V60 PLUG-IN HYBRID

OWNERS MANUAL

WEB EDITION

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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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.

IMPORTANT

Do not remove this manual from the car - should a problem arise then the information required about where and how to seek professional help would be missing.

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

Text messages can be shown in the combined instrument panel and in the screen. These text messages are highlighted 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 in the screen (e.g. **Audio settings**).

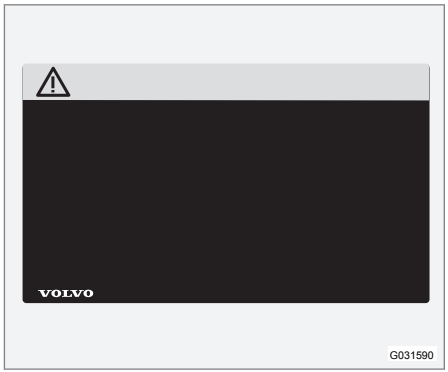
Decals

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.

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

Important 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 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.

Important information

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.

1 Arrows appear numbered and unnumbered and are used to illustrate a movement.

A Arrows with letters are used to clarify a movement when the reciprocal order is of no relevance.

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:

- Coolant
- Engine oil

Images

The manual's images are sometimes schematic and may deviate from the car's appearance depending on equipment level and market.

To be continued

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

Recording data

Your vehicle contains a number of computers whose function is to continuously check and monitor the vehicle's operation and functionality. Some of the computers can record information during normal driving if they detect an error. In addition, information is recorded in the event of a collision or incident. Parts of the recorded information are required so that technicians can diagnose and rectify faults in the vehicle during servicing and maintenance and so that Volvo can fulfil legal requirements and other regulations. In addition to this, the information is used for research purposes by Volvo in order to continually develop quality and safety, as the information can contribute to a better understanding of the factors that cause accidents and injuries. The information includes details of the status and functionality of various systems and modules in the vehicle with regard to engine, throttle, steering and brake systems, amongst other things. This information may include details regarding the way the driver drives the vehicle, such as vehicle speed, brake and accelerator pedal use, steering wheel movement and whether or not the driver and passengers have used their seatbelts. For the reasons given this information may be stored in the vehicle's computers for a certain length of time, but also as a result of a collision or incident. This information may be stored by Volvo as long as it can help to further develop and further enhance safety and quality and as long as there are legal requirements and other regulations that Volvo needs to consider.

Volvo will not contribute to the above-described information being disclosed to third parties without the vehicle owner's consent. However, due to national legislation and regulations Volvo may be required to disclose such information to authorities such as police

authorities, or others who may assert a legal right to have access to it.

To be able to read and interpret the information recorded by the computers in the vehicle requires special technical equipment that Volvo, and workshops that have entered into agreements with Volvo, have access to. Volvo is responsible that the information, which is transferred to Volvo during servicing and maintenance, is stored and handled in a secure manner and that the handling complies with applicable legal requirements. For further information - contact a Volvo dealer.

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.

Change of ownership for cars with Volvo On Call*

Volvo On Call is a supplemental service that consists of safety, security and comfort services. If the car has Volvo On Call and there is a change of owner, it is very important that these services are discontinued so that the former owner cannot access the services in the car. Contact an authorised Volvo dealer in the event of a change of ownership.

Information on the Internet

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

A QR code reader is required to read the QR code, which is available as a supplemental program for several mobile phones. The QR code reader can be downloaded from App Store or Google Play.

QR code

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.

Volvo and the environment

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 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.

Interior

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.

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 system. 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 208, 296 and 398.

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.

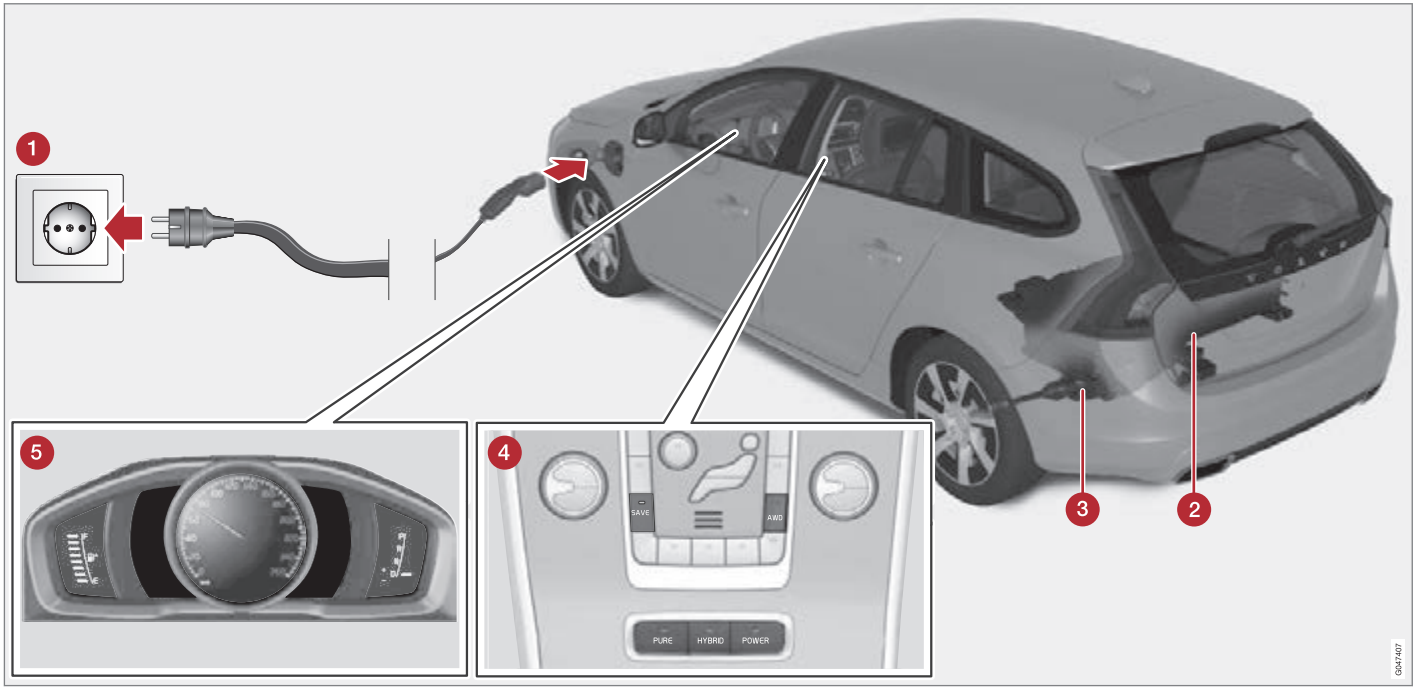
The owner's manual and the environment

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

Volvo and the environment

Plug-in hybrid - overview

Overview



1 Charging the hybrid battery.

2 Hybrid battery.

3 Electric motor with drive on the rear wheels.

4 Drive modes.

Plug-in hybrid - overview

5 Combined instrument panel with unique information for the plug-in hybrid.

Important to know

WARNING

Remember that the car does not emit any engine noise when it is only powered by the electric motor and may therefore be difficult to notice by children, pedestrians, cyclists and animals. This applies in particular at low speeds, such as in car parks.

Hazard voltage

Several components in the car operate with hazardous electrical voltage. Do not touch anything that is not clearly described in this owner's manual. Read more about the engine compartment, see page 347.

WARNING

Orange cables marked with a high-voltage decal must only be handled by qualified personnel.

Driving the car

The car is driven as a completely normal car. The electric motor drives the car mostly at low speeds, the diesel engine at higher speeds, as well as during more active driving. Read more about recommendations during driving, see page 296.

Drive modes

It is possible to set the car in different drive modes while driving, e.g. electric operation only or, when power is required, both electric motor and diesel engine. The car calculates an optimal combination of driveability, driving experience, environmental impact and fuel economy according to the drive mode selected. Read more about drive modes, page 123.

Combined instrument panel

Two fields in the combined instrument panel show unique information for the V60 PLUG-IN HYBRID; hybrid battery gauge (current energy level), active drive mode, symbol that is illuminated when the diesel engine is operating, Hybrid Guide as well as energy recovery.

Read more about the combined instrument panel, see page 74.

Preconditioning

In order that the car should have optimal function it is important that the hybrid battery with associated electrical drive systems, as well as the diesel engine and its drive systems, have the correct operating temperature. Battery capacity is reduced considerably if the battery is too cold or too hot. Preconditioning prepares the car's drive systems and the passenger compartment before departure so that both wear and energy needs during the journey are reduced. Read more about preconditioning, see page 225.

Charging the hybrid battery

The hybrid battery is the Lithium-ion type and can be recharged in different ways. A charging cable with control unit can be connected between the car and a 230V AC socket. Charging time depends on charging current, see page 304.

The electric motor is used as an engine brake during light braking and the car's kinetic energy is converted to electrical energy which is used to charge the hybrid battery. Read more about recovering the brake force energy, see page 133.

Plug-in hybrid - overview

In addition, the diesel engine can charge the electric motor's hybrid battery with a special hazard voltage generator when the need arises, see drive system and drive modes, page 123.

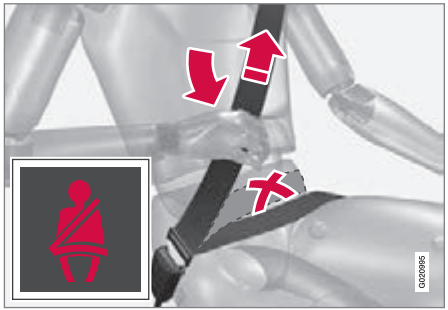
* Option/accessory, for more information, see Introduction.

01

SAFETY

Seatbelts

General information

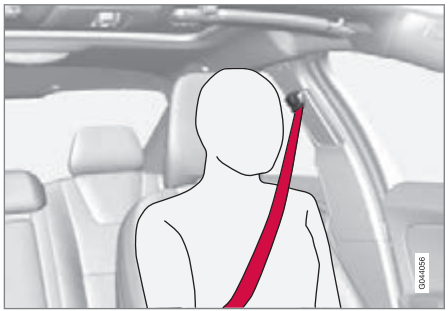


Heavy braking can have serious consequences if the seatbelts are not used. Ensure that all passengers use their seatbelts.

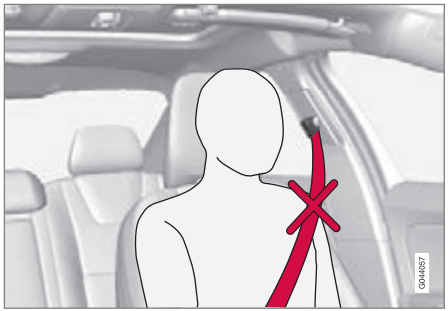
It is important that the seatbelt lies against the body so it can provide maximum protection. Do not lean the backrest too far back. The seatbelt is designed to protect in a normal seating position.

Putting on a seatbelt

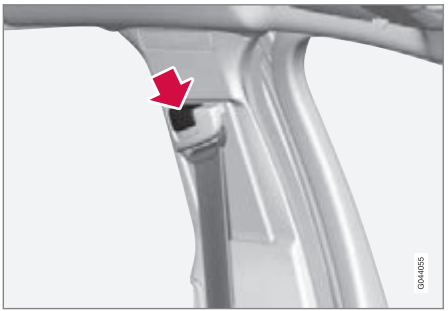
Pull the belt out slowly and secure it by pressing its locking tab into the seatbelt buckle. A loud "click" indicates that the belt has locked.



Correctly fitted seatbelt.



Incorrectly fitted seatbelt. The belt must rest on the shoulder.



Seatbelt height adjustment. Press the button and move the belt vertically. Position the belt as high as possible without it chafing against your throat.

The buckles only fit the intended lock in the rear seat[1].

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.

1 Certain markets.

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.

Seatbelts and pregnancy

The seatbelt should always be worn during pregnancy. But it is 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.

Seatbelts

Seatbelt reminder

Unbelted occupants will be reminded to fasten their seatbelts by means of an audio and visual reminder. The audible reminder is speed dependent, and in some cases time dependent. The visual reminder is located in the roof console and in 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 combined instrument panel when the seatbelts are in use, or if one of the rear doors has been opened. The message is acknowledged automatically after approximately 30 seconds driving or after pressing the indicator stalk's **OK** button. If anyone is unbelted then the message can only be acknowledged manually by pressing the indicator stalk's **OK** button.
- Provides a warning if one of the rear seatbelts is unfastened during travel. This warning takes the form of a message in the combined instrument panel 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 **OK** button.

The combined instrument panel's information display, see page 75, shows which seatbelts are in use. This information is always available.

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 audible reminder will sound for the first 6 seconds.

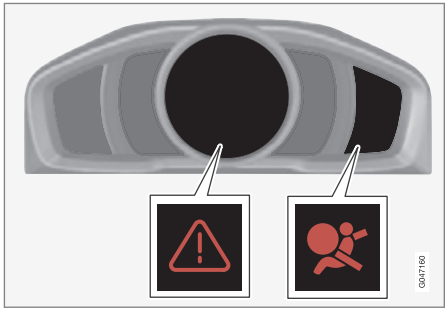
Seatbelt tensioner

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 serous injury.

Warning symbol in combined instrument panel



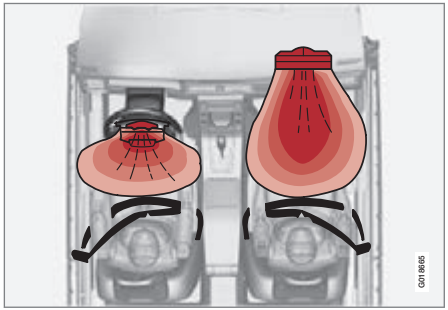
The warning symbol in the combined instrument panel illuminates when the remote control key is in key position **II**. The symbol clears after approx. 6 seconds provided the airbag system is fault-free.

WARNING

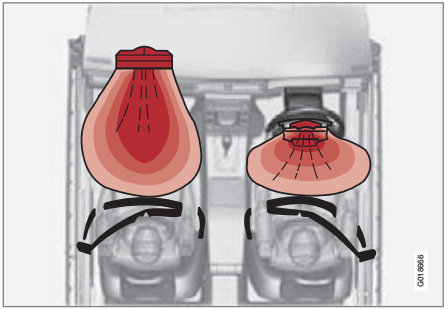
If the warning symbol for the airbag system remains illuminated or illuminates while driving, it means that the airbag system does not have full functionality. The symbol indicates a fault in the seatbelt tensioner system, SIPS, the IC system or some other fault in the system. Volvo recommends that you 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 triangle 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 and become hot. 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 detectors react differently depending on the nature of the collision and whether or not the seatbelts are fastened. Applies to all belt positions.

It is therefore possible that only one (or none) of the airbags may inflate in a collision. The detectors sense the force of the collision on the vehicle and the action is adapted accordingly so that one or more airbags are deployed.

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

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

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

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

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

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 air-bag 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. The remote control key's key blade should be used to change position.

For information on the key blade, see page 50.

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.

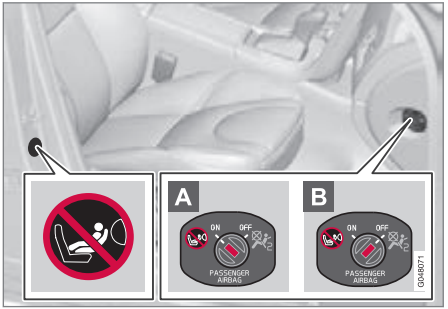
WARNING

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 console (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



Location of airbag label plus switch.

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.

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

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 can endanger life.

NOTE

When the remote control key is in key position **II** the warning symbol for the airbag is shown in 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 84.

Activated airbag

Indicator showing that the passenger airbag is activated.

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

Deactivated airbag

Indicator showing that the passenger airbag is deactivated.

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

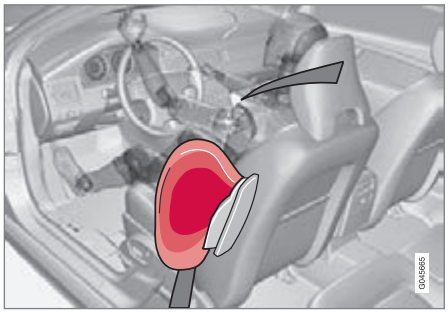
Side airbags (SIPS bags)

Side airbag

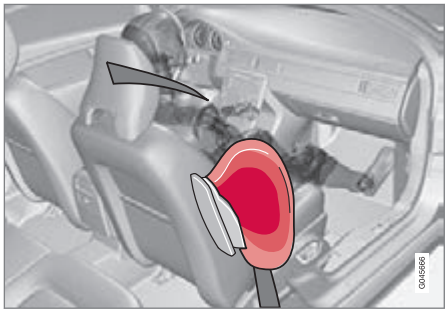
In a side impact collision a large proportion of the collision force is transferred by the SIPS (Side Impact Protection System) to beams, pillars, the floor, the roof and other structural parts of the body. The side airbags at the driver's and front passenger seats protect the chest area and the hip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

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 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.

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.

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.
- Side airbags are a supplement the seatbelts. Always use a seatbelt.

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.

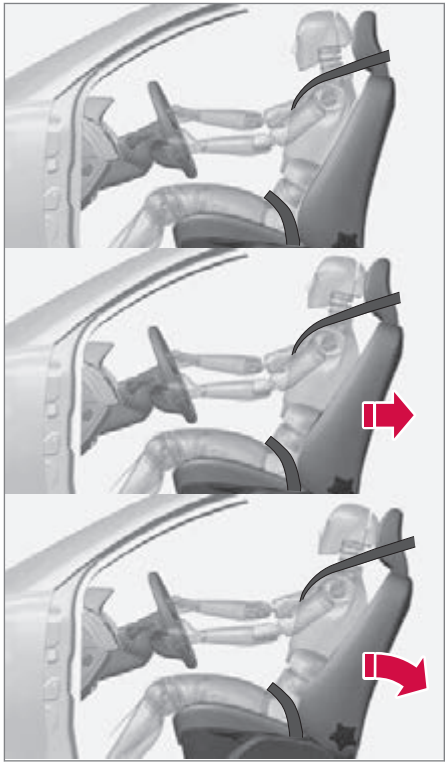
WARNING

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 to 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.

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 a frontal collision and/or side-impact accident and/or overturning
Airbags (Steering wheel and passenger airbag)	In a frontal collision[A]
Side airbags (SIPS)	In a side-impact accident[A]
Inflatable Curtain IC	In the event of a side impact and/or overturning and/or some frontal collisions[A]
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 airbags and belt tensioner system are deployed only once during a collision.

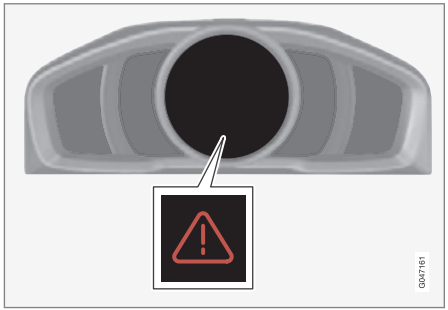
WARNING

The airbag system's control module is located in the centre console. If the centre console is drenched with water or other liquid, disconnect the cables to the starter battery. 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.

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, see page 324. Hidden damage can make the car impossible to manoeuvre during the journey, even if the car seems driveable.

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 See manual** 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 33.

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.

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.

NOTE

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

WARNING

Do not secure the straps of the child seat to the seat's horizontal adjustment bar, springs or the rails and beams under the seat. Sharp edges may 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 activated[1].
- 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

The label becomes visible when the passenger door is opened; see the illustration on page 24.

Recommended child seats[2]

Weight	Front seat (with deactivated airbag)	Outer rear seat	Centre rear seat
Group 0 max 10 kg Group 0+ max 13 kg		Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the ISOFIX fixture system. Type approval: E1 04301146 (L)	
Group 0 max 10 kg Group 0+ max 13 kg	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the car's seatbelt. Type approval: E1 04301146 (U)	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the car's seatbelt. Type approval: E1 04301146 (U)	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the car's seatbelt. Type approval: E1 04301146 (U)

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 airbag)	Outer rear seat	Centre rear seat
Group 0 max 10 kg Group 0+ max 13 kg	Child seats which are universally approved. (U)	Child seats which are universally approved. (U)	Child seats which are universally approved. (U)
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 (L)	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 (L)	
Group 1 9-18 kg	Child seats which are universally approved. (U)	Child seats which are universally approved. (U)	Child seats which are universally approved. (U)
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 (L)	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 (L)	

Child safety

Weight	Front seat (with deactivated airbag)	Outer rear seat	Centre rear seat
Group 2 15-25 kg	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - front-facing child seat, secured with the car's seatbelt. Type approval: E5 04191 (U)	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - front-facing child seat, secured with the car's seatbelt. Type approval: E5 04191 (U)	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - front-facing child seat, secured with the car's seatbelt. Type approval: E5 04191 (U)
Group 2/3 15-36 kg	Volvo booster seat with backrest (Volvo Booster Seat with backrest). Type approval: E1 04301169 (UF)	Volvo booster seat with backrest (Volvo Booster Seat with backrest). Type approval: E1 04301169 (UF)	Volvo booster seat with backrest (Volvo Booster Seat with backrest). Type approval: E1 04301169 (UF)
Group 2/3 15-36 kg	Booster cushion with and without backrest (Booster Cushion with and without backrest). Type approval: E5 04216 (UF)	Booster cushion with and without backrest (Booster Cushion with and without backrest). Type approval: E5 04216 (UF)	Booster cushion with and without backrest (Booster Cushion with and without backrest). Type approval: E5 04216 (UF)

Child safety

Weight	Front seat (with deactivated airbag)	Outer rear seat	Centre rear seat
Group 2/3 15-36 kg		Integrated booster cushion (Integrated Booster Cushion) - available as a factory fitted option. Type approval: E5 04189 (B)	

L: Suitable for specific child seats. These child seats may be intended for use in a special car model, limited or semi-universal categories.

U: Suitable for universally approved child seats in this weight class.

UF: Suitable for front-facing universally approved child seats in this weight class.

B: Built-in child seats approved for this weight class.

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 at least 95 cm in height.

Check before driving that:

- the integrated 2-stage booster cushion is correctly set (see table page 37) 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.

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

For instructions on adjusting the booster cushion's two levels, see pages 37–38.

Raising the two-stage booster cushion
The integrated booster cushion can be folded up into two stages. How many stages the cushion should be folded up depends on the child's weight.

	Stage 1	Stage 2
Weight	22-36 kg	15-25 kg

Stage 1

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

2 Press the booster cushion backwards to lock.

Stage 2

1 Start from the lower stage. Press the button.

Child safety

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.

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 65.

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.

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
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.

Child safety

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	X	X
		G	X	X
Infant seat, rear-facing	max 10 kg	E	X	OK (IL)
Infant seat, rear-facing	max 13 kg	E	X	OK (IL)
		D	X	OK (IL)
		C	X	OK (IL)
Child seat, rear-facing	9-18 kg	D	X	OK (IL)
		C	X	OK (IL)

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	X	OK[A] (IUF)
		B1	X	OK[A] (IUF)
		A	X	OK[A] (IUF)

X: The ISOFIX position is not suitable for ISOFIX child seats in this weight class and/or size class.

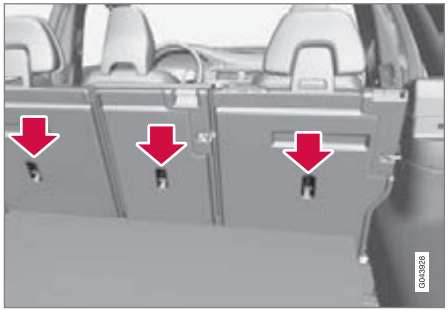
IL: Suitable for specific ISOFIX child seats. These child seats may be intended for use in a special car model, limited or semi-universal categories.

IUF: Suitable for front-facing ISOFIX child seats that are universally approved in this weight class.

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

Child safety

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.

NOTE

Fold the head restraints in order to facilitate fitting this type of child seat in cars with folding head restraints on the outer seats.

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 drawn through the hole in the head restraint leg before they are tensioned at the attachment point.

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

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.

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

The remote control key contains a removable key blade made of metal. The visible section is available in two versions so that it is possible to distinguish between the remote control keys.

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:

Remember to switch off the supply to the 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 a new one 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 in the menu system **MY CAR** under **Information ➔ Number of keys**. For a description of the menu system, see page 206.

Key memory[1] – door mirrors and driver's seat

The settings are automatically connected to each respective remote control key, see pages 87 and 108 . After locking with the remote control key the setting of the combined instrument panel's theme is also saved in the key, see page 75.

The function can be activated/deactivated in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Car key memory**.

For a description of the menu system, see page 206.

For cars with the Keyless drive system, see page 56.

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 and the door mirrors are folded[2] in.
- Unlocking - two flashes and the door mirrors are folded[2] out.

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

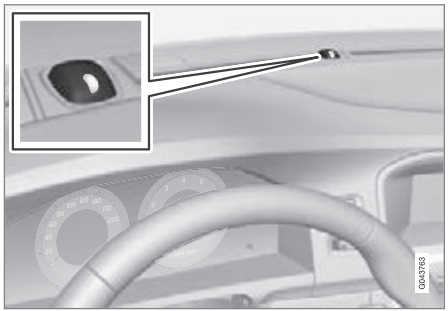
Selecting the function

Different options for indicating locking/unlocking with light can be set in the car's menu system, see page 206.

Search in the menu system **MY CAR** for **Settings ➔ Car settings ➔ Light settings** and select **Door lock confirmation light** and/or **Unlock confirmation light**.

Lock indicator

1 Only in combination with power driver's seat and power mirrors.
2 Only for cars with retractable power door mirrors.



Same LED as alarm indicator, see page 66.

A flashing LED by the windscreen verifies that the car is locked.

NOTE

Cars that are not equipped with alarm also have this indicator.

Immobiliser

Each remote control key has a unique code. The car can only be started 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:

Message	Specification
Insert car key	Error when reading the remote control key during starting - Remove the key from the ignition switch, press it in again and make a new start attempt.
Car key not found	Error reading the remote control key during starting - Try to start again. If the error persists: Insert 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 error persists: Contact a workshop - an authorised Volvo workshop is recommended.

For starting the car, see page 119.

Functions

Remote control key, standard version.

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

Remote control key/key blade

Remote control key with 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.

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 **MY CAR** under **Settings ➔ 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 206.

Approach light duration – Used to switch on the car's lighting at a distance. For more information, see page 102.

The button can also be used for activating preconditioning, see page 225.

Tailgate - Unlocks and disarms the alarm for the tailgate only. For more information, see page 63.

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 50.

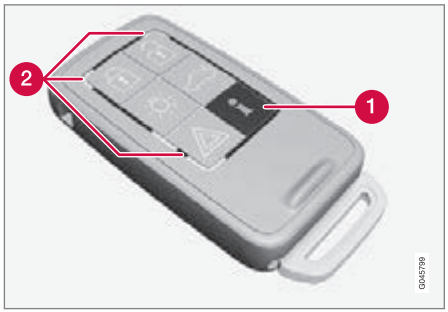
If the remote control key is removed from the car when the engine is running or key position **I** or **II** is active (see page 84) and if all doors are closed, then the information display in the combined instrument panel shows a warning message and an audible reminder signal sounds at the same time.

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

The message clears and the audible reminder signal stops when the remote control key is brought back to the car after:

- The remote control key has been inserted in the ignition switch.
- Speed exceeds 30 km/h.
- the **OK** button has been pressed.

Unique PCC functions*



Remote control key with 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 ℹ.

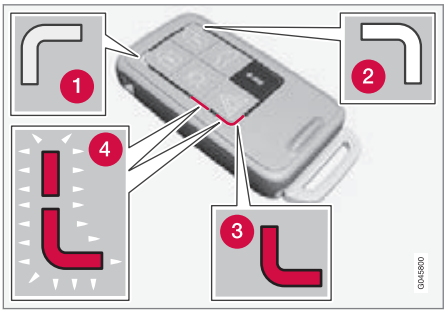
> All indicator lamps flash for approximately 7 seconds and the light travels around on the PCC. This indicates that information from the car has been read.

If any of the other buttons are pressed during this time then the reading is interrupted.

NOTE

ℹ 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 approx. 20 m from the car - for other functions up to approx. 100 m.

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

Remote control key/key blade

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 left-hand front door can be opened manually if central locking cannot be activated with the remote control key, see page 57.
- the rear doors' mechanical child safety locks can be activated/deactivated, see page 65.
- the right-hand front door and the rear doors can be locked manually, e.g. in the event of power failure, see page 60.
- access to the glovebox and cargo area (privacy locking*) can be blocked, see page 52.
- 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.

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

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 left-hand front door can be opened as follows:

1. Unlock the left-hand front door with the key blade in the door handle's lock cylinder.

   See also the illustration and further information see page 57.

NOTE

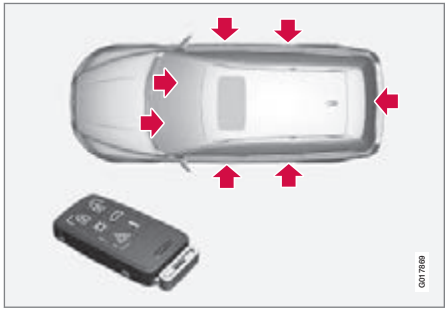
When the door has been unlocked using the key blade and is opened, the alarm is triggered.

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

For a car with the Keyless system, see page 57.

Privacy locking*

General information on privacy locking



*Active locks for remote control key **with** key blade.*

*Active locks for remote control key, **without** key blade and privacy locking **activated**.*

The privacy locking function is intended for when the car is left for service, with a hotel parking valet or similar. The glovebox is then locked and the tailgate lock is disconnected from the central locking - the tailgate cannot be opened with either the central locking button in the front doors or the remote control key.

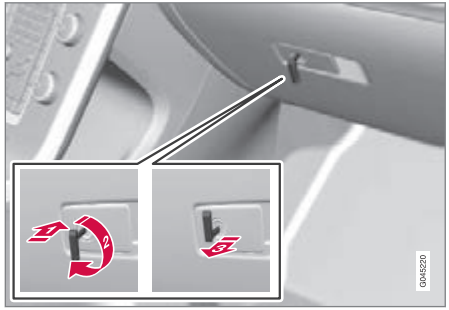
This means that the remote control key without key blade can only be used to activate/deactivate the alarm, to open the doors and to drive the car.

The remote control key without key blade can then be handed over to the service or hotel staff - the loose key blade is retained by the car owner.

NOTE

Do not forget to pull out the cargo cover over the cargo area before closing the tailgate, see page 315.

Activate/deactivate



Activating privacy locking.

To activate privacy locking:

1. Insert the key blade in the glovebox lock cylinder.
2. Turn the key blade 180 degrees clockwise. The keyhole is vertical in the locked position for privacy locking.
3. Pull out the key blade. The combined instrument panel's information display shows a message at the same time.

The glovebox is then locked and the tailgate can no longer be unlocked with the remote control key or the central locking button.

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

Privacy locking*

NOTE

Do not reinsert the key blade into the remote control key but keep it in a safe place instead.

- Deactivation takes place in reverse order.

For information on locking the glovebox only, see page 62.

Battery replacement, remote control key/PCC*

Replacing the battery

The batteries should be replaced if:

- the information symbol in the combined instrument panel illuminates and the display shows **Low battery in remote control. Please change batteries.**

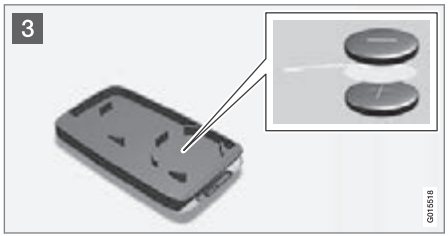
and/or

- the locks repeatedly do not react to signals from the remote control key within 20 metres from the car.

1

2

3



Opening

1 1. Slide the spring-loaded catch to the side.

2. At the same time pull the key blade straight out backwards.

2 3. Insert a 3 mm slot screwdriver in the hole behind the spring-loaded catch and gently prize the remote control key up.

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)

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

PCC* (2 batteries)

1. Carefully prize out the batteries.
2. First install one new one with the (+) side up.
3. 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

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

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

Battery replacement, remote control key/PCC*

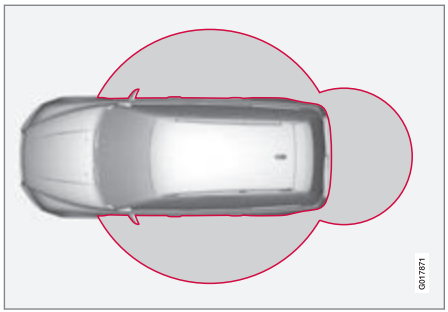
IMPORTANT

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

Keyless drive*

Keyless lock and ignition system (only PCC[1])

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 **I** or **II** is active (see page 84) and if all doors are closed, then a warning message is shown in the combined instrument panel's display and an audible reminder signal sounds at the same time.

The warning message clears and the audible 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 **OK** 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.

NOTE

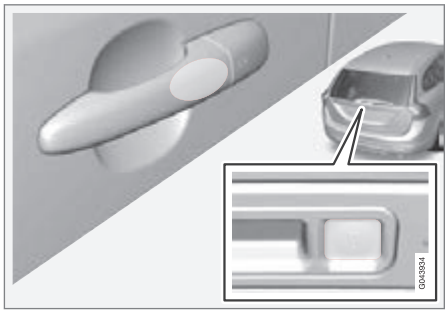
Do not place/store the PCC near a mobile phone or metal object - no closer than 10-15 cm.

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

Locking

1 Personal Car Communicator, see page 49.

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



Cars with the Keyless system have a pressure-sensitive area on the outer handle of the doors and a rubberised button next to the tailgate's rubberised pressure plate.

Lock the doors and the tailgate with one long press on any of the door handles' pressure-sensitive areas or press the smaller of the tailgate's two rubberised buttons - the lock indicator in the windscreen confirms that locking has been completed by starting to flash, see page 46.

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

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.

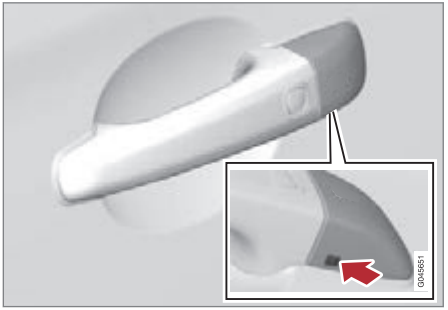
Unlocking

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.

NOTE

The door handles normally register a hand that takes hold of the handle, but with thick gloves on or after a very quick hand movement a second attempt may be required, or with the glove taken off.

Unlocking with the key blade



Hole for key blade - to loosen the cover.

If central locking cannot be activated with the PCC, e.g. if the batteries are discharged, then the left-hand front door can be opened with the PCC's detachable key blade (see page 50)

To access the lock cylinder, the door handle's plastic cover must be removed - this is also done with the key blade:

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 loosens automatically by means of the torque when the

Keyless drive*

blade is pushed straight up and into the opening.

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

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 67.

Key memory[2] – 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:

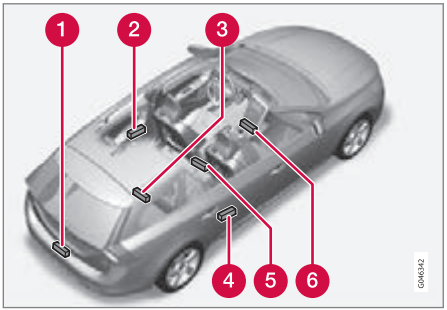
- Standing by the driver's door, or sitting behind the steering wheel, person B presses their PCC's unlock button, see page 47.
- Select one of three possible memories for seat adjustment with seat button 1-3, see page 87.
- Adjust seat and mirrors manually, see page 87 and 108 .

Lock settings

The Keyless function can be adapted by indicating in the menu system **MY CAR** which doors shall be unlocked, under **Car settings ➔ Lock settings ➔ Keyless entry** - there select between **All doors unlock**, **Any door**, **Doors on same side** and **Both front doors**.

For a description of the menu system, see page 206.

Antenna location



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

1. Rear bumper, centre
2. Door handle, left rear
3. Cargo area, central and furthest in under the floor
4. Door handle, right rear
5. Centre console, under the rear section
6. Centre console, under the front section.

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

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

Keyless drive*

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 48.

In order that the lock sequence can be activated, the driver's door must be closed - if any of the other doors or the tailgate is open, then it/they is/are locked and the alarm is activated only when it/they are closed. With the Keyless* system all the doors and tailgate must be closed.

NOTE

Be aware of the risk of locking the remote control key in the car.

If it is not possible to lock/unlock with the remote control key, the battery may be discharged - lock or unlock the left-hand front door with the detachable key blade, see page 50.

NOTE

Remember that the alarm is triggered when the door is opened after being unlocked with the key blade - the alarm is switched off when the remote control key is inserted into the ignition switch.

WARNING

Be aware of the risk of being locked in the car when it is locked from the outside using the remote control key - it is then not possible to open any of the doors from the inside with the door controls. Read more about this in the section "Deadlocks" later on.

Automatic relocking

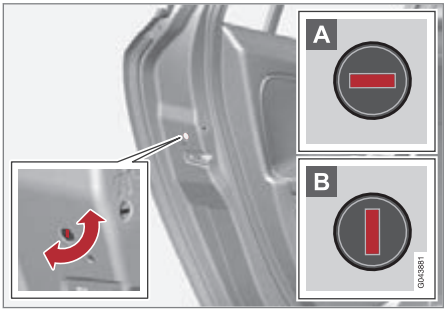
If none of the doors or the tailgate is opened within 2 minutes of unlocking, all are locked again automatically. This function reduces the risk that the car is left unlocked unintentionally. (For cars with alarm, see page 66.)

Manual locking

In certain situations the car must be lockable manually, e.g. in the event of power failure.

The left-hand front door can be locked with its lock cylinder and the remote control key's detachable key blade, see page 57.

Other doors do not have lock cylinders and instead have lock knobs on each door's end face which must be re-turned - then they are mechanically locked/blocked against opening from the outside. The doors can still be opened from the inside.



Manual locking of the door. Not to be mixed up with child safety locks, see page 65.

– Use the remote control key's detachable key blade to turn the knob, see page 50.

A The door is blocked against opening from the outside.

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

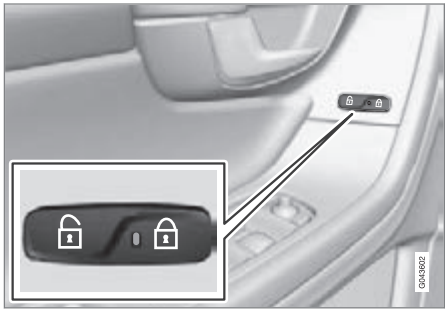
* Option/accessory, for more information, see Introduction.

NOTE

- A door's knob control only locks that particular door - not all doors simultaneously.
- A manually locked rear door with an activated manual child safety lock cannot be opened from either the outside or the inside, see page 65. A rear door that is locked in this way can only be unlocked with the remote control key or central locking button.

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 the driver's door and the passenger 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 and open the door - the door is unlocked and opened in one operation.

Lamp in lock button

Central locking is available in two variants - the lamp in the central locking button for the driver's door has different meanings dependent on the variant.

With central locking button only in the driver's door, other doors have no button:

- Illuminated lamp means that all doors are locked.

With central locking button on both front doors and electric lock button in each rear door:

- Illuminated lamp means that only that particular door is locked. When all buttons are illuminated all doors are locked.

Locking

- Press the central locking button - all closed doors are locked.

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

Lock button* rear doors

The button's lamp illuminates when the door is locked.

The rear door lock buttons only lock their respective rear door.

To unlock the door:

- Pull the door handle - the door is unlocked and opened.

Locking/unlocking

Global opening

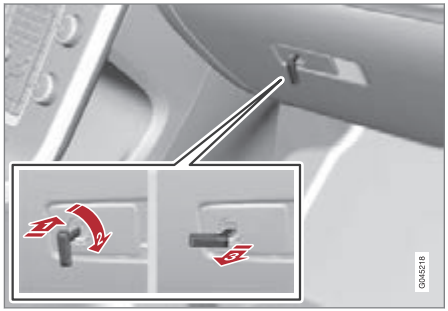
Press and hold the central locking button (at least 4 seconds) to also open all the windows simultaneously - for example, to quickly ventilate the passenger compartment during hot weather.

Automatic locking

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

The function can be activated/deactivated in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Lock settings ➔ Automatic door locking**. For a description of the menu system, see page 206.

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 50.

Locking the glovebox:

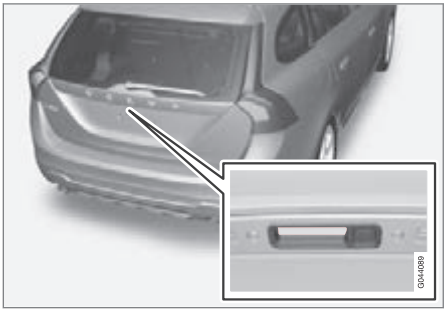
1. Insert the key blade in the glovebox lock cylinder.
2. Turn the key blade 90 degrees clockwise. The keyhole is horizontal in the locked position.
3. Pull out the key blade.

- Unlock by carrying this out in reverse order.

For information on privacy locking, see page 52.

Tailgate

Manual opening



Rubber plate with electrical contact.

The tailgate is held closed by an electrical lock. To open:

1. Push down gently on the wider of the two rubberised pressure plates under the outer handle - the lock is released.
2. Lift the outside handle in order to fully open the tailgate.

IMPORTANT

- Minimal force is required to release the rear hatch lock - just gently press the rubberised panel.
- Do not place the lift force on the rubber panel when opening the rear hatch - lift the handle. Using too much force may damage the electrical contact for the rubber panel.

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.

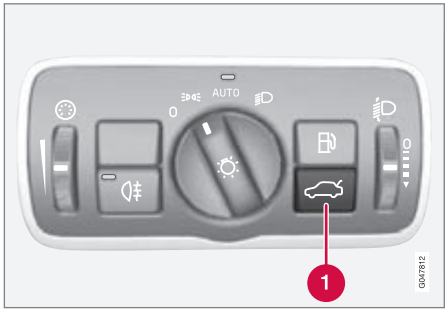
The lock indicator on the instrument panel stops flashing in order to show that not all of the car is locked and the alarm's* level and movement sensors and the sensors for opening the tailgate are disconnected.

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



1 Unlocking, tailgate

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.
  > The lock indicator on the instrument panel starts flashing, which means that the car is locked and the alarm* has been activated.

Deadlocks *1

Deadlocks means that all 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.

1 Only in combination with alarm.

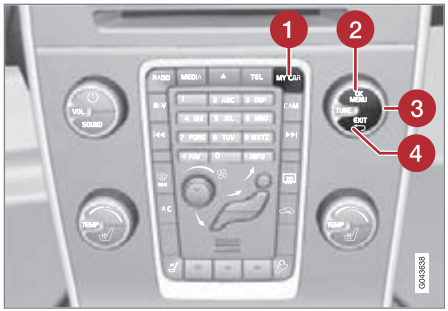
Locking/unlocking

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

WARNING

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

Temporary deactivation



Active menu options are indicated with a cross.

1. **MY CAR**
2. **OK MENU**
3. **TUNE** knob control
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 **MY CAR** under **Settings** ➔ **Car settings** ➔ **Reduced Guard** (for a detailed description of the menu system, see page 206).
2. Select **Activate once**.
   > The combined instrument panel's panel display shows the message **Reduced guard See manual** and the deadlocks function is switched off when the car is locked.

or

– Select **Ask when exiting**.
  > Each time the engine is switched off the centre console's screen shows the message **Activate Reduced Guard until engine has started again?** followed by the alternatives **Confirm with OK** and **Cancel with EXIT**.

If the deadlocks function shall be switched off

– Press **OK/MENU** and lock the car. (Note that the alarm's movement and tilt detectors* are switched off at the same time, see page 67.)
  > The next time the engine is started, the system is reset to zero and the display in the combined instrument panel shows the message **Full guard** at which the deadlocks function and the alarm's movement and tilt detectors are re-engaged.

If the locking system shall not be changed

– Press **EXIT** and lock the car.

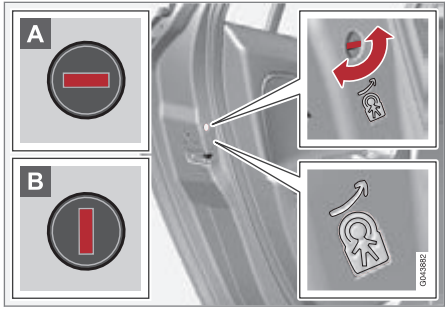
NOTE

- Remember that the alarm is activated when the car is locked.
- If any of the doors are opened from the inside then the alarm is triggered.

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

Manual blocking of the rear doors

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



With child safety locks. Not to be mixed up with manual door locks, see page 60.

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 50.

A The door is blocked against opening from the inside.

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

WARNING

Each rear door has two knob controls - do not mix up the child safety lock with the mechanical door lock.

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.

The child safety locks can be activated/deactivated in all key positions higher than **0** - see page 84. Activation/deactivation can be performed up to 2 minutes after switching off the engine, provided that no door is opened.

To activate the child safety locks:

1. Start the engine or choose a key position higher than **0**.
2. Press the button in the driver's door control panel.
   > The display in the combined instrument panel shows the message **Rear child locks Activated** and the button's lamp illuminates - the locks are active.

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 current setting is stored when the engine is switched off - if the child safety locks are activated at engine shutdown, the function will remain activated the next time the engine is started.

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 then the information display in the combined instrument panel shows a message. In which case, contact a workshop - an authorised Volvo workshop is recommended.

NOTE

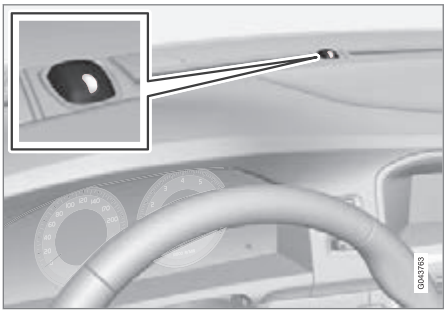
The movement sensors trigger an alarm in the event of movement in the passenger compartment - air currents are also registered. For this reason the alarm is triggered if the car is left with a window or the sunroof open or if the passenger compartment heater is used.

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. Alternatively, reduced alarm level can be used, see page 67.

NOTE

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

Alarm indicator



Same LED as lock indicator, see page 46.

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.

Deactivate the alarm

– Press the remote control key unlock button.

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

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 the 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.

Remote control key not working

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

1. Open the driver's door with the detachable key blade - see page 57.
   > 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.

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 and works independently of the car battery.
- The direction indicators flash for 5 minutes or until the alarm is switched off.

Reduced alarm level

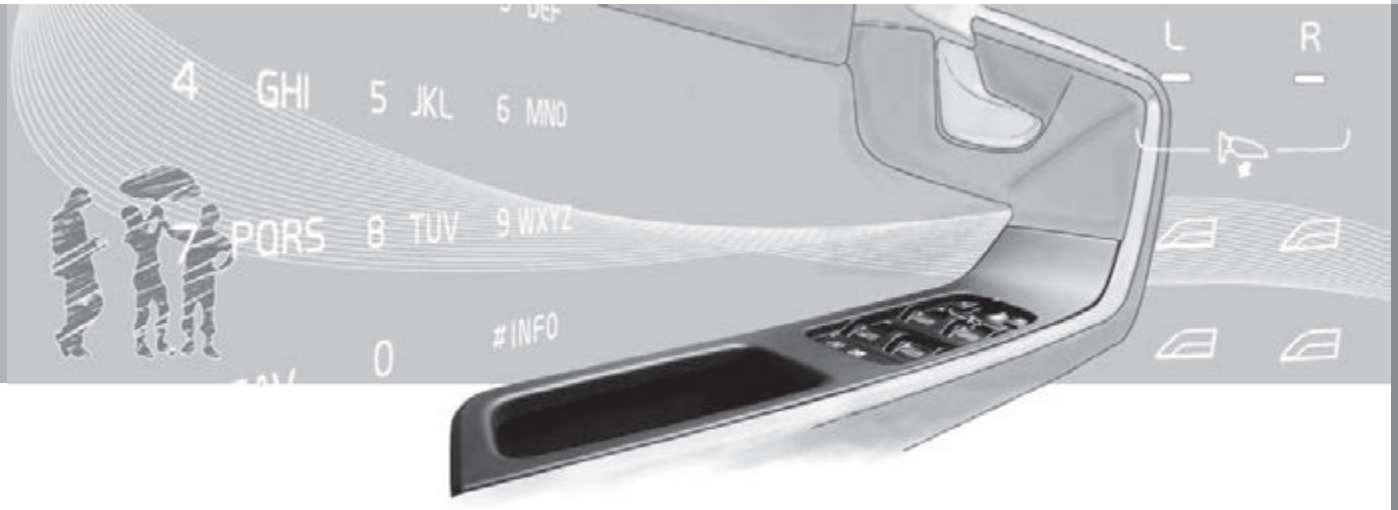
To avoid accidental triggering of the alarm - e.g. if a dog is left in a locked car or during transport on a car train or car ferry - temporarily deactivate the movement and tilt detectors.

The procedure is the same as with the temporary disengaging of deadlocks, see page 63.

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

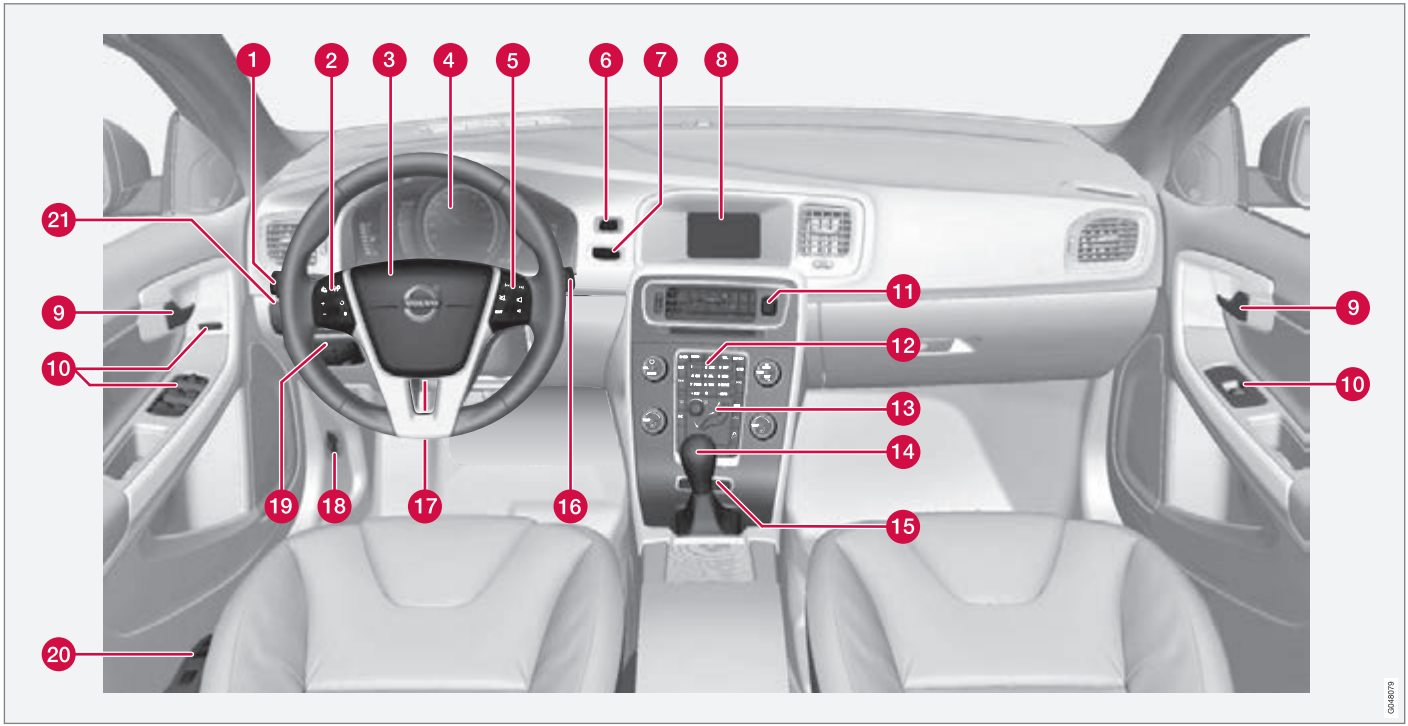
03

YOUR DRIVING ENVIRONMENT



Instruments and controls

Instrument overview

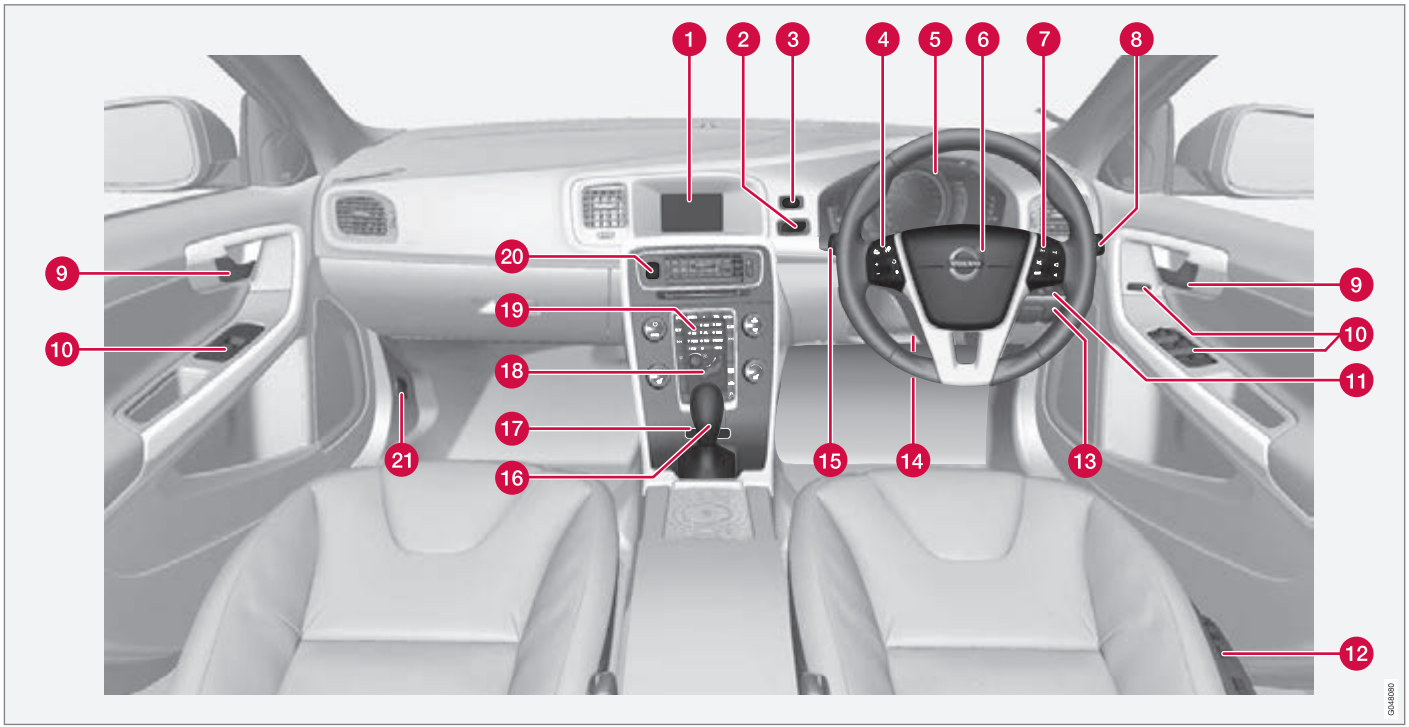


Left-hand drive.

	Function	Page
1	Menus and messages, direction indicators, main/dipped beam, trip computer	204, 99, 95, 233
2	Cruise control*	153, 155
3	Horn, airbags	91, 22
4	Combined instrument panel	74
5	Menu navigation, audio control, phone control*	206, 247, 249, 274
6	START/STOP ENGINE button	119
7	Ignition switch	84
8	Screen for infotainment system and display of menus	246, 249, 206
9	Door handle	–
10	Control panel	61, 65, 106, 108
11	Hazard warning flashers	99

	Function	Page
12	Control panel for infotainment system and menu navigation	247, 249, 206
13	Control panel for climate control	218
14	Gear selector	128
15	Controls for drive modes	123
16	Wipers and washing	103, 104
17	Steering wheel adjustment	91
18	Bonnet opener	347
19	Parking brake	136
20	Seat adjustment*	87
21	Headlamp control, opener for fuel filler flap and tailgate	93, 300, 62

Instruments and controls



Right-hand drive.

	Function	Page
1	Screen for infotainment system and display of menus	246, 249, 206
2	Ignition switch	84
3	START/STOP ENGINE button	119
4	Cruise control*	153, 155
5	Combined instrument panel	74
6	Horn, airbags	91, 22
7	Menu navigation, audio control, phone control*	206, 247, 249, 274
8	Wipers and washing	103, 104
9	Door handle	–
10	Control panel	61, 65, 106, 108
11	Headlamp control, opener for fuel filler flap and tailgate	93, 300, 62
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20	Hazard warning flashers	99
21	Bonnet opener	347

Instruments and controls

Combined instrument panel

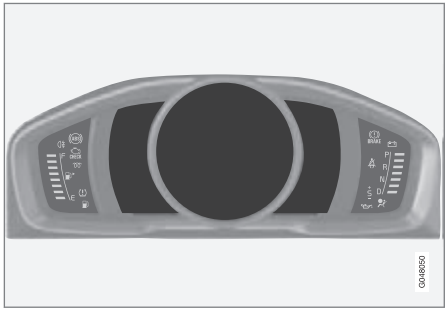
The instrument shows information according to the selections made, see section "Menus and messages" page 204.

1. Hybrid battery gauge
2. Current energy level
3. Active drive mode
4. The symbol illuminates when the diesel engine is operating.
5. Hybrid guide (Driver Support Power Meter). Shows the current driver-requested propulsion power and available electric motor power, i.e. the limit when the diesel engine starts/stops. For more information, see page 78.

Energy recovery

1 When the electric motor generates power for the hybrid battery, bubbles are shown in the hybrid battery gauge - see more about this on page 133 - "engine braking with the electric motor".

The combined instrument panel's information display



Information display.

The combined instrument panel's information display shows information on some of the car's functions, e.g. cruise control and trip computer, as well as messages. The information is shown with symbols and text.

There are further descriptions under the functions that use the display.

Gauges and indicators

Alternative themes can be selected for the combined instrument panel. Possible themes are "Hybrid", "Elegance", "Eco" and "Performance". The setting for the theme can be stored in the remote control key's memory when locking the car, see pages 46 and 208.

A theme can only be selected when the engine is running.

To change the theme, press the left-hand stalk switch's **OK** button and then select the **Themes** menu option by turning the thumbwheel on the lever. Confirm selection by pressing the **OK** button. For more information on menus, see page 204.

Instruments and controls

Gauges and indicators, theme "Hybrid".

1. Fuel gauge. When the indicator lowers to only one white marking[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also Trip computer page 233, and Refuelling page 300.
2. Hybrid battery gauge
3. Speedometer
4. Hybrid guide, see page 78
5. Gear position indicator. See also gearboxes page 128.

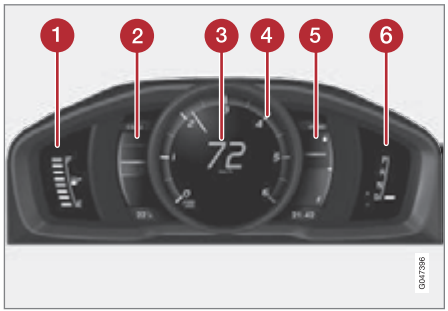
Gauges and indicators, theme "Elegance".

1. Fuel gauge. When the indicator lowers to only one white marking[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also Trip computer page 233, and Refuelling page 300.
2. No function
3. Speedometer
4. No function
5. Gear position indicator. See also gearboxes page 128.

Gauges and indicators, theme "Eco".

1. Fuel gauge. When the indicator lowers to only one white marking[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also Trip computer page 233, and Refuelling page 300.
2. Eco guide, see page 77
3. Speedometer
4. Hybrid guide, see page 78
5. Gear position indicator. See also gearboxes page 128.

[1] When the display's message "Distance to empty fuel tank:" starts to show "----", the marking becomes red.



Gauges and indicators, theme "Performance".

1. Fuel gauge. When the indicator lowers to only one white marking[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also Trip computer page 233, and Refuelling page 300.
2. E-boost gauge. Illustrates electric motor use, its support to the diesel engine and engine braking[2] with the electric motor.
3. Speedometer
4. Tachometer. Indicates engine speed in thousands of revolutions per minute (rpm).
5. Hybrid guide, see page 78
6. Gear position indicator. See also gearboxes page 128.

Eco guide & Hybrid guide

General

The Eco guide and Hybrid guide instruments help the driver to drive the car while maintaining the best possible economy.

The car also stores statistics of journeys made, which can be viewed in the form of a block diagram, see page 237.

Eco guide

This meter provides an indication of how economically the car is being driven.

To view this function, select the theme "Eco", see page 76.

1. Instantaneous value
2. Average value

Instantaneous value

The instantaneous value is shown here - the higher the reading on the scale, the better.

The instantaneous value is calculated based on speed, engine speed, engine power utilised plus use of the foot brake.

Optimum speed (50-80 km/h) and low engine speeds are encouraged. The pointers fall during acceleration and braking.

Very low instantaneous values illuminate the red zone on the meter (with a short delay),

[1] When the display's message "Distance to empty fuel tank:" starts to show "----", the marking becomes red.
[2] Engine braking with the electric motor charges the hybrid battery, see page 133.

Instruments and controls

which means poor economy and hence should be avoided.

Average value

The average value slowly follows the instantaneous value and describes how the car has been driven most recently. The higher the pointers on the scale, the better the economy achieved by the driver.

Hybrid guide

This instrument shows the relationship between how much power is being taken from the electric motor and how much power is available.

To view this function, select the theme "Hybrid" (see page 76) or "Performance" (see page 77).

1. Driver-requested power
2. Available electric motor power

Where the two pointers meet is the threshold for when the diesel engine starts/stops.

Driver-requested power

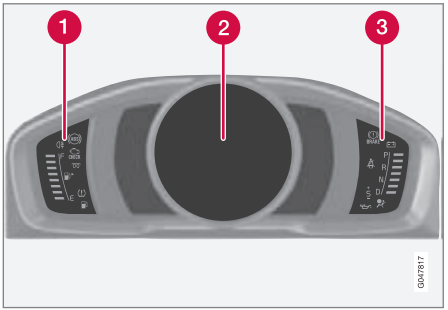
The large pointer indicates the amount of engine power requested by the driver by regulating the accelerator pedal. The higher the reading on the scale, the more power is requested by the driver in the current gear.

Available electric motor power

The small pointer indicates the amount of power currently available for the electric motor.

A large gap between the two pointers indicates a large power reserve.

Indicator and warning symbols



Indicator and warning symbols.

1. Indicator symbols
2. Indicator and warning symbols
3. Warning symbols

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 extinguish within 5 seconds

except the symbol for faults in the car's emissions system.

Indicator symbols

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

Symbol	Specification
	Left-hand direction indicator
	Right-hand direction indicator

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 switched on.

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.

Stability system, sport mode

Sport mode allows for a more active driving experience. The system then detects whether the accelerator pedal, steering wheel movements and cornering are more active than in normal driving and then allows controlled skidding of the rear section up to a certain level before it intervenes and stabilises the car.

Engine preheater

This symbol illuminates during engine preheating. Preheating takes place mostly due to low temperature.

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 **OK** button, see page 204, 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 **OK** button, or disappear automatically after a time.

Main beam On

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

Left/right-hand direction indicator

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

Warning symbols

Symbol	Specification
	Parking brake applied
	Airbags – SRS
	Seatbelt reminder
	Starter battery not charging
	Fault in brake system
	Warning

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 in any other situation means that a fault has arisen. Read the message on the information display.

For more information, see page 136.

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.

Starter battery 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 351.

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 351. 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 **OK** button, see page 204. The warning symbol can 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 **OK** button.

Reminder – doors not closed

If one of the doors is not closed properly then the information or warning symbol illuminates together with an explanatory image in the information display. Stop the car in a safe place as soon as possible and close the door that 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.

If the bonnet[3] is not closed properly then the warning symbol illuminates together with an explanatory image in the information display. Stop the car in a safe place as soon as possible and close the bonnet.

If the tailgate is not closed properly then the information symbol illuminates together with an explanatory image in the information display. Stop the car in a safe place as soon as possible and close the tailgate.

Trip meter

Trip meter.

1 Display for trip meter

Both trip meters **T1** and **T2** are used to measure short distances. The distance is shown in the display.

Turn the left-hand stalk switch's thumbwheel to show the required meter.

One long press (more than 1 second) on the left-hand stalk switch's **RESET** button resets the trip meter currently displayed. A longer

3 Only cars with alarm*.

press (4 seconds) resets the trip computer. For more information, see page 233.

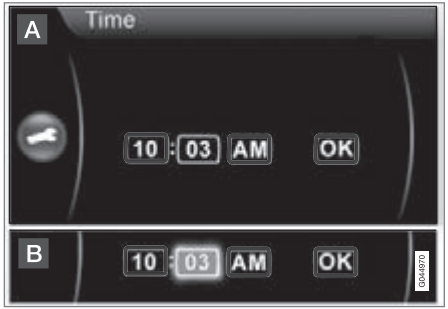
Clock

Clock.

1 Display for showing the time

Setting the clock

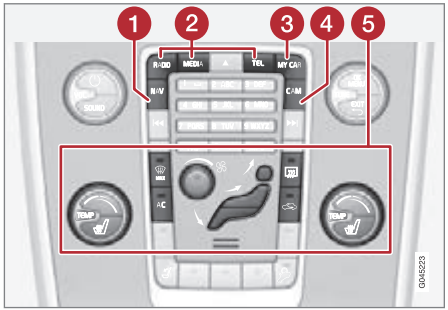
The clock can be adjusted in the menu group **MY CAR**, for more information see page 206.



1. Locate **Settings ➔ System options ➔ Time**.
2. The cursor is located in the first box for Hour: Press **OK/MENU** - the box is activated.
3. Turn **TUNE** to set the correct hour and press **OK/MENU** - the box is deactivated.
4. Turn **TUNE** to select the box for Minute (A) and press **OK/MENU** - the box is activated (B).
5. Turn **TUNE** to set the correct minute and press **OK/MENU** - the box is deactivated.
6. Turn **TUNE** to select the box for **OK** and press **OK/MENU** - the setting is complete.

The menu option **Settings ➔ System options ➔ Time format** selects the 24h or 12h system (AM/PM).

General



Control panel in centre console

1. Navigation* - **NAV**, see separate owner's manual (Road and Traffic Information System - RTI).
2. Infotainment (**RADIO**, **MEDIA**, **TEL***), see page 246.
3. Car settings - **MY CAR**, see page 206.
4. Park assist camera - **CAM***, see page 194.
5. Climate control, see page 214.

Volvo Sensus is the car's operating system, the heart of your personal Volvo experience. Volvo Sensus combines and presents many functions in several of the car's systems in the screen. With Volvo Sensus the car can be personalised by means of an intuitive user interface. Settings can be made in Car settings, Infotainment, Climate, etc.

With the centre console buttons and controls or the steering wheel's right-hand keypad* functions can be activated or deactivated and many different settings can be made.

With a press on **MY CAR** all settings related to the driving and control of the car are presented, such as City Safety, Locks and alarm, setting the clock, etc.

With a press on the respective function: **RADIO**, **MEDIA**, **TEL***, **NAV*** and **CAM*** other sources, systems and functions can be activated, e.g. AM, FM1, CD, DVD*, TV*, Bluetooth*, navigation* and park assist camera*.

For more information on all functions/systems, see the respective section in the owner's manual.

Key positions

Insert and remove the remote control key

Ignition switch with remote control key extracted/inserted.

NOTE

For cars with the Keyless* function the key does not need to be inserted into the ignition switch but can be stored in e.g. a pocket. For more information on Keyless functions - see page 56.

Insert the key

1. Hold the end of the remote control key with the detachable key blade and insert the key in the ignition switch.
2. Then press the key in the lock up to its end position.

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 50.

Withdraw the key

- Push in the remote control key, allow it to eject, then pull it out from the ignition switch.

Functions at different levels

To enable the use of a limited number of functions with the engine switched off, the car's electrical system can be set in 3 different levels (key positions) - **0**, **I** and **II** - with the remote control key. This owner's manual describes these levels throughout using the denomination "key positions".

The following table shows the functions available in each key position/level.

Level	Functions
0	• Odometer, clock and temperature gauge are illuminated. • Electrically operated seats can be adjusted. • The audio system can be used for a limited time - see page 246.
I	• Sunroof, power windows, 12 V socket in the passenger compartment, RTI, phone, ventilation fan and windscreen wipers can be used.
II	• The headlamps come on. • Warning/indicator lamps illuminate for 5 seconds. • Several other systems are activated. However, electric heating in seat cushions and the rear window can only be activated after starting the engine. **This key position consumes a lot of current from the battery and should therefore be avoided!**

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

Selecting key position/level

Key position 0

- Unlock the car - at which point the car's electrical system is at level **0**.

Key position I

- With the remote control key fully inserted into the ignition switch[1] - Briefly press **START/STOP ENGINE**.

NOTE

To reach level **I** or **II without** starting the engine - do **not** depress the brake/clutch pedal when these key positions are due to be selected.

Key position II

- With the remote control key fully inserted into the ignition switch[1] - Give one long[2] press on **START/STOP ENGINE**.

Back to key position 0

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

Audio system

For information on the audio system's functions with remote control key removed - see page 246.

Starting and stopping the engine

For information about starting/switching off the engine - see page 119.

1 Not required for cars with the Keyless* function.
2 Approx. 2 seconds.

Seats

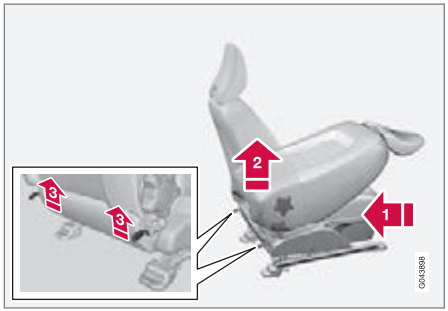
Front seats

1. Lumbar support adjustment, turn the wheel[1].
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*.

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*[2]



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.

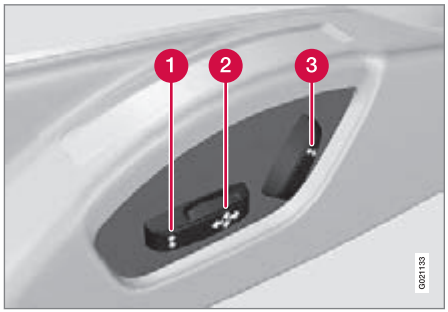
WARNING

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.

1 Also applies to power seat.
2 The sport seat backrest cannot be folded.

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

Power seat*



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

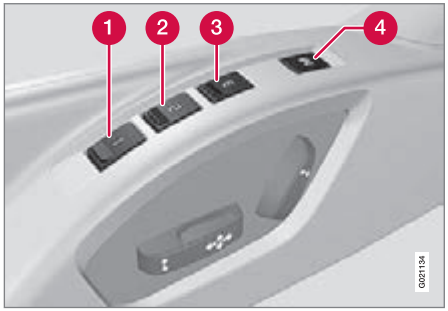
The power front seats have overload protection which is tripped if a seat is blocked by an object. If this happens, go to key position **I** or **0** and wait a short time before adjusting the seat again.

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 control 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

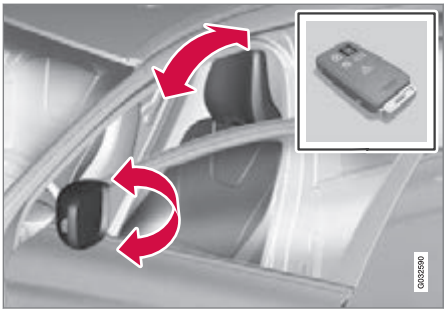
1. Memory button
2. Memory button
3. Memory button
4. Button for storing settings

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 key[3]



All remote control keys can be used by different drivers to store the settings for the driver's seat and door mirrors[4]. Proceed as follows:

[3] For key memory for Keyless function, see page 58.
[4] Only if the car is equipped with power seat with memory and retractable power door mirrors.

Seats

- Adjust the seat as you want it.
- Lock the car by pressing the lock button on the remote control key that you normally use. This stores the positions of the seat and door mirrors in the remote control key's memory[5].
- Unlock the car (by pressing the unlock button on the **same** remote control key) and open the driver's door. The driver's seat and door mirrors will automatically adopt the positions that are stored in the remote control key's memory (if the seat has been moved since you locked the car).

The key memory can be activated/deactivated in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Car key memory**. For a description of the menu system, see page 206.

Emergency stop

If the seat accidentally begins to move, press one of the setting buttons for the seat or memory buttons in order 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

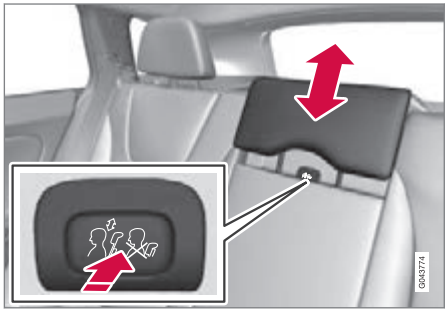
Risk of crushing! Make sure that children do not play with the controls. Check that there are no objects in front of, behind or under the seat during adjustment. Ensure that none of the backseat passengers will be trapped.

Heated seats

For heated seats, see page 218.

Rear seats

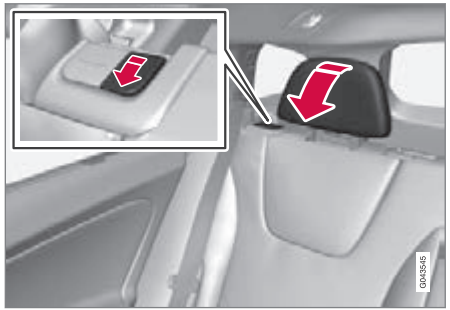
Head restraint, centre seat, rear



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 carefully.

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.

5 This setting does not affect settings that have been stored in the power seat's memory function.

WARNING

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

Lowering the rear seat backrest

IMPORTANT

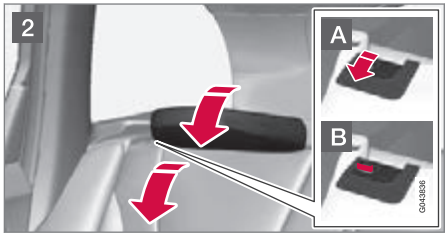
There must be no objects on the rear seat when the backrest is to be folded down. The seat belts must not be connected either. Otherwise there is a risk of damaging the rear seat upholstery.

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

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 88.

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.

NOTE

When the backrests have been lowered the head restraints must be moved forward slightly so as not to make contact with the seat cushion.

Raising takes place in reverse order.

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.

Seats

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

1. The remote control key must be in position **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.

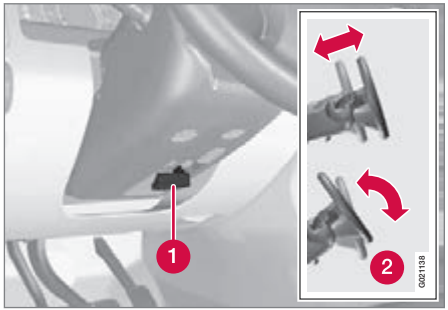
Move the head restraint back manually until a click is heard.

WARNING

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

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

Adjusting



Adjusting the steering wheel.

1. Lever - releasing the steering wheel
2. 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 238.

Keypads*

Keypads in the steering wheel.

1. Cruise control, see page 153

   Adaptive cruise control, see page 155
2. Audio and phone control, see page 247.

Horn

Horn.

Press the centre of the steering wheel to signal.

Steering wheel

Heating* of the steering wheel

Button position may vary depending on equipment selected and market.

Repeatedly **press the button to switch** between the following functions:

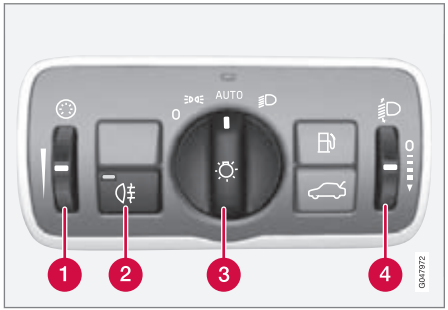
Function	Indicator
Switched off	Button lamp extinguished
Heating	Button lamp illuminated

Automatic steering wheel heating
With activated automatic start of steering wheel heating, the heating of the steering wheel starts when the engine is started. Automatic start takes place when the car is cold and the ambient temperature is below 7 °C.

Activate/deactivate the function in the menu system **MY CAR**, see page 206.

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

Light switches



Overview, light switches.

1. Thumbwheel for adjusting display and instrument lighting as well as ambient lighting*
2. Button for rear fog lamp
3. Knob for daytime running lights and parking lamps
4. Thumbwheel[1] for headlamp levelling

Knob positions

NOTE

The same lamps are used for daytime running lights and position/parking lamps front. The brightness is higher when the lamps are used as daytime running lights.

Position	Specification
0	Daytime running lights[A] when the car's electrical system is in key position **II** or the engine is running. Main beam flash can be used.
≡D⊂	Daytime running lights, side marker lamps front and position/parking lamps/side marker lamps rear when the car's electrical system is in key position **II** or the engine is running. Automatic switching to position/parking lamps/side marker lamps when the car is parked. Main beam flash can be used.
AUTO	Daytime running lights, side marker lamps front and position/parking lamps/side marker lamps rear during the day when the car's electrical system is in key position **II** or the engine is running. Automatic switching to dipped beam and position/parking lamps/side marker lamps in poor light conditions or when the windscreen wipers or rear fog lamps are activated. The "Tunnel detection*" function is activated, see page 95. The "Active high beam*" function can be used, see page 96. Main beam can be activated when dipped beam is switched on. Main beam flash can be used.

[1] Not available for cars equipped with active Xenon headlamps*.

Lighting

Position	Specification
	Dipped beam and position/parking lamps/side marker lamps. Main beam can be activated. Main beam flash can be used.

A Fitted in or under the front bumper.

Volvo recommends that AUTO mode is used when the car is being driven, as long as traffic situations or weather conditions are unfavourable for the "Active high beam*" function.

Instrument lighting

Different display and instrument lighting is switched on depending on key position, see page 84.

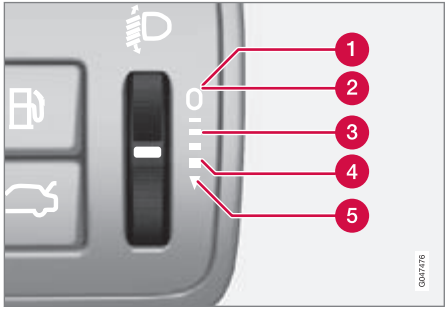
The display lighting is automatically subdued in darkness - the sensitivity is set with the thumbwheel.

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. Leave the engine running, or have the car's electrical system in key position **I**.
2. Roll the thumbwheel up/down to raise/lower beam alignment.

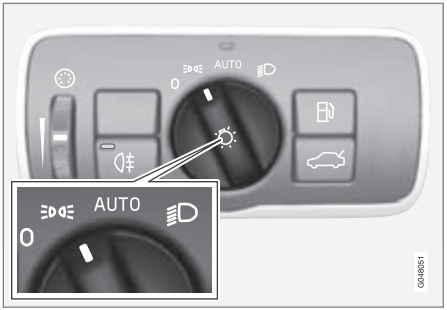


Thumbwheel positions for different load cases.

1. Only driver
2. Driver and passenger in the front passenger seat
3. Occupants in all seats
4. Occupants in all seats and maximum load in the cargo area
5. Driver and maximum load in the cargo area

Cars with active Xenon headlamps* have automatic headlamp levelling and are therefore not equipped with the thumbwheel.

Position/parking lamps



Knob for headlamp control in the position for position/parking lamps.

Turn the knob to the position for position/parking lamps (number plate lighting is switched on at the same time).

If the car's electrical system is in key position **II** or the engine is running then the daytime running lights are switched on instead of the front position/parking lamps.

When it is dark outside and the tailgate is opened the rear position/parking lamps are switched on in order to alert traffic behind. This takes place irrespective of what position

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

the knob is in or what key position the car's electrical system is in.

Daytime running lights during the day. DRL

*Knob for headlamp control in **AUTO** position.*

With the knob for headlamp control in AUTO position the daytime running lights (Daytime Running Lights - DRL) are activated automatically when the car is driven during the day. A light sensor on the top of the instrument panel changes from daytime running lights to dipped beam at twilight or when daylight becomes too weak. Switching to dipped beam also takes place if the windscreen wipers or rear fog lamps are activated.

WARNING

This system help to save energy - it cannot determine in all situations when daylight is too weak or sufficiently strong, e.g. in mist and rain.

The driver is always responsible for ensuring that the car is driven with its lights in a correct state and in accordance with applicable traffic regulations.

Tunnel detection*

The function is available in cars with rain sensor*. The sensor detects the entrance to a tunnel and resets the lighting from daytime running lights to dipped beam. Approx. 20 seconds after the car has left the tunnel, the lighting returns to daytime running lights. If the car is driven into another tunnel within this time period then dipped beam is kept switched on. This avoids repeated changes to the car's light settings.

Note that the headlamp control's knob must remain in AUTO position for tunnel detection to work.

Main/dipped beam

Stalk switch and knob for headlamp control.

1 Position for main beam flash

2 Position for main beam

Dipped beam

With the knob in AUTO position, dipped beam is activated automatically at twilight or when daylight becomes too weak. Dipped beam is also activated automatically if the windscreen wipers or rear fog lamps are activated.

With the knob in position dipped beam is always switched on when the engine is running or when key position **II** is active.

Main beam flash

Move the stalk switch gently towards the steering wheel to the position for main beam

Lighting

flash. Main beam comes on until the stalk switch is released.

Main beam

Main beam can be activated when the knob is in position AUTO[2] or . Activate/deactivate main beam by moving the stalk switch towards the steering wheel to the end position and then releasing. Alternatively, the main beam can be deactivated by a light press of the stalk switch toward the steering wheel.

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

Active high beam - AHB*

Active high beam (Active High Beam - AHB) is a function which uses a camera sensor at the top edge of the windscreen to detect the headlamp beams of oncoming traffic or the rear lights of vehicles in front, and then switches from main beam to dipped beam. The function can also take streetlights into account.

Car with halogen headlamps

The lighting returns to main beam about a second after the camera sensor no longer detects the headlamp beams from oncoming traffic or the rear lights from vehicles in front.

Car with Xenon headlamps

Unlike what happens during conventional dimming, the light beam continues with main beam on both sides of oncoming traffic or vehicles ahead - only the part of the light beam that points directly to the vehicle is dimmed.

Dipped beam directly toward oncoming vehicles, but continued main beam on both sides of the vehicle.

The lighting returns to full main beam about a second after the camera sensor no longer detects the headlamp beams from oncoming traffic or the rear lights from vehicles in front.

Activating/deactivating

AHB can be activated when the headlamp control's knob is in position AUTO.

*Stalk switch and knob for headlamp control in **AUTO** position.*

The function can start while driving in the dark when the car's speed is 20 km/h or higher.

Activate/deactivate AHB by moving the left-hand stalk switch towards the steering wheel to the end position and then releasing. Deactivation when main beam is on means that the lights are reset directly to dipped beam.

When AHB is activated the symbol turns white in the instrument's information display.

2 When dipped beam is switched on.

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

When main beam is activated, the symbol turns blue. This also applies for Xenon headlamps if the main beam is partially dimmed, i.e. as soon as the light beam shines with slightly more than dipped beam.

Manual operation

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.

If the message **Active main beam Temporary unavailable Switch manually** is shown in the combined instrument panel's information display then you have to switch manually between main and dipped beam. However, the knob for headlamp control can still remain in position AUTO. The same applies if the message **Windscreen sensors blocked See manual** and the symbol are shown. The symbol goes out when these messages are shown.

AHB may be temporarily unavailable e.g. in situations with dense fog or heavy rain. When AHB becomes available again, or the windscreen sensors are no longer blocked, the message extinguishes and the symbol illuminates.

WARNING

AHB is an aid for using optimum light composition when conditions are favourable.

The driver always bears responsibility for manually switching between main and dipped beam when traffic situations or weather conditions so require.

IMPORTANT

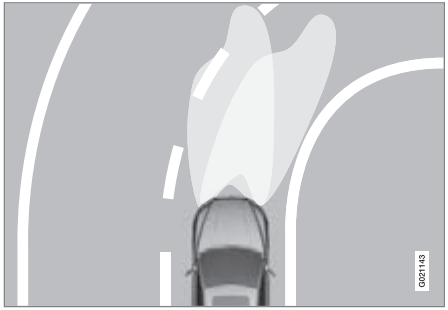
Examples of when manual switching between main and dipped beam may be required:

- In heavy rain or dense fog
- In freezing rain
- In snow flurries or slush
- In moonlight
- When driving in poorly lit built-up areas
- When the traffic ahead has weak lighting
- If there are pedestrians on or beside the road
- If there are highly reflective objects such as signs in the vicinity of the road
- When the lighting from oncoming traffic is obscured by e.g. a crash barrier
- When there is traffic on connecting roads
- On the brow of a hill or in a hollow
- In sharp bends.

For more information on the limitations of the camera sensor, see page 180.

Lighting

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 (provided that it has not been deactivated in the menu system **MY CAR**). 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.

Symbol	Display	Specification
	Headlamp system malfunction 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 function[3] can be deactivated/activated in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Light settings ➔ Active Bending Lights**. For a description of the menu system, see page 207.

Cornering lights

Active Xenon headlamps are equipped with cornering lights that temporarily illuminate the area diagonally in front of the car in the direction the steering wheel is turned in a sharp bend, or in the direction for which the direction indicators are used.

The function is activated when main beam or dipped beam is used and the car's speed is lower than approx. 30 km/h.

In addition, both cornering lights are switched on as a supplement to the reversing lamp during reversing.

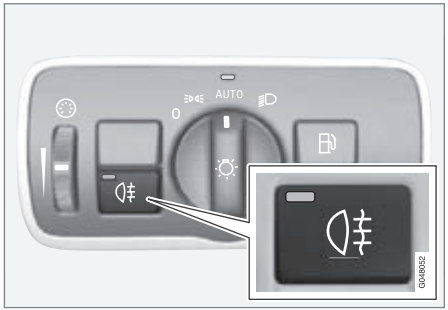
Auxiliary lamps*

If the car has auxiliary lamps, the driver can use the **MY CAR** menu system to choose whether they should be deactivated or switched on/off simultaneously with the main beam[4], see page 208.

[3] Activated on delivery from the factory.
[4] Auxiliary lamps must be connected to the electrical system by a workshop. Volvo recommends that you contact an authorised Volvo workshop.

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

Rear fog lamp



Button for rear fog lamp.

The rear fog lamp can only be switched on when key position **II** is active or the engine is running and the headlamp control's knob is in position AUTO or ≡D.

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

The rear fog lamp is switched off automatically when the engine is switched off or when the headlamp control's knob is turned to position 0 or ≡DC.

NOTE

Regulations for using rear fog lamps vary between different countries.

Brake lights

The brake light automatically comes on during braking. For information on the emergency brake lights and automatic hazard warning flashers, see page 133.

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 used.

The hazard warning flashers are activated automatically when the car has been braked so suddenly that the emergency brake lights have been activated at a speed below 10 km/h. The hazard warning flashers 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 133.

Direction indicators/flashers

Direction indicators/flashers.

Lighting

Short flash sequence

1 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 in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Light settings ➔ Triple indicator**. For a description of the menu system, see page 207.

Continuous flash sequence

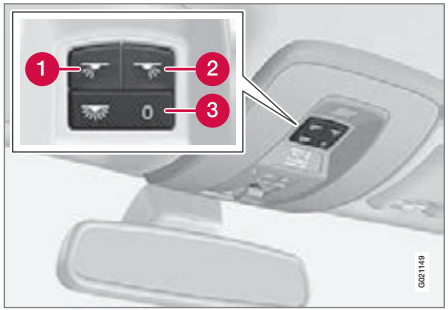
2 Move the stalk switch up or down to the outer position.

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 78.

Interior lighting



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

1 Reading lamp, left-hand side

2 Reading lamp, right-hand side

3 Interior 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 car's electrical system is in key 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.

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 lighting

The lighting for the vanity mirror, see page 241, 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 pressed in, automatic lighting deactivated.
- **Neutral position** – automatic lighting activated.
- **On** – left-hand side pressed in, passenger compartment lighting switched 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 page 47 or 51
- the engine has been switched off and the car's electrical system is in key position **0**.

Passenger compartment lighting is switched off when:

- 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.

Mood lights

When the normal passenger compartment lighting is switched off and the engine is running, a number of LEDs illuminate, including one in the roof lighting, in order to provide a low-light and enhance the mood while driving. This lighting goes out for a little while after the normal passenger compartment lighting when the car is locked. The brightness is controlled using the thumbwheel on the headlamp control, see page 93.

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 95.
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 in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Light settings ➔ Home safe light duration**. For a description of the menu system, see page 207.

Lighting

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, the 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 in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Light settings ➔ Approach light duration**. For a description of the menu system, see page 207.

Adjusting headlamp pattern

The headlamp pattern does not need to be adjusted for right or left-hand traffic. The headlamp pattern is designed in such a way that oncoming traffic is not dazzled.

Windscreen wipers[1]

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 359 and 379.

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 lamp in the button is illuminated and the rain sensor symbol is shown 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.)

Deactivate

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 359, service position, wiper blade see page 359 and filling washer fluid see page 360.

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. Switch off the rain sensor while the car is in motion or when 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.

Reduced washing

If only approx. 1 litre of washer fluid remains in the reservoir and the message that you should fill the washer fluid is shown in the combined instrument panel, then the supply of washer fluid for the headlamps is switched off. This is in order to prioritise cleaning the windscreen and the visibility through it.

Wiping and washing the 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).

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

Wiper – reversing

Engaging reverse gear while the windscreen wipers are on initiates intermittent rear window wiping[2]. 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.

Windows, rearview and door mirrors

General

Laminated glass

The glass is reinforced which provides better protection against break-ins and improved sound insulation in the passenger compartment. The windscreen and other windows* have laminated glass.

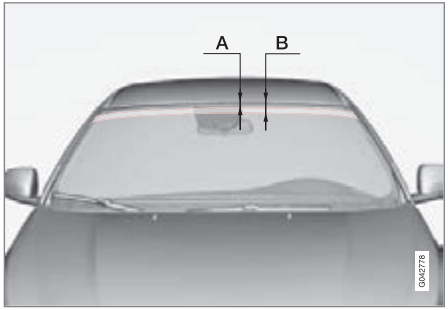
Water and dirt-repellent coating*

Windows are treated with a coating that improves the view in difficult weather conditions. Maintenance, see page 380.

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 109.

Heat-reflecting windscreen*



Areas where IR film is not applied.

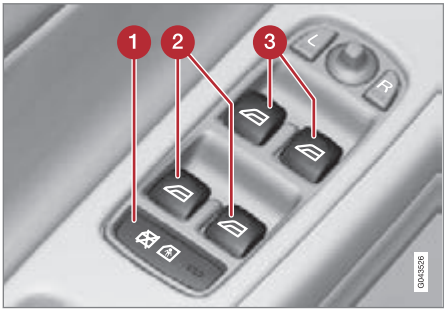
	Dimensions
A	40 mm
B	80 mm

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 65.
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.

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

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 selecting key position **0** and then take the remote control key with you when leaving the car. For information on key positions - see page 85.

Operating

Operating the power windows.

1. Operating without auto
2. Operating with auto

All power windows can be operated using the control panel for the driver's door - the control panels for the other doors can only each operate their respective power window. Only one control panel can be operated at a time.

In order for the power windows to be used the key position must be at least **I** - see page 84. The power windows can be operated for a few minutes after the engine has been switched off and after the remote control key has been removed - although not after a door has been opened.

Closing of the windows is stopped and the window is opened if anything prevents its movement. It is possible to override the pinch protection when closing has been interrupted, e.g. if there is ice forming. After two successive closing interruptions the pinch protection will be forced and the automatic function deactivated for a short while, now it is possible to close by continually holding the button pulled up.

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 48 and 61.

Windows, rearview and door mirrors

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.

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 mirror on the driver's side is the wide-angle type to provide optimal vision. Objects may appear further away than they actually are.

Storing the position[1]

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 in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Car key memory ➔ Personal settings in key memory**. For a description of the menu system, see page 207.

Angling the door mirror when parking[1]

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.

1 Only in combination with power seat with memory, see page 87.

When reverse gear is disengaged the mirror automatically returns to its original position after approx. 10 seconds, or sooner by pressing the **L** and **R** button.

Automatic angling of the door mirror when parking[1]

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 short time.

The function can be activated/deactivated in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Side mirror settings ➔ Tilt left mirror** or **Tilt right mirror**. For a description of the menu system, see page 207.

Automatic retraction when locking[1]

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

The function can be activated/deactivated in the menu system **MY CAR** under **Settings ➔ Car settings ➔ Side mirror settings ➔ Fold mirrors**. For a description of the menu system, see page 207.

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.

Automatic dimming*

For the door mirrors to be fitted with this function requires that the interior rearview mirror also has automatic dimming, see page 110.

Retractable power door mirrors*

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

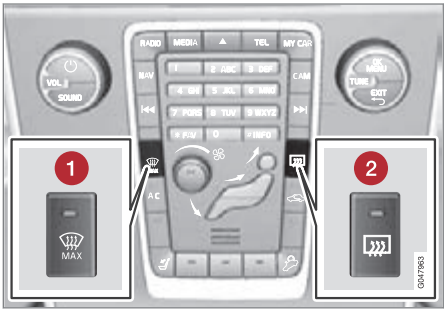
1. Depress the **L** and **R** buttons simultaneously (key position must be at least **I**).
2. Release them after approximately 1 second. The mirrors automatically stop in the fully retracted position.

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

Home safe and approach lighting

The light on the door mirrors illuminates when approach lighting or home safe lighting is selected, see page 101.

Heated windscreen*, rear window and door mirrors



1 Heating, windscreen

2 Heating, rear window and door mirrors

[1] Only in combination with power seat with memory, see page 87.

Windows, rearview and door mirrors

The function is used to remove ice and misting from the windscreen, rear window and door mirrors.

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

See also the section "Heated windscreen and max. defroster" on page 221.

The door mirrors and rear window are demisted/defrosted automatically if the car is started in an outside temperature lower than +7 °C. Automatic defrosting can be selected in the menu system **MY CAR** under **Settings ➔ Climate settings ➔ Auto start rear defrost**. Select between **On** or **Off**. For a description of the menu system, see page 207.

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 for manual dimming is not available on mirrors with automatic dimming.

The rearview mirror contains two sensors - one forward facing and one rearward facing - that work together to identify and eliminate dazzling light. The forward facing sensor detects ambient light, while the rearward facing sensor detects the light from vehicle headlights behind.

NOTE

If the sensors are obscured by e.g. parking permits, transponders, sun visors or objects in the seats or in the cargo area in such a way that light is prevented from reaching the sensors, then the dimming function of the interior rearview and door mirrors is reduced.

The compass* can only be specified for interior rearview mirror with automatic dimming, see page 111.

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

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 key position **II**, see page 84. To deactivate/activate the compass - press in the button on the underside of the mirror using a paper clip for example.

Calibration

The compass may need calibrating to show the correct compass direction.

The earth is divided into 15 magnetic zones. The compass should be calibrated if the car is moved across several magnetic zones.

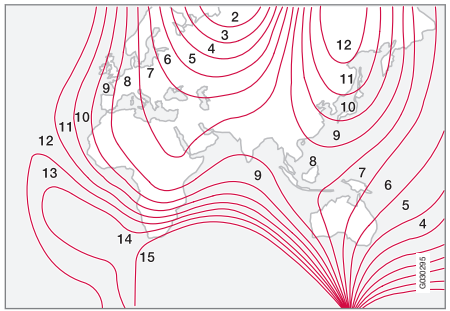
Proceed as follows to perform calibration:

1. Stop the car in a large open area free from steel structures and high-voltage power lines.
2. Start the car and switch off all electrical equipment (air conditioning, wipers, etc.) and ensure that all doors are closed.

NOTE

Calibration may fail or not start at all if electrical equipment is not switched off.

3. Hold the button on the underside of the rearview mirror depressed approx. 3 seconds. The number of the current magnetic zone is shown.



Magnetic zones.

4. Press the button repeatedly until the required magnetic zone (**1–15**) is shown. See the map of magnetic zones for the compass.
5. Wait until the display returns to showing the character **C**, or hold the button on the bottom of the rearview mirror depressed for approx. 6 seconds (use e.g. a paper clip) until the character **C** is shown.
6. 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.
7. **Cars with heated windscreen*:** If the character **C** is shown in the display when

Compass*

the heated windscreen is activated, perform the calibration in accordance with point 6 above with the heated windscreen activated, see page 221.

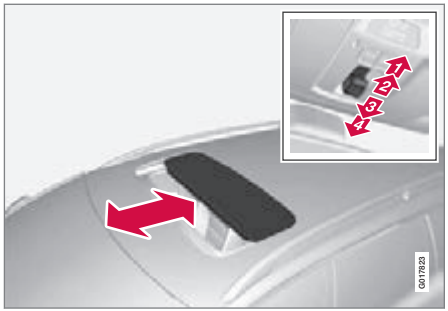
8. Repeat the above procedure as necessary.

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

General

The sunroof controls are located in the roof panel. The sunroof can be opened vertically at the rear edge and horizontally. Key position **I** or **II** is required for the sunroof to be opened.

Horizontal opening



Horizontal opening, backward/forward.

1. Opening, automatic
2. Opening, manual
3. Closing, manual
4. Closing, automatic

Opening

For maximum sunroof opening, move the control back to the position for automatic opening and release.

Open manually by pulling the control backwards to the point of resistance for manual opening. The sunroof moves to maximum open position as long as the button is kept depressed.

Closing

Close manually by pushing the control forwards to the point of resistance for manual closing. The sunroof moves to closed position as long as the button is kept depressed.

WARNING

Risk of crushing when sunroof is closed. The sunroof's pinch-protection function only operates during automatic closing, not manual.

Close automatically by pressing the control to the position for automatic closing and then release it.

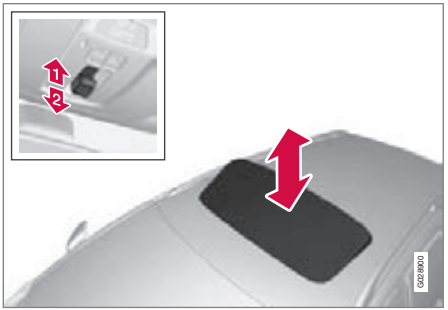
The power supply to the sunroof is switched off by selecting key position **0** and removing the remote control key from the ignition switch.

WARNING

If there are children in the car:

Remember to always switch off the power supply to the sunroof by selecting key position **0** and then take the remote control key with you when leaving the car. For information on key positions - see page 85.

Vertical opening



Vertical opening, raised at the rear edge.

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

Power sunroof*

Closing using the remote control key or central locking button

One long press on the lock button closes the sunroof and all the windows, see pages 47 and 61. The doors and the tailgate are locked. To interrupt closing, press the lock button again.

WARNING

If the sunroof is closed using the remote control key, check that no one is in danger of becoming trapped in any way.

Sunscreen

The sunroof features a manual, sliding interior sunscreen. The sunscreen slides back automatically when the sunroof is opened. Grip the handle and slide the screen forward to close it.

Pinch protection

The sunroof's pinch protection function is triggered if it is blocked by an object during automatic closing. If blocked, the sunroof will stop and automatically open to the previous position.

Wind deflector

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

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

Alcolock*

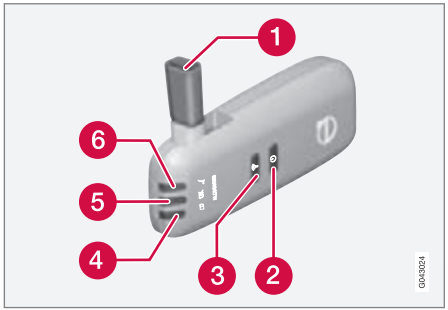
General information on the alcolock

The alcolock's[1] function 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:

Indicator 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.

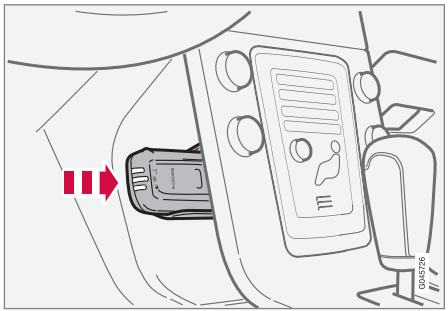
NOTE

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.

1 Also called Alcoguard.

Alcolock*

Storage



Handheld unit storage and charging station.

- The handheld alcolock unit is released by depressing it slightly in its holder and releasing it - it then springs out and can be removed from the holder.
- Replace the handheld unit in the holder by pushing it in until it engages.
- Store the handheld unit in the holder - this provides it with the best protection and keeps its batteries fully charged.

Before starting the engine

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

1. When the 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 the 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.

Result after breath test

Indicator 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 115

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 workshop[2] every 12 months.

30 days before recalibration is necessary the combined instrument panel shows the message **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 function will then be possible, see page 117 section Emergency situation.

The message can be cleared by pressing the send button (3) once. Otherwise it goes out on its own after approx. 2 minutes but then reappears each time the engine is started - only recalibration at a workshop[2] 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 (ºC)	Maximum heating time (seconds)
+10 to +85	10
-5 to +10	60
-40 to -5	180

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

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 the Alcolock is out of order, 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 8 in the section, Recording data.

After Bypass function activation the combined instrument panel shows **Alcoguard Bypass enabled** the whole time while driving and can only be reset by a workshop[2].

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 workshop[2].

2 An authorised Volvo workshop is recommended.

Alcolock*

Activating the Bypass function

- Depress and hold the left-hand stalk switch **OK** button and the button for hazard warning flashers simultaneously for approx. 5 seconds - the combined instrument panel 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 workshop[2].

Activating the Emergency function

- Depress and hold the left-hand stalk switch **OK** button and the button for hazard warning flashers simultaneously for approx. 5 seconds - the combined instrument panel 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 workshop[2].

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[2].
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.
Alcoguard Blow harder	Blowing too weak - blow harder.
Alcoguard wait Preheating	Heating not finished - wait for text Alcoguard Blow 5 seconds.

2 An authorised Volvo workshop is recommended.

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

Diesel engine

*Ignition switch with remote control key extracted/inserted. 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 50.

1. Insert the remote control key in the ignition switch and press it in to its end position. Note that if the car is equipped with an alcolock then a breath test must first be approved before the engine can be started - see page 115.
2. Fully depress the brake pedal[1].
3. Press the **START/STOP ENGINE** button and then release it.

When the engine is started the starter motor works until the engine is started or until its overheating protection triggers.

When starting the engine in normal conditions the car's electric drive motor is prioritised - the diesel engine remains switched off. This means that after pressing the **START/STOP ENGINE** button the electric motor has "started" and the car is ready to drive. A started motor is indicated by the combined instrument panel's indicator lamps extinguishing and its preset theme illuminating (see page 74).

However, there are situations where the diesel engine is started instead, e.g. in the event of the temperature being too low or if the hybrid battery needs charging.

IMPORTANT

If the engine fails to start after 3 attempts - wait for 3 minutes before making a further attempt. Starting capacity increases if the battery is allowed to recover.

WARNING

Never remove the remote control key from the ignition switch after starting the engine or when the car is being towed.

WARNING

Always remove the remote control key from the ignition switch when leaving the car, and make sure that the key position is **0** - in particular if there are children in the car. For information on how this works - see page 85.

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*

- Carry out steps 2-3 for starting the engine.

For more information on Keyless drive - see page 56.

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

Starting the engine

NOTE

A prerequisite for the engine to start is that one of the car's remote control keys with the Keyless drive function is in the passenger compartment or cargo area.

WARNING

Never remove the remote control key from the car while driving or during towing.

Stop the engine

To switch off the engine:

- Press **START/STOP ENGINE** - the engine stops.

If the gear selector is not in **P** position or if the car is moving:

- Press twice on **START/STOP ENGINE** or hold the button depressed until the engine stops.

Steering lock

A mechanical noise can be perceived when the steering lock unlocks or locks.

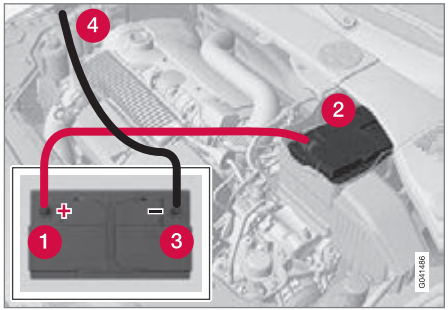
- The steering lock unlocks when the remote control key is in the ignition switch[2] and the **START/STOP ENGINE** button is depressed.
- The steering lock locks when the driver's door is opened after the engine has been switched off.

Key positions

For information on the remote control key's different key positions - see page 84

[2] Cars with Keyless drive must have a remote control key inside the passenger compartment.

Jump starting



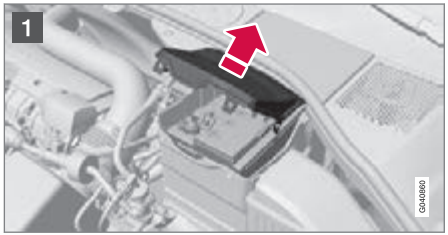
If the battery is flat then the car can be started with current from another battery.

When jump starting the car, the following steps are recommended to avoid short circuits or other damage:

1. Insert the remote control key in key position **0**, see page 84.
2. Check that the donor battery has a voltage of 12 V.
3. If the donor battery is installed in another car - switch off the donor car's engine and make sure that the two cars do not touch each other.
4. Connect one of the red jump lead's clamps to the donor battery's positive terminal (1).

IMPORTANT

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



5. Open the clips on the front cover of the battery in your car 1 and remove the cover.
6. Connect the red jump lead's other clamp onto the car's positive terminal (2).
7. Connect one of the black jump lead's clamps to the donor battery's negative terminal (3).
8. Connect the other clamp to a grounding point, e.g. right-hand engine mounting at the top, the outer screw head (4).
9. Check that the jump lead clamps are affixed securely so that there are no sparks during the starting procedure.
10. Start the engine of the "donor car" and allow it to run a few minutes at a speed slightly higher than idle approx. 1500 rpm.
11. Start the engine in the car with the discharged battery with the remote control key inserted and a press the **START/STOP ENGINE** button, see page 119.

NOTE

When starting the engine in normal conditions the car's electric drive motor is prioritised - the diesel engine remains switched off. This means that after pressing the **START/STOP ENGINE** button the electric motor has "started" and the car is ready to drive. A started motor is indicated by the combined instrument panel's indicator lamps extinguishing and its preset theme illuminating.

Starting the engine – external battery

IMPORTANT

Do not touch the crocodile clips during the start procedure. There is a risk of sparks forming.

12. Remove the jump leads in reverse order - first the black and then the red.
    > Make sure that none of the black jump lead's clamps comes into contact with the battery's positive terminal or the clamp connected to the red jump lead!
13. Refit the front cover for the battery in your car.

WARNING

- The battery can generate oxyhydrogen gas, which is highly explosive. A spark can be formed if a jump lead is connected incorrectly, and this can be enough for the battery to 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.

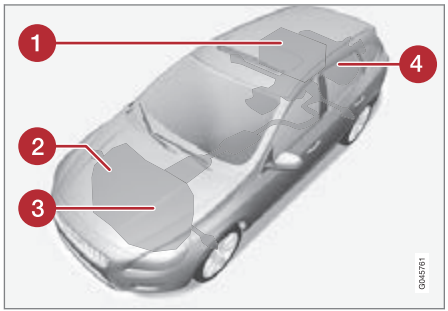
For more information on the car's battery - see page 362.

General

This V60 Plug-in Hybrid is a so-called parallel hybrid, which means that it has two separate drive systems: an electric motor and a diesel engine. Depending on the driver-selected drive mode and available electric energy, the two drive systems can be used either individually or in parallel.

Two drive systems

An advanced control system combines the properties of both drive systems in order to provide optimum driving economy.



1. Hybrid battery
2. Hazard voltage generator[1]
3. Diesel engine
4. Electric motor

The electric motor primarily drives the car at low speeds, the diesel engine at higher speeds and during more active driving.

Both the diesel engine and electric motor can generate motive force directly to the wheels. The diesel engine can also charge the electric motor's hybrid battery with a special hazard voltage generator.

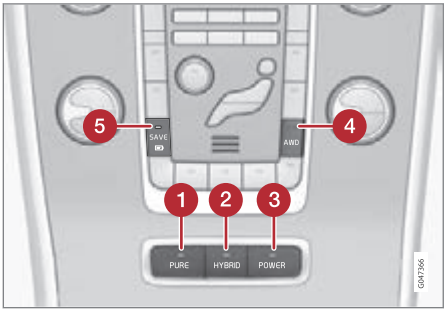
Drive modes

The driver can select the different drive modes while driving. Regardless of selected drive mode, the control system checks that the combination of drivability, driving experience, environmental impact and fuel economy is always optimal in relation to the drive mode selected.

If a drive mode cannot be activated then the reason is explained with a text message in the combined instrument panel.

NOTE

The drive cannot set the "wrong" drive mode - if any parameter is not met in a specific situation, the system will automatically choose another, more appropriate drive mode.



Controls for drive modes.

[1] Combined hazard voltage generator and starter motor - ISG (Integrated Starter Generator).

Drive systems

WARNING

- Do not leave the car in an unventilated area with drive mode activated and the diesel engine switched off - the engine will start automatically when the energy level in the hybrid battery is low, and the exhaust fumes may cause serious harm to humans and animals.

1 – PURE

This option focuses on electric drive as well as low energy consumption, and helps the driver to maximise driving on the hybrid battery.

Since the mileage in electric operation is connected to the car's total energy consumption, deductions are made for functions that limit mileage, e.g. climate and dynamic performance. To obtain the maximum possible mileage the air conditioning is therefore switched off - however, it can be activated with the **AC** button if necessary, see page 221.

NOTE

In the event of misting, press **AC**, **AUTO** or the defroster button.

Please note

This drive mode can only be selected when the hybrid battery has a sufficiently high energy level.

The diesel engine can start automatically in certain cases, despite the PURE drive mode being selected, for example:

- if the speed exceeds 125 km/h
- if the driver requests more motive force than electric drive can provide
- if the hybrid battery's energy level is too low and it must be charged
- in the event if system/component limitations, e.g. low outside temperature, see page 126.

2 – HYBRID

This option is the car's preset start mode. The control system uses both the electric motor and the diesel engine - individually or in parallel - and calculates the optimal use with regard to performance, fuel consumption and comfort.

The capacity to run solely with the electric motor in the HYBRID drive mode depends on the hybrid battery's energy level and, for example, the requirement for heating/cooling in the passenger compartment. At high level the capacity for solely driving with electric operation is same as in PURE mode, i.e. the car is easy to drive as an electric car (high electrical power output available).

At low energy level (hybrid battery is almost empty) the battery's energy level must also be maintained at the same time, leading to the diesel engine starting more often.

To restore the function to drive solely on electricity in HYBRID mode:

- Charge the hybrid battery from a 230 VAC socket with the charging cable (see page 304) or use the SAVE function.

Please note

- The diesel engine may even start with a high energy level in the hybrid battery, such as to raise/lower the temperature in the passenger compartment.

3 – POWER

This option sets the car in the best response and performance mode, by means of both the electric motor and diesel engine being activated the whole time. The car has sportier characteristics and faster response to accelerating.

The use of lower gears is prioritised during active driving, leading to a delayed upshift.

Please note

- The diesel engine runs continuously.
- The car is driven by both the front and rear wheels.
- This drive mode results involves increased fuel consumption.

4 – AWD

The mode activates all-wheel drive, which improves the car's grip and traction. The mode is primarily intended for low speed in slippery driving conditions.

Please note

- The diesel engine runs continuously.
- This drive mode results involves increased fuel consumption.

5 – SAVE

This function starts charging the hybrid battery and ensures that its energy level does not fall below a capacity equivalent to approx. 20 km driving with electric operation. The idea is to be able to save this energy for later when electric operation is more suitable, e.g. for urban driving.

If the hybrid battery's energy level is low when pressing the **SAVE** button then the diesel engine will first charge it to a capacity equivalent to approx. 20 km driving with electric operation.

Driving with the electric motor saves more fuel at low speeds than at higher speeds. For this reason, select SAVE primarily when the hybrid battery's energy level is high and a planned journey shall start with a longer distance at higher speeds (e.g. on motorways) and end with a distance at low speeds, e.g. urban driving.

Pressing the **SAVE** button when the hybrid battery's energy level is equivalent to more than approx. 20 km driving with electric operation will maintain the hybrid battery's current energy level.

Regardless of selected drive mode, charging of the hybrid battery is activated temporarily in the background - similar to the SAVE function - then an automatic DPF regeneration is performed, see page 303.

Please note

- This drive mode results involves increased fuel consumption.
- After the diesel engine has charged the hybrid battery to the SAVE level the control system will stop/start the diesel engine in the same way as for low energy level in HYBRID mode.

Drive modes in MY CAR

The car's menu system contains brief descriptions about the car's different drive modes, see page 206:

1. Go to **MY CAR** ➔ **HYBRID** ➔ **Driving modes**.
2. There, select between **PURE**, **HYBRID**, **POWER**, **AWD** and **SAVE** and confirm with **OK**.

Start/Stop function

The control system determines when the diesel engine can be stopped and be switched off, as well as for how long. This is equivalent to the Start/Stop function in conventional cars with fuel-driven engines.

The "Start/Stop" function in a V60 Plug-in Hybrid will vary depending on the selected drive mode, but it is mainly controlled by how the driver uses the accelerator pedal and brake pedal, as well as the hybrid battery's charging requirement. Exceptions are the AWD and POWER drive modes - when the diesel engine runs continuously.

Trip statistics

The car stores the statistics of consumed electricity/diesel related to mileage travelled, see page 237.

In addition to via the trip computer, the trip statistics can also be accessed via the **MY CAR** menu system:

- Go to **MY CAR** ➔ **Trip statistics** and confirm with **OK**.

Energy flow

The centre console's screen can graphically display whether the engine or motor is driving the car and how the electrical energy is flowing - whether the hybrid battery is charging or providing energy to the electric motor.

The function is activated in the menu system:

- Go to **MY CAR** ➔ **HYBRID** ➔ **Power flow** and confirm with **OK**.

Limitation due to low outside temperature

To avoid the risk of paraffin precipitate (see page 301) in the diesel fuel due to low thermal resistance, the car has a market-dependent function which automatically limits the option of using electric operation with the PURE or HYBRID drive mode in low temperatures. If such a situation occurs then the diesel engine will be running the whole time.

Diesel fuel thermal resistance is a measure of the usefulness of the fuel at low temperatures. Normally, the diesel fuel's thermal properties are adapted to the climate zone and season in which it is distributed and sold. See also information about diesel fuel on page 301.

The automatic limitation in low temperatures increases gradually depending on the age of the fuel in the tank. When the car has recently been refuelled there is no limitation, but it increases the older the fuel in the tank becomes, counted in months.

The purpose of the function is, in low outside temperatures, to allow the car to consume fuel at such a rate that fresh fuel - with the correct thermal resistance - can/must be added before the critical temperature for the current fuel is reached.

Fuel age

Old diesel fuel (from approx. 5 months and older) in combination with condensation can, in some circumstances, lead to algal and bacterial growth in the fuel system and/or oxidation of the fuel with the risk of operational disruption as a result.

To avoid such problems, the car has a built-in function which checks the age of the fuel. In connection with this, a self-explanatory text message may appear, for example:

- **Aged fuel Start diesel engine to consume fuel**
- **Aged fuel Engine will run to consume fuel**
- **Aged fuel Fill up fuel tank**

Follow the recommended action where appropriate.

Symbols and messages

This symbol illuminates in combination with a text message and an acoustic warning signal if an unbelted driver opens the driver's door with the diesel engine or electric motor running.

The same thing happens if an unbelted driver starts the engine with the driver's door open.

Here are some examples of messages, their meaning and suggestions for action:

Message	Specification	Action
PURE not available due to low hybrid system temperature	One or more components in the drive system have not reached the correct operating temperature.	Drive in HYBRID mode until the message changes to **PURE available** - then press the **PURE** button.
PURE not available due to temporary hybrid system limitations	Temporary system limitation, e.g. operating temperature not correct.	Drive in HYBRID mode until the message changes to **PURE available** - then press the **PURE** button.
PURE not available due to low battery charge	The hybrid battery's energy level is too low.	Drive in SAVE mode until the message changes to **PURE available** or charge the battery with 230 VAC - then press the **PURE** button.
PURE not available when gear lever in manual position	The gear selector is in manual "**+/-**" position.	Move the gear selector to the side, to automatic mode and then press the **PURE** button.
PURE available	The PURE mode is available again after the previous limitation.	–
POWER not available due to temporary hybrid system limitations	Temporary system limitation, e.g. operating temperature not correct.	–
SAVE not available due to temporary hybrid system limitations	Temporary system limitation, e.g. operating temperature not correct.	–
AWD not available due to temporary hybrid system limitations	Temporary system limitation, e.g. operating temperature not correct.	–

Gearboxes

General

A V60 Plug-in Hybrid is driven and operated in the same way as a car with a conventional internal combustion engine and automatic gearbox.

The exception is that with the gear selector in manual gear position (**+/-**) the diesel engine will always be running. The driver must then change manually and the car engine brakes when the accelerator pedal is released - see the heading "Geartronic - Manual gear positions (+/-)" page 129.

IMPORTANT

To prevent damage to any drive system components, the working temperature of the gearbox is checked. If there is a risk of overheating, a warning symbol in the combined instrument lights up and a text message is shown. Follow the recommendation given in the text message.

Start assistance on a hill - HSA*

The foot brake can be released before setting off or reversing uphill - the HSA (Hill Start Assist) function means that the car does not roll backwards.

The function means that the pedal pressure in the brake system remains for several seconds while the driver's foot is moved from brake pedal to accelerator pedal.

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

Gear shift indicator*

An essential detail in connection with environmental driving is to drive in the right gear and to change gear in good time.

An indicator is available as an aid on certain variants - GSI (Gear Shift Indicator) - which notifies the driver when it is appropriate to engage the next higher or lower gear in order to obtain the lowest possible fuel consumption. However, taking into consideration characteristics such as performance and vibration-free running, it may be advantageous to change gear at a higher engine speed. The framed number indicates the current gear.

Automatic gearbox

Combined instrument panel "Digital" with gear shift indicator.

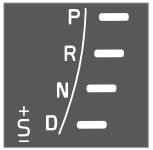
Automatic gearbox Geartronic

***D**: Automatic gear positions. **+/–**: Manual gear positions. **S**: Sport mode**.*

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

The combined instrument panel shows the position of the gear selector using the following indications: P, R, N, D, S*, 1, 2, 3 etc.

Gear positions



Automatic gear positions are indicated on the right of the combined instrument panel. (Only one marker is illuminated at a time - the one showing the current gear selector position.)

Symbol "**S**" for Sport mode is ORANGE when the mode is active.

Parking position - P

Select **P** position when starting the engine or when the car is parked.

- In order to be able to move the gear selector from **P** position, the brake pedal must first be depressed firmly.

NOTE

When starting the engine there is an automatic function check of the brake system when the driver depresses the brake pedal to take the gear selector from the P-position. During the function check the pedal travel is slightly longer than during normal braking.

The gearbox is mechanically blocked when the **P** position is engaged. Apply the parking brake as well, as a precaution - see page 136.

NOTE

The gear selector must be in **P** position to allow the car to be locked and alarmed.

IMPORTANT

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

WARNING

Always apply the parking brake when parking on a slope - the automatic transmission's **P** position is not sufficient to hold the car in all situation.

Reverse position - R

The car must be stationary when **R** position 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 **N** position.

Drive position - 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 **D** position from **R** position.

Geartronic – Manual gear positions (+S-)

With the gear selector in manual gear position "**+S-**" the diesel engine is permanently in operation. The driver must then change manually and the car engine brakes when the accelerator pedal is released.

The manual gear position is reached by moving the lever to the side from position **D** to the end position at "**+S-**". The combined instrument panel's symbol "**+S-**" changes colour from WHITE to ORANGE and the digits 1, 2, 3 etc. are displayed in a box, corresponding to the gear that has just been selected.

- Move the lever forward towards "**+**" (plus) to change up a gear and release it - the lever returns to its neutral position between "**+**" and "**–**".

or

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

The manual gearshift mode "**+S–**" can be selected at any time while driving.

Gearboxes

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**.

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 selector from **D** position to the end position at "**+S–**" - the combined instrument panel changes indication from **D** to the figure **1**[1].
2. Scroll up to gear **3** by pushing the lever forward towards "**+**" (plus) twice - the combined instrument panel changes 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.

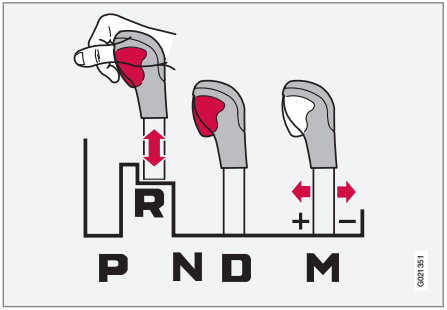
Safety function

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 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:

Parking position (P)

Stationary car with engine running:

[1] If the car has Sport mode* then "**S**" is shown first.

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

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

Electric gear inhibitor – Shiftlock

Parking position (P)

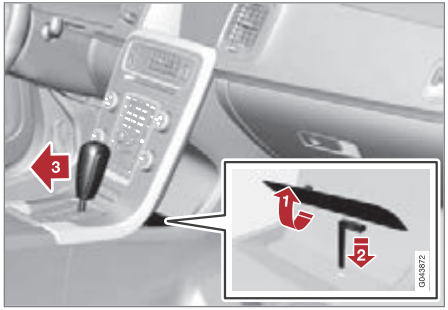
To be able to move the gear selector from **P** to other gear positions, the brake pedal must be depressed and the remote control key must be in position **II**, see page 84.

Shiftlock – Neutral (N)

If the gear selector is in **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 84.

Deactivate 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 locate a hole[2] for the key blade[3] in the bottom of the compartment.
2. Search for a spring-loaded button down in the hole with the key blade; depress the button with the blade and hold.
3. Move the gear selector from the **P** position and pull up the key blade.
4. Set the rubber mat back in place.

2 There may be 2 holes - one for the key blade and one that fixes the rubber mat.
3 For information on the key blade, see page 50.

All Wheel Drive - AWD

Use this button on the centre console to activate all-wheel drive AWD (All Wheel Drive), see page 124. The mode is primarily intended for use at low speed in slippery driving conditions.

To achieve the best possible traction and prevent wheel spin the motive force is distributed automatically to the wheels with the best grip. Under normal driving conditions, the majority of power is transmitted to the front wheels.

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 higher pedal pressure 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 travel is slightly longer and a higher pedal pressure 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 394.

Function check when the engine is started

A V60 Plug-in Hybrid is equipped with a so-called "brake by wire" brake system. After each time the engine is started there is an automatic function check of the brake system when the driver depresses the brake pedal to take the gear selector from the **P** position, see page 129. In connection with the function check, in some cases, the information display may show a message and a symbol, see examples in the table at the end of this section.

NOTE

During the function check the pedal travel is slightly longer than during normal braking.

Light braking - hybrid battery charging

The electric motor's engine brake is used during light braking. The car's kinetic energy is then converted to electrical energy instead, which is used to charge the hybrid battery. Battery charging with engine braking is indicated on the instrument panel display with animation, see page 75.

This function is active in the speed range 150-5 km/h - for harder braking, as well as outside the speed range, the braking is complemented by the hydraulic brake system.

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 10 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 99.

Foot brake

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.

Maintenance

To keep the car as safe and reliable as possible, follow the Volvo service intervals as specified in the Service and Warranty Booklet, see page 346.

IMPORTANT

The wear on the brake system's components must be checked regularly.

Contact a workshop for information about the procedure or engage a workshop to carry out the inspection - an authorised Volvo workshop is recommended.

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.

Symbols and messages

Symbol	Message	Meaning/Action
		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 - automatic function check.

Foot brake

Symbol	Message	Meaning/Action
	**Fully depress the brake pedal in order to leave the P-position**	Foot pressure on the brake pedal is too low. • Depress the pedal further.
	Brake pedal characteristics changed Service required	May be shown in very cold weather or if the gear selector has been moved from the **P** position with the brake pedal insufficiently depressed. • Switch off the engine by pressing the **START/STOP ENGINE** button - start the engine again and depress the brake pedal. If the error message remains: Contact a workshop - an authorised Volvo workshop is recommended.

Parking brake

General

Function

A faint electric motor noise can be heard when the electrical 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 121.

Applying the parking brake

Parking brake control - apply.

1. Press the foot brake pedal down firmly.
2. Press the control **PUSH LOCK/PULL RELEASE**.

   > The combined instrument panel's symbol starts flashing - once there is a constant glow the parking brake is applied.
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).

Emergency brake

In an emergency the parking brake can be applied when the vehicle is in motion by pressing and holding the control for **PUSH LOCK/PULL RELEASE**. The braking procedure is stopped when the control is released.

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

Always apply 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.

Disengaging the parking brake

Parking brake control - release.

Cars with manual gearbox

Releasing manually

1. Insert the remote control key in the ignition switch.[1]
2. Press the foot brake pedal down firmly.
3. Pull the control **PUSH LOCK/PULL RELEASE**.
   > The parking brake releases and the combined instrument panel's symbol extinguishes.

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. Engage 1st gear or reverse gear.
3. Ease up the clutch and depress the accelerator.
   > The parking brake releases and the combined instrument panel's symbol extinguishes.

Cars with automatic gearbox

Releasing manually

1. Insert the remote control key in the ignition switch.[1]
2. Press the foot brake pedal down firmly.
3. Pull the control **PUSH LOCK/PULL RELEASE**.
   > The parking brake releases and the combined instrument panel's symbol extinguishes.

Releasing automatically

1. Put the seatbelt on.
2. Start the engine.
3. Press the foot brake pedal down firmly.
4. Move the gear selector to position **D** or **R** and depress the accelerator.
   > The parking brake releases and the combined instrument panel's symbol extinguishes.

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 driving off. Release the control when the engine achieves traction.

[1] For a car with the Keyless system: Press **START/STOP ENGINE**.

Parking brake

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.

Symbols and messages

For information on how the combined instrument panel's text messages can be shown and deleted, see page 204.

Symbol	Message	Meaning/Action
(P)!	"Message"	• Read the combined instrument panel's message.
Ⓟ		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 combined instrument panel's message.
	Park brake not fully released	A fault is preventing the parking brake from being released: • Try to apply and release the brake. If the fault persists after a few attempts: • Visit a workshop - an authorised Volvo workshop is recommended. Note: A warning signal sounds if the journey is continued with this error message.

Symbol	Message	Meaning/Action
	Parking brake not applied	A fault is preventing the parking brake from being applied: • Try to release and apply the brake. If the fault persists after a few attempts: • Visit a workshop - an authorised 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: • Try to apply and release the brake. If the fault persists after a few attempts: • Visit a workshop - an authorised Volvo workshop is recommended.

- If the car has to be parked before a possible 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).

A text message can be acknowledged by briefly pressing the **OK** button on the direction indicator stalk.

HomeLink® *

General

HomeLink®[1] is a programmable remote control which can remotely control up to three different devices (e.g. garage door opener, alarm system, outdoor lighting and indoor lighting etc.) and in doing so replace their remote controls. For more information on HomeLink®, visit: www.homelink.com or ring 00 8000 466 354 65 (or premium rate phone number, +49 6838 907 277).

WARNING

- If HomeLink® is used to operate a garage door or gate, make sure that there is no-one in the vicinity of the door or gate while it is moving.
- The car should remain outside the garage while a garage door opener is being programmed.
- Do not use HomeLink® for any garage door that does not have safety stop and safety reverse.

Save the original remote controls for future programming (e.g. when changing to another car or for use in another vehicle). It is also recommended that the programming for the buttons is deleted when the car is sold. See the section "Resetting the HomeLink® buttons" on page 141.

Programming HomeLink®

NOTE

In certain vehicles the ignition must be switched on or in "accessory position" before HomeLink® can be programmed or used. If possible, fit new batteries in the remote control that shall be replaced by HomeLink® for faster programming and improved transmission of the radio signal. The HomeLink® buttons should be reset before programming. When this has been done HomeLink® is set in "learn mode" and ready for programming.

1. Aim the original remote control towards the HomeLink® button to be programmed and hold it 5-14 cm from the button. Do not obstruct the indicator lamp on HomeLink®.
2. Depress the button on 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. Both the buttons must be released when the indicator lamp flashes quickly.

[1] HomeLink and the HomeLink house symbol are registered trademarks of Johnson Controls, Inc.

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

3. **Depress the HomeLink® button being programmed, hold it depressed for 5 seconds and then release it.** Repeat if necessary until the garage door is activated. If the door is not activated, press the programmed HomeLink® button and hold it depressed and check 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. In which case, continue with the programming steps 4-6 in order to complete the programming of a device with rolling code (usually a garage door opener).
4. Locate the "programming button[2]" on the receiver for the garage door for example, normally located close to the antenna's bracket on the receiver.
5. Depress and release the receiver's "programming button". The button flashes for approx. 30 seconds and the next step must be carried out within this period.
6. While the receiver's "programming button" is still flashing, press the button on HomeLink® being programmed and hold it depressed for approx. 2 seconds and then release it. Repeat the press/hold/release sequence up to 3 times to conclude the programming.

Operation

When HomeLink® is fully programmed it can be used in place of the separate original remote controls.

Press the programmed button and hold it depressed until the garage door, alarm system, etc. is activated (may take several seconds). Naturally the original remote controls can still be used in parallel with HomeLink® if required.

NOTE

If the ignition is switched off, HomeLink® will work for 30 minutes after the driver's door has been opened.

If programming problems persist, contact HomeLink® on: www.homelink.com or ring 00 8000 466 354 65 (or premium rate phone number +49 6838 907 277).

Resetting the HomeLink® buttons

It is only possible to reset all of the HomeLink® buttons at the same time, not each button individually. However, individual buttons can be reprogrammed, see the following section "Programming individual buttons".

1. Depress the two outer buttons on HomeLink® and do not release until the indicator lamp starts to flash.
2. Release the buttons.
   > HomeLink® is now set in so-called "learn mode" and is ready to be reprogrammed, see section "Programming HomeLink ® " on page 140.

[2] Button designation and colour vary depending on manufacturer.

HomeLink® *

Programming individual buttons

To reprogram an individual HomeLink® button, proceed as follows:

1. Depress the required button and **do not release**.
2. When the indicator lamp on HomeLink® starts to flash, after approx. 20 seconds, start with step 1 in section "Programming HomeLink ® " on page 140.

For more information or to leave comments about HomeLink®, visit: www.homelink.com or ring 00 8000 466 354 65 (or premium rate phone number +49 6838 907 277).

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

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

04

DRIVER SUPPORT

DSTC – Stability and traction control system

General information on DSTC

The stability and traction control system, DSTC (Dynamic Stability & 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.

Corner Traction Control – CTC

CTC compensates for understeer and allows higher than normal acceleration in a bend without wheelspin on the inner wheel, e.g. on an arcing motorway entrance road to quickly reach the prevailing traffic speed.

Trailer stabiliser - TSA[1]

The function serves to stabilise the car and trailer combination if it begins to snake, see page 321.

NOTE

The function is deactivated if the driver selects **Sport** mode.

Operation

Selection of level - Sport mode

The DSTC system is always activated - it cannot be deactivated.

However, the driver can select the **Sport** mode, which allows for a more active driving experience. In **Sport** mode the system detects whether the accelerator pedal, steering wheel movements and cornering are more active than in normal driving and then allows controlled skidding with the rear section up to a certain level before it intervenes and stabilises the car.

If the driver stops a controlled skid by releasing the accelerator pedal then the DSTC system intervenes and stabilises the car.

With **Sport** mode, maximum traction is obtained if the car has become stuck, or when driving on a loose surface - e.g. sand or deep snow.

Proceed as follows to select **Sport** mode:

1. Press the centre console button **MY CAR** and search in the screen's menu system and locate **My V60 ➔ DSTC**. (For information on the menu system, see page 206).
2. Uncheck the box and back out of the menu system with **EXIT**.
   > The system then allows a more sporty driving style.

The **Sport** mode is active until the driver deselects it or until the engine is switched off - after the engine is started the next time the DSTC system is back in its normal mode again.

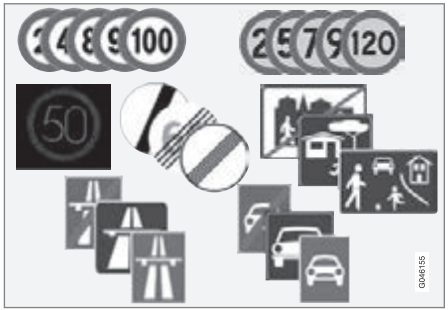
[1] Included in the installation of Volvo genuine towbar.

Symbols and text messages

Symbol	Message	Specification
	DSTC Temporarily OFF	DSTC system temporarily reduced due to excessive brake disc temperature. - The function is reactivated automatically when the brakes have cooled.
	DSTC Service required	DSTC system disengaged. • Stop the car in a safe place, switch off the engine and start it again. • Visit a workshop if the message remains - an authorised Volvo workshop is recommended.
 and 	"Message"	There is a text message in the combined instrument panel - Read it!
	Constant glow for 2 seconds.	System check when the engine is started.
	Flashing light.	DSTC system is being activated.
		**Sport** mode is activated.

Road sign information - RSI*

General information on RSI



Examples of readable speed-related[1] signs.

The Road sign information function (RSI – Road Sign Information) helps the driver to remember which road signs the car has passed through information on - among other things - the current speed, the start/end of a motorway or road, and when overtaking is prohibited.

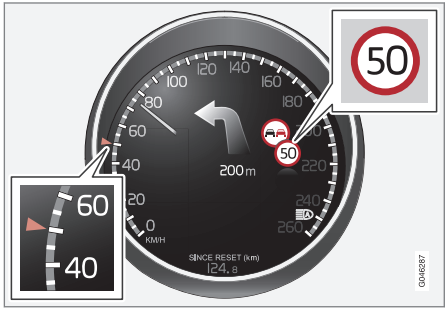
If both a sign for motorway/road for motorised traffic and a sign showing the maximum permitted speed are passed, RSI decides to show the sign symbol for maximum permitted speed.

WARNING

RSI does not work in all situations but is designed merely as a supplementary aid.

The driver always bears ultimate responsibility for ensuring that the vehicle is driven safely and that applicable road traffic rules and regulations are followed.

Operation



Recorded speed information[1].

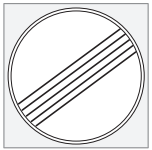
When RSI has recorded a road sign with an imposed speed, the combined instrument panel displays the sign as a symbol.

Together with the symbol for the current speed limit, a sign showing that overtaking is prohibited may also be displayed where appropriate.

End of restriction or motorway

A corresponding road sign is shown in the combined instrument panel for approx. 10 seconds in situations where RSI detects a sign that involves the end of a speed limit - or other speed-related information, e.g. end of a motorway.

Examples of such signs are:



End of all restrictions.

End of motorway.

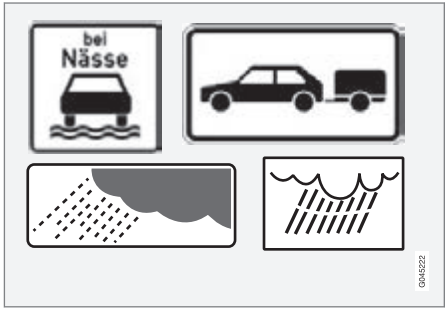
[1] Road signs shown in the combined instrument panel are market-dependent - the illustrations in the manual only show a few examples.

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

Road sign information - RSI*

Following which, the sign information is hidden until the next speed-related sign is detected.

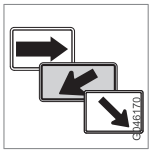
Additional signs



Examples of additional signs[1].

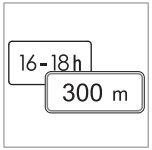
Sometimes different speed limits are signposted for the same road - an additional sign then indicates the circumstances under which the different speeds apply. The road section may be particularly susceptible to accidents in rain and/or fog, for example.

An additional sign relating to rain is displayed only if the windscreen wipers are in use.



The speed applicable on an exit is indicated in certain markets by means of an additional sign containing an arrow.

Speed signs linked to this type of additional sign are displayed only if the driver is using the direction indicator.



Some speeds are applicable only after e.g. a specific distance or at a certain time of day. The driver's attention is drawn to the situation by means of a symbol for an additional sign under the symbol showing speed.

Display of additional information

A symbol for additional sign in the form of an empty frame under the combined instrument panel's speed symbol means that the RSI has detected an additional sign with supplementary information for the current speed limit.

Setting in MY CAR

There are options for RSI in the **MY CAR** menu system, see page 207.

Road sign information On/Off

The combined instrument panel's speed symbol display can be disabled. To deactivate the RSI function:

- Uncheck the option **Road Sign Information**(Road Sign Information On) at **Settings** ➔ **Car settings** ➔ **Road Sign Information** and go back out using **EXIT**.

[1] Road signs shown in the combined instrument panel are market-dependent - the illustrations in the manual only show a few examples.

Road sign information - RSI*

Speed warning

The driver can opt to receive a warning when the applicable speed limit is exceeded by 5 km/h or more. This warning is given by the symbol showing the applicable maximum speed temporarily flashing when this speed is exceeded.

To activate speed warning:

- Check the option **Speed alert** (Speed Alert) at **Settings** ➔ **Car settings** ➔ **Speed alert** and go back out using **EXIT**.

Limitations

The RSI function's camera sensor is limited - just like the human eye. Find out more about this on page 180.

Signs which indirectly provide information on a prevailing speed limit, e.g. name signs for towns/districts, are not recorded by the RSI function.

Here are several examples of what can disrupt the function:

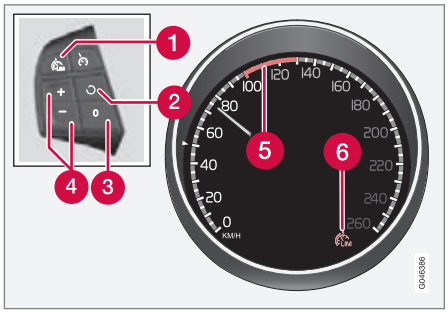
- Faded signs
- Signs positioned on bends
- Rotated or damaged signs
- Concealed or poorly positioned signs
- Signs completely or partly covered with frost, snow and/or dirt.

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

General information on the speed limiter

A speed limiter (Speed Limiter) can be regarded as a reverse cruise control - the driver regulates the speed using the accelerator pedal but is prevented from accidentally exceeding a pre-selected/set speed by the speed limiter.

Operation



Steering wheel keypad and combined instrument panel.

1. Speed limiter - On/Off.
2. Standby mode ceases and the stored speed is resumed.
3. Standby mode
4. Activate and adjust the maximum speed.
5. Selected speed
6. Speed limiter active

Switch on and activate

When the speed limiter is active, its symbol (6) is shown in combination with a mark (5) by the set maximum speed in the combined instrument panel.

Selection and storage of the highest possible speed in the memory can be made both during a journey and while stationary.

While driving

1. Press the steering wheel button to switch on the speed limiter.
   > The symbol (6) for speed limiter illuminates in the combined instrument panel.
2. When the car is moving at the desired highest possible speed: Press one of the steering wheel buttons + or − until the combined instrument panel shows a mark (5) by the desired maximum speed.
   > The speed limiter is then active and the selected max. speed is stored in the memory.

When stationary

1. Press the steering wheel button to switch on the speed limiter.
2. Scroll with the + button until the combined instrument panel shows a mark (5) by the desired maximum speed.
   > The speed limiter is then active and the selected max. speed is stored in the memory.

Changing the speed

To change the stored speed:

- Adjust with short presses on + or − - every press gives +/- 5 km/h. The last presses made are stored in the memory.

To adjust +/- 1 km/h:

- Hold the button depressed and release when the combined instrument panel shows a mark (5) by the desired maximum speed.

Temporary deactivation - standby mode

To temporarily deactivate the speed limiter and set it in standby mode:

– Press 0.
   > The mark (5) in the combined instrument panel changes colour from GREEN to WHITE and the driver can

Speed limiter

temporarily exceed the set maximum speed.

The speed limiter is reactivated with one press on . The mark (5) then changes colour from WHITE to GREEN and the car's maximum speed is limited once again.

Temporary deactivation with the accelerator pedal

The speed limiter can also be set in standby mode with the accelerator pedal, e.g. for rapidly accelerating the car out of a situation:

– Depress the accelerator pedal fully.
  > The combined instrument panel shows the stored maximum speed with a coloured mark (5) and the driver can temporarily exceed the set maximum speed - the mark (5) changes colour during this time from GREEN to WHITE.

  The speed limiter is automatically reactivated after the release of the accelerator pedal and the car's speed is slowed down to below the selected/stored maximum speed - the mark (5) changes colour from WHITE to GREEN and the car's maximum speed is limited once again.

Alarm for speed exceeded

On steep downhill gradients the engine braking effect may be inadequate and the selected maximum speed exceeded. The driver is alerted about this with an acoustic signal.

The signal is active until the driver has slowed to below the selected maximum speed.

NOTE

The alarm is only activated after 5 seconds if the speed has been exceeded by at least 3 km/h provided that none of the buttons – or has been depressed during the last half minute.

Deactivate

To deactivate the speed limiter:

– Press the steering wheel button .
  > The combined instrument panel's symbol for the speed limiter (6) and the mark for the set speed (5) are extinguished. The selected and stored speed are thus deleted from the memory and cannot be resumed with the button.

  The driver can then use the accelerator pedal to choose a speed without limitation.

General information on CC

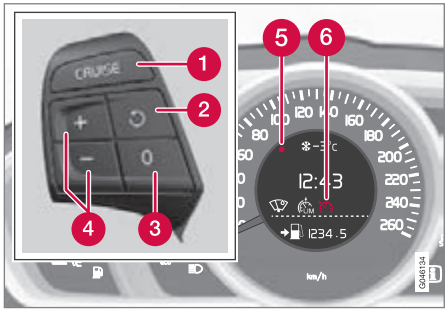
The cruise control (CC – Cruise Control) helps the driver maintain an even speed, resulting in a more relaxed driving on motorways and long, straight roads in regular traffic flows.

WARNING

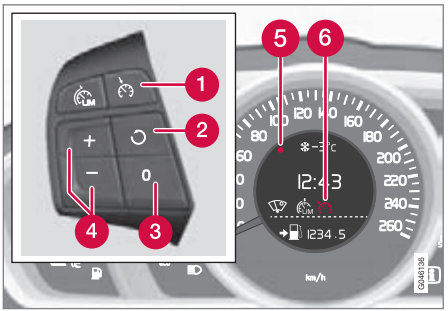
The driver must always be observant with regard to the traffic conditions and intervene when the cruise control is not maintaining a suitable speed and/or suitable distance.

The driver always bears ultimate responsibility for ensuring that the vehicle is driven safely.

Operation



*The steering wheel buttons and display in cars **without** speed limiter*[1].



*The steering wheel buttons and display in cars **with** speed limiter*[1].

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 (GREY = Standby mode).
6. Cruise control active - WHITE symbol (GREY = Standby mode).

Activating and setting the speed

To enable cruise control:

- Press the steering wheel button.

[1] A Volvo dealer has updated information about what applies in each respective market.

Cruise control*

> The cruise control symbol (6) in the combined instrument panel changes from GREY to WHITE and shows that the cruise control is in standby mode.

To activate cruise control:

- At the required speed - press the steering wheel button + or −.

> The current speed is stored in the memory and the combined instrument panel's marking (5) is illuminated at the selected speed.

NOTE

Cruise control cannot be engaged at speeds below 30 km/h.

Changing the speed

To change the stored speed:

- Adjust with short presses on + or − - every press gives +/- 5 km/h. The last presses made are stored in the memory.

To adjust +/- 1 km/h:

- Hold the button depressed and release it at the desired 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 set speed when the accelerator pedal is released.

NOTE

If any of the Cruise Control buttons are held depressed for several minutes then it is blocked and deactivated. To be able to reactivate Cruise Control, the car must be stopped and the engine restarted.

Temporary deactivation - standby mode

To temporarily disengage cruise control and set it in standby mode:

- Press the steering wheel button 0.

> The combined instrument panel's marking (5) and symbol (6) change colour from WHITE to GREY.

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

To reactivate the cruise control from standby mode:

- Press the steering wheel button ↺.

> The combined instrument panel's marking (5) and symbol (6) change colour from GREY to WHITE and the speed is then set to the last speed stored.

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 (1) or by switching off the engine - the set speed is deleted from the memory and cannot be resumed with the ↺ button.

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

General information on ACC

The adaptive cruise control (ACC – Adaptive Cruise Control) helps the driver maintain a safe distance from the vehicle ahead. Adaptive cruise control 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 instead by Distance Warning (see page 166) 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.

Read the whole of this section for information on the limitations of the adaptive cruise control. The driver must be familiar with this information 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.

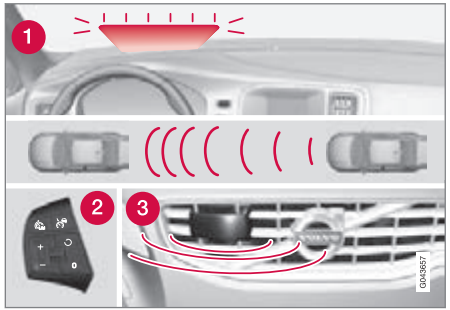
IMPORTANT

Maintenance of adaptive cruise control components must only be performed at a workshop - an authorised Volvo workshop is recommended.

Automatic gearbox

Cars with automatic gearbox have enhanced functionality with the adaptive cruise control's Queue Assistant, see page 160.

Function



Function overview[1].

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.

1 NOTE: The illustration is schematic - details may differ depending on car model.

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 the adaptive cruise control.

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 adaptive cruise control aims to control the speed in a smooth way. In situations that demand sudden 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 161.

The adaptive cruise control can be activated to follow another vehicle at speeds from 30 km/h[2] 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 more than 40% 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 the illustration on page 175) to alert the driver that immediate intervention is required.

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. It may have difficulty in keeping the correct distance from the vehicle ahead when driving on steep downhill gradients, with a heavy load or with a trailer - in which case, be extra attentive and ready to slow down.

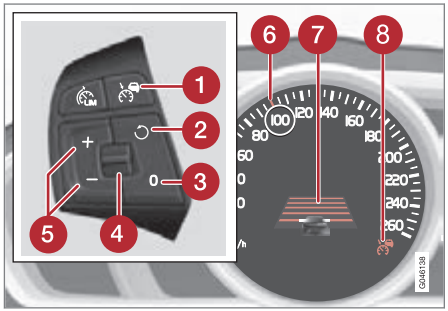
2 Queue Assistant (in cars with automatic gearbox) can operate in the range of 0-200 km/h, see page 160.

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

Operation

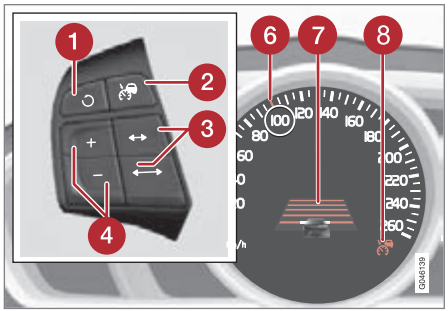
The steering wheel keypad is different depending on whether or not the car is equipped with Speed limiter[3].

WITH Speed limiter



1. Cruise control - On/Off.
2. Standby mode ceases and the stored speed is resumed.
3. Standby mode
4. Time interval - Increase/decrease.
5. Activate and adjust the speed.
6. Green marking by the stored speed (WHITE = standby mode).
7. Time interval
8. ACC is active with GREEN symbol (WHITE = standby mode).

WITHOUT Speed limiter



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. (Not used)
6. Green marking by the stored speed (WHITE = standby mode).
7. Time interval
8. ACC is active with GREEN symbol (WHITE = standby mode).

Activating and setting the speed

To enable cruise control:

- Press the steering wheel button - a similar WHITE symbol illuminates in the combined instrument panel (8) which shows that cruise control is in standby mode.

To activate cruise control:

- At the required speed - press the steering wheel button + or −.

> The current speed is stored in memory, the combined instrument panel shows a "magnifying glass" around the selected speed for a few seconds and its marking (6) changes from WHITE to GREEN.

When this symbol changes colour from WHITE to GREEN the cruise control is active and the car maintains the stored speed.

[3] A Volvo dealer has updated information about what applies in each respective market.

Adaptive cruise control*

Only when the symbol shows the image of another vehicle is the **distance** to the vehicle ahead regulated by the cruise control.

At the same time a speed interval is marked:

- the higher speed with the GREEN marking (6) is the pre-programmed speed
- the lower speed is the speed of the car in front.

Changing the speed

To change the stored speed:

- Adjust with short presses on + or − - every press gives +/- 5 km/h. The last presses made are stored in the memory.

  If speed is increased using the accelerator pedal prior to pressing the +/− button, then it is the car's current speed when the button is pressed that is stored in the cruise control.

To adjust +/- 1 km/h:

- Hold the button depressed and release it at the desired speed.

NOTE

If any of the Cruise Control buttons are held depressed for several minutes then it is blocked and deactivated. To be able to reactivate Cruise Control, the car must be stopped and the engine restarted.

In certain situations, cruise control cannot be activated. In this case, the combined instrument panel shows **Cruise control Unavailable**, see page 164.

Set time interval

Different time intervals to the vehicle in front can be selected and shown in the combined instrument panel as 1-5 horizontal lines - the more lines the longer the time interval. One line corresponds to approximately 1 second to the vehicle in front, 5 lines approximately 3 seconds.

To set/change the time interval:

- Turn the steering wheel keypad's thumbwheel (or use the ⟷/↔ buttons for a car without speed limiter).

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.

Note that a short time interval only allows the driver a short time to react and take action if any unforeseen traffic problem should arise.

The same symbol is also shown when Distance Warning is activated, see page 166.

NOTE

Only use the time intervals permitted by local traffic regulations.

If Cruise Control does not appear to react when activated, this may be because the time distance to the car in front is preventing an increase in speed.

The higher the speed the longer the calculated distance in metres for a given time interval.

Temporary deactivation - standby mode

To temporarily disengage the adaptive cruise control and set it in standby mode:

- Press the steering wheel button 0.

This symbol and the stored speed's marking then change colour from GREEN to WHITE.

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

Keypad without Speed limiter*

To temporarily disengage the adaptive cruise control and set it in standby mode:

- Press the steering wheel button .

Standby mode due to driver intervention

Cruise control is temporarily disengaged and set in standby mode if:

- the foot brake is used
- the gear selector is moved to **N** 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 DSTC (see page 146). 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 **Cancelled** is shown in the combined instrument panel. The driver must then intervene and adapt the speed and distance to the vehicle ahead.

An automatic deactivation can be due to:

- the driver opens the door
- the driver takes off the seatbelt
- engine speed is too low/high
- speed has fallen below 30 km/h[4]
- 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

Adaptive cruise control in standby mode is reactivated 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 .

Overtaking another vehicle

When the car is following another vehicle and the driver indicates an impending overtaking manoeuvre with the direction indicator[5], the adaptive cruise control helps to briefly accelerate the car towards the vehicle in front.

This function is active at speeds above 70 km/h.

WARNING

Be aware that this function can be activated in more situations other than during overtaking, e.g. when a direction indicator is used to indicate a change of lane or exit to another road - the car will then accelerate briefly.

Deactivate

Keypad with Speed limiter

The adaptive cruise control is switched off with the steering wheel button . The set speed is cleared and cannot be resumed with the button.

Keypad without Speed limiter

With a short press on the steering wheel button the adaptive cruise control is set in standby mode. With a further short press it is

4 Does not apply to a car with Queue Assistant - it manages right down to stationary.
5 On left flash only in left-hand-drive car, or right flash in right-hand-drive car.

Adaptive cruise control*

deactivated. The set speed is cleared and cannot be resumed with the button.

Changing from ACC to CC

With one press of the button the adaptive part (spacing system) in the cruise control is deactivated, at which point the car just follows the set speed.

- Give a **long** press on the steering wheel button - the combined instrument panel's symbol changes from to .

> By these means the standard cruise control CC (Cruise Control) is activated, see page 153.

WARNING

The car no longer brakes automatically after switching from ACC to CC - it merely follows the set speed.

Changing back from CC to ACC

Deactivate CC with 1-2 presses on in accordance with the previous heading "Deactivate". The next time the system is switched on, it is the ACC that is activated.

Queue Assistant

The adaptive cruise control is supplemented by the Queue Assist function (also called "Queue Assist").

Queue Assistant has the following functions:

- Extended speed range - also below 30 km/h and at standstill
- Change of target
- Automatic braking ceases when stationary
- Automatic activation parking brake.

Note that the lowest programmable speed for the adaptive cruise control is 30 km/h - even though it is capable of following another vehicle down to a standstill, a lower speed **cannot** be selected.

Extended speed range

NOTE

In order to activate the cruise control the driver's door must be closed and the driver must be wearing the seatbelt.

The adaptive cruise control can follow another vehicle within the range 0-200 km/h.

NOTE

Activation of the cruise control below 30 km/h requires a vehicle in front within a reasonable distance.

For shorter stops in connection with inching in slow traffic or at traffic lights driving is automatically resumed if the stops do not exceed approx. 3 seconds - if it takes longer before the car in front starts moving again then the cruise control is set in standby mode with automatic braking. The driver must then reactivate it in one of the following ways:

- Press the steering wheel button .

or

- Depress the accelerator pedal.

> The cruise control will then resume following the vehicle in front.

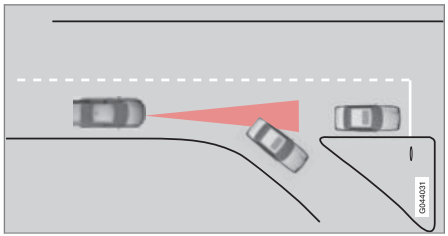
NOTE

Queue Assist can hold the car stationary for a maximum of 4 minutes - then the parking brake is applied and Cruise Control is disengaged.

- The driver has to release the parking brake before the cruise control can be reactivated.

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

Change of target



If the target vehicle in front suddenly turns then there may be stationary traffic in front.

When the adaptive cruise control is following another vehicle at speeds **below** 30 km/h and changes target from a moving to a stationary vehicle, the cruise control will slow down for the stationary vehicle.

WARNING

When the cruise control is following another vehicle at speeds **in excess of** 30 km/h and the target is changed from a moving vehicle to a stationary vehicle, the cruise control will ignore the stationary vehicle and instead select the stored speed.

- The driver must intervene him/herself and brake.

Automatic standby mode with change of target

The adaptive cruise control is disengaged and set in standby mode:

- when the speed is below 5 km/h and cruise control is not sure whether the target object is a stationary vehicle or some other object, e.g. a speed bump.
- when the speed is below 5 km/h and the vehicle in front turns off so the cruise control no longer has a vehicle to follow.

Termination of automatic braking at a standstill

In certain situations, Queue Assist stops automatic braking at a standstill. This means that the brakes are released and the car may start to roll - the driver must therefore intervene and brake the car himself/herself in order to maintain its position.

Queue Assist releases the foot brake and sets the adaptive cruise control in standby mode in the following situations:

- the driver puts his/her foot on the brake pedal
- the parking brake is applied
- the gear selector is moved to **P**, **N** or **R** position
- the driver sets the cruise control in standby mode.

Automatic activation parking brake

In certain situations Queue Assist applies the parking brake in order to keep the car remaining stationary.

This takes place if:

- the driver opens the door or takes off his/her seatbelt
- DSTC is changed from **Normal** to **Sport** mode
- Queue Assist has held the car stationary for more than 4 minutes
- the engine is switched off
- the brakes have overheated.

The radar sensor and its limitations

The radar sensor is used - apart from by Adaptive cruise control - by the following functions as well:

- Collision Warning with Auto Brake, see page 175
- Distance Warning, see page 166.

The function of the radar sensor is to detect cars or larger vehicles in the same direction, in the same lane.

Adaptive cruise control*

IMPORTANT

In the event of visible damage to the car's grille, or if you suspect that the radar sensor may be damaged:

- Contact a workshop - an authorised Volvo workshop is recommended.

The function may completely or partially disappear - or malfunction - if the grille, the radar sensor or its bracket is damaged or has loosened.

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.

Read the whole of this section for information on the limitations of the adaptive cruise control. The driver must be familiar with this information 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

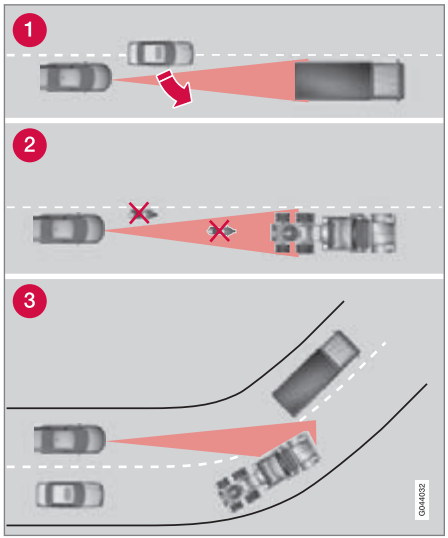
Keep the surface in front of the radar sensor clean - see page 178, "Maintenance".

- if the speed of vehicles in front is significantly different from your own speed.

Examples where the adaptive 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.

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



ACC field of vision.

1. Sometimes the radar sensor is late at detecting 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 combined instrument panel 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 cannot be detected.

In turn this means that - apart from Adaptive Cruise Control - Distance Warning and Collision Warning with Auto Brake functions are not operating either.

The following table presents examples of possible causes for a message being shown along with the appropriate action.

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.

Adaptive cruise control*

Cause	Action
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

Symbol	Message	Specification
	The symbol is GREEN	The car maintains the stored speed.
	The symbol is WHITE	The Adaptive cruise control is set in standby mode.
		Standard cruise control is selected manually.
	DSTC Normal to enable Cruise	The adaptive cruise control cannot be activated until the Stability and Traction Control system (DSTC) has been set in Normal mode - see page 146.
	Cruise control Cancelled	The adaptive cruise control has been deactivated - the driver has to regulate the speed himself.
	Cruise control Unavailable	The adaptive cruise control cannot be activated. This could be due to: • brake temperature is high • the radar sensor is blocked by e.g. wet snow or rain.

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

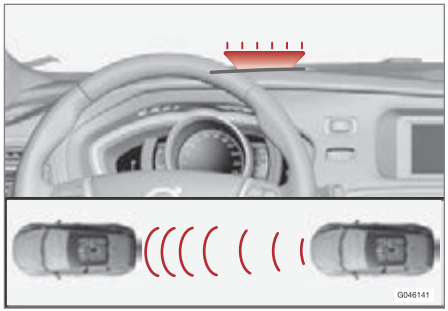
Symbol	Message	Specification
	**Radar blocked See manual**	The adaptive cruise control is temporarily disengaged. • The radar sensor is blocked and cannot detect other vehicles. For example, in the event that heavy rain or if slush has collected in front of the radar sensor. The driver can then choose to change to normal Cruise control (CC), see page 160 - a text message informs about appropriate options. Read about the limitations of the radar sensor, see page 161.
	Cruise control Service required	The adaptive cruise control is disengaged. • Contact a workshop - an authorised Volvo workshop is recommended.
	Press Brake To hold + acoustic alarm (Only with Queue Assistant)	The car is stationary and the cruise control will release the foot brake to allow the parking brake to take over and hold the car, but a fault in the parking brake means the car will shortly begin to roll. • The driver must brake himself/herself. The message remains and the alarm sounds until the driver depresses the brake pedal or uses the accelerator pedal.
	Below 30 km/h Only following (Only with Queue Assistant)	Shown with attempts to activate the cruise control at speeds below 30 km/h without a vehicle in front within the activation distance (approx. 30 metres).

Distance Warning*

General

Distance Warning (Distance Alert) is a function that informs the driver about the time interval to vehicles in front.

Distance Warning 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.



Orange warning lamp[1].

An orange 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.

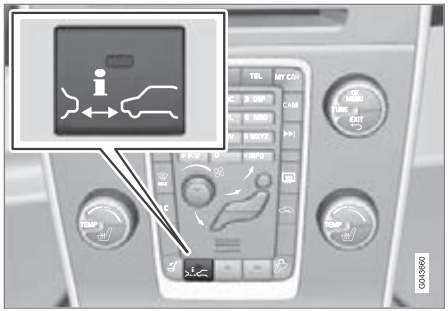
NOTE

Distance warning is deactivated during the time the adaptive cruise control is active.

WARNING

Distance warning 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.

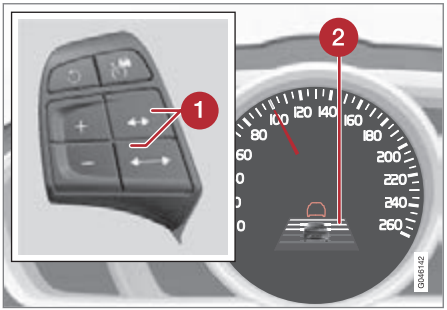
Operation



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.

Some combinations of the selected equipment leave no vacant space for a button in the centre console - in which case the function is handled by the car's menu system **MY CAR** under **Settings ➔ Car settings ➔ Distance Alert**. For a description of the menu system - see page 206.

Set time interval



Controls and symbol for time interval.

1. Time interval - Increase/decrease.
2. Time interval - On.

[1] NOTE: The illustration is schematic - details may vary depending on car model.

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

Distance Warning*

Different time intervals to the vehicle in front can be selected and shown in the combined instrument panel as 1-5 horizontal lines - the more lines the longer the time interval. One line corresponds to approximately 1 second to the vehicle in front, 5 lines approximately 3 seconds.

The same symbol is also shown when adaptive cruise control is activated.

NOTE

The higher the speed the longer the calculated distance in metres for a given time interval.

The set time interval is also used by the Adaptive Cruise Control function, see page 158.

Only use the time intervals permitted by local traffic regulations.

Limitations

The function uses the same radar sensor as adaptive cruise control and the collision warning system with auto brake. For more information on the radar sensor and its limitations, see page 161.

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.

Distance Warning*

Symbols and text messages

Symbol[A]	Message	Specification
	Radar blocked See manual	Distance Warning temporarily disengaged. The radar sensor is blocked and cannot detect other vehicles, e.g. in the event of heavy rain or if slush has collected in front of the radar sensor. Read about the limitations of the radar sensor, see page 161.
	Collision warn. Service required	Distance Warning and Collision Warning with Auto Brake fully or partially disengaged. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

A Symbols are schematic - may vary by market and car model.

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

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 under 50 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 175.

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.

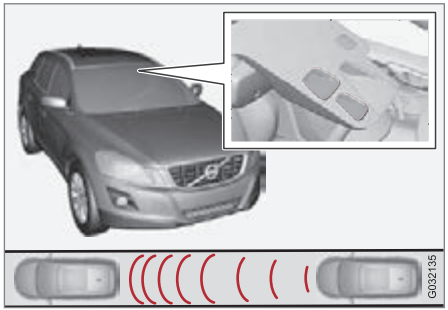
City Safety™ does not react to vehicles driving in a different direction from the car, to small vehicles and motorcycles or to humans and animals.

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.

City Safety™

Function



Laser sensor transmitter and receiver window[1].

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.

If the difference in speed between the vehicles is greater than 15 km/h then City Safety™ may not prevent the collision on its own. To obtain full brake force, the driver must depress the brake pedal. This could then make it possible to prevent a collision, even at speed differences above 15 km/h.

When the function is activated and brakes, the combined instrument panel shows a text 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 84 on key positions).

On and Off

In certain situations, it may 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:

- Using **MY CAR** in the centre console's screen with its menu system, search and locate **Settings ➔ Car settings ➔ Driver support systems ➔ City Safety**. Select the **Off** option. For more information on the menu system **MY CAR**, see page 206.

  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.

[1] NOTE: The illustration is schematic - details may vary depending on car model.

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 - or none at all - in e.g. heavy snowfall or rain, dense fog, dust storms or white-out situations. 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 laser 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 your own car is reversing, City Safety™ is temporarily deactivated.

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 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 on page 170).
- 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 in the combined instrument panel 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.

City Safety™

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.

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 replacement of the windscreen (see the illustration for sensor location, page 170) - an authorised Volvo workshop is recommended.

Failure to take action may result in reduced performance for City Safety™.

To avoid the risk of failed, deficient or reduced operation for City Safety™, the following also applies:

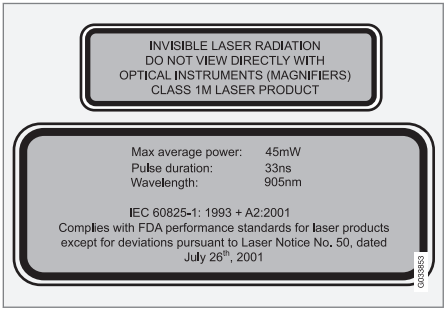
- Volvo recommends that you do **not** repair cracks, scratches or stone chips in the area in front of the laser sensor - instead, the whole windscreen should be replaced.
- Before replacing a windscreen, contact an authorised Volvo workshop to verify that the correct windscreen is ordered and fitted.
- 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. The illustration on page 170 shows sensor location.

Contact a qualified workshop in the event of a fault or if the laser sensor needs servicing - an authorised Volvo workshop is recommended. It is absolutely essential to follow the prescribed instructions when handling the laser sensor.

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



The upper label in the illustration describes the classification of the laser light:

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

The lower label in the illustration describes the physical data for the laser light:

- 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° × 12°

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 84 on key positions).

Symbols and text messages

In conjunction with automatic braking by the City Safety™ system, one or more symbols may illuminate in the combined instrument panel and a text message may be shown.

A text message can be acknowledged by briefly pressing the **OK** 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	The laser sensor is temporarily non-operational because something is blocking it. • Remove the object blocking the sensor and/or clean the windscreen in front of the sensor. Read about the limitations of the laser sensor, see page 171.
	City Safety Service required	City Safety™ is not operational. • Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

Collision Warning with Auto Brake & Pedestrian Protection*

General

"Collision Warning with Auto Brake & Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian or vehicle in front that is stationary or moving in the same direction.

Collision Warning with Auto Brake & Pedestrian Detection is activated in situations where the driver should have started braking earlier, which is why it cannot help the driver in every situation.

Collision Warning with Auto Brake & Pedestrian Detection is designed to be activated as late as possible in order to avoid unnecessary intervention.

Collision Warning with Auto Brake & Pedestrian Detection may prevent a collision or reduce the collision speed.

Collision Warning with Auto Brake & Pedestrian Detection 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.

Two system levels

Depending on how the car equipped, the Collision Warning with Auto Brake & Pedestrian Detection function may appear in two variants: **Level 1** and **Level 2**.

Level 1

The driver is merely warned of occurring obstacles by means of visual and acoustic signals - no automatic braking intervenes, the driver must himself brake.

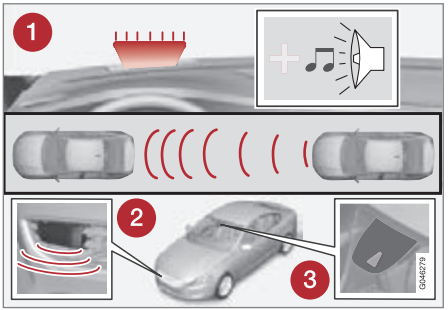
Level 2

The driver is warned of occurring obstacles by means of visual and acoustic signals - the car is braked automatically if the driver himself does not act within a reasonable time.

IMPORTANT

Maintenance of components included in Collision Warning with Auto Brake & Pedestrian Detection must only be carried out in a workshop - an authorised Volvo workshop is recommended.

Function



Function overview[1].

1. Audio-visual warning signal in the event of a collision risk.
2. Radar sensor[2]
3. Camera sensor

Collision Warning with Auto Brake executes three steps in the following order:

1. **Collision warning**
2. **Brake support**[2]
3. **Auto Brake**[2]

1 NOTE: The illustration is schematic - details may vary depending on car model.
2 With system Level 2 only.

Collision Warning with Auto Brake & Pedestrian Protection*

The collision warning system and City Safety™ complement each other. For more information on City Safety™, see page 169.

1 - Collision warning

The driver is first warned of a potentially imminent collision.

The collision warning system detects pedestrians, stationary vehicles as well as vehicles driving in the same direction in front of the car.

If there is a risk of collision with a pedestrian or a vehicle, the driver's attention is attracted with a flashing red warning signal (no. [1] in the illustration on page 175) and an acoustic signal.

2 - Brake support[2]

If the risk of collision has increased further after the collision warning then the brake support is activated.

This means that the brake system is prepared for rapid braking by applying the brakes lightly, which may feel like a slight jolt.

If the brake pedal is depressed sufficiently quickly then full brake function is implemented.

Brake support also reinforces the driver's braking if the system considers that the braking is not sufficient to avoid a collision.

3 - Auto Brake[2]

The automatic brake function is activated last.

If in this situation the driver has not yet started to take evasive action and the risk of collision is imminent then the automatic braking function is deployed - this takes place irrespective of whether or not the driver brakes. Braking then takes place with full brake force in order to reduce collision speed, or with limited brake force if it is sufficient to avoid a collision.

WARNING

The collision warning system does not engage in all driving situations or traffic, weather or road conditions. The collision warning system does not react to vehicles driving in another direction to the car or to animals.

Warning only activated in the event of a high risk for collision. This section "Function" and the section "Limitations" inform about limitations that the driver must be aware of before using the Collision Warning system with Auto Brake.

Warnings and brake interventions for pedestrians are switched off at vehicle speeds exceeding 80 km/h.

Warnings and brake interventions for pedestrians do not work in darkness and tunnels - not even when streetlights are lit.

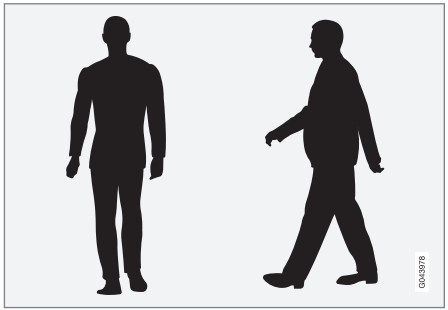
The auto-brake function can prevent a collision or reduce collision speed. To ensure full brake performance, the driver should always depress the brake pedal - even when the car auto-brakes.

Never wait for a collision warning. The driver is always responsible that the correct distance and speed are maintained - even when the collision warning system with auto-brake is used.

2 With system Level 2 only.

Collision Warning with Auto Brake & Pedestrian Protection*

Detection of pedestrians



Optimal examples of what the system regards as pedestrians with clear body contours.

Optimal performance of the system requires that the system function that detects pedestrians receives as unambiguous information as possible about the contours of the body - this implies the opportunity to identify the head, arms, shoulders, legs, upper and lower body combined with a normal human pattern of movement.

If large parts of the body are not visible to the camera then the system cannot detect a pedestrian.

- In order for a pedestrian to be detected he/she must appear full-length and have a height of at least 80 cm.
- The system cannot detect a pedestrian carrying larger items.
- The camera sensor's ability to see pedestrians at dusk and dawn is limited - just like the human eye.
- The camera sensor's capacity to detect pedestrians is deactivated when driving in darkness and tunnels - even when streetlights are lit.

WARNING

Collision Warning with Auto Brake & Pedestrian Detection is an assistance tool.

This function cannot detect all pedestrians in all situations and it cannot see e.g. partially obscured pedestrians, people in clothing that hides the contours of the body or pedestrians shorter than 80 cm.

- The driver is always responsible that the vehicle is driven properly and with a safety distance adapted to the speed.

Operation

Settings are made from **MY CAR** via the centre console's screen and menu system. For information on how the menu system is used, see page 206.

Warning signals On and Off

It is possible to choose whether the acoustic and visual warning signals of the collision warning system should be on or off.

When starting the engine, the setting that was selected when the engine was switched off is obtained automatically.

NOTE

The Brake Support and Auto Brake functions are always enabled - they cannot be deactivated.

Light and acoustic signals

To deactivate the light and acoustic signals:

- Locate **Settings ➔ Car settings ➔ Driver support systems ➔ Collision Warning** - untick the box there.

The warning lamp (no. [1] in the image on page 175) is tested each time the engine is started by briefly lighting the separate light points of the warning lamp if the visual and acoustic warning of the collision warning system is activated.

Collision Warning with Auto Brake & Pedestrian Protection*

Acoustic signal

The warning sound can be activated/deactivated separately:

- Select **On** or **Off** in the menu system under **Settings** ➔ **Car settings** ➔ **Driver support systems** ➔ **Collision Warning** ➔ **Warning sound**.

Set warning distance

The warning distance regulates the distance at which the visual and acoustic warnings are deployed.

- Select **Long**, **Normal** or **Short** in the **MY CAR** menu system under **Settings** ➔ **Car settings** ➔ **Driver support systems** ➔ **Collision Warning** ➔ **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 Distance Warning set at time interval 4–5, see page 166.

NOTE

Even if the warning distance has been set to **Long** warnings could be perceived as being late in certain situations, e.g. when there are large differences in speed or if vehicles in front brake heavily.

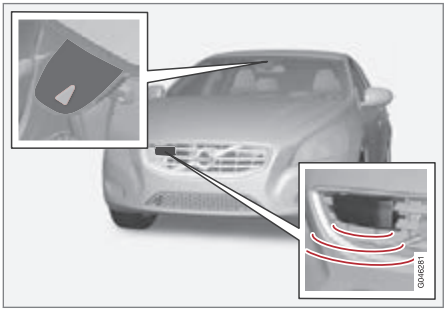
WARNING

No automatic system can guarantee 100 % correct function in all situations. Therefore, never test Collision Warning with Auto Brake by driving at people or vehicles - this may cause severe damage and injury and risk lives.

Checking settings

The settings required can be controlled in the centre console's screen. Search with the menu system **MY CAR** under **Settings** ➔ **Car settings** ➔ **Driver support systems** ➔ **Collision Warning**, see page 206.

Maintenance



Camera and radar sensor[3].

For the sensors to work correctly, they must be kept clear of dirt, ice and snow, and be cleaned regularly with water and car shampoo.

3 NOTE: The illustration is schematic - details may vary depending on car model.

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

NOTE

Dirt, ice and snow covering the sensors will reduce their function and may prevent measurement.

Limitations

Collision Warning with Auto Brake and Pedestrian Detection is active from approx. 4 km/h.

The visual warning signal (no. [1] in the illustration on page 175) 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 pedestrian or a vehicle in front correctly.

The sensor system has a limited range for pedestrians and the system therefore provides effective warnings and brake interventions at vehicle speeds up to 50 km/h. For stationary or slow-moving vehicles, warnings and brake interventions are effective at vehicle speeds up to 70 km/h.

Warnings for stationary or slow-moving vehicles could be disengaged due to darkness or poor visibility.

Warnings and brake interventions for pedestrians are switched off at vehicle speeds exceeding 80 km/h.

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 161.

If warnings are perceived as being too frequent or disturbing then the warning distance can be reduced. This then leads to the system providing a warning at a later stage, which reduces the total number of warnings; see the section "Set warning distance" on page 178.

Collision Warning with Auto Brake & Pedestrian Protection*

Collision Warning with Auto Brake is temporarily deactivated with reverse gear engaged.

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.

In situations where the driver demonstrates active, aware driving behaviour, a collision warning may be postponed slightly in order to keep unnecessary warnings to a minimum.

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.

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 also used - as well as by Collision Warning with Auto Brake - by the functions:

- Automatic main/dipped beam dimming - see page 96
- Road sign information - see page 148
- Driver Alert Control – see page 184
- Lane Departure Warning – see page 188.

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 camera sensor function when it is used to scan the carriageway and detect pedestrians and other vehicles.

The field of vision of the camera sensor is limited, which is why pedestrians and vehicles cannot be detected in some situations, or they are detected later than anticipated.

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 pedestrians, vehicles or road markings in front of the car.

At the same time, this means that - besides Collision Warning with Auto Brake - the Automatic main/dipped beam dimming, Road sign information, Driver Alert Control and Lane Departure Warning functions will not have full functionality either.

The following table presents possible causes for a message being shown along with the appropriate action.

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

Collision Warning with Auto Brake & Pedestrian Protection*

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.

Cause	Action
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.

Cause	Action
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.

Symbols and messages in the display

Symbol[A]	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 **OK** 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 **OK** button.
	Auto braking was activated	Auto Brake has been active. The message clears after one press of the **OK** button.

Collision Warning with Auto Brake & Pedestrian Protection*

Symbol[A]	Message	Specification
	Windscreen Sensors blocked	The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. • Clean the windscreen surface in front of the camera sensor. Read about the limitations of the camera sensor, see page 180.
	Radar blocked See manual	Collision Warning with Auto Brake is temporarily disengaged. 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. Read about the limitations of the radar sensor, see page 161.
	Collision warn. Service required	Collision Warning with Auto Brake is fully or partially disengaged. • Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

A Symbols are schematic - may vary by market and car model.

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

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 different functions which can either be switched on at the same time or individually:

- Driver Alert Control – DAC, see page 184.
- Lane Departure Warning – LDW, see page 188.

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.

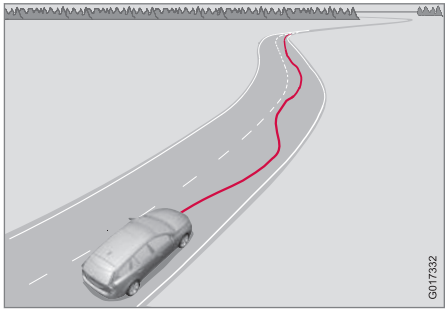
WARNING

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.

Driver Alert System - DAC*

General information on DAC



The DAC (Driver Alert Control) 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 180.

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

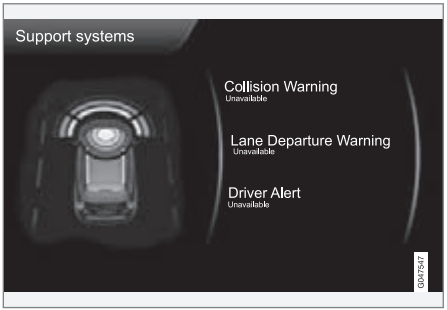
The function must not be used to extend a driving stint. Always plan breaks at regular intervals and ensure that you are fully rested.

Limitation

In some cases the system may issue a warning despite driving ability not deteriorating, for example:

- in strong side winds.
- on rutted road surfaces.

Operation



Settings are made from the centre console's screen and its menu system. For information on how the menu system is used, see page 206.

On/Off

To set Driver Alert in standby mode:

- In **MY CAR**, search for **Car settings ➔ Driver support systems ➔ Driver Alert** and check the box - No check in the box: Function disengaged.

Function

Driver Alert is activated when speed exceeds 65 km/h and remains active as long as the speed is over 60 km/h.

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

If the vehicle is being driven erratically, the driver is notified by an acoustic signal plus the text message **Driver Alert Time for a break** - the linked symbol is illuminated in the combined instrument panel at the same time. The warning is repeated after a time if driving ability does not improve.

The warning symbol can be switched off:

- Press the left-hand stalk switch's **OK** button.

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.

Driver Alert System - DAC*

Symbols and messages

Combined instrument panel

Symbol[A]	Message	Specification
	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. • Clean the windscreen surface in front of the camera sensor. Read about the limitations of the camera sensor, see page 180.
	Driver Alert Sys Service required	The system is disengaged. • Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

A Symbols are schematic - may vary by market and car model.

Screen

Sym-bol[A]	Message	Specification
	Driver Alert OFF	The function is disengaged.
	Driver Alert Available	The function is activated.

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

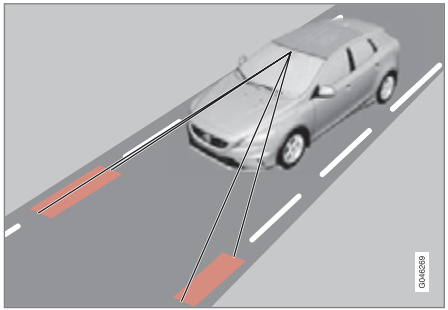
Driver Alert System - DAC*

Symbol[A]	Message	Specification
	Driver Alert Standby <65 km/h	The function is set in standby mode due to speed being lower than 65 km/h.
	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 180.

A Symbols are schematic - may vary by market and car model.

Driver Alert System - LDW*

General information on - LDW



The LDW (Lane Departure Warning) function is intended to reduce the risk of so-called 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.

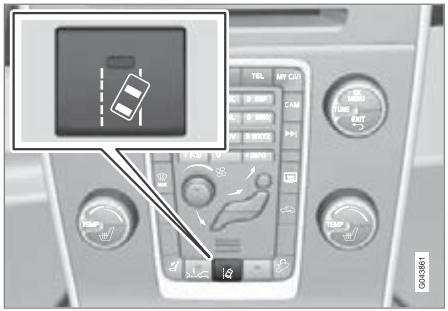
LDW consists of a camera that detects the side lines painted on the carriageway.

If the vehicle crosses the left or right-hand side line of the carriageway without due cause then the driver is alerted by an acoustic signal.

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.

Operation and function



The function is switched on or off by means of a button on the centre console. An indicator lamp in the button illuminates when the function is switched on.

This function is complemented in the combined instrument panel with intuitive graphics in different situations. Here are several examples:

The LDW function's side lines (marked in red in the figure).

- The LDW symbol has WHITE side lines - the function is active and detects/"sees" one side line, or both.
- The LDW symbol has GREY side lines - the function is active but detects neither left nor right-hand side line.

or

- The LDW symbol has GREY side lines - the function is in standby mode because the speed is below 65 km/h.
- The LDW symbol has no side lines - the function is deactivated.

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

Limitations

The LDW function's camera sensor has limitations similar to the human eye. For more information, see page 180.

NOTE

There are several situations when LDW does not give any warning, for example:

- A direction indicator is switched on
- The driver's foot is on the brake pedal[1]
- In the event of rapid accelerator pedal depression[1]
- In the event of rapid steering wheel movements[1]
- In the event of turning so suddenly that the car rolls.

Personal preferences

Settings are made from the centre console's screen via the menu system in **MY CAR**.

From there, search and locate **Settings** ➔ **Car settings** ➔ **Driver support systems** ➔ **Lane Departure Warning**. For information on how the menu system is used - see page 206.

Select from the options:

- **On at start-up** - The function enters standby mode every time the engine is started. Otherwise the same value as when the engine was switched off is obtained.
- **Increased sensitivity** - The sensitivity increases, an alarm is triggered earlier and fewer limitations apply.

Symbols and messages in the display

In situations where there is no LDW function a symbol may be shown in the combined instrument panel in combination with an explanatory message - follow the recommendation given if appropriate.

Examples of messages:

Symbol[A]	Message	Specification
	**Lane departure warning ON/ Lane departure warning OFF**	The function is switched on/off. Shown at switch-on/off. The text disappears after 5 seconds.
	Lane Depart. Warning Unavailable at this speed	The function is set in standby mode due to speed being lower than 65 km/h.

[1] When "Increased sensitivity" is selected a warning is still given, see page 189.

Driver Alert System - LDW*

Symbol[A]	Message	Specification
	Lane Depart. Warning 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 180.
	Lane Depart. Warning 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. • Clean the windscreen surface in front of the camera sensor. Read about the limitations of the camera sensor, see page 180.
	Driver Alert Sys Service required	The system is disengaged. • Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

A Symbols are schematic - may vary by market and car model.

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

General

Parking assistance is used as an aid to parking. An acoustic signal as well as symbols in the centre console's screen indicate the distance to the detected obstacle.

Parking assistance sound level can be adjusted during the ongoing acoustic signal using the centre console's **VOL** knob or in the car's menu system **MY CAR** - see page 206.

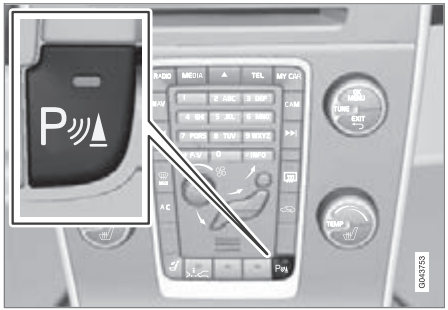
Parking assistance is available in two variants:

- Rear only
- Both front and rear.

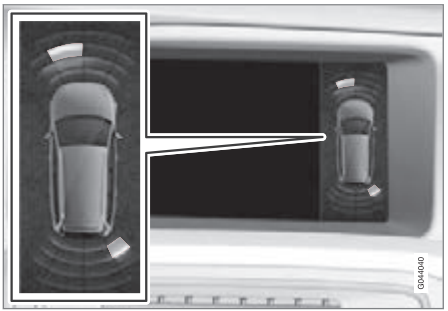
WARNING

- 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 engine is started - the switch's On/Off lamp is illuminated. If parking assistance is switched off with the button, the lamp goes out.



Screen view - showing an obstacle left front and right rear.

The centre console's 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.

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 active sensor's field nearest the car is filled in. If the detected obstacle is within the distance for the constant tone both

Park assist syst*

behind and in front of the car, then the tone sounds alternately from the loudspeakers.

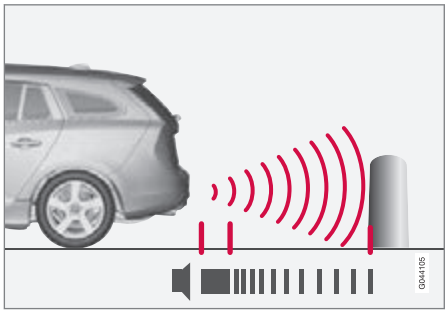
IMPORTANT

Objects e.g. chains, thin glossy poles or low barriers may be in the "signal shadow" and are then temporarily not detected by the sensors - the pulsating tone may then unexpectedly stop instead of changing over to the expected constant tone.

The sensors cannot detect high objects, such as projecting loading docks.

- In such situations, pay extra attention and manoeuvre/reposition the car particularly slowly or stop the current parking manoeuvre - there may be a high risk of damage to vehicles or other objects since the sensors are temporarily unable to function optimally.

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.

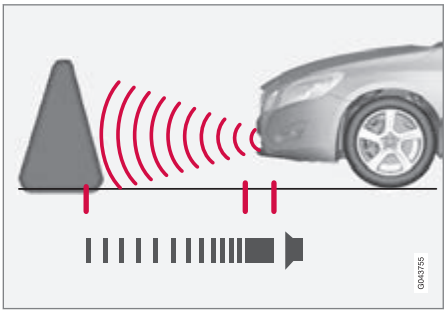
Rear parking assistance is activated when reverse gear is engaged.

When reversing with e.g. a trailer on the towbar, rear parking assistance is switched off automatically - otherwise the sensors would react to the trailer.

NOTE

When reversing with e.g. a trailer or bike carrier on the towbar - without Volvo genuine trailer wiring - parking assistance may need to be switched off manually in order that the sensors do not react to them.

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 park assist is active up to approx. 10 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 gearbox.

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

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 combined instrument panel's information symbol illuminates with constant glow and the text message **Park assist syst Service required** is shown then parking assistance is disengaged.

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.

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.

NOTE

Dirt, ice and snow covering the sensors may cause incorrect warning signals.

Park assist camera*

General

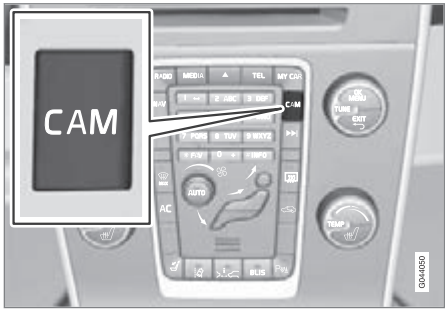
The parking camera is an assist system and is activated when reverse gear is engaged (can be changed in the settings menu, see page 206).

The camera image is shown in 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.

Function and operation



***CAM** button location.*

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 in 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 in 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 external dimensions are illustrated by means of two dashed lines. These help lines can be switched off 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 191.

The camera is active approx. 5 seconds after reverse gear has been disengaged or until the car's speed exceeds 10 km/h.

Camera location next to the opening handle.

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

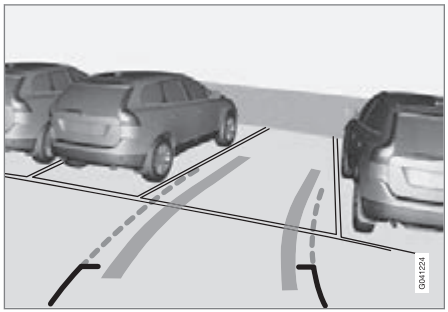
Light conditions

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 the camera lens clear of dirt, snow and ice to ensure optimum function. This is particularly important in poor light.

Park assist lines



Examples of how the park assist lines can be displayed for the driver.

The lines in 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.

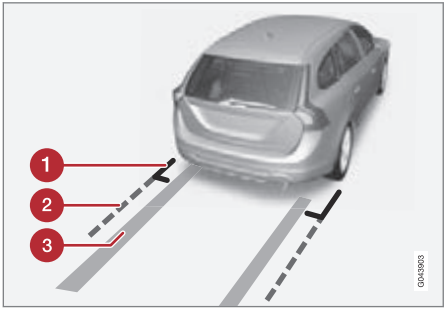
NOTE

- 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"

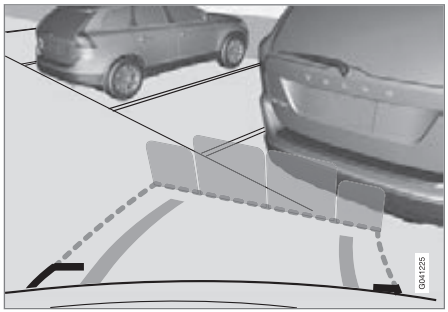
The unbroken line (1) frames in a zone that is within about 30 cm from the bumper.

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 with reversing sensors*



Coloured areas (x 4, one per sensor) show distance.

If the car is also equipped with parking assistance sensors (see page 191) 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.

Colour / paint	Distance (metres)
Yellow	1,5–
Orange	0,3–1,5
Red	0–0,3

Settings

Press **OK/MENU** when a camera view is shown. Make the settings as desired.

Miscellaneous

- The default setting is that the camera is activated when reverse gear is engaged.
- One press on **CAM** activates the camera even if reverse gear is not engaged.
- Change between normal and zoomed image by turning **TUNE** or by pressing **CAM**.
- If the car has several cameras* installed then cameras are alternated between by pressing **CAM** or turning **TUNE**.

Limitations

NOTE

A bike carrier or other accessory mounted on the rear of the car could obscure the camera's view.

Pay attention to the possibility that, 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.

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

BLIS*

General information on BLIS and CTA

The BLIS function (Blind Spot Information System) is designed for driving in dense traffic on roads with several lanes in the same direction. BLIS is a driver's aid intended to provide a warning about:

- vehicles in the car's blind spot
- rapidly approaching vehicles in the left and right-hand lanes closest to the car.

The BLIS function CTA (Cross Traffic Alert) is a driver's aid intended to provide a warning about:

- crossing traffic when the car is reversed.

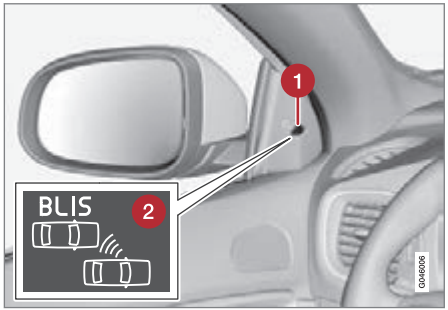
WARNING

BLIS and CTA are supplementary aids and do not work in all situations.

BLIS and CTA are no substitutes for a safe driving style and the use of rearview and door mirrors.

BLIS and CTA can never replace the driver's responsibility and attention - it is always the driver's responsibility to reverse and change lanes in a safe manner.

Operation



BLIS lamp location[1].

1. Indicator lamp
2. BLIS symbol

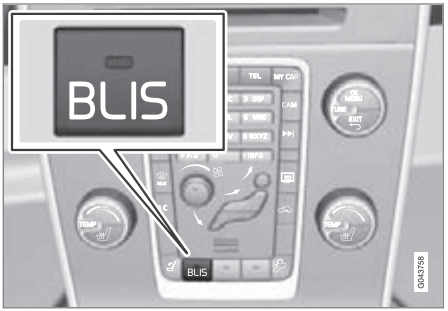
NOTE

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.

Function

BLIS and CTA are activated when the engine is started. This is confirmed by the indicator lamps in the door panels flashing once.

Activate/deactivate BLIS



Button for activating/deactivating.

The **BLIS** function can be deactivated/activated by pressing the **BLIS** button on the centre console.

Some combinations of the selected equipment leave no vacant space for a button in the centre console - in which case the function is handled by the car's menu system **MY CAR**[2]:

1 NOTE: The illustration is schematic - details may vary depending on car model.
2 For information on the menu system - see page 206.

BLIS*

- Select **On** or **Off** at Settings ➔ Car settings ➔ BLIS.

When BLIS is deactivated/activated the lamp in the button extinguishes/illuminates and the combined instrument panel confirms the change with a text message. The door panel indicator lamps flash once upon activation.

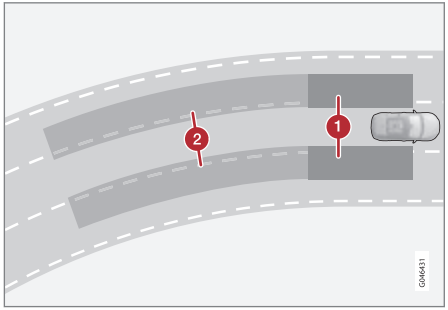
To extinguish the message:

- Press the left-hand stalk switch's **OK** button.

or

- Wait approx. 5 seconds - the message extinguishes.

When BLIS operates



Principle for BLIS: 1. Zone in blind spot. 2. Zone for rapidly approaching vehicle.

The BLIS function is active at speeds above approx. 10 km/h.

The system is designed to react when:

- the driver's vehicle is overtaken by other vehicles
- the driver's vehicle is rapidly caught up by another vehicle.

When BLIS detects a vehicle in zone 1 or a rapidly approaching vehicle in zone 2, the door panel's BLIS lamp illuminates with a constant glow. If the driver activates the direction indicator on the same side as the warning in this situation then the BLIS lamp will change from a constant glow to flashing with a more intense light.

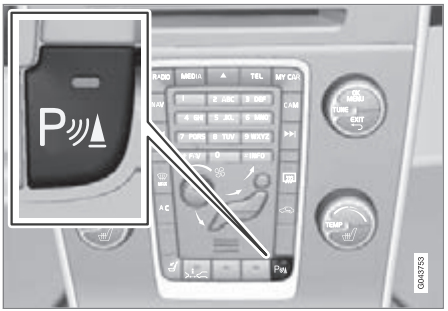
WARNING

BLIS does not work in sharp bends.

BLIS does not work when the car is being reversed.

Activate/deactivate CTA

In cars equipped with parking assistance (see page 191), the CTA function can be deactivated/activated with the parking assistance On/Off button.



On/Off for parking assistance and CTA sensors.

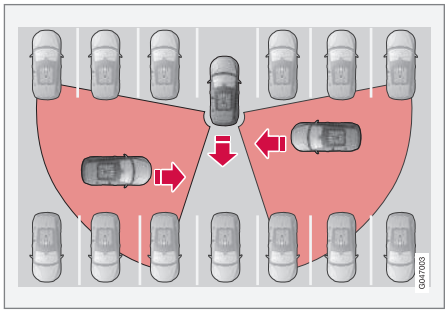
CTA can be deactivated individually in the menu system **MY CAR**[2] as follows:

2 For information on the menu system - see page 206.

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

- Go to **Settings ➔ Car settings ➔ BLIS ➔ Cross Traffic Alert** and deselect. The CTA function is then deactivated. BLIS remains activated however.

When CTA operates



Principle for CTA.

CTA supplements the BLIS function by being able to see crossing traffic from the side during reversing, such as when reversing out of a parking space.

CTA is primarily designed to detect vehicles. In favourable conditions, it may also be able to detect smaller objects, such as cyclists and pedestrians.

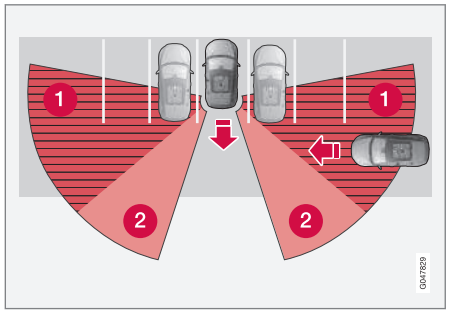
CTA is only active during reversing and is activated automatically when the gearbox's reverse position is selected.

- If CTA detects something approaching from the side, an acoustic warning signal sounds. The signal comes from either the left or the right-hand speaker, depending on the direction from which the object is approaching.
- CTA also warns by illuminating the BLIS lamps.
- An additional warning is provided in the form of an illuminated icon in the screen's PAS graphics, see page 191.

Limitations

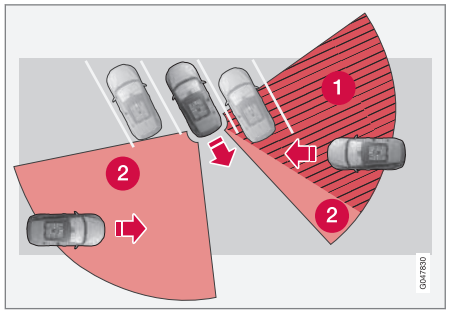
CTA does not perform optimally in all situations, but has a certain limitation - for example, the CTA sensors cannot "see" through other parked vehicles or obstructing objects.

Here are some examples of when CTA's "field of vision" may be limited from the beginning and approaching vehicles cannot therefore be detected until they are very close:



The car is parked deep inside a parking slot.

1. Blind CTA sector.
2. Sector where CTA can detect/"see".



In an angled parking slot CTA can be completely "blind" on one side.

BLIS*

However, when the driver is slowly reversing the car, the angle is changed in relation to the vehicle/object that is blocking, at which the blind sector rapidly decreases.

Examples of further limitations:

- Dirt, ice and snow covering sensors may reduce functionality and make it impossible to provide warnings. BLIS and CTA are unable to detect hazards in such a situation.
- Do not affix any objects, tape or labels within the area for the sensors[3].
- BLIS and CTA are deactivated when a trailer is connected to the car's electrical system.

Maintenance

Location of BLIS and CTA sensors.[1]

The BLIS and CTA sensors are located inside the rear wing/bumper on each side of the car.

- To ensure optimal functionality the areas in front of the sensors must be kept clean.

IMPORTANT

Repair of the BLIS and CTA functions' components must only be performed by a workshop - an authorised Volvo workshop is recommended.

Messages

In situations where the BLIS and CTA functions fail or are interrupted, the combined instrument panel may show a symbol, supplemented by an explanatory message. Follow any recommendation given.

Examples of messages:

Message	Specification
CTA OFF	CTA is manually switched off - BLIS is active.
BLIS and CTA OFF Trailer attached	BLIS and CTA are temporarily non-operational because a trailer is connected to the car's electrical system.
BLIS and CTA Service required	BLIS and CTA are non-operational. • Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

A text message can be acknowledged by briefly pressing the **OK** button on the direction indicator stalk.

[3] See the figure in the next section "Maintenance", page 200.
[1] NOTE: The illustration is schematic - details may vary depending on car model.

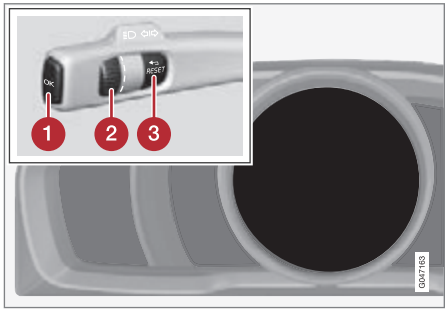
* Option/accessory, for more information, see Introduction.

05

COMFORT AND DRIVING PLEASURE

Menus and messages

Combined instrument panel



Information display and controls for menus.

1. **OK** – 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 in the display in the combined instrument panel are controlled with the left-hand stalk switch. The menus shown depend on key position, see page 84. If a message appears then this must be acknowledged with **OK** 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.

Settings*

Themes

Contrast mode/Colour mode

Service status

Messages

Oil level[1]

Preconditioning

Trip computer reset

Message

When a warning, information or indicator symbol illuminates, a corresponding message appears in the display at the same time. An error message is stored in a memory list until the fault has been rectified.

Press **OK** (see figure in the section "Combined instrument panel" on page 204) to acknowledge and browse through messages.

NOTE

If a warning message appears while you are using the trip computer, the message must be read (press **OK**) before the previous activity can be resumed.

Message	Specification
Stop safely[A]	Stop and switch off the engine. Serious risk of damage - consult a workshop[B].
Stop engine[A]	Stop and switch off the engine. Serious risk of damage - consult a workshop[B].
Service urgent[A]	Contact a workshop[B] to check the car immediately.
Service required[A]	Contact a workshop[B] to check the car as soon as possible.
See manual[A]	Read the owner's manual.

1 Certain engines.

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

Message	Specification
Book time for maintenance	Time to book regular service - contact a workshop[B].
Time for regular maintenance	Time for regular service - contact a workshop[B]. 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 - contact a workshop[B].
Transmission Oil change needed	Contact a workshop[B] to check the car as soon as possible.
Transmission Reduced performance	The gearbox cannot handle full capacity. Drive carefully until the message clears[C]. If shown repeatedly - contact a workshop[B].
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.
Transmission hot Stop safely Wait for cooling	Critical fault. Stop the car immediately in a safe manner and contact a workshop[B].
Temporarily off[A]	A function has been temporarily switched off and is reset automatically while driving or after starting again.
Low battery charge 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 An authorised Volvo workshop is recommended.
C For more information regarding the automatic gearbox, see page 128.

Menu source MY CAR

General information about MY CAR

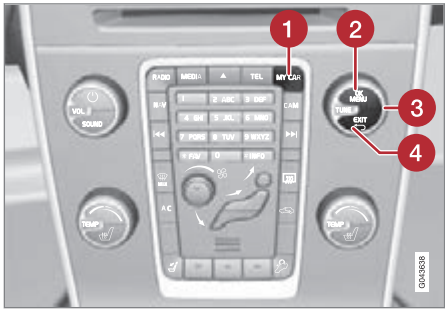
Many of the car's features are handled in this menu source, e.g. setting the clock, door mirrors and locks.

Navigation in the menus is carried out using buttons in the centre console or with the steering wheel's right-hand keypad.

Certain functions are standard, others are optional - the range also varies depending on the market.

Operation

Centre console controls



Centre console controls for menu navigation.

1. Press **MY CAR** to open the menus under MY CAR.
2. Press **OK MENU** to select/tick in the highlighted menu option or to store the selected function in the memory.
3. Turn the **TUNE** knob to scroll up/down among the menu options.
4. **EXIT**

EXIT functions

Depending on the function the cursor is on when **EXIT** is pressed, and on the menu level, one of the following may occur:

- phone call is rejected
- current function is interrupted
- input characters are deleted
- most recent selections are undone
- leads up in the menu system

Short and long presses may also produce varying results.

A long press leads to the highest menu level (Main source view), from where all of the car's functions/menu sources can be accessed - see also page 249.

Menu source MY CAR

Steering wheel keypad*

The keypad may vary depending on market.

1. **Turn** the thumbwheel to scroll up/down among the menu options.
1. **Press** the thumbwheel to select/tick in the highlighted menu option or to store the selected function in the memory.
2. **EXIT** (see heading "EXIT functions" page 206).

Search paths

Current menu level is shown at the top right of the centre console's screen. Search paths to the menu system functions are described in this manual in the following form:

Settings ➔ Car settings ➔ Lock settings ➔ Doors unlock ➔ Driver door, then all.

The following is an example of how a function can be accessed and adjusted using the steering wheel keypad:

1. Press the centre console button **MY CAR**.
2. Scroll to the desired menu, e.g. **Settings**, with the thumbwheel (1) and then **press** the thumbwheel - a submenu opens.
3. Scroll to the desired menu, e.g. **Car settings** and press the thumbwheel - a submenu opens.
4. Scroll to **Lock settings** and press the thumbwheel - a new submenu opens.
5. Scroll to **Doors unlock** and press the thumbwheel - a submenu of selectable functions opens.
6. Choose between the options **All doors** and **Driver door, then all** and press the thumbwheel - a cross is marked in the option's empty box.
7. Exit the programming by backing out of the menus incrementally with short presses on **EXIT** (2) or with one long press.

The procedure is the same as with the centre console's buttons - see page 206: **OK MENU** (2), **EXIT** (4) and the **TUNE** knob (3).

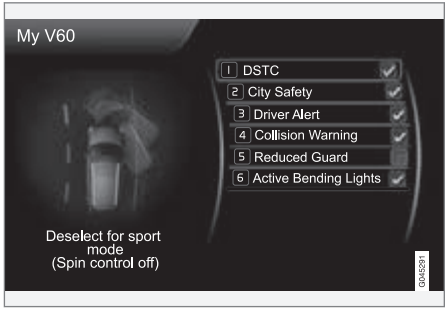
MY CAR

The following options are available in menu source **MY CAR**:

- **My V60**
- **Trip statistics** (Trip statistics)
- **Hybrid**
- **Support systems** (Support systems)
- **Settings** (Settings)

Menu source MY CAR

My V60



NOTE! The figure is schematic – the number of functions varies depending on the selected equipment and market.

MY CAR ➔ My V60

The screen shows a grouping of all of the car's driver support systems - these can be activated or deactivated here.

Hybrid

MY CAR ➔ Hybrid

Information on the car's drive system is found here. Select from among the following headings:

- **Power flow**

  The screen shows which motor is powering the car and how the drive force flows; see page 126.

- **Driving modes**

  The various drive modes of the car are explained; see page 123.

- **Eco driving guide**

  Tips, advice and a description of what it means to drive economically are found here.

Trip statistics

MY CAR ➔ Trip statistics

The screen shows history with a bar chart of average electricity and fuel consumption, see page 237.

Driver support system

NOTE! The figure is schematic – the number of functions varies depending on the selected equipment and market.

MY CAR ➔ Support systems

(MY CAR > Support systems)

The screen shows a summary of the current status of the car's driver support systems.

Setup - menus

The menus are structured as follows:

Menu level 1	
Menu level 2 Menu level 3 Menu level 4	p. x

Shown here are the 4 first menu levels under **MY CAR ➔ Settings**. Some menus have further submenus - these are then described in detail in their respective sections.

When selecting whether a function should be activated/**On** or deactivated/**Off** a square is displayed:

On: Selected square.

Off: Empty square.

- Select **On**/**Off** with **OK** - then back out of the menu with **EXIT**.

Functions in MY CAR

Car settings	
Car key memory On Off	p. 87 and 108
Lock settings Automatic door locking On Off Doors unlock All doors Driver door, then all Keyless entry All doors Any door Doors on same side Both front doors	p. 48, 58 and 62
Reduced Guard Activate once Ask when exiting	p. 63 and 67
Side mirror settings Fold mirrors Tilt left mirror Tilt right mirror	p. 108
Light settings Door lock confirmation light On Off Unlock confirmation light On Off	p.46
Approach light duration Off 30 sec 60 sec 90 sec	p. 48 and 102
Home safe light duration 30 sec 60 sec 90 sec	p. 101
Triple indicator On Off	p. 100
Active bending lights On Off	p.98
Auxiliary lights On Off	p.98
Steering wheel force Low Medium High	p. 238

Menu source MY CAR

Reset car settings All menus in **Car settings** are given original factory settings.	
Driver support systems	
Collision Warning On Off Warning distance Long Normal Short Warning sound On Off	p. 175
Lane Departure Warning On Off On at start-up On Off Increased sensitivity On Off	p. 188
Road Sign Information On Off **Speed alert** On Off	p. 148
DSTC On Off	p. 146
City Safety On Off	p. 169
BLIS On Off	p. 197
Distance Alert On Off	p. 166
Driver Alert On Off	p. 184
System options	
Time The combined instrument panel's clock is adjusted here.	p.82
Time format 12 h 24 h	p.82

Menu source MY CAR

Screen saver — p. 206

On

Off

The screen's current content fades out after a period of inactivity and is replaced by a blank screen if this option is selected.

The current screen content returns if any of the screen's buttons or controls are actuated.

Language

Selects language for menu texts.

Show help text

On

Off

Explanatory text for the screen's current content is shown with this option selected.

Distance and fuel units — p. 237

MPG (UK)

MPG (US)

km/l

l/100km

Temperature unit

Celsius

Fahrenheit

Selects the unit for the display of outside temperature and setting of the climate control system.

Volume levels

Voice output volume

Front park assist volume

Rear park assist volume

Phone ringing volume

(**Voice output volume**: Only with Volvo's GPS navigator RTI installed – see RTI manual.)

Reset system options

All menus in **System options** are given original factory settings.

Voice settings

Voice tutorial

This menu option + **OK** provides spoken information about how the system works.

Voice command list

Phone commands

Phone

Phone call contact

Phone dial number

Navigation commands

Navigation

Navigation repeat ins

Navigation go to add

General commands

Help

Cancel

Voice tutorial

The menu options under **Phone commands** show several examples of available voice commands - only with a Bluetooth®-enabled mobile phone installed. For more and detailed information - see page 274.

The menu options under **Navigation commands** show several examples of available voice commands - only with Volvo's navigation system RTI* installed.

Menu source MY CAR

Voice user setting

Default setting

User 1

User 2

Here there is the option to create a second user profile - an advantage if more than one person shall use the car/system regularly. **Default setting** gives factory settings.

Voice training

User 1

User 2

With **Voice training** the voice recognition system is taught to recognise the driver's voice and pronunciation. A number of phrases are presented in the screen for the driver to read aloud. When the system has learnt how the driver talks, the presentation of the phrases stops. Following which e.g. **User 1** can be selected in **Voice user setting** in order that the system shall listen to the right user.

Voice output volume

A volume control appears in the screen - at which point, proceed as follows:

1. Adjust the volume with the thumbwheel.
2. Test-listen using **OK**.
3. Use **EXIT** to store the setting and the menu is switched off.

Voice POI list

Edit list

The number of facilities is extensive and varies depending on market. Maximum 30 favourite facilities can be stored in this list.

Menu option **Voice POI list** is only shown if Volvo's navigation system RTI* is installed. For more information on Facilities and Voice recognition - see the Navigation system's owner's manual.

Audio settings p. 247

Climate settings

Automatic blower adjustment p. 214

Normal

High

Low

Recirculation timer

On

Off

Automatic rear defroster

On

Off

Auto start steering wheel heater

On

Off

Auto start driver seat heater

On

Off

Interior air quality system

On

Off

Reset climate settings

All menus in **Climate settings** are given original factory settings.

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

Favourites (FAV)	p. 250
Volvo On Call Described in a separate manual.	
Information	
Number of keys	p.46
VIN number	p. 388
DivX® VOD code	p. 267
Bluetooth software version in car	p. 273
Map and software version* Only in cars with Volvo GPS navigator - see separate manual.	

Climate control

General

Climate control
The V60 Plug-in Hybrid is equipped with electronic climate control, see page 218. The climate control system cools or heats as well as dehumidifies the air in the passenger compartment.

When the climate control system is activated it is recommended that the panel's air vents are fully open in order to obtain the most efficient air conditioning possible.

If there is no heat from the coolant then the electrically-driven heater is used primarily. In colder weather the car's fuel-driven heater can also be started.

The engine block heater, fuel-driven heater and electrically-driven heater are used as heat sources during driving. The heat source(s) used depends on the prevailing conditions, e.g. ambient temperature.

During driving the car automatically starts the systems needed to maintain comfort inside the passenger compartment - except in PURE[1] drive mode, when climate comfort is deprioritised, e.g. **AC** and certain electrically-driven sources are switched off.

NOTE

The air conditioning system (AC) can be switched off, see page 221, but to ensure the best possible climate comfort in the passenger compartment and to prevent the windows from misting, it should always be on.

Preconditioning the passenger compartment
The climate in the car's passenger compartment can be preconditioned (acclimatised) before departure, in both hot and cold climates.

NOTE

During preconditioning of the passenger compartment, the car works to reach comfort temperature and not the temperature set in the climate control system.

Warming-up includes the passenger compartment, windows and front seats if desired.

When the passenger compartment is being cooled (when the car is not plugged into the mains power circuit)* energy is drawn from the hybrid battery, correspondingly reducing mileage on electricity.

NOTE

The car's doors and windows should be closed during the preconditioning of the passenger compartment.

For more information on preconditioning, see page 225.

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.

[1] For information about drive modes, see page 123.

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

- The outside temperature sensor is located on the door mirror.
- The humidity sensor* is located by the interior rearview mirror.

NOTE

Do not cover or block the sensors with clothing or other objects.

Side windows and sunroof*

To ensure that the air conditioning works optimally, the side windows, and sunroof* if specified, 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

When running at idling speed, preconditioning or charging the hybrid battery[2] in hot 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).

Total airing function

The function opens/closes all side windows simultaneously and can be used for example to quickly air the car during hot weather, see page 62.

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 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.

2 See also page 304.

Climate control

NOTE

To keep the CZIP standard in cars with CZIP the IAQS filter must 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 and where the customer does not want to keep the CZIP standard the IAQS filter must be changed at a regular 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 381.

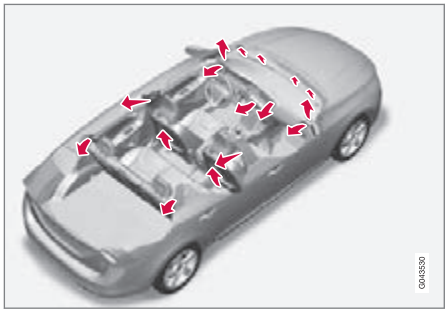
Menu settings

It is possible to activate/deactivate or change the default settings for six of the climate control system's functions via the centre console. For general information about menu navigation, see page 207:

- Fan level for automatic climate control, see page 220.
- Recirculation timer, see page 223.
- Automatic start of rear window defroster, see page 109.
- Air quality system*, see page 223.
- Automatic start of seat heating driver, see page 219.
- Automatic start of steering wheel heating, see page 92.

The climate control system's functions can be reset to the default settings via the menu system in **MY CAR** and this is carried out under: **Settings ➔ Climate settings ➔ Reset climate settings**.

Air distribution

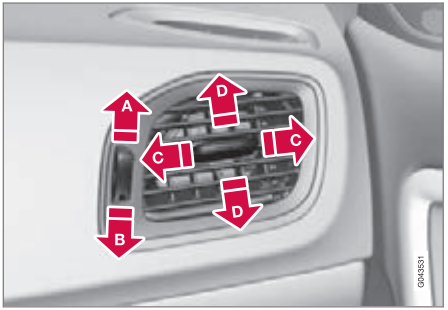


The incoming air is divided between a number of different vents in the passenger compartment.

Air distribution is fully automatic in **AUTO** mode.

If necessary it can be controlled manually, see page 224.

Air vents in the dashboard

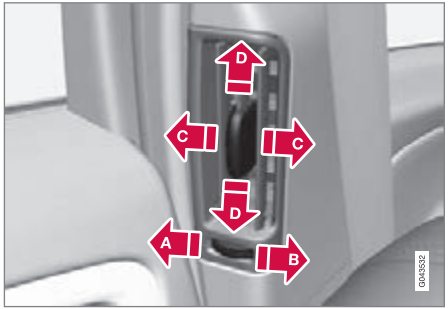


- A Open
- B Closed
- C Lateral airflow
- D Vertical airflow

Aim the outer vents at the side windows to remove misting.

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

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 in cold weather.

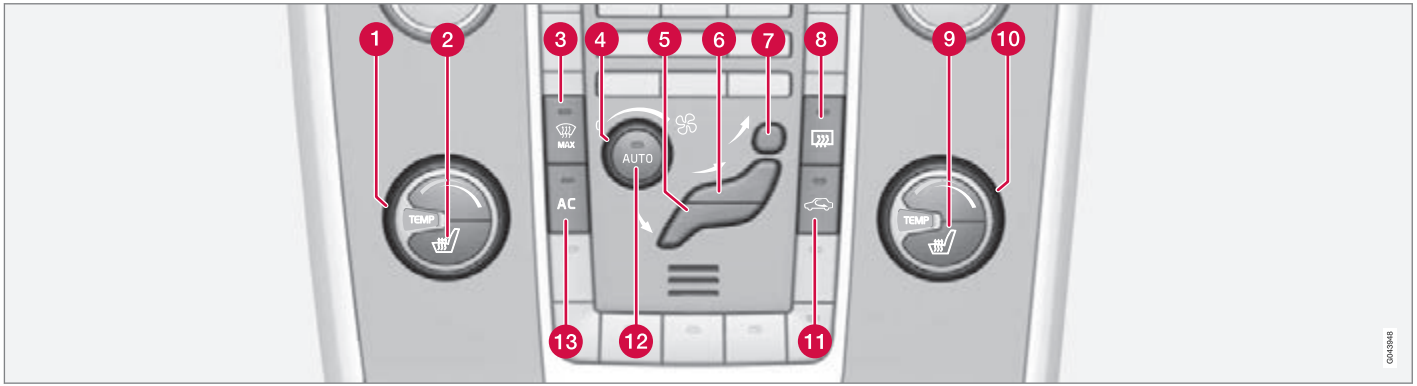
Aim the vents into the passenger compartment to maintain a comfortable climate in the rear seat in hot weather.

NOTE

Remember that small children may be sensitive to air flows and draughts.

Climate control

Electronic climate control, ECC



1. Temperature control, left-hand side
2. Electrically heated front seat, left-hand side
3. Max. defroster
4. Fan
5. Air distribution - ventilation floor
6. Air distribution - air vent instrument panel
7. Air distribution - defroster windscreen
8. Rear window and door mirror defrosters, see page 109
9. Electrically heated front seat, right-hand side
10. Temperature control, right-hand side
11. Recirculation
12. **AUTO** - Automatic climate control
13. **AC** – – Air conditioning on/off

Operating the controls

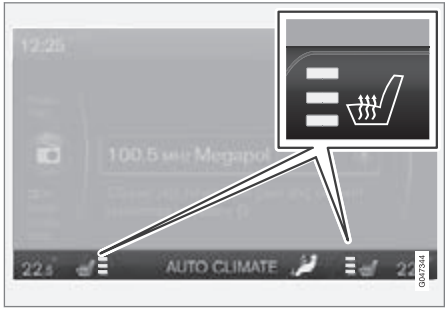
Heated seats*

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.

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

Front seats



Current heat level is shown in the centre console's screen.

Press the button repeatedly in order to activate the function:

- Highest heat level - three orange fields illuminate in the centre console's screen (see figure above).
- Lower heat level - two orange fields illuminate in the screen.
- Lowest heat level - one orange field illuminates in the screen.
- Switch off the heat - no field illuminates.

Automatic start of driver's seat heating

With the automatic start of the driver's seat heating activated, the driver's seat will have the highest heat level when the engine is started.

Automatic start takes place when the car is cold and the ambient temperature is lower than approx. +7 °C. Activate/deactivate the function via the menu system in **MY CAR** under **Settings ➔ Climate settings ➔ Auto start driver seat heater**. For a description of the menu system, see page 206.

Rear seat[3]

Current heat level is shown in the pushbutton's lamps.

Press the button repeatedly in order to activate the function:

- Highest heat level - three lamps illuminate.
- Lower heat level - two lamps illuminate.
- Lowest heat level - one lamp illuminates.
- Switch off the heat - no lamp illuminates.

3 Not included if two-stage booster seat is selected.

Climate control

Fan

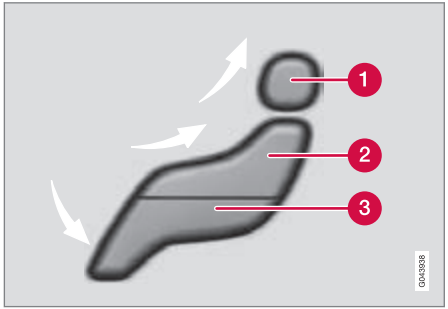
NOTE

If the fan is fully switched off then the air conditioning is not engaged - which can cause a risk of misting on the windows.

Fan knob

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.

Air distribution



1. Air distribution - defroster windscreen
2. Air distribution - air vent instrument panel
3. Air distribution - ventilation floor

The figure consists of three buttons. When pressing the buttons the corresponding figure is illuminated in the screen (see following figure) and an arrow in front of each part of the figure shows the air distribution that is selected. For more information on air distribution, see page 224.

The selected air distribution is shown in the centre console's screen.

AUTO - Automatic climate control

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. All manual settings are disengaged when **AUTO** is pressed. The screen shows **AUTO CLIMATE**.

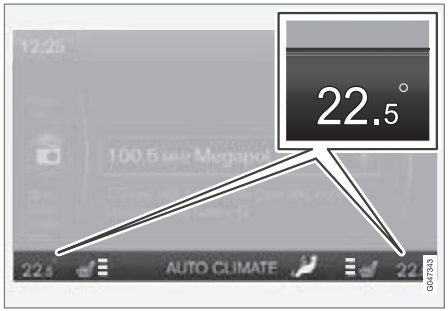
Fan speed in automatic mode can be set in the menu system **MY CAR** under: **Settings ➔ Climate settings ➔ Automatic blower**

adjustment. 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 207.

Temperature control



Current temperature for each side is shown in the centre console's screen.

The temperature can be adjusted with the knob - separately for the driver's side and the passenger side.

When the car is started, the most recent setting is resumed.

NOTE

Heating or cooling cannot be hastened by selecting a higher/lower temperature than the actual temperature required.

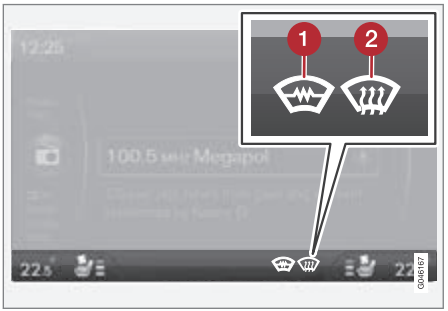
AC – Air conditioning on/off

In the PURE[1] drive mode the **AC** is preset not to start.

When the lamp in the **AC** button illuminates, the air conditioning is controlled by the system's automatic function. This way, incoming air is cooled and dehumidified.

When the lamp in the **AC** button is switched off the air conditioning is disconnected. Other functions are still controlled automatically. When the max. defroster function is activated the air conditioning is switched on automatically, so that the air is dehumidified at the maximum setting.

Heated windscreen* and max. defroster



The selected setting is shown in the centre console's screen.

1. Electric heating*
2. Max. defroster

[1] For information about drive modes, see page 123.

Climate control

Used to quickly remove misting and ice from the windscreen and side windows. The light in the defroster button illuminates when the function is active.

Press the button repeatedly in order to activate the function.

For cars without heated windscreen:

- Air flows to the windows - symbol (2) illuminates in the screen.
- Switch off the function - no symbol illuminates.

For cars with heated windscreen:

- Start the heating for the windscreen[4] - symbol (1) illuminates in the screen.
- Start the heating for the windscreen[4] and air flow to the windows - symbols (1) and (2) illuminate in the screen.
- Switch off the function - no symbol illuminates.

NOTE

Heated windscreen and IR window, see page 106, may have an impact on the performance of transponders and other communication equipment.

NOTE

A triangular area at the end of each side of the windscreen is not electrically heated, where de-icing may take longer.

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.

NOTE

The noise level increases as the fan is operating at max.

When the defroster is switched off the climate control returns to the previous settings.

In the PURE drive mode activation of the defroster function may cause the internal combustion engine to start and change to HYBRID[1] drive mode.

Heated steering wheel*

The heating of the steering wheel is activated/deactivated via a button in the centre console. For more information, see page 92.

Recirculation

When recirculation is engaged the orange lamp 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.

[4] If the character C is shown in the rearview mirror when the heated windscreen is activated then the compass* must be recalibrated. See section Calibration on page 111 .
[1] For information about drive modes, see page 123.

IMPORTANT

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 in the menu system **MY CAR** under **Settings ➔ Climate settings ➔ Recirculation timer**. For a description of the menu system, see page 207.

NOTE

When max. defroster is selected, recirculation is always deactivated.

Air quality system*

The air quality system (IAQS) separates gases and particles to reduce the levels of odours and contaminants in the passenger compartment. If the outside air is contaminated then the air intake is closed and the air is recirculated.

Activate/deactivate the function in the menu system **MY CAR** under **Settings ➔ Climate settings ➔ Interior air quality system**. For a description of the menu system, see page 207.

NOTE

The air quality sensor must always be enabled to ensure the best air in the passenger compartment.

In a cold climate recirculation is limited so as to prevent misting.

In the event of misting, the air quality sensor should be disengaged, and the defroster functions for the windscreen and side windows, as well as the rear window, should be used.

Climate control

Air distribution table

	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 windscreen, via defroster vent, 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).
	Airflow to windows and from dashboard air vents.	to ensure good comfort in warm, dry weather.
	Airflow to the head and chest from the dashboard air vents.	to ensure efficient cooling in warm weather.

	Air distribution	Use
	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 floor and from dashboard air vents.	in sunny weather with cool outside temperatures.
	Air to floor. Some air flows to the dashboard air vents and windows.	to direct heat or cold to the floor.
	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.

General

With preconditioning[1] of the V60 Plug-in Hybrid the energy needs during the journey are reduced - the electricity mileage is extended. For this reason, use preconditioning to enable the use of the battery power[2] for driving.

Preconditioning of the car is possible when it is plugged into the mains power circuit, see page 304.

- In a cold climate the fuel-driven heater heats both the engine and the passenger compartment - the electrically-driven heater only heats the passenger compartment before departure.
- In a hot climate the AC system cools the passenger compartment.

Preconditioning the car reduces wear.

Condensation may form during preconditioning, see page 215.

NOTE

Preconditioning is possible even when the car is not connected to the mains.*

NOTE

Preconditioning can be deselected if only a limited time is available for charging.

NOTE

During preconditioning of the passenger compartment, the car works to reach comfort temperature and not the temperature set in the climate control system.

NOTE

The compressor can operate and cool the hybrid battery even when passenger compartment cooling is not selected or required. The compressor emits noise.

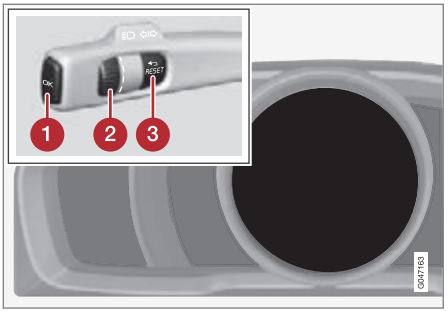
Preconditioning can be activated:

- directly via the information display, remote control key* or mobile*, see page 227
- with the timer, see page 228.

NOTE

Volvo recommends that you activate preconditioning via the timer, and then have the car connected to the mains power circuit, see page 226.

Operation



1. **OK** button
2. Thumbwheel
3. **RESET** - resets/selects

For symbols and messages associated with preconditioning, see page 229.

[1] See also page 214.
[2] If the car is cooled when it is not plugged into the mains power circuit then preconditioning draws energy from the hybrid battery.

Preconditioning the car

For more information on the menus shown in the display and controls on the left-hand stalk switch, see page 204.

Setting the preconditioning

Select from the following:

- parking inside
- parking outside.

Preconditioning when the car is plugged into the mains power circuit

- Heating/cooling can last up to 50 minutes.

Seat heating for both front seats can be activated during preconditioning.

For more information about the car's connection to the mains power circuit, see page 304.

Preconditioning when the car is not plugged into the mains power circuit*

- Heating can last up to 50 minutes.
- Cooling takes place for 2-3 minutes.

Parking inside

The electrically-driven heater is activated with the Indoor parking option.

If you select the Indoor parking setting then the fuel-driven heater is deactivated during preconditioning. This heating will have a slightly lower performance than the Outdoor parking setting in outside temperatures lower than 5 °C.

NOTE

The car must be connected to the mains power circuit before the electrically-driven heater can be activated.

1. Press **OK** to access the menu.
2. Scroll with the thumbwheel to Preconditioning and select with **OK**.
3. If the setting Indoor parking has already been made then the symbol for this is shown in the display, in which case continue from point 7.
4. If Outdoor parking is selected then the symbol for this is shown instead, see Parking outside on page 226. Scroll with the thumbwheel to the symbol and select with **OK**.
5. Scroll forward in the next menu to Indoor parking and select with **OK**.
6. Go back in the menu with **RESET**.
7. Select whether or not seat heating[3] should be activated. Scroll with the thumbwheel to  and select with **OK**.
8. Scroll with the thumbwheel to Driver seat or Passenger seat and select with the **OK** button if they should be activated[4] during preconditioning.
9. Exit the menu with **RESET**.

Parking outside

The Outdoor parking option also allows the fuel-driven heater[5] during preconditioning.

WARNING

Do not use the fuel-driven auxiliary heater indoors in unventilated areas. Exhaust fumes are given off.

[3] Seat heating can only be activated when the car is plugged into the mains power circuit.
[4] Tick the box to activate.
[5] The fuel-driven heater is not activated if the outside temperature exceeds 15 °C.

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

NOTE

The car can be started and driven even when the fuel-driven auxiliary heater is running.

1. Press **OK** to access the menu.
2. Scroll with the thumbwheel to **Preconditioning** and select with **OK**.
3. If the setting **Outdoor parking** has already been made then the symbol for this is shown in the display, in which case continue from point 7.
4. If **Indoor parking** is selected then the symbol for this is shown instead, see Parking inside on page 226. Scroll with the thumbwheel to the symbol and select with **OK**.
5. Scroll forward in the next menu to **Outdoor parking** and select with **OK**.
6. Go back in the menu with **RESET**.
7. Select whether or not seat heating[3] should be activated. Scroll with the thumbwheel to  and select with **OK**.
8. Scroll with the thumbwheel to **Driver seat** or **Passenger seat** and select with the **OK** button if they should be activated[4] during preconditioning.
9. Exit the menu with **RESET**.

Direct start and immediate stop

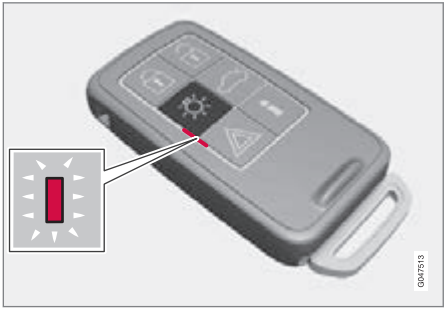
NOTE

In the event of direct start of preconditioning, Volvo recommends that you activate via the remote control key or mobile.

Activate/deactivate via the display

1. Press **OK** to access the menu.
2. Scroll with the thumbwheel to **Preconditioning** and select with **OK**.
3. Scroll forward in the next menu to **Direct start/Stop** in order to activate/deactivate the preconditioning and select with **OK**.
4. Exit the menu with **RESET**.

Activate direct start via remote control key*



Indicator lamp on remote control key with PCC.*

Preconditioning can be activated via the remote control key:

– Hold the button for approach lighting  depressed for 2 seconds.

Hazard warning flashers provide information in accordance with the following:

- 5 short flashes followed by a constant glow for approx. 3 seconds - the signal

[3] Seat heating can only be activated when the car is plugged into the mains power circuit.
[4] Tick the box to activate.

Preconditioning the car

has reached the car and preconditioning has been activated.

- 5 short flashes - the signal has reached the car but preconditioning has not been activated.
- Hazard warning flashers remain switched off - the signal has not reached the car.

If the button for information is depressed when preconditioning is active then the indicator lamp will show the status for this - at the same time the car's lock status is shown, see page 49. While the status is being investigated the indicator lamp emits a pair of short flashes followed by a constant glow if preconditioning is active.

Status is also shown in the trip computer while preconditioning is in progress.

Activate direct start via mobile*

Activation and information about the selected settings that can be managed from a mobile phone will be available via Volvo On Call*, see separate owner's manual for Volvo On Call*.

Timer

Two different times can be selected using the timer. Here time refers to the time when the car shall be used and acclimatised. The car's electronics select when preconditioning shall be activated based on prevailing external climatic conditions.

Setting the timer

1. Press **OK** to access the menu.
2. Scroll with the thumbwheel to **Preconditioning** and select with **OK**.
3. Select one of the two timers using the thumbwheel and confirm with **OK**.
4. Briefly press **OK** to move to the illuminated hours setting.
5. Select the required hour using the thumbwheel.
6. Briefly press **OK** to move to the illuminated minutes setting.
7. Select the required minute using the thumbwheel.
8. Press **OK**[6] to confirm the setting.
9. Go back in the menu structure with **RESET**.
10. Select the second timer (continued from point 2) or exit the menu with **RESET**.

Starting the timer

1. Press **OK** to access the menu.
2. Scroll with the thumbwheel to **Preconditioning** and select with **OK**.
3. Select one of the two timers using the thumbwheel and activate with **OK**.
4. Exit the menu with **RESET**.

Switching off the timer

A timer activated for preconditioning can be switched off manually. Proceed as follows:

1. Press **OK** to access the menu.
2. Scroll with the thumbwheel to **Preconditioning** and select with **OK**.
   > If a timer is set but not activated then a clock symbol is shown beside the set time.
3. Select one of the two timers using the thumbwheel and confirm with **OK**.
4. Switch off the timer by pressing:
   - long on **OK** or

[6] An further press of **OK** activates the timer.

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

- short on **OK** to go forward in the menu. Then select to stop the timer and confirm with **OK**.

5. Exit the menu with **RESET**.

A timer activated for preconditioning can also be switched off in accordance with the instructions in the section "Direct start and immediate stop", see page 227.

Clock/timer

The heater's time is connected to the car's clock.

NOTE

All timer programming will be cleared if the car's clock is reset.

Symbols and messages

When the fuel-driven heater has been activated the heat symbol illuminates in the display.

When one of the timers has been activated, the symbol for activated timer illuminates in the display at the same time as the set time is shown next to the symbol.

Symbol in the display for activated timer.

Symbol	Display	Specification
	Auto heater ON	The fuel-driven heater is switched on and operating. 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.
	Fuel operated heater stopped Battery saving mode	The fuel-driven heater is stopped by the car's electronics in order to facilitate starting the engine. The starter battery's charge level is too low.

Preconditioning the car

Symbol	Display	Specification
	Fuel operated heater stopped Low fuel level	The fuel-driven heater is stopped. Setting the heater is not possible due to fuel level being too low - this is in order to facilitate starting the engine as well as approx. 50 km driving.
	Fuel operated heater Service required	The fuel-driven heater is fully or partially disengaged. Visit a workshop if the message remains. Volvo recommends that you contact an authorised Volvo workshop.
	Preconditioning interrupted by power supply change	The electrically-driven heater or AC system is stopped. The transfer of energy is interrupted.
	Preconditioning stopped due to malfunction	The electrically-driven heater or AC system is stopped. Visit a workshop. An authorised workshop is recommended.
	Preconditioning stopped Hybrid battery temperature high	The electrically-driven heater or AC system is stopped. The hybrid battery is too hot, wait until the temperature has returned to normal.

A display text clears automatically after a time or after one press on the indicator stalk **OK** button.

General

The V60 Plug-in Hybrid has a large heat requirement, in particular during electric operation. As a consequence, the car is equipped with electrically-driven heater and fuel-driven heater. These heaters are required in order to achieve the correct operating temperature for the engine and to generate sufficient heat in the passenger compartment.

Electrically-driven heater

The heater cannot be controlled manually but is activated automatically when required.

NOTE

If the electrically-driven heater is activated then the charging time for the hybrid battery will be extended. The time required for heating the car is mainly determined by the outside temperature.

Fuel-driven heater

In colder weather, the car's fuel-driven heater can be activated during warming-up. The heater starts automatically when extra heat is required and is switched off automatically when not required.

NOTE

When the fuel-driven auxiliary heater is active, exhaust fumes may be given off from the right-hand wheel housing, which is perfectly normal.

If you do not want the car's fuel-driven heater to start during preconditioning, activate **Indoor parking**, see page 226. However, this may prolong the warming-up time.

The fuel-driven heater cannot be started during driving or preconditioning if the outside temperature exceeds 15 °C. At –5 °C or lower the maximum running time of the heater is 50 minutes during preconditioning.

If the fuel level in the tank is too low then the fuel-driven heater is prevented from starting, with inadequate heating as a result.

NOTE

Make sure that there is sufficient fuel in the car's regular fuel tank when driving at temperatures below +15 °C.

WARNING

Do not use the fuel-driven auxiliary heater indoors in unventilated areas. Exhaust fumes are given off.

Auto mode or deactivation

The fuel-driven heater's automatic start sequence can be deactivated if required.

NOTE

If the fuel-driven auxiliary heater is deactivated, the diesel engine will start more frequently in order to meet the need for heat in drive mode PURE or HYBRID, i.e. electrical operation will be restricted.

1. Press **OK**, see page 225, in order to access the menu.
2. Scroll with the thumbwheel to **Settings** and select with **OK**.
3. Select one of the alternatives **Auto heater ON** or **Auto heater OFF** using the thumbwheel and confirm with **OK**.

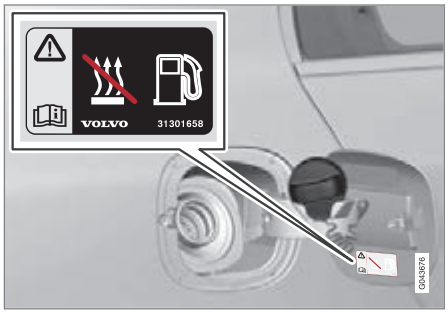
Heater

4. Exit the menu with **RESET**.

NOTE

The menu options are only visible in key position **I** - any adjustments must therefore be made before starting the engine.

Refuelling



Warning label on fuel filler flap.

WARNING

Fuel which spills out could be ignited. Switch off the fuel-driven auxiliary heater before starting to refuel.

Check in the combined instrument panel that the heater is switched off. The heat symbol and the message **Auto heater ON** are shown when it is operating.

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 fuel-driven heater.

Starter battery and fuel

If the starter battery has insufficient charge or if the fuel level is too low, the heater will be switched off automatically and a message is shown in the combined instrument panel. Acknowledge the message by pressing the indicator stalk **OK** button once, see page 225.

General

Checking and settings can be made immediately after the combined instrument panel is automatically illuminated in connection with unlocking. If none of the trip computer's controls are actuated within approx. 30 seconds after the driver's door has been opened then the instrument extinguishes, after which either key position **II**[1] or engine starting is required in order to operate the trip computer.

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 message by briefly pressing the indicator stalk **OK** button.

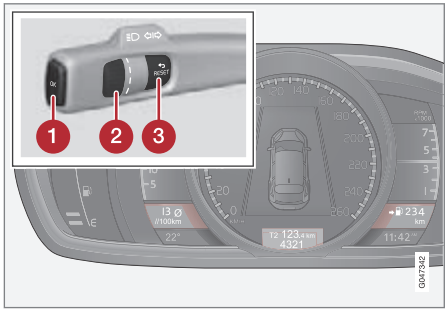
Group menus

The trip computer has two different group menus:

- Functions
- Heading in combined instrument panel

The trip computer's **functions** or **headings** are each listed in an infinite loop.

Combined instrument panel "Digital"



Information displays and controls.

1. **OK** - Opens the loop with the trip computer's functions + Activates the selected option.
2. **Thumbwheel** - Opens the loop with the trip computer's headings + Scrolls through the options.
3. **RESET** - Undoes, zeroes or backs out of a function after making a selection.

Functions

Proceed as follows to open and check/adjust functions:

1. To ensure that no control is in the middle of a sequence - "Reset" them first with 2 presses on **RESET**.
2. Press **OK** - loop with all functions opens.
3. Browse through the functions with the **thumbwheel** and select/confirm with **OK**.
4. Finish by pressing **RESET** twice after completed checking/ adjustment.

The different functions of the trip computer are listed in the following table:

[1] For information on key positions - see page 85.

Trip computer

Functions	Information
Trip computer reset Average Average speed	**Note** that this function does **not** reset both trip meters T1 and T2 - see the table in the section "Headings" page 235 or the heading "Resetting" page 236 for information on the process.
Messages	For more information, see page 204.
Themes	Combined instrument panel appearance is selected here, see page 75.
Settings*	Select **Auto On** or **Off**. For more information, see page 231.
Contrast mode/Colour mode	Adjusting the combined instrument panel's brightness and colour intensity.
Preconditioning – **Direct start** - Symbol Timer 1 - leads to the menu for selecting time. - Symbol Timer 2 - leads to the menu for selecting time.	For a description of programming the timer, see page 228.
Service status	Shows the number of months and mileage to next service.
Oil level[A]	For more information, see page 348.

[A] Certain engines.

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

Trip computer

Headings

Three trip computer headings can be displayed simultaneously - one in each "window" (see previous figure).

One of the heading combinations in the following table can be selected for constant display in the combined instrument panel. Proceed as follows to determine which:

1. To ensure that no control is in the middle of a sequence - "Reset" them first with 2 presses on **RESET**.
2. Turn the **thumbwheel** - selectable heading combinations are shown in a loop.
3. Stop on desired heading combination.

Heading combinations			Information
Battery status	Trip meter T1 + Meter reading	Distance to empty battery	• Long press on **RESET** resets trip meter T1.
Average	Trip meter T1 + Meter reading	Average speed	• Long press on **RESET** resets trip meter T1.
Instantaneous	Trip meter T2 + Meter reading	Distance to empty tank	• Long press on **RESET** resets trip meter T2.
Instantaneous	Meter reading	kmh<>mph	kmh<>mph - see "Digital speed display" page 236.
	No trip computer information.		This option extinguishes all three trip computer displays - it also marks the beginning/end of the loop.

The combined instrument panel's heading combination for the trip computer can be changed to another option at any time during the journey. Proceed as follows:

- Turn the **thumbwheel** - stop on the desired heading.

Supplementary information

Average

Average fuel consumption is calculated from the last resetting.

NOTE

There may be a slight error in the reading if a fuel-driven heater* has been used.

Average speed

The average speed is calculated for the driving distance driven since the last reset to zero.

Instantaneous

The information for current fuel consumption is updated continuously - approximately once per second. When the car is driven at low speed the consumption is shown per time

Trip computer

unit - at a higher speed it is shown related to mileage.

Different units (km/miles) can be selected for the display - see the heading "Change unit" page 237.

Range - distance to empty tank

The trip computer shows the approximate distance that can be driven with the fuel quantity remaining in the tank.

No guaranteed range remains when the heading **Distance to empty** shows "**----**".

- In which case, refuel as soon as possible.

The calculation is based on the average fuel consumption over the last 30 km and the remaining driveable fuel quantity.

NOTE

There may be a slight error in the reading if the driving style has been changed.

An economic driving style generally results in a longer driving distance. For more information on how fuel consumption can be influenced, see page 10.

Distance to empty battery

No guaranteed range remains when the display shows "**---- km to empty battery**". The display shows the approximate distance that can be driven with the energy quantity remaining in the hybrid battery.

The calculation is based on the average fuel consumption with normally loaded car, with normal driving and not too many power consumers (stereo, AC, seat heating, etc).

NOTE

There may be a slight error in the reading if the driving style has been changed.

An economic driving style generally results in a longer driving distance. For more information on how energy consumption can be influenced, see page 10.

Mileage for electric operation

In order to achieve the longest possible mileage for electric operation, the driver of an electric car also has to think about energy conservation. The more consumers there are (stereo, electric heating in windows/mirrors/seats, very cold air from the climate control system, etc.) that are active - the shorter the potential mileage.

NOTE

In addition to high current take-off in the passenger compartment, sudden acceleration and braking, high speed, heavy loads and uphill gradients also reduce the possible driving distance.

Digital speed display

The speed is shown in the opposite unit (kmh/mph) in relation to the main instrument. If it is calibrated in mph then the trip computer shows the corresponding speed in km/h and vice versa.

Resetting

Trip meter

Turn with the **thumbwheel** to the heading combination containing the trip meter to be reset:

- Give a long press on **RESET** - selected trip meter is zeroed.

Average speed & Average consumption

1. Select function **Trip computer reset** and activate with **OK**.
2. Select one of the following options with the **thumbwheel** and activate with **OK**:

- l/100 km

- km/h

- Reset both

3. Finish with **RESET**.

Change unit

To change unit (km/miles) for distance and speed - go to **MY CAR ➔ Settings ➔ System options ➔ Distance and fuel units**, see page 206.

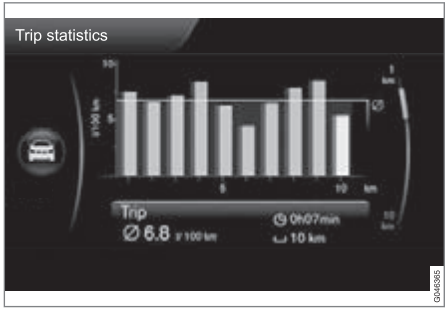
NOTE

In addition to the trip computer, these units are also changed at the same time in Volvo's GPS navigator RTI.

Trip statistics*

Information is stored about completed trips containing average fuel consumption and average speed, which can be viewed in the centre console's screen as a bar chart.

Function



Trip statistics[2].

Fuel and electricity consumption are shown in separate graphs. Electricity consumption is "net" consumption, i.e. energy consumed minus regenerated energy created during braking.

Each bar symbolises 1 km or 10 km driven distance, depending on the scale selected - the bar at the far right shows the value for the current kilometre or 10 km.

Using the **TUNE** control, the scale for the bars can be changed between 1 km and 10 km - the cursor on the far right changes position between up and down in relation to the scale selected.

Operation

A setting can be made in the **MY CAR** menu system:

MY CAR ➔ My V60 ➔ Trip statistics:

- **Start new trip** - **ENTER** deletes all previous statistics, go back out from the menu with **EXIT**.
- **Reset for every driving cycle** - tick in the box with **ENTER** and go back out from the menu with **EXIT**.

With the "**Reset for every driving cycle**" option ticked all statistics are deleted automatically after driving is finished and the car has been stationary for 4 hours. Trip statistics start from zero the next time the engine is started.

If a new driving cycle is started before 4 hours have elapsed then the current period must first be deleted manually using the "**Start new trip**" option.

See also information on Eco guide on page 77.

2 The figure is schematic - layout may vary depending on updated software and market.

Adapting driving characteristics

Speed related power steering*

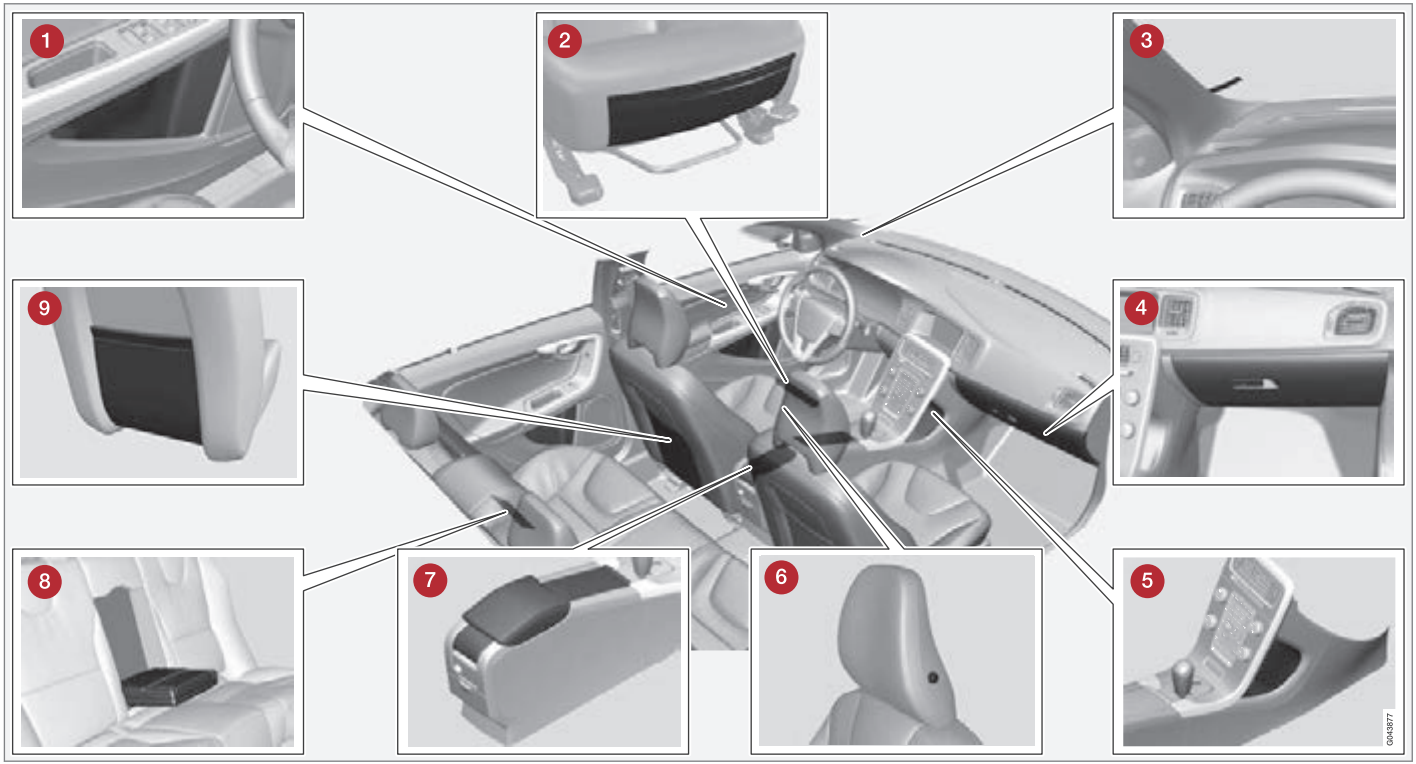
Steering force increases with the speed of the car to give the driver enhanced sensitivity. The steering is firmer and more immediate on motorways. Steering is light and requires no extra effort when parking and at low speed.

The driver can choose between three different levels of steering force for road responsiveness or steering sensitivity. Go to the menu system **MY CAR** and locate **Settings ➔ Car settings ➔ Steering wheel force** and select **Low**, **Medium** or **High**.

For a description of the menu system, see page 206. This menu cannot be accessed while the car is in motion.

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

Storage spaces



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
6. Jacket holder
7. Storage compartment, cup holder
8. Cup holder* in armrest, rear seat
9. Storage pocket

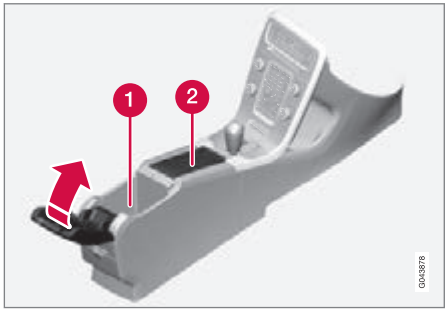
WARNING

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.

Jacket holder

The jacket holder is only designed for light clothing.

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 241, and a detachable ashtray in the cup holder.)

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 using the key blade, see pages 50 and 62.

Inlaid mats*

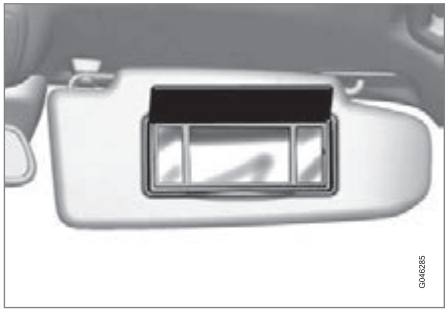
Volvo supplies specially manufactured inlay mats.

WARNING

Before setting off check that the inlaid mat in the driver area is firmly affixed and secured in the pins in order to avoid getting caught adjacent to and under the pedals.

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

Vanity mirror



Vanity mirror with lighting.

The light illuminates automatically when the cover is lifted.

12 V socket

12 V socket in tunnel console, front seat.

12 V socket in tunnel console, rear seat.

The electrical socket can be used for various accessories designed for 12 V, e.g. TV screens, music players and mobile phones.

For the socket to supply current, the remote control key must be in at least key position **I**, see page 84.

WARNING

Always leave the plug in the socket when the socket is not in use.

NOTE

Optional equipment and accessories - e.g. display screens, music players and mobile phones - which are connected to one of the passenger compartment's 12V electrical sockets, could be activated by the climate control system, even when the remote control key has been removed or when the car is locked, for example, when the parking heater is activated at a preset time.

For this reason remove the plugs from the electrical sockets for optional equipment or accessories when not in use because the battery could be drained in the event of such an occurrence!

Comfort inside the passenger compartment

IMPORTANT

Max. socket is 10 A (120 W) if one socket is used at a time. If both sockets in the tunnel console are used simultaneously, 7.5 A (90 W) per socket is applicable.

If the compressor for emergency puncture repair is connected to one of the two sockets, no other current consumer must be connected to the other one.

NOTE

The compressor for temporary emergency puncture repair has been tested and approved by Volvo. For information on the use of Volvo's recommended temporary emergency puncture repair (TMK), see page 338.

Electrical socket in cargo area*

For more information, see page 313.

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

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

06

INFOTAINMENT SYSTEM

General information on infotainment

General

The infotainment system consists of radio, media player, TV* and the facility to communicate with mobile phone*. Information is presented on a 5 or 7-inch* screen in the upper section of the centre console. Functions can be controlled via buttons in the steering wheel, in the centre console under the screen or via a remote control*. A mobile phone can also be controlled with voice recognition in certain cases.

If the Infotainment System is active when the engine is switched off then it is automatically activated the next time the key is inserted into key position **I** or higher, and it continues with the same source (e.g. radio) as before the engine was switched off (the driver's door must be closed on cars with Keyless systems*).

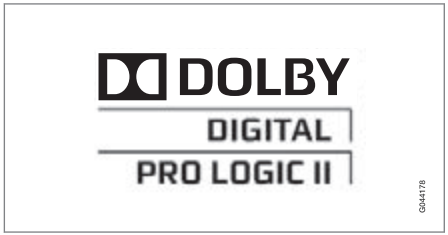
The infotainment system can be used for 15 minutes at a time without the remote control key being in the ignition switch by pressing the On/Off button.

When the car is being started the infotainment system is switched off temporarily and continues when the engine has started.

NOTE

Remove the remote control key from the ignition switch if the infotainment system is used when the engine is switched off. This is to avoid discharging the battery unnecessarily.

Dolby, Pro Logic



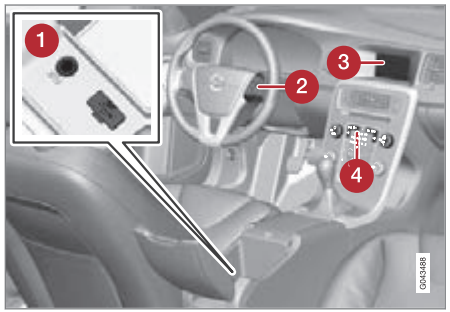
Made under license from Dolby Laboratories. Dolby, Pro Logic and the double-D symbol are trademarks of Dolby Laboratories.

Audyssey MultEQ

Only applies to Premium Sound Multimedia.

The Audyssey MultEQ system has been used in the development and tuning of the sound to ensure a world-class sound experience.

Overview



1. AUX (only applies to Performance) - and USB (does not apply to Performance) -

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

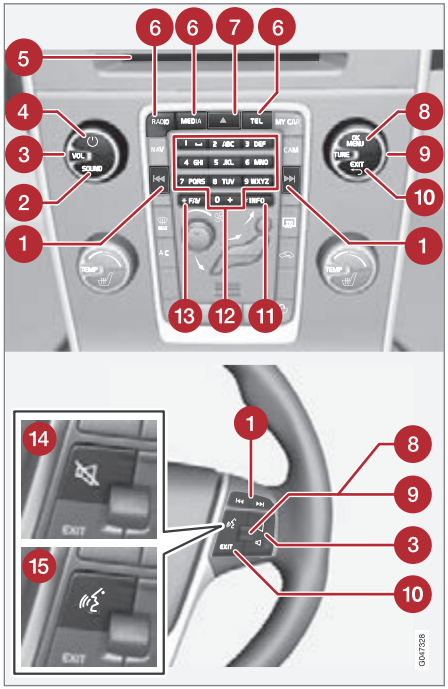
inputs for external audio sources (e.g. iPod®).

2 Steering wheel keypad (with*/without thumbwheel).

3 Screen. The screen is available in two sizes: 5 and 7-inch. The manual shows a 7-inch screen.

4 Centre console control panel.

Operating the system



1 Scroll/fast wind/search - short press scrolls between disc tracks, preset radio stations (does not apply to DAB) or chapter (only applies to DVD discs). A **long press** fast-winds disc tracks or searches for the next available radio station.

2 SOUND - press for access to audio settings (bass, treble, etc.). For more information, see page 251.

3 VOL - raise or lower the volume.

4 ON/OFF/MUTE - **short press** starts the system and **long press** (until the screen is off) switches off. Note that the whole of the Sensus system (including navigation * and phone functions*) starts/switches off at the same time. Briefly press to mute the sound (MUTE) or restore the sound if it had been switched off.

5 Disc insert and eject slot.

6 Main sources - press to select the main source (e.g. **RADIO**, **MEDIA**). Last active source is shown (e.g. **FM1**). If you are in **RADIO** or **MEDIA** and press the main source button, a source view is shown. If you are in **TEL*** or **NAV*** and press the main source button then a shortcut menu is shown with commonly used menu options.

7 Disc eject.

8 OK/MENU - press the thumbwheel in the steering wheel or the button in the centre

General information on infotainment

console to accept selections in menus. If you are in the normal view and press **OK/MENU** a menu is shown for the selected source (e.g. **RADIO** or **MEDIA**). Arrow to the right of the screen is shown when there are underlying menus.

9 **TUNE** - turn the thumbwheel in the steering wheel or the knob in the centre console to scroll between disc tracks/folders, radio and TV* stations, phone contacts* or navigate between the options in the screen.

10 **EXIT** - **short press** leads upwards in the menu system, interrupts current function, interrupts/rejects phone calls or erases entered characters. **Long press** leads to normal view, or if you are in normal view to the highest menu level (main source view), from where you can reach the same main source buttons located in the centre console (7).

11 **INFO** - If more information than can be shown in the screen is available, press the **INFO** button to see the remaining information.

12 Preset buttons, input of numbers and letters.

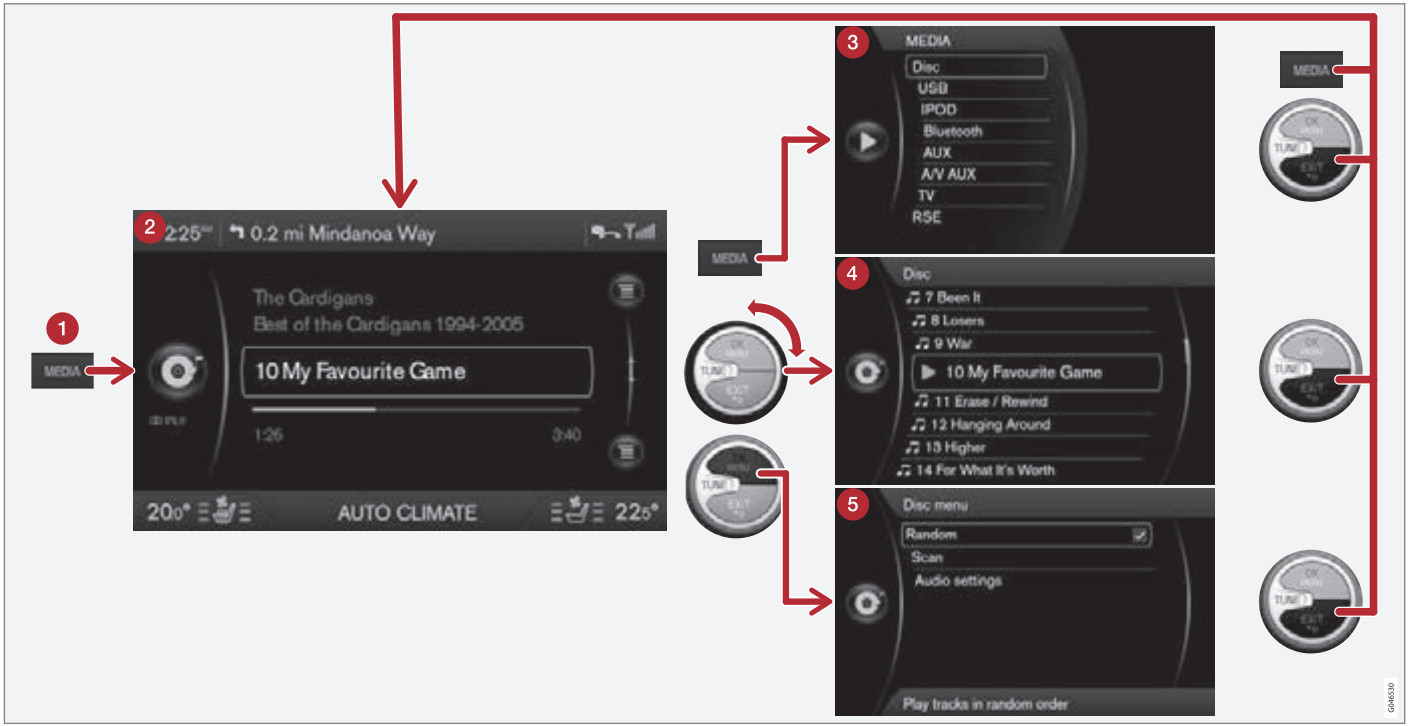
13 **FAV** – shortcut to a favourite setting. The button can be programmed for a commonly used function in FM etc. For more information, see page 250.

14 **MUTE** (cars without navigation) - press to deactivate the radio/media audio or restore the audio if it has been switched off.

15 **Voice recognition** (cars with navigation) - press to activate voice recognition (for Bluetooth®-connected mobile phone and navigation system*).

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

Menus



The example shows navigation to different functions when a disc is played back. (1) Main source button, (2) Normal view, (3) Shortcut/Source menu, (4) Quick menu, (5) Source menu.

General information on infotainment

Select main source by pressing a main source button (1) (**RADIO, MEDIA, TEL**). To navigate in the source's menus, use the controls for **TUNE, OK/MENU**, **EXIT** or the main source button (1).

For Menu overview, see page 252.

NOTE

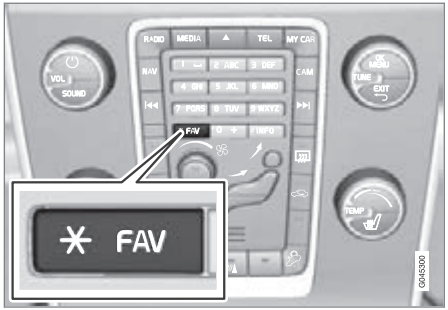
If the car is equipped with a steering wheel keypad with a thumbwheel*, these can be used instead of the controls in the centre console (**TUNE, OK/MENU, EXIT**).

Menus and views in the screen

Appearance depends on source, equipment in the car, settings, etc.

1. **Main source button** - press to change the main source or show the Shortcut/Source menu in the active source.
2. **Normal view** - normal mode for the source.
3. **Shortcut/Source menu** - shows commonly used menu options in the main sources e.g. **TEL** and **MEDIA** (accessed by pressing the active source's main source button (1)).
4. **Quick menu** - fast mode when **TUNE** is turned, e.g. for changing disc tracks, radio station, etc.
5. **Source view** - for menu navigation (accessed by pressing **OK/MENU**).

FAV - store a preset



The **FAV** button can be used to store functions that are used frequently so that the function can be started simply by pressing **FAV**. You can select a favourite (e.g. **Equalizer**) for each function as follows:

In **RADIO** mode:

- FM1/FM2
- DAB1*/DAB2*

In **MEDIA** mode:

- DISC
- USB*
- iPod*
- Bluetooth*
- AUX
- TV*

It is also possible to select and store a favourite for **MY CAR**, **CAM*** and **NAV***. Favourites can also be selected and stored under **MY CAR**. For more information on the menu system **MY CAR**, see page 206.

To store a function in the **FAV** button:

1. Select a main source (e.g. **RADIO**, **MEDIA**).
2. Select a wavelength or source (**FM1**, **Disc**, etc.).
3. Press and hold the **FAV** button until the "favourites menu" is shown.
4. Turn **TUNE** to select an option from the list and press **OK/MENU** to save.
   > When the main source (e.g. **RADIO**, **MEDIA**) is active the stored function is available via a short press on **FAV**.

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

General audio settings

Press **SOUND** to access the audio settings menu (**Bass**, **Treble**, etc.). Scroll forward with **SOUND** or **OK/MENU** to your selection (e.g. **Treble**).

Adjust the setting by turning **TUNE** and save the setting with **OK/MENU**.

Continue pressing **SOUND** or **OK/MENU** to access other options:

- **Surround**[1] - Can be set to the On/Off position. When On is selected, the system selects the setting for optimal sound reproduction. Normally DPLII and DPLII then appear in the screen. If the recording is made with Dolby Digital technology then playback will take place with this setting, DIGITAL then appears in the screen. When Off is selected, 3-channel stereo is available.
- **Bass** - Bass level.
- **Treble** - Treble level.
- **Fader** – Balance between the front and rear speakers.
- **Balance** – Balance between the left and right-hand speakers.
- **Subwoofer***[1] - Bass speaker level.
- **DPL II centre level/3 channel centre level**[1] - Volume for centre speaker.
- **DPL II surround level**[1, 2] – Level for surround.

Advanced audio settings

Equalizer[3]

The volume level can be adjusted separately for different wavelengths.

1. Press **OK/MENU** to access **Audio settings** and select **Equalizer**.
2. Select wavelength by turning **TUNE** and confirm with **OK/MENU**.
3. Adjust the audio settings by turning **TUNE** and confirm with **OK/MENU**. Continue in the same way with other wavelengths you want to change.
4. When you have finished with audio settings, press **EXIT** to confirm and return to normal view.

For general information on menu navigation, see page 249 and menu overview, see page 252.

Sound stage[1]

The sound experience can be optimised for the driver's seat, both front seats or the rear seat. If there are passengers in both the front and rear seats then the option recommended is; both front seats. The options can be selected under **Audio settings ➔ Sound stage**.

For general information on menu navigation, see page 249 and menu overview, see page 252.

Audio volume and automatic volume control

The audio system compensates for disrupting noises in the passenger compartment by increasing the volume in relation to the speed of the car. The compensation level can be set to low, medium, high or off. Select the level under **Audio settings ➔ Volume compensation**.

For general information on menu navigation, see page 249 and menu overview, see page 252.

1 Only Premium Sound Multimedia.
2 Only when Surround is activated.
3 Not Performance.

General information on infotainment

External audio source audio volume

If an external audio source (e.g. an MP3 player or iPod®) is connected to the AUX input then the audio source that is connected can have a different volume than the audio system's internal volume (e.g. radio). Correct this by adjusting the volume of the input:

1. Press the **MEDIA** button and turn **TUNE** to **AUX** and wait a few seconds or press **OK/MENU**.
2. Press **OK/MENU** and then turn **TUNE** to **AUX input volume**. Confirm with **OK/MENU**.
3. Turn **TUNE** to adjust the volume for the AUX input.

NOTE

If the external audio source's volume is too high or too low, the quality of the sound may deteriorate. The audio quality may also be impaired if the player is charged while the infotainment system is in AUX mode. In which case, avoid charging the player via the 12 V socket.

Optimum sound reproduction

The audio system is pre-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 a 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.

Menu overview

The main sources **RADIO, MEDIA** and **TEL** contain the following menus. For information about menu navigation, see page 249.

Menus RADIO

Main menu FM1/FM2	
TP	p.259
Show radio text	p.260
Show presets See footnote A	p.258
Scan	p.261
News settings	p.260
Advanced settings	
REG	p.261
Alternative frequency	p.260
EON	p.259
Set TP favourite	p.259
PTY settings	p.260
Reset all FM settings	p.261
Audio settings See footnote B	p.251
Sound stage See footnote C	p.251
Equalizer See footnote D	p.251

Volume compensation	p.251
Reset all audio settings	p.251

A Only applies to High Performance Multimedia and Premium Sound Multimedia.
B The menu options for audio settings are the same for all audio sources.
C Only applies to Premium Sound Multimedia.
D Does not apply to Performance.

Main menu DAB1*/DAB2*	
Ensemble learn	p.261
PTY filtering	p.262
Turn off PTY filtering	p.262
Show radio text	p.262
Show presets See footnote A	p.262
Scan	p.261
Advanced settings	p.263
DAB linking	p.263
DAB band	p.263
Sub channels	p.263
Show PTY text	p.263
Reset all DAB settings	p.263
Audio settings See footnote B	p.251

A Only applies to High Performance Multimedia and Premium Sound Multimedia.
B For submenus, see "Main menu FM".

Menus MEDIA

Main menu CD Audio (Disc menu)	
Random	p.266
Scan	p.266
Audio settings See footnote A	p.251

A For submenus, see "Main menu FM".

Main menu CD/DVD[A] Data (Disc menu)	
Play **Pause**	p.265
Stop	p.265
Random	p.266
Repeat folder	p.266
Change subtitles	p.265
Change audio track	p.265
Scan	p.266
Audio settings See footnote B	p.251

A Only applies to High Performance Multimedia and Premium Sound Multimedia.
B For submenus, see "Main menu FM".

Main menu DVD[A] Video (Disc menu)	
DVD disc menu	p.266
Play/Pause/Continue	p.266

General information on infotainment

Stop	p.266
Subtitles	p.266
Audio tracks	p.266
Advanced settings	p.267
Angle	p.267
DivX® VOD code	p.267
Audio settings See footnote B	p.251

A Only applies to High Performance Multimedia and Premium Sound Multimedia.
B For submenus, see "Main menu FM".

Main menu iPodA	
Random	p.266
Scan	p.266
Audio settings See footnote B	p.251

A Does not apply to Performance.
B For submenus, see "Main menu FM".

Main menu USBA	
Play **Pause**	p.269
Stop	p.269
Random	p.266
Repeat folder	p.266
Select USB device	p.270
Change subtitles	p.269
Change audio track	p.269
Scan	p.266
Audio settings See footnote B	p.251

A Does not apply to Performance.
B For submenus, see "Main menu FM".

Main menu Media BluetoothA	
Random	p.273
Change device	p.272
Remove Bluetooth device	p.272
Scan	p.273
Bluetooth software version in car	p.273
Audio settings See footnote B	p.251

A Does not apply to Performance.
B For submenus, see "Main menu FM".

Main menu AUX	
AUX input volume	p.251
Audio settings See footnote A	p.251

A For submenus, see "Main menu FM".

Main menu TV*	
Select country	p.288
Reorganise presets	p.288

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

Autostore	p.289
Scan	p.289
Audio settings See footnote A	p.251

A For submenus, see "Main menu FM".

Pop-up menu[A]*video and TV*	
Press **OK/MENU** when a video file is being played back or TV* is being shown in order to access the pop-up menu.	
Image settings	p.267
Source menu See footnote B	p.249
DVD disc menu See footnote C	p.266
DVD disc TOP menu[C]	p.266

A Only applies when playing back videos or displaying TV.
B What is shown in the pop-up menu for the source menu depends on what is being played back or displayed, it can be e.g. CD/DVD data menu or USB menu.
C Only applies to DVD video discs.

Menus TEL

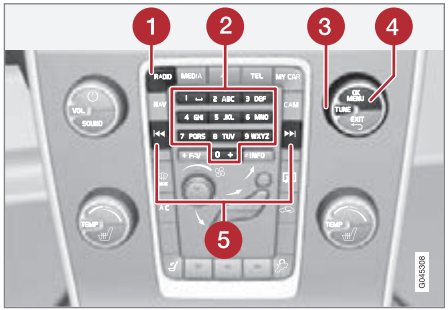
Main menu Bluetooth® handsfree[A] (Phone menu)	
All calls	p.277
All calls	p.277
Missed calls	p.277
Answered calls	p.277
Dialled calls	p.277
Call duration	p.277
Phone book	p.278
Search	p.279
New contact	p.280
Speed dials	p.281
Receive vCard	p.281
Memory status	p.281
Clear phone book	p.282
Change phone	p.276
Remove Bluetooth device	p.277
Phone settings	
Discoverable	p.275
Sounds and volume	p.277
Download phone book	p.278
Bluetooth software version in ca	p.282
Call options	
Auto answer	p.277

General information on infotainment

Voicemail number	p.277
Disconnect phone	p.276

A Does not apply to Performance.

General



Centre console, controls for radio functions.

1. **RADIO** button for selecting the wavelength (FM1, FM2, DAB1*, DAB2*).
2. Station presets (0-9)
3. Select the desired frequency/station or navigate in the radio menu by turning **TUNE**.
4. Confirm your selection or go to the radio menu by pressing **OK/MENU**.
5. Hold in the button for next/previous available station. Short press for preset.

NOTE

If the car is equipped with a steering wheel keypad* and/or remote control* then in many cases these can be used instead of the buttons in the centre console. For a description of the buttons in the steering wheel, see page 247. For a description of the remote control, see page 291.

Menus

The menus in**RADIO** are controlled from the centre console and the steering wheel keypad*. For general information on menu navigation, see page 249 and menu overview, see page 252.

Radio FM

Tuning

NOTE

The reception is dependent both on how good the signal strength and signal quality are. The transmission may be disturbed by various factors such as tall buildings or the transmitter being far away. Coverage level can also vary depending on where in the country you are located.

Automatic tuning

1. Press **RADIO**, turn **TUNE** until the desired wavelength (e.g. FM1) is shown, press **OK/MENU**.
2. Hold in ⏮ / ⏭ in the centre console (or in the steering wheel keypad*). The radio searches for the next/previous available station.

Station list[1]

The radio automatically compiles a list of the strongest FM stations whose signals it is currently receiving. This enables you to find a station when you drive into an area where you do not know the radio stations and their frequencies.

To go to the list and select a station:

1. Select the desired wavelength (FM1 or FM2).
2. Turn **TUNE** one step in either direction. This displays the list of all stations in the area. The currently tuned station is indicated with enlarged text in the list.
3. Turn **TUNE** again in either direction to select a station from the list.
4. Confirm your selection with **OK/MENU**.

1 Does not apply to Performance.

Radio

NOTE

- The list only shows the frequencies of stations that are currently being received, **not** a complete list of all radio frequencies on the selected wavelength.
- If the signal from the currently received station is weak, this may prevent the radio from updating the station list. If this occurs, press the #INFO button (while the station list is shown in the display screen) in order to change to manual tuning and set a frequency. If the station list is no longer shown, turn **TUNE** one step in either direction to show the list again, and press #INFO to switch.

The list disappears from the screen after a few seconds.

If the station list is no longer shown, turn **TUNE** one step in either direction and press the #INFO button in the centre console to change to manual tuning (or to return from manual tuning to the function for "Station list").

Manual tuning

The preset from the factory is that the radio shows the station list of the strongest stations in the area when you turn **TUNE** (see the section "Station list", page 257). When the station list is shown, press the #INFO button in the centre console to change to manual tuning. This allows you to select a frequency from the list of all available radio frequencies in the selected wavelength. In other words, if turn **TUNE** one step in a manual search the frequency is changed from e.g. 93.3 to 93.4 MHz, etc.

To manually select a station:

1. Press the **RADIO** button, turn **TUNE** until the desired wavelength (e.g. **FM1**) is shown, press **OK/MENU**.
2. Turn **TUNE** to select a frequency.

NOTE

The preset from the factory is that the radio automatically searches for the stations in the area where you are driving (see previous section "Station list" above).

But if you have changed over to manual tuning (by pressing the #INFO button in the centre console when the station list was shown), then the radio remains set in the function for manual tuning the next time you switch on the radio. To change back to the function for "Station list", turn **TUNE** one step (to show the complete list of stations) and press the button #INFO.

Note that if you press #INFO when the station list is not shown then **INFO** is activated. For more information on this function, see page 247.

Preset

10 presets can be stored per wavelength (e.g. **FM1**).

The stored presets are selected using the preset buttons.

1. Tune into a station (see "Tuning", page 257).
2. Hold in one of the preset buttons for a few seconds, the sound disappears dur-

ing this time and returns when the station is stored. The preset button can now be used.

A list of pre-selected channels can be shown[2] in the screen. The function is activated/deactivated in FM mode under **FM menu ➔ Show presets**.

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.

NOTE

Some radio stations do not use RDS or only some if 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 261. 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**), news (**NEWS**), and programme types (**PTY**) interrupt one another in order of priority, where alarm has the highest priority and programme types has the lowest. For additional settings of programming interruptions (**EON Distant** and **EON Local**), see the section "Enhanced Other Networks – EON" below. Press **EXIT** to return to the interrupted audio source, press the **OK/MENU** to clear the message.

Alarm

This function is used to warn of serious accidents and catastrophes. The alarm cannot be temporarily interrupted or deactivated. The message **ALARM!** appears in the screen 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** symbol indicates that the function is activated. If the preset station can send traffic information then this is shown by **TP** glowing brightly in the screen, otherwise **TP** will be grey.

– Activate/deactivate in FM mode under **FM menu ➔ TP**.

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 menu ➔ Advanced settings ➔ EON**:

- **Local** – interrupts only if the radio station transmitter is close.
- **Distant**[3] – interrupts if the station transmitter is far away, even if there is a lot of static.

TP from selected station/all stations

The radio can only interrupt for traffic information from the selected station or all stations within the RDS network.

[2] Only applies to High Performance Multimedia and Premium Sound Multimedia.
[3] Factory settings.

Radio

– Go in FM mode to **FM menu ➔ Advanced settings ➔ Set TP favourite** 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.

– Activate/deactivate in FM mode under **FM menu ➔ News settings ➔ News**.

News from selected station/all stations

The radio can only interrupt for news from the selected station or all stations in the RDS network.

– Go in FM mode to **FM menu ➔ News settings ➔ Set news favourite** to change.

Programme types – PTY

The PTY function can be used to select one or more 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 first selecting the programme types under **FM menu ➔ Advanced settings ➔ PTY settings ➔ Select PTY**.
2. Then the PTY function must be activated under **FM menu ➔ Advanced settings ➔ PTY settings ➔ Receive traffic bulletins from other networks**.

An indicator is shown in the screen when PTY is activated.

Deactivation of the PTY function is performed in FM mode under **FM menu ➔ Advanced settings ➔ PTY settings ➔ Receive traffic bulletins from other networks**. Selected programme types (PTY) are not reset.

Resetting and removing PTY are performed under **FM menu ➔ Advanced settings ➔ PTY settings ➔ Select PTY ➔ Clear all**.

PTY search

This function searches the entire wavelength for the selected programme type.

1. In FM mode select one or more PTY under **FM menu ➔ Advanced settings ➔ PTY settings ➔ Select PTY**.
2. Go to **FM menu ➔ Advanced settings ➔ PTY settings ➔ Seek PTY**.

To finish searching, press **EXIT**.

– To continue searching for another broadcast of the selected programme types, press on ⏮ or ⏭.

Display of programme type

The programme type of the current station can be shown in the screen.

– Activate/deactivate in FM mode under **FM menu ➔ Advanced settings ➔ PTY settings ➔ Show PTY text**.

Radio text[4]

Some RDSstations transmit information on programme content, artists, etc. This information can be shown in the screen.

– Activate/deactivate in FM mode under **FM menu ➔ Show radio text**.

Automatic frequency update – AF

The function selects the strongest transmitter for the set station. In order to find a strong transmitter the function may, in exceptional cases, need to search the entire FM wavelength.

4 Only cars with 7-inch screen

– Activate/deactivate in FM mode under **FM menu ➔ Advanced settings ➔ Alternative frequency**.

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 menu ➔ Advanced settings ➔ REG**.

Resetting RDS functions

All radio settings can be reset to the original factory settings.

– The reset is carried out in FM mode under **FM menu ➔ Advanced settings ➔ Reset all FM settings**.

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.

Scan wavelength

The function automatically searches for available channels and takes into account any programme type filtering. When a station is found, it is played for approx. 10 seconds before scanning is resumed. When a station is playing back it can be saved as a preset in the usual way, see the section Preset, page 258.

– To start scanning go in FM mode to **FM menu ➔ Scan**.

NOTE

Scanning stops if a station is saved.

Radio system - DAB*

General

DAB (Digital Audio Broadcasting) is a digital broadcasting system for radio. This system supports DAB, DAB+ and DMB.

NOTE

Coverage for DAB is not available in all locations. If there is no coverage then the message **No reception** is shown in the display screen.

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 may be necessary.

Programming of channel groups creates an updated list of all available channel groups. The list is not updated automatically.

Programming is carried out in the menu system in DAB mode under **DAB menu ➔ Ensemble learn**. Programming can also take place as follows:

1. Turn **TUNE** one step in either direction.
   > **Ensemble learn** is shown in the list of available channel groups.
2. Press **OK/MENU**.
   > New programming is started.

Programming can be cancelled with **EXIT**.

Radio

Navigation in channel group list (Ensemble)

To navigate in and access the channel group list turn **TUNE**. The name of the Ensemble is shown in the upper part of the screen. When switching to the new Ensemble the name changes to the new one.

- **Service** - Shows channels irrespective of the channel group to which they are allocated. The list can also be filtered using the selection of programme type (**PTY filtering**), see below.

Scanning

The function automatically searches the current wavelength for strong stations. When a station is found, it is played for approx. 10 seconds before scanning is resumed. When a station is playing back it is saved as a preset in the usual way. For more information on presets, see "Preset" below.

– Go in DAB mode to **DAB menu ➔ Scan** to start scanning.

NOTE

Scanning stops if a station is saved.

Scanning can also be selected in DAB-PTY mode. In which case only channels of the pre-selected programme type are played.

Programme type (PTY)

Various types of radio programmes can be selected using the programme type function. There are a number of different programme types which also include different programme categories. After selecting a programme type, navigation only takes place within the channels that are broadcasting that type.

Programme type is selected in DAB mode under **DAB menu ➔ PTY filtering**. Exit this mode as follows:

– Press **EXIT**.
  > An indicator is shown in the screen when PTY is activated.

In certain cases DAB radio will exit PTY mode when DAB to DAB linking (see below) is implemented.

Preset

10 station presets can be stored per wavelength. DAB has 2 memories for presets: **DAB1** and **DAB2**. Storage of presets is made by means of a long press on the desired preset button, for more information see page 258. 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 main channel is registered. This is because subchannels are temporary. At the next attempt to retrieve the preset, the channel which contained the subchannel will be played. The preset is not dependent on the channel list.

A list of pre-selected channels can be shown[5] in the screen. The function is activated/deactivated in DAB mode under **DAB menu ➔ Show presets**.

NOTE

The audio system's DAB system does not support all functions available in the DAB standard.

Radio text

Some radio stations transmit information on programme content, artists, etc. This information is shown in the screen.

The function is deactivated/activated in DAB mode under **DAB menu ➔ Show radio text**.

[5] Only applies to High Performance Multimedia and Premium Sound Multimedia.

NOTE

Only one of the functions "**Show radio text**" and "**Show presets**" can be activated at a time. If one of them is activated when the other is already activated, then the previously activated function is deactivated automatically. Both functions can be deactivated.

Advanced settings

DAB to DAB link

DAB to DAB linking means that the DAB radio can go from one 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.

The function can be activated/deactivated in DAB mode under **DAB menu ➔ Advanced settings ➔ DAB linking**.

Wavelength

DAB can be transmitted on two[6] wavelengths:

- **Band III** - covers most areas.
- **LBand** - available only in a few areas.

By selecting for example **Band III** on its own, channel programming takes place more quickly than if both **Band III** and **LBand** have been selected. It is not certain that all channel groups will be found. Wavelength selection does not affect the stored memories.

Wavelengths can be deactivated/activated in DAB mode under **DAB menu ➔ Advanced settings ➔ DAB band**.

Subchannel

Secondary components are usually named subchannels. These are temporary and can contain e.g. translations of the main programme into other languages.

If one or more subchannels are broadcast then the ⋁ symbol is shown to the left of the channel name in the screen. A subchannel is indicated by the - symbol appearing to the left of the channel name in the screen.

Press ⏭ to access the subchannels.

Subchannels can only be accessed on the selected main channel and not on any other channel without selecting it.

Display of subchannels can be deactivated/activated in DAB mode under **DAB menu ➔ Advanced settings ➔ Sub channels**

Programme type text

Some radio stations broadcast information about programme type and programme category, for information on Programme type (PTY), see page 262. This information is shown in the screen.

The function is activated/deactivated in DAB mode under **DAB menu ➔ Advanced settings ➔ Show PTY text**.

Resetting the DAB settings

All DAB settings can be reset to the original factory settings.

– The reset is carried out in DAB mode under **DAB menu ➔ Advanced settings ➔ Reset all DAB settings**.

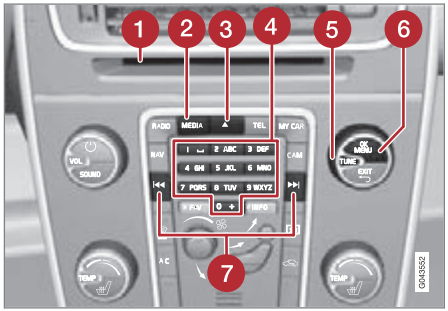
6 Not all areas/countries use both wavelengths.

Media player

General

The media player can playback audio and video from CD/DVD* discs and externally connected audio sources via the AUX/USB* input or wirelessly stream audio files from external devices using Bluetooth®. Certain media players can show TV* and have the option to communicate with a mobile phone (see page 274)* via Bluetooth®.

CD/DVD[1] functions



Centre console control panel.

1. Disc insert and eject slot
2. **MEDIA** button, activates last active media source. If you are already in a media source and press the **MEDIA** button then a shortcut menu is shown for commonly used menu options.
3. Disc eject
4. Input of numbers and letters.
5. Select the disc tracks/folders, or navigate through menu options by turning **TUNE**.
6. Confirm your selection or go to the menu for the selected media source by pressing **OK/MENU**.
7. Fast forward/reverse and change disc track or chapter[2].

The media player supports and can play the following main types of discs and files:

- Pre-recorded CD discs (CD Audio).
- Burned CD discs with audio and/or video files[1].
- Pre-recorded DVD video discs[1].
- Burned DVD discs[1] with audio and/or video files.

For more information about the supported formats, see page 267.

NOTE

If the car is equipped with a steering wheel keypad* and/or remote control* then in many cases these can be used instead of the buttons in the centre console. For a description of the buttons in the steering wheel, see page 247. For a description of the remote control, see page 291.

Menus

The menus in **MEDIA** are controlled from the centre console and the steering wheel keypad*. For general information on menu navigation, see page 249 and menu overview, see page 252.

Starting playback of a disc

Press the **MEDIA** button, turn **TUNE** until **Disc** is shown, press **OK/MENU**. If there is a disc in the media player then the disc starts playing back automatically, otherwise **Insert disc** is shown in the TV screen. Then insert a disc, with text side up. The disc starts to play back automatically.

If a disc with audio/video files is inserted into the player then the disc's folder structure needs to be loaded. Depending on the quality of the disc and the quantity of information

1 Only applies to High Performance Multimedia and Premium Sound Multimedia.
2 Only applies to DVD discs.

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

there may be a certain delay before playback starts.

Disc eject

A disc remains in the ejected position for about 12 seconds, after which it is inserted back into the player for safety reasons.

Pause

When the volume is reduced entirely or MUTE is pressed, the media player is paused. When the volume is increased or MUTE is pressed again, the media player starts. It is also possible to pause via the menu system[3], press **OK/MENU**, select **Play/Pause**.

Playback and navigation

CD audio discs

Turn **TUNE** to access the disc's playlist and navigate in the list. Use **OK/MENU** to confirm the selection of the disc track and start playback. Press **EXIT** to cancel and exit the playlist. A long press on **EXIT** leads to the playlist's root level.

Disc tracks can also be changed by pressing on ⏮ / ⏭ on the centre console or the steering wheel keypad*.

Burned discs audio/video files[1]

Turn **TUNE** to access the disc's playlist/folder structure and navigate in the list/structure. Use **OK/MENU** to confirm either selection of subfolder or start of playback of the selected audio/video file. Press **EXIT** to either stop and exit the playlist or go up (back) in the folder structure. A long press on **EXIT** leads to the playlist's root level.

Audio/video files can also be changed by pressing ⏮ / ⏭ on the centre console or the steering wheel keypad*.

Audio files have the symbol ♫ , video files[1] have the symbol 🎬 and folders have the symbol 📁 .

When playback of a file is complete the playback of the other files (of the same type) in that particular folder continues. Change[4] of folder takes place automatically when all the files in the current folder have been played back. The system automatically detects and changes setting when a disc containing only audio files or only video files is loaded into the media player and then plays back these files. However, the system does not change setting if a disc containing a mixture of audio and video files is loaded into the media player, but instead the player continues to play back the previous file type.

NOTE

A video film is only shown when the car is stationary. When the car is moving at a speed of over about 8 km/h no picture is shown and **No visual media available while driving** appears on the display screen, although the audio is heard during this time. The picture is shown again as soon as the car's speed falls below about 6 km/h.

NOTE

Some audio files that are copy-protected by record companies or privately copied audio files cannot be loaded by the player.

DVD video discs[1]

For playback of DVD video discs, see page 266.

Fast forward/reverse

Hold in the buttons ⏮ / ⏭ to fast forward/rewind. Audio files are fast forwarded/rewound at one speed, while video files are

[3] Does not apply to CD Audio
[1] Only applies to High Performance Multimedia and Premium Sound Multimedia.
[4] If Repeat folder is activated then this does not take place.

Media player

fast forwarded/rewound at several speeds. Repeatedly press the buttons ⏮ / ⏭ to increase the fast forward/rewind speed for video files. Release the button to return to viewing at normal speed.

Scan[5]

This function plays the first ten seconds of each disc track/audio file. To scan:

1. Press **OK/MENU**
2. Turn **TUNE** to **Scan**
   > The first 10 seconds of each disc track or audio file are played.
3. Cancel the scan with **EXIT**, the disc track or audio file being played back will continue playing.

Random[5]

This function plays the tracks in random order. To listen to the tracks in random order:

1. Press **OK/MENU**
2. Turn **TUNE** to **Random**
3. Press **OK/MENU** to activate/deactivate the function.

Disc tracks/audio files can be changed by pressing ⏮ / ⏭ on the centre console or the steering wheel keypad*.

Repeat folder[6]

This function makes it possible to play files in a folder over and over again. When the last file has been played out, playback of the first file starts again.

1. Press **OK/MENU**
2. Turn **TUNE** to **Repeat folder**
3. Press **OK/MENU** to activate/deactivate the function.

Playback of DVD video discs[1]

Playback

When playing back a DVD video disc a disc menu may appear on the display screen. The disc menu gives access to additional functions and settings, such as selecting subtitles, language and scene selection.

NOTE

A video film is only shown when the car is stationary. When the car is moving at a speed of over about 8 km/h no picture is shown and **No visual media available while driving** appears on the display screen, although the audio is heard during this time. The picture is shown again as soon as the car's speed falls below about 6 km/h.

Navigation in the DVD video disc's menu

Navigation in the DVD video disc's menu is performed using the number keys in the centre console as illustrated above.

[5] Does not apply to DVD video discs.
[6] Only applies to audio/video files on burned discs or USB.
[1] Only applies to High Performance Multimedia and Premium Sound Multimedia.

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

Changing chapter or title

Turn **TUNE** to access the list of chapters and navigate through them (if the film is being played back then it is paused). Press **OK/MENU** to select the chapter, this also leads back to the original position (if the film was being played back then it is restarted). Press **EXIT** to access the title list.

Titles are selected in the title list by turning **TUNE** and the selection is confirmed with **OK/MENU**, this also leads back to the chapter list. Press **OK/MENU** to activate the selection and return to the start position. Use **EXIT** to cancel the selection and this leads back to the original position (without any selection being made).

The chapter can also be changed by pressing on ⏮ / ⏭ on the centre console or the steering wheel keypad*.

Advanced settings[7]

Angle

If the DVD video disc supports it, the function can be used to choose from which camera position a particular scene should be shown.

Go in disc mode to **Disc menu** ➔ **Advanced settings** ➔ **Angle**.

DivX® Video On Demand

The media player can be registered in order to play DivX VOD type files from burned discs or USB. The code for registration can be found in the menu system **MY CAR** **Settings** ➔ **Information** ➔ **DivX® VOD code**. For general information on menus, see under **MY CAR**, see page 206.

For more information visit www.divx.com/vod.

Picture settings[7]

You can adjust the settings (when the car is stationary) for brightness and contrast.

1. Press **OK/MENU** and select **Image settings**, confirm with **OK/MENU**.
2. Turn **TUNE** to the adjustment option and confirm with **OK/MENU**.
3. Adjust the setting by turning **TUNE** and confirm with **OK/MENU**.

To return to the settings list, press the **OK/MENU** or **EXIT**.

The picture settings can be reset to factory settings with the **Reset** option.

Compatible file formats

The media player can play back a variety of file types and is compatible with the formats in the following table.

NOTE

Dual format, double-sided discs (DVD Plus, CD-DVD format) are thicker than regular CD discs and therefore playback cannot be guaranteed and malfunction may arise.

If a CD contains a mixture of MP3 and CDDA tracks, all MP3s will be ignored.

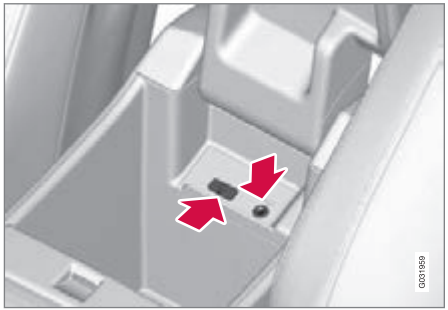
Audio format[A]	CD audio, mp3, wma
Audio format[B]	CD audio, mp3, wma, aac, m4a
Video format[C]	CD video, DVD video, divx, avi, asf

A Applies to Performance.
B Does not apply to Performance.
C Only applies to High Performance Multimedia and Premium Sound Multimedia.

7 Applies to High Performance Multimedia and Premium Sound Multimedia.

External audio source via AUX/USB* input

General



Connection points for external audio sources.

An external audio source, e.g. an iPod® or MP3 player, can be connected to the audio system via any of the connections in the centre console. An audio source connected to the USB input can then be handled[1] with the car's audio controls. A device connected via the AUX input cannot be controlled via the car.

NOTE

If the car is equipped with a steering wheel keypad* and/or remote control* then in many cases these can be used instead of the buttons in the centre console. For a description of the buttons in the steering wheel, see page 247. For a description of the remote control, see page 291.

An iPod® or MP3 player with rechargeable batteries is recharged (when the ignition is on or the engine is running) if the device is plugged into the USB connection.

To connect the audio source:

1. Press **MEDIA**, turn **TUNE** to the desired audio source **USB**, **iPod** or **AUX**, press **OK/MENU**.
   > If USB is selected then **Connect USB** is shown in the TV screen.
2. Connect your audio source to one of the connections in the centre console's storage compartment (see previous illustration).

The text **Reading USB** is shown in the TV screen when the system is loading the storage media's file structure. Depending on the file structure and number of files there may be some delay before loading is finished.

NOTE

The system supports most iPod® models produced in 2005 or later.

NOTE

To prevent damage to the USB connection, this is shut off if the USB connection is short-circuited or if a connected USB unit is taking too much power (this may happen if the unit connected does not meet the USB standard). The USB connection is reactivated automatically the next time the ignition is turned on, unless the fault persists.

Menus

The menus in **MEDIA** are controlled from the centre console and the steering wheel keypad*. For general information on menu navigation, see page 249 and menu overview, see page 252.

[1] Only applies to the media source connected via the USB connection.

Playback and navigation[2]

Turn **TUNE** to access the playlist/folder structure and navigate in the list/structure. Use **OK/MENU** to either confirm selection of subfolder or start of playback of the selected audio/video file. Press **EXIT** to either stop and exit the playlist or go up (back) in the folder structure. A long press on **EXIT** leads to the playlist's root level.

Audio/video files can also be changed by pressing ⏮ / ⏭ on the centre console or the steering wheel keypad*.

Audio files have the symbol ♫, video files[3] have the symbol 🎬 and folders have the symbol 📁.

When playback of a file is complete the playback of the other files (of the same type) in that particular folder continues. Change[4] of folder takes place automatically when all the files in the current folder have been played back. The system automatically detects and changes setting when a device containing only audio files or only video files is connected to the USB port and then it plays back these files. However, the system does not change setting if a device containing a mixture of audio and video files is connected to the USB port, but instead the player continues to play back the previous file type.

Fast forward/reverse[2]

See page 265.

Scan[2]

See page 266.

Random[2]

See page 266.

Search function[2]

The keypad on the control panel in the centre console can be used to find a filename in the current folder.

The search function is accessed either by turning **TUNE** (to access the folder structure) or by pressing one of the letter keys. As a letter or character in a search string is entered you get closer to your search target.

Start playback of a file by pressing **OK/MENU**.

Repeat folder[5]

See page 266.

Pause

When the volume is reduced entirely or MUTE is pressed, the media player is paused. When the volume is increased or MUTE is pressed again, the media player starts. It is also possible to pause via the menu system[6], press **OK/MENU**, select **Play/Pause**.

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.

2 Only applies to USB and iPod®.
3 Applies to High Performance Multimedia and Premium Sound Multimedia.
4 If Repeat folder is activated then this does not take place.
5 Only applies to USB.
6 Does not apply to iPod®

External audio source via AUX/USB* input

NOTE

The system supports mobile media compliant with USB 2.0 and the FAT32 file system and can handle 1000 folders with a maximum of 254 subfolders/files in every folder. The top level, which can handle up to 1000 subfolders/files, is an exception to this.

NOTE

When using a longer model USB memory stick the use of a USB adapter cable is recommended. This is to avoid mechanical wear to the USB input and the connected USB memory stick.

USB hub

It is possible to connect a USB hub to the USB connection and thereby connect multiple USB devices simultaneously. Selection of USB device is made in **USB** mode under **USB menu** ➔ **Select USB device**.

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.

NOTE

The system only supports the playback of audio files from iPod®.

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.

Compatible file formats via the USB connection

Audio and video files in the following table are supported by the system for playback via the USB connection.

Audio format	mp3, wma, aac, m4a
Video format[A]	divx, avi, asf

[A] Only applies to High Performance Multimedia and Premium Sound Multimedia.

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

Media Bluetooth®*

General

The car's media player is equipped with Bluetooth®[1] and can wirelessly play streaming audio files from external devices with Bluetooth®, such as mobile phones and PDAs. Navigation and control of the sound can be carried out via the centre console buttons or via the steering wheel keypad*. In some external devices it is also possible to change tracks from the device.

To play back the audio the car's media player must first be set in **Bluetooth** mode.

When a mobile phone is connected to the car, it is also possible to remotely control a selection of the mobile phone's functions, see page 274. Switch between the main sources **TEL** and **MEDIA** to operate each one's functions.

NOTE

The Bluetooth® media player must support the Audio/Video Remote Control Profile (AVRCP) and Advanced Audio Distribution Profile (A2DP). The player should use AVRCP version 1.3, A2DP 1.2. Otherwise some functions may not work.

Not all mobile phones and external media players available in the market are fully compatible with the Bluetooth® function in the car's media player. Volvo recommends that you contact an authorised Volvo dealer or visit www.volvocars.com for information on compatible phones and external media players.

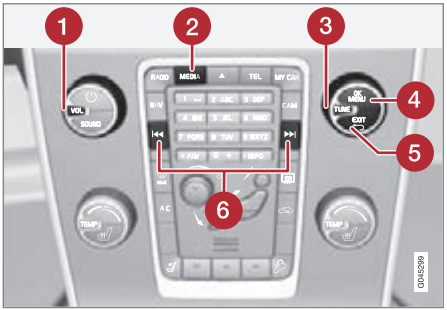
NOTE

The car's media player can only play the audio files via the Bluetooth® function.

Menus

The menus in **MEDIA** are controlled from the centre console and the steering wheel keypad*. For general information on menu navigation, see page 249 and menu overview, see page 252.

Overview



Centre console control panel.

1. **VOL** – volume
2. **MEDIA** button. Last active source (e.g. iPod®) is activated automatically. If a source is activated and you press **MEDIA** then a shortcut menu is shown with commonly used menu options.
3. Navigate in the menu by turning **TUNE**.
4. Confirm your selection or go to the menu by pressing **OK/MENU**.

[1] Applies to High Performance, High Performance Multimedia and Premium Sound Multimedia.

Media Bluetooth®*

5 **EXIT** - leads up in the menu system, stops the function in progress.

6 **Short presses** are used to scroll between audio files. **Long presses** are used to fast forward and rewind audio files.

NOTE

If the car is equipped with a steering wheel keypad* and/or remote control* then in many cases these can be used instead of the buttons in the centre console. For a description of the buttons in the steering wheel, see page 247. For a description of the remote control, see page 291.

Getting started

Connect an external Bluetooth® device

A maximum of ten external devices can be registered. The connection is made in the same way as for the phone, see Connect an external Bluetooth ® device, page 275.

Automatic connection

When the Bluetooth® function is active and the last external device connected is in range it is connected automatically. When the infotainment system searches for the last device connected its name is shown in the TV screen. To connect to another device, press **EXIT**. Connect a new external device, see "Change to another external device" below.

Change to another external device

It is possible to change a connected device with another device if there are several devices in the car. However, the device must first have been paired, see "Connect an external Bluetooth ® device" above. To change to another device:

1. Press **MEDIA**, turn **TUNE** until **Bluetooth** is shown, press **OK/MENU**.
2. Check that the external device is searchable/visible via Bluetooth®, see the manual for the external device.
3. Press **OK/MENU**.
4. Turn **TUNE** to **Change device**, and confirm with **OK/MENU**.
   > After a while, the external device's name is shown in the TV screen. If several external devices have been paired then these are also shown.
5. Select the device to be connected by turning **TUNE** and confirm with **OK/MENU**.
   > Connection of the external device takes place.

Change audio file by pressing ⏮ / ⏭ on the centre console or the steering wheel keypad*.

Disconnecting the device

Automatic disconnection takes place if the external device moves out of the infotainment system's range. For more information on connection, see page 272.

Remove the connected device

1. Press Bluetooth mode on **OK/MENU**.
2. Turn **TUNE** to **Remove Bluetooth device** and confirm with **OK/MENU**.
3. Select the device to be removed by turning **TUNE**, and confirm with **OK/MENU**.
   > A prompt asking whether or not you want to remove the connection is shown in the TV screen.
4. Press **OK/MENU** to confirm.

EXIT cancels.

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

Random[2]

This function plays back the audio files on the external device in random order. Activate/deactivate the random function in Bluetooth mode under **Bluetooth menu ➔ Random**.

Change audio file by pressing ⏮ / ⏭ on the centre console or the steering wheel keypad*.

Scanning of audio files in external device[2]

This function play backs the first ten seconds of each audio file. Activate/deactivate the function in Bluetooth mode under **Bluetooth menu ➔ Scan**.

Cancel scanning with **EXIT**.

Version information Bluetooth®

The car's current Bluetooth® version can be seen in Bluetooth mode under **Bluetooth menu ➔ Bluetooth software version in car**.

2 Not supported by all mobile phones.

Bluetooth® handsfree*

General

A mobile phone equipped with Bluetooth® can be connected wirelessly to the Infotainment system[1]. The infotainment system then works handsfree, with the option to control a range of the mobile phone's functions remotely. The microphone used is located by the driver's sun visor (2). The mobile phone can be operated by its own keys irrespective of whether or not it is connected.

NOTE

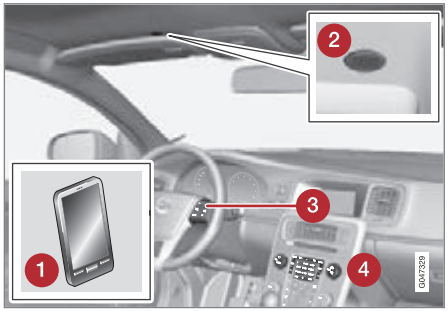
Only a selection of mobile phones are fully compatible with the handsfree function. Volvo recommends that you seek assistance from an authorised Volvo dealer or visit www.volvocars.com for information on compatible phones.

When a mobile phone is connected to the car, it is also possible to stream audio files from the phone at the same time, see page 271. Switch between the main sources **TEL** and **MEDIA** to operate each one's functions.

Menus

The menus in **TEL** are controlled from the centre console and the steering wheel keypad*. For general information on menu navigation, see page 249 and menu overview, see page 252.

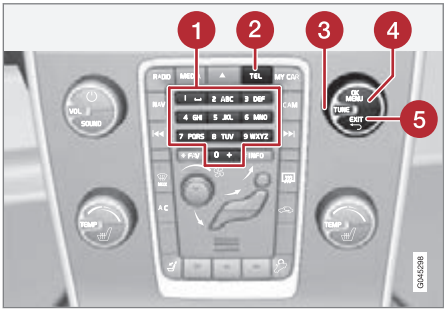
Overview



System overview

1. Mobile phone
2. Microphone
3. Steering wheel keypad
4. Centre console control panel

Phone functions, controls overview



Centre console control panel.

1. Number and letter buttons
2. **TEL** button activates/searches last connected phone. If a phone is already connected, and **TEL** is pressed, a shortcut menu is shown with commonly used menu options for the phone.
3. **TUNE** - Turn in normal view to the right to access the phone book, and to the left for the call register for all calls; also used for navigation among the options in the screen.

[1] Applies to High Performance, High Performance Multimedia and Premium Sound Multimedia.

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

4. Accept incoming calls, confirm your selection or go to the Phone menu by pressing **OK/MENU**.
5. **EXIT** - Cancels/rejects phone calls, deletes input characters, leads up in the menu system and cancels the current function.

NOTE

If the car is equipped with a steering wheel keypad* and/or remote control* then in many cases these can be used instead of the buttons in the centre console. For a description of the buttons in the steering wheel, see page 247. For a description of the remote control, see page 291.

Remember

Activate

A short press on **TEL** activates/searches last connected phone. If a phone is already connected, and **TEL** is pressed, a shortcut menu is shown with commonly used menu options for the phone. The  symbol indicates that a phone is connected.

Connect an external Bluetooth® device

A maximum of ten external devices can be registered. Registration is performed once per device. After registration the device no longer needs to be activated as visible/searchable.

NOTE

If the phone's operating system is updated then it is possible that the registration of the phone is interrupted. In which case, disconnect the phone, see page 277 and then reconnect it, see page 275.

It is possible to have two Bluetooth® devices connected simultaneously. One phone and one media device, which it is possible to switch between, see page 276 or see page 272. It is also possible to use the phone while streaming audio files from a connected device.

Connecting an external device takes place in different ways depending on whether or not the device has been connected previously. The connection alternatives below assume that this is the first time the device is being connected and that no other device is connected.

There are two possible ways of connecting devices, either search for the external device from the car, or search for the car from the external device. If one option does not work then try with the other.

Example of normal view for the phone.

If you are not already in the normal view, press **TEL** in the centre console.

Alternative 1 - search for the external device via the car's menu system

1. Make the external device searchable/visible via Bluetooth®, see the external device's manual or www.volvocars.com.
2. Press **OK/MENU** and follow the instructions in the car's screen.
   > The external device is now connected and can be controlled from the car.

Connection failed, press **EXIT** twice and connect in accordance with Alternative 2.

Bluetooth® handsfree*

Alternative 2 - Search for car with the external device's Bluetooth® function.

1. Make the car searchable/visible via Bluetooth®. Turn **TUNE** to **Phone settings**, confirm with **OK/MENU**, select **Discoverable** and confirm with **OK/MENU**.
2. Select **My Volvo Car** on the external device's screen and follow the instructions.
3. Enter an optional PIN code into the external device, then select the option to connect.
4. Press **OK/MENU** and then enter the same PIN code via the car's keypad in the centre console.

When the external device is connected, the external device's Bluetooth® name is shown in the car's screen and the device can be controlled from the car.

Automatic connection

When the handsfree function is active and the last mobile phone connected is in range it is connected automatically. If the last connected mobile phone is not available then the system will try to connect a mobile phone that was paired earlier. When the audio system searches for the last phone connected its name is shown in the screen.

Manual connection

If you want to change the connected mobile phone, go in phone mode to **Phone menu ➔ Change phone**.

Change to another external device

It is possible to change a connected device with another device if there are several devices in the car. However, the device must first have been registered to the car, see Connect an external Bluetooth® device. To change to another device:

1. Check that the external device is searchable/visible via Bluetooth®, see the manual for the external device.
2. Press **TEL** and then select **Change phone**.
   > The car searches for previously connected devices. The external devices detected are specified with their respective Bluetooth® name in the screen.
3. Select the device to be connected by turning **TUNE** and confirm with **OK/MENU**.
   > Connection of the external device takes place.

To call

1. Make sure that the  symbol appears at the top of the screen and that the handsfree function is in phone mode.
2. Dial either the desired number or speed dial number, see page 281. Or in normal view turn **TUNE** to the right to access the phone book, and to the left for the call register for all calls. For information on the phone book, see page 278.
3. Press **OK/MENU**.

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. The connection to the mobile phone can be manually broken in phone mode under **Phone menu ➔ Disconnect phone**. For more information on connection, see page 275.

The handsfree function is deactivated when the engine is switched off and the door is opened[2].

[2] Only Keyless Drive.

When the mobile phone has been disconnected an ongoing call can be continued by using the mobile phone's built-in microphone and speaker.

NOTE

Even when your mobile phone has been manually disconnected, some mobile phones may automatically couple up to the last handsfree unit connected, e.g. when a new call begins.

Remove the device

A connected mobile phone can be deregistered and removed. This is performed in phone mode under **Phone menu** ➔ **Remove Bluetooth device**.

Making and receiving calls

Incoming call

– Press **OK/MENU** to answer the call, even if the audio system is in e.g. **RADIO** or **MEDIA** mode.

Refuse or end with **EXIT**.

Automatic answer

The automatic answer function means that calls are accepted automatically.

– Activate/deactivate in phone mode under **Phone menu** ➔ **Call options** ➔ **Auto answer**.

In call menu

Press **OK/MENU** during an ongoing call to access the following functions:

- **Mute** - audio system microphone is muted.
- **Mobile phone** - the call is transferred from handsfree to the mobile phone. For some mobile phones the connection is interrupted. This is normal. The handsfree function asks if you want to reconnect.
- **Dial number** - option to call a third party using the number keys (current call set in standby).

Call lists

The call lists are copied to the handsfree function at each new connection and are then updated during the connection. In normal view, turn to the left with **TUNE** to see the call register for **All calls** .

In phone mode it is possible to see all the call lists under **Phone menu** ➔ **All calls**:

- **All calls**
- **Missed calls**
- **Answered calls**
- **Dialled calls**
- **Call duration**

NOTE

Certain mobile phones show a list of the last dialled numbers in reverse order.

Voice mailbox

In normal view a speed dial number for the voice mailbox can be programmed in and then accessed later via a long press on **1**.

Voice mailbox number is changed in phone mode under **Phone menu** ➔ **Call options** ➔ **Voicemail number** ➔ **Change number**. If there is no number stored then this menu can be reached with one long press on **1**.

Audio settings

Phone call volume

The phone call volume can only be changed during a call. Use the steering wheel keypad* or turn the **VOL** control.

Audio system volume

Providing there is no ongoing call taking place, the audio system volume is controlled as usual by turning **VOL**.

If an audio source is active during an incoming call then it can be muted automatically.

Bluetooth® handsfree*

Activate/deactivate in phone mode under **Phone menu ➔ Phone settings ➔ Sounds and volume ➔ Mute radio/media**.

Ring volume

In phone mode go to **Phone menu ➔ Phone settings ➔ Sounds and volume ➔ Ring volume** and adjust by turning **VOL**. Press **OK/MENU** to hear the audio volume. Press **EXIT** to save.

Ring signals

The handsfree function has integrated ring signals that can be selected in phone mode under **Phone menu ➔ Phone settings ➔ Sounds and volume ➔ Ring signals ➔ Ring signal 1** etc.

NOTE

For some mobile phones, the ringtone on the phone connected will not be switched off when one of the inbuilt signals for the handsfree system is used.

In order to select the connected phone's ring signal[3], go in phone mode to **Phone menu ➔ Phone settings ➔ Sounds and volume ➔ Ring signals ➔ Mobile phone ring signal**.

Phone book

There are two phone books. These are merged into one in the car and are displayed as a single phone book in the car.

- The car downloads the mobile phone's phone book and only displays this phone book when the mobile phone from which this phone book was downloaded is connected.
- The car also has a built-in phone book. This contains all the contacts stored in the car irrespective of which phone was connected when saving them. These contacts are visible for all users, regardless of the mobile phone that is connected to the car. If a contact is saved in the car then the symbol  is shown in front of the contact in the phone book.

NOTE

Changes made from the car to a record in the mobile phone's telephone book will result in a new record in the car's telephone book, i.e. changes will not be saved to the phone. From the car, this will now look like you have double records, with different icons. Note also that when a shortcut number is saved or a change to a contact is made, this will result in a new record in the car's phone book.

All use of the phone book requires that the  symbol appears at the top of the screen and that the handsfree function is in phone mode.

The audio system stores a copy of the phone book from each paired mobile phone. The phone book can be copied automatically to the audio system during each connection.

– Activate/deactivate the function in phone mode under **Phone menu ➔ Phone settings ➔ Download phone book**.

If the phone book contains a ringing caller's contact information then this is shown in the screen.

[3] Not supported by all mobile phones.

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

Quick search for contacts

In normal view turn **TUNE** to the right to obtain a list of contacts. Turn **TUNE** to select and press **OK/MENU** to call.

Under the name of the contact is the phone number that is selected by default. If the symbol **>** appears to the right of the contact then there are several phone numbers stored for the contact. Press **OK/MENU** to show the numbers. Change and dial a number other than that selected by default by turning **TUNE**. Press **OK/MENU** to dial.

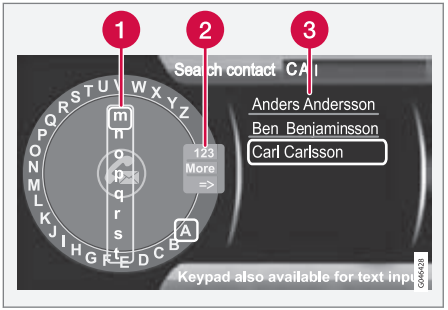
Search in the list of contacts by using the centre console's keypad to key in the start of the contact's name (see "Character table keypad in centre console" for button functions).

The list of contacts can also be accessed from normal view by pressing and holding the button on the centre console's keypad with the letter that the contact searched for starts with. For example, a long press on the button for **6** gives instant access to that part of the list where the contacts with the letter **M** are located.

Character table keypad in centre console

Key	Function
1 ␣	Space . , - ? @ : ; / ( ) 1
2 ABC	A B C Å Ä Æ À Ç 2
3 DEF	D E F È É 3
4 GHI	G H I Ì 4
5 JKL	J K L 5
6 MNO	M N O Ö Ø Ñ Ò 6
7 PQRS	P Q R S ß 7
8 TUV	T U V Ü Ù 8
9 WXYZ	W X Y Z 9
* FAV	Shift between upper and lower case letter.
0 +	+ 0 p w
#INFO	# *

Searching for contacts



Search contacts using the text wheel.

1. Character list
2. Changing the input mode (see table below)
3. Phone book

Bluetooth® handsfree*

To search for or edit a contact, go in phone mode to **Phone menu ➔ Phone book ➔ Search**.

NOTE

There is no text wheel for High Performance, so **TUNE** cannot be used there to input characters: only the digit and letter buttons on the control panel in the centre console can be used for this.

1. Turn[4] **TUNE** to the desired letter, press **OK/MENU** to confirm. The number and letter buttons on the control panel in the centre console can also be used.
2. Continue with the next letter and so on. The result of the search is shown in the phone book (3).
3. To change the input mode to numbers or special characters, or to go to the phone book, turn **TUNE** to one of the options (see explanation in the table below) in the list for changing the input mode (2), press **OK/MENU**.

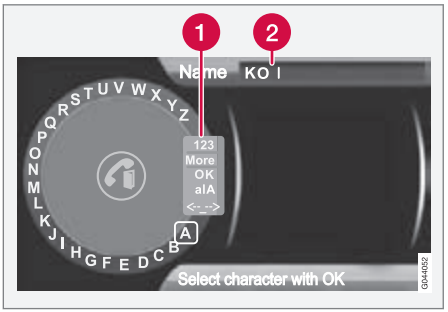
123/ABC	Change between letters and numbers with **OK/MENU**.
More	Change to special characters with **OK/MENU**.
=>	Leads to the phone book (3). Turn **TUNE** to select a contact, press **OK/MENU** to see the saved numbers and other information.

A short press on **EXIT** deletes an input character. A long press on **EXIT** will clear all entered characters.

By pressing a number key in the centre console when the text wheel is shown (see previous illustration), a new character list (1) is shown in the screen. Continue repeatedly pressing the number key to the desired letter and then release. Continue with the next letter and so on. When a button is depressed the entry is confirmed when another button is depressed.

To enter a number, hold in the corresponding number key.

New contact



Entering letters for New contact.

1. Changing the input mode (see table below)
2. Input field

New contacts can be added in phone mode under **Phone menu ➔ Phone book ➔ New contact**.

NOTE

There is no text wheel for High Performance, so **TUNE** cannot be used there to input characters: only the digit and letter buttons on the control panel in the centre console can be used for this.

4 Only applies to High Performance Multimedia and Premium Sound Multimedia.

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

1. When the **Name** row is selected, press **OK/MENU** to reach the input mode (illustration above).
2. Turn[4] **TUNE** to the desired letter, press **OK/MENU** to confirm. The number and letter buttons on the control panel in the centre console can also be used.
3. Continue with the next letter and so on. The name entered is shown in the input field (2) in the screen.
4. To change the input mode to numbers, special characters, change between uppercase/lowercase letters, etc., turn **TUNE** to one of the options (see explanation in the table below) in the list (1) and then press **OK/MENU**.

When the name has been fully entered, select **OK** in the list in the screen (1) and press **OK/MENU**. Now continue with the telephone number in the same way as above.

When the telephone number has been entered, press **OK/MENU** and select a telephone number type (**Mobile phone**, **Home**, **Work** or **General**). Press **OK/MENU** to confirm.

When all details have been filled in, select **Save contact** in the menu to save the contact.

123/ABC	Change between letters and numbers with **OK/MENU**.
More	Change to special characters with **OK/MENU**.
OK	Save and go back to **Add contact** with **OK/MENU**.
aIA	Change between uppercase and lowercase letters with **OK/MENU**.
<-_-->	Press **OK/MENU**, the cursor moves to the input field (2) at the top of the screen. The cursor can now be moved, with **TUNE**, to the appropriate place to e.g. insert new letters or delete with **EXIT**. To be able to insert new letters first go back to the input mode, by pressing **OK/MENU**.

Speed dial numbers

Use phone mode to add speed dial numbers under **Phone menu ➔ Phone book ➔ Speed dial**.

Dialling with speed dial numbers can be performed in phone mode using the number keys on the keypad in the centre console, by pressing a number key and then pressing **OK/MENU**. If there is no contact stored on the speed dial number then an option is shown to save a contact to the selected speed dial number.

Receiving a vCard

It is possible to receive a vCard to the car's phone book from other mobile phones (other than the one currently connected to the car). In order to allow this the car is set to visible mode for Bluetooth®. The function is activated in phone mode under **Phone menu ➔ Phone book ➔ Receive vCard**.

Memory status

Memory status of the car's phone book and the connected mobile phone's phone book can be seen in phone mode under **Phone menu ➔ Phone book ➔ Memory status**.

[4] Only applies to High Performance Multimedia and Premium Sound Multimedia.

Bluetooth® handsfree*

Delete phone book

The car's phone book can be deleted, this is carried out in phone mode under **Phone menu ➔ Phone book ➔ Clear phone book**.

NOTE

Deleting the car's telephone book only deletes contacts in the car's telephone book. Contacts in the mobile phone's phone book are not deleted.

Version information Bluetooth®

The car's current Bluetooth® version can be seen in phone mode under **Phone menu ➔ Phone settings ➔ Bluetooth software version in car**.

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

Voice recognition* mobile phone

General

The infotainment system's voice recognition[1] allows the driver to voice-activate certain functions in a Bluetooth®-connected mobile phone or in Volvo's navigation system - RTI (Road and Traffic Information System).

NOTE

- The information in this section describes the use of voice commands to control a **mobile phone connected using Bluetooth®**. For detailed information on using a mobile phone connected using Bluetooth® with the car's Infotainment system see page 274.
- The Volvo navigation system RTI (Road and Traffic Information System) has a separate user manual which contains more information on voice control and voice commands to control that system.

Voice commands offer convenience and help the driver to avoid being distracted, and instead concentrate on driving and focus attention on the road and traffic conditions.

WARNING

The driver always holds overall responsibility for driving the vehicle in a safe manner and complying with all applicable rules of the road.

The voice recognition system allows the driver to voice-activate certain functions of a Bluetooth®-connected mobile phone and in Volvo's navigation system - RTI (Road and Traffic Information System), while the driver can keep his/her hands on the wheel at the same time. The input data are in dialogue form with spoken commands from the user and verbal replies from the system. The voice recognition system uses the same microphone as the Bluetooth® handsfree system (see illustration on page 274) and the voice recognition system's replies come via the car's speakers.

Language

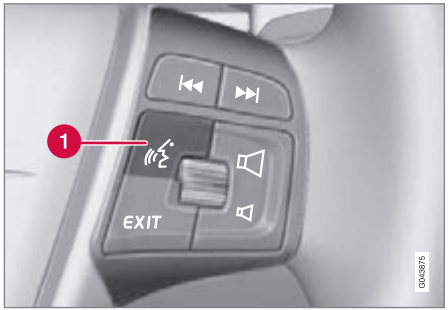
Language list.

Voice recognition is not possible for all languages. Languages available for voice recognition are marked with an icon in the language list - . Changing the language is performed in the menu system **MY CAR**, see page 208.

[1] Only applies to vehicles equipped with Volvo's navigation system - RTI (Road and Traffic Information System).

Voice recognition* mobile phone

Remember



Steering wheel keypad.

1 Button for voice recognition

To activate the system

Before voice commands to a mobile phone can be used the mobile phone must be paired and connected via Bluetooth® hands-free. If a telephone command is given and no mobile phone is paired, then the system will provide information about this. For information on pairing and connecting a mobile phone, see page 275.

- Press the button for voice recognition (1) in order to activate the system and initiate a dialogue with voice commands. The system will then display commonly used commands in the screen in the centre console.

Keep the following things in mind when you use the voice recognition system:

- For a command - speak after the tone, with normal voice at normal speed.
- Do not speak while the system is replying (the system cannot understand commands during this time).
- The car's doors, windows and sunroof* must be closed.
- Avoid background noise in the passenger compartment.

NOTE

If the driver is unsure of which command to use, he (she) can say "Help" - the system then responds with a few different commands which can be used in the current situation.

Voice commands can be disabled by:

- saying "Cancel"
- not speaking
- a long press on the steering wheel button for Voice recognition
- Press **EXIT** or another main source button (e.g. **MEDIA**).

Help functions for voice recognition

- **Instructions**: A function that helps you get familiar with the system and the procedure for giving commands.
- **Voice training**: A function that enables the voice recognition system to learn to know your voice and your accent. The function provides an opportunity to voice train two user profiles.

The help functions can be accessed by pressing the **MY CAR** button on the control panel in the centre console and then turning **TUNE** to the desired menu option.

Instructions

The instructions can be started in two ways:

NOTE

This instruction and voice training can only be started when the car is parked.

- Press the button for Voice recognition and say "Voice tutorial".
- Activate the instructions in the menu system **MY CAR** under **Settings ➔ Voice settings ➔ Voice tutorial**. For a description of the menu system, see page 206.

The instructions are divided into 3 lessons, which take around 5 minutes in total to complete. The system starts with the first lesson.

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

To skip a lesson and go to the next one, press the button for voice recognition and say "Next". Go back to the previous lesson by saying "Previous".

Exit the instructions by means of a long press on the button for voice recognition.

Voice training

The system displays up to fifteen phrases for you to say. Voice training can be started in the menu system **MY CAR** under **Settings ➔ Voice settings ➔ Voice training**. Choose between **User 1** or **User 2**. For a description of the menu system, see page 206.

After voice training has been completed, remember to set your user profile under **Voice user setting**.

Additional settings in MY CAR

- **User setting** - Two user profiles can be set, the function is activated in the menu system **MY CAR** under **Settings ➔ Voice settings ➔ Voice user setting**. Choose between **User 1** or **User 2**. For a description of the menu system, see page 206.
- **Voice output volume** - Can be changed in the menu system **MY CAR** under **Settings ➔ Voice settings ➔ Voice output volume**. For a description of the menu system, see page 206.

Using voice commands

The driver initiates a dialogue with the voice commands by pressing the button for voice recognition (see illustration on page 284).

Once a dialogue has been started, commonly used commands will be shown in the screen. Greyed-out text or text within brackets is not included in the spoken command.

When the driver becomes accustomed to the system, he/she can speed up the command dialogue and skip the prompts from the system, by briefly pressing the button for voice recognition.

Commands can be given in several ways

The command "Phone call contact" can be pronounced as e.g.:

- "Phone > Call contact" - Say "Phone", wait for the system's reply, and then continue by saying "Call contact."

or

- "Phone call contact" - Say the whole command in one sequence.

Quick commands

Quick commands for the phone can be found in the menu system **MY CAR** under **Settings ➔ Voice settings ➔ Voice command list ➔ Phone commands** and **General commands**. For a description of the menu system, see page 206.

Dial a number

The system understands the numbers **0** (zero) to **9** (nine). These numbers can be pronounced individually, in groups of several numbers at a time, or the whole number all at once. Numbers greater than **9** (nine) cannot be handled by the system, e.g. **10** (ten) or **11** (eleven) are not possible.

The following is an example of a dialogue with voice commands. The system's reply will vary depending on the situation.

The user starts the dialogue by saying:
Phone > dial number

or

Phone dial number

System reply
Number?

User action
Start saying the numbers (as individual units, i.e. six-eight-seven, etc.) in the phone number. If you say several numbers and pause, the system will repeat them, and then say "Continue".

Continue to say the numbers. When finished, finish the command by saying "Call".

Voice recognition* mobile phone

- You can also change the number by saying the commands "Correct" (which deletes the last spoken group of numbers) or "Delete" (which deletes the whole spoken phone number).

Dialling from the call register

The following dialogue allows you to make a phone call from one of your mobile phone's call registers.

The user starts the dialogue by saying:
Phone > call from the call register

or

Phone call from the call register

Continue by responding to the system's prompts.

Call a contact

The following dialogue allows you to call your pre-defined contacts in the mobile phone.

The user starts the dialogue by saying:
Phone > call contact

or

Phone call contact

Continue by responding to the system's prompts.

Consider the following when you call a contact:

- If there are several contacts with similar names, they will be presented in the screen in the numbered rows and the system prompts you to select a row number.
- If there are more rows in the list than can be displayed simultaneously, saying "Down" allows you to scroll down in the list (and saying "Up" allows you to scroll up in the list).

Calling voice mailbox

The following dialogue allows you to call your voice mailbox to check if you have received any messages. The phone number for your voice mailbox must be registered in the Bluetooth® function, see page 277.

The user starts the dialogue by saying:
Phone > call voice mailbox

or

Phone call voice mailbox

Continue by responding to the system's prompts.

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

General

NOTE

This system only supports TV broadcasts in the countries that broadcast in MPEG-2 or MPEG-4 format and follow the DVB-T standard. The system does not support analogue broadcasts.

NOTE

The TV picture is only shown when the car is stationary. When the car is moving at a speed over about 6 km/h the picture disappears, **No visual media available while driving** appears on the display screen, although the audio is heard during this time. The picture reappears when the car has stopped.

Cars with RSE do not shut off the rear screens.

NOTE

The reception is dependent both on how good the signal strength and signal quality are. The transmission may be disturbed by various factors such as tall buildings or the TV transmitter being far away. Coverage level can also vary depending on where in the country you are located.

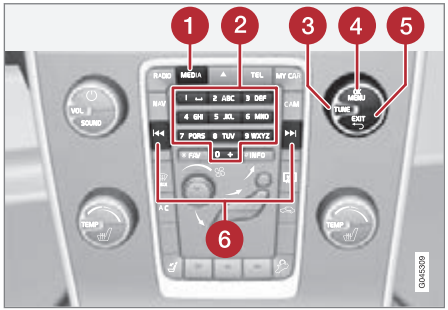
IMPORTANT

A TV licence is required for this product in some countries.

Menus

The menus in **MEDIA** are controlled from the centre console and the steering wheel keypad*. For general information on menu navigation, see page 249 and menu overview, see page 252.

Overview



Centre console control panel.

1. **MEDIA** button. Last active source (e.g. iPod® or TV) is activated. If a source is activated and you press **MEDIA** then a shortcut menu is shown with commonly used menu options.
2. Station presets, numeric input.
3. Navigate in channel lists or menus by turning **TUNE**.
4. Confirm your selection or go to the menu by pressing **OK/MENU**.
5. **EXIT** - leads up in the menu system, stops the function in progress.
6. The next available channel is shown by pressing ⏮ / ⏭.

NOTE

If the car is equipped with a steering wheel keypad* and/or remote control* then in many cases these can be used instead of the buttons in the centre console. For a description of the buttons in the steering wheel, see page 247. For a description of the remote control, see page 291.

TV*

Watch TV

– Press **MEDIA**, turn **TUNE** until TV is shown in the screen, press **OK/MENU**.
  > A search starts and after a short while the most recently used channel is shown.

Changing channel

It is possible to change channel as follows:

- Turn **TUNE**, a list of all available channels in the area is shown. If any of these channels is already saved as a preset then its preset number is shown to the right of the channel name. Continue turning **TUNE** to reach the desired channel and press **OK/MENU**.
- By pressing the preset buttons (0-9).
- Via a short press on the ⏮ / ⏭ buttons the next available channel in the area is shown.

NOTE

If the car has been moved within the country, for example, from one city to another, it is not certain that the presets are available at the new location as the frequency range may have changed. In which case, carry out a new search and save a new preset list, see the function "Save the available TV channels as presets", page 289.

NOTE

If no reception is available on the preset buttons, it may be because the car is at a location other than where the scan of TV channels was run, for example, if the car was driven from Germany to France. A new selection of country and a new search may then need to be carried out.

Searching TV channels/Preset list

1. Press TV mode on **OK/MENU**.
2. Turn **TUNE** to TV menu and press **OK/MENU**.
3. Turn **TUNE** to Select country and press **OK/MENU**.
   > If one or more countries have previously been selected then they are shown in a list.
4. Turn **TUNE** to either Other countries or one of the previously selected countries. Press **OK/MENU**.
   > A list of all available countries is shown.
5. Turn **TUNE** to the desired country (e.g. Sweden) and press **OK/MENU**.
   > An automatic scan for available TV channels starts, this scan takes a little while. During this time the figure for each channel found and added as a preset is shown. When the scan is complete a message is shown and the picture is shown. A preset list (max. 30 presets) has now been created and is available. To change channel, see page 288.

The scan and preset storage can be cancelled with **EXIT**.

Channel management

The preset list can be edited. You can change the order of the channels that are shown in the preset list. A TV channel can have more than one place in the preset list. The TV channel positions can also vary in the preset list.

To change the order in the preset list, go in TV mode to TV menu ➔ Reorganise presets.

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

1. Turn **TUNE** to the channel you want to move in the list and confirm with **OK/MENU**.
   > The selected channel is highlighted.
2. Turn **TUNE** to the new location in the list and confirm with **OK/MENU**.
   > The channels change places with each other.

After the preset channels (max. 30) come all the other channels available in the area. It is possible to move a channel up to a place in the preset list.

Save the available TV channels as presets

If the car has been moved within the country, for example, from one city to another, it is not certain that the presets are available at the new location as the frequency range may have changed. In which case, carry out another scan and save a new preset list.

1. Press TV mode on **OK/MENU**.
2. Turn **TUNE** to **TV menu** and press **OK/MENU**.
3. Turn **TUNE** to **Autostore** and press **OK/MENU**.
   > An automatic scan for available TV channels starts, this scan takes a little while. During this time the figure for each channel found and added as a preset is shown. When the scan is complete a message is shown and the picture is shown. A preset list (max. 30 presets) has now been created and is available. To change channel, see page 288.

Scanning the TV channels

This function automatically scans through the frequency range for all channels available in the area where you are. When a channel is found, it is shown for approx. 10 seconds before scanning is resumed. Scanning is stopped with **EXIT**, then the channel that you just watched continues to be shown. Scanning does not affect the preset list.

Activate scanning in TV mode under **TV menu ➔ Scan**.

Teletext

It is possible to read Teletext. Follow these steps:

1. Press the button on the remote control.
2. Enter the page number (3 digits) with the number keys (0-9) to select page.
   > The page is shown automatically.

Enter new page number, or press the remote control buttons ◀ / ▶ to go to the next page.

Return to TV screen with **EXIT** or by pressing the button on the remote control.

It is also possible to control the teletext with the coloured buttons on the remote control.

Information about the current programme

Press the **INFO** button in order to display the information about the current programme, the next programme and its start time. If the **INFO** button is pressed once more then additional information on the current programme can sometimes be displayed, such as start and end times and a brief description of the current programme. For more information on the **INFO** button, see page 247.

To return to the TV picture, wait several seconds or press **EXIT**.

TV*

Picture settings

The settings for brightness and contrast can be adjusted. For more information, see page 267.

The reception is lost

If the reception for the TV channel that is being shown disappears then the picture will freeze. Shortly after this a message appears informing that the reception has been lost for the current TV channel, and a new search for the channel continues. When the reception returns the display of the TV channel starts immediately. It is possible to change channel at any time when the message is shown.

If the message **Reception lost, searching** is shown then this is because the system has detected that there is no reception for all TV channels. One possible reason may be that a border has been crossed and that the system is set to the wrong country. In which case, change to the right country in accordance with "Searching TV channels/Preset list", see page 288.

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

Remote control*

General*

1 Corresponds to **TUNE** in the centre console.

The remote control can be used for all functions in the infotainment system. The remote control's buttons have the same functions as the buttons in the centre console or steering wheel keypad*.

When using the remote control, first press the remote control's button L F R to position **F**. Then aim the remote control at the IR receiver, which is located to the right of the **INFO** button (see page 247) in the centre console.

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.

NOTE

Do not expose the remote control to direct sunlight (e.g. on the instrument panel) - otherwise problems may arise with the batteries.

Functions

Key	Function
L F R	**F** = Front TV screen
NAV	Change to navigation*
RADIO	Change to radio source (e.g. FM1)
MEDIA	Change to media source (Disc, TV* etc.)
TEL	Change to Bluetooth® hands-free*
⏮	Scroll/fast rewind, change track/song
⏯	Play/pause
⏹	Stop
⏭	Scroll/fast forward, change track/song
DVD MENU	Menu
EXIT	To previous, cancels function, deletes input characters

Remote control*

Key	Function
▲ ▼	Navigate up/down
◀ ▶	Navigate right/left
OK MENU	Confirm selection or go to the menu system for the selected source
	Volume, decrease
	Volume, increase
0-9	Preset channels, number and letter input
FAV *	Shortcuts for favourite setting.
INFO #	Information about the current programme, song, etc. Also used when there is more information available than can be shown in the display screen.
	Selection of language for soundtrack

Key	Function
	Subtitles, selection of language for text
	Teletext*, On/Off

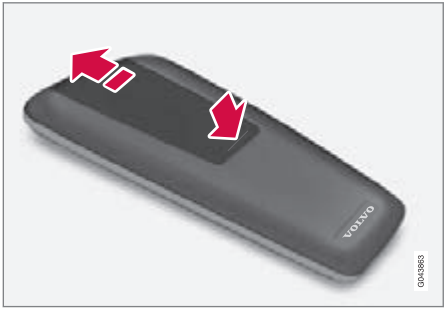
Replacing the battery in the remote control

NOTE

Battery life is normally 1-4 years and depends on how much the remote control is used.

The remote control is powered by four batteries of the AA/LR6 type.

Take along extra batteries for a long journey.



1. Push down the catch on the battery cover and slide the battery cover in the direction of the infrared lens.
2. Remove the used batteries, turn the new batteries in accordance with the symbols in the battery compartment and fit them.
3. Refit the cover.

NOTE

Be sure to dispose of the exhausted batteries in an environmentally safe manner.

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

07

DURING YOUR JOURNEY

Recommendations during driving

General

Planning your driving

Utilise electric operation as much as possible:

- Find out where the charging stations are located.
- Prioritise choosing a parking space with a charging station.
- Balance electricity consumption with the accelerator pedal, and by these means use the advantages of the electric motor.

WARNING

Remember that the car does not emit any engine noise when it is only powered by the electric motor and may therefore be difficult to notice by children, pedestrians, cyclists and animals. This applies in particular at low speeds, such as in car parks.

NOTE

Make a habit of always starting a journey with fully-charged hybrid battery.

Driving techniques

The electric motor acts as both engine and alternator. During braking the brake force is used to recharge the hybrid battery - energy that otherwise would have been lost as heat energy, see page 133.

Here is some advice that reduces power consumption (allowing longer possible mileage) without the need for travelling time to increase or driving pleasure to decrease.

- Do not hold the car stationary on a hill with the accelerator pedal. Use the foot brake instead.
- Use engine braking and smooth operation of the foot brake when braking - this recharges the hybrid battery and extends the possible mileage with the electric motor, see page 133.
- High speed increases power consumption considerably due to increased wind resistance - doubling speed increases wind resistance 4 times.
- Maintain the car regularly - follow Volvo's recommended service intervals.
- Towing another car consumes a lot of electricity - use the **AWD** mode. This then charges the hybrid battery, in combination with improving the car's driving characteristics and roadholding, see page 125.

For more information, see the heading Economical driving.

Outside temperature

The electric motor, electronics and batteries work best at approx. 25 °C. When the car is connected to an electrical socket it is conditioned to its optimal temperature range. If the car's electric motor is started in cold weather or goes beyond its permitted temperature range while driving then the fuel heater starts and, if required, the internal combustion engine starts automatically so that heating takes place. The car can be driven electrically but with reduced power if the temperature becomes too low.

Similarly, the system may need to be cooled down when driving in hot conditions.

NOTE

If the outside temperature drops extremely low then the diesel engine will always be running.

Economical driving

Driving economically means driving smoothly while thinking ahead and adjusting your driving style and speed to the prevailing conditions.

- Drive in the highest gear possible, adapted to the current traffic situation and road - lower engine speeds result in lower fuel consumption.
- Avoid driving with open windows.
- Avoid sudden unnecessary acceleration and heavy braking.

- Drive with the correct tyre pressure, see page 399.
- Remove unnecessary items from the car - the greater the load the higher the consumption.
- Use engine braking to slow down, when it can take place without risk to other road users.
- A roof load and ski box increase air resistance, leading to higher 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.

For more information and further advice, see the pages 11 and 398.

WARNING

Never switch off the engine while moving, such as downhill, this deactivates important systems such as the power steering and brake servo.

Power consumers

The more power consumers in the car that are switched on (e.g. stereo, electrically heated windows, door mirrors, seats, etc.) the higher the energy consumption.

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 317.

- 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 then a warning symbol is illuminated in the combined instrument panel and its display shows the text message **High engine temp Stop safely** - stop the car in a safe way and allow the engine to run at idling speed for several minutes in order 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 a warning symbol in the combined instrument panel, and its display shows the text message **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 in order 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 starter 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.

For more information on key position, see page 84.

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
- headlamps
- windscreen wiper
- audio system (high volume).

If the starter battery voltage is low then the combined instrument panel's 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 starter battery by starting the engine and then running it for at least 15 minutes - charging the starter battery 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 opti-

mum 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 395.

IMPORTANT

Low viscosity oil must not be used for hard driving or in hot weather.

- The condition of the starter battery and charge level must be inspected. Cold weather places great demands on the starter 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 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.

Range

Power consumers

In order to achieve the longest possible mileage for electric operation, the driver of an electric car also has to think about energy conservation. The more consumers there are (stereo, electrically heated windows/mirrors/seats, very cold air from the climate control system, etc.) that are switched on - the shorter the potential mileage.

For more information about range during electric operation, see page 401.

NOTE

In addition to high power output in the passenger compartment, high speed, sudden acceleration, heavy loads and uphill gradients can also reduce the possible driving distance.

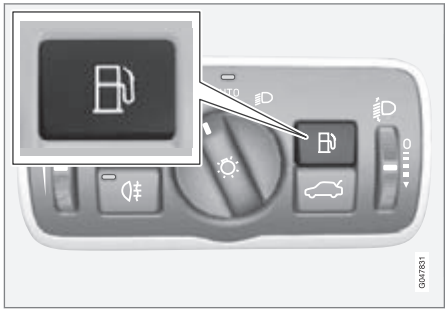
Longer periods of inactive time

During normal hybrid battery charging, some of the charging current is used to keep the car's drive system ready to drive, mainly to control the hybrid battery's temperature. If the car is not being used for a few days then energy can be saved by not starting preconditioning. If the car is not used for a long time, the hybrid battery performs best if the car is parked in a cool place.

Refuelling

Refuelling

Opening/closing the fuel filler flap

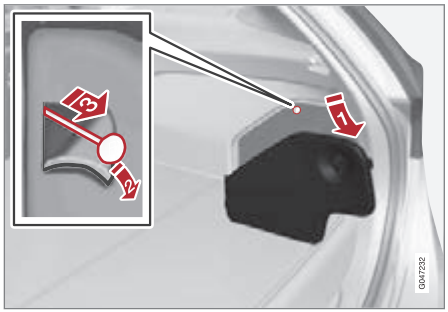


Open the fuel filler flap using the button on the lighting panel - the flap opens when the button is released.

In the combined instrument panel's display the arrow on the symbol indicates which side of the car the fuel cap is located.

- Close the fuel filler flap by pressing it in until a click confirms that it is closed.

Opening the fuel filler flap manually



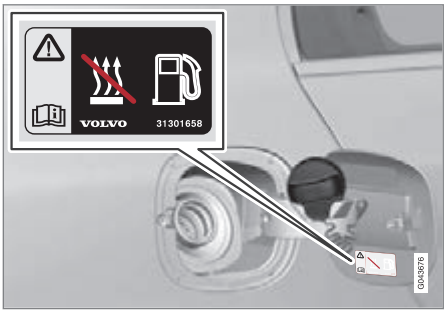
The fuel filler flap can be opened manually when electric opening from the passenger compartment is not possible.

1. Open/remove the side hatch in the cargo area (same side as fuel filler flap).
2. Expand/open a perforated section in the isolation and locate a green cord with handle.
3. 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



The fuel filler cap can be attached onto the flap.

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.

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).

Diesel

Only use diesel fuel from well-known producers. Never use diesel of dubious quality. Diesel should fulfil the EN 590 or JIS K2204 standards. Diesel engines are sensitive to contaminants in the fuel, such as excessively high volumes of sulphur particles for example.

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

Fuel

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 that must not be used:

- Special additives
- Marine diesel fuel
- Heating oil
- FAME[1] (Fatty Acid 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. Insert the remote control key in the ignition switch and push it in to the end position (see page 84).
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.

NOTE

Before filling with fuel in the event of fuel shortage:

- Stop the car on as flat/level ground as possible - if the car is tilting there is a risk of air pockets in the fuel supply.

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.

[1] Diesel fuel may contain a certain amount of FAME, but further amounts must not be added.

IMPORTANT

Certain special additives remove the water separation in the fuel filter.

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 particle filter is automatic and normally takes 10-20 minutes. It may take a little longer at a low average speed. Fuel consumption may increase slightly during regeneration.

During regeneration, charging of the hybrid battery is activated temporarily in the background, which is similar to the SAVE function, see page 125.

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 approx. 80% full of particles, a yellow warning triangle is shown in the combined instrument panel, and the message **Soot filter full See manual** is shown in its display.

Start regeneration of the filter by driving the car until the engine reaches normal operating temperature, preferably on a main road or motorway. The car should then be driven for approximately 20 minutes more.

NOTE

The following may arise during regeneration:

- a smaller reduction of engine power may be noticed temporarily
- fuel consumption may increase temporarily
- a smell of burning may arise.

When regeneration is complete the warning text is cleared automatically.

Use the parking heater* in cold weather - the engine then 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 390 and table page 398.

The manner in which the car is driven, and other non-technical factors can also affect fuel consumption.

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.

Charging - hybrid battery

Hybrid battery

In addition to the fuel tank, as in a conventional car, the car is equipped with a rechargeable battery of the Lithium-ion type (hybrid battery).

If the hybrid battery's temperature is below -10 ºC or above 30 ºC then it may mean that some of the car's functions are changed or unavailable because the capacity of the hybrid battery is reduced outside this temperature range. Examples of this are drive mode PURE (see page 124) which is not optional if the battery temperature is too low or too high.

WARNING

The hybrid battery must only be replaced by a workshop - an authorised Volvo workshop is recommended.

Charging current

The charging cable between the car and a 230 VAC socket can be set for loads of different current intensities (6-16 A)[1] via the control unit, see page 306. When the charging cable is activated the combined instrument panel shows a message and a lamp illuminates in the car's charging input socket, see page 309. The charging current is mainly used for battery charging, but is also used for preconditioning the car, see page 225.

Charging time varies depending on the current intensity of the 230 VAC socket.

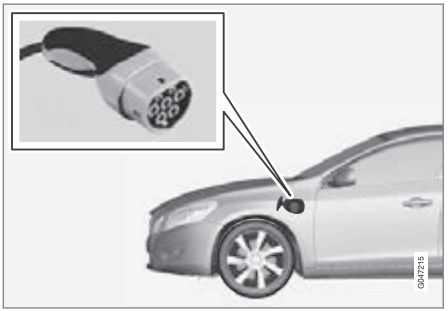
See examples in the following table:

Current intensity (A)	Charging time (hours)
6	7,5–10,0
10	4,5–7,0
16	4,0–5,5

NOTE

- If the weather is very cold or very hot then some of the charging current is used to heat/cool the hybrid battery and the passenger compartment (preconditioning), which results in a longer charging time.
- The charging time is extended if preconditioning has been selected. The time required depends mainly on the outside temperature.

For more information on preconditioning, see page 225.



Charging cable plug and charging input socket.

[1] Amperes may vary depending on market.

To bear in mind

Normally several 230 VAC sockets are included in a fuse circuit, so additional consumers (e.g. lighting, vacuum cleaner, electric drill, etc.) can be on the same fuse.

Example 1

If the car is connected to a 230 VAC/10 A socket and the control unit is set at **16 A**, then the car will attempt to draw 16 A from the 230 VAC mains power circuit - after a while the overloaded 10 A fuse for the socket will be tripped and battery charging stopped.

In which case, reset the fuse for the socket and select a lower charging current on the control unit, see page 309.

Example 2

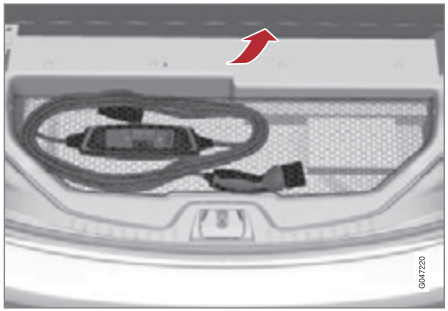
If the car is connected to a 230 VAC/10 A socket and the control unit is set at **10 A**, then the car will draw 10 A from the 230 VAC mains power circuit. If additional consumers are connected to the same socket (or another socket in the same fuse circuit) then there is a risk that the fuse for the socket/fuse socket will be overloaded and triggered, at which point battery charging is stopped.

In which case, reset the socket/fuse circuit and select a lower charging current on the control unit, see page 309 - or disconnect other consumers.

Example 3

If the car is connected to a 230 VAC/10 A socket and the control unit is set at **6 A**, then the car will only draw 6 A from the 230 VAC mains power circuit. Battery charging will of course take longer, but then additional consumers can be connected at the same time to the same socket (or fuse circuit) as long as the total load does not exceed the capacity of the fuse circuit.

Charging cable



The charging cable is located in the storage compartment under the cargo area's floor cover.

Specifications, charging cable	
Enclosure class	IP67
Ambient temperature	-25 ºC to +50 ºC

WARNING

The charging cable must not be used if any part of it is damaged - there is then the risk of electric shock or serious personal injury.

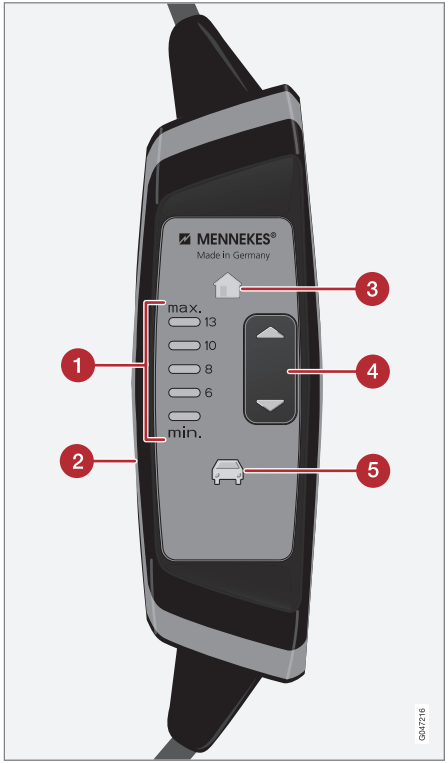
A damaged or inoperative charging cable must only be repaired by a workshop - an authorised Volvo workshop is recommended.

IMPORTANT

The charging cable must be connected to its own 230 VAC socket that has no other load.

Charging - hybrid battery

Control unit



Control unit display and controls.

No.	Symbol	Function
1		Indicator - shows the selected charging current 6-16 A[A].
2		Switch - On (**On**)/ Off (**Off**)
3		Illuminated when the charging cable is plugged into a 230 VAC socket.
4		Control for increasing or decreasing the charging current.
5		Illuminated when the charging cable is plugged into the car's 230 VAC input socket.

A Amperes may vary depending on market.

IMPORTANT

Multiple plugs, overvoltage protection or similar devices must not be used together with the charging cable since this may involve a risk of fire, electric shock, etc.

An adapter between the 230 VAC socket and charging cable may only be used if the adapter is marked with approval in accordance with IEC 61851 and IEC 62196.

Charging - hybrid battery

Control unit display

Display (see preceding illustration)	Status	Specification	Recommended action
The indicator for charging current (1) is extinguished. The car symbol (5) illuminates in green.	Standby	• The car's connection is found. • Charging is possible but has not yet been activated by the electronics in the car.	Wait until the battery is fully charged.
The lamp for maximum charging current illuminates in yellow. Existing current consumption is shown with a green indicator (1). The car symbol (5) flashes green.	Charging in progress.	• The car's electronics have started charging. • Charging in progress.	Wait until the battery is fully charged.
The indicator for charging current (1) is extinguished. The car symbol (5) illuminates with a constant green glow.	Charging is finished.	• The battery is fully charged.	1. Finish charging, see page 310. 2. The car is ready for use.
The indicator for charging current is extinguished. The car symbol (5) flashes red.	Charging is not possible.	• There is a communication error between the control unit and the car. • The ventilation for the car's electronics is not adequate, not activated or defective.	1. Check all connections or use another 230 VAC socket. 2. Restart the battery charging.

Charging - hybrid battery

Display (see preceding illustration)	Status	Specification	Recommended action
The car symbol (5) illuminates with a constant red glow.	Charging is not possible.	• The ground fault breaker on the charging cable has triggered.	1. Unplug the charging cable from the 230 VAC socket. 2. Set the control unit's switch to Off/(Off), then On/(On) - then the ground fault breaker is reset and the unit restarts.
The indicator (1) for charging current and the house symbol (3) flash red.	Charging is not possible.	Temperature monitoring has triggered for the 230 VAC socket.	Restart charging. If the problem persists - consult a qualified professional.

Charging

WARNING

- Charging the hybrid battery must only take place from approved grounded 230 VAC sockets.
- The control unit's ground fault breaker protects the car, but there may still be a risk of overloading the 230 VAC mains power circuit.
- Avoid visible worn or damaged mains sockets since they may lead to fire damage and/or personal injury if used.
- Never use an extension cable.

Before charging

IMPORTANT

- The control unit should not be flooded or immersed in water.
- Avoid direct sunlight.

IMPORTANT

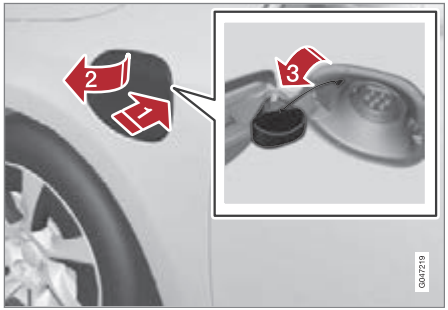
- Check that the 230 V socket has adequate power supply for charging electric vehicles - in the event of uncertainty the socket must be checked by a qualified professional.
- If the socket has unknown current intensity - use the lowest level on the control unit.

On the charging cable's control unit, set the required charging current 6-16 A[1]. On delivery, the lowest possible charging current is preset. Maximum possible charging current

[1] Amperes may vary depending on market.

can only be selected when the control unit is activated with the On/(**On**) button.

Opening/closing the cover for the charging input socket

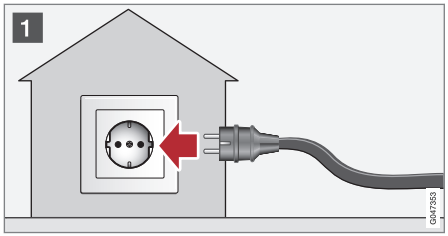


1. Press in the rear section of the cover and release.
2. Open the cover.
3. Pull away the cover for the charging input socket and secure it inside the cover.

Close the cover for the charging input socket in reverse order.

Starting charging

Take the charging cable from the storage compartment under the cargo area floor.



1. Connect the charging cable to a 230 VAC socket. Never use an extension cord.

2. Activate the control unit with its power switch On/(**On**).

   Set the correct charging current (for current 230 VAC socket) on the control unit, see page 304.

3. Connect the charging cable to the car.

4. The charging cable's plug is fastened/locked in and charging starts after approx. 10 seconds.

   To check the remaining charging time:

   - Press the remote control key's button for Approach lighting - the combined instrument panel then shows the estimated time.

   Battery charging can be interrupted for a while if the car is unlocked:

   - and the door is opened - charging restarts after 2 minutes.
   - without the door being opened - the car is relocked automatically, see page 60. Charging restarts after 1 minute.

Charging - hybrid battery

IMPORTANT

Never unplug the charging cable from the 230 VAC socket while charging is in progress - there is then a risk of damaging the 230 VAC socket.

5. When charging is complete (see following table) - open the driver's door. Then the combined instrument panel illuminates and can show information about charge status.

LED lamps in the charging input socket

The LED lamps show the current status during ongoing charging. The white, blue, red and yellow lamps are activated when the passenger compartment lighting is switched on - they remain switched on for a while after the passenger compartment lighting has been switched off.

LED lamp glow	Specification
White constant	LED light
Yellow constant	Waiting mode[A] - waiting for charging to start.
Green flashing	Charging in progress[B].
Green constant	Charging complete[C].
Blue - flashing or constant	Timer switched on.
Red - flashing or constant	A fault has arisen.

A For example, after a door has been opened or the charging cable's plug is not locked in.
B The slower the flashing, the closer to fully charged.
C Extinguishes after a while.

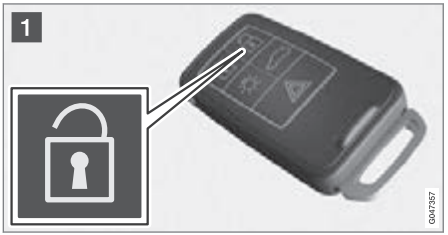
Condensation

Condensation from the air conditioning may drip under the car during charging. This is normal and takes place due to cooling of the hybrid battery.

Finish charging

NOTE

To be able to detach the charging cable glove from the car's 230 VAC intake, the car must first be unlocked using the remote control key/PCC.

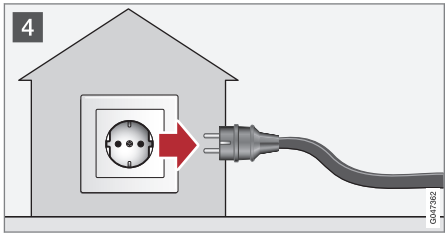


1 Unlock the car with the remote control key/PCC* - the charging cable's locked plug releases/is unlocked.

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

2 Switch off the control unit with its switch Off/(**Off**).

3 Unplug the cable from the car's electrical input socket, refit the charging input socket's cover and close the hatch, see page 308.



4 Unplug the cable from the 230 VAC socket.

Return the charging cable to the storage space under the cargo area floor.

Charging with the diesel engine

The hybrid battery can also be charged by the car's diesel engine, see page 123.

Ground fault breaker

The control unit has a built-in ground fault breaker that protects the car, and also the user, from electric shocks caused by system faults.

IMPORTANT

The control unit's earth fault switch does not protect the 230 VAC socket.

Temperature monitoring during charging

In order for the car to be charged safely every time, the control unit has a built-in monitoring device for the charging current which ensures that the permissible charging current is automatically adjusted in order to take account of safety concerns. This ensures safe operation without supervision as well as optimised charging time.

Temperature fuse

Temperature monitoring is activated automatically when the car's hybrid battery starts charging. If a critical temperature is reached then the charging current is lowered.

IMPORTANT

If temperature monitoring has automatically reduced the charging current repeatedly, battery charging must be terminated and the cause of the overheat must be investigated and rectified.

Loading

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 390.

The tailgate is opened via a button on the lighting panel or the remote control key, see page 62.

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 rear seat's backrest.

Note that objects must not prevent the function of the WHIPS system for the front seats if any of the rear seat's backrests is folded down,see page 28.

- Centre the load.
- 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 86.

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.

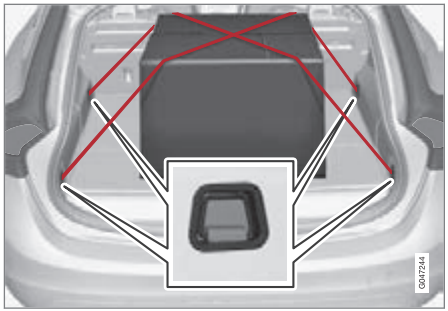
WARNING

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 390.

Lowering the rear seat backrest

To simplify loading in the cargo area, the rear seat backrest can be folded down, see page 88.

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.

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.

IMPORTANT

Max. power takeoff is 10 A (120 W).

NOTE

Remember that using the electrical socket with the engine switched off involves the risk of discharging the car's battery.

NOTE

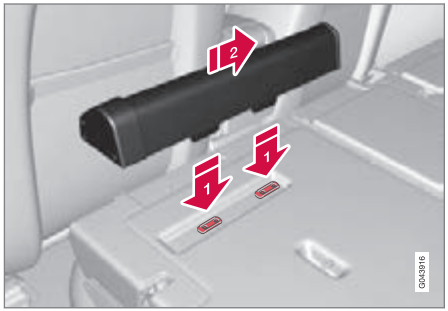
The compressor for temporary emergency puncture repair has been tested and approved by Volvo. For information on the use of Volvo's recommended temporary emergency puncture repair (TMK), see page 338.

Cargo area

Safety net*

A rollable safety net comprising two cassettes has a storage space under the cargo area floor hatch.

Securing the net cassettes



The two-part safety net cassette is secured on the rear of the backrest. The narrowest cassette is secured on the left-hand side (seen from the tailgate).

1. Fold the rear seat's backrest forward, see page 89.
2. Align the cassette's anchor rails in front of the backrest attachment lugs 1.
3. Slide the cassette into the attachment lugs 2.
4. Fold back and lock the backrests.

- Removing the cassettes takes place in reverse order.

Using the safety net

Pull the net up from the cassettes. The net is self-locking after about 1 minute if the rear seat's backrests are raised.

1. Pull up the right-hand section of the net using its strap.
2. Insert the rod in the mounting on the right-hand side and then press it forward – the rod locks in with a click.
3. Pull out the rod's telescope section and click it in on the other side.
4. Pull up the left-hand safety net and hook it into the rod.

- Folding up takes place in reverse order.

The net can also be used when the rear seat's backrests are folded forward.

Removing the net cassettes

1. Roll the safety nets into the cassettes in accordance with the procedure in the section entitled "Using the safety net", but in reverse.
2. Fold the whole backrest forward.
3. Slide the cassettes out until they loosen from the anchor rails.

Store the cassettes in their compartment under the cargo area floor hatch.

WARNING

Loads in the cargo area must be firmly secured, even if the safety net is correctly fitted.

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

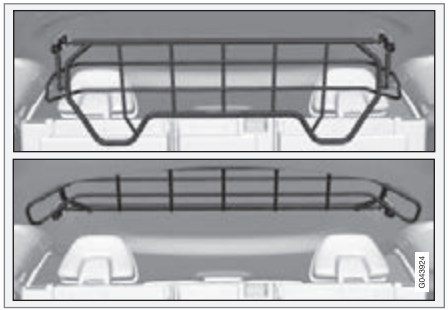
Safety net combined with cargo cover

Puller-straps for raising the net.

The safety net can also be raised from the rear seat when the cargo cover is extended.

Follow the procedure in the section entitled "Using the safety net". The straps for raising are located by the arrows.

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.

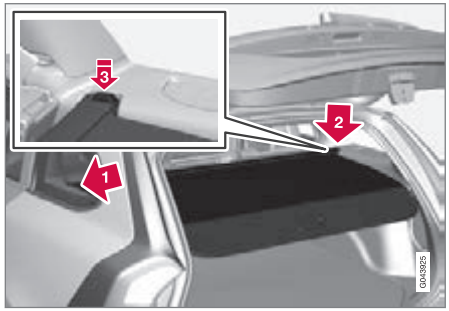
Fitting/removal

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 instructions 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.

Cargo area

IMPORTANT

The safety grille cannot be folded up or down when the cargo cover is fitted.

Attaching the cargo cover

1. Move one end piece of the cover into the recess on the side panel.
2. Move the other end piece into the corresponding recess.
3. 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.

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 390.

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 336.
- 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 information 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.

Trailer weights

For information on Volvo's permitted trailer weights, see page 392.

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.

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 is illuminated in the combined instrument panel with a message that is

Driving with a trailer

shown in the information display - 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.

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 319.

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.

NOTE

If a towball hitch with vibration damper is used, it is not necessary to grease the towball.

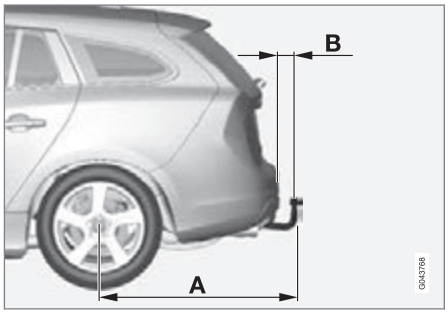
Storing the detachable towbar

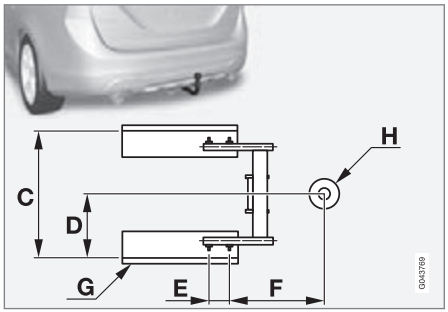
Towbar storage space.

IMPORTANT

Always remove the towbar after use and store it in the appointed location in the car.

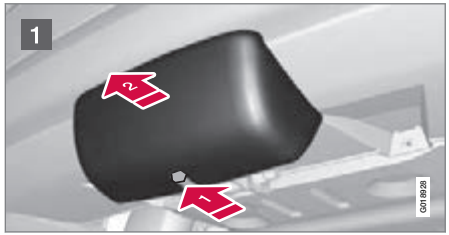
Specifications



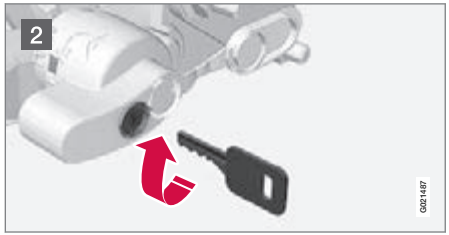


Dimensions, mounting points (mm)	
A	998
B	80
C	854
D	427
E	109
F	282
G	Side member
H	Ball centre

Attaching the towbar

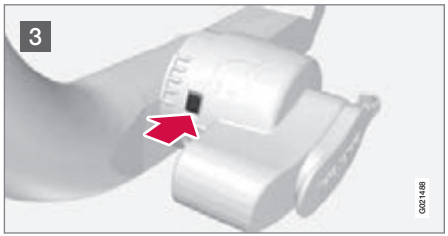


1 Remove the protective cover by first pressing in the catch 1 and then pulling the cover straight back 2.



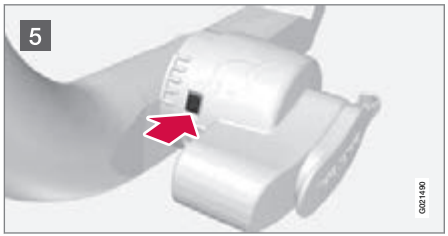
2 Ensure that the mechanism is in the unlocked position by turning the key clockwise.

Driving with a trailer

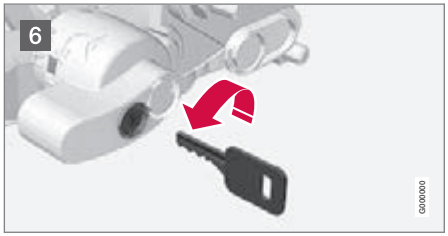


3 The indicator window must show red.

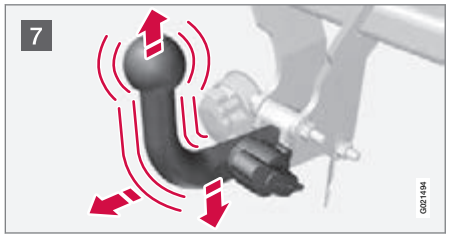
4 Insert the towbar until you hear a click.



5 The indicator window must show green.



6 Turn the key anticlockwise to locked position. Remove the key from the lock.



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

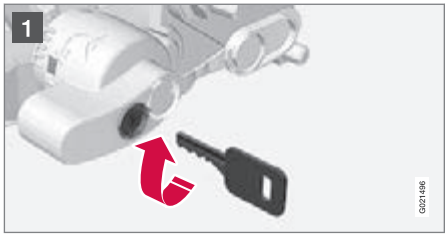
Only grease in the ball for the towing hitch, the remainder of the towbar should be clean and dry.

8 Safety cable.

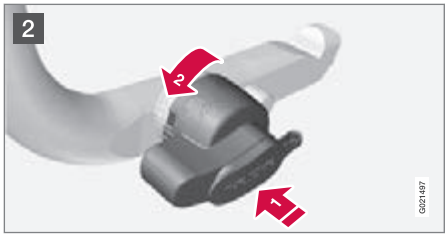
WARNING

Be sure to attach the trailer's safety cable to the correct place.

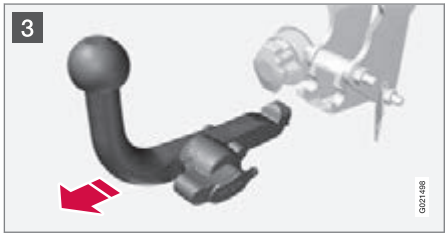
Removing the towbar



1 Insert the key and turn it clockwise to the unlocked position.



2 Push in the locking wheel 1 and turn it anticlockwise 2 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 318.

4 Push the protective cover until it snaps tight.

Trailer stabiliser - TSA[1]

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 146.

Function

The snaking phenomenon can occur with any car/trailer combination. Snaking normally

1 Included in the installation of Volvo genuine towbar.

Driving with a trailer

occurs at high speed. 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

TSA function is switched off if the driver selects **Sport** mode, see page 146.

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 system is working.

Towing

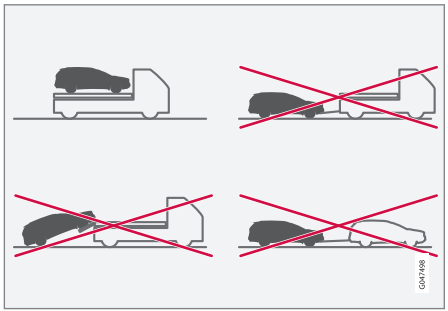
WARNING

Towing the V60 Plug-in Hybrid is not permitted. When moving the car it must be transported raised up with all the wheels on the recovery vehicle's platform.

The towing eye may be used to pull the car up onto a recovery vehicle with a flatbed platform if:

- The slope of the recovery vehicle's ramp does not exceed 12 degrees from a horizontal plane
- The car's wheels rotate freely and roll straight forward.

No one/nothing is allowed to remain behind the recovery vehicle while the car pulled up onto the flatbed platform.



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 121.

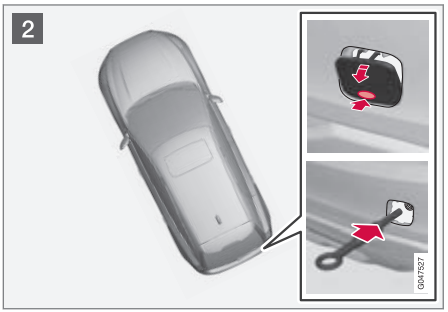
IMPORTANT

The electric drive motor and the catalytic converter may be damaged during attempts to tow-start the car.

Towing eye

The towing eye is screwed into a threaded socket behind a cover on the rear right-hand side of the bumper.

Attaching the towing eye



Towing and recovery

1 Take out the towing eye, which is located behind the panel on the left-hand side of the cargo area.

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 other vehicles on roads - **not** for pulling the car unstuck or out of a ditch. Call a recovery service for recovery assistance.

Recovery

Call a recovery service for recovery assistance.

The towing eye must be used to pull the car up onto a recovery vehicle with a flatbed platform if:

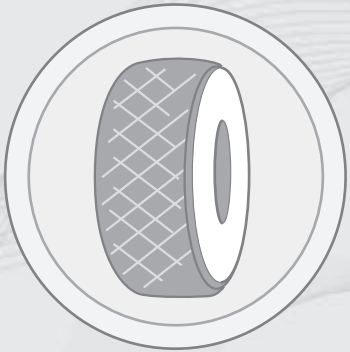
- The slope of the recovery vehicle's ramp does not exceed 12 degrees from a horizontal plane
- The car's wheels rotate freely and roll straight forward.

WARNING

No one/nothing is allowed to remain behind the recovery vehicle while the car pulled up onto the flatbed platform.

IMPORTANT

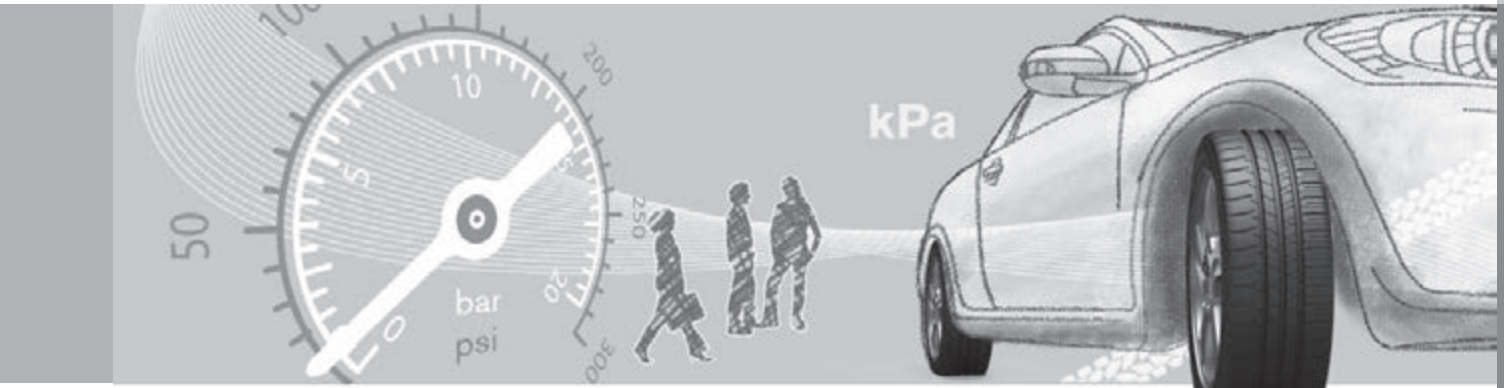
Note that the V60 Plug-in Hybrid must always be transported raised up with all the wheels on the recovery vehicle's platform.



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

08

WHEELS AND TYRES

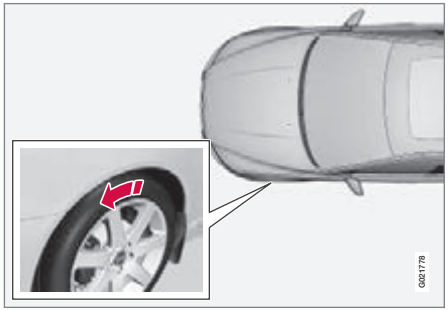


General

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).

NOTE

Ensure that tyres of the same type and dimensions, and also the same make, are fitted to all four wheels.

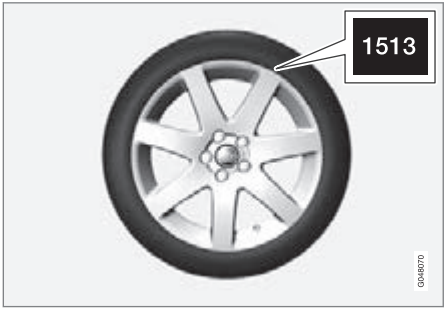
Follow the recommended tyre pressures specified in the tyre pressure table, see page 400.

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.

Wear and maintenance

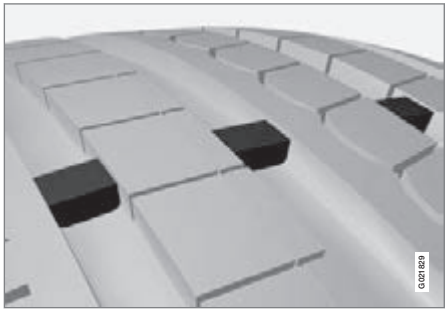
The correct tyre pressure results in more even wear, see page 336. Driving style, tyre pressure, climate and road condition affect how quickly your tyres age and wear. To avoid differences in tread depth and to prevent wear patterns arising, the front and rear wheels can be switched with each other. 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

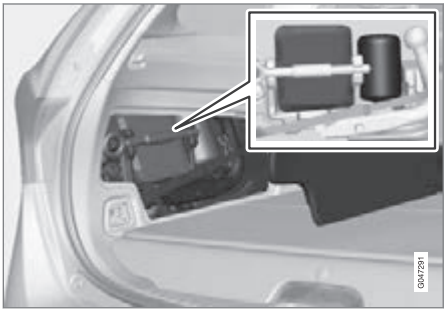
The wheel bolts must be tightened to 140 Nm. Overtightening can damage the nuts and the bolts.

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.

Tools



General

The car's towing eye and emergency puncture repair kit are located behind the hatch on the left-hand side of the cargo area. There is also space for the sleeve for the lockable wheel bolts. Jack* and wheel bolt wrench* are located in a bag on the cargo area floor.

If the car is not equipped with the accessory spare wheel then the jack need not be stored in the car.

WARNING

When the towing eye and emergency puncture repair kit are stored in the foam block, they must always be strapped in using the tensioning strap.

Jack*

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 white arrow must point toward the front of the car.

After use, crank the jack together and screw apart the towing eye and wheel bolt wrench. Place the wheel bolt wrench and the jack in their respective compartments in the bag. Tighten the bag's centre strap firmly and use the other strap to secure the bag in the rear load retaining eyelet on the left-hand side of the cargo area. Position the bag so it is not pinched when the tailgate is closed. The white arrow on the bag must point toward the front of the car. Refit the towing eye in the foam block on the left-hand side of the cargo area.

WARNING

The bag should be secured so that the white arrow (see the inset figure) points forward in the car.

NOTE

If the floor hatch in the cargo area floor is not closed then privacy locking does not work, see page 52.

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.

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.

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

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.

Specifications

The car has whole vehicle approval. This means that certain combinations of wheels and tyres are approved. For the permissible combinations, see page 399

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:

235/45R17 97W.

235	Tyre width (mm)
45	Ratio between tyre wall height and tyre width (%)
R	Radial ply
17	Rim diameter in inches (")
97	Codes for the maximum permitted tyre load, tyre load index (LI)
W	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 399.

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 399.

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).

General

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.

Spare wheel*

The following instructions only apply if a spare wheel has been purchased as an accessory for the car. If the car is not equipped with a spare wheel, see page 338 for information on the temporary mobility kit (TMK).

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 399.

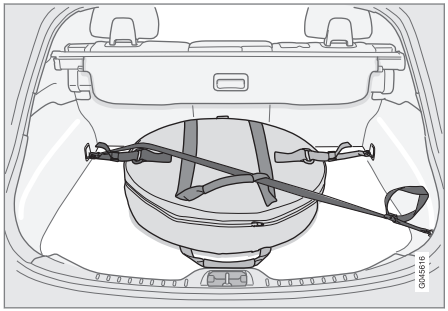
IMPORTANT

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 supplied in a bag which must be secured on the cargo area floor using straps.



Turn the handle on the spare wheel bag out towards you. Attach the sewn-in tensioning strap hooks in the front load retaining eyelets. Attach the long strap into one of the front load retaining eyelets, run the strap diagonally over the spare wheel and through the upper handle. Tighten the short tensioning strap onto the long one. Attach the rear load retaining eyelet and tighten.

Before changing a wheel

1. Loosen the straps, lift out the spare wheel from the cargo area and remove it from the spare wheel bag.
2. To access the towing eye, open the hatch on the left-hand side of the cargo area.

3. Take out the jack* and the wheel bolt wrench* (which is located in a bag on the cargo area floor - see figure on page 335). If another jack is selected, see page 346

WARNING

Check that the jack is not damaged, that the threads are thoroughly lubricated and that it is free from dirt.

Changing wheels

NOTE

- If the car is not equipped with the accessory spare wheel then the jack need not be stored in the car.
- Volvo recommends only using the jack* that belongs to the car model in question, which is indicated on the jack's label.
- The decal also indicates the jack's maximum lift capacity at a specified lifting height.

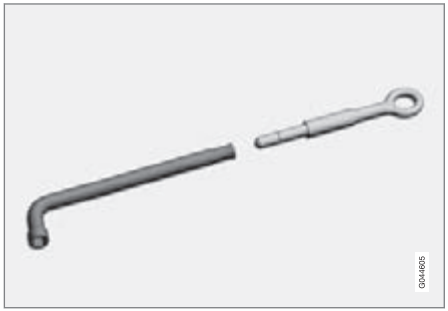
NOTE

The car's regular jack is designed only for use occasionally and for a short time, such as when changing a wheel with a punctured tyre, switching between summer tyres and winter tyres, etc. Only the jack belonging to the specific model is to be used to jack up the car. If the car is to be jacked up more often, or for a longer time than is required just to change a wheel, use of a garage jack is recommended. In this instance, follow the instructions for use that come with the equipment.

4. Set up the warning triangle, see page 337 if a wheel must be replaced at a busy location. The car and jack* must be on a firm horizontal surface.

Removing

1. Apply the parking brake (see page 136) and engage reverse gear, or position **P** if the car has an automatic gearbox.
2. Place chocks in front of and behind the wheels which will remain on the ground. Use heavy wooden blocks or large stones for example.
3. Screw together the towing eye with the wheel wrench* until the stop position as illustrated below.



IMPORTANT

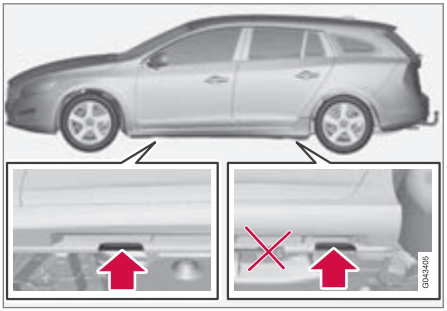
The towing eye must be screwed into all threads in the wheel bolt wrench.

4. 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.

5. 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.

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

6. Lift the car so that the wheel is free. Remove the wheel bolts and lift off the wheel.

Installation

1. Clean the contact surfaces between wheel and hub.
2. Put on the wheel. Tighten the wheel bolts thoroughly.
3. Lower the car so that the wheels cannot rotate.

4. 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.

The white arrow must point toward the front of the car.

5. Screw apart the towing eye and the wheel bolt wrench. Place the wheel bolt wrench and the jack in their respective compartments in the bag. Tighten the bag's centre strap firmly and use the other strap to secure the bag in the rear load retaining eyelet on the left-hand side of the cargo area. Position the bag so it is not pinched when the tailgate is closed. The white arrow on the bag must point toward the front of the car.

WARNING

The bag should be secured so that the white arrow (see the inset figure) points forward in the car.

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.

Tyre pressure

Tyre pressure

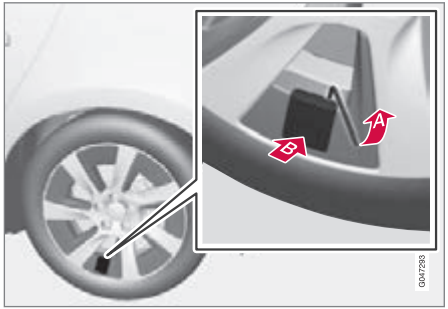
The tyre pressure label on the driver side's door pillar (between frame and rear door) shows the tyre pressures for the car's recommended tyre size. This is also specified in the tyre pressure table, see page 400.

NOTE

Temperature differences change the tyre pressure.

Checking the tyre pressure

The tyre pressures must be checked every month.



The tyre valve is covered by a plastic cover which is equipped with a hole.

A Remove the valve cover

Take the torx wrench (which is fitted in the foam block behind the panel on the left-hand side of the cargo area).

Press the torx wrench into the hole.

Prize off the cover using the torx wrench (A).

Remove the valve cap.

B Refit the valve cover

Fit the valve cap.

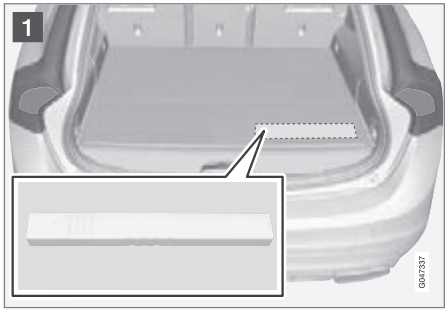
Press one edge of the cover (without the hole) into place (nearest the tyre - B). Then fold the cover in toward the wheel rim - and at the same time, gently press down the angled top edge in order to help it in under the edge of the wheel rim. Check that the cover is flush with the surface of the wheel rim - if not, gently press in the part that is bulging out.

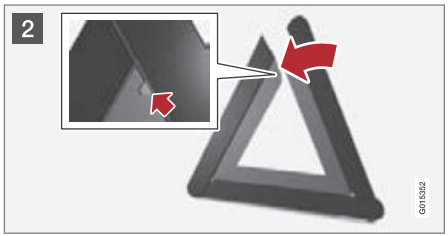
NOTE

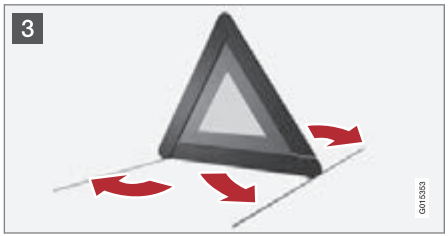
- Check the tyre pressure when the tyres are cold. "Cold tyres" means that the tyres are at the same temperature as the outdoor temperature. The tyres will heat up and the tyre pressures will increase after driving for a few kilometres.
- Tyre pressures which are too low will increase fuel consumption, reduce tyre service life and impair the car's handling. Driving with tyre pressures which are too low may lead to the tyres overheating and sustaining damage. Tyre pressures affect ride comfort, road noise and steering.
- 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.

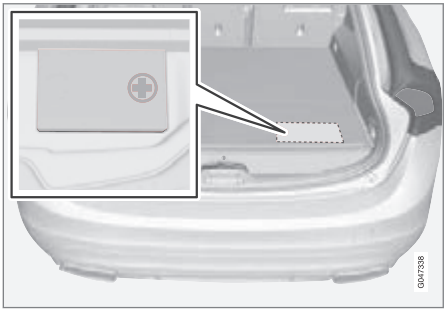
Follow the regulations for the use of a warning triangle. Position the warning triangle in a suitable place with regard to traffic.

Ensure the warning triangle and its case are properly secured in the cargo area after use.

NOTE

If the car has been locked with privacy locking then the boot lid/tailgate and floor hatch cannot be opened, see page 52.

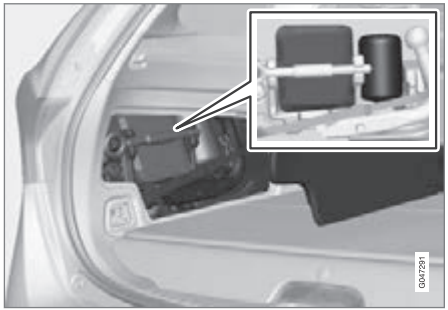
First aid kit*



A case with first aid equipment is located under the floor in the cargo area.

Emergency puncture repair (TMK)

General



Emergency puncture repair (TMK; Temporary Mobility Kit)[1] 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 emergency puncture repair kit is located behind the hatch on the left-hand side of the cargo area.

Set up the warning triangle (see page 337) if a tyre is being sealed in a trafficked location.

The sealing fluid effectively seals tyres punctured in the tread.

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.

Connect the compressor to one of the car's 12 V sockets. Choose the socket that is nearest to the punctured tyre.

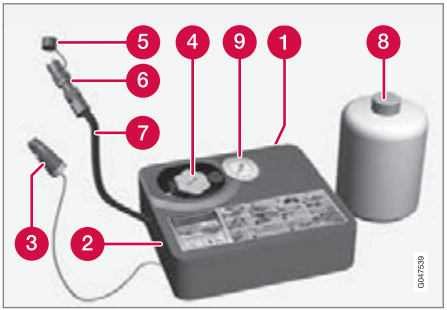
IMPORTANT

If the compressor for emergency puncture repair is connected to one of the two sockets in the tunnel console, see page 241, no other current consumer must be connected to the other one.

NOTE

The compressor for temporary emergency puncture repair has been tested and approved by Volvo.

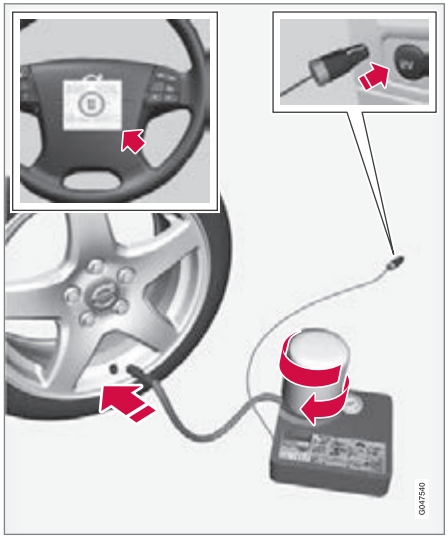
Overview



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

[1] Option only in certain markets.

Sealing punctured tyres



For information on the function of the parts, see preceding illustration.

1. Detach the label for maximum permitted speed (which is fitted on one side of the compressor) and affix it to the steering wheel.

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.

WARNING

The sealing fluid can irritate the skin. In the case of contact with skin, wash away the fluid with soap and water.

2. 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.

3. Unscrew the orange cap and unscrew the bottle's stopper.
4. Screw the bottle into its holder.

WARNING

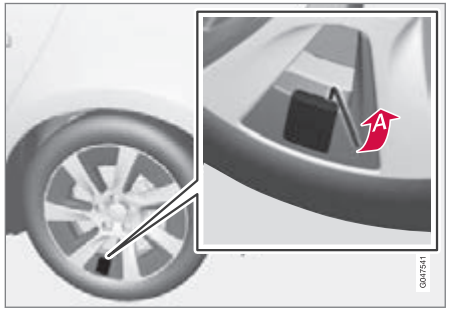
Do not unscrew the bottle, it is equipped with a reverse catch to prevent leakage.

5. **Remove the valve cover**

   Take the torx wrench (which is fitted in the foam block behind the panel on the left-hand side of the cargo area).

   Press the torx wrench into the hole.

   Prize off the cover using the torx wrench (A).



6. Connect the hose from the compressor to the valve.
7. Plug the cable into the 12 V socket and start the car.

Emergency puncture repair (TMK)

NOTE

If the compressor is connected to one of the two 12 V sockets, in the tunnel console, no other current consumer must be connected to the other one.

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 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.

    Press the cover back over the tyre valve with the hole against the wheel's hub. Two clicks confirm that the cover is fitted in place.
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.

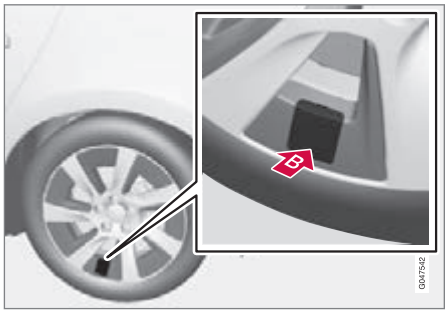
Rechecking the repair and pressure

1. Reconnect the equipment (see the section "Removing the valve cover" on page 339).
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 400 (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.



Fit the valve cap.

Refit the valve cover

Press one edge of the cover (without the hole) into place (nearest the tyre - B). Then fold the cover in toward the wheel rim - and at the same time, gently press down the angled top edge in order to help it in under the edge of the wheel rim. Check that the cover is flush with the surface of the wheel rim - if not, gently press in the part that is bulging out.

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. Remove the valve cover (see page 339).
3. 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.

WARNING

Do not leave children in the car without supervision when the engine is running.

4. Connect the cable to one of the car's 12 V sockets and start the car.
5. Start the compressor by flicking the switch to position **I**.

Emergency puncture repair (TMK)

IMPORTANT

Risk of overheating. The compressor must not run for more than 10 minutes.

6. Inflate the tyre to the pressure specified in accordance with the tyre pressure table, see page 400. (Release air using the pressure reducing valve if the tyre pressure is too high.)
7. Refit the dust cap.

   Refit the valve cover by pressing one edge of the cover (the one without the hole) into place (nearest the tyre), see the figure on page 341. Then fold the cover in toward the wheel rim - and at the same time, gently press down the angled top edge in order to help it in under the edge of the wheel rim. Check that the cover is flush with the surface of the wheel rim - if not, gently press in the part that is bulging out.
8. Switch off the compressor Detach the air hose and cable.

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.

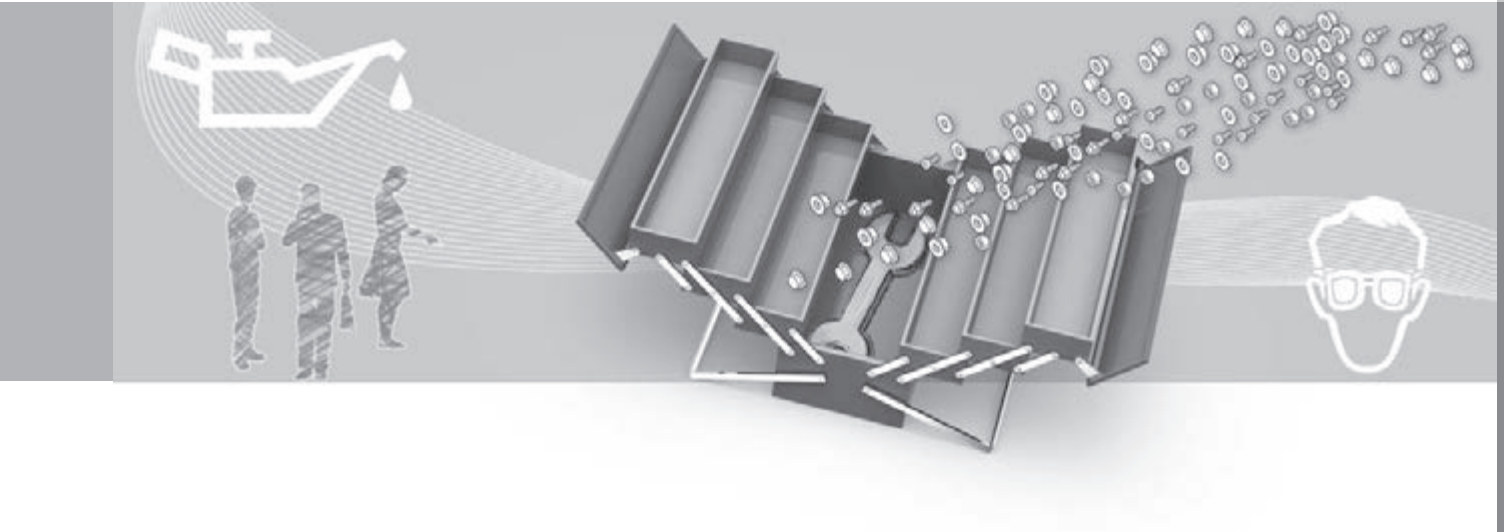
Harmful if ingested. Could result in allergic reaction in the event of skin contact.

Avoid contact with the skin and eyes.

Store out of the reach of children.

09

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.

Service interval and next service, charging cable

The hour meter on the charging cable counts charging time until the next service interval. Volvo recommends having the control unit checked by an electrician after every 5000 operating hours.

IMPORTANT

Do not modify the control unit in any way.

Check regularly

Check the following oils and fluids at regular intervals, e.g. when refuelling:

- Coolant
- Engine oil
- Power steering fluid
- Washer fluid

WARNING

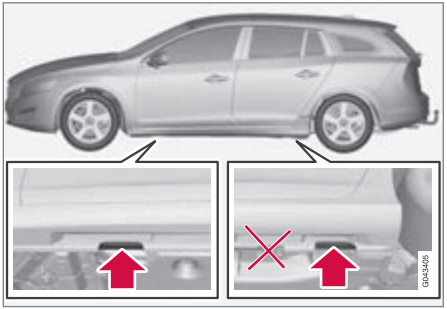
Remember that the radiator fan (located at the front of the engine compartment, behind the radiator) may start automatically some after the engine has been switched off.

Always have the engine cleaned by a workshop. There is a risk of fire if the engine is hot.

Raising the car

NOTE

Volvo recommends only using the jack that belongs to the car model in question. If a jack is selected other than the one recommended by Volvo, follow the instructions for use supplied 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. See preceding illustration.

Service and repair

Service the car regularly. Follow Volvo's recommended service intervals.

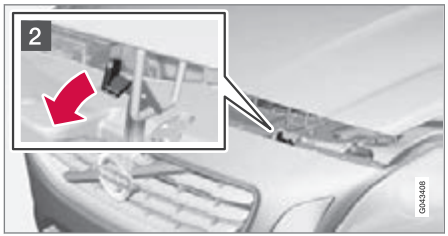
If inspection and repair are required then only an authorised Volvo workshop may carry out the work.

WARNING

Do not carry out any repairs of your own on this vehicle. Electrical cables and/or components that have detached must only be rectified by an authorised workshop - an authorised Volvo workshop is recommended.

Opening and closing the bonnet

The handle for bonnet opening is always on the left-hand side.



1. Turn the handle about 20-25 degrees clockwise. You will hear when the catch releases.
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

Some of the car's batteries and several of the components included in the car's electric drive system are located under the bonnet. Exercise caution in this area and only touch anything that is related to normal maintenance.

WARNING

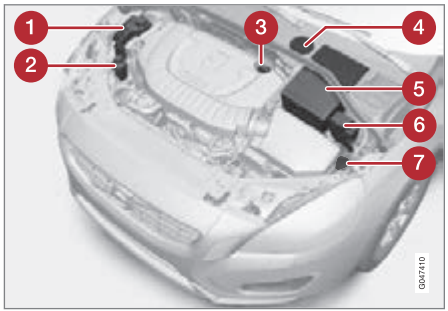
Orange cables marked with a high-voltage decal must only be handled by qualified personnel.

WARNING

Several components in the car operate with lethal high-voltage electricity.

- Do not touch anything that is not clearly described in this owner's manual.
- Exercise caution when checking/refilling fluids in the engine compartment.

Engine compartment



Normal checking points - other parts require specialist expertise.

1. Checking/refilling the coolant for the cooling and climate control systems.
2. Checking/filling the power steering fluid
3. Filling engine oil
4. Checking/filling the brake fluid
5. Battery
6. Relay and fuse box
7. Filling washer fluid

WARNING

The car's electrical system must always be in key position **0** when work is being performed in the engine compartment, see page 84.

Checking the engine oil

Volvo recommends Castrol oil products.

When driving under adverse conditions, see page 394.

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 recommends that oil changes are carried out at an authorised Volvo workshop.

Volvo uses different systems for warning of low/high oil level or low/high oil pressure. Certain variants have an oil pressure sensor, and then the combined instrument panel's warning symbol for low oil pressure is used. Other variants have an oil level sensor, when the driver is informed via the instrument's warning symbol and display texts.

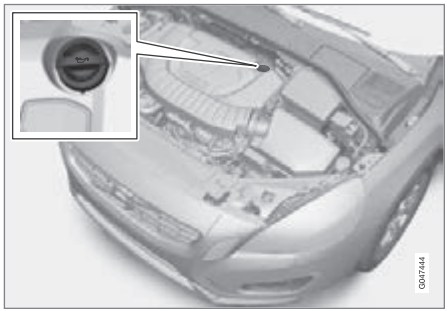
Certain variants have both systems. Contact a Volvo dealer for more information.

Change the engine oil and oil filter in accordance with the intervals specified in the Service and Warranty Booklet.

Using oil of a higher than specified grade is permitted. If the car is driven in adverse conditions, Volvo recommends using an oil of a higher grade, see page 394.

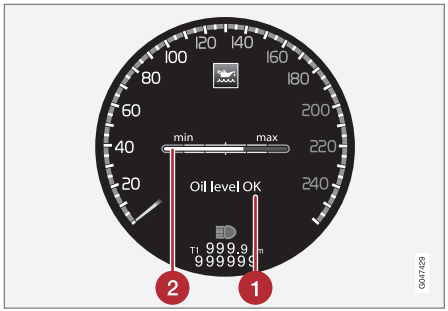
For capacities, see page 395 and onwards.

Engine with electronic oil level sensor[1]



Filler pipe.[2]

You do not need to take action with respect to the engine oil level before a message is shown in the combined instrument panel's information display, see the illustration below.



Message and graph in the display.

1. Message
2. Engine oil level

The oil level is checked using the electronic oil level gauge with the thumbwheel when the engine is switched off, see page 350.

WARNING

If the message **Oil service required** is shown, visit a workshop. The oil level may be too high.

IMPORTANT

In the event of the message **Oil level low Refill 0.5 litre**, only fill with 0.5 litres.

WARNING

Do not fill more oil if filling level (3) or (4) appears as shown in the illustration below. The level must never be above **MAX** or below **MIN**, as this could lead to engine damage.

NOTE

The oil level is only detected by the system when certain conditions are fulfilled. For this reason the system cannot always directly detect changes when the oil is filled or drained. Under certain conditions, internal combustion engine operation may be required for approx. 30 km.

WARNING

Do not spill oil onto the hot exhaust manifold due to the risk of fire.

1 Only applies to 5-cyl. diesel.
2 Engines with electronic oil level sensor have no dipstick (5-cyl. diesel).

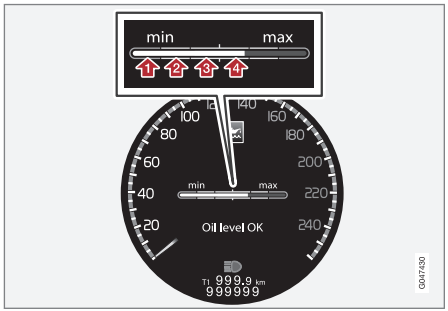
Engine compartment

Measuring the oil level

If the oil level needs to be checked then it should be carried out in accordance with the sequence below.

1. Activate key position **II**, see page 84.
2. Rotate the thumbwheel on the left-hand stalk switch to position **Oil level**.
   > You will then see information displayed about the engine oil level.

   For more information on menu management, see page 204.



The figures 1-4 represent filling level. Do not fill more oil if filling level (3) or (4) is shown. Recommended filling level is 4.

Coolant

Checking the level and topping up

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.

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.

For capacities and for standards regarding water quality, see page 396.

Check the coolant regularly

The level must lie between the **MIN** and **MAX** marks on the expansion tank. If the system is not filled sufficiently, high temperatures could occur, causing a risk of damage to the engine.

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. Otherwise, temperatures that are too high may occur resulting in the risk of damage (cracks) in the cylinder head.

Brake fluid

Checking the level

The level must be between the **MIN** and **MAX** marks that are visible inside the reservoir. Check the level regularly.

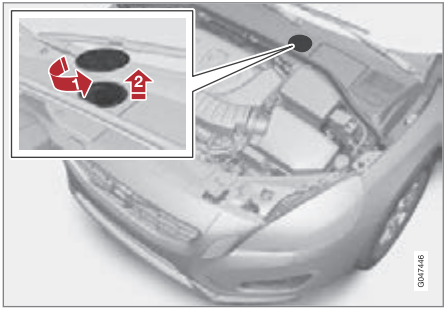
Change the brake fluid every other year or at every other regular service.

For capacities and recommended fluid grade, see page 396. 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



Brake fluid reservoir location.

The fluid reservoir is protected under the cover over the cold zone in the engine compartment. The round cover must be removed first before the reservoir cap can be reached.

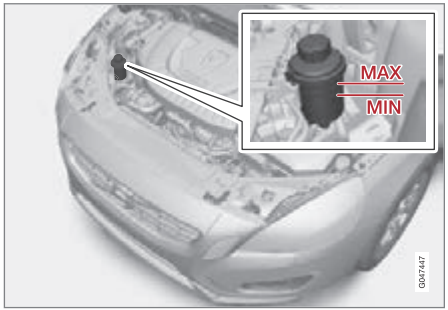
1. Turn and open the cover located on the covering.
2. Unscrew the reservoir cap and fill the fluid. The level must be between the **MIN** and **MAX** marks, which are located on the inside of the reservoir.

IMPORTANT

Do not forget to refit the cap.

Engine compartment

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 between the **MIN** and **MAX** marks. For capacities and recommended fluid grade, see page 396.

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.

Air conditioning system

Troubleshooting and repair

The air conditioning system contains fluorescent tracing agents. Use ultraviolet light when looking for leaks.

Volvo recommends that you contact an authorised Volvo workshop.

WARNING

The air conditioning system contains pressurised refrigerant R134a. This system must only be serviced and repaired by an authorised workshop.

General

The bulbs are specified, see page 358. The following list contains locations of bulbs and other light sources that are specialised, such as LED[1] lamps, or are unsuitable for changing for some other reason, except at a workshop:

- Active Xenon headlamps - ABL (Xenon lamps)
- Daytime running lights/Position/parking lamps front
- Side marker lamps front
- Cornering lights
- Side direction indicators, door mirrors
- Approach lighting, door mirrors
- Interior lighting apart from Courtesy lighting front
- Glovebox lighting
- Position/parking lamps rear/Side marker lamps rear
- Brake light.

WARNING

On cars with Xenon headlamps, the replacement of Xenon lamps must be carried out at a workshop - an authorised Volvo workshop is recommended. Working with Xenon lamps demands extreme caution because the headlamp is equipped with a high voltage unit.

WARNING

The car's electrical system must be in key position **0** when replacing bulbs, see page 84

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.

NOTE

If an error message remains after the broken bulb has been replaced then we recommend that you visit an authorised Volvo workshop.

NOTE

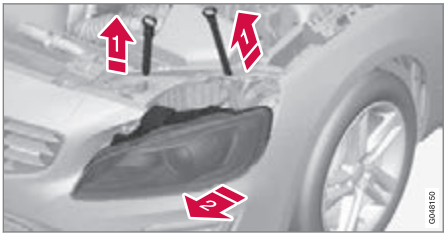
Outside lighting such as headlamps, fog lamps and rear lamps may temporarily have condensation on the inside of the lens. This is normal, all exterior lighting is designed to withstand this. Condensation is normally vented out of the lamp housing when the lamp has been switched on for a time.

Headlamps front

All of the headlamp bulbs are replaced via the engine compartment. Loosen and remove the whole headlamp.

Removing the headlamp

Set the car's electrical system in key position **0**, see page 84.



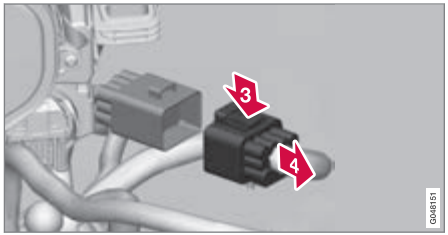
1 LED (Light Emitting Diode)

Lamps

1. Pull out the headlamp's locking pins.
2. Release the headlamp by alternately tilting and pulling it out.

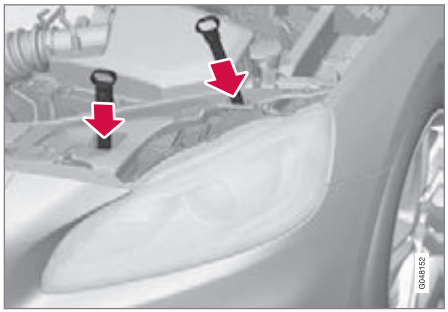
IMPORTANT

Do not pull the electrical cable, only the connector.



3. Detach the headlamp connector by pressing down the clip with your thumb.
4. At the same time, guide out the connector with your other hand.
5. Lift out the headlamp and place it on a soft surface to avoid scratching the lens.
6. Replace the bulb in question.

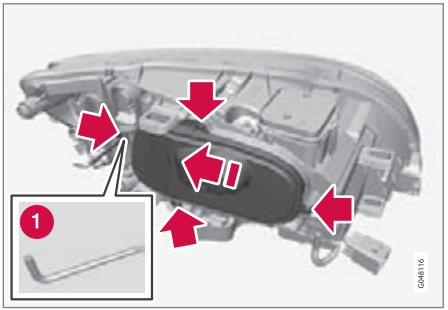
Securing the headlamp



1. Plug in the connector, a clicking sound should be heard.
2. Reinstall the headlamp and locking pins. The short pin is fitted closest to the grille. 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



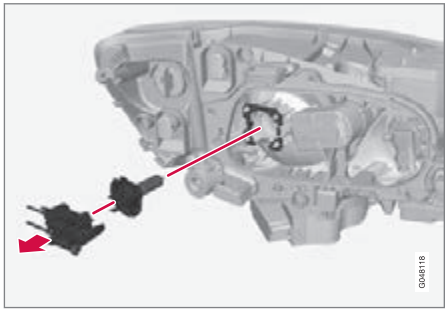
Before starting to replace a bulb, see page 353.

1. Unscrew the cover's four screws using a Torx tool, size T20 (1). They should not be loosened completely. (3 - 4 turns are sufficient.)
2. Slide the cover to one side.
3. Remove the cover.

Reinstall the cover in reverse order.

Lamps

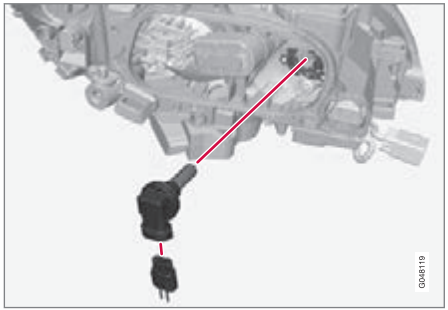
Dipped beam, halogen



1. Detach the headlamp, see page 353.
2. Remove the cover.
3. Unplug the connector from the bulb.
4. Detach the bulb by pulling it straight out.
5. The guide pin on the lamp should be straight up when it is fitted and a clicking sound should be heard when it clicks into place.

Reinstall the parts in reverse order.

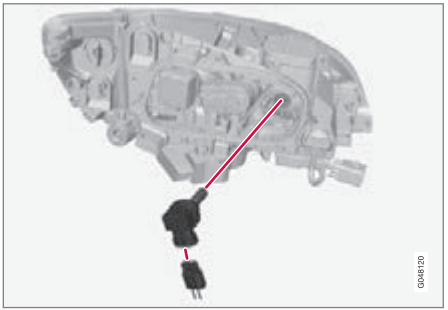
Main beam, Halogen



1. Detach the headlamp.
2. Remove the cover, see page 354.
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, ABL headlamps*

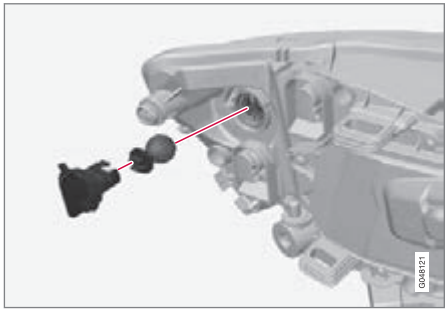


1. Detach the headlamp.
2. Remove the cover, see page 354.
3. Detach the bulb by turning anticlockwise and then pulling straight out.
4. Unplug the connector from the bulb.
5. Replace the bulb and align it in the socket and turn clockwise in order to secure it. It can only be secured in one position.

Reinstall the parts in reverse order.

Lamps

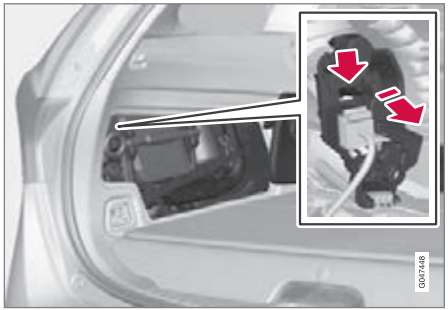
Direction indicators



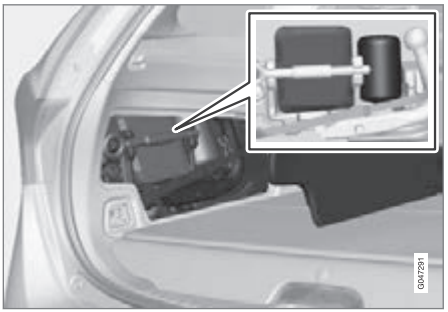
1. Detach the headlamp.
2. Detach the cover by pulling it straight out.
3. Pull the bulb holder in order to extract the bulb.
4. Press and simultaneously turn the bulb to detach it.

Reinstall the parts in reverse order.

Lamp housing, rear



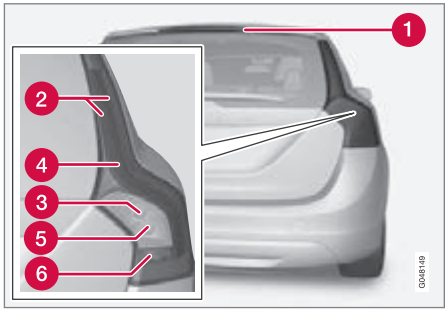
The bulbs for reversing lamp, fog lamp and direction indicator in the rear lamp cluster are replaced from inside the cargo area.



The lamps are accessible when emergency puncture repair kit is lifted out.

1. Open the panel.
2. Lift the emergency puncture repair kit.
3. Remove the insulation that is fitted in front of the bulb holder by pulling it straight out.
4. Press down the catch and pull out the bulb holder.
5. Remove the blown bulb by pressing it in and turning anticlockwise.
6. Fit a new bulb, press down and turn clockwise.
7. Press down the catch when the bulb holder is refitted.
8. Refit the insulation, emergency puncture repair kit and panel.

Location of rear bulbs



1. Brake light (LED)
2. Position/parking lamps (LED)/Side marker lamps (LED)
3. Indicator
4. Brake light (LED)
5. Reversing lamp
6. Rear fog lamp

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.

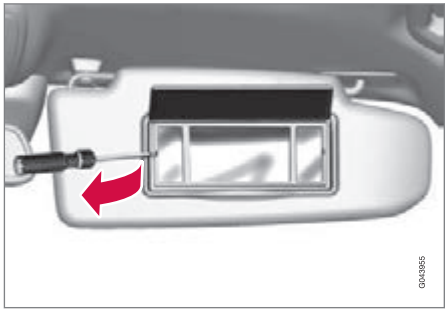
Lighting in the cargo area

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

Removal of lamp lens



1. Insert a screwdriver under the lamp lens and gently prize up the lug on the edge.
2. Carefully detach and lift aside the lamp lens.
3. Use needle-nose pliers to pull the bulb straight out to the side and replace with a new one. Note! - Do not pinch hard with the pliers. Otherwise the lamp lens could then be crushed.

Attaching the lamp lens

1. Refit the lamp lens.
2. Press it into place.

Specifications of bulbs

Lighting	W[A]	Type
Dipped beam, halogen	55	H7 LL
Main beam, Halogen	65	H9
Extra main beam, ABL	65	H9
Front direction indicators	24	PY24W
Courtesy lighting front	3	T10 Socket W2.1x9.5d
Glovebox lighting	5	Socket SV8.5 Length 43 mm
Vanity mirror lighting	1.2	T5 Socket W2x4.6d
Cargo area lighting	5	Socket SV8.5 Length 43 mm
Number plate lighting	5	C5W LL
Direction indicators, rear	21	PY21W SV
-	-	-

Lighting	W[A]	Type
Reversing lamp	21	P21W LL
Rear fog lamp	21	H21W LL

[A] Watt

Wiper blades

Service position

Wiper blades in service position.

In order to change, clean or lift the wiper blades (for scraping off ice from the windscreen, for example) they must be in service position.

IMPORTANT

Before placing the wiper blades in the service position, make sure that they are not frozen down.

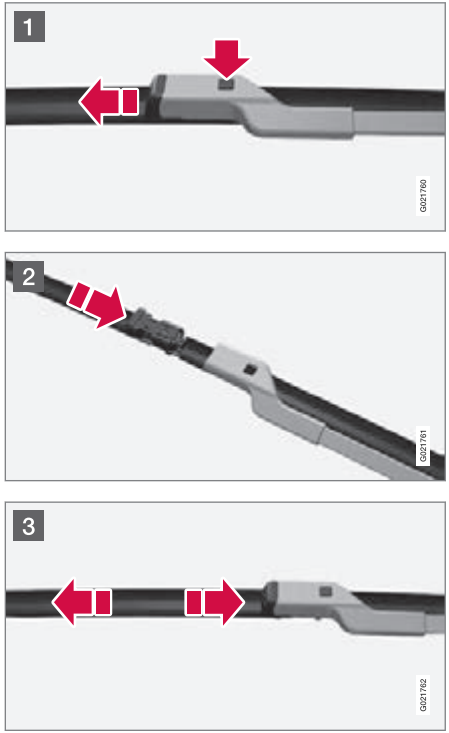
1. Insert the remote control key in the ignition switch[1] and briefly press the **START/STOP ENGINE** button to set the car's electrical system to key position **I**. (For detailed information on key positions, see page 84.)
2. Briefly press the **START/STOP ENGINE** button again to set the car's electrical system in key position **0**.
3. Within 3 seconds, move the right stalk switch up and hold it in position for approx. 1 second.
   > The wipers then move to standing straight up.

The wipers return to their starting position when you briefly press the **START/STOP ENGINE** button to set the car's electrical system to key position **I** (or when the car is started).

IMPORTANT

If the wiper arms in service position have been folded up from the windscreen, they must be folded back down onto the windscreen before the wipers are allowed to return to their starting position. This is to avoid scraping the paint on the bonnet.

Replacing the wiper blades

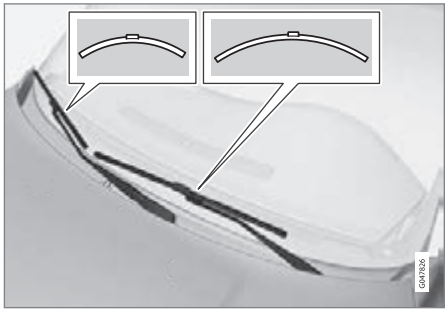


[1] Not necessary in cars with Keyless function.

Wiper blades and washer fluid

1. Fold up the wiper arm when it is in service position. 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.
4. Fold the wiper arm back towards the windscreen.

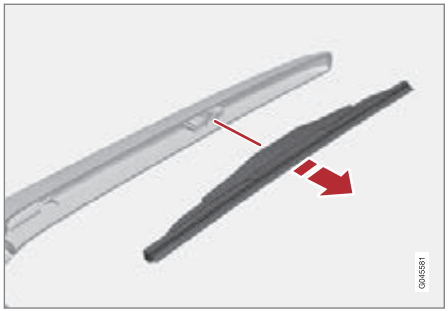
The wipers return from service position to their starting position when you briefly press the **START/STOP ENGINE** button to set the car's electrical system to key position **I** (or when the car is started).



NOTE

The wiper blades are different lengths. The blade on the driver's side is longer than the blade on the passenger side.

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 379 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

Use washer fluid with antifreeze during the winter to avoid freezing in the pump, reservoir and hoses.

For capacities, see page 396.

Battery

Operation

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.

- Never disconnect the battery when the engine is running.
- Check that the cables to the battery are correctly connected and properly tightened.

WARNING

- The battery can generate oxyhydrogen gas, which is highly explosive. A spark can be formed if a jump lead is connected incorrectly, and this can be enough for the battery to 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.

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.

IMPORTANT

Never use a quick charger to charge the battery.

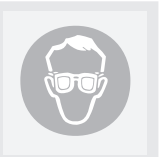
IMPORTANT

If the following instruction is not observed then the energy saving function for infotainment system may be temporarily disengaged, and/or the message in the combined instrument panel's information display about the starter battery's state of charge may be temporarily inapplicable, following the connection of an external battery or battery charger:

- The negative battery terminal on the car's starter battery must **never** be used for connecting an external battery or battery charger - only the **car chassis** may be used as the grounding point.

See the section "Start assistance" - for a description of how the cable clamps must be attached.

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.
	Must be taken for recycling.

NOTE

An expended battery must be recycled in an environmentally responsible manner - it contains lead.

Hybrid battery

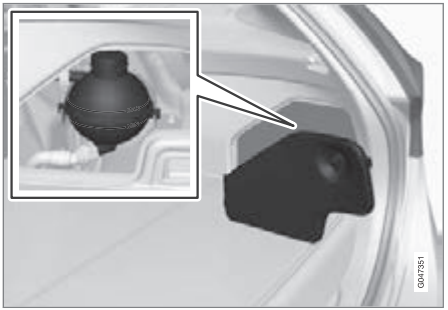
The car is equipped with a maintenance-free rechargeable Lithium-ion type battery for electric motor operation.

WARNING

The hybrid battery must only be replaced by a workshop - an authorised Volvo workshop is recommended.

Coolant

The hybrid battery's cooling system has a separate expansion tank.



Battery

IMPORTANT

The hybrid battery's coolant must only be topped up by a workshop - an authorised Volvo workshop is recommended.

Replacing the starter battery

WARNING

The starter battery must only be replaced by a workshop - an authorised Volvo workshop is recommended.

General

WARNING

Orange cables marked with a high-voltage decal must only be handled by qualified personnel.

WARNING

Several components in the car operate with lethal high-voltage electricity.

Do not touch anything that is not clearly described in this owner's manual.

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.

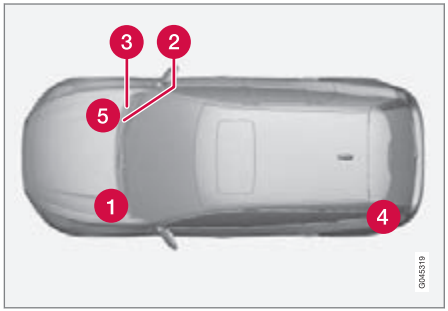
Changing

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 of central electrical units

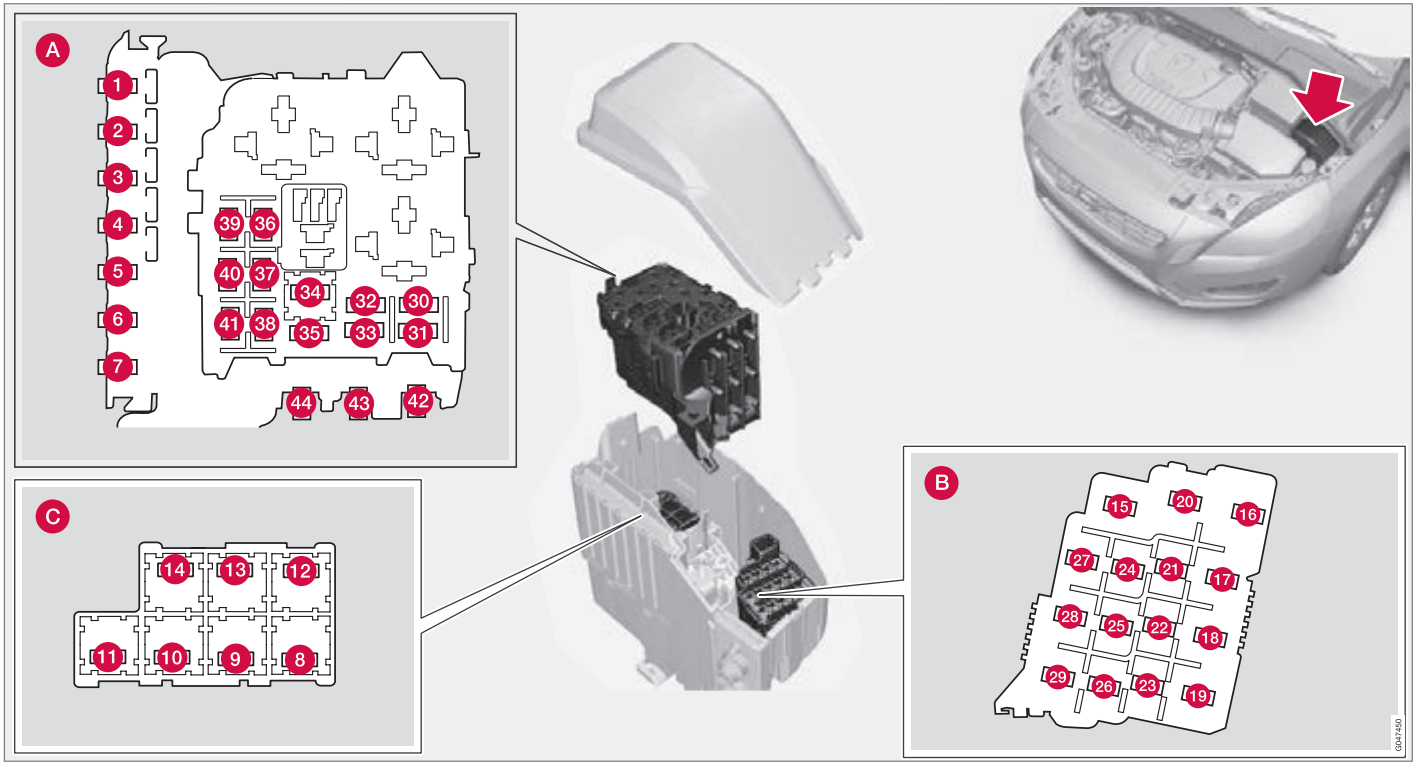


Central electrical unit locations in a left-hand drive car. In a right-hand drive car the central electrical units under the glovebox change sides.

1. Engine compartment
2. Under the glovebox
3. Under the glovebox
4. Cargo area
5. Engine compartment, cold zone

Fuses

Engine compartment



Fuses

General fuses, engine compartment

On the inside of the cover there 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. The fuses in (C) are located under (A).

On the inside of the cover is a label that shows the location of the fuses.

- Fuses 1-7 and 42-44 are of the "Midi Fuse" type and must only be replaced by a workshop[1].
- Fuses 8-15 and 34 are of the "JCASE" type and should be replaced by a workshop[1].
- Fuses 16-33 and 35-41 are of the "Mini Fuse" type.

	Function	A
1	-	-
2	Primary fuse for the central electronic module (CEM) under the glovebox	50
3	-	-
4	Primary fuse for relay/fuse box under the glovebox	60
5	-	-
6	-	-
7	-	-
8	Heated windscreen*, left-hand side	40
9	Windscreen wipers	30
10	Parking heater*	25
11	-	-
12	Heated windscreen*, right-hand side	40
13	ABS pump	40

	Function	A
14	ABS valves	20
15	Headlamp washers*	20
16	Headlamp levelling*; Active Xenon headlamps - ABL*	10
17	Primary fuse for the central electronic module (CEM) under the glovebox	20
18	ABS	5
19	Speed related power steering*	5
20	Engine control module; Transmission control module; Airbags	10
21	Heated washer nozzles*	10
22	-	-
23	Headlamp control	5
24	-	-
25	-	-
26	-	-

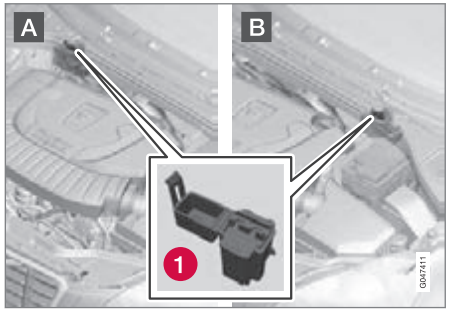
1 An authorised Volvo workshop is recommended.

Fuses

	Function	A
27	Relay coils	5
28	Auxiliary lamps*	20
29	Horn	15
30	Relay coil in main relay for engine management system; Engine control module	10
31	Transmission control module	15
32	-	-
33	Relay coil in relay for coolant pump; Relay coils in central electrical unit in engine compartment cold zone	5
34	Start relay	30
35	Glow control module	10
36	Engine Control Module (ECM)	15
37	Mass air flow sensor; Control valves	15
38	Valves; Oil level sensor	10

	Function	A
39	Lambda-sond	10
40	Diesel filter heater	20
41	Crankcase ventilation heater	5
42	Glow plugs	70
43	Cooling fan	80
44	Electro-hydraulic power steering	100

Behind the engine



A: Left-hand drive car. B: Right-hand drive car.

1 Fuse

	Function	A
1	Monitoring of vacuum pump for brake system	5

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

Fuses

Under the glovebox - Relay/Fuse box

Positions
On the inside of the cover is a label that shows the location of the fuses.

	Function	A
1	Primary fuse for audio control module*; Primary fuse for fuses 16-20: Infotainment	40
2	-	-
3	-	-
4	-	-
5	-	-
6	Door handle (Keyless*)	5
7	-	-
8	Control panel, driver's door	20
9	Control panel, front passenger door	20
10	Control panel, rear passenger door, right	20
11	Control panel, rear passenger door, left	20
12	Keyless*	7.5
13	Power seat driver's side*	20
14	Power seat passenger side*	20
15	Windscreen washers; Rear window washer	25
16	Infotainment control module	5

Fuses

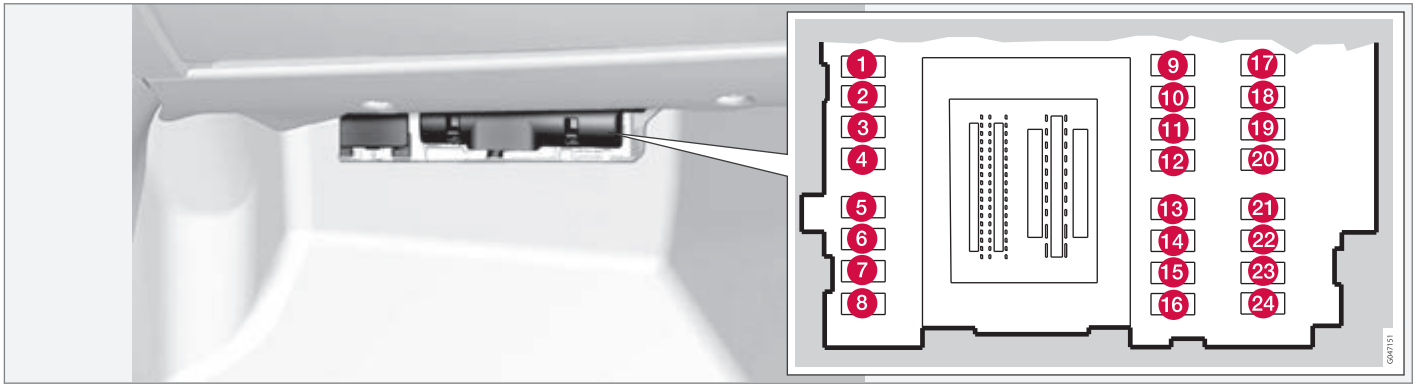
	Function	A
17	Audio control unit (amplifier)*; Digital radio*; TV*	10
18	Audio	15
19	Telematics*; Bluetooth*	5
20	-	-
21	Sunroof*; Interior lighting roof; Climate sensor*; Damper motors, air intake	5
22	12 V socket, tunnel console	15
23	Seat heating, rear right*	15
24	Seat heating, rear left*	15
25	Electrically-driven heater	5
26	Seat heating (passenger side)	15
27	Seat heating (driver's side)	15
28	Parking assistance*; Parking camera*; Towbar control module * BLIS* Electrically-driven heater	5

	Function	A
29	-	-
30	-	-

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

Fuses

Under the glovebox - Central electronic module (CEM)



Positions

	Function	A
1	Rear window wiper	15
2	-	-
3	Interior lighting; Driver's door control panel, power windows; Power seats, front*; Remote controlled garage door opener*	7.5
4	Combined instrument panel	5
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, fuel filler flap	10
9	Heated steering wheel*	15
10	Heated windscreen*	15
11	Unlocking, tailgate	10
12	Folding head restraint*	10
13	Fuel pump	20
14	Movement detector alarm*; Climate panel	5
15	Steering lock	15
16	Siren alarm*; Data link connector OBDII	5

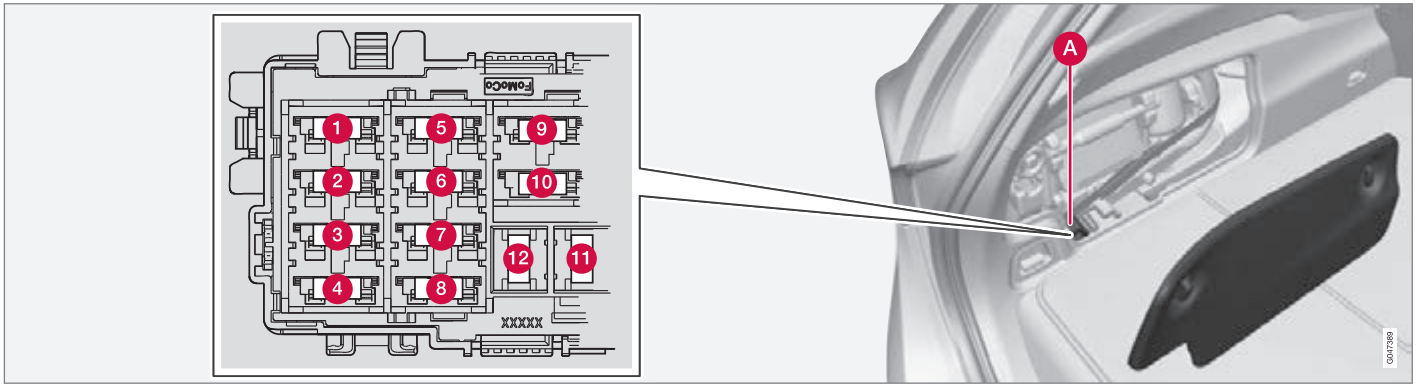
▶▶

Fuses

	Function	A
17	-	-
18	Airbags	10
19	Collision warning system*	5
20	Accelerator pedal sensor; Dimming interior rearview mirror*; Seat heating, rear*	7.5
21	Infotainment control module (Performance); Audio (Performance)	15
22	Brake light	5
23	Sunroof*	20
24	Immobiliser	5

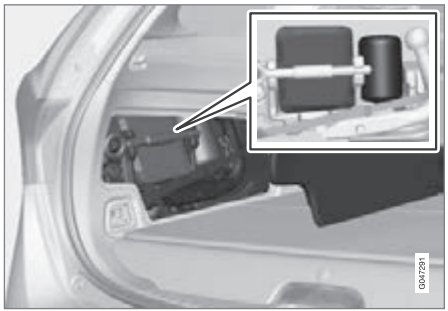
* Option/accessory, for more information, see Introduction.

Cargo area



The fuse box is located behind the upholstery on the left-hand side.

Fuses



The emergency puncture repair kit needs to be lifted out for the central electrical unit to be accessible.

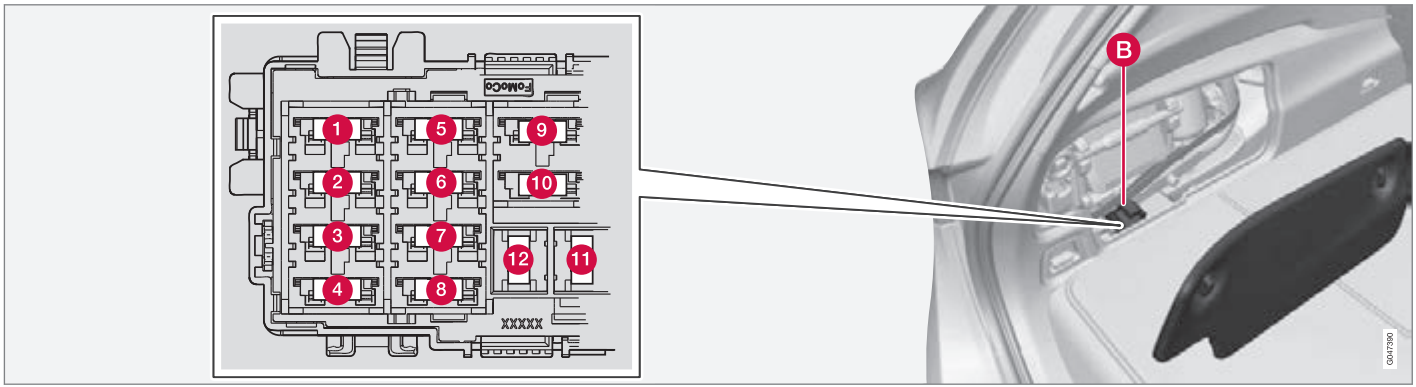
Positions

Box A	Function	A
1	Electric parking brake, left	30
2	Electric parking brake, right	30
3	Rear window defroster	30
4	Trailer socket 2*	15
5	-	-
6	12 V socket, cargo area	15
7	-	-

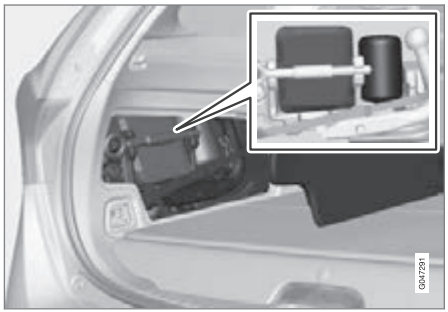
Box A	Function	A
8	-	-
9	-	-
10	-	-
11	Trailer socket 1*	40
12	-	-

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

Fuses



The fuse box is located behind the upholstery on the left-hand side.



The emergency puncture repair kit needs to be lifted out for the central electrical unit to be accessible.

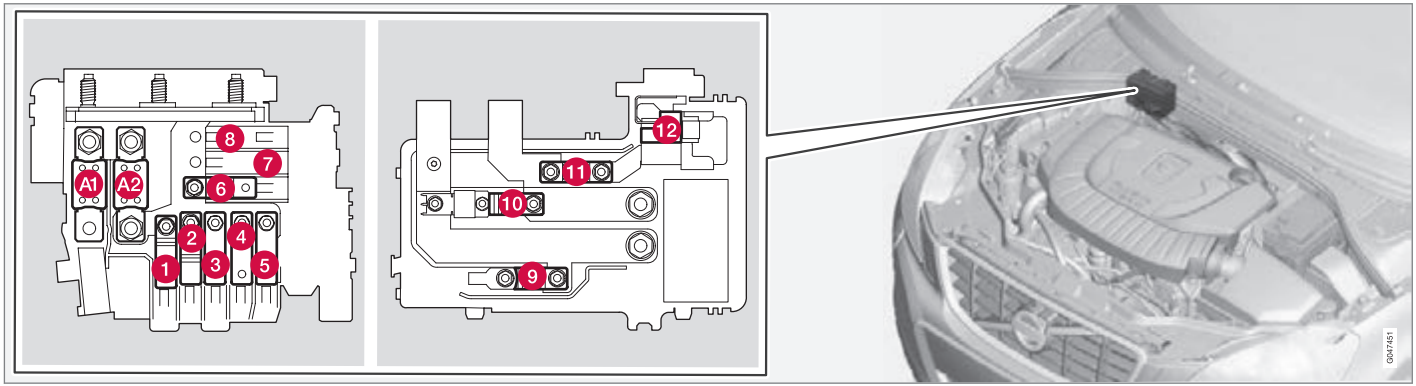
Box B	Function	A
1	Coolant pump 1 for hybrid battery; Valve for coolant pumps 1 and 2	10
2	Coolant pump 2 for hybrid battery	10
3	Charging unit; Voltage converter 400 V-12 V; Control module for hybrid battery	5

Box B	Function	A
4	Coolant pump for the cooling system's low temperature circuit	15
5	Charging unit; Voltage converter 400 V-12 V; Control module for hybrid battery	10
6	Relay coils; high voltage converter for electric motor and integrated starter generator	10

Fuses

Box B	Function	A
7	Disengaging the electric motor from the rear axle	15
8	-	-
9	High voltage converter for electric motor and integrated starter generator; control module for hybrid battery	10
10	Coolant valves for the cooling system's low temperature circuit; Electric A/C compressor; Valve for heat exchanger; Valve for climate control system	10
11	-	-
12	-	-

Engine compartment, cold zone - Start/Stop



Location of fuses for the Start/Stop function.

- Fuses A1 and A2 are of the "MEGA Fuse" type and must only be replaced by a workshop[2].
- Fuses 1-11 are of the "Midi Fuse" type and must only be replaced by a workshop[2].
- Fuse 12 is of the "Mini Fuse" type.

For more information on Start/Stop - see page 125.

Positions

	Function	A
A1	Main fuse for central electrical unit in the engine compartment	175
A2	Main fuse for central electronic module (CEM) under the glovebox, relay/fuse box under the glovebox, central electrical units in cargo area	175

	Function	A
1	Vacuum pump for brake system	40
2	Primary fuse for the central electronic module (CEM) under the glovebox	50
3	Primary fuse for relay/fuse box under the glovebox	60

2 An authorised Volvo workshop is recommended.

Fuses

	Function	A
4	Primary fuse for central electrical unit B in cargo area	50
5	Primary fuse for central electrical unit A in cargo area	60
6	Ventilation fan	40
7	-	-
8	-	-
9	-	-
10	-	-
11	Oil pump automatic gearbox	30
12	-	-

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 whole car until the loose dirt has been removed in order to reduce the risk of scratches from washing. Do not spray directly onto the locks.
- If necessary, use cold degreasing agent on very dirty surfaces. Note that the surfaces must not then be warmed up by the sun!
- Wash using a sponge, car shampoo and plenty of lukewarm water.
- Clean the wiper blades with a lukewarm soap solution or car shampoo.
- Dry the car using a clean, soft chamois or a water scraper. If you avoid allowing water droplets to dry in strong sunlight then the risk of water stains that may need to be polished away is reduced.

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.

Do not use any corrosive cleaning agents but use water and a non-scratching sponge instead.

NOTE

Outside lighting such as headlamps, fog lamps and rear lamps may temporarily have condensation on the inside of the lens. This is normal, all exterior lighting is designed to withstand this. Condensation is normally vented out of the lamp housing when the lamp 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 359.

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.

Car care

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 linings 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.

Strong rim cleaning agents can damage the surface and cause stains on chrome-plated aluminium rims.

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.

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

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.

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.

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.

Each inlay mat is secured with pins.

– Take hold of the inlay mat at each pin and lift the mat straight up.

Fit the inlay mat in place by pressing it in at each pin.

WARNING

Before setting off check that the inlaid mat in the driver area is firmly affixed and secured in the pins in order to avoid getting caught adjacent to and under the pedals.

A special textile cleaner is recommended for stains on the floor mat after vacuuming. Floor mats should be cleaned with agents recommended by your Volvo dealer!

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.

IMPORTANT

Sharp objects and Velcro may damage the fabric upholstery.

Treating stains on leather upholstery

Volvo's leather upholstery is chromium-free 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

Car care

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 for 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 for 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.

Cleaning seatbelts

Use water and a synthetic detergent. A special textile cleaning agent is available from your Volvo dealer. Make sure the seatbelt is dry before allowing it to retract.

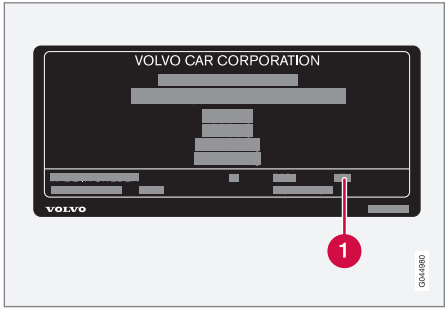
Touching up minor paintwork damage

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, doors and bumpers.

Materials

- primer[1] - for e.g. plastic-clad bumpers there are special adhesive primers available in spray cans
- base coat and clear coat - are available in spray cans or as touch-up pens/sticks[2]
- masking tape
- fine sand paper[1].

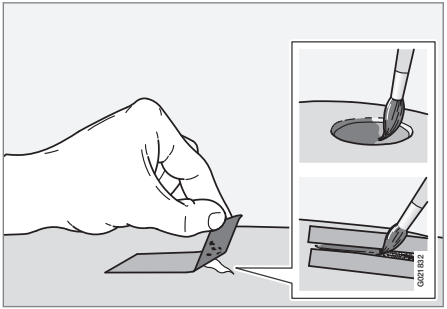
Colour code (Paint code)



1 Code for car's colour

It is important that the correct colour is used. For product decal location, see page 388.

Repairing minor paint damage such as stone chips and scratches



Before work is started, the car must be clean and dry as well as 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.

   If the damage has reached down to a metal surface (sheet steel), it is preferable to use a primer. In the event of damage to a plastic surface, an adhesive primer should be used for better results - spray into the spray can's cap and brush thinly.

1 If required.
2 Follow the instructions that are included with the package for the touch-up pen/stick.

Car care

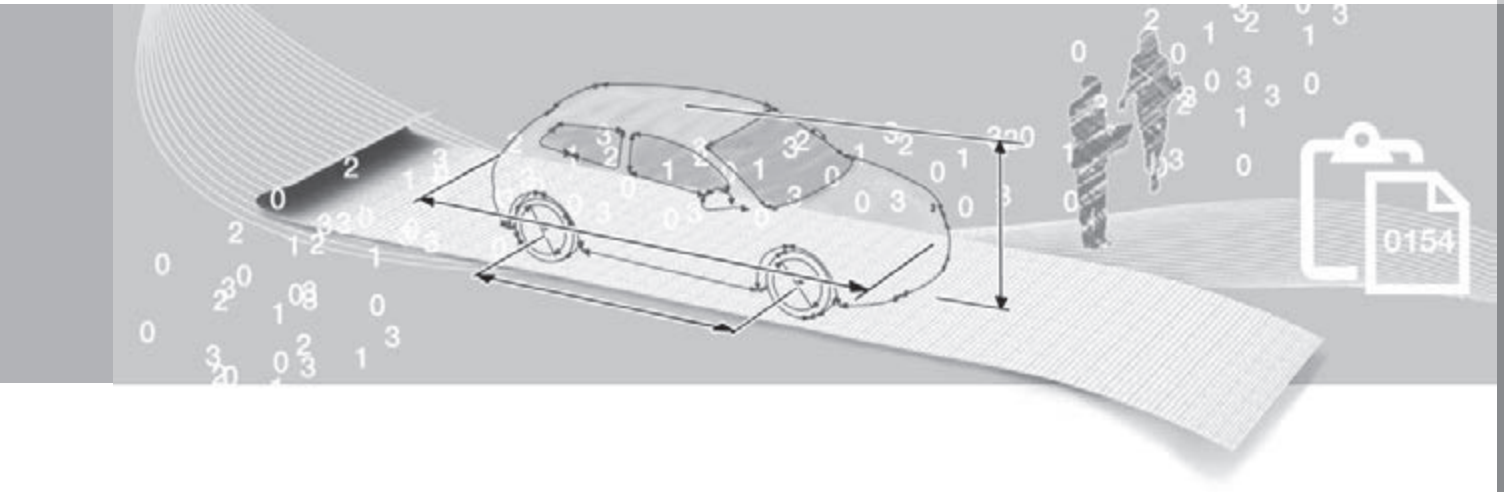
2. A light sanding with very fine abrasive material can be performed locally before painting if necessary (e.g. if there are rough edges). Clean the surface thoroughly and allow to dry.
3. Stir the primer well and apply using a fine brush, matchstick or similar. Finish with base coat and clear coat once the primer has dried.
4. For scratches, proceed as above, but mask around the damaged area to protect the undamaged paintwork.

NOTE

If the stone chip has not penetrated down to the meal and an undamaged layer of paint remains in place, fill in with base coat and clear coat as soon as the surface has been cleaned.

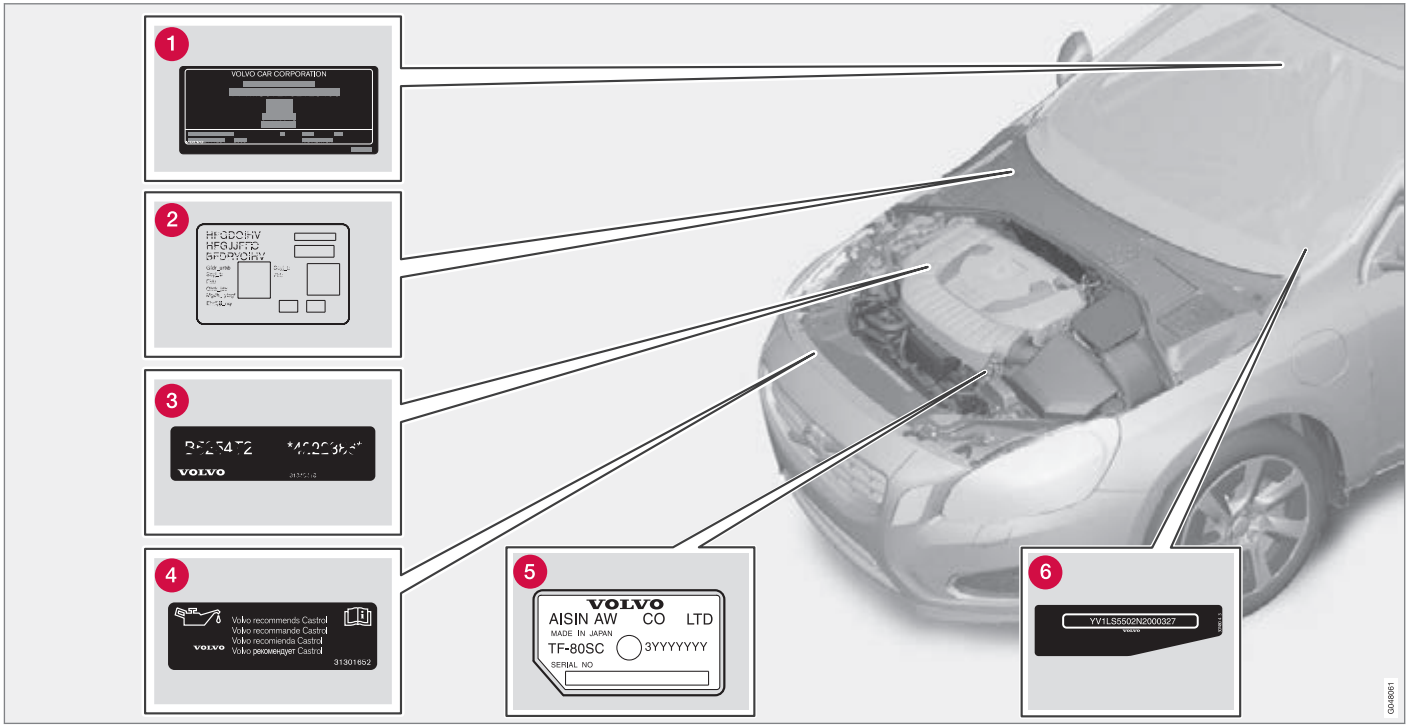
10

SPECIFICATIONS



Type designations

Label location



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 and engine serial number.
4. Label for engine oil.
5. Gearbox type designation and serial number.
6. Car's identification number. (VIN Vehicle Identification Number)

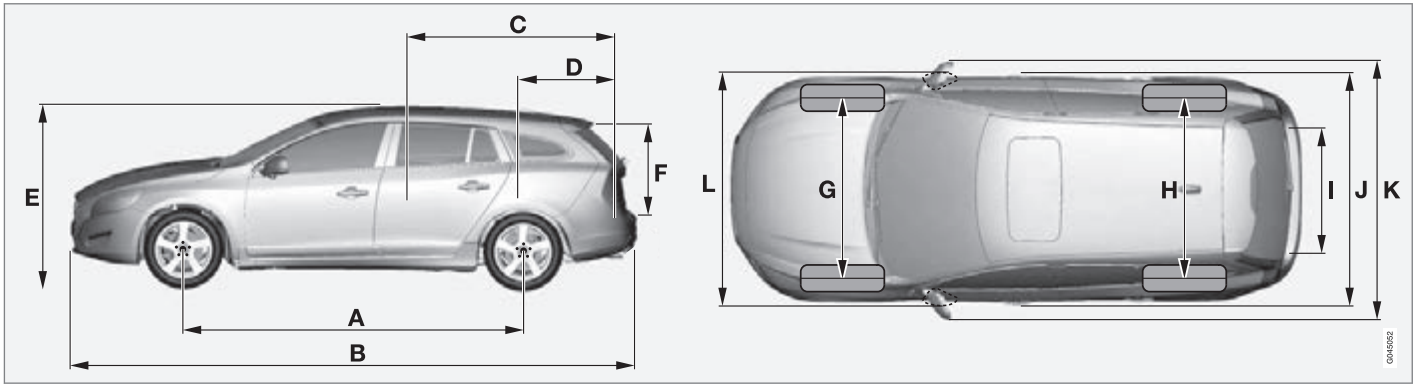
Further information on the car is presented in the registration document.

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	2776
B	Length	4635
C	Load length, floor, folded rear seat	1749
D	Load length, floor	978
E	Height	1484
F	Load height	658
G	Front track	1578

	Dimensions	mm
H	Rear track	1575
I	Load width, floor	1082
J	Width	1865
K	Width including door mirrors	2097
L	Width including folded-in door mirrors	1899

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 392) influences the payload and is not included in the kerb weight.

Permitted max. load = Gross vehicle weight - Kerb weight.

NOTE

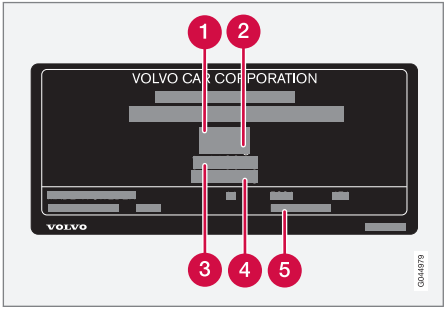
The documented kerb weight applies to cars in the standard version - i.e. a car without extra equipment or accessories. This means that for every accessory added the loading capacity of the car is reduced correspondingly by the weight of the accessory.

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 388.

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: 75 kg.

Dimensions and weights

Towing capacity and towball load

Engine	Engine code[A]	Gearbox	Max. weight braked trailer (kg)	Max. towball load (kg)
D6 AWD	D82PHEV	Automatic, TF-80SD	1800	90

A Engine code, component and serial number can be read on the engine, see page 388.

Max. weight unbraked trailer (kg)	Max. towball load (kg)
750	50

Diesel engine

Engine	Engine code[A]	Output (kW/rpm)	Output (hp/rpm)	Torque (Nm/rpm)	No. of cylinders	Bore (mm)	Stroke (mm)	Swept volume (litres)	Com-pression ratio
D6 AWD	D82PHEV	158/4000	215/4000	440/1500-3000	5	81.0	93.15	2.400	16.5:1

A Engine code, component and serial number can be read on the engine, see page 388.

Electric drive motor (ERAD - Electric Rear Axle Drive)

Max. power output: 50 kW (70 hp).

Torque: 200 Nm.

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 °C or hotter than +40 °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.

Volvo recommends that oil changes are carried out at an authorised Volvo workshop.

Engine oil

Engine oil grade

Engine	Engine code[A]	Recommended oil grade	Volume, incl. oil filter (litres)
D6 AWD	D82PHEV	**Oil grade: ACEA A5/B5** **Viscosity: SAE 0W–30**	approx. 5.9

[A] Engine code, component and serial number can be read on the engine, see page 388.

For filling engine oil, see page 348.

Fluids and lubricants

Coolant

Prescribed grade: Coolant recommended by Volvo mixed with 50% water[1], see the packaging.

Engine	Volume (litres)
D6 AWD	12.9

Other fluids and lubricants

Automatic gearbox	Volume (litres)	Prescribed transmission fluid
TF-80SD	7.0	AW1

NOTE

Under normal driving conditions, the gearbox oil does not need to be changed during its service life. However, it may be necessary under adverse driving conditions,see page 394.

Fluid	System	Volume (litres)	Prescribed grade
Brake fluid	Brake system	0.6	DOT 4
Power steering fluid	Power steering	-	WSS M2C204-A2 or equivalent product.

1 Water quality must fulfil the standard STD 1285.1.

Fluids and lubricants

Fluid	System	Volume (litres)	Prescribed grade
Washer fluid	Cars with headlamp washing	3,4	Washer fluid recommended by Volvo - with frost protection during cold weather and below freezing point.
	Cars without headlamp washing	3,4	
Fuel			
	Diesel engine	approx. 45	Diesel: see page 301

Fuel

CO_2 emissions and fuel consumption

		CO_2	Ø
D6 AWD (D82PHEV)	aut	48	1.8

Explanation

CO_2	gram/km
Ø	litre/100 km
	Combined driving

Fuel consumption and emissions of carbon dioxide

Fuel consumption and emission values in the table above are based on specific EU cycles[1], 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 cycles[1] 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 400.
- Choice of tyres can affect fuel consumption - seek advice on suitable tyres from a dealer.

See further information and more advice on pages 11 and 296.

See page 301 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 692/2008 and 715/2007 (Euro 5)and UN ECE Regulation no 101. The regulations cover the driving cycles for urban driving and extra-urban driving. - Urban driving - the measurement starts with cold starting the engine. The driving is simulated. - Extra-urban driving - the car is accelerated and braked at speeds between 0-120 km/h. The driving is simulated. The value for combined driving, which is given in the table, according to legislation, is a combination of urban driving and extra-urban driving. CO_2 emission - to calculate the carbon dioxide emissions from the two driving cycles, the exhaust gases are collected. These are then analysed and give the value for CO_2 emissions.

Approved dimensions

In certain countries not all approved dimensions are indicated by the registration document or other documents. The following table shows all approved combinations of wheel rims and tyres.

For information on the minimum permitted load index (LI) and the minimum permitted speed rating (SS), see page 399.

✓ = Approved

Engine		man/ aut	235/45 R 17 8Jx17x55
D6 AWD	D82PHEV	aut	✓

Load index and speed rating

The table below shows the minimum 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 388.

Engine		man/ aut	Minimum permitted load index (LI)[A]	Minimum permitted speed rating (SS)[B]
D6 AWD	D82PHEV	aut	97	V

A The tyre's load index must be at least equal to or greater than indicated in the table. For more information, see page 331.
B The tyre's speed rating must be at least equal to or greater than indicated in the table. For more information, see page 331.

Wheel and tyres, dimensions and pressure

Approved tyre pressures

Engine	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)
D6 AWD (D82PHEV)	235/45 R 17	0 - 160	280	280	280	280	280
		160 +	280	280	320	320	-

A Economical driving.
B In certain countries there is the "bar" unit beside the SI unit "Pascal": 1 bar = 100 kPa.

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.

Starter battery capacity is dependent upon the equipment level in the car.

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

NOTE

- The starter battery's container size should be consistent with the original battery's dimensions.
- The starter battery's height is different depending on size.

Voltage: 12 V.

Cold start capacity, CCA - Cold Cranking Amperes: 700-800 A.

Reserve capacity: 135-160 minutes.

Hybrid battery (battery for drive motor)

Type: Lithium-ion

Energy quantity: 11.2 kWh.

Service life: Longer than 10 years.

Vehicle range

The car's range during electric operation (drive mode PURE): up to 50 km.

Type approval

Remote control key system

Lock system, standard

Country	
EU	

Keyless lock system (Keyless drive)

Country	
EU	

Radar system

Coun-try	
Europe	CE Delphi Electronics & Safety hereby declares that L2C0038TR and L2C0049TR are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. This declaration of conformity may, if necessary, be consulted with Delphi Electronics & Safety / One Corporate Center / Kokomo, Indiana 46904-9005 USA.

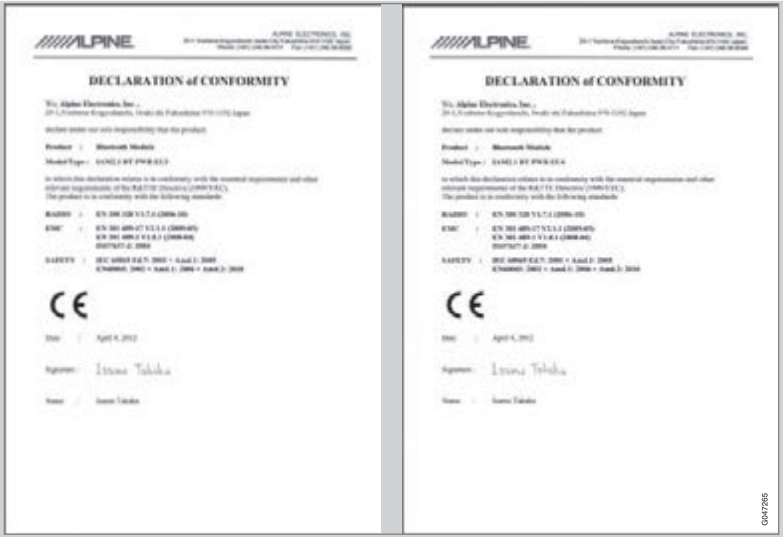
Type approval

Bluetooth®

Declaration of Conformity (Declaration of Conformity)

Country	
Countries in the EU:	CE Exporting country: Japan Manufacturer: Alpine Electronics Inc. Type of equipment: **Bluetooth®** device For further information visit http://ec.europa.eu/enterprise/rtte/faq.htm #informing

Type approval

Country	
	
Czech Republic:	Alpine Electronics, Inc. tímto prohlašuje, že tento **Bluetooth**® Module je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Denmark:	Undertegnede Alpine Electronics, Inc. erklærer herved, at følgende udstyr **Bluetooth**® Module overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Germany:	Hiermit erklärt Alpine Electronics, Inc., dass sich das Gerät **Bluetooth**® Module in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.

Type approval

Country	
Estonia:	Käesolevaga kinnitab Alpine Electronics, Inc. seadme **Bluetooth**® Module vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
UK	Hereby, Alpine Electronics, Inc., declares that this **Bluetooth**® Module is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Spain:	Por medio de la presente Alpine Electronics, Inc. declara que el **Bluetooth**® Module cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Greece:	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Alpine Electronics, Inc. ΔΗΛΩΝΕΙ ΟΤΙ **Bluetooth**® Module ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
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Type approval

Country	
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Slovenia:	Alpine Electronics, Inc. izjavlja, da je ta **Bluetooth**® Module v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovakia:	Alpine Electronics, Inc. týmto vyhlasuje, že **Bluetooth**® Module spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Finland:	Alpine Electronics, Inc. vakuuttaa täten että **Bluetooth**® Module tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Sweden:	Härmed intygar Alpine Electronics, Inc. att denna **Bluetooth**® Module står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Iceland:	Alpine Electronics, Inc. hereby certifies that this **Bluetooth**® Module conforms to the essential characteristic requirements and other relevant regulations of directive 1999/5/EC.
Norway:	Alpine Electronics, Inc. erklærer herved at utstyret **Bluetooth**® Module er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.

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- Linux kernel (merge between MontaVista 2.6.31 kernel and kernel from L2.6.31_MX51_ER_1007 BSP)
- uBoot (based on v2009.08)
- busybox (based on version 1.13.2.)

GCC runtime library exception: http://www.gnu.org/licenses/gcc-exception.html

- libgcc_s.so.1

LGPL v3: http://www.gnu.org/licenses/lgpl.html

- Libc.so.6, libpthread.so.0, Librt.so.1

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- libfreetype.so.6 (version 2.4.3)

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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 78, 80 and 204.

 - 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 in the combined instrument panel at the same time.

 - Yellow information symbol, comes on and a text appears on the combined instrument panel when one of the car's systems does not behave as intended. The yellow symbol information can also illuminate in combination with other symbols.

Symbols in the display

Warning symbols in the combined instrument panel

Symbol	Meaning	Page
	Parking brake applied	80, 136, 138
	Airbags - SRS	21, 80
	Seatbelt reminder	18, 80
	Starter battery not charging	80
	Fault in the brake system	80, 134
	Warning, safety mode	21, 31, 80, 81

Control symbols in the combined instrument panel

Symbol	Meaning	Page
	Fault in the ABL system*	79, 98
	Emissions system	79

Symbol	Meaning	Page
	Fault in the ABS system	79, 134
	Rear fog lamp on	79, 99
	Stability system, DSTC, Trailer stability assist*	79, 147, 322
	Stability system, sport mode	79, 147
	Engine preheater (diesel)	79
	Low level in fuel tank	79, 229
	Information, read display text	79
	Main beam on	79, 98
	Left-hand direction indicators	79
	Right-hand direction indicators	79

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

Information symbols in the combined instrument panel

Symbol	Meaning	Page
	Main beam with automatic dimming - AHB*	96
	Camera sensor*	96
	Adaptive cruise control*	164
	Adaptive cruise control*	157, 164
	Adaptive cruise control*, Distance Warning* (Distance Alert)	164, 168
	Adaptive cruise control*	164
	Adaptive cruise control*	158
	Cruise control*	153
	Radar sensor*	164, 168, 181

Symbol	Meaning	Page
	Foot brake	134
	Speed limiter	151
	Camera sensor*, Laser sensor*	173, 181, 186, 189
	Auto Brake*, Distance Warning* (Distance Alert), City Safety™, Collision warning system*	168, 173, 181
	Engine block heater and passenger compartment heater*	229
	Activated timer*	229
	ABL system*	98
	Fuel filler flap, right-hand side	300

Symbol	Meaning	Page
	Low battery	229
	Parking brake	138
	Rain sensor*	103
	Driver Alert System*, Lane Departure Warning*	186, 189
	Driver Alert System*, Lane Departure Warning*	189
	Driver Alert System*, Time for a break	186
	Recorded speed information*	148
	Parking inside	226

Symbols in the display

Symbol	Meaning	Page
	Parking outside	226
	Heating the seat	226, 226

Information symbols in the roof console display

Symbol	Meaning	Page
	Seatbelt reminder	20
	Airbag, passenger seat, activated	24, 25
	Airbag, passenger seat, deactivated	25

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W

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