The message is also illuminated on cars with manual gearbox when the car is driven at low speed with the door open in order to alert the driver that the parking brake may have been unintentionally disengaged.

Parking brake Service required - A fault has arisen. Visit a workshop if the fault persists - a Volvo workshop is recommended.

If the car has to be parked before the fault has been rectified then the wheels must be turned as if parking on a hill and 1st gear engaged (manual gearbox) or the gear selector must be in position **P** (automatic gearbox).

Replacing the brake linings

The rear brake linings must be replaced at a workshop due to the design of the electric parking brake - an authorised Volvo workshop is recommended.



General



HomeLink® is a programmable remote control which can control up to three different devices (e.g. garage door, alarm system, outdoor lighting and indoor lighting etc.) and in doing so replace their remote controls. HomeLink® is supplied built into the left-hand sun visor.

The HomeLink® panel consists of three programmable buttons and one indicator lamp.

NOTE

HomeLink® is designed not to work if the car is locked from the outside.

Save the original remote controls for future programming (e.g. when switching to another car).

Delete the button programming when the car is to be sold.

Metallic sun visors should not be used in cars fitted with HomeLink®. This may have an adverse effect on its function.

Operation

When HomeLink® is fully programmed it can be used in place of the separate original remote controls.

Depress the programmed button to activate the garage door, alarm system etc. The indicator lamp illuminates for the time that the button is kept depressed.

NOTE

If the ignition is not activated, HomeLink® will work for 30 minutes after the driver's door has been opened.

The original remote controls can of course be used in parallel with HomeLink®.

WARNING

If HomeLink® is used to operate a garage door or gate, ensure that nobody is in the vicinity of the door or gate while it is in motion.

Do not use the HomeLink® remote control for any garage door that does not have safety stop and safety reverse. The garage door must react immediately when it detects that something is preventing its movement, and stop directly and reverse. A garage door without these characteristics could cause personal injury. For further information - contact the supplier via the Internet: www.homelink.com.

Programming for the first time

The first step erases the memory in HomeLink® and must not be carried out when only one individual button is being reprogrammed.

1. Depress the two outer buttons and do not release until the indicator lamp starts to flash after approx. 20 seconds. The flashing indicates that HomeLink® is set in "learn mode" and is ready to be programmed.
2. Position the original remote control 5-30 cm from HomeLink®. Monitor the indicator lamp.



HomeLink® *

The particular distance that is required between the original remote control and HomeLink® depends on the programming of the device in question. Perhaps several attempts will be required at different distances. Maintain each position for approx. 15 seconds before trying a new one.

3. Depress the button for the original remote control and the button to be programmed on HomeLink® simultaneously. Do not release the buttons until the indicator lamp has changed over from slow to rapid flashing. The rapid flashing indicates successful programming.
4. Test the programming by depressing the programmed button on HomeLink® and watching the indicator lamp:
 - **Constant glow:** The indicator lamp illuminates with a constant glow when the button is kept depressed, this indicates that the programming is complete. The garage door, gate or similar should now be activated when the programmed HomeLink® button is depressed.
 - **Glow not constant:** The indicator lamp flashes quickly for approx. 2 seconds and then changes over to a constant glow for approx. 3 seconds. This proc-

ess is repeated for approx. 20 seconds and indicates that the device has a "rolling code". The garage door, gate or similar is not activated when the programmed HomeLink® button is depressed. Continue the programming in accordance with the following.

5. Locate the "programming button"¹ on the receiver for the garage door for example, normally located close to the antenna's bracket on the receiver. If you have difficulty in finding the button - consult the supplier's manual, or contact the supplier via the Internet: www.homelink.com.
6. Depress and release the "programming button". The button flashes for approx. 30 seconds and the next step must be carried out within this period.
7. Depress the programmed button on HomeLink®, while the "programming button" is still flashing, keep it depressed for approx. 3 seconds and then release. Repeat the press/hold/release sequence up to 3 times to conclude the programming.

Programming individual buttons

To reprogram an individual button, proceed in accordance with the following:

1. Depress the required button on HomeLink® and do not release until step 3 has been completed.
2. When the indicator lamp on HomeLink® starts to flash, after approx. 20 seconds, position the original remote control 5-30 cm from HomeLink®. Monitor the indicator lamp.

The particular distance that is required between the original remote control and HomeLink depends on the programming of the device in question. Perhaps several attempts will be required at different distances. Maintain each position for approx. 15 seconds before trying a new one.

3. Depress the button on the original remote control. The indicator lamp will start to flash. When the flashing has changed over from a slow to a rapid flashing - release both buttons. The rapid flashing indicates successful programming.
4. Test the programming by depressing the programmed button on HomeLink and watching the indicator lamp:

¹ Button designation and colour vary depending on manufacturer.

* Option/accessory, for more information, see Introduction.



- **Constant glow:** The indicator lamp illuminates with a constant glow when the button is kept depressed, this indicates that the programming is complete. The garage door, gate or similar should now be activated when the programmed HomeLink® button is depressed.
 - **Glow not constant:** The indicator lamp flashes quickly for approx. 2 seconds and then changes over to a constant glow for approx. 3 seconds. This process is repeated for approx. 20 seconds and indicates that the device has a "rolling code". The garage door, gate or similar is not activated when the programmed HomeLink® button is depressed. Continue the programming in accordance with the following.
5. Locate the "programming button²" on the receiver for the garage door for example, normally located close to the antenna's bracket on the receiver. If you have difficulty in finding the button - consult the supplier's manual, or contact the supplier via the Internet: www.homelink.com.
 6. Depress and release the "programming button". The button flashes for approx. 30 seconds and the next step must be carried out within this period.
 7. Depress the programmed button on HomeLink®, while the "programming button" is still flashing, keep it depressed for approx. 3 seconds and then release. Repeat the press/hold/release sequence up to 3 times to conclude the programming.

Erasing programming

It is only possible to erase the programming for all the buttons on HomeLink®, not for individual buttons.

- Depress the two outer buttons and do not release until the indicator lamp starts to flash after approx. 20 seconds.
 - > HomeLink® is now set in so-called "learn mode" and is ready to be programmed once more, see page 123.

² Button designation and colour vary depending on manufacturer.

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04

COMFORT AND DRIVING PLEASURE





Menu and messages

Operation

Some of the car's functions do not have separate function keys, but instead can be adjusted/activated/deactivated via a menu system.

Navigation in the menus is carried out using some of the centre console buttons or with the steering wheel's right-hand keypad.

Many functions are standard, some are optional. The range varies depending on market.

Centre console controls



Centre console with controls for menu navigation.

- 1 Navigation button – scrolls and selects among menu options
- 2 **MENU** – leads to the menu system

- 3 **EXIT** – leads back one step in the menu structure. A long press leads out from the menu system.
- 4 **ENTER** – selects menu options
- 5 Numerical keypad 1–9

Steering wheel keypad*



- 1 **ENTER**
- 2 **EXIT**
- 3 Navigation buttons – up/down.

If the steering wheel keypad has **ENTER** and **EXIT** then these buttons, and the navigation buttons, have the same functions as the controls in the centre console.

Search paths

Current menu level is shown at the top right of the centre console display. Search paths to the menu system functions are described in this manual in the following form:

Car settings → Lock settings

The following is an example of how a function can be accessed and adjusted using the centre console buttons:

1. Press **MENU**.
2. Scroll to the desired menu, e.g. **Car settings**, with the navigation buttons and press **ENTER** – a submenu opens.
3. Scroll to **Lock settings** and press **ENTER** – a new submenu opens.
4. Scroll to **Doors unlock** and press **ENTER** – a submenu of selectable functions opens.
5. Choose between the options and press **ENTER** – a cross is marked in the option's empty box.
6. Exit the programming by backing out of the menus incrementally with short presses on **EXIT** or with one long press.

The navigation buttons can be used instead of **ENTER** and **EXIT** when navigating in the menu

**Menus and messages**

hierarchy. The right-hand arrow is equal to **ENTER** and the left-hand arrow to **EXIT**.

The menu options are numbered and can also be selected directly with the numerical keypad (only 1–9).

Menu overview

The phone and audio sources each have separate main menus. An audio source main menu (e.g. CD) can only be accessed when that particular audio source is active, see page 147.

The following menu options are included in **Main menu**:

Car Key memory

Seat & mirror positions*

Car settings

Information

Light settings

Lock settings

Reduced guard¹

Tyre pressure *

Side mirror settings *

Collision warning settings *

Parking camera settings *

Lane departure warning *

Steering force level *

Unit settings

Driver Alert on

Climate settings

Automatic blower adjust

Recirculation timer

Auto. rear defroster

Seat heating time limit.

Seat heating off during starting

Reset climate settings

Main menu AM

Audio settings

Sound stage

Equalizer front

Equalizer rear

Auto. volume control

Reset all audio settings

Main menu FM

FM settings

News

TP (Traffic information)

Radio text

PTY (Program type)

Advanced radio settings

Audio settings²

Main menu DAB *³**Main menu CD**

Random

Off

Folder⁴

Disc⁴

Single disc⁵

All discs⁵

CD settings

Track information *

¹ Available in certain models.

² For submenus, see "Main menu AM/Audio settings".

³ See page 156.

⁴ Only in systems that allow the playback of MP3 and WMA format audio files.

⁵ Only in systems with CD changer.



Menus and messages

News

TP (Traffic information)

Audio settings ²

Main menu AUX

AUX input volume

Audio settings ²

Main menu USB

USB settings

Track information

News

TP (Traffic information)

Audio settings ²

Main menu iPod

iPod settings

News

TP (Traffic information)

Audio settings ²

Track information

Main menu, Bluetooth⁶

Call register

Last 10 missed calls

Last 10 received calls

Last 10 dialled calls

Phone book

Search

Copy fr. mobile phone

Bluetooth *

Change phone⁷

Connect phone⁸

Remove phone

Connect fr. mobile phone

Bluetooth info. for the car

Call options

Automatic answer

Voice mail number

Phone settings

Sounds and volume

Synchronise phone book

Main menu, Bluetooth⁹

Call register

Last 10 missed calls

Last 10 received calls

Last 10 dialled calls

Phone book

Search

Copy fr. mobile phone

Bluetooth *

Connect phone¹⁰

Remove phone

Connect fr. mobile phone

Bluetooth info. for the car

Call options

Automatic answer

² For submenus, see "Main menu AM/Audio settings".

⁶ Applies to cars that do **not** have built-in phone.

⁷ Only shown if a phone is connected.

⁸ Only shown if no phone is connected.

⁹ Applies to cars **with** built-in phone **and** Bluetooth™ handsfree.

¹⁰ Only shown if no phone is connected.



Menus and messages

Voice mail number

Change phone

Car phone

Add phone

Added phones¹¹

Phone settings

Sounds and volume

Synchronise phone book

Main menu, built-in phone

Call register

Last 10 missed calls

Last 10 received calls

Last 10 dialled calls

Erase list

Call duration

Phone book

Search

New contact

Copy all

Speed-dial

Erase SIM

Erase phone

Memory status

Messages

Read

Write new

Delete all messages

Message settings

Call options

Send my number

Call waiting

Automatic answer

Auto redial

Voice mail number

Diversions

Change phone⁹

Car phone

Add phone

Added phones¹¹

Phone settings

Network selection

SIM security

Edit PIN code

Sounds and volume

IDIS

Reset Phone settings

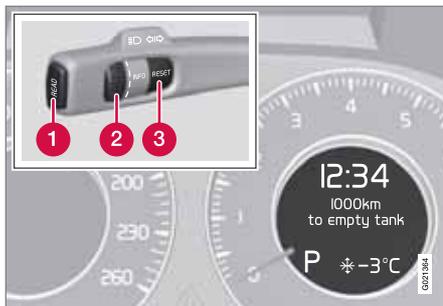
¹¹A maximum of 5 phones.

⁹ Applies to cars **with** built-in phone **and** Bluetooth™ handsfree.



Menus and messages

Combined instrument panel



Information display and controls for menus.

- 1 **READ** – access to message list and message confirmation.
- 2 Thumbwheel – browse between menu options.
- 3 **RESET** – reset the active function. Used in certain cases to select/activate a function, see the explanation under each respective function.

The menus shown on the information displays in the combined instrument panel are controlled with the left-hand stalk switch. The menus shown depend on key position, see page 74. If a message appears then this must be acknowledged with **READ** for the menus to be shown.

Menu overview

Some of the following menu options require the function and hardware to be installed in the car.

To empty fuel tank

Average

Instantaneous

Average speed

DSTC

City Safety

Current speed¹²

Tyre pressure Calibration *

Park heat timer 1/2*

Park vent timer 1/2*

Park timer mode*

Direct start Park heat*

Direct start Park el.heat*

Direct start Park vent*

Additional heat auto*

Rest heat start*

Message



Text message in the information display.

When a warning, information or indicator symbol illuminates, a corresponding message appears on the information display. An error message is stored in a memory list until the fault is rectified.

Press **READ** to acknowledge and browse between the messages.

NOTE

If a warning message appears while you are using the trip computer, the message must be read (press **READ**) before the previous activity can be resumed.



Menus and messages

Message	Specification
Stop safely^A	Stop and switch off the engine. Serious risk of damage. Volvo recommends that you contact an authorised Volvo workshop.
Stop engine^A	Stop and switch off the engine. Serious risk of damage. Volvo recommends that you contact an authorised Volvo workshop.
Service urgent^A	Volvo recommends that you engage an authorised Volvo workshop to check the car immediately.
Service required^A	Volvo recommends that you engage an authorised Volvo workshop to check the car as soon as possible.
See manual^A	Read the owner's manual.

Message	Specification
Book time for maintenance	Time to book regular service. Volvo recommends that you contact an authorised Volvo workshop.
Time for regular maintenance	Time for regular service. Volvo recommends that you contact an authorised Volvo workshop. The timing is determined by the number of kilometres driven, number of months since the last service, engine running time and oil grade.
Maintenance overdue	If the service intervals are not followed then the warranty does not cover any damaged parts. Volvo recommends that you contact an authorised Volvo workshop for service.

Message	Specification
Transmission oil Change needed	Volvo recommends that you engage an authorised Volvo workshop to check the car as soon as possible.
Transmission performance low	The gearbox cannot handle full capacity. Drive carefully until the message clears ^B . If shown repeatedly: Volvo recommends that you contact an authorised Volvo workshop.
Transmission hot Reduce speed	Drive more smoothly or stop the car in a safe manner. Disengage the gear and run the engine at idling speed until the message clears ^B .
Transmission hot Stop safely	Critical fault. Stop the car immediately in a safe manner. Volvo recommends that you contact an authorised Volvo workshop ^B .

^AOnly certain markets.



Menus and messages

Message	Specification
Temporarily OFF^A	A function has been temporarily switched off and is reset automatically while driving or after starting again.
Low battery Power save mode	The audio system is switched off to save energy. Charge the battery.

^A Part of message, shown together with information on where the problem has arisen.

^B For more messages concerning automatic transmission, see page 113.



General

Air conditioning

The car is equipped with Electronic Climate Control (ECC). The climate control system cools or heats as well as dehumidifies the air in the passenger compartment.

NOTE

The air conditioning system (AC) can be switched off, but to ensure the best possible climate comfort in the passenger compartment and to prevent the windows from misting, it should always be on.

Actual temperature

The temperature you select corresponds to the physical experience with reference to factors such as air speed, humidity and solar radiation etc. in and around the car.

The system includes a sun sensor* which detects on which side the sun is shining into the passenger compartment. This means that the temperature can differ between the right and left-hand air vents despite the controls being set for the same temperature on both sides.

Sensor location

- The sun sensor* is located on the top side of the dashboard.
- The temperature sensor for the passenger compartment is located below the climate control panel.
- The outside temperature sensor is located on the door mirror.
- The humidity sensor* is located in the interior rearview mirror.

NOTE

Do not cover or block the sensors with clothing or other objects.

Side windows and panorama roof

To ensure that the air conditioning works optimally the side windows, and panorama roof if appropriate, should be closed.

Misting windows

Remove misting on the insides of the windows by primarily using the defroster function.

To reduce the risk of misting, keep the windows clean and use window cleaner.

Temporary shut-off of the air conditioning

When the engine requires full power, e.g. for full acceleration or driving uphill with a trailer, the

air conditioning can be temporarily switched off. There may then be a temporary increase in temperature in the passenger compartment.

Condensation

In warm weather, condensation from the air conditioning may drip under the car. This is normal.

Ice and snow

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

Fault tracing and repair

Engage a workshop that has authorisation for the fault tracing and repair of the climate control system. Volvo recommends that you contact an authorised Volvo workshop.

Refrigerant

The climate control system contains the refrigerant R134a, see page 299. This refrigerant contains no chlorine, which means that it is harmless to the ozone layer. Engage a workshop that has authorisation for filling/changing refrigerant to carry out the work. Volvo recommends that you contact an authorised Volvo workshop.

Total airing function

The function opens/closes all side windows simultaneously and can be used for example to





Climate control

quickly air the car during hot weather, see page 56.

Passenger compartment filter

All air entering the car's passenger compartment is cleaned with a filter. This must be replaced at regular intervals. Follow the Volvo Service Programme for the recommended replacement intervals. If the car is used in a severely contaminated environment, it may be necessary to replace the filter more often.

NOTE

There are different types of passenger compartment filter. Make sure that the correct filter is fitted.

Clean Zone Interior Package (CZIP)*

This option keeps the passenger compartment clear of allergy and asthma inducing substances. For more information on CZIP, see the brochure included with the purchase of the car.

The following is included:

- An enhanced fan function that means that the fan starts when the car is opened with the remote control key. The fan fills the passenger compartment with fresh air. The function starts when required and is disengaged automatically after a time or when one of the passenger compartment doors is opened. The amount of time the fan runs

is reduced gradually due to reduced need up until the car is 4 years old.

- The air quality system IAQS is a fully automatic system that cleans the air in the passenger compartment from contaminants such as particles, hydrocarbons, nitrous oxides and ground-level ozone.

NOTE

In cars with CZIP the IAQS filter should be changed after 15 000 km or once per year depending on whichever occurs first. However, up to 75 000 km over 5 years. In cars without CZIP the IAQS filter must be changed at the normal service.

Use of tested materials in the interior equipment.

The materials have been developed in order to minimise the quantity of dust in the passenger compartment and they contribute to making the passenger compartment easier to keep clean. The carpets in both the passenger compartment and the cargo area are removable and easy to remove and clean. Use cleaning agents and car care products recommended by Volvo, see page 283.

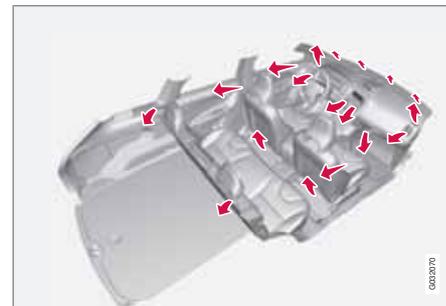
Menu settings

It is possible to change the default settings for three of the climate control system's functions via the centre console, see page 128:

- Fan speed in automatic mode*, see page 138.
- Recirculation timer for passenger compartment air, see page 140.
- Automatic rear window defrosting, see page 97.

All climate control system functions are set to original position with **RESET** via the display.

Air distribution



The incoming air is divided between 20 different vents in the passenger compartment.



Climate control

Air distribution is fully automatic in **AUTO** mode*.

If necessary it can be controlled manually, see page 141.

Air vents in the dashboard

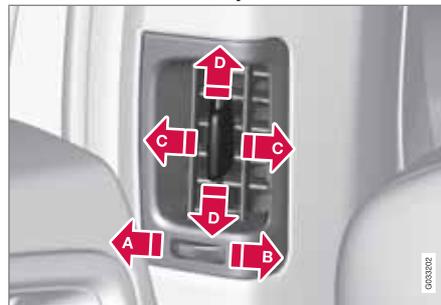


- A** Open
- B** Closed
- C** Lateral airflow
- D** Vertical airflow

Aim the outer vents at the side windows to remove misting.

A certain air flow always comes from the vents in order to maintain a good climate in the passenger compartment.

Air vents in the door pillars



- A** Closed
- B** Open
- C** Lateral airflow
- D** Vertical airflow

Aim the vents at the windows to remove misting.

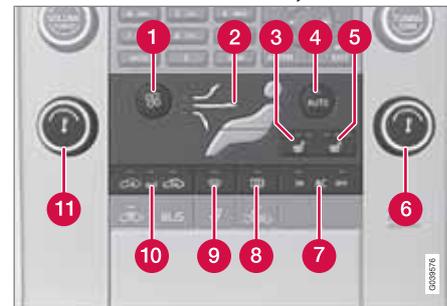
Aim the vents into the passenger compartment to maintain a comfortable climate in the rear seat.

i NOTE

Remember that small children may be sensitive to air flows and draughts.

Climate control

Electronic climate control, ECC



- 1** Fan
- 2** Air distribution
- 3** Heated front seats, left-hand side
- 4** **AUTO**
- 5** Heated front seats, right-hand side
- 6** Temperature control, right-hand side
- 7** **AC ON/OFF** – Air conditioning On/Off
- 8** Rear window and door mirror defrosters, see page 97
- 9** Max. defroster



Climate control

- 10 Recirculation/Air quality system
- 11 Temperature control, left-hand side

Operation

Fan



Turn the knob to increase or decrease fan speed. If **AUTO** is selected then fan speed is regulated automatically. The previously set fan speed is disengaged.

NOTE

If the fan is fully disengaged the air conditioning is not engaged which may result in a risk of misting windows.

Heated seats*

Front seats



Press the button once for the highest heat level – three lamps illuminate.

Press the button twice for a lower heat level – two lamps illuminate.

Press the button three times for the lowest heat level – one lamp illuminates.

Press the button four times to switch off the heat – no lamps illuminate.

The heating is normally switched off at start up. If the heating has been switched on then it is switched off automatically when the engine is switched off. Automatic start of heating can be activated/deactivated in the menu under:

Climate settings → **Seat heating off during starting**

Seat heating is switched off automatically after a while. The function can be deactivated/activated in the menu under: **Climate settings** → **Seat heating time limit**.

For a description of the menu system, see page 128.

WARNING

The heated seat should not be used by people who find it difficult to perceive temperature increase because of sensory loss or for any reason have difficulty in managing to use the control of the heated seat. Otherwise, burn injuries may arise.

Rear seats¹



Heat control takes place in the same way as for the front seat.

Air distribution



The figure consists of three buttons. When the buttons are pressed a lamp in front of the respective part of the figure illuminates and shows which air distribution is selected, see page 141.

¹ Not included if 2-stage booster cushion is selected.



Climate control

Auto



The Auto function automatically regulates temperature, air conditioning, fan speed, recirculation, and air distribution.

If you select one or more manual functions, the other functions continue to be controlled automatically. The air quality sensor is engaged and all manual settings are switched off when **AUTO** is pressed. The display shows **AUTO CLIMATE**.

Fan speed in automatic mode can be set up under the menu: **Climate settings** → **Automatic blower adjust**. Choose between **Low**, **Normal** or **High**:

- **Low** - Automatic fan control. Low airflow is prioritised.
- **Normal** - Automatic fan control.
- **High** - Automatic fan control. A more intense airflow is prioritised.

For a description of the menu system, see page 128.

Temperature control



The temperatures on the driver and passenger sides can be set independently. When the car is started, the most recent setting is resumed.

i NOTE

Heating or cooling cannot be hastened by selecting a higher/lower temperature than the actual temperature required.

AC – Air conditioning on/off



ON: The air conditioning is controlled by the system's Auto function. This way, incoming air is cooled and dehumidified.

OFF: When the defroster function is activated the air conditioning is switched on automatically (can be switched off using the **AC** button).

Defroster



Used to quickly remove misting and ice from the windscreen and side windows. Air flowing to the windows. The light in the defroster button illuminates when the function is active.

The following also takes place in order to provide maximum dehumidification in the passenger compartment:

- the air conditioning is automatically engaged
- recirculation and the air quality system are automatically disengaged.

The air conditioning can be disengaged manually using the **AC** button. When the defroster function is switched off the climate control system returns to the previous settings.



Climate control

Recirculation/Air quality system

Recirculation



When recirculation is engaged the right-hand orange light in the button illuminates. The function is selected to shut out bad air, exhaust gases etc. from the passenger compartment. The

air in the passenger compartment is recirculated, i.e. no outside air is taken into the car when this function is activated.

i NOTE

If the air in the car recirculates for too long, there is a risk of misting on the insides of the windows.

Timer

With the timer function activated the system will exit manually activated recirculation mode according to a time that depends on the outside temperature. This reduces the risk of ice, misting and bad air. Activate/deactivate the function under **Climate settings** →

Recirculation timer. For a description of the menu system, see page 128.

i NOTE

When Defroster is selected, recirculation is always deactivated.

Air quality system*



The air quality system separates gases and particles to reduce the levels of odours and pollution in the passenger compartment. If the outside air is contaminated then the air intake is closed and the air

is recirculated. When the **AUTO** button is depressed the air quality sensor is always engaged.

Activating recirculation/air quality sensor



Switch between the three functions by pressing the button repeatedly.

- The left-hand orange lamp illuminates – the air quality sensor is disengaged. There is no recirculation, only fresh air.
- The centre green lamp illuminates – recirculation not engaged, providing it is not required for cooling in hot weather.
- The right-hand orange lamp illuminates – recirculation is engaged.

i NOTE

The air quality sensor should always be engaged in order to obtain the best air in the passenger compartment.

Recirculation is limited in cold weather to avoid misting.

If the insides of the windows start misting up, disengage the air quality sensor, and the defroster functions for the windscreen, the side and the rear windows should also be used to demist the windows.

Activating recirculation



Switch between recirculation On/Off by pressing the button repeatedly. The lamp illuminates when recirculation is engaged.



Climate control

Air distribution table

	Air distribution	Use		Air distribution	Use
	Air to windows. Some air flows from the air vents. The air is not recirculated. Air conditioning is always engaged.	to remove ice and misting quickly.		Air to the floor and windows. Some air flows from the dashboard air vents.	to ensure comfortable conditions and good demisting in cold or humid weather.
	Air to windscreen and side windows. Some air flows from the air vents.	to prevent misting and icing in a cold and humid climate, (not at too low fan speed to enable this).		Air to floor and from dashboard air vents.	in sunny weather with cool outside temperatures.
	Airflow to windows and from dashboard air vents.	to ensure good comfort in warm, dry weather.		Air to floor. Some air flows to the dashboard air vents and windows.	to direct heat or cold to the floor
	Airflow to the head and chest from the dashboard air vents.	to ensure efficient cooling in warm weather.		Airflow to windows, from dashboard air vents and to the floor.	to provide cooler air along the floor or warmer air higher up in cold weather or hot, dry weather.



Fuel-driven engine block heater and passenger compartment heater*

Fuel-driven heater

General information about the parking heater

The parking heater heats the engine and passenger compartment and can be started directly or with the timer.

Two different times can be selected using the timer. Here, time refers to the time when the car is heated and ready. The car's electronic system calculates when heating should be started based on the outside temperature.

The heater cannot start if the outside temperature exceeds 15 °C. At -5 °C or lower the maximum running time of the parking heater is 50 minutes.

WARNING

The car must be outdoors when the parking heater is used.

NOTE

When the parking heater is active there may be smoke from the right-hand wheel housing, which is perfectly normal.

Refuelling



Warning decal on fuel filler flap.

WARNING

Fuel which spills out can be ignited. Switch off the fuel-driven heater before starting to refuel.

Check the information display to see that the parking heater is switched off. When it is running, the information display shows **Park heat ON**.

Parking on a hill

If the car is parked on a steep hill, the front of the car should point downhill to ensure that there is a supply of fuel to the parking heater.

Battery and fuel

If the battery has insufficient charge or the fuel level is too low, the parking heater is switched off automatically and a message appears on the information display. Acknowledge the message by pressing once on the indicator stalk **READ** button, see page 143.

IMPORTANT

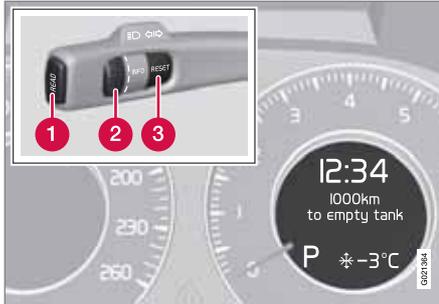
Repeated use of the parking heater combined with short journeys may discharge the battery and impair starting.

The car should be driven for the same time as the heater is used to ensure that the car's battery is recharged adequately to replace the energy consumed by the heater when it is used on a regular basis.



Fuel-driven engine block heater and passenger compartment heater*

Operation



- 1 **READ** button
- 2 Thumbwheel
- 3 **RESET** button

For more information on the information display and **READ**, see page 132.

Symbols and display messages

 When one of the timer's settings or **Direct start** is activated, the information symbol in the combined instrument panel illuminates while the information display shows an explanatory text and a further illuminated symbol. The table shows symbols and display texts that appear.

Symbol	Display	Specification
	Fuel heater ON	The heater is switched on and running.
	Timer is set for Fuel heater	The heater's timer is activated after the remote control key has been removed from the ignition switch and leaving the car - the engine and passenger compartment are heated at the set time.
 	Heater stopped Low battery	The heater has been stopped by the car's electronics in order to facilitate starting the engine.

Symbol	Display	Specification
 	Heater unavail. Low fuel level	Setting the heater is not possible due to fuel level being too low (approx. 7 litres) - this is in order to facilitate starting the engine as well as approx. 50 km driving.
	Park heater Service required	Heater not working. Contact a workshop for repair. Volvo recommends that you contact an authorised Volvo workshop.

A display text clears automatically after a time or after one press on the indicator stalk **READ** button.



Fuel-driven engine block heater and passenger compartment heater*

Direct start and immediate stop

1. Scroll with the thumbwheel to **Direct start Park heat**.
2. Press **RESET** to select between **ON** and **OFF**.

ON: Parking heater switched on manually or with programmed timer.

OFF: Parking heater switched off.

With the direct start of the heater it will be activated for 50 minutes.

Heating of the passenger compartment will begin as soon as the engine coolant has reached the correct temperature.

i NOTE

The car can be started and driven while the parking heater is running.

Setting the timer

The time when the car shall be used and heated is specified with the timer.

Select between **TIMER 1** and **TIMER 2**.

i NOTE

The timer can only be programmed when the remote control key is in key position **I**, see page 74 - programming must therefore be carried out before starting the engine.

1. Scroll with the thumbwheel to **Park heat timer 1**.
2. Briefly press **RESET** to move to the flashing hours setting.
3. Select the required hour using the thumbwheel.
4. Briefly press **RESET** to move to the flashing minutes setting.
5. Select the required minute using the thumbwheel.
6. Briefly press **RESET** to confirm the setting.
7. Press **RESET** to activate the timer.

After setting **Park heat timer 1** a second start time can be programmed with **Park heat timer 2** by scrolling to it with the thumbwheel.

Set the alternative time in the same way as **Park heat timer 1**.

Deactivating a timer-started heater

A timer-started heater can be switched off manually before the set time has elapsed. Proceed as follows:

1. Press **READ**.
2. Use the thumbwheel to scroll to the text **Park heat timer 1** or **2**.
 - > The text **ON** flashes on the display.
3. Press **RESET**.
 - > The text **OFF** is shown with a constant glow and the heater is switched OFF.

A timer-started heater can be switched off in accordance with the instructions in the section "Direct start and immediate stop", see page 144.

Clock/timer

The heater's time is connected to the car's clock.

i NOTE

All timer programming will be cleared if the car's clock is reset.



Additional heater*

General information about the additional heater

In cold climate zones¹ an additional heater may be required to obtain the correct operating temperature in the engine and to obtain sufficient heating in the passenger compartment.

Fuel-driven additional heater

A fuel-driven additional heater is fitted in cars with diesel engines.

The heater starts automatically when extra heat is required when the engine is running.

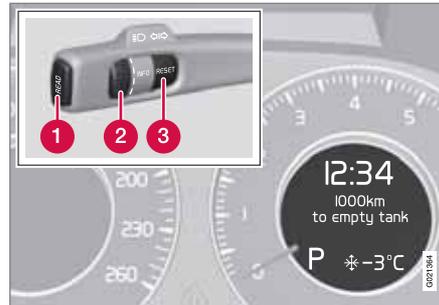
The heater is switched off automatically when the correct temperature is reached or when the engine is switched off.

i NOTE

When the additional heater is active there may be smoke from the right-hand wheel housing which is perfectly normal.

Auto mode or shutdown

The additional heater can be switched off for short distances if required.



- 1** READ button
- 2** Thumbwheel
- 3** RESET button

1. Scroll with the thumbwheel to **Additional heat auto**.
2. Press **RESET** to select between **ON** and **OFF**.

i NOTE

The menu options are only visible in key position **I** - any adjustments must therefore be made before starting the engine.

Passenger compartment heater*

If the additional heater is supplemented with timer function then it can be used as a fuel-driven passenger compartment heater, see page 142.

Electric additional heater

Cars with certain petrol engines² have an electric additional heater integrated into the car's climate control system.

In a semi-cold¹ climate zone diesel-driven cars have an electric additional heater instead of a fuel-driven version.

The heater cannot be controlled manually but is instead activated automatically after the engine has been started in outside temperatures below 14 °C and is switched off after the set passenger compartment temperature has been reached.

¹ An authorised Volvo dealer has information regarding the geographical areas concerned.

² An authorised Volvo dealer has information regarding the engines concerned.



04 Comfort and driving pleasure

Audio system

General

The audio system can be equipped with different options and is one of the following three basic versions:

- Performance
- High Performance
- Premium Sound

The system version is shown in the display when the audio system is started.

Dolby Surround Pro Logic II and the Dolby symbol  are trademarks of Dolby Laboratories Licensing Corporation. Dolby Surround Pro Logic II System is manufactured under license from Dolby Laboratories Licensing Corporation.

Remote control key and key positions

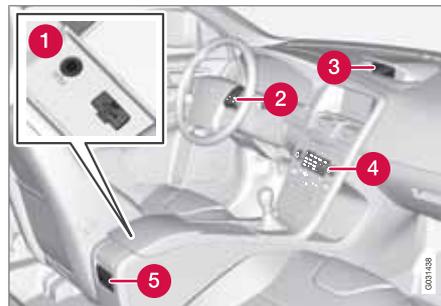
The audio system can be used without the remote control key in the ignition switch for 15 minutes at a time.

NOTE

Remove the remote control key from the ignition switch if the audio system is used when the engine is switched off. This is to avoid discharging the battery unnecessarily.

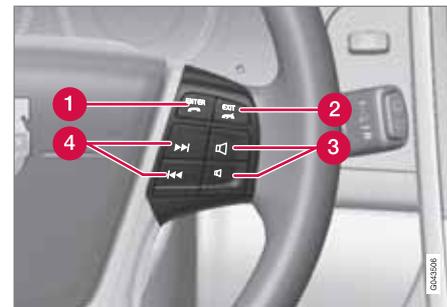
If the audio system is active when the engine is switched off then it is activated automatically next time the engine is started.

Overview



- 1 Input for external audio source; AUX and USB (e.g. iPod®)¹
- 2 Steering wheel keypad
- 3 Information display
- 4 Centre console control panel
- 5 Control panel with headphones socket*

Steering wheel keypad*



- 1 Confirm selection in menu system, accept phone call.
- 2 Lead up in menu system. Interrupt current function, end/refuse phone calls, clear entered characters.
- 3 Volume
- 4 A short press scrolls between CD tracks or preset radio stations. A long press fast-winds CD tracks or seeks the next available radio station.

¹ USB only applies for High Performance and Premium Sound. The iPod trademark belongs to Apple Computer Inc.

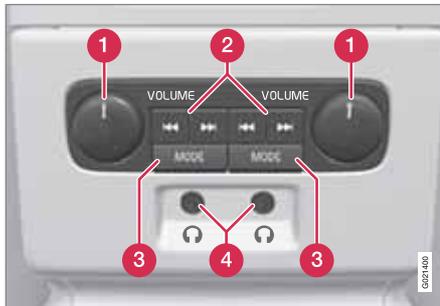
* Option/accessory, for more information, see Introduction.



Audio system

Rear control panel with headphones socket*

Headphones with an impedance of 16-32 ohm and sensitivity of 102 dB or higher are recommended for best sound reproduction.



- 1 **VOLUME** – Volume, left and right.
- 2 Scroll/search forward and backward.
- 3 **MODE** - Select between AM, FM, CD, AUX, USB*(e.g. iPod®), DAB1/DAB2* and On/Off. For connection via AUX or USB, see page 149.
- 4 Headphones sockets (3.5 mm).

Activating/deactivating

The control panel is activated with **MODE**. Deactivation is possible via a long press on **MODE** or when the engine is switched off.

Scroll/search forward and backward

Short presses on (2) are used to scroll between CD tracks or preset radio stations. A long press fast-winds CD tracks or seeks the next available radio station.

Limitations

- The audio source (FM, AM, CD etc.) played back in the speakers cannot be controlled from the rear control panel.

Audio functions



Centre console, controls for audio functions.

- 1 **AM, FM and CD** - Internal audio sources.
- 2 **MODE** - Scroll between external audio sources (AUX, USB* and DAB1/DAB2*). For connection via AUX or USB, see page 149.
- 3 **SOUND** – Push button and knob controls for adjusting the sound pattern.
- 4 Navigation button
- 5 **VOLUME** - Volume and On/Off.

Audio volume and automatic volume control

The audio system compensates for disrupting noises in the passenger compartment by increasing the volume with the speed of the



Audio system

car. The level of compensation can be set at low, medium or high. Select the level under **Audio settings** → **Auto. volume control**.

External audio source audio volume

The AUX input can be used for connecting an MP3 player which has no USB connection for example, see page 149.

NOTE

The audio quality may be impaired if the player is charged while the audio system is in AUX mode. In which case, avoid charging the player via the 12 V socket.

1. Set the audio system in AUX mode using the **MODE** button, press **MENU** and navigate with (4) to **AUX input volume**, see page 146.
2. Turn the **SOUND** control or press  /  the navigation button, see page 146.

Audio controls

Press the control **SOUND** repeatedly to browse among the following listed options.

Adjustment is made by turning the control.

NOTE

Press **MENU** to access the audio settings. For more information, see page 128.

- **Bass** - Bass level.
- **Treble** - Treble level.
- **Fader** – Balance between the front and rear speakers.
- **Balance** – Balance between the left and right-hand speakers.
- **Subwoofer*** - Bass speaker level. Turning the control  anticlockwise to **Min** deactivates the Subwoofer. The Subwoofer is located as illustrated below.



Subwoofer location.

- **Surround*** – Surround settings.

Under **Surround 3** channel stereo or Dolby Surround Pro Logic II can be activated by selecting **3-ch** or **Dpl2** respectively. This enables the following options:

- **Centre level*** – Level for centre speaker.
- **Surround level*** – Level for surround.

Equalizer

The equalizer² can be used to adjust different frequency bands separately.

1. Go to **Audio settings** and select **Equalizer front** or **Equalizer rear**.

The sound level for the wavelength is adjusted with  /  on the navigation button. Press  /  to select another wavelength.

2. Use **ENTER** to save or **EXIT** to close.

Sound stage

The sound experience can be optimised for the driver's seat*, both front seats or the rear seat. Select one of the options under **Audio settings** → **Sound stage**.

² Only High Performance and Premium Sound.

* Option/accessory, for more information, see Introduction.



Audio system

Optimum sound reproduction

The audio system is calibrated for optimum sound reproduction by means of digital signal processing.

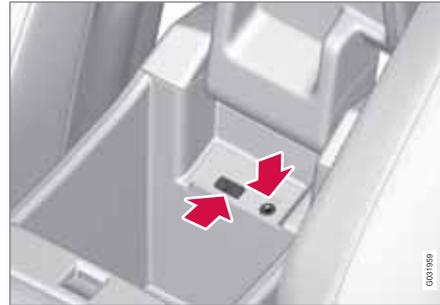
This calibration takes into account loudspeakers, amplifiers, passenger compartment acoustics, listener position etc. for each combination of car model and audio system.

There is also a dynamic calibration that takes into account the position of the volume control, radio reception and vehicle speed.

The controls explained in these operating instructions, e.g. **Bass**, **Treble** and **Equalizer**, are only intended for the user to be able to adapt the sound reproduction according to personal taste.

AUX, USB³ and external audio source

General



An external audio source can be connected to the car's infotainment system via the USB connection or AUX input in the centre console.*

The AUX input enables the connection of an external audio source, e.g. an iPod® or MP3 player. Read more on page 148

If you choose to connect an iPod®, MP3 player or a USB memory stick to the USB connection* then you can control the audio source using the car's audio controls.

Select the connection using the **MODE** button:

1. If **USB** is selected then **Connect device** is shown in the display.

2. Connect your iPod®, MP3 player or USB memory stick to the USB connection* in the centre console's storage compartment (see preceding illustration).

The text **Loading** is shown in the display when the system is loading the storage media's file structure. This may take some time.

Once loading is complete, track information is shown on the display and the desired track can be selected.

A track can be selected in three ways:

- With the **TUNING** control, see page 146.
- the navigation control's (4) right or left-hand button or, see page 146.
- the steering wheel keypad (see page 146).

In USB or iPod® mode the audio system operates in an equivalent way to the CD player for playing back music files. For more information, see page 151.

³ Only High Performance and Premium Sound.



Audio system

i NOTE

The system supports the playback of music files in the MP3, WMA and WAV file formats. However, there are variants of these file formats that are not supported by the system. The system also supports most iPod® models produced in 2005 or later. iPod® Shuffle is not supported.

Audio sources

USB memory

To facilitate the use of a USB memory stick, only store music files on it. It takes a lot longer for the system to load storage media that contains anything other than compatible music files.

i NOTE

The system supports removable media which is compatible with USB 2.0 and the FAT32 file system, and can handle a maximum of 500 folders and 64 000 files. The memory must have a capacity of at least 256 Mb.

i NOTE

When using a longer model USB memory stick the use of the enclosed USB adapter cable is recommended. This is to avoid mechanical wear to the USB input and the connected USB memory stick.

MP3 player

Many MP3 players have their own file systems that are not supported by the audio system. For use in the system, an MP3 player must be set in **USB Removable device/Mass Storage Device** mode.

iPod®

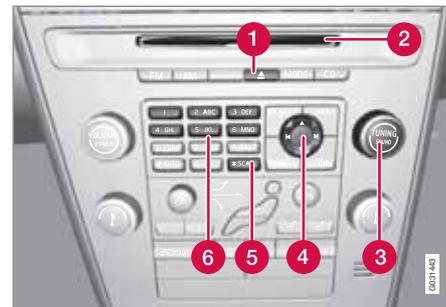
An iPod® is charged and supplied with power by the USB connection via the player's connection cable. However, if the player's battery is fully discharged then it must be charged before being connected.

i NOTE

When an iPod® is used as audio source, the car's infotainment system has a menu structure that is similar to the iPod® player's own menu structure.

For information on USB and iPod® in combination with Performance audio, see the accessory manual for USB and iPod® Music Interface.

CD functions



Centre console, controls for CD functions.

- 1** CD eject
- 2** CD insert and eject slot
- 3** Fast-wind and change CD track
- 4** Navigation button for changing CD tracks
- 5** Scan CD
- 6** CD changer position selection (only applies to the High Performance and Premium Sound audio systems)*

Start playback (CD player)

If a music CD is in the player when **CD** is pressed then playback is started automatically. Otherwise, insert a disc and press **CD**.



Start playback (CD changer*)

Start CD playback by pressing the **CD** button. If a music CD is in the player when this takes place then playback is started automatically. Otherwise, insert a disc and press **CD**.

Insert a CD (CD changer*)

1. Select an empty position with the number buttons **1-6** or / on the navigation button (4).

An empty position is marked on the display. The text **Insert disc** shows that a new disc can be inserted. The CD changer can hold up to six CDs.

2. Insert a CD in the CD changer slot.

Disc eject

A CD will stay in the ejected position for approx. 12 seconds. Following which it is re-inserted in the player and playback continues.

Eject individual discs by pressing the eject button.

Eject all discs with a long press on the eject button. The entire magazine is emptied disc by disc.

Pause

If the volume is turned down completely, the CD player is stopped. The player is restarted when volume is increased.

Audio files

The CD player also supports MP3 and WMA format audio files.

NOTE

Some copy protected audio files may not be read by the player.

When a CD with audio files is inserted into the player the disc's file structure is loaded. Depending on the quality of the disc and the quantity of information there may be a delay before playback starts.

Navigation and playback

If a disc containing audio files is inside the CD player then **ENTER** leads to the disc's directory structure. The directory structure is navigated in the same way as the audio system's menu structure. Audio files have the symbol and directories have the symbol . Start audio file playback with **ENTER**.

When the playback of a file is finished the playback of the other files in the same directory continues. Directory change takes place automatically when all files in the current directory have been played back.

Fast-wind/change CD tracks and audio files

Short presses / on the navigation button are used to scroll between CD tracks/audio files. Long presses are used to fast-wind CD tracks/audio files. The steering wheel keypad can also be used for this purpose. Track change can also be made by turning

TUNING.

Scan CD

This function plays the first ten seconds of each CD track/audio file. Press **SCAN** to activate. Interrupt with **EXIT** or **SCAN** to continue playback of the current CD track/audio file.

Random

This function plays the tracks in random order. The random CD tracks/audio files can be scrolled through in the normal way.

NOTE

It is only possible to scroll between random CD tracks on the current disc.

Different messages appear depending on which random function has been selected:



Audio system

- **RANDOM** means that the tracks from only one music CD are played
- **RND ALL** means that all tracks on all music CDs in the CD changer are played.
- **RANDOM FOLDER** means that the audio files in a directory on the current CD are played.

CD player

If a normal music CD is being played, activate/deactivate under **Random**.

If a disc with audio files is being played, activate/deactivate under **Random** → **Folder**.

CD changer

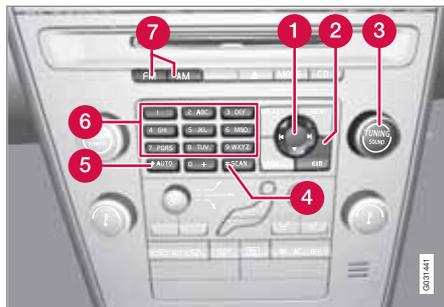
If a normal music CD is being played under **Random** → **Single disc** or **Random** → **All discs**. The option **All discs** only applies to the music CDs in the changer.

If a CD with audio files is being played, activate/deactivate instead under **Random** → **Folder**. If you select another CD the function is deactivated.

Track information

If track information is stored on a music CD then it can be shown on the display. This also applies to MP3 and WMA files for Premium Sound and High Performance. Activate/deactivate in CD mode under **CD settings** → **Track information**.

Radio functions



Centre console, controls for radio functions.

- 1 Navigation button for tuning, automatic
- 2 Cancel function in progress
- 3 Tuning, manual
- 4 Scan wavelength
- 5 Preset storage, automatic
- 6 Preset buttons and preset storage, manual
- 7 Select wavelength AM and FM (FM1 and FM2)

Tuning, automatic

1. Select wavelength using **FM** or **AM**.
2. Press / on the navigation button.

Tuning, manual

1. Select wavelength using **FM** or **AM**.
2. Turn **TUNING**.

Preset

10 station presets can be stored per wavelength. FM has 2 memories for presets: **FM1** and **FM2**. The stored presets are selected using the preset buttons.

Preset storage can be carried out manually or automatically.

Preset storage, manual

1. Tune into a station.
2. Hold in a station preset button until the message **Channel stored** appears on the display.

Preset storage, automatic

The function is especially useful in areas where the radio stations and their frequencies are unfamiliar. The 10 strongest radio stations are stored automatically in a separate memory.

1. Select wavelength using **FM** or **AM**.
2. Hold in **AUTO** until **Autostoring** appears on the display.

Once **Autostoring** disappears from the display, the stations are stored. The radio continues in Auto mode and **Auto** appears on the display. The automatically stored presets can

**Audio system**

now be selected using the preset buttons. Automatic preset storage can be cancelled using **EXIT**.

Auto mode is cancelled by pressing for example **AUTO** or **FM**.

Returning to Auto mode provides access to the autostored presets:

1. Press **AUTO**.
> **Auto** appears on the display.
2. Press a preset button.

Scan wavelength

The function automatically searches the current wavelength for strong stations. When a station is found, it is played for approx. 8 seconds before scanning is resumed.

1. Select wavelength using **AM** or **FM**.
2. Press **SCAN**.

SCAN appears on the display. Close using **SCAN** or **EXIT**.

RDS functions

RDS (Radio Data System) links FM transmitters into a network. An FM transmitter in such a network sends information that gives an RDS radio the following functions:

- Automatically switches to a stronger transmitter if reception in the area is poor.
- Searches for programme type, such as traffic information or news.
- Receives text information on current radio programme.

i NOTE

Some radio stations do not use RDS or only some of its functionality.

If a required programme type is located the radio can switch stations interrupting the audio source currently in use. For example, if the CD player is in use, it is paused. The interrupting transmission is played at a preset volume, see page 155. The radio returns to the previous audio source and volume when the set programme type is no longer broadcast.

The programme functions alarm (**ALARM!**), traffic information (**TP (Traffic information)**), news (**News**), and programme types (**PTY (Program type)**) interrupt one another in order of priority, where alarm has the highest priority and programme types has the lowest. For further programme interruption settings (**EON** and **Regional**), see page 154. Press **EXIT** to return to the interrupted audio source.

Alarm

This function is used to warn of serious accidents and catastrophes. The alarm cannot be temporarily interrupted or deactivated. The message **ALARM!** appears on the display when an alarm message is transmitted.

Traffic information – TP

This function allows traffic information sent within a set station's RDS network to break through. The **TP (Traffic information)** symbol indicates that the function is activated. If the set station can send traffic information then **TP** appears on the display.

- Activate/deactivate under **FM settings** → **TP (Traffic information)**.

TP from current station/all stations

The radio can interrupt with traffic information from only the set (current) station or from all stations.

- Go to **FM settings** → **Advanced radio settings** → **TP Station...** to change.

News

This function allows news broadcasts sent within a set station's RDS network to break through. The **NEWS** symbol indicates that the function is active.



Audio system

- Activate/deactivate under **FM settings** → **News**.

News from current/all stations

The radio can interrupt with news from only the set (current) station or from all stations.

- Go to **FM settings** → **Advanced radio settings** → **News station** to change.

Programme types – PTY

The PTY function can be used to select different programme types, such as pop music and serious classic. The PTY symbol indicates that the function is active. This function allows programme types broadcast within a set station's RDS network to break through.

1. Activate in FM mode by selecting a programme type under **FM settings** → **PTY** → **Select PTY**.
2. Deactivate by clearing the PTY under **FM settings** → **Clear all PTY**.

PTY search

This function searches the entire wavelength for the selected programme type.

1. Select a PTY under **FM settings** → **PTY** → **Select PTY**.

2. Go to **FM settings** → **PTY (Program type)** → **Search PTY**.

If the radio finds any of the selected programme types, **>| To seek** appears on the display.

- To continue searching for another broadcast of the selected programme types, press **→** on the navigation button.

Display of programme type

The programme type of the current station can be shown on the display.

- Activate/deactivate in FM mode under **FM settings** → **PTY** → **Show PTY**



NOTE

Not all radio stations support display of programme type.

Radio text

Some RDS stations transmit information on programme content, artists, etc. This information can be shown on the display.

- Activate/deactivate in FM mode under **Radio text**.

Automatic frequency update – AF

This function selects one of the strongest transmitters for a set station. The function may need to search through the entire FM wavelength to find a strong transmitter. If this occurs, the radio mutes and **PI Seek Press Exit to cancel** appears on the display.

- Activate/deactivate in FM mode under **FM settings** → **Advanced radio settings** → **AF**.

Regional radio programmes – REG

This function causes the radio to continue with a regional transmitter even if its signal strength is low. The symbol **REG** shows that the function is active.

- Activate/deactivate in FM mode under **FM settings** → **Advanced radio settings** → **Regional**.

Enhanced Other Networks – EON

This function is useful in urban areas with many regional radio stations. It allows the distance between the car and the radio station transmitter to determine when programme functions should interrupt the current audio source.

- Activate/deactivate in FM mode by selecting one of the options under **FM settings** → **Advanced radio settings** → **EON**:



Audio system

- **Local** – interrupts only if the radio station transmitter is close.
- **Distant**⁴ – interrupts if the station transmitter is far away, even if there is a lot of static.
- **Off** – no interruption for programmes from other transmitters.

Resetting RDS functions

All radio settings can be reset to the original factory settings.

- The reset is carried out in FM mode under **FM settings** → **Advanced radio settings** → **Reset all**.

Volume control, programme types

The interrupting programme types, e.g. **NEWS** or **TP**, are heard at the volume selected for each respective programme type. If the volume level is adjusted during the programme interruption, the new level is saved until the next programme interruption.

Menu structure FM

Main menu FM FM settings

- 1.1 News
- 1.2 TP (Traffic information)
- 1.3 Radio text
- 1.4 PTY (Program type)
 - 1.4.1 Select PTY
 - Clear all PTY
 - Current affairs
 - Information
 - Sport
 - Education
 - Drama
 - Culture
 - Science
 - Varied speech
 - Pop music
 - Rock music
 - Easy listening
 - Light classic

- Classical
- Other music
- Weather & metro
- Finance
- Children's programs
- Social affairs
- Religion
- Phone in
- Travel & touring
- Leisure & hobby
- Jazz music
- Country music
- National music
- Oldies music
- Folk music
- Documentary
- 1.4.2 Search PTY
- 1.4.3 Show PTY text
- 1.5 Advanced radio settings
 - 1.5.1 TP station
 - 1.5.2 News station

⁴ Factory settings.



Audio system

- 1.5.3 AF
- 1.5.4 EON
 - Off
 - Local
 - Distant
- 1.5.5 Regional
- 1.5.6 Reset all FM settings

Radio system - DAB*

General

DAB (Digital Audio Broadcasting) is a digital broadcasting system for radio.

NOTE

This system does not support DAB+.

Service and Ensemble

- **Service** - Channel, radio channel (only audio services are supported by the system).
- **Ensemble** - A collection of radio channels on the same frequency.

Storing channel groups (Ensemble learn)

When the vehicle is moved to a new broadcasting area, programming of existing channel groups in the area can take place.

Programming of channel groups creates an updated list of all available channel groups. The list is not updated automatically. Programming takes place via the **Ensemble learn** menu or directly by means of a long press on **AUTO**. It can take up to a minute to program a channel group if both **Band III** and **LBand** are selected.

Wavelength

DAB is transmitted on two wavelengths⁵; **Band III** and **LBand**.

- **Band III** - over the whole country⁶
- **LBand** - mainly in large cities

By selecting for example **Band III** on its own, channel programming takes place more quickly than if both **Band III** and **LBand** are selected. It is not certain that all channel groups will be found. Wavelength selection does not affect the stored memories.

Navigation via lists

There are three types of basic list which can be used for navigation:

- **Ensemble** - Shows channel groups that the receiver has obtained via channel group programming.
- **Service** - Shows channels irrespective of the channel group to which they are allocated. The list can also be filtered using **DAB PTY** (see below).
- **Subchannel** - Subchannels to a selected channel.

The lists can be accessed via the menu. The channel groups can also be accessed by pressing **ENTER**.

Scanning

Scanning means that all channels in the list are played for 10 seconds each.

- Press **SCAN** to activate

Scanning can also be selected in DAB-PTY mode. In which case only channels of the pre-selected programme type are played.

- Stop scanning by pressing **SCAN** once, or by pressing **EXIT**.

Subchannel

Secondary components are usually named subchannels. These are temporary and can contain e.g. translations of the main programme into other languages.

⁵ Not all areas/countries use both wavelengths.

⁶ During a build-up phase DAB will not cover the whole country but will only work in larger urban areas.

* Option/accessory, for more information, see Introduction.

**Audio system**

If one or more subchannels are broadcast then the > symbol is shown to the right of the channel name in the display. A subchannel is indicated by the > symbol appearing to the left of the channel name in the display.

To access a subchannel:

- Press

To navigate between subchannels:

- Press or

Subchannels can only be accessed on the selected main channel and not on any other one without selecting it.

DAB PTY (program type)

DAB PTY selects one type of radio programme. There are 29 different programme types which also include different programme categories. After selecting a programme type, navigation only takes place within the channels broadcasting that type.

Exit this mode as follows:

- Press **EXIT**

It is also possible to select a preset channel or exit **DAB PTY** via the menu. In certain cases DAB radio will exit PTY mode when DAB to DAB linking (see below) is implemented.

DAB to DAB link

It is possible to exit a channel with poor or no reception to the same channel in another channel group with better reception. There may be a certain delay when changing channel group. There may be a period of silence between the current channel no longer being available to the new channel becoming available.

DAB display settings

1. **Basic** - Only the channel name is shown if a primary component is being played. A subchannel name is shown if it is a subchannel being played
2. **Ensemble** - Adds the channel group name to the channel name
3. **Ensemble +PTY** - Adds the programme type name under the channel name

Preset

10 station presets can be stored per wavelength. DAB has 2 memories for presets: **DAB1** and **DAB2**. The stored presets are selected using the preset buttons.

A preset contains one channel but no subchannels. If a subchannel is being played and a preset is saved then only the channel ID is registered. This is because subchannels are temporary. At the next attempt to retrieve the preset, the channel which contained the sub-

channel will be played. The preset is not dependent on the channel list.

A saved channel does not have to be in the channel list for it to be playable. If the channel is loaded when it is not available then a preset number is shown and there is silence until an available preset is selected for loading. Alternatively another channel.

**NOTE**

The audio system's DAB system does not support all functions available in the DAB standard.

04

Menu structure DAB**Main menu DAB**

1. Select ensemble
2. Select service
3. Select subchannel
4. DAB PTY
 - 4.1. DAB PTY off
 - 4.2. News
 - 4.3. Current affairs
 - 4.4. Information
 - 4.5. Sport





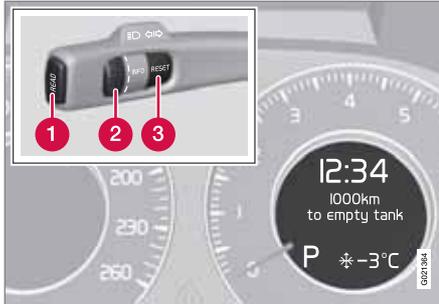
Audio system

- 4.6. Education
- 4.7. Drama
- 4.8. Arts
- 4.9. Science
- 4.10. Talk
- 4.11. Pop music
- 4.12. Rock music
- 4.13. Calm music
- 4.14. Light classic
- 4.15. Classical music
- 4.16. Other music
- 4.17. Weather
- 4.18. Finance
- 4.19. Children
- 4.20. Factual
- 4.21. Religion
- 4.22. Phone in
- 4.23. Travel
- 4.24. Leisure
- 4.25. Jazz and blues
- 4.26. Country music
- 4.27. National music
- 4.28. Oldies music
- 4.29. Folk music
- 4.30. Documentary
- 5. Ensemble learn
- 6. DAB settings
 - 6.1. DAB display settings
 - 6.1.1. Ensemble name
 - 6.1.2. Ensemble name and PTY
 - 6.1.3. Basic
 - 6.2. DAB to DAB link
 - 6.3. FM traffic
 - 6.4. Select DAB band
 - 6.4.1. Band III
 - 6.4.2. LBand
 - 6.4.3. LBand & Band III
 - 6.5. Reset DAB



Trip computer

General



Information display and controls.

- 1 **READ** - confirms
- 2 Thumbwheel – browse between menus and options in the trip computer list
- 3 **RESET** – resets

The trip computer's menu is in a variable loop. One of the menu options is a blank display - it also marks the beginning/end of the loop.

Functions

i NOTE

If a warning message appears when the trip computer is used then the message must first be acknowledged before the trip computer can be reactivated. Acknowledge the warning message by pressing **READ**.

To change unit for distance and speed - contact a workshop. An authorised Volvo workshop is recommended.

Average speed

Average speed is calculated from the last resetting. Reset using **RESET**.

Instantaneous

Current fuel consumption is calculated every second. The information on the display is updated every couple of seconds. When the car is stationary, "----" appears on the display.

Average

Average fuel consumption is calculated from the last resetting. Reset using **RESET**.

i NOTE

There may be a slight error in the reading if a fuel-driven supplementary and/or parking heater* has been used.

Km to empty tank

The calculation is based on the average fuel consumption over the last 30 km and the remaining driveable fuel quantity. The display shows the approximate distance that can be driven with the fuel quantity remaining in the tank.

An economic driving style generally results in a longer driving distance. For more information on how you can influence fuel consumption, see page 12.

No guaranteed range remains when the display shows "---- km to empty tank". Refuel as soon as possible.

i NOTE

There may be a slight error in the reading if the driving style has been changed.

Resetting

1. Select --- km/h average speed or --.- l / 100km average.



Trip computer

2. Press and hold **RESET** for approx. 1 second to reset the selected function. If **RESET** is kept depressed for at least 3 three seconds then Average speed and Average are reset simultaneously.

Current speed*1

The instrument panel display shows current speed in mph if the speedometer is graduated in km/h. If the speedometer is graduated in mph then the current speed is shown in km/h.

¹ Only certain markets.



DSTC – Stability and traction control system

General information on DSTC

The stability and traction control system, DSTC (Dynamic Stability and Traction Control) helps the driver to avoid skidding and improves the car's traction.

The activation of the system during braking may be noticed as a throbbing sound. The car may accelerate slower than expected when the accelerator pedal is depressed.

Active Yaw Control

The function limits the driving and brake force of the wheels individually in order to stabilise the car.

Spin Control

The function prevents the driving wheels from spinning against the road surface during acceleration.

Traction control system

The function is active at low speed and transfers power from the driving wheel that is spinning to the one that is not.

Engine drag control - EDC

EDC (Engine Drag Control) prevents involuntary wheel locking, e.g. after shifting down or engine braking when driving in low gears on slippery road surfaces.

Involuntary wheel locking while driving can, amongst other things, impair the driver's ability to steer the car.

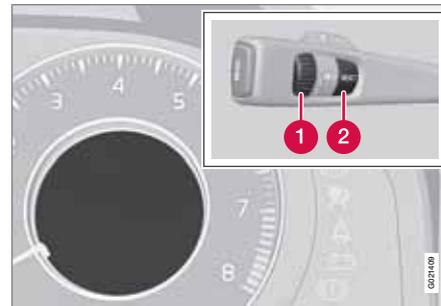
Trailer Stability Assist* - TSA

The function serves to stabilise the car and trailer combination if it begins to snake, see page 235.

Operation

Reduced operation

System operation during skidding and acceleration can be reduced. Operation during skidding is delayed and so allows more skidding which provides greater freedom for dynamic driving. Traction in deep snow or sand is improved as traction is no longer limited.



1. Turn the thumbwheel (1) until the **DSTC** menu is shown. **DSTC ON** means that the system function is unchanged.

DSTC spin control OFF means that system operation is reduced.

2. Press and hold **RESET** (2) until the **DSTC** menu is changed.

The system will remain reduced until the engine is switched off - after the engine is started the next time DSTC is back in its normal mode again.



WARNING

The car's driving characteristics may deteriorate if the function is reduced.

Messages in the information display

DSTC Temporarily OFF means that the system has been temporarily reduced due to excessive temperature in the brake discs.

- The function is reactivated automatically when the brakes have cooled.

DSTC Service required system disabled due to a fault.

- Stop the car in a safe place and turn off the engine.



DSTC – Stability and traction control system

- > If the message remains when the engine is restarted, drive to a workshop. An authorised Volvo workshop is recommended.

Symbols in the combined instrument panel

If the symbols  and  are shown at the same time - read the message on the information display.

If the symbol  appears alone then it may appear as follows:

- Flashing light means that the system is now being activated.
- Constant glow for 2 seconds means system check when the engine is started.
- Constant glow after starting the engine or while driving means system fault.



Adapting driving characteristics

Active chassis (Four-C)*

Active chassis, Four-C (Continuously Controlled Chassis Concept), regulates the characteristics of the shock absorbers so that the car's driving characteristics can be adjusted. There are three settings: Comfort, Sport and Advanced.

Comfort

This setting means that the car is perceived as being more comfortable on rough and uneven road surfaces. Shock absorption is soft and the movement of the body is smooth and gentle.

Sport

This setting means that the car is perceived as being more sporty and is recommended for more active driving. Steering response is faster than in the Comfort mode. Shock absorption is harder and the body follows the road in order to reduce rolling during cornering.

Advanced

This setting is only recommended on very even and smooth road surfaces.

The shock absorbers are optimised for maximum roadholding and rolling in bends is further minimised.

Operation



Chassis settings.

Use the buttons in the centre console to change setting. The setting in use when the engine is switched off is activated next time the engine is started.

Speed related power steering*

Steering force increases with the speed of the car to give the driver enhanced sensitivity. The steering is firmer and more immediate on motorways. Steering is light and requires no extra effort when parking and at low speed.

The driver can choose between three different levels of steering force for road responsiveness or steering sensitivity. Go to **Car settings** → **Steering force level** in the menu system and select **Low**, **Medium** or **High**.

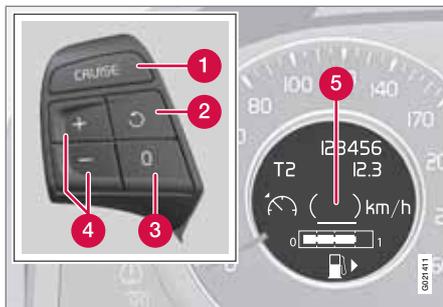
For a description of the menu system, see page 129. This menu cannot be accessed while the car is in motion.



04 Comfort and driving pleasure

Cruise control*

Operation



Steering wheel keypad and display.

- 1 Cruise control - On/Off.
- 2 Standby mode ceases and the stored speed is resumed.
- 3 Standby mode
- 4 Activate and adjust the speed.
- 5 Selected speed (in brackets = Standby mode)

Activating and setting the speed

Switch on the cruise control with one press on the steering wheel button **CRUISE** - the symbol  is illuminated in the display (5) and the brackets around (---) km/h show that the cruise control is set in standby mode.

The cruise control is then activated with  or , after which the current speed is stored in the memory - the display text (---) km/h changes to show the selected speed, e.g. 100 km/h.

NOTE

Cruise control cannot be engaged at speeds below 30 km/h.

Changing the speed

In active mode the speed is adjusted with long or short presses on  or  - the last press is stored in the memory.

A temporary increase in speed with the accelerator pedal, e.g. during overtaking, does not affect the cruise control setting - the car returns to the set speed when the accelerator pedal is released.

NOTE

If any cruise control button is held depressed for more than approx. 1 minute then cruise control is disengaged. The engine must be switched off in order to reset cruise control.

Temporary deactivation - standby mode

Press  to temporarily disengage the cruise control and set it in standby mode - set speed is shown in brackets in the display (5), e.g. (100) km/h.

Automatic standby mode

Cruise control is temporarily disengaged and set in standby mode if:

- wheels lose traction
- the foot brake is used
- speed falls below approx. 30 km/h
- the clutch pedal is depressed
- the gear selector is moved to neutral position (automatic gearbox)
- the driver maintains a speed higher than the set speed for longer than 1 minute.

The driver must then regulate the speed.

Resume set speed

Cruise control in standby mode is re-activated with one press on the steering wheel button  - the speed is then set to the last stored speed.

NOTE

A significant increase in speed may arise after the speed has been resumed with .



Cruise control*

Deactivate

The cruise control is switched off with the steering wheel button **CRUISE** or by switching off the engine - the set speed is deleted from the memory and cannot be resumed with the

 button.



Adaptive cruise control*

General information on ACC

The adaptive cruise control ACC – Adaptive Cruise Control) helps the driver maintain a safe distance from the vehicle ahead. It provides a more relaxing driving experience on long journeys on motorways and long straight main roads in smooth traffic flows.

The driver sets the desired speed and time interval to the car in front. When the radar detector detects a slower vehicle in front of the car, the speed is automatically adapted to that. When the road is clear again the car returns to the selected speed.

If the adaptive cruise control is switched off or set to the standby mode and the car comes too close to a vehicle in front, then the driver is warned by Distance Alert (see page 174) about the short distance.

WARNING

The driver must always be observant with regard to the traffic conditions and intervene when the adaptive cruise control is not maintaining a suitable speed or suitable distance.

The adaptive cruise control cannot handle all traffic, weather and road conditions.

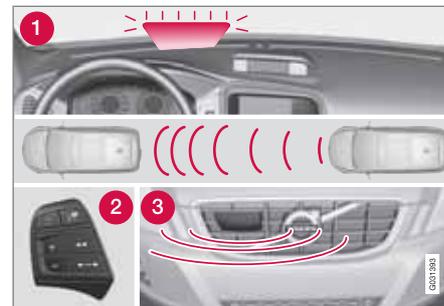
The Function section and onwards informs about limitations of which the driver should be aware before using the adaptive cruise control.

The driver always bears responsibility for maintaining the correct distance and speed, even when the adaptive cruise control is being used.

IMPORTANT

Maintenance of adaptive cruise control components must only be performed at a workshop - an authorised Volvo workshop is recommended.

Function



Functions overview.

- 1 Warning lamp, braking by driver required
- 2 Steering wheel keypad
- 3 Radar sensor

Adaptive cruise control consists of a cruise control system and a coordinated spacing system.

**Adaptive cruise control*****! WARNING**

Adaptive cruise control is not a collision avoidance system. The driver must intervene if the system does not detect a vehicle in front.

The adaptive cruise control does not brake for humans or animals, and not for small vehicles such as bicycles and motorcycles. Nor for oncoming, slow or stationary vehicles and objects.

Do not use the adaptive cruise control, for example, in city traffic, in dense traffic, at junctions, on slippery surfaces, with a lot of water or slush on the road, in heavy rain/snow, in poor visibility, on winding roads or on slip roads.

The distance to the vehicle ahead is mainly measured by a radar sensor. Cruise control regulates the speed with acceleration and braking. It is normal for the brakes to emit a low sound when they are being used by cruise control.

! WARNING

The brake pedal moves when the cruise control brakes. Do not rest your foot under the brake pedal as it could become trapped.

The adaptive cruise control aims to follow the vehicle ahead in the same lane at a time interval

set by the driver. If the radar sensor cannot see any vehicle in front then the car will instead maintain the cruise control's set speed. This also happens if the speed of the vehicle in front exceeds the cruise control's set speed.

The cruise control aims to control the speed in a smooth way. In situations that require rapid braking the driver must brake himself/herself. This applies with large differences in speed, or if the vehicle in front brakes heavily. Due to limitations in the radar sensor, braking may come unexpectedly or not at all, see page 170.

The adaptive cruise control can be activated to follow another vehicle at speeds from 30 km/h up to 200 km/h. If the speed falls below 30 km/h or if the engine speed becomes too low, the cruise control is set in standby mode at which automatic braking ceases - the driver must then take over himself/herself to maintain a safe distance to the vehicle ahead.

Warning lamp - braking by driver required

Adaptive cruise control has a braking capacity that is equivalent to approximately 25% of the car's braking capacity.

If the car needs to be braked more heavily than cruise control capacity and the driver does not brake, then the cruise control uses the collision warning system's warning lamp and warning

sound (see page 182) to alert the driver that immediate intervention is required.

i NOTE

The warning lamp may be difficult to notice in strong sunlight or when sunglasses are being worn.

! WARNING

Cruise control only warns of vehicles detected by the radar sensor. Consequently there may be no warning or it may be subject to a delay. Do not wait for a warning but brake when it is necessary.

Steep roads and/or heavy load

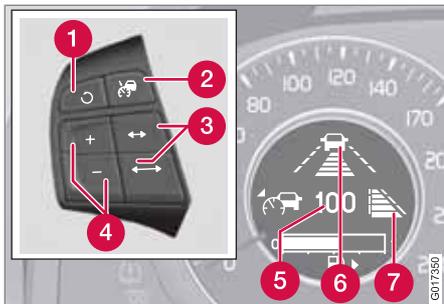
Bear in mind that the adaptive cruise control is primarily intended for use when driving on level road surfaces. The cruise control may have difficulty in keeping the correct distance from the vehicle ahead when driving on steep roads, with a heavy load or with a trailer - in which case, be extra attentive and ready to slow down.



04 Comfort and driving pleasure

Adaptive cruise control*

Operation



Steering wheel keypad and display.

- 1 Standby mode ceases and the stored speed is resumed.
- 2 Cruise control - On/Off or Standby mode.
- 3 Time interval - Increase/decrease.
- 4 Activate and adjust the speed.
- 5 Selected speed (in brackets = Standby mode)
- 6 Time interval - On, during adjustment.
- 7 Time interval - On, after adjustment.

Activating and setting the speed

Switch on cruise control with one press on the steering wheel button - the symbol is illuminated in the display. The brackets (6) at

(---) mean that cruise control is set in standby mode.

The cruise control is then activated with or , after which the current speed is stored in the memory - the display text (---) changes to show the selected speed, e.g. 100 without brackets.



When the symbol changes to the radar sensor has detected a vehicle.

Only when the symbol (with car) is illuminated, is the distance to the vehicle in front regulated by the cruise control.

NOTE

Cruise control cannot be engaged at speeds below 30 km/h.

Changing the speed

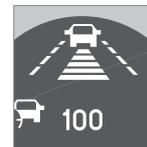
In active mode the speed is adjusted with long or short presses on , or . In active mode the button has the same function as but results in a lower increase in speed. The last press is stored in the memory.

NOTE

If any cruise control button is held depressed for more than approx. 1 minute then cruise control is disengaged. The engine must be switched off in order to reset cruise control.

In certain situations, cruise control cannot be activated. Then the display shows **Cruise control Unavailable**, see page 172.

Set time interval



Different time intervals to the vehicle in front can be selected and shown in the display as 1-5 horizontal lines - the more lines the longer the time distance. One line corresponds to approximately

1 second, 5 lines approximately 2.5 seconds.

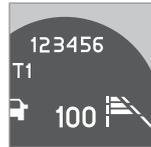
The time interval is increased using the steering wheel button and decreased using .

At low speed, when the distances are short, the adaptive cruise control increases the time interval slightly.

The adaptive cruise control allows the time interval to vary noticeably in certain situations in order to allow the car to follow the vehicle in front smoothly and comfortably.

**Adaptive cruise control***

Note that a short time interval gives the driver a short time to react and act if something unexpected happens in the traffic.



The number of lines for the selected time interval is shown during the setting itself and for several seconds afterwards. Then a smaller scale version of the symbol is shown to the right of the display. The same symbol is also shown when Distance Alert is activated, see page 174.

i NOTE

Only use the time interval that is allowed in accordance with local traffic regulations.

If cruise control does not seem to react to activation the reason may be that the time interval to the closest vehicle prevents an increase in speed.

The higher the speed, the longer the calculated distance in metres for a specific time interval.

Temporary deactivation - standby mode

Press the steering wheel button  to temporarily disengage the cruise control and set it in standby mode - set speed is shown in brackets in the display, e.g. (100).

Standby mode due to driver intervention

Cruise control is temporarily disengaged and set in standby mode if:

- the foot brake is used
- the clutch pedal is depressed for longer than 1 minute¹
- the gear selector is moved to neutral position (automatic gearbox)
- the driver maintains a speed higher than the set speed for longer than 1 minute

The driver must then regulate the speed.

A temporary increase in speed with the accelerator pedal, e.g. during overtaking, does not affect the cruise control setting - the car returns to the last stored speed when the accelerator pedal is released.

Automatic standby mode

The adaptive cruise control is dependent on other systems, such as Stability and traction control (DSTC). If any of these systems stop working then cruise control is automatically deactivated.

In the event of automatic deactivation a signal will sound and the message **Cruise control Cancelled** is shown in the display. The driver must then intervene and adapt the speed and distance to the vehicle ahead.

An automatic deactivation can be due to:

- engine speed is too low/high
- speed falls below 30 km/h
- wheels lose traction
- brake temperature is high
- the radar sensor is covered e.g. by wet snow or heavy rain (radar waves blocked).

Resume set speed

Cruise control in standby mode is re-activated with one press on the steering wheel button  - the speed is then set to the last stored speed.

i NOTE

A significant increase in speed may arise after the speed has been resumed with .

Deactivate

The cruise control is switched off with the steering wheel button  in standby mode or with one long press in active mode. The set speed is cleared and cannot be resumed with the  button.

¹ Disengaging and selecting a higher or lower gear does not involve standby mode.



Adaptive cruise control*

The radar sensor and its limitations

Apart from the adaptive cruise control, the radar sensor is also used by the Collision Warning with Auto Brake function (see page 182) and the Distance Alert function (see page 174). The function of the radar sensor is to detect cars or larger vehicles in the same direction, in the same lane.

Modification of the radar sensor could result in it being illegal to use.

WARNING

The driver must always be observant with regard to the traffic conditions and intervene when the adaptive cruise control is not maintaining a suitable speed or suitable distance.

The adaptive cruise control cannot handle all traffic, weather and road conditions.

The Function section and onwards informs about limitations of which the driver should be aware before using the adaptive cruise control.

The driver always bears responsibility for maintaining the correct distance and speed, even when the adaptive cruise control is being used.

WARNING

Accessories or other objects such as auxiliary lamps must not be installed in front of the grille.

WARNING

Adaptive cruise control is not a collision avoidance system. The driver must intervene if the system does not detect a vehicle in front.

The adaptive cruise control does not brake for humans or animals, and not for small vehicles such as bicycles and motorcycles. Nor for oncoming, slow or stationary vehicles and objects.

Do not use the adaptive cruise control, for example, in city traffic, in dense traffic, at junctions, on slippery surfaces, with a lot of water or slush on the road, in heavy rain/snow, in poor visibility, on winding roads or on slip roads.

The capacity of the radar sensor to detect vehicles in front is reduced significantly:

- if the radar sensor becomes blocked and cannot detect other vehicles e.g. in heavy rain or slush, or if other objects have collected in front of the radar sensor.

NOTE

Keep the surface in front of the radar sensor clean.

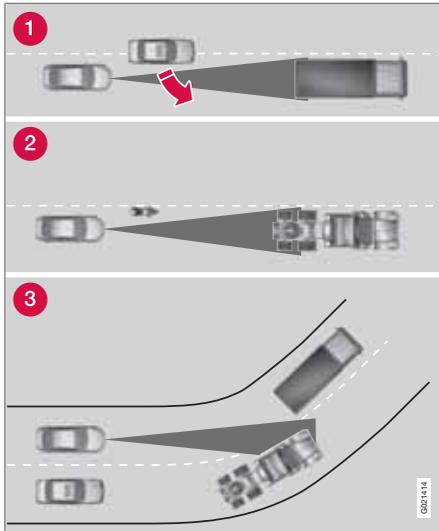
- if the speed of vehicles in front is significantly different from your own speed.

Examples where the cruise control does not work optimally

The radar sensor has a limited field of vision. In some situations another vehicle is not detected, or the detection is made later than expected.



Adaptive cruise control*



The ACC cannot see small vehicles (Dark triangle: ACC field of vision).

- 1 Sometimes the radar sensor cannot detect vehicles at close distances, e.g. a vehicle that drives in between the car and vehicles in front.
- 2 Small vehicles, such as motorcycles, or vehicles not driving in the centre of the lane can remain undetected.
- 3 In bends the radar sensor may detect the wrong vehicle or lose a detected vehicle from view.

Fault tracing and action

If the display shows the message **Radar blocked See manual** this means that the radar signals from the radar sensor are blocked and that vehicles in front of the car could not be detected.

In turn this means that the Adaptive Cruise Control, Distance Alert and Collision Warning with Auto Brake functions are not operating either.

The following table presents possible causes for a message being shown along with the appropriate action.



04 Comfort and driving pleasure

Adaptive cruise control*

Cause	Action
The radar surface in the grille is dirty or covered with ice or snow.	Clean the radar surface in the grille from dirt, ice and snow.
Heavy rain or snow blocking the radar signals.	No action. Sometimes the radar does not work during heavy rain or snowfall.
Water or snow from the road surface swirls up and blocks the radar signals.	No action. Sometimes the radar does not work on a very wet or snowy road surface.
The radar surface has been cleaned but the message remains.	Wait. It could take several minutes for the radar to sense that it is no longer blocked.

Symbols and messages in the display

Symbol	Message	Specification
		Standby mode or active mode without detected vehicle.
		Active mode with detected vehicle to which cruise control adapts the speed.
		Time interval activated, during adjustment.
		Time interval activated, after adjustment.
	Turn on DSTC to enable Cruise	Cruise control cannot be activated until the stability and traction control function (DSTC) has been set in Normal mode.
	Cruise control Cancelled	The cruise control has been deactivated - the driver has to regulate the speed.

* Option/accessory, for more information, see Introduction.



Adaptive cruise control*

Symbol	Message	Specification
	Cruise control Unavailable	<p>Cruise control cannot be activated.</p> <p>This could be due to:</p> <ul style="list-style-type: none"> • brake temperature is high • the radar sensor is blocked by e.g. wet snow or rain.
	Radar blocked See manual	<p>Cruise control temporarily disengaged.</p> <ul style="list-style-type: none"> • The radar sensor is blocked and cannot detect other vehicles. For example, in the event that heavy rain or if slush has collected in front of the radar sensor. <p>Read about the limitations of the radar sensor, see page 170.</p>
	Cruise control Service required	<p>Cruise control not working.</p> <ul style="list-style-type: none"> • Contact a workshop - an authorised Volvo workshop is recommended.



04 Comfort and driving pleasure

Distance Alert*

General

Distance Alert is a function that informs the driver about the time interval to vehicles in front.

Distance alert is active at speeds above 30 km/h and only reacts to vehicles driving in front of the car, in the same direction. No distance information is provided for oncoming, slow or stationary vehicles.



A small section of the red warning lamp in the windscreen illuminates with a constant glow if the distance to the vehicle in front is shorter than the set time interval.

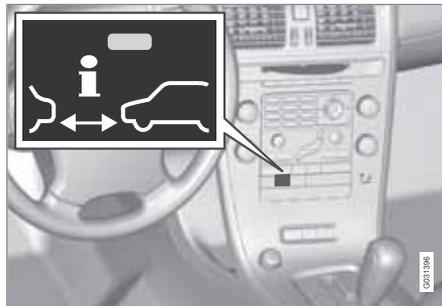
NOTE

Distance Alert is deactivated during the time that Adaptive Cruise Control is active.

WARNING

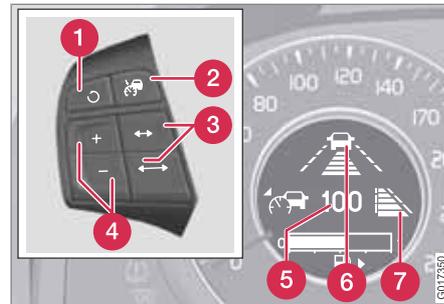
Distance Alert only reacts if the distance to the vehicle ahead is shorter than the preset value - the speed of the driver's vehicle is not affected.

Operation



Press the button in the centre console to switch the function on or off. The function is switched on if one lamp is illuminated in the button.

Set time interval



Controls and display.

- ③ Time interval - Increase/decrease
- ⑥ Time interval - On, during adjustment
- ⑦ Time interval - On, after adjustment

Time intervals are increased using and decreased using .



Different time intervals to the vehicle in front can be selected and shown in the display as 1-5 horizontal lines - the more lines the longer the time distance. One line corresponds to approximately

1 second to the vehicle in front, 5 lines approximately 2.5 seconds.



Distance Alert*



The number of lines for the selected time interval is shown during the setting itself and for several seconds afterwards. Then a smaller scale version of the symbol is shown to the right of the display.

The same symbol is also shown when adaptive cruise control is activated.

i NOTE

The higher the speed, the longer the calculated distance in metres for a specific time interval.

The set time interval is also used by the adaptive cruise control function, see page 168.

Only use the time interval that is allowed in accordance with local traffic regulations.

Limitations

The function uses the same radar sensor as adaptive cruise control and the collision warning system. For more information on the radar sensor and its limitations, see page 170.

i NOTE

Strong sunlight, reflections or strong variations in light intensity, as well as wearing sunglasses, could mean that the warning light in the windscreen cannot be seen.

Poor weather or winding roads could affect the radar sensor's capacity to detect vehicles in front.

The size of other vehicles could also affect detection capacity, e.g. motorcycles. This could mean that the warning lamp illuminates at a shorter distance than the setting or that the warning is temporarily absent.

Extremely high speeds can also cause the lamp to illuminate at a shorter distance than that set due to limitations in sensor range.

04

Symbols and messages in the display

Symbol	Message	Specification
		Set time interval, during adjustment.
		Set time interval, after adjustment.





04 Comfort and driving pleasure

Distance Alert*

Symbol	Message	Specification
	Radar blocked. See manual	Distance Alert temporarily disengaged. The radar sensor is blocked and cannot detect other vehicles, e.g. in the event that heavy rain or slush has collected in front of the radar sensor. Read about the limitations of the radar sensor, see page 170.
	Collision warn. Service required	Distance Alert and Collision Warning with Auto Brake are fully or partially disengaged. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

04



City Safety™

General

City Safety™ is a function for helping the driver to avoid a collision when driving in queues, amongst other things, when changes in the traffic ahead, combined with a lapse in attention, could lead to an incident.

The function is active at speeds of up to 30 km/h and it helps the driver by automatically braking the car in the event of imminent risk of collision with vehicles in front, should the driver not react in time by braking and/or steering away.

City Safety™ is activated in situations where the driver should have started braking earlier, which is why it cannot help the driver in every situation.

City Safety™ is designed to be activated as late as possible in order to avoid unnecessary intervention.

City Safety™ must not be used as an excuse for the driver to change his/her driving style. If the driver solely relies on City Safety™ to do the braking, there will be a collision sooner or later.

The driver or passengers normally only notice City Safety™ if a situation arises where the car is extremely close to being in a collision.

If the car is also equipped with a Collision Warning function with Auto Brake*, these two systems complement each other. For more information on Collision Warning function with Auto Brake, see page 182.

 **IMPORTANT**

Maintenance and replacement of City Safety™ components must only be performed by a workshop - an authorised Volvo workshop is recommended.

 **WARNING**

City Safety™ does not engage in all driving situations or traffic, weather or road conditions.

City Safety™ does not react to vehicles driving in a different direction from the car, to small vehicles, motorcycles and bicycles or to humans and animals.

City Safety™ can prevent collision at a speed difference of less than 15 km/h - at a higher speed difference, it is only possible to reduce collision speed. In order to obtain full brake function, the driver must depress the brake pedal.

Never wait for City Safety™ to engage. The driver always bears responsibility for maintaining the proper distance and speed.

Function

Laser sensor transmitter and receiver window.

City Safety™ detects the traffic in front of the car with a laser sensor fitted in the top edge of the windscreen. If there is an imminent risk of collision, City Safety™ will automatically brake the car, which may be experienced as sudden braking.

If the speed difference is 4-15 km/h in relation to the vehicle in front then City Safety™ can completely prevent a collision.

City Safety™ activates a short, sharp braking and stops the car in normal circumstances, just behind the vehicle in front. For most drivers this is well outside normal driving style and may be experienced as being uncomfortable.



04 Comfort and driving pleasure

City Safety™

If the difference in speed between the vehicles is 15-30 km/h, City Safety™ may not prevent the collision on its own. To obtain full brake force, the driver must depress the brake pedal. This could make it possible to prevent a collision even at speed differences above 15 km/h.

When the function is activated and brakes, the instrument panel display shows a message to the effect that the function is/has been active.

NOTE

The brake lights come on when City Safety™ brakes the car.

Operation

NOTE

The City Safety™ function is always enabled after the engine has been started via key position **I** and **II** (see page 74 on key positions).

On and Off

In certain situations, it may be advisable to disable City Safety™, e.g. where leafy branches could sweep over the bonnet and/or windscreen.

After starting the engine City Safety™ can be deactivated as follows:



Display and direction indicator stalk.

- 1** Thumbwheel
- 2** RESET

1. Use the thumbwheel to scroll to **City Safety** on the display.
2. Press the **RESET** button for 1 second to switch to **Off**.

However, the function will be enabled the next time the engine is started, regardless of whether the system was enabled or disabled when the engine was switched off.

WARNING

The laser sensor also transmits laser light when City Safety™ is disabled manually.

To enable City Safety™ again:

- Follow the same procedure as for disabling, but select the **On** option.

Limitations

The sensor in City Safety™ is designed to detect cars and other large vehicles in front of the car irrespective of whether it is day or night.

However, the sensor has limitations and has poorer functionality in e.g. heavy snowfall or rain, dense fog, dust storms or snow flurries. Mist, dirt, ice or snow on the windscreen may disrupt the function.

Low-hanging objects, e.g. a flag/pennant for projecting load, or accessories such as auxiliary lamps and bull bars that are higher than the bonnet limit the function.

The infrared light from the sensor in City Safety™ measures how the light is reflected. The sensor cannot detect objects with low reflection capacity. The rear sections of the vehicle generally reflect the light sufficiently thanks to the number plate and rear light reflectors.

On slippery road surfaces the braking distance is extended, which may reduce the capacity of City Safety™ to avoid a collision. In such situations the ABS and DSTC systems will provide best possible braking force with maintained stability.



When the car is reversing City Safety™ cannot be activated.

City Safety™ is not activated at low speeds - under 4 km/h, which is why the system does not intervene in situations where a vehicle in front is being approached very slowly, e.g. when parking.

Driver commands are always prioritised, which is why City Safety™ does not intervene in situations where the driver is steering, braking or accelerating in a clear manner, even if a collision is unavoidable.

When City Safety™ has prevented a collision with a stationary object the car remains stationary for a maximum of 1.5 seconds. If the car is braked for a vehicle in front that is moving, then speed is reduced to the same speed as that maintained by the vehicle in front.

On a car with manual gearbox the engine stops when City Safety™ has stopped the car, unless the driver manages to depress the clutch pedal beforehand.

NOTE

- Keep the windscreen surface in front of the laser sensor free from ice, snow and dirt (see the illustration for sensor location, page 177).
- Do not affix or mount anything on the windscreen in front of the laser sensor
- Remove ice and snow from the bonnet - snow and ice must not exceed a height of 5 cm.

Fault tracing and action

If the message **Windscreen Sensors blocked** is shown on the instrument panel display, it indicates that the laser sensor is blocked and cannot detect vehicles in front of the car. This means that City Safety™ is not operational.

The **Windscreen Sensors blocked** message is not shown for all situations in which the laser sensor is blocked. The driver must therefore be diligent about keeping the windscreen and area in front of the laser sensor clean.

The following table presents possible causes for the message being shown, along with suggestions for appropriate action.

Cause	Action
The windscreen surface in front of the laser sensor is dirty or covered with ice or snow.	Clean the windscreen surface in front of the sensor from dirt, ice and snow.
The laser sensor field of vision is blocked.	Remove the blocking object.



City Safety™

IMPORTANT

If there are cracks, scratches or stone chips in the windscreen in front of either of the laser sensor's "windows" and they cover a surface of approx. 0.5 x 3.0 mm (or larger), then a workshop must be contacted for repair or replacement of the windscreen (see the illustration for sensor location, page 177) - an authorised Volvo workshop is recommended.

Failure to take action may result in reduced performance for City Safety™.

To avoid the risk of reducing City Safety™ performance the following also applies:

- The same type or a Volvo-approved windscreen must be fitted during replacement
- The same type or Volvo-approved windscreen wipers must be fitted during replacement.

Laser sensor

The City Safety™ function includes a sensor which transmits laser light. Contact a qualified workshop in the event of a fault or if the laser sensor needs servicing - an authorised Volvo workshop is recommended.

WARNING

Never look into the laser sensor (which emits spreading invisible laser radiation) at a distance of 100 mm or closer with magnifying optics such as a magnifying glass, microscope, lens or similar optical instruments - this would involve a risk of eye injury (the illustration on page 177 shows sensor location).

For more information on the laser sensor, see page 10.

Symbols and messages in the display

In conjunction with automatic braking by the City Safety™ system, one or more symbols may illuminate on the instrument panel and a message may appear on its display.

A text message can be acknowledged by briefly pressing the **READ** button on the direction indicator stalk.



City Safety™

Symbol	Message	Meaning/Action
 	Auto braking by City Safety	City Safety™ is braking or has automatically braked.
 	Windscreen Sensors blocked	<p>The laser sensor is temporarily non-operational because something is blocking it.</p> <ul style="list-style-type: none"> Remove the object blocking the sensor and/or clean the windscreen in front of the sensor. <p>Read about the limitations of the laser sensor, see page 178.</p>
 	City Safety Service required	<p>City Safety™ is not operational.</p> <ul style="list-style-type: none"> Visit a workshop if the message remains - an authorised Volvo workshop is recommended.
-	City Safety ON/OFF	City Safety™ can be manually disabled/enabled, whereby OFF or ON is selected, see section "On/Off".
-	City Safety Unavailable	<p>If the text Unavailable is shown instead of Off or On, City Safety™ is switched off due to a technical fault.</p> <p>City Safety Service required is shown in the instrument panel display prior to this.</p>



Collision Warning with Auto Brake*

General

Collision Warning with Auto Brake (Collision Warning with Auto Brake) is designed to assist the driver when there is a risk of colliding with a vehicle in front that is stationary or driving in the same direction.

The collision warning system has the following three functions.

- **Collision Warning** – Warns the driver of a potentially imminent collision.
- **Brake Support** – Assists the driver to brake effectively in a critical situation.
- **Auto Brake** – Brakes the car automatically when a collision is unavoidable. The Auto Brake function cannot prevent a collision but instead aims to reduce collision speed.

The collision warning system is activated in situations where the driver should have started braking a lot earlier, which is why the function cannot help the driver in every situation.

Collision Warning with Auto Brake is designed to be activated as late as possible in order to avoid unnecessary intervention.

The collision warning system must not be used as an excuse for the driver to change his/her driving style. If the driver solely relies on Collision Warning with Auto Brake to do the braking, there will be a collision sooner or later.

The collision warning system and City Safety™ complement each other. For more information on City Safety™, see page 177.

! IMPORTANT

Maintenance of collision warning system components must only be performed at a workshop - an authorised Volvo workshop is recommended.

! WARNING

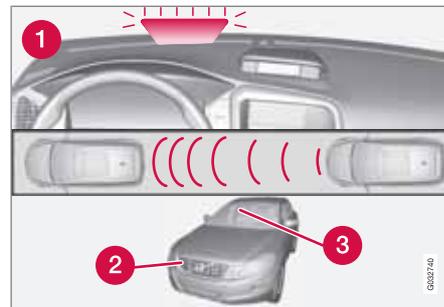
The collision warning system does not work in all driving situations and traffic, weather and road conditions. The collision warning system does not react to vehicles driving in another direction to the car or to people and animals.

Warning only activated in the event of a high risk for collision. The Function section and the section after advise about limitations of which the driver should be aware before using Collision Warning with Auto Brake.

The Auto Brake function can only reduce the collision speed. The driver must depress the brake pedal to achieve full brake function.

Never wait for a collision warning. When driving you are responsible for maintaining the correct distance and speed, even when the collision warning system is used.

Function



Functions overview.

- 1 Visual warning signal in the event of a collision risk
- 2 Radar sensor
- 3 Camera sensor

Collision warning

Together with a camera sensor, the radar sensor detects stationary vehicles as well as vehicles driving in the same direction in front of the car.

In the event of there being a risk of collision with such a vehicle your attention is drawn with a red flashing warning lamp and a warning sound.

**Collision Warning with Auto Brake*****Brake support**

If the risk of collision still increases after the collision warning then the brake support is activated. The brake support prepares the brake system for rapid braking and the brakes are applied gently, which may be noticed as a slight jerk.

If the brake pedal is depressed sufficiently quickly then full brake function is implemented, even with light pedal force.

Auto Brake

If the driver has not yet started an evasive manoeuvre in this situation and the risk of a collision is imminent then the Auto Brake function comes into effect, without the driver needing to touch the brake pedal. Braking then takes place with limited brake force in order to reduce collision speed. The driver has to brake in order to achieve full brake force.

Operation

Settings are made from the centre console display via a menu system. For information on how the menu system is used, see page 128.

NOTE

The Brake Support and Auto Brake functions are always enabled - they cannot be deactivated.

On and Off

To select whether the collision warning system should be switched on or off: In the menu **Car settings** → **Collision warning settings** choose between the options **On** or **Off**.

When starting the engine, the setting that was selected when the engine was switched off is obtained automatically.

Activating/deactivating warning signals

The warning lamp is activated automatically when the engine is started if the system is switched on.

The warning sound can be activated/deactivated separately using the options for **On** or **Off** in the menu system under **Car settings** → **Collision warning settings** → **Warning sound**.

Set warning distance

The warning distance regulates the distance at which the visual and acoustic warnings are deployed. Select one of the options from **Long**, **Normal** or **Short** in the menu system

under **Car settings** → **Collision warning settings** → **Warning distance**.

The warning distance determines the system's sensitivity. Warning distance **Long** provides an earlier warning. First test with **Long** and if this setting produces too many warnings, which could be perceived as irritating in certain situations, then change to warning distance **Normal**.

Only use warning distance **Short** in exceptional cases, e.g. for dynamic driving.

NOTE

When the adaptive cruise control is in use the warning lamp and warning sound will be used by the cruise control even if the collision warning system is switched off.

The collision warning system warns the driver in the event of a risk of a collision, but the function cannot shorten driver reaction time.

In order for the collision warning system to be effective, always drive with the Distance Alert set at time interval 4 – 5. see page 174.



Collision Warning with Auto Brake*

NOTE

Even if the warning distance has been set to **Long** then in certain situations warnings could be perceived as being late. E.g. in the event of large differences in speed or if vehicles in front brake heavily.

Checking settings

The settings required can be controlled on the centre console display. Access via the menu for **Car settings** → **Collision warning settings**, see page 129.

Limitations

The collision warning system is active from and including approx. 7 km/h.

The visual warning signal may be difficult to notice in the event of strong sunlight, reflections, when sunglasses are being worn or if the driver is not looking straight ahead. The warning sound should therefore always be activated.

On slippery road surfaces the braking distance is extended, which may reduce the capacity to avoid a collision. In such situations the ABS and DSTC systems will provide best possible braking force with maintained stability.

NOTE

The visual warning signal can be temporarily disengaged in the event of high passenger compartment temperature caused by strong sunlight for example. If this occurs then the warning sound is activated even if it is deactivated in the menu system.

- Warnings may not appear if the distance to the vehicle in front is small or if steering wheel and pedal movements are large, e.g. a very active driving style.

WARNING

Warnings and brake interventions could be implemented late or not at all if the traffic situation or external influences mean that the radar or camera sensor cannot detect a vehicle in front correctly.

The sensor system has a limited range for stationary or slow vehicles so the system provides less effective warnings or no warnings at all at a higher vehicle speed (above 70 km/h) for such vehicles.

Warnings for stationary or slow-moving vehicles could be disengaged due to darkness.

The collision warning system uses the same radar sensors as adaptive cruise control. For

more information on the radar sensor and its limitations, see page 170.

An absent or late warning could mean that there is no brake support or it comes late.

If warnings are perceived as being too frequent or disturbing then the warning distance can be reduced. This would lead to the system warning at a later stage, which reduces the total number of warnings.

When the car is reversing Collision Warning with Auto Brake cannot be activated.

Collision Warning with Auto Brake is not activated at low speeds - under 4 km/h, which is why the system does not intervene in situations where the car is approaching a vehicle in front very slowly, e.g. when parking.

Driver commands are always prioritised, which is why Collision Warning with Auto Brake does not intervene in situations where the driver is steering, braking or accelerating in a clear manner, even if a collision is unavoidable.

When Auto Brake has prevented a collision with a stationary object the car remains stationary for a maximum of 1.5 seconds. If the car is braked for a vehicle in front that is moving, then speed is reduced to the same speed as that maintained by the vehicle in front.



Collision Warning with Auto Brake*

On a car with manual gearbox the engine stops when Auto Brake has stopped the car, unless the driver manages to depress the clutch pedal beforehand.

Camera sensor limitations

The car's camera sensor is used by the three functions - Collision Warning with Auto Brake, Driver Alert Control, see page 188 and Lane Departure Warning, see page 191.

NOTE

Keep the windscreen surface in front of the camera sensor clean from ice, snow, mist and dirt.

Do not attach or fit anything to the windscreen in front of the camera sensor, as this could reduce or prevent the function of one or more camera-dependent systems.

The camera sensors have limitations similar to the human eye, i.e. they "see" worse in darkness, heavy snowfall or rain and in thick fog for example. Under such conditions the functions of camera-dependent systems could be significantly reduced or temporarily disengaged.

Strong oncoming light, reflections in the carriageway, snow or ice on the road surface, dirty road surfaces or unclear lane markings could also significantly reduce a camera sensor function. Functions such as scanning the carriageway and detecting other vehicles for example.

During very high temperatures the camera is temporarily switched off for about 15 minutes after the engine is started in order to protect camera functionality.

Fault tracing and action

If the display shows the message **Windscreen Sensors blocked** then this means that the camera sensor is blocked and cannot detect vehicles or road markings in front of the car.

In turn this means that the Collision Warning with Auto Brake, Lane Departure Warning and Driver Alert Control functions are not operating with full functionality.

The following table presents possible causes for a message being shown along with the appropriate action.

Cause	Action
The windscreen surface in front of the camera is dirty or covered with ice or snow.	Clean the windscreen surface in front of the camera from dirt, ice and snow.
Thick fog, heavy rain or snow means that the camera does not work sufficiently well.	No action. At times the camera does not work during heavy rain or snowfall.
The windscreen surface in front of the camera has been cleaned but the message remains.	Wait. It may take several minutes for the camera to measure the visibility.
Dirt has appeared between the inside of the windscreen and the camera.	Visit a workshop to have the windscreen inside the camera cover cleaned - an authorised Volvo workshop is recommended.



04 Comfort and driving pleasure

Collision Warning with Auto Brake*

Symbols and messages in the display

Symbol	Message	Specification
	Collis'n warning OFF	Collision warning system switched off. Shown when the engine is started. The message clears after about 5 seconds or after one press of the READ button.
	Collision warn. Unavailable	The collision warning system cannot be activated. Shown when the driver attempts to activate the function. The message clears after about 5 seconds or after one press of the READ button.
	Auto braking was activated	Auto Brake has been active. The message clears after one press of the READ button.
	Windscreen Sensors blocked	The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. <ul style="list-style-type: none"> Clean the windscreen surface in front of the camera sensor. Read about the limitations of the camera sensor, see page 185.



Collision Warning with Auto Brake*

Symbol	Message	Specification
	Radar blocked. See manual	<p>Collision Warning with Auto Brake is temporarily disengaged.</p> <p>The radar sensor is blocked and cannot detect other vehicles. For example, in the event that heavy rain or if slush has collected in front of the radar sensor.</p> <p>Read about the limitations of the radar sensor, see page 170.</p>
 	Collision warn. Service required	<p>Collision Warning with Auto Brake is fully or partially disengaged.</p> <ul style="list-style-type: none"> • Visit a workshop if the message remains - an authorised Volvo workshop is recommended.



Driver Alert System – DAC*

General information on Driver Alert System

The Driver Alert System is intended to assist drivers whose driving ability is deteriorating or who are inadvertently leaving the lane they are driving on.

The Driver Alert System consists of two different functions, which can either be switched on at the same time or individually:

- Driver Alert Control (DAC)
- Lane Departure Warning (LDW), see page 191.

A switched-on function is set in standby mode and is not activated automatically until speed exceeds 65 km/h.

The function is deactivated again when speed decreases to below 60 km/h.

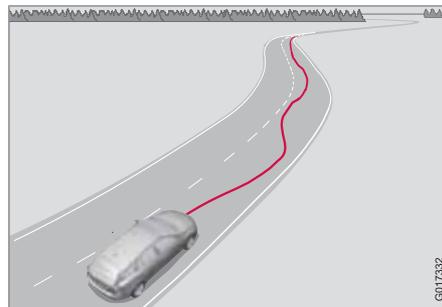
Both functions use a camera which is dependent on the lane having side markings painted on each side.

WARNING

The Driver Alert System does not work in all situations but is instead only intended to be of supplementary assistance.

The driver always has ultimate responsibility that the car is driven safely.

General information on Driver Alert Control - DAC



The function is intended to attract the driver's attention when he/she starts to drive less consistently, e.g. if he/she becomes distracted or starts to fall asleep.

A camera detects the side markings painted on the carriageway and compares the section of the road with the driver's steering wheel movements. The driver is alerted if the vehicle does not follow the carriageway evenly.

NOTE

The camera sensor has certain limitations, see page 185.

The objective for DAC is to detect slowly deteriorating driving ability and it is primarily intended for major roads. The function is not intended for city traffic.

In some cases driving ability is not affected despite driver fatigue. In which case there may not be any warning issued for the driver. For this reason it is always important to stop and take a break in the event of any signs of driver fatigue, irrespective of whether or not DAC issues a warning.

NOTE

The function must not be used to extend a driving stint. Always plan breaks at regular intervals and ensure that you are fully rested.

Limitation

In some cases the system may issue a warning despite driving ability not deteriorating, for example:

- if the driver tests the LDW function.
- in strong side winds.
- on rutted road surfaces.



Driver Alert System – DAC*

Operation

Some settings are made from the centre console display and its menu system. For information on how the menu system is used, see page 128.

The current status can be checked on the trip computer display with the left-hand stalk switch.



- 1 Thumbwheel. Turn until the display shows **Driver Alert**. The second row displays the **Off**, **Unavailable** or **Level mark** options.
- 2 **READ** confirms or clears a warning in the memory.

Activating Driver Alert Control

Using the centre console display with its menu system, search and locate **Car settings** → **Driver Alert**. Select the **On** option.



The function is activated when speed exceeds 65 km/h and remains active as long as the speed is over 60 km/h.

The display shows a level mark with 1-5 bars, where a low number of bars indicates inconsistent driving style. A high number of bars indicates stable driving.

If the vehicle is driven inconsistently then the driver is alerted by an acoustic signal as well as the text message **Driver Alert Time for a break**. The warning is repeated after a time if driving ability does not improve.



WARNING

An alarm should be taken very seriously, as a sleepy driver is often not aware of his/her own condition.

In the event of an alarm or a feeling of tiredness; stop the car in a safe manner as soon as possible and rest.

Studies have shown that it is equally as dangerous to drive while tired as it is under the influence of alcohol.

04

Symbols and messages in the display

Symbol	Message	Specification
	Driver Alert OFF	Function not switched on.
	Driver Alert Unavailable	The carriageway does not have clear side markings or the camera sensor is temporarily disengaged. Read about the limitations of the camera sensor, see page 185.



04 Comfort and driving pleasure

Driver Alert System – DAC*

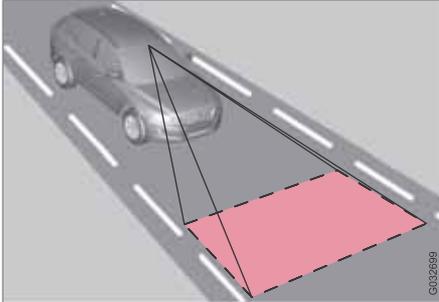
Symbol	Message	Specification
	Driver Alert	The function analyses the driver's driving style. The number of bars can vary in the range 1-5, where a low number of bars indicates inconsistent driving ability. A high number of bars indicates stable driving.
	Driver Alert Time for a break	The vehicle has been driven inconsistently - the driver is alerted by an acoustic warning signal + text.
	Windscreen Sensors blocked	The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. <ul style="list-style-type: none"> • Clean the windscreen surface in front of the camera sensor. Read about the limitations of the camera sensor, see page 185.
 	Driver Alert Sys Service required	The system is disengaged. <ul style="list-style-type: none"> • Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

04



Driver Alert System - LDW*

General information on Lane Departure Warning - LDW



The function is intended to reduce the risk for single-vehicle accidents – accidents where, in certain situations, the vehicle leaves the carriageway and is in danger of driving either into a ditch or into oncoming traffic.

LDW consists of a camera that detects the side markings painted on the carriageway. The driver is alerted by an acoustic signal if the vehicle crosses a side marking.

Operation and function



The function is switched on or off by means of a switch on the centre console. An indicator lamp in the button illuminates when the function is switched on.

The trip computer display shows **Lane Depart Warn Unavailable** when the function is in standby mode.

The LDW function is activated automatically from standby mode after the camera has scanned in the carriageway's side markings and speed exceeds 65 km/h. The trip computer display then shows **Lane Depart Warn Available**.

If the camera can no longer detect the carriageway's side markings or if speed decreases to below 60 km/h then the function resumes standby mode and the display shows **Lane Depart Warn Unavailable**.

If the vehicle crosses the left or right-hand side marking of the carriageway without due cause then the driver is alerted by an acoustic signal.

No warning is given in the following situations:

- Direction indicators activated
- The driver has his/her foot on the brake pedal¹
- In the event of the accelerator pedal being depressed rapidly¹
- In the event of rapid steering wheel movements¹
- In the event of a sudden turn so that the car rolls.

The camera sensor also has certain limitations. For more information, see page 185.

i NOTE

The driver is only warned once each time the wheels cross a line. So there is no acoustic alarm when there is a line between the car's wheels.

¹ A warning is still given when Increased sensitivity is selected, see page 193.



04 Comfort and driving pleasure

Driver Alert System - LDW*

Symbols and messages in the display

Symbol	Message	Specification
	Lane departure warning On/Off	The function is switched on/off. Shown at switch-on/off. The text disappears after 5 seconds.
	Lane Depart Warn Unavailable	Speed is lower than 60 km/h, the carriageway does not have clear side markings or the camera sensor is temporarily disengaged. Read about the limitations of the camera sensor, see page 185.
	Lane Depart Warn Available	The function scans the carriageway's side markings.
	Windscreen Sensors blocked	The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. <ul style="list-style-type: none"> Clean the windscreen surface in front of the camera sensor. Read about the limitations of the camera sensor, see page 185.
	Driver Alert Sys Service required	The system is disengaged. <ul style="list-style-type: none"> Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

04

**Driver Alert System - LDW*****Personal preferences**

See the centre console display with its menu system and there search for **Car settings** → **Lane departure warning**, see page 129.

Select from the options:

On at start up - This option sets the function in standby mode each time the engine is started. Otherwise the same value as when the engine was switched off is obtained.

Increased sensitivity – This option increases sensitivity, an alarm is triggered earlier and fewer limitations apply.



Park assist syst*

General

Parking assistance is used as an aid to parking. An acoustic signal as well as symbols on the centre console's display screen indicate the distance to the detected obstacle.

Parking assistance is available in two variants:

- Rear only
- Both front and rear.

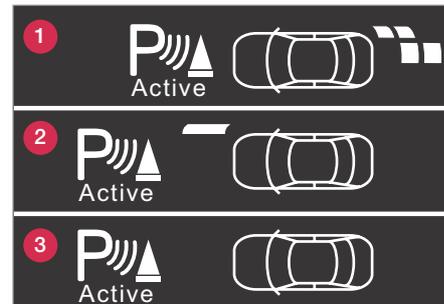
WARNING

- Parking assistance does not relinquish the driver's own responsibility during parking.
- The sensors have blind spots where obstacles cannot be detected.
- Be aware of e.g. people or animals near the car.

Function



The system is automatically activated when the car is started and the switch's On/Off lamp is illuminated. If parking assistance is switched off with the button, the lamp goes out.



Display screens in different situations.

- 1 Display in a car with rear sensors only - obstacle detected by both right-hand sensors.
- 2 Display in a car with front and rear sensors - right-hand front sensor is 30 cm or closer to a detected obstacle.
- 3 Display in a car with front and rear sensors - no obstacle front or rear detected.

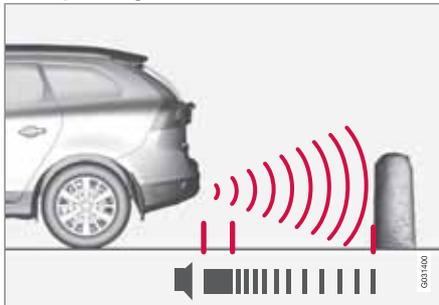
The centre console's display screen shows an overview of the relationship between the car and detected obstacle.

Marked sectors show which of the four sensor(s) detected an obstacle. The closer to the car symbol a selected sector box is, the shorter the distance between the car and a detected obstacle.

**Park assist syst***

The frequency of the signal increases the shorter the distance to an obstacle, in front of or behind the car. Other sound from the audio system is muted automatically.

When the distance is within 30 cm the tone is constant and the marked sensors' bar is fully filled in, see figure (2). If the detected obstacle is within the distance for the constant tone both behind and in front of the car, then the tone sounds alternately from the loudspeakers.

Rear parking assistance

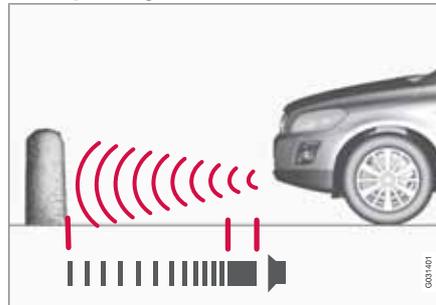
The distance covered to the rear of the car is about 1.5 metres. The acoustic signal for obstacles behind comes from one of the rear loudspeakers.

Rear parking assistance is activated when reverse gear is engaged.

The system must be deactivated when reversing with a trailer or bike carrier on the towbar or similar - otherwise they would trigger the sensors.

NOTE

Rear parking assistance is deactivated automatically when towing a trailer if Volvo genuine trailer wiring is used.

Front parking assistance

The distance covered in front of the car is about 0.8 metres. The acoustic signal for obstacles in front comes from one of the front loudspeakers.

Front parking assistance is active up to 15 km/h. The lamp in the button is illuminated in order to indicate that the system is activated.

When the speed is below 10 km/h the system is reactivated.

NOTE

Front parking assistance is deactivated when the parking brake is applied or P mode is selected in a car with an automatic gear-box.

IMPORTANT

When fitting auxiliary lamps: Remember that they must not obscure the sensors – the auxiliary lamps could then be detected as obstacles.

Fault indicator

If the information symbol illuminates with constant glow and the information display shows **Park assist syst Service required** then parking assistance is disengaged.



04 Comfort and driving pleasure

Park assist syst*

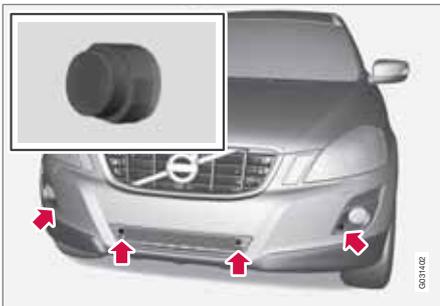
! IMPORTANT

In certain conditions the parking assistance system may produce incorrect warning signals that are caused by external audio sources that emit the same ultrasonic frequencies that the system works with.

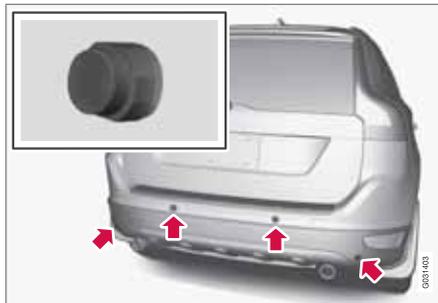
Examples of such sources include horns, wet tyres on asphalt, pneumatic brakes and exhaust noises from motorcycles etc.

04

Cleaning the sensors



Sensor location, front.



Sensor location, rear.

The sensors must be cleaned regularly to ensure that they work properly. Clean them with water and car shampoo.

i NOTE

Dirt, ice and snow covering the sensors may cause incorrect warning signals.



Park assist camera*

General

The parking camera is an assist system and is activated when reverse gear is engaged (can be changed in the settings menu, see page 129).

The camera image is shown on the centre console's screen.

WARNING

- The parking camera serves as an aid. It does not relieve the driver of responsibility when reversing.
- The camera has blind spots, where obstacles cannot be detected.
- Be aware of people and animals in the vicinity of the car.

The camera shows what is behind the car and if something appears from the sides.

The camera shows a wide area behind the car and part of the bumper and any towbar.

Objects on the screen may appear to tilt slightly - this is normal.

NOTE

Objects on the display screen may be closer to the car than they appear to be on the screen.

If another view is active the parking camera system takes over automatically and the camera image is displayed on the screen.

When reverse gear is engaged two unbroken lines are shown graphically which illustrate where the car's rear wheels will roll with the current steering wheel angle, this facilitates tight parking, reversing into tight spaces and for hitching a trailer. The car's approximate exterior dimensions are also illustrated by two dashed lines, the park assist lines can be deactivated in the settings menu.

If the car is also equipped with parking assistance sensors* then their information is displayed graphically as coloured fields in order to illustrate the distance to detected obstacles, see page 199.

The camera is active approx. 5 seconds after reverse gear has been disengaged or until the car's speed exceeds 10 km/h.

The parking camera can also be installed in cars equipped with Volvo original GPS navigator RTI* - Road and Traffic Information System.



Camera location next to the opening handle.

Light conditions

The camera image is adjusted automatically according to prevailing light conditions. Because of this, the image may vary slightly in brightness and quality. Poor light conditions can result in a slightly reduced image quality.

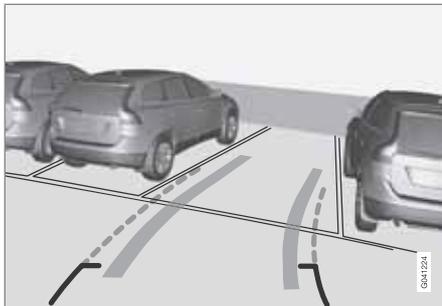
NOTE

Keep camera lenses clear of dirt, snow and ice to ensure the best possible function. This is particularly important in poor light.



Park assist camera*

Park assist lines



Examples of how the park assist lines can be displayed for the driver.

The lines on the screen are projected as if they were at ground level behind the car and are directly related to steering wheel movement, which shows the driver the path the car will take, even when turning.

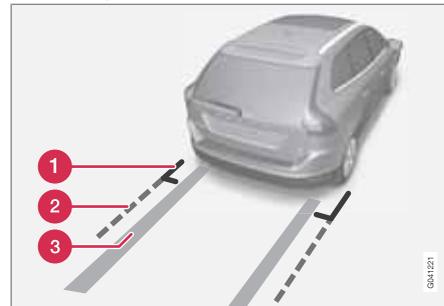
NOTE

- When reversing with a trailer which is not connected electrically to the car, the lines on the display show the route the car will take - not the trailer.
- The screen shows no lines when a trailer is connected electrically to the car's electrical system.
- The parking camera is deactivated automatically when towing a trailer if a Volvo genuine trailer cable is used.

IMPORTANT

Bear in mind that the screen only shows the area behind the car - pay attention to the sides and front of the car when manoeuvring during reversing.

Boundary lines



The system's lines.

- 1 Boundary line, 30 cm zone backwards from the car
- 2 Boundary line, free reversing zone
- 3 "Wheel tracks"

The unbroken line (1) frames in a zone that is within about 30 cm from the bumper.

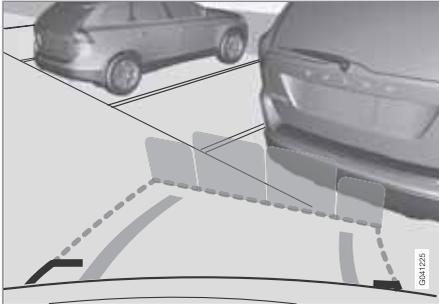
The dashed line (2) frames in a zone up to about 1.5 m back from the bumper. It is also the limit of the car's most protruding parts, such as door mirrors and corners - also during turning.

The wide "wheel tracks" (3) between the side lines indicate where the wheels will roll and can extend about 3.2 m back from the bumper if no obstacle is in the way.



Park assist camera*

Cars equipped with parking assistance sensors*



Coloured areas (x 4, one per sensor) show distance.

If the car is also equipped with parking assistance sensors (see page 194) the distance indication will be more precise and the coloured areas show which of the 4 sensors is/are registering an obstacle.

The colour of the areas changes with decreasing distance to the obstacle - from yellow to orange to red.

- YELLOW: More than 1.5 m
- ORANGE: 0.3-1.5 m
- RED: Less than 0.3 m

Settings

To set the system, press **MENU** and go to Main menu → Car settings → Parking camera settings.

Miscellaneous

- Hitching a trailer - press **CAM** to zoom in on the towball.
- Change between normal and zoomed image by turning **TUNE** or by pressing **CAM**. If there are more cameras installed then turn **TUNE**.
- If the car has several cameras* installed then change between the cameras by turning **TUNE**, press **CAM** repeatedly or use the keypad in the centre console.
- Press **OK/MENU** when a camera is active to access the settings view.
- The camera can be switched off with a long press on **CAM**. A short press on **CAM** reactivates the camera. The default setting is that the camera is activated when reverse gear is engaged.

Limitations

i NOTE

A bike carrier or other accessory mounted on the rear of the car could obscure the camera's view.

Even if it only looks like a relatively small part of the image is obscured, it could be a relatively large sector that is hidden from view. Obstacles could thereby go undetected until they are very close to the car.

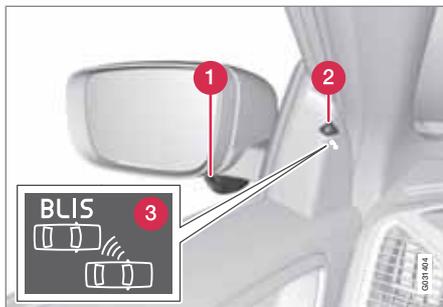
To bear in mind

- Keep the camera lens free from dirt, ice and snow.
- Clean the camera lens regularly with lukewarm water and car shampoo - take care not to scratch the lens.



BLIS* – Blind Spot Information System

General information on BLIS



- 1 BLIS camera
- 2 Indicator lamp
- 3 BLIS symbol

BLIS is an information system based on camera technology that under certain conditions can help the driver to notice vehicles moving in the same direction as the host vehicle in the so-called "blind spot".

WARNING

The system is a supplement to, not a replacement for, a safe driving style and use of the rearview mirrors. It can never replace the driver's attention and responsibility. The responsibility for changing lanes safely always rests with the driver.

The system is designed to work most effectively when driving in dense traffic on multi-lane highways.

When a camera (1) has detected a vehicle inside the blind spot zone the indicator lamp (2) illuminates with a constant glow.

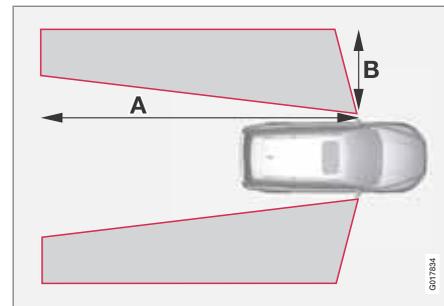
NOTE

The lamp illuminates on the side of the car where the system has detected the vehicle. If the car is overtaken on both sides at the same time then both lamps illuminate.

BLIS advises the driver with a message if a fault arises in the system. If for example the system's cameras are obscured then the BLIS indicator lamp flashes and a message is shown on the information display. In such cases, check and clean the lenses.

If necessary, the system can be switched off temporarily, see the section Activate/deactivate.

Blind spots



$A = \text{approx. } 9.5 \text{ m}$ and $B = \text{approx. } 3 \text{ m}$

Activating/deactivating



Button for activating/deactivating.

**BLIS* – Blind Spot Information System**

BLIS is activated when the engine is started. The indicator lamps in the door panels flash three times when BLIS is activated.

The system can be deactivated/activated after starting the engine with one press on the **BLIS** button.

When BLIS is deactivated, the lamp in the button goes out and a message is shown in the instrument panel display.

When BLIS is activated the light in the button illuminates, a new text message is shown on the display and the indicator lamps in the door panels flash three times. Press the **READ** button to delete the text message. (For a description of messages, see page 132).

When BLIS operates

The system operates when the car is driven at a speed above 10 km/h.

Overtaking

The system is designed to react if:

- you overtake another vehicle at a speed of up to 10 km/h faster than the other vehicle
- you are overtaken by a vehicle travelling up to 70 km/h faster than you are travelling.

WARNING

BLIS does not work in sharp bends.

BLIS does not work when the car is reversing.

A wide trailer coupled to the car can conceal other vehicles in adjacent lanes. It can prevent the vehicle in the screened area from being detected by BLIS.

Daylight and darkness

In daylight the system reacts to the shape of the surrounding vehicles. The system is designed to detect motor vehicles such as cars, trucks, buses and motorcycles.

In darkness the system reacts to the headlamps of surrounding vehicles. If the headlamps of surrounding vehicles are not switched on then the system does not detect the vehicles. This means for example that the system does not react to a trailer without headlamps which is towed behind a car or truck.

WARNING

The system does not react to cyclists or moped riders.

The BLIS cameras have limitations similar to those of the human eye, i.e. they do not "see" as well e.g. in heavy snowfall, against strong light or in thick fog.

Cleaning

In order to work most effectively the BLIS camera lenses must be clean. The lenses can be cleaned with a soft cloth or damp sponge. Clean the lenses carefully so that they are not scratched.

IMPORTANT

The lenses are electrically heated to melt ice or snow. If necessary, brush snow away from the lenses.

Messages on the display

Message	Specification
Blind-spot info system ON	The BLIS system is activated.
Blind spot syst. Service required	Blind spot syst. disengaged - contact a workshop.
Blind spot syst. Camera blocked	The BLIS camera is blocked by dirt, snow or ice - clean the lenses.



BLIS* – Blind Spot Information System

04

Message	Specification
Blind spot syst. Reduced function	<p>Reduced function in the data transmission between the BLIS system's camera and the car's electrical system.</p> <p>The camera resets itself when the data transmission between the BLIS system's camera and the car's electrical system returns to normal.</p>
Blind-spot info system OFF	The BLIS system is deactivated.

! IMPORTANT

Repair of the BLIS system components must only be performed by a workshop - an authorised Volvo workshop is recommended.

Limitations

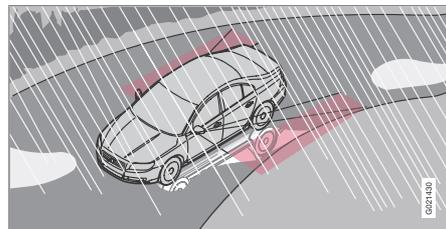
In some situations the BLIS indicator lamp may illuminate despite there being no other vehicle within the blind spot.

i NOTE

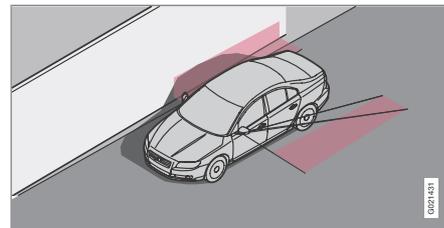
If the BLIS indicator lamp illuminates on isolated occasions despite there being no other vehicle within the blind spot then this does not mean that a fault has arisen in the system.

In the event of a fault in the BLIS system the display shows the text **Blind spot syst. Service required.**

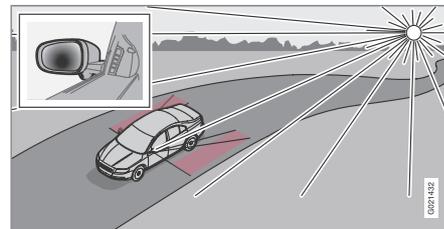
Here are several examples of situations where the BLIS indicator lamp may illuminate even if there is no other vehicle within the blind spot.



Reflection from shiny wet road surface.



Own shadow on large light smooth surface, e.g. noise barrier or concrete road surface.

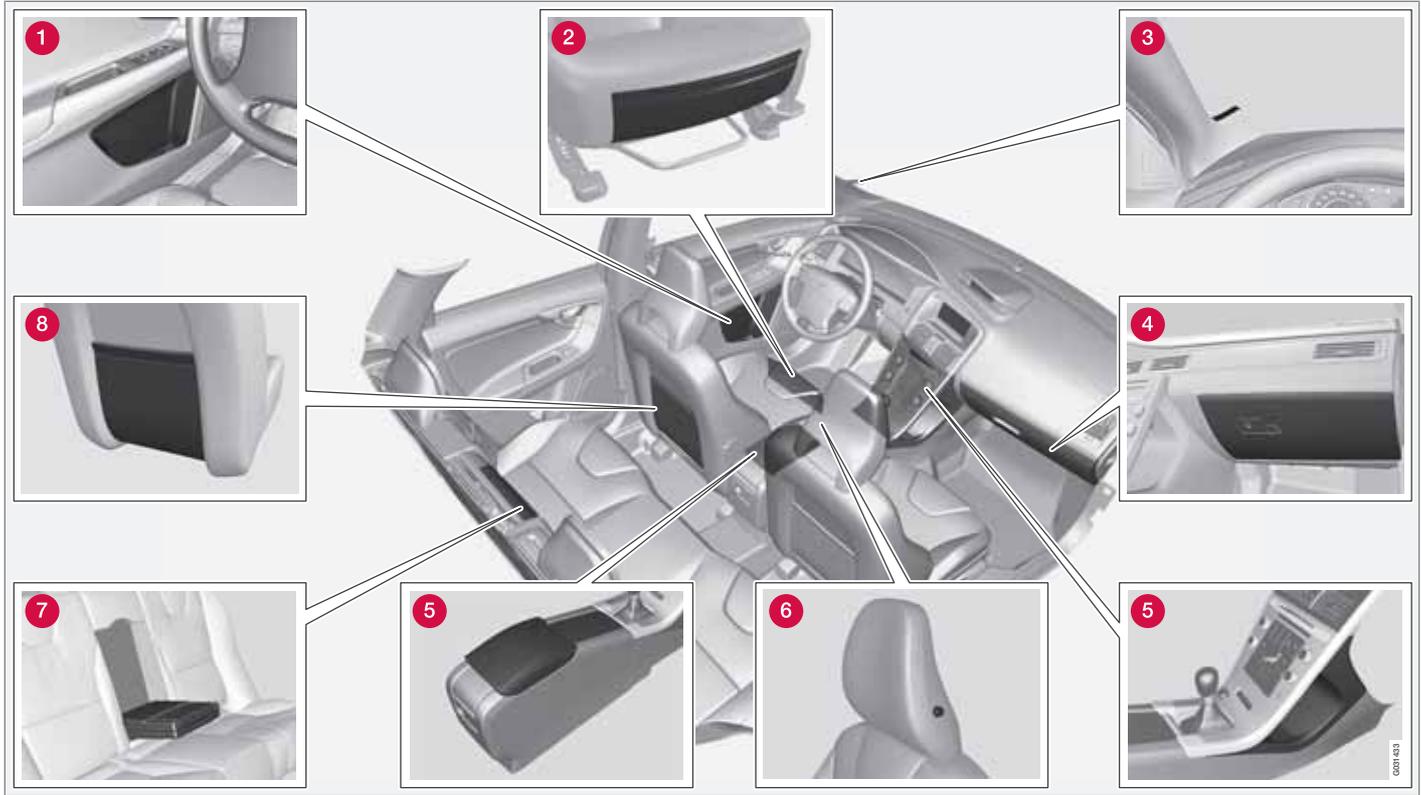


Low stationary sunlight shining into the camera.



Comfort inside the passenger compartment

Storage spaces



04





Comfort inside the passenger compartment

- 1 Storage compartment in door panel
- 2 Storage pocket* on front edge of front seat cushions
- 3 Ticket clip
- 4 Glovebox
- 5 Storage compartment, cup holder
- 6 Jacket holder
- 7 Cup holder* in armrest, rear seat
- 8 Storage pocket

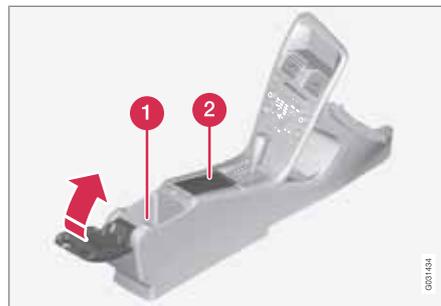
Jacket holder

The jacket holder is only designed for light clothing.

WARNING

Keep loose objects such as mobile phones, cameras, remote controls for accessories, etc. in the glove compartment or other compartments. Otherwise they may injure people in the car in the event of sudden braking or a collision.

Tunnel console



- 1 Storage compartment (e.g. for CDs) and USB*/AUX input under the armrest.
- 2 Includes cup holder for driver and passenger. (If ashtray and cigarette lighter are specified then there is a cigarette lighter in the 12 V socket for the front seat, see page 205, and a detachable ashtray in the cup holder.)

Avoid storing coins, keys or similar metal objects in the cup holder as such objects could accidentally trigger the alarm*, see page 62.

Cigarette lighter and ashtray*

The ashtray in the tunnel console is detached by lifting the tray straight up.

Activate the lighter by pushing in the button. The button pops out when the lighter is hot. Pull

out the lighter and light a cigarette on the heated coils.

Glovebox



The owner's manual and maps can be kept here for example. There are also holders for pens on the inside of the lid. The glovebox can be locked with the key blade, see page 49.

Floor mats*

Volvo supplies specially manufactured floor mats.



Comfort inside the passenger compartment

! WARNING

The floor mat at the driver's seat must be firmly fitted and secured in the attachment clips to prevent it from being trapped around and under the pedals.

Vanity mirror



Vanity mirror with lighting.

The lamp for the vanity mirror, on the driver's side* and passenger side respectively, is switched on automatically when the cover is raised.

12 V socket



12 V socket, front seat.



12 V socket in tunnel console, rear seat.

The electrical socket can be used for 12 V accessories, such as mobile phone chargers and coolers. For the socket to supply current,

the remote control key must be in at least key position I, see page 74.

! IMPORTANT

Max. socket is 10 A (120 W) if one socket is used at a time. If both sockets are used simultaneously, 7.5 A (90 W) per socket is applicable.

! WARNING

Always leave the plug in the socket when the socket is not in use.

Electrical socket in cargo area*

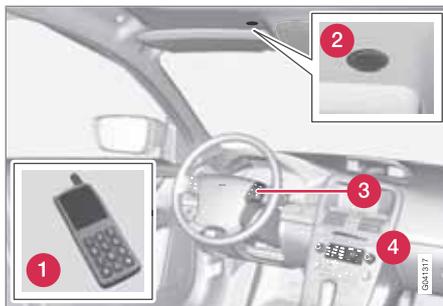
For more information, see page 226.



04 Comfort and driving pleasure

Bluetooth handsfree*

General



System overview.

- 1 Mobile phone
- 2 Microphone
- 3 Steering wheel keypad
- 4 Centre console

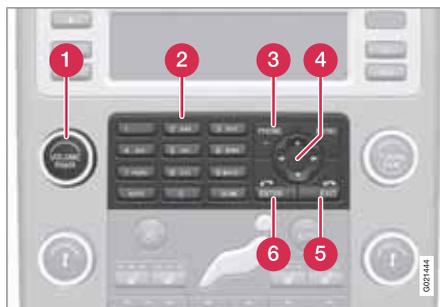
Bluetooth™

A mobile phone equipped with Bluetooth™ can be connected wirelessly to the audio system. The audio system then works handsfree, with the option to control a range of the mobile phone's functions remotely. The mobile phone can be operated by its own keys irrespective of whether or not it is connected.

NOTE

Only a selection of mobile phones are fully compatible with the handsfree function. Volvo recommends that you seek assistance from an authorised Volvo dealer or visit www.volvocars.com for information on compatible phones.

Phone functions, controls overview



Centre console control panel.

- 1 **VOLUME** – Same functionality available in steering wheel keypad.
- 2 Number and letter buttons
- 3 **PHONE** - On/off and standby mode
- 4 Navigation button

- 5 **EXIT** - End/refuse phone calls, clear entered characters, interrupt current function. Same functionality available in steering wheel keypad.
- 6 **ENTER** – Accepted calls. A press of the button reveals latest dialled numbers. Same functionality available in steering wheel keypad.

Remember

The menus are controlled from the centre console and the steering wheel keypad. For general information on menus, see page 128.

NOTE

If the car is equipped with both Bluetooth™ handsfree and built-in phone then there is an additional menu (for changing the phone) in the phone menu, see page 129.

Activating/deactivating

A short press on **PHONE** activates the handsfree function. The text **PHONE** at the top of the display shows that it is in phone mode. The symbol  shows that the handsfree function is active.

One long press on **PHONE** deactivates the handsfree function and disconnects a connected phone.



Bluetooth handsfree*

Connect mobile phone

A mobile phone is connected in different ways depending on whether or not it has been connected previously. To connect a mobile phone for the first time, follow one of the sets of instructions below:

Alternative 1 - via the car's menu system

1. Make the mobile phone detectable/visible via Bluetooth™, see mobile phone manual or www.volvocars.com.
2. Activate the handsfree function with **PHONE**.
 - > Menu option **Add phone** appears on the display. If one or more mobile phones have already been registered then these are also shown.
3. Select **Add phone**.
 - > The audio system searches for mobile phones in the vicinity. The search takes approximately 30 seconds. The mobile phones detected are specified with their respective Bluetooth™ name in the display. The handsfree function's Bluetooth™ name is shown in the mobile phone such as **My Car**.

4. Choose one of the mobile phones in the audio system display.
5. Enter the number series shown in the audio system display via the mobile phone keypad.

Alternative 2 - via the phone's menu system

1. Activate the handsfree function with **PHONE**. If there is a phone connected, disconnect the connected phone.
2. Search with the phone's Bluetooth™, see the mobile phone manual.
3. Select **My Car** in the list of units detected in your mobile phone.
4. Enter the PIN code '1234' into the mobile phone when prompted for the PIN code.
5. Select to connect to **My Car** from the mobile phone.

The mobile phone is registered and connected automatically to the audio system while the text **Synchronising** is shown in the display. For more information on how mobile phones are registered, see page 209.

When the connection is established the symbol  is shown and the mobile phone Bluetooth™ name is shown in the display. Now the

mobile phone can be controlled from the audio system.

To call

1. Make sure that the text **PHONE** is shown at the top of the display and that the  symbol is visible.
2. Dial the number or use the phone book, see page 209.
3. Press **ENTER**.

The call is interrupted with **EXIT**.

Disconnecting the mobile phone

Automatic disconnection takes place if the mobile phone moves out of the audio system's range. For more information on connection, see page 209.

Manual disconnection takes place by deactivating the handsfree function with one long press on **PHONE**. The handsfree function is also deactivated when the engine is switched off or when a door is opened¹.

When the mobile phone has been disconnected an ongoing call can be continued with the mobile phone's built-in microphone and speaker.

¹ Only Keyless Drive.



Bluetooth handsfree*

NOTE

Some mobile phones require that the changeover from handsfree is confirmed from the phone's keypad.

Making and receiving calls

Incoming call

Calls are accepted with **ENTER** even if the audio system is in CD or FM mode for example. Refuse or end with **EXIT**.

Automatic answer

The automatic answer function means that calls are accepted automatically.

- Activate/deactivate under **Call options** → **Automatic answer**.

In call menu

Press **MENU** or **ENTER** during an ongoing call to access the following functions:

- **Mute microphone** - audio system microphone is muted.
- **Transfer call to mobile** - the call is transferred to the mobile phone.

NOTE

With certain mobile phones the connection is terminated when the privacy function is used. This is normal. The handsfree function asks if you want to reconnect.

- **Phone book** – searching in the phone book.

NOTE

A new call cannot be started during an ongoing call.

Audio settings

Phone call volume

The call volume can be regulated when the handsfree function is in phone mode. Use the steering wheel keypad or **VOLUME**.

Audio system volume

Providing there is no ongoing call taking place, the audio system volume is controlled as usual with **VOLUME**. In order to control audio system volume during an ongoing call you have to switch to one of the audio sources.

The audio source can be automatically muted for incoming calls under **Phone settings** → **Sounds and volume** → **Mute radio**.

Ring volume

Go to **Phone settings** → **Sounds and volume** → **Ring volume** and adjust with / on the navigation button.

Ring signals

The handsfree function has integrated ring signals that can be selected under **Phone settings** → **Sounds and volume** → **Ring signals** → **Ring signal 1** etc.

NOTE

The connected mobile phone's ring signal is not deactivated when one of the handsfree system's integrated signals is used.

In order to select the connected phone's ring signal², go to **Phone settings** → **Sounds and volume** → **Ring signals** → **Use mobile phone signal**.

² Not supported by all mobile phones.

* Option/accessory, for more information, see Introduction.



Bluetooth handsfree*

More on registering and connecting

A maximum of five mobile phones can be registered. Registration is performed once per phone. After registration the phone no longer needs to be visible/detectable. A maximum of one mobile phone can be connected at a time. Phones can be deregistered under **Bluetooth** → **Remove phone**.

Automatic connection

When the handsfree function is active and the last mobile phone connected is in range it is connected automatically. When the audio system searches for the last phone connected its name is shown in the display. To change over to manual connection of another phone, press **EXIT**.

Manual connection

If you want to connect a mobile phone other than the last connected or change the connected mobile phone, proceed as follows:

1. Set the audio system in phone mode.
2. Press **PHONE** and select one of the phones in the list.

The connection can also be made via the menu system.

The menu structure is available in two variants depending on whether the car only has

Bluetooth™ handsfree or if the car also has a built-in phone.

- For cars with only Bluetooth™ handsfree the connection is made under **Main menu Bluetooth** → **Bluetooth** → **Connect phone** or **Main menu Bluetooth** → **Bluetooth** → **Change phone** → **Add phone**.
- For cars with built-in phone and Bluetooth™ handsfree the connection is made under **Main menu Bluetooth** → **Bluetooth** → **Connect phone** or **Main menu Bluetooth** → **Change phone** → **Add phone**.

Phone book

All use of the phone book presupposes that the text **PHONE** is shown at the top of the display and that the  symbol is visible.

The audio system stores a copy of the phone book from each registered mobile phone. The phone book is copied automatically to the audio system during each connection.

- Deactivate the function under **Phone settings** → **Synchronise phone book**. Searching for contacts is only performed in the connected mobile phone's phone book.

NOTE

If the mobile phone does not support copying of the phone book then **List is empty** is shown when copying is finished.

If the phone book contains a ringing caller's contact information then this is shown in the display.

Searching for contacts

The easiest way to search in the phone book is with long presses on the keys **2–9**. This starts a search in the phone book based on the key's first letter.

The phone book can also be reached with  /  on the navigation button or with  /  on the steering wheel keypad. The search can also be performed from the phone book's Search menu under **Phone book** → **Search**:

1. Enter the first few letters of the contact and press **ENTER**, or simply press **ENTER**.
2. Scroll to a contact and press **ENTER** to call.

Voice recognition

The mobile phone's voice recognition function for dialling can be used by holding in **ENTER**.



04 Comfort and driving pleasure

Bluetooth handsfree*

NOTE

Only a selection of mobile phones are fully compatible with the voice recognition function. Volvo recommends that you contact an authorised Volvo dealer or visit www.volvocars.com for information on compatible phones.

Voice mail number

Voice mail number can be changed under **Call options** → **Voice mail number**. If there is no number stored then this menu can be reached with one long press on **1**. Press **1** for a long time to use the stored number.

Call lists

The call lists are copied to the handsfree function at each new connection and are then updated during the connection. Press **ENTER** to show the last dialled. Other call lists are available under **Call register**.

NOTE

Certain mobile phones show a list of the last dialled calls in reverse order.

Inputting text

Input text using the keypad in the centre console. Press once for the key's first character,

twice for the second etc. Continue pressing for more characters, see the following table.

A short press on **EXIT** deletes an input character. One long press on **EXIT** clears all input characters. / on the navigation button scrolls between the characters.

Key	Function
1	Space . 1 - ? ! , : " ' ()
2 ABC	A B C 2 Ä Å Æ Ç
3 DEF	D E F 3 È É
4 GHI	G H I 4 Ì
5 JKL	J K L 5
6 MNO	M N O 6 Ñ Ò Ó Ø
7 PQRS	P Q R S 7 ß
8 TUV	T U V 8 Ü Û
9 WXYZ	W X Y Z 9

Key	Function
AUTO *	Pressed briefly if two characters shall be entered after each other with the same key.
0 +	+ 0 @ * # & \$ £ / %
SCAN #	Shift between upper and lower case letter



Built-in phone*

General



System overview.

- 1 Microphone
- 2 SIM card reader
- 3 Keypad, see page 146.
- 4 Control panel
- 5 Privacy handset*

Safety

Engage a workshop to perform the service via the phone. Volvo recommends that you seek assistance from an authorised Volvo workshop. The built-in phone must be switched off during refuelling or in the vicinity of blasting work. IDIS limits the menu system depending on the speed of the car, see page 213.

Remember

SIM card

The phone can only be used with a valid SIM card Subscriber Identity Module. For installation, see page 214. Emergency calls to emergency numbers can be made without a SIM card.

NOTE

The built-in phone cannot read 3G type SIM cards. Combined 3G/GSM cards work. Contact the network operator if the SIM card needs to be changed.

Menus and controls

The menus are navigated using the control panel (4) and the steering wheel keypad (3). For general information on menus, see page 128. For information on the phone's controls, see page 206.

NOTE

If the car is equipped with both Bluetooth™ handsfree and built-in phone then there is an additional menu (for changing the phone) in the phone menu, see page 129.

On/Off

Switch on the phone with a short press on **PHONE**. Enter the PIN code if necessary. The  symbol shows that the phone is switched on. When this symbol is shown calls can be received even if the CD menu for example is shown in the display. Briefly press **PHONE** to use the phone menus and to dial out. The text **PHONE** shows that the phone menu is active.

Switch off the phone with one long press on **PHONE**.

Making and receiving calls

Making calls

1. Switch on the phone.
2. If **PHONE** is not shown in the display, briefly press **PHONE**.
3. Dial the number or use the phone book, see page 212.
4. Press **ENTER** for handsfree calls or pick up the privacy handset*. Release the handset by pulling it down.

Ending a call

End a call by pressing **EXIT** or by hanging up the privacy handset*.



Built-in phone*

Incoming call

Press **ENTER** for handsfree calls or pick up the privacy handset*. If the privacy handset* is off the hook when the phone rings then calls must be received using **ENTER**.

End calls by pressing **EXIT** or by hanging up the privacy handset*. Refuse calls using **EXIT**.

Automatic answer

See page 208.

Call waiting

The function enables a new call to be answered during an ongoing call. The new call is answered as usual and the previous call is put on hold.

- Activate/deactivate under **Call options**
→ **Call waiting**.

Automatic diversions

Incoming calls can be diverted automatically depending on the type of call and situation.

- Activate/deactivate under **Call options**
→ **Diversions**.

During a call

Press **MENU** or **ENTER** during a call to access the In-call menu.

To call

1. Put the call on hold under **Hold**.
2. Dial the number of the third party or use the **Phone book** menu option.

Switch between calls using the **Swap** menu option.

Conference call

A conference call consists of several parties. It can be initiated when a call is underway and another is on hold. The **Join** menu option starts the conference call.

All ongoing calls are disconnected if the conference call is terminated.

Switching between the privacy handset* and handsfree

Switch from handsfree to the privacy handset* by picking up the privacy handset or selecting in the menu.

Switch from the privacy handset* to handsfree using the **Handsfree** menu option.

Mute mode

Mute mode involves deactivating the microphone, see page 211.

- Activate/deactivate the microphone using the **Microphone on/Mute microphone** menu option.

Audio settings

Phone call volume

The phone uses the front door speakers. Call volume can be controlled when the text **PHONE** is shown at the top of the display.

- Use the steering wheel keypad or **VOLUME**.

Audio system volume

See page 147.

Signals and volume

Change the ring signal under **Phone settings**
→ **Sounds and volume** → **Ring signals**.

Activate/deactivate the message beep under **Phone settings** → **Sounds and volume** → **Message beep**.

Control the ring volume under **Phone settings**
→ **Sounds and volume** → **Ring volume**.

Adjust using / on the navigation button.



Phone book

Contact information can be stored on the SIM card or in the phone.

Storing contacts in the phone book

1. Press **MENU** and scroll to **Phone book** → **New contact**.
2. Enter a name and press **ENTER**. For information on text input, see below.
3. Enter a number and press **ENTER**.
4. Scroll to **SIM card** or **Phone memory** and press **ENTER**.

Inputting text

See page 210.

Searching for contacts

See page 209.

Erasing contacts

Erase a contact in the phone book by selecting it and pressing **ENTER**. Then scroll to **Erase** and press **ENTER**.

Erase all contacts under **Phone book** → **Erase SIM** or **Erase phone**.

Copying entries between the SIM card and the phone book

Go to **Phone book** → **Copy all** → **SIM to phone** or **Phone to SIM** and press **ENTER**.

Voice mail number

See page 210.

Other functions and settings

IDIS

IDIS (Intelligent Driver Information System) can, in active driving situations, delay or refuse ring signals from incoming calls. This way less attention is distracted from driving.

- IDIS is deactivated under **Phone settings** → **IDIS**.

Reading messages

1. Scroll to **Messages** → **Read** and press **ENTER**.
2. Scroll to a message and press **ENTER**.
3. The message text is shown in the display. Additional selections can be made by pressing **ENTER**.

Writing and sending messages

1. Scroll to **Messages** → **Write new** and press **ENTER**.
2. Enter text and press **ENTER**. For information on text input, see page 210.
3. Scroll to **Send** and press **ENTER**.
4. Enter a phone number and press **ENTER**.

Message settings

Message settings are not normally changed. The network provider has further information on these settings. There are three options under **Messages** → **Message settings**:

- **SMSC number** - Specifies the message centre which will transfer the messages.
- **Validity time** - Specifies how long the message will be stored in the message centre.
- **Message type**.

Call lists

Lists of received, dialled and missed calls are stored in **Call register**. Dialled calls are also shown by pressing **ENTER**. The phone numbers in the lists can be saved in the phone book.

Call duration

Call duration is stored under **Call register** → **Call duration**.

- Reset the values under **Call register** → **Call duration** → **Reset timers**.

Show/hide number for third party

The phone number can be temporarily hidden under **Call options** → **Send my number**.



04 Comfort and driving pleasure

Built-in phone*

IMEI number

In order to block a phone the network provider must be advised of the phone's IMEI number.

- Dial ***#06#** to show the number in the display. Write it down and keep it in a safe place.

Network selection

The network can be selected either automatically or manually under **Phone settings** → **Network selection**.

SIM code and security

The PIN code can protect the SIM card from unauthorised use.

The code can be changed under **Phone settings** → **Edit PIN code**.

Change the security level under **Phone settings** → **SIM security**.

Select maximum security with the **On** option. The code will then need to be entered each time the phone is switched on.

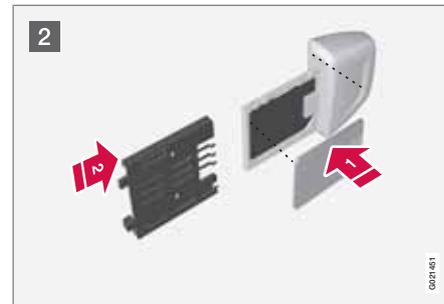
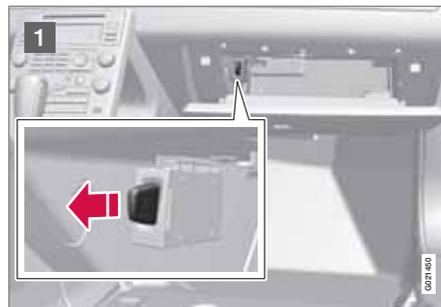
Select the next highest security level with the **Automatic** option. The phone then stores the code and automatically specifies it when the phone is switched on. When the SIM card is used with another phone the code must be entered manually.

Select minimum security with the **Off** option. The SIM card can then be used without the code at all.

Reset to factory settings

The phone settings are fully reset under **Phone settings** → **Reset Phone settings**.

Installing the SIM card



- 1 Make sure that the phone is deactivated. Pull out the SIM card holder which is located in the glovebox.
- 2 Place the SIM card with the metal surface visible and fit the cover on the SIM card holder . Refit the SIM card holder.



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05

DURING YOUR JOURNEY





Recommendations during driving

General

Economical driving

Driving economically means driving smoothly while thinking ahead and adjusting your driving style and speed to the prevailing conditions.

- Avoid driving with open windows.
- Do not use winter tyres when the winter season is over.
- Avoid sudden unnecessary acceleration and heavy braking.
- Remove unnecessary items from the car - the greater the load the higher the fuel consumption.
- Use engine braking to slow down, when it can take place without risk to other road users.
- Drive in the highest gear possible, adapted to the current traffic situation and road - lower engine speeds result in lower fuel consumption.
- A roof load and ski box increase air resistance, leading to higher fuel consumption - remove the load carriers when not in use.
- Do not run the engine to operating temperature at idling speed, but rather drive with a light load as soon as possible - a cold engine consumes more fuel than a warm one.

- Cars with the D5 engine and 6-speed manual transmission are started in 2nd gear under normal conditions.

For more information and further advice, see the pages 12 and 302.

WARNING

Never switch off the engine while moving, such as downhill, this deactivates important systems such as the power steering and brake servo.

Driving in water

The car can be driven through water at a maximum depth of 25 cm at a maximum speed of 10 km/h. Extra caution should be exercised when passing through flowing water.

During driving in water, maintain a low speed and do not stop the car. When the water has been passed, depress the brake pedal lightly and check that full brake function is achieved. Water and mud for example can make the brake linings wet resulting in delayed brake function.

- Clean the electric contacts of the electric engine block heater and trailer coupling after driving in water and mud.
- Do not let the car stand with water over the sills for any long period of time - this could cause electrical malfunctions.

IMPORTANT

Engine damage can occur if water enters the air filter.

In depths greater than 25 cm, water could enter the transmission. This reduces the lubricating ability of the oils and shortens the service life of these systems.

In the event of the engine stalling in water, do not try restart - tow the car from the water to a workshop - an authorised Volvo workshop is recommended. Risk of engine breakdown.

Engine, gearbox and cooling system

Under special conditions, for example hard driving in hilly terrain and hot climate, there is a risk that the engine and drive system may overheat - in particular with a heavy load.

For information about overheating when driving with a trailer, see page 230.

- Remove any auxiliary lamps from in front of the grille when driving in hot climates.
- If the temperature in the engine's cooling system is too high the instrument panel's warning symbol is illuminated and there is a text message displayed there **High engine temp Stop safely** - stop the car in a safe way and allow the engine to run at idling speed for several minutes to cool down.



Recommendations during driving

- If the text message **High engine temp Stop engine** or **Coolant level low, Stop engine** is shown then the engine must be switched off after stopping the car.
- In the event of overheating in the gearbox a built-in protection function is activated which, amongst other things, illuminates the instrument panel's warning symbol and there is a text message displayed there **Transmission hot Reduce speed** or **Transmission hot Stop safely** - follow the recommendation given and lower the speed and stop the car in a safe way and allow the engine to run at idling speed for a few minutes to allow the gearbox to cool down.
- If the car overheats, the air conditioning may be switched off temporarily.
- Do not turn the engine off immediately you stop after a hard drive.

NOTE

It is normal for the engine's cooling fan to operate for a while after the engine has been switched off.

Open tailgate

WARNING

Do not drive with the tailgate open. Toxic exhaust fumes could be drawn into the car through the cargo area.

Do not overload the battery

The electrical functions in the car load the battery to varying degrees. Avoid using the key position **II** when the engine is switched off. Instead use the **I** mode - which uses less power.

Also, be aware of different accessories that load the electrical system. Do not use functions which use a lot of power when the engine is switched off. Examples of such functions are:

- ventilation fan
- windscreen wiper
- audio system (high volume)
- headlamps.

If the battery voltage is low the information display shows the text **Low battery Power save mode**. The energy-saving function then shuts down certain functions or reduces certain functions such as the ventilation fan and/or audio system.

- In which case, charge the battery by starting the engine and then running it for at

least 15 minutes - battery charging is more effective during driving than running the engine at idling speed while stationary.

Before a long journey

- Check that the engine is working normally and that fuel consumption is normal.
- Make sure that there are no leaks (fuel, oil or other fluid).
- Check all bulbs and tyre tread depths.
- Carrying a warning triangle is a legal requirement in certain countries.

Winter driving

Check the following in particular before the cold season:

- The engine coolant must contain at least 50% glycol. This mixture protects the engine against frost erosion down to approximately -35°C . To achieve optimum antifreeze protection, different types of glycol must not be mixed.
- The fuel tank must be kept filled to prevent condensation.
- Engine oil viscosity is important. Oils with lower viscosity (thinner oils) facilitate starting in cold weather and also reduce fuel consumption while the engine is cold. For more information on suitable oils, see page 298.



Recommendations during driving

IMPORTANT

Low viscosity oil must not be used for hard driving or in hot weather.

- The condition of the battery and charge level must be inspected. Cold weather places great demands on the battery and its capacity is reduced by the cold.
- Use washer fluid to avoid ice forming in the washer fluid reservoir.

To achieve optimum roadholding Volvo recommends using winter tyres on all four wheels if there is a risk of snow or ice.

NOTE

The use of winter tyres is a legal requirement in certain countries. Studded tyres are not permitted in all countries.

Slippery driving conditions

Practise driving on slippery surfaces under controlled conditions to learn how the car reacts.



Refuelling

Refuelling

Opening/closing the fuel filler flap



Open the fuel filler flap using the button on the lighting panel - the flap opens when the button is released.

The filler flap is located on the right-hand rear wing, as indicated by the information display's arrow by the symbol

Close the fuel filler flap by pressing it in until a click confirms that it is closed.

Opening the fuel filler flap manually



The fuel filler flap can be opened manually when electric opening from the passenger compartment is not possible.

1. Open/remove the side hatch in the cargo area (same side as fuel filler flap) and locate the green cord with handle.
2. Pull the cord gently straight back until the fuel filler flap folds out with a "click".

IMPORTANT

Pull the wire gently - minimal force is required to disengage the hatch lock.

Opening/closing the fuel cap



A certain overpressure may arise in the tank in the event of high outside temperatures. Open the cap slowly.

After refuelling, refit the cap and turn it until one or more clicking sounds are heard.

Filling up with fuel

Do not overfill the tank but fill until the pump nozzle cuts out.

NOTE

Excess fuel in the tank can overflow in hot weather.



Fuel

General information on fuel

Fuel of a lower quality than that recommended by Volvo must not be used as engine power and fuel consumption is negatively affected.

WARNING

Always avoid inhaling fuel vapour and getting fuel splashes in the eyes.

In the event of fuel in the eyes, remove any contact lenses and rinse the eyes in plenty of water for at least 15 minutes and seek medical attention.

Never swallow fuel. Fuels such as petrol, bioethanol and mixtures of them and diesel are highly toxic and could cause permanent injury or be fatal if swallowed. Seek medical attention immediately if fuel has been swallowed.

WARNING

Fuel which spills onto the ground can be ignited.

Switch off the fuel-driven heater before starting to refuel.

Never carry an activated mobile phone when refuelling. The ring signal could cause spark build-up and ignite petrol fumes, leading to fire and injury.

IMPORTANT

Mixing different types of fuel or the use of fuel not recommended invalidates Volvo's guarantees, and any associated service agreement. This applies to all engines. NOTE: It does not apply to cars with engines that are adapted to run on ethanol fuel (E85).

NOTE

Extreme weather conditions, driving with a trailer or driving at high altitudes in combination with fuel grade are factors that could affect the car's performance.

Catalytic converters

The purpose of the catalytic converters is to purify exhaust gases. They are located close to the engine so that operating temperature is reached quickly.

The catalytic converters consist of a monolith (ceramic or metal) with channels. The channel walls are lined with a thin layer of platinum/rhodium/palladium. These metals act as catalysts, i.e. they participate in and accelerate a chemical reaction without being used up themselves.

Lambda-sond™ oxygen sensor

The Lambda-sond is part of a control system intended to reduce emissions and improve fuel economy.

An oxygen sensor monitors the oxygen content of the exhaust gases leaving the engine. This value is fed into an electronic system that continuously controls the injectors. The ratio of fuel to air directed to the engine 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).

Petrol

Petrol must meet the EN 228 standard. Most engines can be run with octane ratings of 95 and 98 RON. 91 RON should only be used in exceptional cases.

- 95 RON can be used for normal driving.
- 98 RON is recommended for optimum performance and minimum fuel consumption.

When driving in temperatures above +38 °C, fuel with the highest possible octane rating is recommended for optimum performance and fuel economy.

**Fuel****! IMPORTANT**

- Always refuel with unleaded petrol so as not to damage the catalytic converter.
- Do not use additives not recommended by Volvo.

Diesel

Diesel must fulfil the EN 590 or JIS K2204 standards. Diesel engines are sensitive to contaminants, such as excessively high volumes of sulphur particles for example. Only use diesel fuel from well-known producers. Never use diesel of dubious quality.

At low temperatures (-6 °C to -40 °C), a paraffin precipitate may form in the diesel fuel, which may lead to ignition problems. Special diesel fuel designed for low temperatures around freezing point is available from the major oil companies. This fuel is less viscous at low temperatures and reduces the risk of paraffin precipitate.

The risk of condensation in the fuel tank is reduced if the tank is kept well filled. When refuelling, check that the area around the fuel filler pipe is clean. Avoid spilling fuel onto the paintwork. Wash off any spillage with detergent and water.

! IMPORTANT

Only ever use fuel that fulfils the European diesel standard.
The sulphur content must be a maximum of 50 ppm.

! IMPORTANT

Diesel type fuels which must not be used:

- Special additives
- Marine Diesel Fuel
- Fuel oil
- RME¹ (Rape Methyl Ester) and vegetable oil.

These fuels do not fulfil the requirements in accordance with Volvo recommendations and generate increased wear and engine damage that is not covered by the Volvo warranty.

Empty tank

The design of the fuel system in a diesel engine means that if the vehicle runs out of fuel, the tank may need to be vented in the workshop in order to restart the engine after fuelling.

Once the engine has stopped due to fuel starvation, the fuel system needs a few moments

to carry out a check. Do this before starting the engine, once the fuel tank has been filled with diesel:

1. Place the remote key in the ignition switch and push it gently so that it is pulled in (see page 74).
2. Press the **START** button **without** depressing the brake and/or clutch pedal.
3. Wait approx. 1 minute.
4. To start the engine: Depress the brake and/or clutch pedal and then press the **START** button again.

Draining condensation from the fuel filter

The fuel filter separates condensation from the fuel. Condensation can disrupt engine operation.

The fuel filter must be drained at the intervals specified in the Service and Warranty Booklet or if you suspect that the car has been filled with contaminated fuel.

! IMPORTANT

Certain special additives remove the water separation in the fuel filter.

¹ Diesel fuel may contain a certain amount of RME, but further amounts must not be added.



Fuel

Diesel particle filter (DPF)

Diesel cars are equipped with a particle filter, which results in more efficient emission control. The particles in the exhaust gases are collected in the filter during normal driving. So-called "regeneration" is started in order to burn away the particles and empty the filter. This requires the engine to have reached normal operating temperature.

Regeneration of the filter takes place automatically at an interval of approximately 300-900 km depending on driving conditions. Regeneration normally takes 10-20 minutes. It may take a little longer at a low average speed. Fuel consumption may increase slightly during regeneration.

Regeneration in cold weather

If the car is frequently driven short distances in cold weather then the engine does not reach normal operating temperature. This means that regeneration of the diesel particle filter does not take place and the filter is not emptied.

When the filter has become approximately 80% full of particles, a warning triangle on the instrument panel illuminates, and the message **Soot filter full**. See manual is shown on the instrument panel display.

Start regeneration of the filter by driving the car until the engine reaches normal operating temperature, preferably on a main road or motor-

way. The car should then be driven for approximately 20 minutes more.

NOTE

A smaller reduction of engine power may be noticed temporarily during regeneration.

When regeneration is complete the warning text is cleared automatically.

Use the parking heater* in cold weather so that the engine reaches normal operating temperature more quickly.

IMPORTANT

If the filter fills up with particles then it can be difficult to start the engine and the filter will be incapable of functioning. Then there is a risk that the filter will have to be replaced.

Fuel consumption and emissions of carbon dioxide

Fuel consumption figures may change if the car is equipped with extra equipment that affects the car's weight. See information on weights page 292 and table page 301.

The manner in which the car is driven, and other non-technical factors can also affect fuel consumption.

Consumption is higher and power output lower for fuel with an octane rating of 91 RON.

NOTE

Extreme weather conditions, driving with a trailer or driving at high altitudes in combination with fuel grade are factors that could affect the car's performance.



General information on loading

Payload depends on the car's kerb weight. The total of the weight of the passengers and all accessories reduces the car's payload by a corresponding weight. For more detailed information on weights, see page 292.



The tailgate is opened via a button on the lighting panel or the remote control key, see page 57.

WARNING

The car's driving characteristics change depending on the weight and distribution of the load.

To bear in mind when loading

- Position the load firmly against the backrest in front.
- Put wide loads in the centre.
- Heavy objects should be placed as low as possible. Avoid placing heavy loads on lowered backrests.
- Cover sharp edges with something soft to avoid damaging the upholstery.
- Secure all loads to the load retaining eyelets with straps or web lashings.

WARNING

A loose object weighing 20 kg can, in a frontal collision at a speed of 50 km/h, carry the impact of an item weighing 1000 kg.

WARNING

The protection provided by the inflatable curtain in the headlining may be compromised or eliminated by high loads.

- Never load cargo above the backrest.

WARNING

Always secure the load. During heavy braking the load may otherwise shift, causing injury to the car's occupants.

Cover sharp edges and sharp corners with something soft.

Switch off the engine and apply the parking brake when loading/unloading long items. Otherwise you may accidentally knock the gear lever or gear selector with the load into a drive position - and the car could then move off.

Front seat

The passenger seat backrest can also be folded for an extra long load, see page 76.

Roof load

Using load carriers

To avoid damaging the car and for maximum possible safety while driving, the load carriers designed by Volvo are recommended.

Carefully follow the installation instructions supplied with the carriers.

- Check periodically that the load carriers and load are properly secured. Lash the load securely with retaining straps.
- Distribute the load evenly over the load carriers. Put the heaviest objects at the bottom.
- The size of the area exposed to the wind, and therefore fuel consumption, increase with the size of the load.
- Drive gently. Avoid quick acceleration, heavy braking and hard cornering.

WARNING

The car's centre of gravity and driving characteristics are altered by roof loads. For information on maximum permitted roof load, including load carriers and any space box, see page 292.

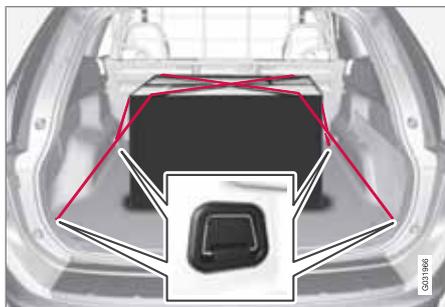


Loading

Lowering the rear seat backrest

To simplify loading in the cargo area, the rear seat backrest can be folded down, see page 78.

Load retaining eyelets



The folding load retaining eyelets are used to fasten straps in order to anchor items in the cargo area.

WARNING

Hard, sharp and/or heavy objects that are loose or protrude could cause injury during heavy braking.

Always secure large and heavy objects with a seatbelt or cargo retaining straps.

Bag holder*



Bag holder under folding hatch in the floor.

1. Fold up the holder, which is part of the floor hatch.
2. Fasten the bags with strap and secure the carrying handle in the hooks.

12 V electrical socket*



Lower the cover to access the electrical socket. The socket also provides voltage when the remote control key is not in the ignition switch.

NOTE

Remember not to use the electrical socket with the engine switched off because of the risk of discharging the car's battery.



Cargo area

Safety net



The safety net is fitted into four mounting points.

A safety net prevents loads or pets from being thrown forward in the passenger compartment in the event of sudden braking. For safety reasons, the safety net must always be correctly fastened and secured.

The net is made of a strong nylon fabric and can be secured two different locations in the car:

- Rear fitting - Behind the rear seat backrest
- Front fitting - Behind the front seat backrests.

 **WARNING**

Loads in the cargo area must be firmly secured, even if the safety net is correctly fitted.

Attaching
 **NOTE**

The safety net is most easily fitted via one of the rear doors.

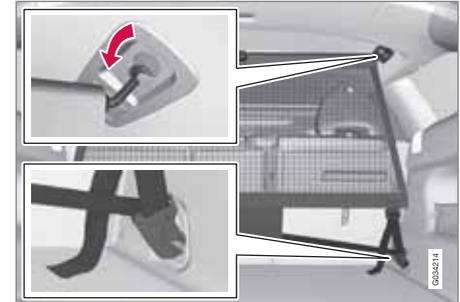
 **WARNING**

Make sure that the upper mountings of the safety net are correctly fitted and that the anchoring straps are securely fastened.

Do not use a damaged net.

1. Unfold the safety net and make sure that the split upper rod is locked in extended position.
2. Hook one end of the rod into the front or rear roof mounting with the anchoring strap locks turned towards you.
3. Hook the other end of the rod into the roof mounting on the opposite side - the telescopic spring-loaded retaining hooks facilitate alignment.

Take care to press forward the rod's retaining hooks for each respective roof mounting's front end position.



Rear fitting.

4. Rear fitting: With the net fitted in the rear roof mountings, hook the safety net's anchoring straps into the front floor eyes in the cargo area.

Cargo area



Front fitting.

Front fitting: With the net fitted in the front roof mountings, hook the safety net's anchoring straps into the eyes on the rear of the seat slide rails - it is easier if the backrests are straightened and the seats are moved forward slightly.

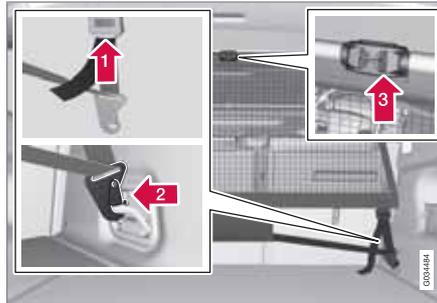
Pay attention to make sure that you do not press the seat/backrest hard against the net when the seat/backrest is moved back again - only adjust until the seat/backrest makes contact with the net.

IMPORTANT

If the seat/backrest is pressed hard backwards against the safety net then the net and/or its roof mountings could be damaged.

5. Tension the safety net with the anchoring straps.

Removal and storage



The safety net can be easily removed and folded up.

- Release the tension in the net by pressing in the button on the anchoring strap's lock and feeding out part of the strap.
- Press in the catch and detach both of the anchoring strap's hooks.

- Break the rod in the centre, fold it together and roll up the net.

The folded safety net can be stored under the cargo compartment floor.

Safety grille*



A safety grille prevents loads or pets from being thrown forward in the passenger compartment in the event of sudden braking.

Folding up

Take hold of the bottom of the safety grille and pull back/up.

IMPORTANT

The safety grille cannot be folded up or down when a cargo cover is fitted.



Cargo area

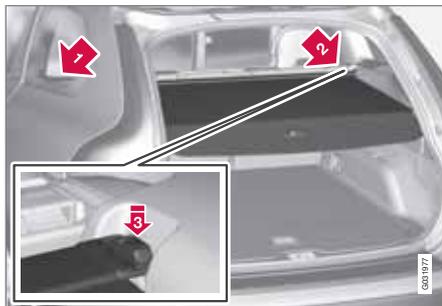
Fitting/removal

The safety grille is normally permanently installed in the car because it can easily be folded up in the roof and so be out of the way if a longer cargo area is required. However, if desired, the safety grille can be dismantled and removed from the car.

For information about the tools required and methods for fitting/removal, see the installation instructions¹ that were included with the initial purchase.

For safety reasons, the safety grille must always be correctly fastened and secured when being refitted.

Cargo cover*



Pull the cargo cover over the load and hook it into the recesses at the cargo area's rear posts.

! IMPORTANT

The safety grille cannot be folded up or down when the cargo cover is fitted.

Attaching the cargo cover

- Move one end piece of the cover into the recess on the side panel.
- Move the other end piece into the corresponding recess.
- Press both sides in. A "click" should be audible and the red marking should disappear.
 - > Check that both end pieces are locked.

Removing the cargo cover

1. Press in one end piece button and lift it out.
2. Carefully angle the cover up/out and the other end piece loosens automatically.

Lowering the cargo cover's rear sealing disc

In its rolled-in position, the cargo cover's rear sealing disc protrudes horizontally into the cargo area when it is fitted.

- Pull the sealing disc back gently, free from its support shelves, and lower.

¹ Installation instructions no. 30715972.



Driving with a trailer

General

Payload depends on the car's kerb weight. The total of the weight of the passengers and all accessories, e.g. towbar, reduces the car's payload by a corresponding weight. For more detailed information on weights, see page 292.

If the towing bracket is mounted by Volvo, then the car is delivered with the necessary equipment for driving with a trailer.

- The car's towing bracket must be of an approved type.
- If the towbar is retrofitted, check with your Volvo dealer that the car is fully equipped for driving with a trailer.
- Distribute the load on the trailer so that the weight on the towing bracket complies with the specified maximum towball load.
- Increase the tyre pressure to the recommended pressure for a full load. For tyre pressure label location, see page 247.
- The engine is loaded more heavily than usual when driving with a trailer.
- Do not tow a heavy trailer when the car is brand new. Wait until it has been driven at least 1000 km.
- The brakes are loaded much more than usual on long and steep downhill slopes. Downshift to a lower gear and adjust your speed.

- For safety reasons, the maximum permitted speed for the car when coupled with a trailer should not be exceeded. Follow the regulations in force for the permitted speeds and weights.
- Maintain a low speed when driving with a trailer up long, steep ascents.
- Avoid driving with a trailer on inclines of more than 12%.

Trailer cable

An adapter is required if the car's towing bracket has 13 pin electrics and the trailer has 7 pin electrics. Use an adapter cable approved by Volvo. Make sure the cable does not drag on the ground.

Direction indicators and brake lights on the trailer

If any of the trailer's lamps for direction indicators are broken, then the combined instrument panel's symbol for direction indicators flashes faster than normal and the display shows the text **Bulb fail - Ind. signal trailer**.

If any of the trailer's lamps for the brake light are broken then the **Bulb fail - Stop lamp trailer** text is shown.

Level control*

The rear shock absorbers maintain a constant height irrespective of the car's load (up to the maximum permissible weight). When the car is

stationary the rear of the car lowers slightly, which is normal.

Trailer weights

For information on Volvo's permitted trailer weights, see page 294.



NOTE

The stated maximum permitted trailer weights are those permitted by Volvo. National vehicle regulations can further limit trailer weights and speeds. Towbars can be certified for higher towing weights than the car can actually tow.



WARNING

Follow the stated recommendations for trailer weights. Otherwise, the car and trailer may be difficult to control in the event of sudden movement and braking.

Manual gearbox

Overheating

When driving with a trailer in hilly terrain in a hot climate there may be a risk of overheating.

- Do not run the engine at higher revolutions than 4500 rpm (diesel engines: 3500 rpm) - otherwise the oil temperature may become too high.

* Option/accessory, for more information, see Introduction.

**Driving with a trailer****Diesel engine 5-cyl**

- In the event of a risk of overheating the optimal speed for the engine is 2300-3000 rpm for optimal circulation of the coolant.

Automatic gearbox**Overheating**

When driving with a trailer in hilly terrain in a hot climate there may be a risk of overheating.

- An automatic gearbox selects the optimum gear related to load and engine speed.
- In the event of overheating a warning symbol illuminates on the instrument panel combined with a text message - follow the recommendation given.

Steep inclines

- Do not lock the automatic transmission in a higher gear than the engine "can cope with" - it is not always a good idea to drive at a high gear with low engine revolutions.

! IMPORTANT

See also the specific information on slow driving with trailer for cars with the Powershift automatic transmission on page 113.

Parking on a hill

1. Depress the foot brake.
 2. Activate the parking brake.
 3. Move the gear selector to position **P**.
 4. Release the foot brake.
- Move the gear selector to park position **P** when parking an automatic car with a hitched trailer. Always use the parking brake.
 - Block the wheels with chocks when parking a car with hitched trailer on a hill.

Starting on a hill

1. Depress the foot brake.
2. Move the gear selector to driving position **D**.
3. Release the parking brake.
4. Release the foot brake and start driving off.

Towing bracket

If the car is equipped with a detachable towbar, the installation instructions for the loose section must be followed carefully, see page 233.

! WARNING

If the car is fitted with a Volvo detachable towbar:

- Follow the installation instructions carefully.
- The detachable section must be locked with the key before setting off.
- Check that the indicator window shows green.

Important checks

- The towbar's towball must be cleaned and greased regularly.

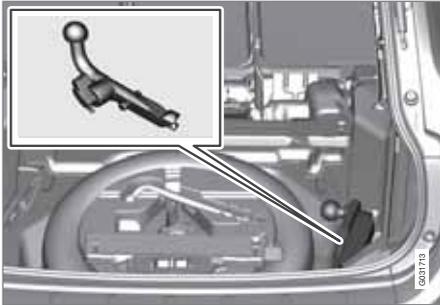
i NOTE

If a towball hitch with vibration damper is used, it is not necessary to grease the towball.



Driving with a trailer

Storing the detachable towbar

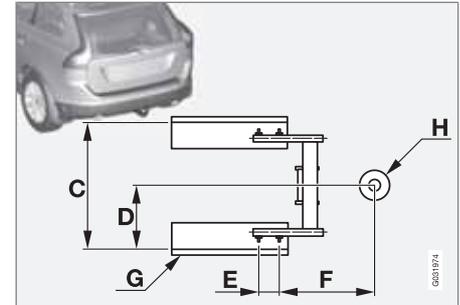
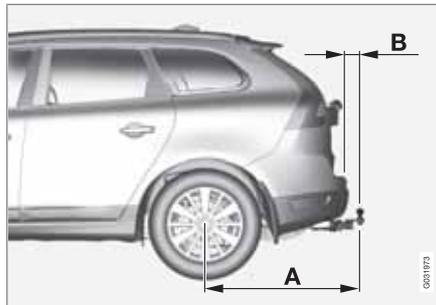


Towbar storage space.

! IMPORTANT

Always remove the towbar after use and store it in the appointed location in the car, firmly fastened with its strap.

Specifications



Dimensions, mounting points (mm)

A	1013
B	69
C	855
D	428
E	109
F	296
G	Side member
H	Ball centre



Driving with a trailer

Attaching the towbar



- 1 Remove the protective cover by first pressing in the catch **1** and then pulling the cover straight back **2**.



- 2 Ensure that the mechanism is in the unlocked position by turning the key clockwise.



- 3 The indicator window must show red.



- 4 Insert the towbar until you hear a click.



- 5 The indicator window must show green.



- 6 Turn the key anticlockwise to locked position. Remove the key from the lock.

Driving with a trailer



7 Check that the towbar is secure by pulling it up, down and back.

WARNING

If the towbar is not fitted correctly then it must be detached and reattached in accordance with the previous instructions.

IMPORTANT

Only grease in the ball for the towing hitch, the remainder of the towbar should be clean and dry.



8 Safety cable.

WARNING

Be sure to attach the trailer's safety cable to the correct place.

Removing the towbar



1 Insert the key and turn it clockwise to the unlocked position.



2 Push in the locking wheel and turn it anticlockwise until you hear a click.



3 Turn the locking wheel down fully, until it comes to a stop. Hold it in this position while pulling the towbar rearward and upward.

WARNING

Secure the towbar safely if it is stored in the car, see page 232.



Driving with a trailer



- 4 Push the protective cover until it snaps tight.

Trailer Stability Assist - TSA

The TSA system (Trailer Stability Assist) serves to stabilise the car and trailer combination if it begins to snake.

The TSA function is part of the **DSTC** system (Dynamic Stability and Traction Control), see page 161.

Function

The snaking phenomenon can occur with any car/trailer combination. Normally, snaking occurs at extremely high speeds. But, there is a risk of it occurring at lower speeds (70-90 km/h) if the trailer is overloaded or the load is improperly distributed, e.g. too far back.

In order for snaking to occur, there must be a triggering factor, e.g.:

- Car with trailer subjected to a sudden and powerful side wind.
- Car with trailer drives on an uneven road surface or in a pothole.
- Sweeping steering wheel movements.

Operation

If snaking has started, it could be difficult or even impossible to suppress. This makes the car/trailer combination difficult to control and there is a risk that you could, for example, end up in the wrong lane or leave the carriageway.

TSA system continually monitors car movements, particularly lateral movements. If snaking is detected, the front wheels are individually braked. This serves to stabilise the car/trailer combination. This is often enough to help the driver regain control of the car.

If snaking is not eliminated the first time the TSA system comes into action, the car/trailer combination is braked with all wheels and engine power is reduced. Once snaking has been gradually suppressed and the car/trailer combination is once again stable, the TSA system stops regulating and the driver once again has full control of the car.

Miscellaneous

The TSA system can engage within the speed interval 60 to 160 km/h.



NOTE

If the driver selects to switch off (reduce) the **DSTC** system, then the TSA system is also switched off, see page 161.

TSA may fail to engage if the driver uses severe steering wheel movements to try to rectify the snaking because in such a situation the TSA system cannot determine whether it is the trailer or the driver that is causing the snaking.



The **DSTC** symbol in the combined instrument panel flashes when the TSA is working.



Towing and recovery

Towing

Find out the highest legal speed for towing before towing the car.

1. Press the remote control key into the ignition switch to unlock the steering lock so that the car can be steered, see page 74.
2. The remote control key must remain in the ignition switch while the car is being towed.
3. Keep the towline taut when the towing vehicle reduces speed by holding your foot gently pressed on the brake pedal - thereby avoiding unnecessary jerking.
4. Be prepared to brake to stop.

WARNING

- The steering lock must be unlocked before towing.
- The remote control key must be in key position II.
- Never remove the remote control key from the ignition switch while driving or when the car is being towed.

WARNING

The brake servo and power steering do not work when the engine is switched off. The brake pedal must be pressed about five times harder than normal, and the steering will be considerably heavier than normal.

Manual gearbox

- Move gear lever into neutral and release the parking brake.

Automatic gearbox, Geartronic

IMPORTANT

Note that the car must always be towed with the wheels rolling forward.

- Cars with automatic gearbox must not be towed at speeds above 80 km/h or further than 80 km.
- Move the gear selector to position **N** and release the parking brake.

Automatic gearbox, Powershift

The 2.0, 2.0T and 2.0F models with Powershift automatic transmission should not be towed as the transmission is dependent on the engine running in order to receive sufficient lubrication.

IMPORTANT

Avoid towing.

- However, the car can be towed for a short distance at low speed to move it from a dangerous position - not further than 10 km and not faster than 10 km/h. Note that the car must always be towed with the wheels rolling forward.
- In the event of moving a longer distance than 10 km, the car must be transported with the drive wheels raised from the road - professional recovery is recommended.

- Move the gear selector to position **N** and release the parking brake.

Jump starting

Do not tow the car to bump start the engine. Use a donor battery if the battery is discharged and the engine does not start, see page 109.

IMPORTANT

Bump starting the car can damage the catalytic converter.



Towing and recovery

Towing eye

The towing eye is screwed into a threaded socket behind a cover on the right-hand side of the bumper, front or rear.

Attaching the towing eye



- 1 Take out the towing eye that is located under the floor hatch in the cargo area - in some cases it may be hidden under the sill.
- 2 The cover for the towing eye's attachment point is available in two variants which must be opened in different ways:

- Open the variant with a recess using a coin or similar inserted in the recess, turning it outwards. Then turn out the cover completely and remove it.
- The second variant has a marking along one side or in a corner: Press the marking with a finger and fold out the opposite side/corner at the same time using a coin or similar - the cover turns around its axis and can then be removed.

Screw the towing eye right in up to its flange. Turn in the towing eye firmly e.g. using the wheel wrench.

After use, unscrew the towing eye and return it to its place.

Finish by refitting the cover onto the bumper.

! IMPORTANT

The towing eye is only designed for towing on roads - **not** for pulling the car unstuck or out of a ditch. Call a recovery service for recovery assistance.

i NOTE

On certain cars with towbar fitted the towing eye cannot be attached in the rear bracket. Attach the towrope in the towbar.

For this reason it is advisable to store the detachable towbar's towball in the car.

Recovery

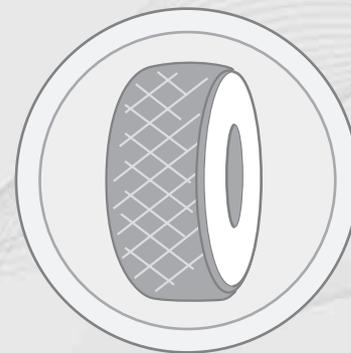
Call a recovery service for recovery assistance.

! IMPORTANT

Note that the car must always be transported with the wheels rolling forward.

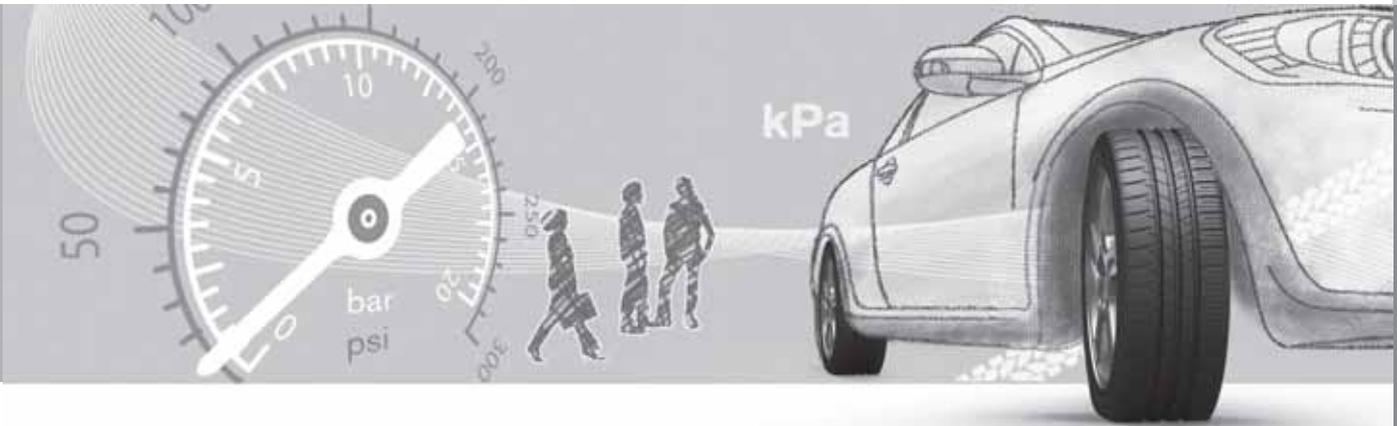
- An All Wheel Drive car (AWD) with raised front suspension must not be towed at speeds above 70 km/h. It should not be towed further than 50 km.

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Tyre pressure	247
Warning triangle and first-aid kit*	248
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06

WHEELS AND TYRES



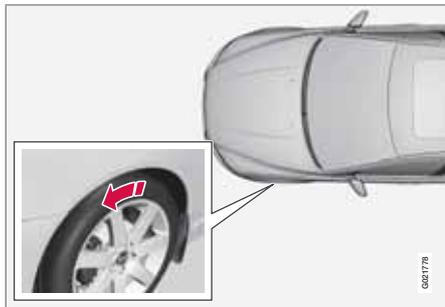


General

Driving characteristics

Tyres greatly affect the car's driving characteristics. The type of tyre, dimensions, tyre pressure and speed rating are important for how the car performs.

Direction of rotation



The arrow shows the tyre's direction of rotation.

Tyres with a tread pattern which are designed to only turn in one direction have the direction of rotation marked with an arrow. The tyre must always rotate in the same direction throughout its lifespan. Tyres should only be switched between front and rear positions, never between left and right-hand sides, or vice versa. If the tyres are fitted incorrectly, the car's braking characteristics and capacity to force rain and slush out of the way are adversely affected.

Tyres with the greatest tread depth should always be fitted to the rear of the car (to decrease the risk of skidding).

i NOTE

Ensure that tyres of the same type and dimensions, and also the same make, are fitted to all four wheels.

Follow the recommended tyre pressures specified in the tyre pressure table, see page 304.

Tyre care

Tyre age

All tyres older than 6 years old should be checked by an expert even if they seem undamaged. Tyres age and decompose, even if they are hardly ever or never used. The function can therefore be affected. This applies to all tyres that are stored for future use. Examples of external signs which indicate that the tyre is unsuitable for use are cracks or discoloration.

New tyres



Tyres are perishable. After a few years they begin to harden at the same time as the friction capacity/characteristics gradually deteriorate. For this reason, aim to get as fresh tyres as possible when you replace them. This is especially important with regard to winter tyres. The last four digits in the sequence mean the week and year of manufacture. This is the tyre's DOT marking (Department of Transportation), and this is stated with four digits, for example 1510. The tyre in the illustration was manufactured in week 15 of 2010.

Summer and winter tyres

When summer and winter wheels are changed the wheels should be marked with which side of the car they were mounted on, for example **L** for left and **R** for right.



General

Wear and maintenance

The correct tyre pressure results in more even wear, see page 247. Driving style, tyre pressure, climate and road condition affect how quickly your tyres age and wear. To avoid differences in tread depth and to prevent wear patterns arising, the front and rear wheels can be switched with each other. A suitable distance for the first change is approx. 5000 km and then at 10 000 km intervals. Volvo recommends that you contact an authorised Volvo workshop for checking if you are uncertain about tread depth. If significant differences in wear (>1 mm difference in tread depth) between tyres have already occurred, the least worn tyres must always be placed on the rear. Understeer is normally easier to correct than oversteer, and leads to the car continuing forwards in a straight line rather than having the rear end skidding to one side, resulting in possible complete loss of control over the car. This is why it is important for the rear wheels never to lose grip before the front wheels.

Wheels should be stored lying down or hanging up - and not standing up.

WARNING

A damaged tyre can lead to loss of control of the car.

Tyres with tread wear indicators



Tread wear indicators.

Tread wear indicators are narrow treadless bands across the width of the tread. On the side of the tyre are the letters **TWI** (Tread Wear Indicator). When the tyre's tread depth is down to 1.6 mm, the tread depth will be level in height with the tread wear indicators. Change to new tyres as soon as possible. Remember that tyres with little tread depth provide very poor grip in rain and snow.

Rims and wheel bolts

IMPORTANT

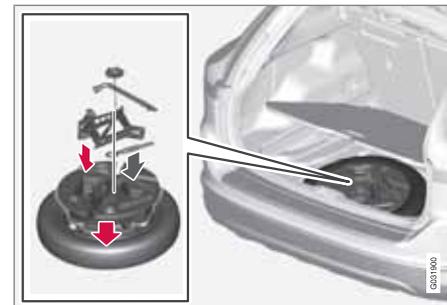
The wheel bolts must be tightened to 140 Nm. Overtightening can damage the nuts and the bolts.

Only use rims that are tested and approved by Volvo and which are Volvo genuine accessories. Check the torque with a torque wrench.

Locking wheel bolts*

Locking wheel bolts* can be used on both aluminium and steel rims. Under the cargo area floor there is space for the sleeve for the lockable wheel bolts.

Tools



Located under the cargo area floor are the car's towing eye, jack* and wheel wrench*. There is also space for the sleeve for the lockable wheel bolts.

Jack*

The jack's thread must always be well greased.

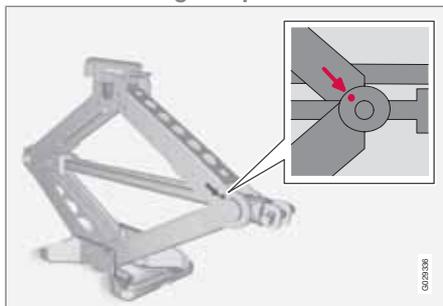


06 Wheels and tyres

General

The original jack should only be used for changing to the spare wheel. The jack's thread must always be well greased.

Tools - returning into place



The tools and jack* must be returned to their correct places after use. The jack needs to be cranked together to the correct position in order to have space.

The foam block and spare wheel are replaced in the reverse order to taking out.

Note that there is an arrow on the upper foam block. It must point forwards in the car.

! IMPORTANT

The tools and jack* must be stored in the intended location in the car's cargo area when not in use.

Winter tyres

Volvo recommends winter tyres with particular dimensions. Tyre dimensions are dependent on engine variant. When driving on winter tyres, the correct type of tyres must be fitted to all four wheels.

i NOTE

Volvo recommends that you consult a Volvo dealer about which wheel rim and tyre types are most suitable.

Studded tyres

Studded winter tyres should be run in gently for 500-1000 km so the studs settle properly into the tyres. This gives the tyre, and especially the studs, a longer service life.

i NOTE

The legal provisions for the use of studded tyres vary from country to country.

Tread depth

Road conditions with ice, slush and low temperatures place considerably higher demands on tyres than summer conditions. Volvo therefore recommends not to drive on winter tyres that have a tread depth of less than 4 millimetres.

Using snow chains

Snow chains may only be used on the front wheels (also applies to all-wheel drive cars).

Never drive faster than 50 km/h with snow chains. Avoid driving on bare ground as this wears out both the snow chains and tyres.

! WARNING

Use Volvo genuine snow chains or equivalent chains designed for the car model, and tyre and rim dimensions. In the event of uncertainty Volvo recommends that you consult an authorised Volvo workshop. The wrong snow chains may cause serious damage to your car and lead to an accident.

! IMPORTANT

Only **single-sided** snow chains are permitted. Use Volvo genuine snow chains or similar that are properly suited to the car model, tyre size and wheel rim size. In the event of uncertainty Volvo recommends that you consult an authorised Volvo workshop.

Specifications

The car has whole vehicle approval. This means that certain combinations of wheels and tyres are approved. For the permissible combinations, see page 303



General

Wheel (rim) dimensions

Wheels (rims) have a designation of dimensions, for example: 7Jx16x50.

7	Rim width in inches
J	Rim flange profile
16	Rim diameter in inches
50	Off-set in mm (distance from wheel centre to wheel contact surface against the hub)

Tyre dimensions

The dimensions are stated on all car tyres. Example of designation:

235/60 R18 103 V.

235	Tyre width (mm)
60	Ratio between tyre wall height and tyre width (%)
R	Radial ply
18	Rim diameter in inches

103	Codes for the maximum permitted tyre load, tyre load index (LI)
V	Speed rating for maximum permitted speed, speed rating (SS). (In this case 270 km/h).

Load index

Each tyre has a certain capacity to carry a load, a load index (LI). The car's weight determines the load capacity required of the tyres. Minimum permitted index is specified in the table, see page 303.

Speed ratings

Each tyre can withstand a certain maximum speed, a speed rating (Speed Symbol; SS).

Tyre speed class must at least correspond with the car's top speed. Minimum permitted speed rating is specified in the table, see page 303.

The only exception to these conditions is winter tyres (both those with metal studs and those without), where a lower speed rating may be used. If such a tyre is chosen, the car must not be driven faster than the speed rating of the tyre (for example, class Q can be driven at a maximum of 160 km/h).

Traffic regulations determine how fast a car can be driven, not the speed rating of the tyres.

**NOTE**

It is the maximum permitted speed that is stated in the table.

Q	160 km/h (used only on winter tyres)
T	190 km/h
H	210 km/h
V	240 km/h
W	270 km/h
Y	300 km/h

**WARNING**

The car must be fitted with tyres which have the same or a higher load index (LI) and speed rating (SS) than specified. If a tyre with too low a load index or speed rating is used, it may overheat.

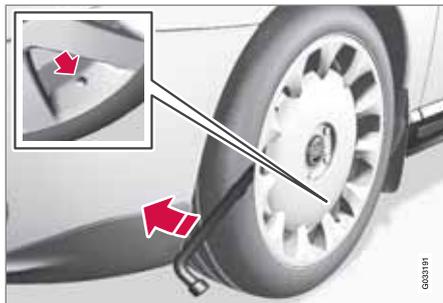


Changing wheels

Removing

Set up the warning triangle, see page 248 if a wheel must be replaced at a busy location. The car and jack* must be on a firm horizontal surface.

1. Apply the parking brake and engage reverse gear, or position **P** if the car has an automatic gearbox.



If the car has full hubcaps then these should be removed.

! WARNING

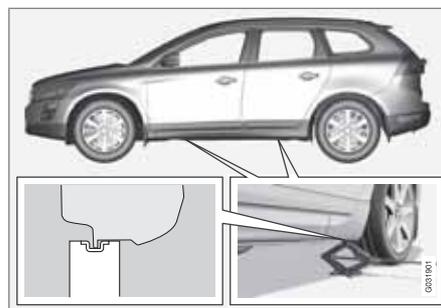
Check that the jack is not damaged, that the threads are thoroughly lubricated and that it is free from dirt.

i NOTE

Volvo recommends only using the jack* that belongs to the car model in question, which is indicated on the jack's label.

The label also indicates the jack's maximum lift capacity at a specified minimum lifting height.

2. Take out the spare wheel*, jack* and wheel wrench* that are located under the cargo area floor in the cargo area. If another jack is selected, see page 256.
3. Remove any full hubcaps.
4. Place chocks in front of and behind the wheels which will remain on the ground. Use heavy wooden blocks or large stones for example.



5. Loosen the wheel bolts ½-1 turn anticlockwise with the wheel wrench.

! WARNING

Never position anything between the ground and the jack, nor between the jack and the car's jacking point.

6. There are two jacking points on each side of the car. There is a recess in the plastic cover at each point. Crank the foot of the jack down so it is pressed squarely on the ground.

! IMPORTANT

The ground must be firm, smooth and level.

- 7.



Changing wheels



Check that the jack sits in the anchorage as illustrated and that the foot is positioned vertically under the anchorage.

! IMPORTANT

The jack mounting point is the rearmost of the two rear recesses.

- Lift the car so that the wheel is free. Remove the wheel bolts and lift off the wheel.

Installation

- Clean the contact surfaces between wheel and hub.

- Put on the wheel. Tighten the wheel bolts thoroughly.
- Lower the car so that the wheels cannot rotate.



- Tighten the wheel bolts crosswise. It is important that the wheel bolts are tightened properly. Tighten to 140 Nm. Check the torque with a torque wrench.

i NOTE

The hubcap outlet for the valve must be located over the valve on the rim when fitted.

! WARNING

Never crawl under the car when it is raised on the jack.

Passengers must leave the car when it is raised on the jack.

Park the car so that passengers have the car - or preferably a crash barrier - between them and the road.

Spare wheel*

The spare wheel (Temporary spare) is only intended for use temporarily and must be replaced by an ordinary wheel as soon as possible. The car's handling may be altered by the use of the spare wheel. The spare wheel is smaller than the normal wheel. The car's ground clearance is affected accordingly. Pay attention to high kerbs and do not machine wash the car. If the spare wheel is fitted on the front axle, you cannot use snow chains at the same time. On all-wheel drive cars the drive on the rear axle can be disconnected. The spare wheel must not be repaired. The correct tyre pressure for the spare wheel is stated in the tyre pressure table, see page 304.



Changing wheels

IMPORTANT

Never drive faster than 80 km/h with a spare wheel on the car.

IMPORTANT

The car must never be driven fitted with more than one temporary spare wheel.

The spare wheel is located in the spare wheel well with the outside down. The same bolt runs through to secure the spare wheel and the foam block. The foam block contains all the tools.

Taking out the spare wheel

1. Fold up the cargo area floor, from the rear and forwards.
2. Undo the retaining screw.
3. Lift out the foam block with its tools.
4. Lift out the spare wheel.



Tyre pressure

Tyre pressure



The tyre pressure decal on the driver's side door pillar (between frame and rear door) shows which pressures the tyres should have at different loads and speed conditions. This is also specified in the tyre pressure table, see page 304.

- Tyre pressure for the car's recommended tyre dimension
- ECO pressure¹
- Spare wheel tyre pressure (Temporary Spare)

i NOTE

Temperature differences change the tyre pressure.

¹ ECO pressure results in improved fuel economy.

Fuel economy, ECO pressure

At speeds under 160 km/h, the general tyre pressure is recommended (applies for both full load and light load) in order to obtain optimum fuel economy.

Checking the tyre pressure

The tyre pressures must be checked every month.

This also applies to the car's spare wheel.

Check tyre pressures on cold tyres. "Cold tyres" means the tyres are the same temperature as the ambient temperature. After several kilometres of driving, the tyres warm up and the pressure increases.

Inadequate tyre pressure increases fuel consumption, shortens tyre lifespan and impairs the car's roadholding. Driving on tyres with tyre pressure that is too low could result in the tyres overheating and being damaged. Tyre pressure affects travelling comfort, road noise and steering characteristics.

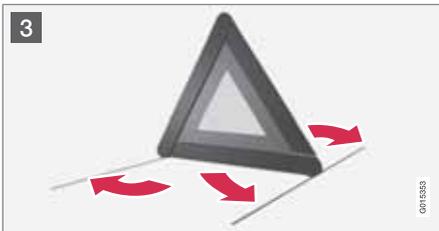
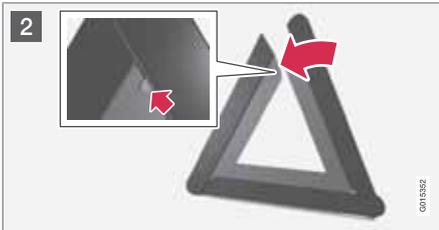
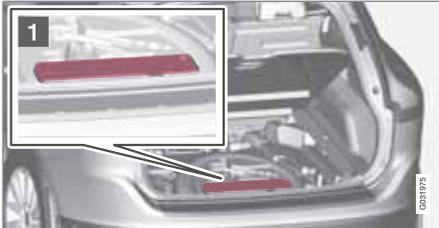
i NOTE

Tyre pressure decreases over time, this is a natural phenomenon. Tyre pressure also varies depending on ambient temperature.



Warning triangle and first-aid kit*

Warning triangle



- 1 Lift the floor hatch and take out the warning triangle.
- 2 Take the warning triangle from the case, fold out and assemble the two loose sides.
- 3 Fold out the warning triangle's support legs.

Follow the regulations for the use of a warning triangle. Position the warning triangle in a suitable place with regard to traffic.

Ensure the warning triangle and its case are properly secured in the cargo area after use.

First aid kit*



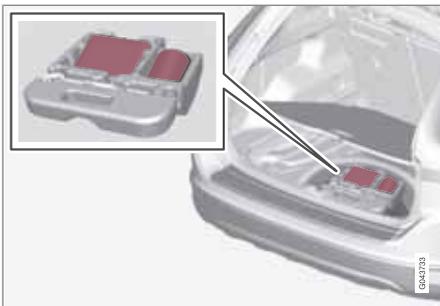
A case with first aid equipment is located under the floor in the cargo area.

* Option/accessory, for more information, see Introduction.



Emergency puncture repair (TMK)*

General



Emergency puncture repair (TMK; Temporary Mobility Kit) is used to seal a puncture and check and adjust tyre pressure. It consists of a compressor and a bottle with sealing fluid. The kit works as a temporary repair. The sealing fluid bottle must be replaced before its expiration date and after use.

The sealing fluid effectively seals tyres punctured in the tread.

i NOTE

The emergency puncture repair kit is only intended for sealing tyres with a puncture in the tread.

The emergency puncture repair kit has limited capacity to seal tyres which have punctures in

the wall. Do not seal tyres with the emergency puncture repair kit if they have larger slits, cracks or similar damage.

12 V sockets* for connecting the compressor are located by the centre console in the front, by the rear seat and in the cargo area. Choose the electrical socket that is nearest the punctured tyre.

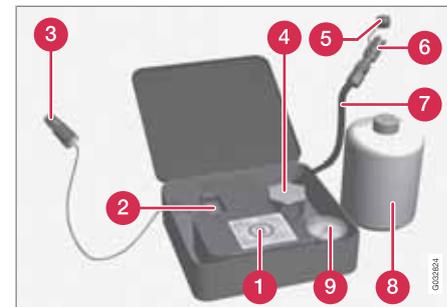
Location of the emergency puncture repair kit

Set up the warning triangle if a tyre is being sealed in a trafficked location. The emergency puncture repair kit is located under the floor in the cargo area, see page 248.

⚠ WARNING

You should not drive faster than 80 km/h after the emergency tyre repair kit has been used. Volvo recommends that you visit an authorised Volvo workshop for inspection of the sealed tyre (maximum driving distance is 200 km). The staff there can determine whether or not the tyre can be repaired or if it needs to be replaced.

Overview



- 1 Label, maximum permitted speed
- 2 Switch
- 3 Cable
- 4 Bottle holder (orange cap)
- 5 Protective cap
- 6 Pressure reducing valve
- 7 Air hose
- 8 Sealing fluid bottle
- 9 Pressure gauge



Emergency puncture repair (TMK)*

Sealing punctured tyres



For information on the function of the parts, see preceding illustration.

1. Open the lid of the emergency puncture repair kit.
2. Detach the label for maximum permitted speed and affix it to the steering wheel.

WARNING

The sealing fluid can irritate the skin. In the case of contact with skin, wash away the fluid with soap and water.

3. Check that the switch is in position **0** and locate the cable and the air hose.

NOTE

Do not break the bottle's seal before use. The seal is broken automatically when the bottle is screwed in.

4. Unscrew the orange cap and unscrew the bottle's stopper.
5. Screw the bottle into its holder.

WARNING

Do not unscrew the bottle, it is equipped with a reverse catch to prevent leakage.

6. Unscrew the wheel's dust cap and screw in the air hose valve connection to the bottom of the thread on the tyre's air valve.
7. Plug the cable into the 12 V socket and start the car.

WARNING

Do not leave children in the car without supervision when the engine is running.

8. Flick the switch to position **I**.

WARNING

Never stand next to the tyre when the compressor is running. If cracks or unevenness arise then the compressor must be switched off immediately. The journey should not be continued. Contacting an authorised tyre centre is recommended.

NOTE

When the compressor starts, the pressure can increase up to 6 bar but the pressure drops after approximately 30 seconds.

9. Inflate the tyre for 7 minutes.

IMPORTANT

Risk of overheating. The compressor must not run for more than 10 minutes.

10. Switch off the compressor to check the pressure on the pressure gauge. Minimum

**Emergency puncture repair (TMK)***

pressure is 1.8 bar and maximum 3.5 bar. (Release air with the pressure reducing valve if the tyre pressure is too high.)

WARNING

If the pressure is below 1.8 bar then the hole in the tyre is too big. The journey should not be continued. Contacting an authorised tyre centre is recommended.

11. Switch off the compressor and unplug the cable from the 12 V socket.
12. Detach the hose from the tyre valve and fit the valve cap.
13. As soon as possible, drive approximately 3 km at a maximum speed of 80 km/h so that the sealing fluid can seal the tyre.

Rechecking the repair and pressure

1. Reconnect the equipment.
2. Read the tyre pressure on the pressure gauge.
 - If it is below 1.3 bar then the tyre is insufficiently sealed. The journey should not be continued. Contact a tyre centre.
 - If the tyre pressure is higher than 1.3 bar, the tyre must be inflated to the pressure specified in accordance with the

tyre pressure table, see page 304 (1 bar=100 kPa). Release air using the pressure reducing valve if the tyre pressure is too high.

WARNING

Do not unscrew the bottle, it is equipped with a reverse catch to prevent leakage.

3. Make sure the compressor is switched off. Detach the air hose and cable. Refit the dust cap.

NOTE

The sealing fluid bottle and the hose must be replaced after use. Volvo recommends that this replacement is performed by an authorised Volvo workshop.

WARNING

Check the tyre pressure regularly.

Volvo recommends that you drive to the nearest authorised Volvo workshop for the replacement/repair of the damaged tyre. Advise the workshop that the tyre contains sealing fluid.

WARNING

You should not drive faster than 80 km/h after the emergency tyre repair kit has been used. Volvo recommends that you visit an authorised Volvo workshop for inspection of the sealed tyre (maximum driving distance is 200 km). The staff there can determine whether or not the tyre can be repaired or if it needs to be replaced.

Inflating the tyres

The car's original tyres can be inflated by the compressor.

1. The compressor must be switched off. Make sure that the switch is in position **0** and locate the cable and air hose.
2. Unscrew the wheel's dust cap and screw in the air hose valve connection to the bottom of the thread on the tyre's air valve.

WARNING

Inhaling car exhaust fumes can result in danger to life. Never leave the engine running in sealed areas or areas that lack sufficient ventilation.



Emergency puncture repair (TMK)*

WARNING

Do not leave children in the car without supervision when the engine is running.

3. Connect the cable to one of the car's 12 V sockets and start the car.
4. Start the compressor by flicking the switch to position I.

IMPORTANT

Risk of overheating. The compressor must not run for more than 10 minutes.

5. Inflate the tyre to the pressure specified in accordance with the tyre pressure table, see page 304. (Release air using the pressure reducing valve if the tyre pressure is too high.)
6. Detach the air hose and cable.
7. Refit the dust cap.

Replacing the sealing fluid canister

Replace the bottle when the expiration date has passed. Treat the old bottle as environmentally hazardous waste.

WARNING

The bottle contains 1.2-Ethanol and natural rubber-latex.

Harmful if ingested. Could result in allergic reaction in the event of skin contact.

Avoid contact with the skin and eyes.

Store out of the reach of children.

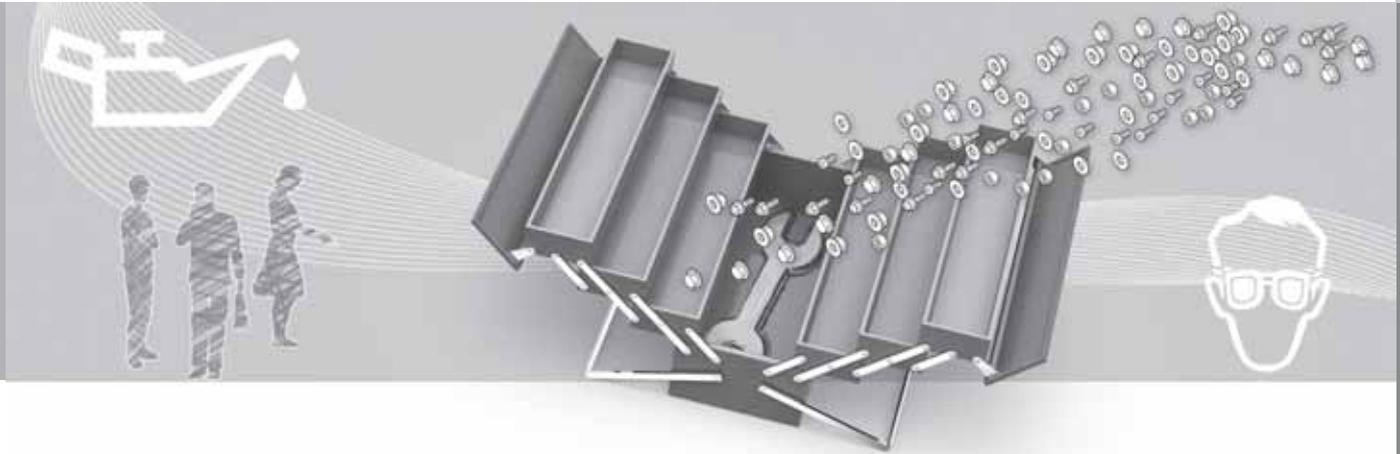


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Wiper blades and washer fluid.....	269
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07

MAINTENANCE AND SERVICE





Engine compartment

General

Volvo service programme

To keep the car as safe and reliable as possible, follow the Volvo service programme as specified in the Service and Warranty Booklet. Volvo recommends engaging an authorised Volvo workshop to perform the service and maintenance work. Volvo workshops have the personnel, special tools and service literature to guarantee the highest quality of service.

! IMPORTANT

For the Volvo warranty to apply, check and follow the instructions in the Service and Warranty Booklet.

Check regularly

Check the following oils and fluids at regular intervals, e.g. when refuelling:

- Coolant
- Engine oil
- Power steering fluid
- Washer fluid

! WARNING

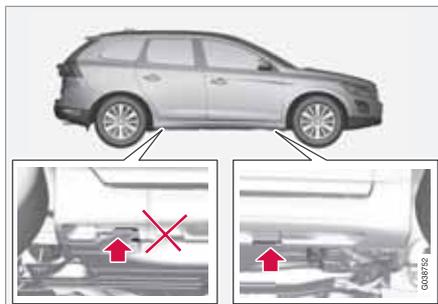
Bear in mind that the radiator fan may start automatically some time after the engine has been switched off.

Always have the engine cleaned by a workshop. There is a risk of fire if the engine is hot.

Raising the car

i NOTE

Volvo recommends only using the jack that belongs to the car model in question. If a jack other than one recommended by Volvo is selected, then follow the instructions included with the equipment



If the car is raised with a workshop jack; position the jack against the front edge on the engine's subframe.

Do not damage the splashguard under the engine. Ensure that the workshop jack is positioned so that the car cannot slide off the jack. Always use axle stands or similar.

If you raise 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 preceding illustration.

Opening and closing the bonnet





Engine compartment

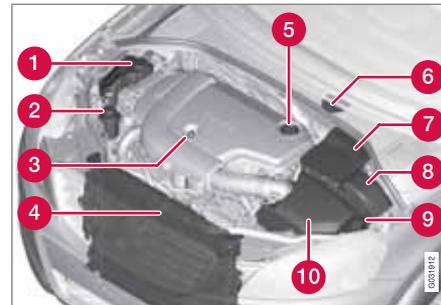


- 1 Pull the handle by the pedals. An information symbol lights when the bonnet is open, see page 70.
- 2 Move the catch to the left and open the bonnet. (The catch hook is located between the headlamp and grille, see illustration.)

WARNING

Check that the bonnet locks properly when closed.

Engine compartment, overview



The appearance of the engine compartment may vary depending on engine variant.

- 1 Coolant expansion tank
- 2 Power steering fluid reservoir
- 3 Engine oil dipstick
- 4 Radiator
- 5 Filler opening for engine oil
- 6 Brake and clutch fluid reservoir (left-hand drive)
- 7 Battery
- 8 Relay and fuse box, engine compartment
- 9 Filling washer fluid
- 10 Air filter

WARNING

High voltage from the ignition system. The voltage in the ignition system is highly dangerous. The remote control key must always be in **0** position when work is being done in the engine compartment, see page 74.

Do not touch the spark plugs or ignition coil when the remote control key is in **II** position or when the engine is hot.

Checking the engine oil



Volvo recommends Castrol oil products.

When driving under adverse conditions, see page 297.



Engine compartment

! IMPORTANT

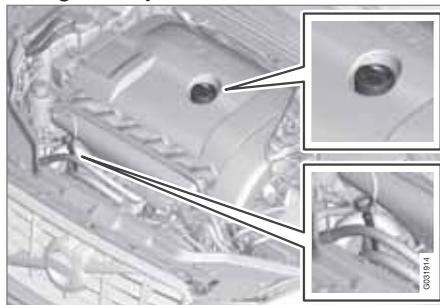
In order to fulfil the requirements for the engine's service intervals all engines are filled with a specially adapted synthetic engine oil at the factory. The choice of oil has been made very carefully with regard to service life, starting characteristics, fuel consumption and environmental impact.

An approved engine oil must be used in order that the recommended service intervals can be applied. Only use a prescribed grade of oil for both filling and oil change, otherwise you will risk affecting service life, starting characteristics, fuel consumption and environmental impact.

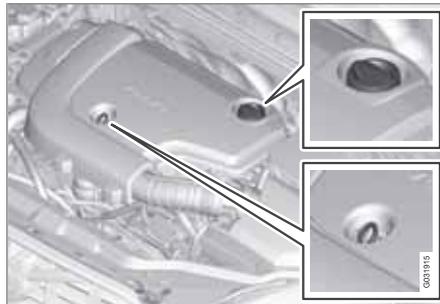
Volvo Car Corporation disclaims all warranty liability if engine oil of the prescribed grade and viscosity is not used.

Volvo uses different systems for warning of low oil level or low oil pressure. Certain variants have an oil pressure sensor, and then the lamp for oil pressure is used. Other variants have an oil level sensor, and then the driver is informed via the warning symbol in the centre of the instrument unit as well as by display texts. Certain models have both variants. Contact a Volvo dealer for more information.

Filling and dipstick



Dipstick and filler pipe, petrol engine.



Dipstick¹ and filler pipe, diesel engine.

Change the engine oil in accordance with the intervals specified in the Service and Warranty Booklet.

! IMPORTANT

When filling oil to top up, the oil being filled must have the same grade, see page 298.

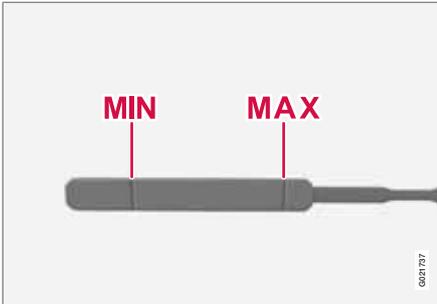
Checking the oil level in a new car is especially important before the first scheduled oil change.

The most accurate measurements are made on a cold engine before starting. The measurement will be inaccurate if taken immediately after the engine is switched off. The dipstick will indicate that the level is too low because the oil has not had time to flow down into the oil sump.

¹ Diesel engines have an electronic dipstick.



Engine compartment



The oil level must be within the area marked on the dipstick.

Park the car on a level surface, switch off the engine and wait 10-15 minutes to allow the oil time to run back to the sump. For capacities, see page 298 and onwards.

Checking with a cold engine

1. Wipe the dipstick clean.
2. Check the level using the dipstick. It must be between the **MIN** and **MAX** marks.
3. If the level is close to the **MIN** mark, start by topping up with 0.5 litres of oil. Top up until the level is nearer to **MAX** than **MIN** on the dipstick.

IMPORTANT

Never fill above the **MAX** mark. Oil consumption may increase if too much oil is poured into the engine.

WARNING

Do not spill oil onto the hot exhaust manifold due to the risk of fire.

Checking with a warm engine

1. Park the car on a level surface, switch off the engine and wait 10 - 15 minutes to allow the oil time to run back to the sump.
2. Wipe the dipstick clean.
3. Check the oil level using the dipstick.
4. If the level is close to the **MIN** mark, start by topping up with 0.5 litres of oil. Top up until the level is nearer to **MAX** than **MIN** on the dipstick.

For engines with electronic dipstick²

The oil level is checked using the electronic oil level gauge with the thumbwheel when the engine is switched off, see page 132.

Checking the oil level:

1. Switch the ignition to key position **II**, see page 107.
2. Turn the thumbwheel to position **Engine oil level Wait...**
 - > The oil level in the engine is then shown.

NOTE

The oil level is only updated by the system during driving. The system cannot detect changes when oil is filled or drained.

If engine oil is filled or drained then the car must be driven about 30 km before the oil level is measured correctly.

Message

Engine oil level OK	All normal.
Engine oil level Wait...	System initialised, shown for about 2 seconds.

² Only applies to diesel.



Engine compartment

Message	
Engine oil level Fill 1 litre oil	Fill with engine oil
Engine oil level Service required	Shown when the system has detected something that needs to be rectified in order to enable the correct information regarding oil volume to be shown.

When topping up the coolant, follow the instructions on the packaging. It is important that the mixture of coolant concentrate and water is correct for the prevailing weather conditions. Never top up with water only. The risk of freezing increases with both too little and too much coolant concentrate. For capacities, see page 299.

Coolant

Checking and topping up the coolant



IMPORTANT

- A high content of chlorine, chlorides and other salts may cause corrosion in the cooling system.
- Always use coolant with anti-corrosion agent as recommended by Volvo.
- Ensure that the coolant mixture is 50% water and 50% coolant.
- Mix the coolant with approved quality tap water. In the event of any doubt about water quality, used ready-mixed coolant in accordance with Volvo recommendations.
- When changing coolant/replacing cooling system components, flush the cooling system clean with approved quality tap water or flush with ready-mixed coolant.
- The engine must only be run with a well-filled cooling system. High temperatures may occur, causing a risk of damage (cracks) to the cylinder head.

For capacities and for standards regarding water quality, see page 299.

Check the coolant regularly

The level must lie between the **MIN** and **MAX** marks on the expansion tank. If the system is



Engine compartment

not filled sufficiently, high temperatures could occur, causing a risk of damage to the engine.

WARNING

Coolant can be very hot. If the coolant requires topping up when the engine is at operating temperature, unscrew the expansion tank cap slowly to gently release the overpressure.

Brake and clutch fluid

Checking the level

Brake and clutch fluid have a common reservoir. The level must be between the **MIN** and **MAX** marks that are visible inside the reservoir. Check the level regularly.

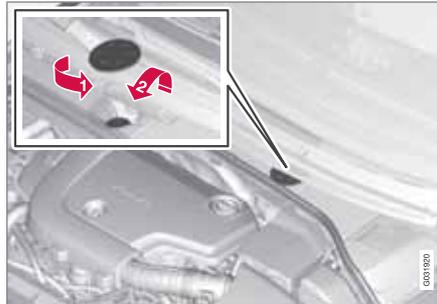
Change the brake fluid every other year or at every other regular service.

For capacities and recommended fluid grade, see page 299. The fluid should be changed annually on cars driven in conditions requiring hard, frequent braking, such as driving in mountains or tropical climates with high humidity.

WARNING

If the brake fluid is under the **MIN** level in the brake fluid reservoir, do not drive further before topping up the brake fluid. Volvo recommends that the reason for the loss of brake fluid is investigated by an authorised Volvo workshop.

Filling



The fluid reservoir is located on the driver's side.

The fluid reservoir is protected under the cover over the cold section in the engine compartment. The round cover must be removed first before the reservoir cap can be reached.

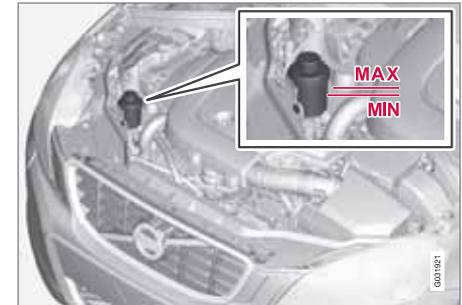
1. Turn and open the cover located on the covering.

2. Unscrew the reservoir cap and fill the fluid. The level must be between the **MIN** and **MAX** marks, which are located on the inside of the reservoir.

IMPORTANT

Do not forget to refit the cap.

Power steering fluid



IMPORTANT

Keep the area around the power steering fluid reservoir clean when checking. The cover must not be opened.

Check the level frequently. The fluid does not require changing. The fluid level must be



Engine compartment

between the **MIN** and **MAX** marks. For capacities and recommended fluid grade, see page 299.



NOTE

If a fault should arise in the power steering system or if the engine is switched off and the car must be towed, it can still be steered.



Lamps

General

For bulb specification, see page 268. Bulbs and spotlights that are of a special type or that are only suitable for replacement by a workshop are:

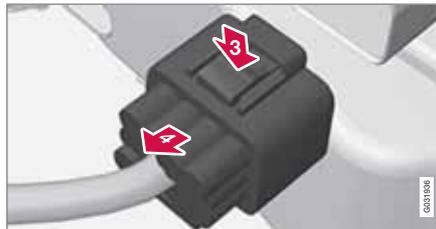
- General interior lighting in the roof, reading lamps
- Glovebox lighting
- Courtesy lighting
- Direction indicators, door mirror
- Approach lighting
- Brake light, fog lamp, reversing lamp
- Rear side position lamps, position lamps
- Xenon, Active Xenon lamps
- LED lamps, general

WARNING

On cars equipped with Xenon lamps, headlamp replacement must be performed at a workshop - an authorised Volvo workshop is recommended. The lamp must be handled with extreme caution because it is equipped with a high voltage unit.

IMPORTANT

Never touch the glass part of the bulbs with your fingers. Grease and oils from your fingers are vaporised by the heat, coating the reflector and then causing damage.

Headlamps front

All of the headlamp bulbs are replaced via the engine compartment. Loosen and remove the whole headlamp.

WARNING

Always switch off the ignition and remove the remote control key before starting to replace a bulb.

Removing the headlamp

1. Press the **START/STOP ENGINE** button quickly.
2. (Upper illustration)
 - ➡ Pull out the headlamp's locking pins.
 - ➡ Pull the headlamp straight forward.

IMPORTANT

Do not pull the electrical cable, only the connector.

3. (Lower illustration)
 - ➡ Detach the headlamp connector by pressing down the clip with your thumb.
 - ➡ At the same time, guide out the connector with your other hand.
4. Lift out the headlamp and place it on a soft surface to avoid scratching the lens.
5. Replace the bulb in question, .



Lamps

Installing the headlamp

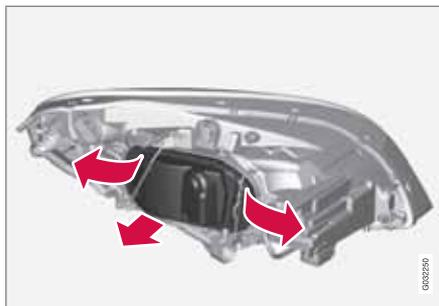


When installing, check that the long lock pin is engaged - it should be engaged in both eyes.

1. Plug in the connector. A clicking sound should be heard.
2. Reinstall the headlamp and locking pins. Check that they are correctly inserted.
3. Check the lighting.

The headlamp must be mounted and the connector correctly installed before the lighting is switched on or the remote control key is inserted into the ignition switch.

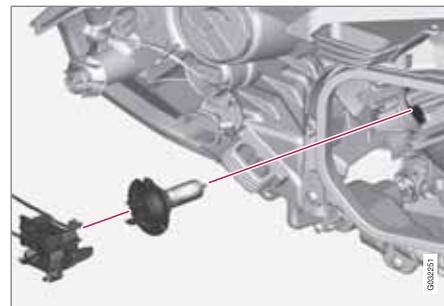
Removing the cover



Before starting to replace a bulb, see page 263.

1. Release the catches by pressing out.
 2. Remove the cover by pulling it straight out.
- Reinstall the cover in reverse order.

Dipped beam, halogen



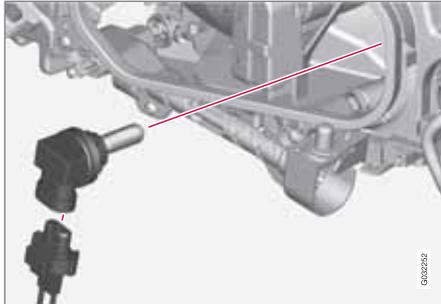
1. Detach the headlamp, see page 263.
2. Remove the cover.
3. Unplug the connector from the bulb.
4. Detach the bulb by pressing the holder downwards.
5. Detach the bulb by pulling it straight out.
6. Fit the new bulb in the socket and snap it in. It can be secured in one position.

Reinstall the parts in reverse order.



Lamps

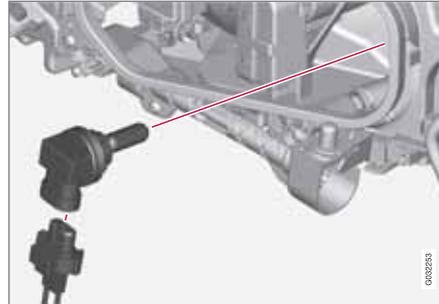
Main beam, Halogen



1. Detach the headlamp.
2. Remove the cover.
3. Detach the bulb by turning anticlockwise and then pulling straight out
4. Unplug the connector from the bulb.
5. Replace the bulb and align it in the socket and turn clockwise in order to secure it. It can be secured in one position.

Reinstall the parts in reverse order.

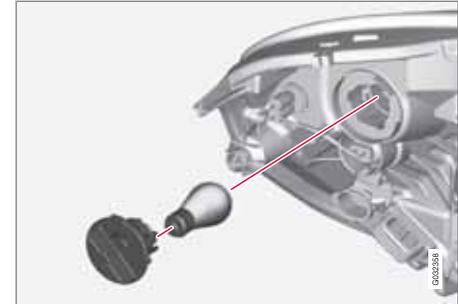
Extra main beam, Xenon*



1. Detach the headlamp.
2. Remove the cover, see page 264.
3. Unplug the connector from the bulb.
4. Detach the bulb holder by pulling it straight out.
5. Replace the bulb and fit the new one in the socket. It can only be secured in one position.

Reinstall the parts in reverse order.

Direction indicators/flashers



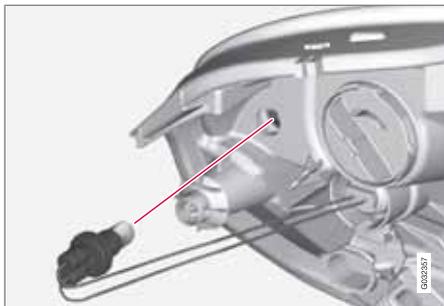
1. Detach the headlamp.
2. Detach the bulb holder by turning anticlockwise.
3. Pull the bulb holder in order to extract the bulb.
4. Remove the blown bulb by pressing it in and turning anticlockwise.
5. Fit a new bulb, press down and turn clockwise.
6. Fit the bulb holder and turn clockwise.

Reinstall the parts in reverse order.



Lamps

Side marker lamps

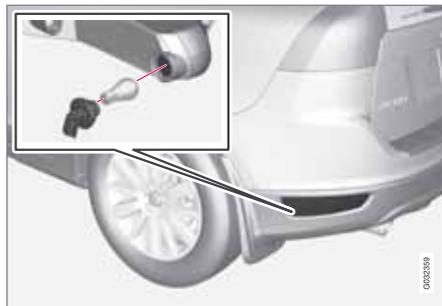


Before starting to replace a bulb, see page 263.

1. Detach the headlamp.
2. Turn the bulb holder anticlockwise and remove it.
3. Remove the blown bulb and fit a new one. It can only be installed in one way.
4. Fit the bulb holder in the socket and turn clockwise.

Reinstall the parts in reverse order.

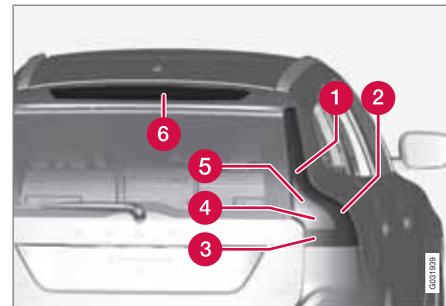
Rear fog lamp



The rear fog lamp is accessed behind the bumper

1. Detach the bulb holder by turning anticlockwise.
2. Remove the blown bulb by pressing it in and turning the bulb anticlockwise.
3. Fit a new bulb, press down and turn clockwise.
4. Fit the bulb holder and turn clockwise.

Location of rear bulbs



Lamp lens, right-hand side

- 1 Position (LED)/side marker lamps
- 2 Side reflector, rear
- 3 Brake light
- 4 Reversing lamp
- 5 Indicator
- 6 Brake light (LED)



Lamps

Brake light and reversing lamp



Both the brake light and the reversing lamp bulbs are replaced from inside the cargo area.

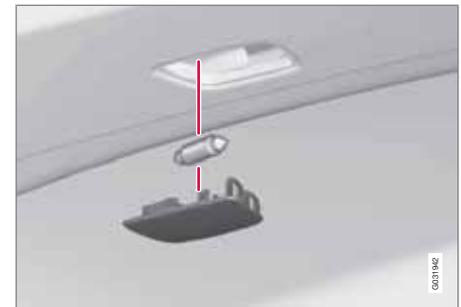
1. Open the panel.
2. Detach the bulb holder by turning anti-clockwise.
3. Remove the blown bulb by pressing it in and turning anticlockwise.
4. Fit a new bulb, press down and turn clockwise.
5. Fit the bulb holder and turn clockwise.

Number plate lighting



1. Remove the screws with a screwdriver.
2. Carefully detach the whole lamp housing and withdraw it.
3. Replace the bulb.
4. Refit the whole lamp housing and screw it into place.

Lighting, cargo area



1. Insert a screwdriver and gently prize so that the lamp housing comes loose.
2. Replace the bulb.
3. Check that the bulb illuminates and press back the lamp housing.



Lamps

Vanity mirror lighting

Removing the mirror glass



1. Insert a screwdriver underneath the lower edge, in the centre. Carefully prize up the lug on the edge.
2. Insert the screwdriver underneath the edge on the left and right-hand sides (by the black rubber sections), and prize carefully so that the glass comes loose in the lower edge.
3. Carefully detach and lift aside the entire mirror glass and cover.
4. Replace the bulb.

Fitting the mirror glass

1. Press the three lugs at top edge of the mirror glass back into position.

2. Then press the three lower lugs back into position.

Specification, bulbs

Lighting	W	Type
Extra main beam, Xenon, ABL	65	H9
Dipped beam, halogen	55	H7 LL
Main beam, Halogen	65	H9
Front direction indicators	21	PY21W
Cargo area lighting, number plate lighting	5	Tubular lamp SV8.5
Vanity mirror	1.2	Tubular lamp SV5.5
Front side marker lamps	5	W3WLL
Glovebox lighting	5	Tubular lamp SV8.5



Wiper blades and washer fluid

Wiper blades

Service position

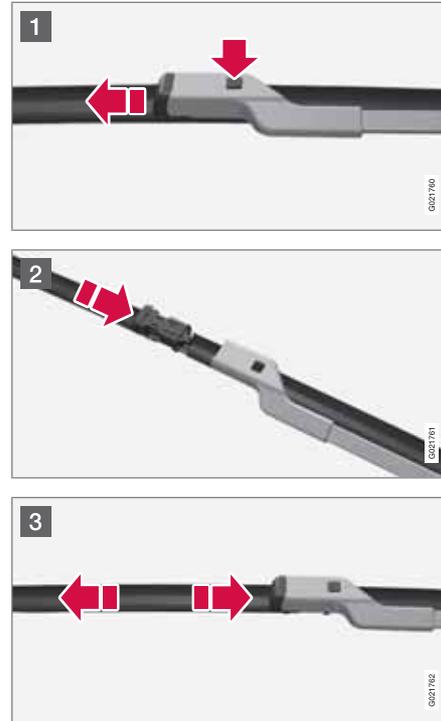


In order to change, clean or lift the wiper blades (for scraping off ice from the windscreen) they must be in service position.

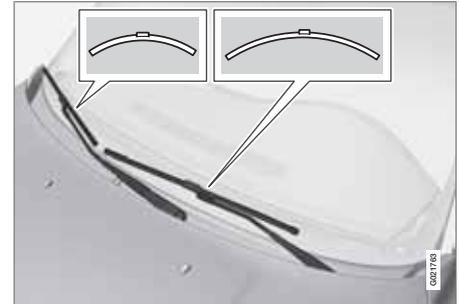
1. Turn the remote control key to key position **0**, see page 74, and keep the remote control key in the ignition switch.
2. Move the right-hand stalk switch up for about 1 second. The wipers then move to standing straight up.

The wipers return to the starting position when the car is started.

Replacing the wiper blades



- 1 Lift up the wiper arm. Press the button located on the wiper blade mounting and pull straight out parallel with the wiper arm.
- 2 Slide in the new wiper blade until a "click" is heard.
- 3 Check that the blade is firmly installed.



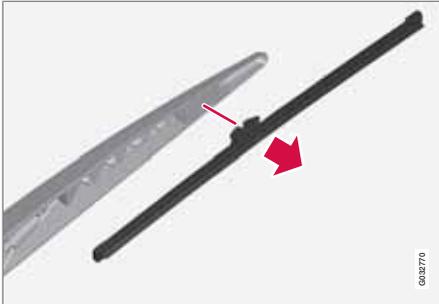
i NOTE

The wiper blades are different lengths. The blade on the driver's side is longer than the blade on the passenger side.



Wiper blades and washer fluid

Replacing the wiper blades, rear window



1. Fold out the wiper arm.
2. Grip the inner section of the blade (by the arrow).
3. Turn anticlockwise to use the blade's end position against the wiper arm as a lever to detach the blade more easily.
4. Press the new wiper blade into position. Check that it is firmly installed.
5. Lower the wiper arm.

Cleaning

For cleaning wiper blades and windscreen, see page 282 and onwards.

IMPORTANT

Check the wiper blades regularly. Neglected maintenance shortens the service life of the wiper blades.

Filling washer fluid



The windscreen and headlamp washers share a common reservoir.

IMPORTANT

Add washer antifreeze during the winter so that the fluid does not freeze in the pump, reservoir and hoses.

For capacities, see page 299.



Battery

Warning symbols on the battery

	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.

	NOTE
An expended battery must be recycled in an environmentally responsible manner - it contains lead.	

Operation

- Check that the cables to the battery are correctly connected and properly tightened.
- Never disconnect the battery when the engine is running.

The service life and function of the battery is influenced by factors such as the number of starts, discharging, driving style, driving conditions, climatic conditions etc.

	IMPORTANT
Never use a quick charger to charge the battery.	

	WARNING
Batteries can generate oxyhydrogen gas, which is highly explosive. One spark, which can be generated if the jump leads are connected incorrectly, is sufficient to make the battery explode. The battery contains sulphuric acid, which can cause serious burns. If sulphuric acid comes into contact with eyes, skin or clothing, flush with large quantities of water. If acid splashes into the eyes, seek medical attention immediately.	



Battery

NOTE

The life of the battery is shortened if it becomes discharged repeatedly.

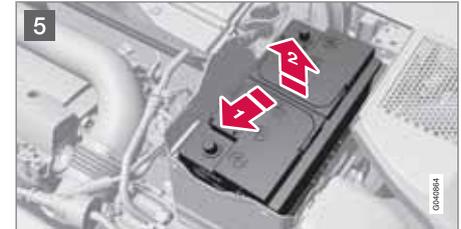
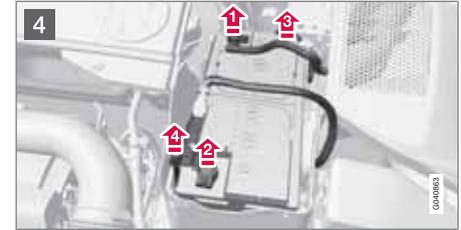
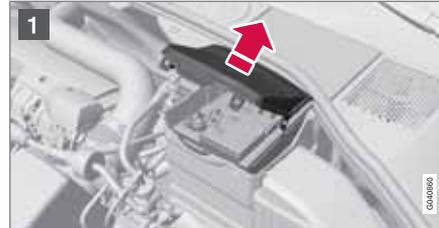
The life of the battery is affected by several factors, including driving conditions and climate. Battery starting capacity decreases gradually with time and therefore needs to be recharged if the car is not used for a longer time or when it is only driven short distances. Extreme cold further limits starting capacity.

To maintain the battery in good condition, at least 15 minutes of driving/week is recommended or that the battery is connected to a battery charger with automatic trickle charging.

A battery that is kept fully charged has a maximum service life.

Changing

Removal



Switch off the ignition and wait for 5 minutes.

- 1 Open the clips on the front cover and remove the cover.
- 2 Release the rubber moulding so that the rear cover is free.
- 3 Remove the rear cover by screwing one quarter turn and lifting it away.



Battery

! WARNING

Connect and disconnect the positive and negative cables in the correct sequence.

4

- 1 Detach the black negative cable
- 2 Detach the red positive cable
- 3 Detach the ventilation hose from the battery
- 4 Loosen the screw holding the battery clamp.
- 5 Move the battery to the side and lift it up.

3. Secure the battery using the battery clamp.
4. Connect the ventilation hose.
5. Connect the red positive cable.
6. Connect the black negative cable.
7. Press in the rear cover. (See Removal).
8. Reinstall the rubber moulding. (See Removal).
9. Reinstall the front cover and secure it with the clips. (See Removal).

Installation



1. Lower the battery into the battery box.
2. Move the battery inward and to the side until it reaches the rear edge of the box.



Fuses

General

All electrical functions and components are protected by a number of fuses in order to protect the car's electrical system from damage by short circuiting or overloading.

If an electrical component or function does not work, it may be because the component's fuse was temporarily overloaded and failed. If the same fuse fails repeatedly then there is a fault in the circuit. Volvo recommends that you visit an authorised Volvo workshop for checking.

Changing

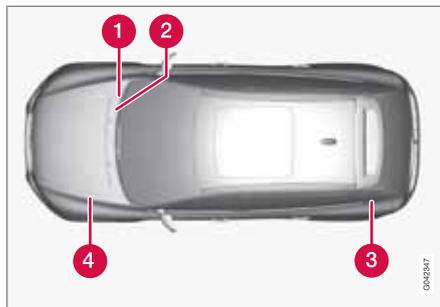
1. Look in the fuse diagram to locate the fuse.
2. Pull out the fuse and check from the side to see whether the curved wire has blown.
3. If this is the case, replace it with a new fuse of the same colour and amperage.



WARNING

Never use a foreign object, or a fuse with an amperage higher than that specified when replacing a fuse. This could cause significant damage to the electrical system and possibly lead to fire.

Location, fuse boxes



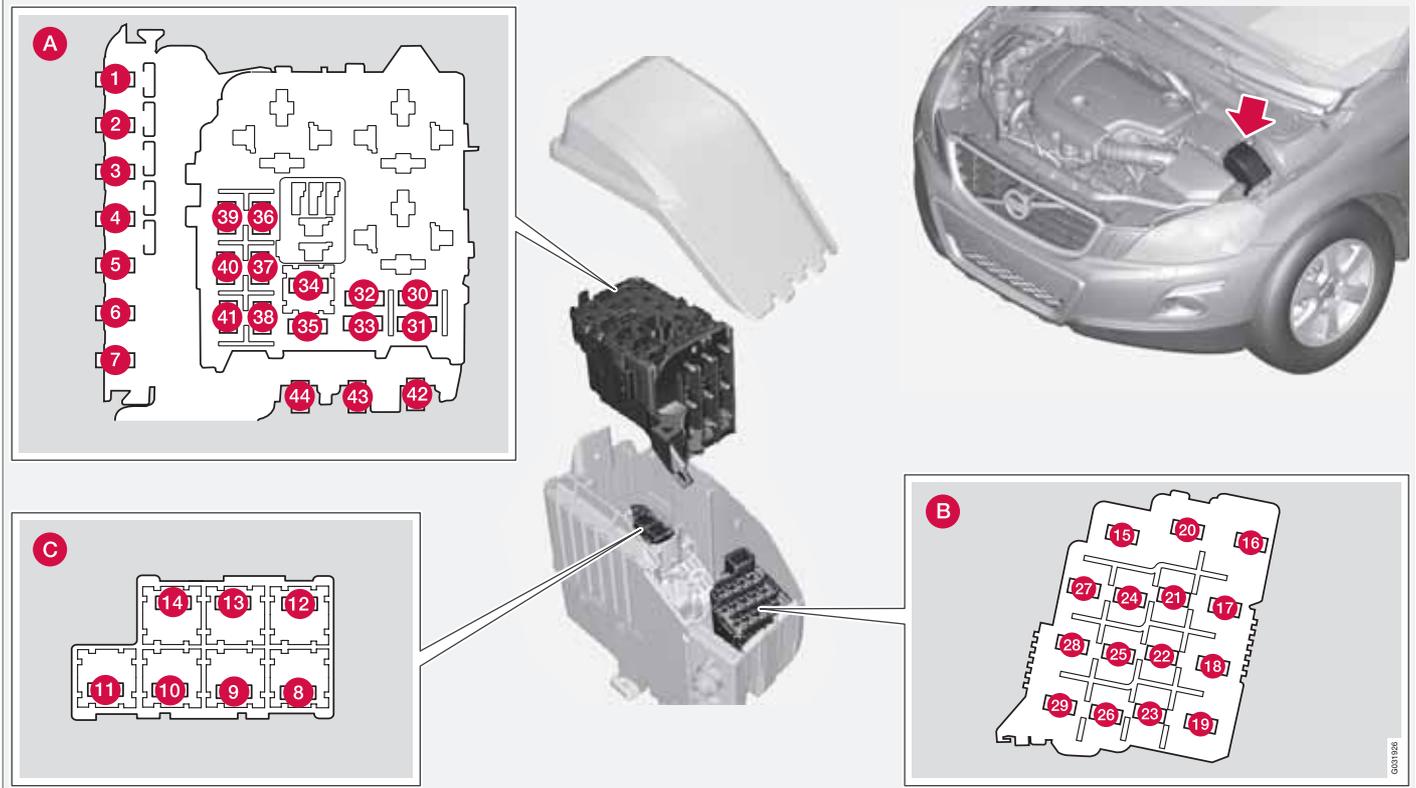
Fuse box locations in a left-hand drive car. In a right-hand drive car the fuse box under the glovebox changes sides.

- 1, 2 Under the glovebox
- 3 Cargo area
- 4 Engine compartment



Fuses

Engine compartment





Fuses

General fuses, engine compartment

On the inside of the cover are tweezers that facilitate the procedure for the removal and fitting of fuses.

Positions (see preceding illustration)

- A** Engine compartment, upper
- B** Engine compartment, front
- C** Engine compartment, lower

These fuses are all located in the engine compartment box. Fuses in **C** are located under

A.

- Fuses 1-7 and 42-44 are of the "Midi Fuse" type and must only be replaced by a workshop. Volvo recommends an authorised Volvo workshop.
- 8-15 and 34 are of the "JCASE" type and the recommendation for changing is that you visit an authorised Volvo workshop.
- 16 – 33 and 35 – 41 are of the "MiniFuse" type.

Fuse box locations in a left-hand drive car. In a right-hand drive car the fuse box under the glovebox changes sides.

	Function	A
1	Primary fuse CEM KL30B	50
2	Primary fuse CEM KL30A	50
3	Primary fuse RJBA KL30	60
4	Primary fuse CJB KL30	60
5	Primary fuse CJB 15E KL30	60
6	-	-
7	PTC Air preheater*	100
8	Headlamp washers*	20
9	Windscreen wipers	30
10	Parking heater*	25
11	Ventilation fan	40
12	-	-
13	ABS pump	40
14	ABS valves	20
15	-	-

	Function	A
16	Headlamp levelling* (Xenon, Active Xenon)	10
17	Primary fuse CEM	20
18	ABS 15-feed	5
19	Speed related power steering*	5
20	Engine Control Module (ECM), transm. SRS	10
21	Heated washer nozzles*	10
22	Vacuum pump 5-cyl Petrol Turbo and GTDI	5
23	Lighting panel	5
24	-	-
25	-	-
26	-	-
27	Relay, engine compartment box	5
28	Auxiliary lamps*	20
29	Horn	15

* Option/accessory, for more information, see Introduction.



Fuses

	Function	A
30	Engine Control Module (ECM)	10
31	Control module, automatic gearbox*	15
32	Compressor A/C	15
33	Relay coils	5
34	Starter motor relay	30
35	Ignition coils 4-cyl. petrol, Glow control module	10
	Ignition coils 5, 6-cyl. petrol	20
	-	-

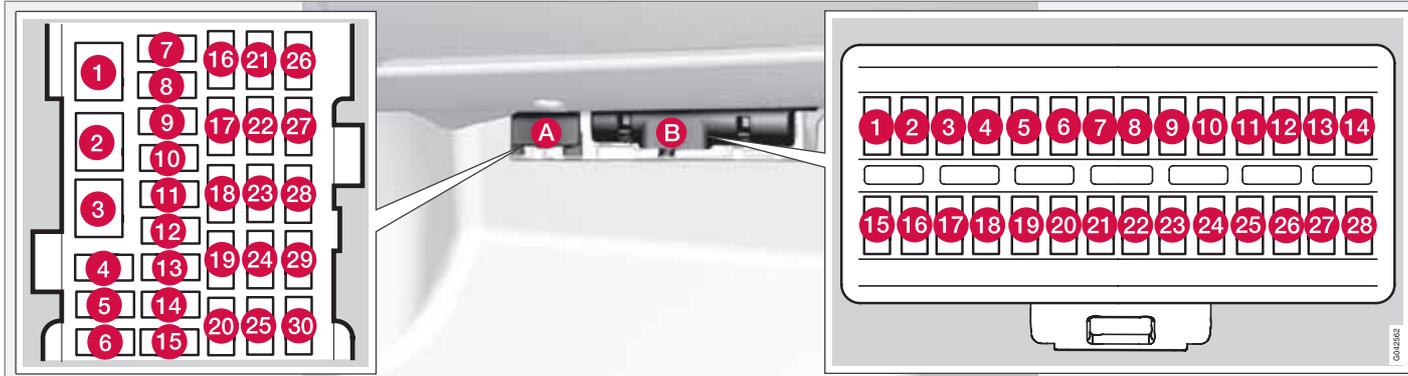
	Function	A
36	Engine control module, Throttle petrol	10
	Engine control module, Throttle diesel	15
37	Injection system (4, 5, 6-cyl. petrol), Mass air flow sensor (5, 6-cyl. petrol), ECM (6-cyl.)	15
		Mass air flow sensor, valves (5-cyl diesel)
	-	-
	Engine valves	10
38	EVAP, Lambda-sond, Injection (petrol)	15
	Lambda-sond (4-cyl. petrol, 5-cyl. diesel)	10
40	-	-
	Vacuum pump, crankcase valve (5-cyl. turbo, 2.0 GTDI)	20
	Diesel filter heater	-

	Function	A
41	Crankcase ventilation heater (5-cyl. diesel)	5
42	Glow plugs (5-cyl. diesel)	70
		60
43	Cooling fan (4 - 5-cyl. petrol)	60
	Cooling fan (6-cyl. petrol), (5-cyl. diesel)	80
	-	-
44	Electro-hydraulic power steering (1.6D)	80
	Electro-hydraulic power steering (other)	100



Fuses

Under the glovebox



Positions

Box A	Function	A
1	Primary fuse, control module, audio Bass speaker	40
2	-	-
3	-	-
4	-	-

Box A	Function	A
5	-	-
6	-	-
7	12 V socket, cargo area	
8	Control panel, driver's door	20
9	Control panel, front passenger door	20

Box A	Function	A
10	Control panel, rear passenger door, right	20
11	Control panel, rear passenger door, left	20
12	Keyless*	20
13	Power seat driver's side*	20



Fuses

Box A	Function	A
14	Power seat passenger side*	20
15	Folding head restraint*	15
16	-	-
17	Radio, Display, RTI*	10
18	Infotainment system	15
19	Telephone, Bluetooth™*	5
20	-	-
21	Sun roof*, interior lighting roof, climate sensor	5
22	Cigarette lighter Rear Seat Entertainment (RSE)*	15
23	Seat heating (passenger side)	15
24	Seat heating (driver's side)	15
25	-	-

Box A	Function	A
26	Seat heating, rear passenger side* right	15
27	Seat heating, rear passenger side* left	15
28	Parking assistance* Parking camera* RTI*	5
29	Control module AWD*	10
30	Active chassis Four-C*	10

Box B	Function	A
1	Rear wiper	15
2	-	-
3	Interior lighting, Power driver's seat*	7,5
4	Information display (DIM)	5

Box B	Function	A
5	Adaptive cruise control, ACC*, collision warning system *	10
6	Interior lighting, Rain sensor	7,5
7	Steering wheel module	7,5
8	Central locking system rear, fuel filler flap	10
9	Washers	15
10	Windscreen washers	15
11	Opening tailgate	10
12	Lock tailgate	10
13	Fuel pump	20
14	Remote control key receiver, Alarm*, Climate	5
15	Steering lock	15
16	Alarm/OBDII	5
17	-	-



Fuses

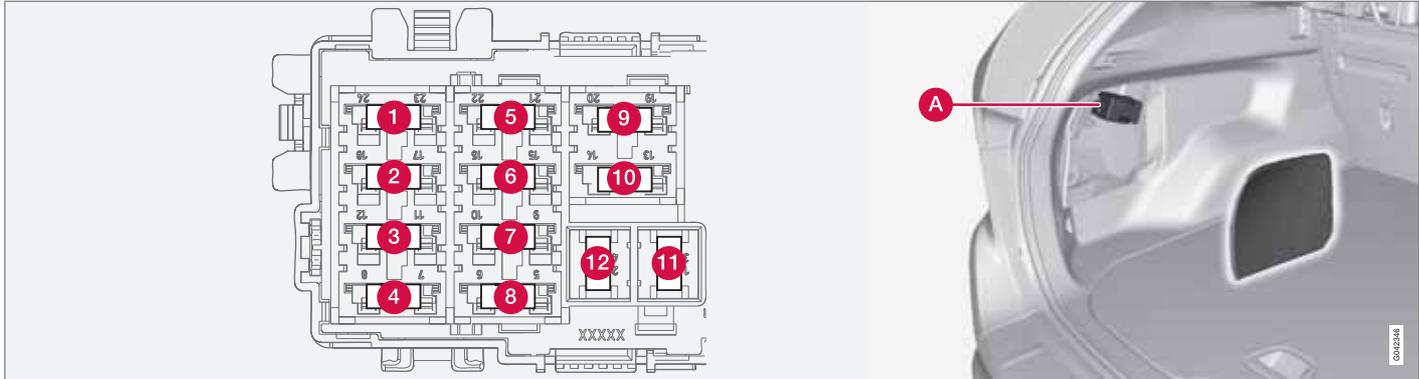
Box B	Function	A
18	Airbag City Safety	10
19	Collision warning system, radar front	5
20	Accelerator pedal, electric engine block heater (die- sel), power door mirrors*, seat heating, rear *	7,5
21	Infotainment (ICM), CD & Radio ^A	15
22	Brake light	5
23	Sun roof*	20
24	Immobiliser	5

A Not Premium or High Performance.



Fuses

Cargo area



The fuse box is located behind the upholstery on the left-hand side.

Positions

	Rear fuse box	A
1	Electric parking brake, left	30
2	Electric parking brake, right	30
3	Rear window defroster	30
4	Trailer socket 2*	15
5	POT (automatic tailgate opening)*	30

	Rear fuse box	A
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-

	Rear fuse box	A
11	Trailer socket 1*	40
12	-	-

* Option/accessory, for more information, see Introduction.



Car care

Washing the car

Wash the car as soon as it becomes dirty. Wash the car in a car wash with oil separator. Use car shampoo.

- Remove bird droppings from the paintwork as soon as possible. Bird droppings contain chemicals that affect and discolour paintwork very quickly. An authorised Volvo workshop is recommended for the removal of any discoloration.
- Hose down the underbody.
- Rinse the entire car to remove loose dirt. Do not spray directly onto the locks.
- Wash using a sponge, car shampoo and plenty of lukewarm water.
- Clean the wiper blades with a lukewarm soap solution or car shampoo.
- Use cold degreasing agent on very dirty surfaces.
- Dry the car using a clean, soft chamois or a water scraper.

WARNING

Always have the engine cleaned by a workshop. There is a risk of fire if the engine is hot.

IMPORTANT

Dirty headlamps have impaired functionality. Clean them regularly, when refuelling for example.

NOTE

Outside lighting such as headlamps, fog lamps and rear lamps may temporarily have condensation on the inside of the lens. This is a natural phenomenon, all outside lighting is designed to withstand this. Condensation is normally vented out of the lamp housing when it has been switched on for a time.

Cleaning the wiper blades

Asphalt, dust and salt residue on wiper blades, as well as insects, ice etc. on the windscreen, impair the service life of wiper blades.

For cleaning:

- Set the wiper blades in service position, see page 269.

NOTE

Wash the wiper blades and windscreen regularly with lukewarm soap solution or car shampoo.

Do not use any strong solvents.

Automatic car washes

An automatic car wash is a simple and quick way of washing the car, but it cannot reach everywhere. Handwashing the car is recommended for achieving optimum results.

NOTE

During the first few months a new car must only be handwashed. This is because the paintwork is more sensitive when it is new.

High-pressure washing

When using high-pressure washing, use sweeping movements and make sure that the nozzle does not come closer than 30 cm to the surface of the car (the distance applies to all exterior parts). Do not spray directly onto the locks.

Testing the brakes

WARNING

Always test the brakes after washing the car, including the parking brake, to ensure that moisture and corrosion do not attack the brake linings and reduce braking performance.

Lightly depress the brake pedal now and then when driving long distances in rain or slush. The heat from the friction causes the brake lin-



ings to warm up and dry. Do the same thing after starting in very damp or cold weather.

Exterior plastic, rubber and trim components

A special cleaning agent available from Volvo dealers is recommended for the cleaning and care of coloured plastic parts, rubber and trim components, such as glossy trim mouldings. When using such a cleaning agent the instructions must be followed carefully.

IMPORTANT

Avoid waxing and polishing on plastic and rubber.

When using degreasant on plastic and rubber, only rub with light pressure if it is necessary. Use a soft washing sponge.

Polishing glossy trim mouldings could wear away or damage the glossy surface layer.

Polishing agent that contains abrasive must not be used.

Rims

Only use rim cleaning agent recommended by Volvo.

Polishing and waxing

Polish and wax the car if the paintwork is dull or to give the paintwork extra protection.

The car does not need to be polished until it is at least one year old. However, the car can be waxed during this time. Do not polish or wax the car in direct sunlight.

Wash and dry the car thoroughly before you begin polishing or waxing. Clean off asphalt and tar stains using tar remover or white spirit. More stubborn stains can be removed using fine rubbing paste designed for car paintwork.

Polish first with a polish and then wax with liquid or solid wax. Follow the instructions on the packaging carefully. Many preparations contain both polish and wax.

IMPORTANT

Only paint treatment recommended by Volvo should be used. Other treatment such as preserving, sealing, protection, lustre sealing or similar could damage the paintwork. Paintwork damage caused by such treatments is not covered by Volvo warranty.

Water-repellent coating*



Never use products such as car wax, degreaser or similar on glass surfaces as this could ruin their water-repellent properties.

Take care when cleaning so as not to damage the glass surface.

To avoid damaging glass surfaces when removing ice – only use plastic ice scrapers.

There is natural wear of the water-repellent coating.

Treatment with a special finishing agent available from Volvo dealers is recommended in order to maintain the water-repellent properties. This should be used first after three years and then each year.

Rustproofing – inspection and maintenance

The car received a thorough and complete rustproofing at the factory. Parts of the body are made of galvanised sheet metal. The underbody is protected by a wear-resistant anti-corrosion compound. A thin, penetrating rustproofing fluid was sprayed into the exposed members, cavities, closed sections and side doors.



Car care

Under normal conditions the rustproofing does not require treatment for approximately 12 years. After this period, it should be treated at three-year intervals. Volvo recommends that you engage an authorised Volvo workshop for assistance if the car needs further treatment.

Dirt and road salt can lead to corrosion so it is important to keep the car clean. The car's rustproofing needs to be checked regularly and touched-up if necessary in order for it to be maintained.

Cleaning the interior

Only use cleaning agents and car care products recommended by Volvo. Clean regularly and follow the instructions included with the car care product.

Vacuuming is important prior to using cleaning agents.

Volvo's cleaning agents can also be used for stains on the mat, after vacuuming.

Stains on fabric upholstery and roof upholstery

A special fabric cleaning agent, available from authorised Volvo dealers, is recommended to avoid impairing the fire retardant qualities of the upholstery. Use water and a synthetic

detergent to clean the seatbelts. Make sure the seatbelt is dry before allowing it to retract.

IMPORTANT

Sharp objects and Velcro may damage the fabric upholstery.

Treating stains on leather upholstery

Volvo's leather upholstery is chromium-free and approved in accordance with the Oeko-Tex 100 standard and is treated to preserve its original appearance.

Leather upholstery ages and acquires a beautiful patina over time. The leather is refined and processed so that it retains its natural characteristics. It is given a protective coating, but regular cleaning is required in order to maintain both characteristics and appearance. Volvo offers a comprehensive product for the cleaning and treatment of leather upholstery which, when used in accordance with the instructions, preserves the leather's protective coating. After a period of use the natural appearance of the leather will nevertheless emerge, depending more or less on the surface texture of the leather. This is a natural maturing of the leather and shows that it is a natural product.

To achieve best results Volvo recommends cleaning and the application of protective

cream once to four times per year (or more if necessary). The Volvo Leather Care kit is available from your Volvo dealer.

IMPORTANT

- Certain items of coloured clothing (for example, jeans and suede garments) may stain the upholstery.
- Never use strong solvents. Such products may damage fabric, vinyl and leather upholstery.

Washing instructions for leather upholstery

1. Pour the leather cleaner on the dampened sponge and squeeze out a strong foam.
2. Work the dirt away with gentle circular movements.
3. Dab accurately with the sponge on the stains. Allow the sponge to absorb the stain. Do not rub.
4. Wipe off with soft paper or a cloth and allow the leather to dry completely.

Protective treatment of leather upholstery

1. Pour a small amount of the protective cream on the felted cloth and massage in



a thin layer of cream with gentle circular movements on the leather.

2. Allow the leather to dry for 20 minutes before use.

The leather has now been given improved protection against stains and improved UV protection.

Washing instructions for the leather steering wheel

- Remove dirt and dust with a soft pre-moistened sponge and neutral soap.
- Leather needs to breathe. Never cover the leather steering wheel with protective plastic.
- Use natural oils. Volvo's leather care agents are recommended for best results.

If the steering wheel has stains:

Group 1 (ink, wine, coffee, milk, sweat and blood)

- Use a soft cloth or sponge. Mix a 5% ammonia solution. (For blood stains, use a solution of 2 dl water and 25g salt.)

Group 2 (fats, oils, sauces and chocolate)

1. Same procedure as group 1.
2. Polish with an absorbent paper or cloth.

Group 3 (dry dirt, dust)

1. Use a soft brush to remove the dirt.
2. Same procedure as group 1.

Treating stains on interior plastic, metal and wood parts

A fibrillated fibre or microfibre cloth, lightly moistened with water, available from Volvo dealers, is recommended for cleaning interior parts and surfaces.

Do not scrape or rub stains. Never use strong stain removers. A special cleaning agent available from Volvo dealers can be used for more difficult cleaning.

Carpets and cargo area

Remove inlaid carpets for separate cleaning of the floor carpet and the inlaid carpets. Use a vacuum cleaner to remove dust and dirt.

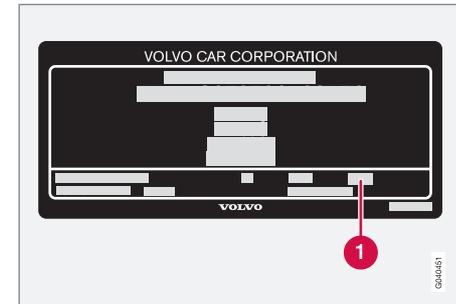
Touching up minor paintwork damage

Paint is an important part of the car's rust-proofing and should therefore be checked regularly. To avoid the onset of rust, damaged paintwork should be rectified immediately. The most common types of paintwork damage are stone chips, scratches, and marks on the edges of wings and doors.

Materials

- primer in a can
- spray can or touch-up pen¹
- masking tape

Colour code



- 1 Car colour code

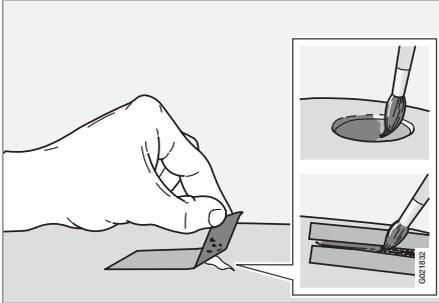
¹ Follow the instructions that are included with the package for the touch-up pen.



Car care

It is important that the correct colour is used. For product decal location, see page 290.

Repairing stone chips



Before work is begun, the car must be clean and dry and at a temperature above 15 °C.

1. Apply a piece of masking tape over the damaged surface. Then remove the tape to remove any loose paint.
2. Stir the primer well and apply using a fine brush or a matchstick. Apply paint using a brush once the primer is dry.
3. For scratches, proceed as above, but mask around the damaged area to protect the undamaged paintwork.

4. After a few days, polish the touched-up areas. Use a soft rag and a small amount of lapping paste.

i NOTE

If the stone chip has not penetrated to the bare metal and there is an undamaged colour coat, you can paint straight after cleaning the damaged surface.

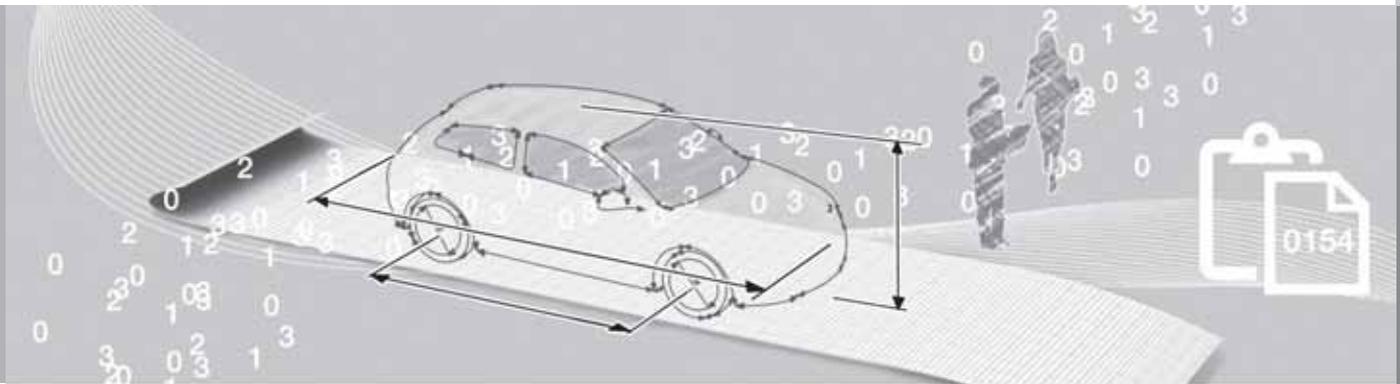


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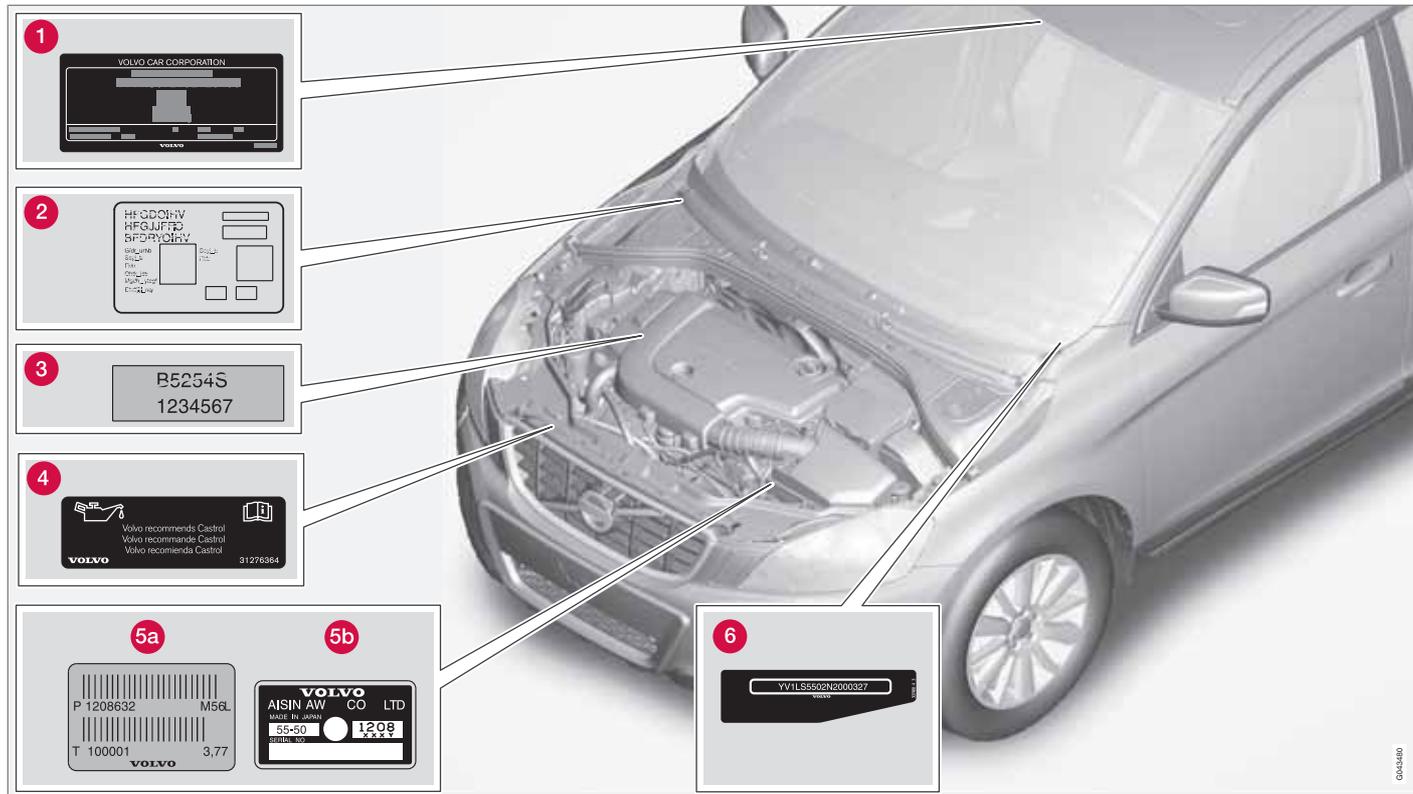
08

SPECIFICATIONS



Type designations

Label location



0043300

Type designations

Knowing the car's type designation, vehicle identification and engine numbers can facilitate all contact with an authorised Volvo dealer regarding the car and when ordering spare parts and accessories.

- 1 Type designation, vehicle identification number, maximum permissible weights, codes for colour and upholstery and type approval number. The label is visible when the right rear door is opened.
- 2 Label for parking heater.
- 3 Engine code, component and serial numbers.
- 4 The engine oil label specifies oil grade and viscosity.
- 5 Gearbox type designation and serial number.
 - A Manual gearbox
 - B Automatic gearbox
- 6 Car's identification number. (VIN Vehicle Identification Number)

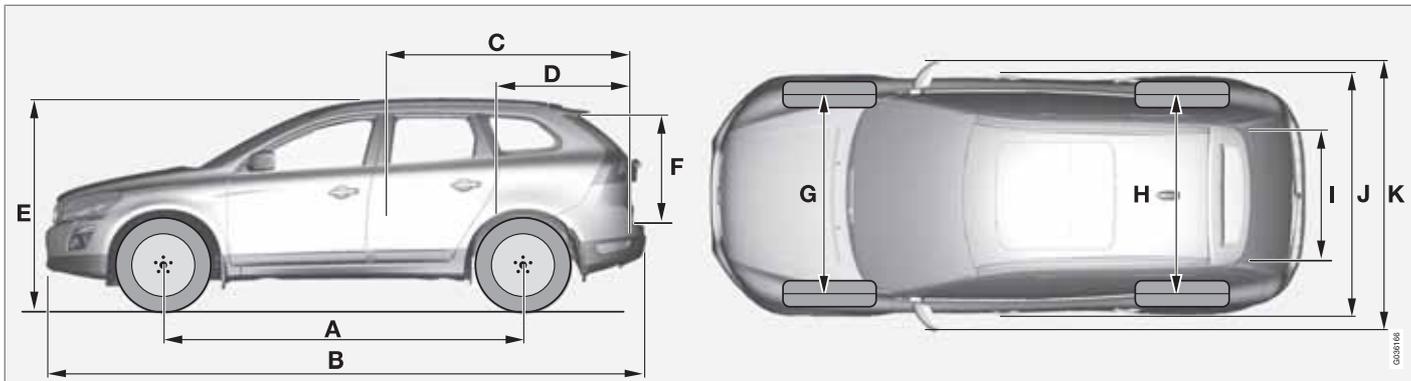
Further information on the car is presented in the registration document.

i NOTE

The labels shown in the owner's manual are not provided as exact reproductions of those in the car. The purpose is to show their approximate appearance and location in the car. The information that applies to your car in particular is available on the label in question in your car.

Dimensions and weights

Dimensions



	Dimensions	mm
A	Wheelbase	2774
B	Length	4627
C	Load length, floor, folded rear seat	1789
D	Load length, floor	972
E	Height	1713
F	Load height	802
G	Front track	1632

	Dimensions	mm
H	Rear track	1586
I	Load width, floor	1090
J	Width	1891
K	Width including door mirrors	2120

Weights

Kerb weight includes the driver, the fuel tank 90% full and all fluids.

The weight of passengers and accessories, and towball load (when a trailer is hitched, see table page 294) influences the payload and is not included in the kerb weight.

Permitted max. load = Gross vehicle weight - Kerb weight.

Dimensions and weights

i NOTE

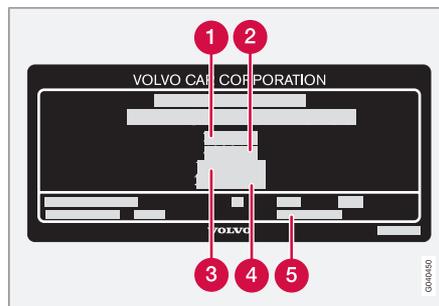
The documented kerb weight applies to cars in the standard version - i.e. a car without extra equipment or accessories. This means that for every accessory added the loading capacity of the car is reduced correspondingly by the weight of the accessory.

Examples of accessories that reduce loading capacity are the Kinetic/Momentum/Summum equipment levels, as well as other accessories such as Towbar, Load carriers, Space box, Audio system, Auxiliary lamps, GPS, Fuel-driven heater, Safety grille, Carpets, Cargo cover, Power seats, etc.

Weighing the car is a certain way of ascertaining the kerb weight of your own particular car.

⚠ WARNING

The car's driving characteristics change depending on how heavily it is loaded and how the load is distributed.



For information on decal location, see page 290.

- 1** Max. gross vehicle weight
- 2** Max. train weight (car+trailer)
- 3** Max. front axle load
- 4** Max. rear axle load
- 5** Equipment level

Max. load: See registration document.

Max. roof load: 100 kg.

Dimensions and weights

Towing capacity and towball load

Engine	Gearbox	Max. weight braked trailer (kg)	Max. towball load (kg)
All	All	0–1200	50
2.0T	Automatic, MPS6	1800	90
3.2	Automatic, TF-80SC	1800	90
3.2 AWD	Automatic, TF-80SC	1800	90
T6 AWD	Automatic, TF-80SC	2000	90
D3	Automatic, TF-80SC	1600	90
D3	Manual, M66	1600	75
D5 AWD	Automatic, TF-80SC	2000	90
D5 AWD	Manual, M66	1800	90
2.4D AWD ^A	Automatic, TF-80SC	2000	90
2.4D AWD ^A	Manual, M66	1800	90

^A Certain markets

Max. weight unbraked trailer (kg)	Max. towball load (kg)
750	50

Dimensions and weights**NOTE**

The use of a stabiliser hitch on the towing bracket is recommended for trailers heavier than 1800 kg.

Engine specifications

Engine specifications

Model	Engine code	Output (kW/rpm)	Output (hp/rpm)	Torque (Nm/rpm)	No. of cylinders	Bore (mm)	Stroke (mm)	Swept volume (litres)	Compression ratio
2.0T	B4204T6	149/6000	203/6000	300/1750–4000	4	88	83.1	1.999	10.0:1
T6	B6304T2	210/5600	285/5600	400/1500–4800	6	82	93.2	2.953	9.3:1
T6	B6304T4	224/5600	304/5600	440/2100–4200	6	82	93.2	2.953	9.3:1
3.2	B6324S5	185/6200	245/6200	320/3200	6	84	96.0	3.192	10.8:1
D3	D5204T2	120/3000	163/3000	400/1400–2850	5	81	77.0	1.984	16.5:1
D5	D5244T10	151/4000	205/4000	420/1500–3250	5	81	93.2	2.400	16.5:1
2.4D	D5244T16 ^A	120/4000	163/4000	420/1500–2500	5	81	93.2	2.400	16.5:1

^A Certain markets

Engine oil

Adverse driving conditions

Adverse driving conditions can lead to abnormally high oil temperature or oil consumption. Below are some examples of adverse driving conditions.

Check the oil level more frequently for long journeys:

- towing a caravan or trailer
- in mountainous regions
- at high speeds
- in temperatures colder than $-30\text{ }^{\circ}\text{C}$ or hotter than $+40\text{ }^{\circ}\text{C}$

The above also apply to shorter driving distances at low temperatures.

Choose a fully synthetic engine oil for adverse driving conditions. It provides extra protection for the engine.

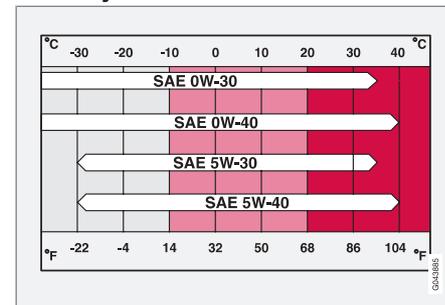
Volvo recommends Castrol oil products.

! IMPORTANT

In order to fulfil the requirements for the engine's service intervals all engines are filled with a specially adapted synthetic engine oil at the factory. The choice of oil has been made very carefully with regard to service life, starting characteristics, fuel consumption and environmental impact.

An approved engine oil must be used in order that the recommended service intervals can be applied. Only use a prescribed grade of oil for both filling and oil change, otherwise you will risk affecting service life, starting characteristics, fuel consumption and environmental impact.

Volvo Car Corporation disclaims all warranty liability if engine oil of the prescribed grade and viscosity is not used.

Viscosity chart

Engine oil

Engine oil grade

Engine variant	Engine code		Volume between MIN and MAX (litres)	Volume, incl. oil filter (litres)
T6	B6304T4	Oil grade: ACEA A5/B5 Viscosity: SAE 0W-30	1.2	6.8
3.2	B6324S5		1.2	6.8
D3	D5204T2		1.0	5.9
D3	D5244T16		1.0	5.9
D5	D5244T10		1.0	5.9
2.0T	B4204T6	Oil grade: ACEA A5/B5 Viscosity: SAE 5W-30 When driving under adverse conditions, use ACEA A5/B5 SAE 0W-30.	0.6	4,1

Fluids and lubricants

Other fluids and lubricants

Fluid	System	Volume (litres)	Prescribed grade
Coolant	2.0T, T6, 3.2, D3, D5, 2.4D	8.9	Coolant recommended by Volvo mixed with 50% water ^A , see the packaging.
Brake fluid	Brake system	0.6	DOT 4+
Power steering fluid	Power steering	–	WSS M2C204-A2 or equivalent product.
Washer fluid	Cars with headlamp washing	6.5	Use a washer antifreeze recommended by Volvo, mixed with water.
	Cars without headlamp washing	4.5	
Fuel	Petrol engine	approx. 70	Petrol, see page 222
	Diesel engine	approx. 70	Diesel, see page 223

^A Water quality must fulfil the standard STD 1285.1.

Manual gearbox	Volume (litres)	Prescribed transmission fluid
M66	1.9	BOT 350M3

Automatic gearbox	Volume (litres)	Prescribed transmission fluid
MPS6	7.3	BOT 341
TF-80SC	7.0	

Fluids and lubricants**NOTE**

Under normal driving conditions, the gear-box oil does not need to be changed during its service life. However, this may be necessary under adverse driving conditions, see page 299.

Fuel

CO₂ emissions and fuel consumption

		A		B		C	
		CO ₂		CO ₂		CO ₂	
2.0T	aut	262	11.3	161	6.9	198	8.5
T6 AWD	aut	354	15,2	188	8.1	249	10.7
3.2 AWD	aut	322	13,8	176	7.6	229	9.9
D3	man	197	7.5	129	4.9	154	5.9
D3	aut	234	8.9	148	5.6	179	6.8
D5 AWD	man	234	8.9	139	5.3	174	6.6
D5 AWD	aut	250	9,5	146	5.5	184	7.0
2.4D AWD ^A	man	234	8.9	139	5.3	174	6.6
2.4D AWD ^A	aut	250	9,5	146	5.5	184	7.0

A Certain markets

Fuel

A = urban driving (l/100 km)

B = driving on main roads (l/100 km)

C = combined driving (l/100km)

Fuel consumption and emissions of carbon dioxide

Fuel consumption and emission values in the table above are based on specific EU cycles¹, that apply to cars with kerb weight in the basic version and without extra equipment. The car's weight may increase depending on equipment. This, as well as how heavily the car is loaded, increases fuel consumption and carbon dioxide emissions.

There are several reasons for increased fuel consumption compared with the table's values. Examples of this are:

- The driver's driving style.
- If the customer has specified wheels larger than those fitted as standard on the model's basic version, then resistance increases.
- High speed results in increased wind resistance.

- Fuel quality, road and traffic conditions, weather and the condition of the car.

Even a combination of the above-mentioned examples can result in significantly improved consumption. For further information, please refer to the regulations referred to ¹.

Large deviations in fuel consumption may arise in a comparison with the EU driving cycles¹ which are used in the certification of the car and on which the consumption figures in the table are based.

To bear in mind

Tips that the driver can use in order to reduce consumption:

- Drive gently and avoid unnecessary acceleration as well as braking too hard.
- Drive with the correct air pressure in the tyres and check this regularly - select ECO tyre pressure for best results, see the tyre pressure table on page 247.
- Choice of tyres can affect fuel consumption - seek advice on suitable tyres from a dealer.

See further information and more advice on pages 13 and 218.

See page 222 for general information on fuel.

¹ Official fuel consumption figures are based on two standardised driving cycles in a laboratory environment ("EU driving cycles") all in accordance with EU Directive 80/1268/EEC (Euro 4), EU Regulation no 682/2008 (Euro 5) and UN ECE Regulation no 101. The regulations cover the driving cycles for city driving and driving on main roads. - City driving - the measurement starts with cold starting the engine. The driving is simulated. - Driving on main roads - the car is accelerated and braked at speeds between 0-120 km/h. The driving is simulated. - Cars with the D5 engine and 6-speed manual transmission are started in 2nd gear under normal conditions. The value for combined driving, which is reported in the table, is a combination of city driving and driving on main roads, in accordance with legal requirements. CO₂ emissions - the exhaust gases are collected in order to calculate the carbon dioxide emissions during the two driving cycles. These are then analysed and give the value for CO₂ emissions.

Wheel and tyres, dimensions and pressure

Approved dimensions

In certain countries not all approved dimensions are indicated by the registration document or other documents. The table below

shows all approved combinations of wheel rims and tyres, and the lowest permitted load index (LI) and speed rating (SS). Information on engine, front-wheel drive (FWD) or all-wheel

drive (AWD) and the type of transmission is needed to read the table. For information with respect to these details, see page 290.

Engine		FWD/ AWD	man/ aut	LI	SS	235/65R17 7.5Jx17x55	235/60R18 8Jx18x55 7.5Jx18x55	235/55R19 8Jx19x55 7.5Jx19x55	255/45R20 8Jx20x55
D5	D5244T10	AWD	man/aut	101	V	✓	✓	✓	✓
2.4	D5244T16	AWD	aut	101	H	✓	✓	✓	✓
D3	D5204T2	FWD	man/aut	101	H	✓	✓	✓	✓
2.0	B4204T6	FWD	aut	101	V	✓	✓	✓	✓
3.2	B6324S5	AWD	aut	101	V	✓	✓	✓	✓
T6	B6324T4	AWD	aut	101	V	✓	✓	✓	✓

Wheel and tyres, dimensions and pressure

Approved tyre pressures

Variant	Tyre size	Speed (km/h)	Load, 1 - 3 persons		Max. load		ECO pressure ^A
			front (kPa) ^B	Rear (kPa)	front (kPa)	Rear (kPa)	Front/rear (kPa)
All engines	235/65 R 17	0 - 160	240	240	270	270	270
	235/60 R 18	160 +	240	240	270	270	-
	235/55 R 19						
	255/45 R 20						
Temporary Spare Tyre		max. 80	420	420	420	420	-

^A Economical driving.

^B In certain countries there is the "bar" unit beside the SI unit "Pascal": 1 bar = 100 kPa.

Electrical system

Electrical system

The car has a voltage-regulated AC alternator. The electrical system is single-pole and uses the chassis and engine casing as a conductor.

The battery capacity is dependent upon the equipment level in the vehicle.



IMPORTANT

If the battery is replaced, replace it with a battery of the same cold start capacity and reserve capacity as the original (see the decal on the battery).

Battery

Voltage (V)	Cold start capacity, CCA - Cold Cranking Amperes (A)	Reserve capacity (minutes)
12	520–700	100–135
12	700–800	135–160

Type approval

Remote control system

Country	
A, B, CY, CZ, D, DK, E, EST, F, FIN, GB, GR, H, I, IRL, L, LT, LV, M, NL, P, PL, S, SK, SLO	 Delphi hereby certifies that this remote control key system conforms to the essential characteristic requirements and other relevant regulations of directive 1999/5/EC.
IS, LI, N, CH	
HR	
ROK	Delphi 2003-07-15, Germany R- LPD1-03-0151
BR	 <p>ANATEL 0066-05-2149 01307694476019528</p>
RC	 CCAB06LP1940T4

Symbols in the display

General

There are a variety of different symbols in the display in the car. The symbols are divided into warning, indicator and information symbols. Shown below are the most common symbols with their meanings and a reference to where in the manual further information can be found. For more information on symbols and text messages, see pages 70, 71 and 132.

The red warning symbol  illuminates when a fault has been indicated which could affect the safety and/or driveability of the car. At the same time an explanatory text is displayed in the information display.

The yellow information symbol  illuminates, in combination with text in the information display, when a deviation in any of the car's systems has occurred. The yellow symbol information can also illuminate in combination with other symbols.

Symbols in the display

Indicator and warning symbols in the combined instrument panel

Symbol	Meaning	Page
	Low oil pressure	71
	Parking brake	71, 120, 121
	Airbags - SRS	21, 71
	Seatbelt reminder	18, 71
	Alternator not charging	71
	Fault in the brake system	71, 117
	Warning, safety mode	21, 33, 71, 73

Indicator and information symbols in the combined instrument panel

Symbol	Meaning	Page
	Fault in the ABL system*	70, 83
	Emissions system	70
	Fault in the ABS system	70, 117
	Rear fog lamp on	70, 84
	Stability system, DSTC, Hill descent control, Trailer stability assist	70, 118, 162, 235
	Engine preheater (diesel)	70
	Low level in fuel tank	70, 143
	Information, read display text	70
	Main beam on	70, 83

* Option/accessory, for more information, see Introduction.

Symbols in the display

Symbol	Meaning	Page
	Left-hand direction indicators	70
	Right-hand direction indicators	70

Other information symbols in the combined instrument panel

Symbol	Meaning	Page
	Adaptive cruise control*	164, 168, 172
	Adaptive cruise control*	172
	Adaptive cruise control*, Distance Alert*	172, 175
	Adaptive cruise control*, Distance Alert*	172, 175
	Adaptive cruise control*	172
	Adaptive cruise control*, Distance Alert*	168, 174

Symbol	Meaning	Page
	Adaptive cruise control*, Distance Alert*	168, 174
	Adaptive cruise control*	168
	Radar sensor*	172, 186
	Camera sensor*, Laser sensor *	180, 186, 189, 192
	Auto Brake*, Distance Alert*, City Safety™, Collision warning system *	175, 180, 186
	Fuel-driven engine block heater and passenger compartment heater*	143
	ABL system*	83

Symbol	Meaning	Page
	Fuel filler flap, right-hand side	221
	Low battery	143
	Parking brake	121
	Rain sensor*	91
	Driver Alert System*	189, 189
	Driver Alert System*, Lane Departure Warning *	189, 192
	Driver Alert System*, Lane Departure Warning *	192
	Driver Alert System*, Time for a break	189

Symbols in the display

Information symbols in the centre console display

Sym- bol	Meaning	Page
	Audio files	151
	Directory in CD disc	151
	Traffic information	153
	Phone*	206, 211
	Bluetooth™ hands-free*	207, 209
	Parking assistance*	194

Information symbols in the roof console display

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