



VOLVO S80

# OWNERS MANUAL

Web Edition





Volvo. for life



## **DEAR VOLVO OWNER**

THANK YOU FOR CHOOSING VOLVO

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

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



## 00 Introduction

Important information.....	8
Volvo and the environment.....	11

00



## 01 Safety

Seatbelts .....	16
Airbags.....	19
Activating/deactivating the airbag*.....	22
Side airbags (SIPS bags) .....	24
Inflatable Curtain (IC) .....	26
WHIPS .....	27
When the systems deploy .....	29
Safety mode.....	30
Child safety.....	31

01



## 02 Locks and alarm

Remote control key/key blade.....	40
Privacy locking*.....	45
Battery replacement, remote control key/ PCC*.....	46
Keyless drive*.....	48
Locking/unlocking.....	51
Child safety locks.....	55
Alarm*.....	56

02



### 03 Your driving environment

Instruments and controls.....	60
Instruments and controls - Executive .....	68
Key positions.....	69
Seats.....	71
Seats - Executive.....	75
Steering wheel.....	77
Lighting.....	78
Wipers and washing.....	87
Windows, rearview and door mirrors.....	89
Compass*.....	94
Power sunroof*.....	95
Alcoguard*.....	97
Starting the engine.....	101
Starting the engine – Flexifuel.....	103
Starting the engine – external battery.....	105
Gearboxes.....	106
All-wheel drive – AWD*.....	112
Foot brake.....	113
Parking brake.....	115
HomeLink® *.....	118



### 04 Comfort and driving pleasure

Menus and messages.....	124
Climate control.....	130
Fuel-driven engine block heater and passenger compartment heater*.....	138
Additional heater*.....	141
Audio system.....	142
RSE - Rear Seat Entertainment system - Dual Screen* .....	155
Trip computer.....	160
DSTC – Stability and traction control system.....	162
Adapting driving characteristics.....	164
Cruise control*.....	165
Adaptive cruise control*.....	167
Distance Alert*.....	175
Collision Warning & Pedestrian Detection with Auto Brake*.....	178
Driver Alert System – DAC*.....	185
Driver Alert System - LDW*.....	188
Park assist syst*.....	191
BLIS* – Blind Spot Information System ..	194
Comfort inside the passenger compartment.....	198
Comfort inside the passenger compartment - Executive.....	202

Bluetooth handsfree*.....	203
Built-in phone*.....	208

# 04



## 05 During your journey

Recommendations during driving.....	214
Refuelling.....	217
Fuel.....	218
Loading.....	222
Cargo area .....	224
Driving with a trailer.....	225
Towing and recovery.....	231

# 05



## 06 Wheels and tyres

General .....	236
Changing wheels .....	240
Tyre pressure .....	243
Warning triangle and first-aid kit*.....	244
Emergency puncture repair (TMK)* .....	245

# 06



## 07 Maintenance and service

Engine compartment.....	252
Lamps.....	259
Wiper blades and washer fluid.....	266
Battery.....	268
Fuses.....	271
Car care.....	280

# 07

01 10  
00 11

## 08 Specifications

Type designations.....	288
Dimensions and weights.....	290
Engine specifications.....	294
Engine oil.....	295
Fluids and lubricants.....	297
Fuel.....	299
Wheel and tyres, dimensions and pressure .....	300
Electrical system.....	302
Type approval.....	303
Symbols in the display.....	304

A-Z

## 09 Alphabetical Index

Alphabetical Index.....	308
-------------------------	-----



## Important information

### Reading the Owner's Manual

#### Introduction

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

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

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#### Option

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

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

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

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

#### Special texts

 **WARNING**

Warning texts advise of a risk of personal injury.

 **IMPORTANT**

Important texts advise of a risk of material damage.

 **NOTE**

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

#### Footnote

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

#### Message texts

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

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

#### Decals

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

#### Warning for personal injury



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



## Important information

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

### Risk of property damage



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

### Information



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

### NOTE

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

### Procedure lists

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

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

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

### Position lists

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

### Bulleted lists

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

Example:



## Important information

- Coolant
- Engine oil

### To be continued

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

### Recording data

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

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

### Accessories and extra equipment

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

### Information on the Internet

At [www.volvocars.com](http://www.volvocars.com) there is further information concerning your car.



## Volvo and the environment

### Volvo Cars' environmental philosophy



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

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

#### **fuel consumption**

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

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

#### **Efficient emission control**

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

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

#### **Clean air in the passenger compartment**

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

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

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

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



## Volvo and the environment

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

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

### Textile standard

The interior of a Volvo is designed to be pleasant and comfortable, even for people with contact allergies and for asthma sufferers. Extreme attention has been given to choosing environmentally-compatible materials. This means that they also fulfil the requirements in the Oeko-Tex 100 standard<sup>1</sup>, a major advance towards a healthier passenger compartment environment.

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

### Volvo workshops and the environment

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

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

### Reducing environmental impact

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

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

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

Following this advice can save money, the planet's resources are saved and the car's durability is extended. For more information and further advice, see page 214.

### Recycling

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

### The owner's manual and the environment

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

<sup>1</sup> More information on [www.oekotex.com](http://www.oekotex.com)

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



## Volvo and the environment



### Mixed Sources

Product group from well-managed  
forests and other controlled sources  
[www.fsc.org](http://www.fsc.org) Cert no. SW-COC-001344  
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Seatbelts .....	16
Airbags.....	19
Activating/deactivating the airbag* .....	22
Side airbags (SIPS bags) .....	24
Inflatable Curtain (IC) .....	26
WHIPS .....	27
When the systems deploy .....	29
Safety mode.....	30
Child safety.....	31



# 01

SAFETY





## Seatbelts

### General information



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

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

### Putting on a seatbelt

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

The buckles only fit the intended lock in the rear seat<sup>1</sup>.

### Releasing the seatbelt

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

### The seatbelt locks and cannot be withdrawn:

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

### Make sure that you:

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

### WARNING

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

### WARNING

Each seatbelt is designed for only one person.

### WARNING

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

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

<sup>1</sup> Certain markets.



## Seatbelts

### Seatbelts and pregnancy



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

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

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

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

### Seatbelt reminder



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

Child seats are not covered by the seatbelt reminder system.

### Rear seat

The seatbelt reminder in the rear seat has two subfunctions:

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

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



## Seatbelts

### Certain markets

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

### Seatbelt tensioner

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



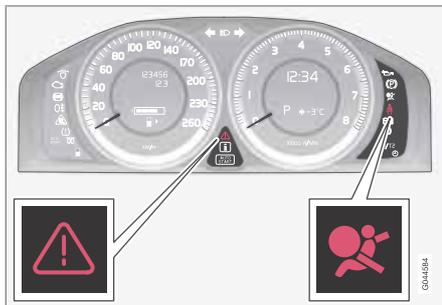
### WARNING

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



## Airbags

### Warning symbol on the combined instrument panel



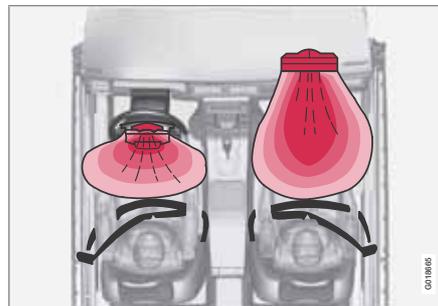
The warning symbol in the combined instrument panel illuminates when the remote control key is in key position II or III. The symbol clears after approx. 6 seconds provided the airbag system is fault-free.

### WARNING

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

As well as the warning symbol, a message may appear on the information display in appropriate cases. If the warning symbol malfunctions, the warning 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 with hot gas. To cushion the impact, the airbag deflates when compressed. When this occurs, smoke escapes into the car. This is completely normal. The entire process, including inflation and deflation of the airbag, occurs within tenths of a second.

### WARNING

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



## Airbags

### NOTE

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

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

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



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



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

### Airbag on the driver's side

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

### WARNING

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

### Passenger airbag

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

### WARNING

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

### WARNING

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

** WARNING**

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

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

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

Failure to follow the advice given above can endanger life.



## Activating/deactivating the airbag\*

### Key switch off - PACOS\*

#### General information

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

#### Key switch off/switch

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

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

For information on the key blade, see page 43.

#### WARNING

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

#### WARNING

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

#### WARNING

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

#### WARNING

Do not allow anyone to sit in the front passenger seat if the message in the roof panel (see page 23) indicates that the airbag is deactivated and if the warning symbol for the airbag system is also displayed in the combined instrument panel. This indicates that there has been a severe malfunction. Visit a workshop as soon as possible. Volvo recommends that you contact an authorised Volvo workshop.

### Activating/deactivating



Switch location

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



## Activating/deactivating the airbag\*

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

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

**Deactivated airbag (passenger seat):**

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

Failure to follow the advice given above could endanger life.

**Messages**

Indicator showing that the passenger airbag is deactivated.

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



Indicator showing that the passenger airbag is activated.

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

**i NOTE**

When the remote control key is turned to key position II or III the warning symbol for the airbag is displayed on the combined instrument panel for approx. 6 seconds (see page 19).

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 69.



## Side airbags (SIPS bags)

### Side airbag



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

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

**WARNING**

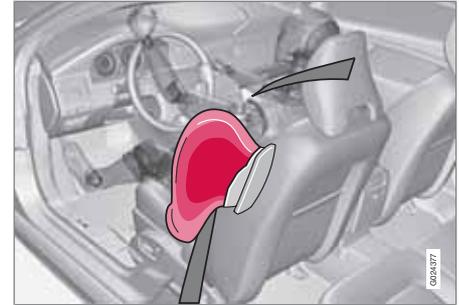
- Volvo recommends that repairs are only carried out by an authorised Volvo workshop. Defective work in the SIPS-bag system could cause malfunction and result in serious personal injury.
- Do not put objects in the area between the outside of the seat and the door panel, since this area is required by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

### Child seats and side airbags

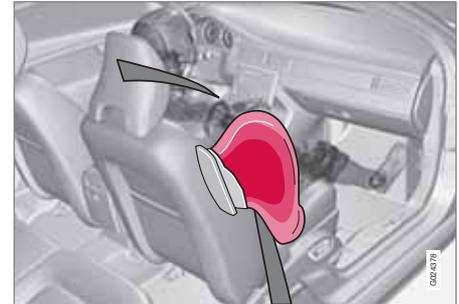
The protection provided by the car to children seated in a child seat or on a booster cushion is not diminished by the side airbag.

A child seat or booster cushion can be placed on the front passenger seat provided that the car does not have an activated<sup>1</sup> passenger airbag.

### Location



Driver's seat, left-hand drive.



Front passenger seat, left-hand drive.

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

<sup>1</sup> For information on activating/deactivating the airbag, see page 22.

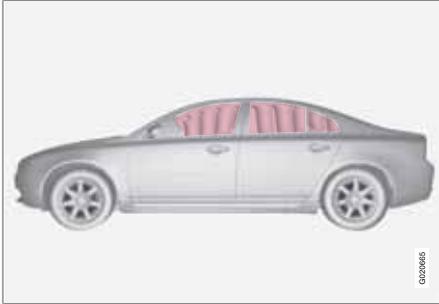
**Side airbags (SIPS bags)**

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



## Inflatable Curtain (IC)

### Properties



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

### WARNING

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

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

### WARNING

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

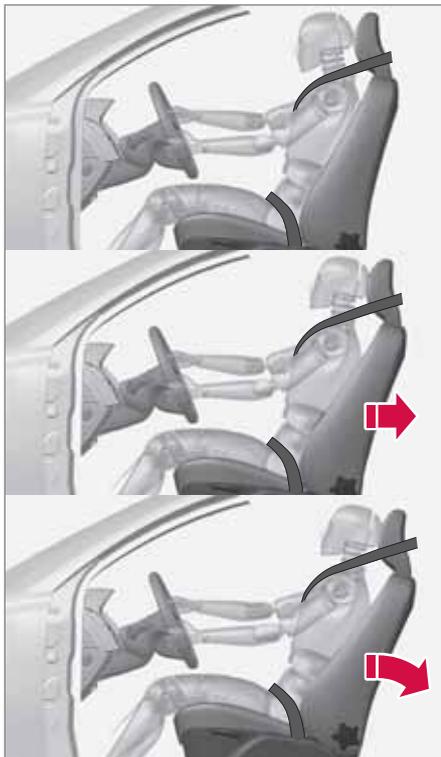
### WARNING

The inflatable curtain is a supplement to the seatbelts.

Always use a seatbelt.



## WHIPS

**Protection against whiplash injury – WHIPS**

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

**WARNING**

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

**Properties of the seat**

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

**WARNING**

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

**WHIPS system and child seats/booster cushions**

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

**Correct seating position**

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

**Do not obstruct the WHIPS system**

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

**WARNING**

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



## WHIPS



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

### **WARNING**

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

### **WARNING**

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

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

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



## When the systems deploy

## When the systems deploy

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

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

If the airbags have deployed, the following is recommended:

- Recovering the car. Volvo recommends that you have it conveyed to an authorised

Volvo workshop. Do not drive with deployed airbags.

- Volvo recommends that you engage an authorised Volvo workshop to handle the replacement of components in the car's safety systems.
- Always contact a doctor.

## NOTE

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

## WARNING

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

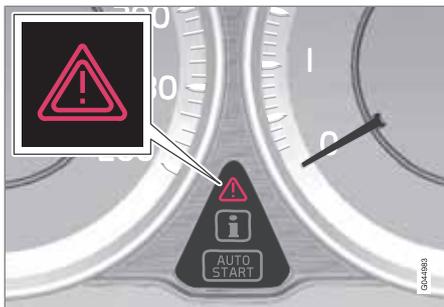
## WARNING

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



## Safety mode

### Driving after a collision



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

### Attempting to start the car

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

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

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

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

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

### Moving the car

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

### WARNING

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

### WARNING

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

### WARNING

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



## Child safety

### Children should sit comfortably and safely

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

The position of a child in the car and the choice of equipment are dictated by the child's weight and size, for more information, see page 33.

#### **i** NOTE

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

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

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

#### **i** NOTE

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

### Child seats



*Child seats and airbags are not compatible.*

#### **i** NOTE

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

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

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

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

### Location of child seats

You may place:

- a child seat/booster cushion on the passenger seat, provided the passenger airbag is not activated<sup>1</sup>.
- 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.

<sup>1</sup> For information on activated/deactivated airbag, see page 22.



## Child safety

### **WARNING**

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

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

Failure to follow the advice given above can endanger life.

### **WARNING**

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

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

### **Label Airbag**



*Label fitted on the end face of the instrument panel on the passenger side, see the illustration on page 22.*



## Child safety

Recommended child seats<sup>2</sup>

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

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



## Child safety

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



## Child safety

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

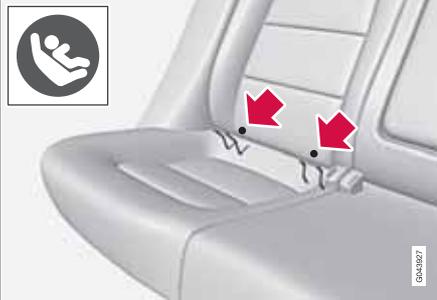


## Child safety

### 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 55.

### ISOFIX fixture system for child seats



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

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

Press the seat cushion down to access the mounting points.

### NOTE

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

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

### Upper mounting points for child seats



The car is equipped with upper mounting points for child seats. These mounting points are located on the parcel shelf and are concealed by plastic covers. Bend aside the plastic covers to access each respective mounting point.

For cars with folding head restraints on the outside seats the head restraints should be folded to facilitate installation.

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 for as long as possible.

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.



Remote control key/key blade.....	40
Privacy locking*.....	45
Battery replacement, remote control key/PCC*.....	46
Keyless drive*.....	48
Locking/unlocking.....	51
Child safety locks.....	55
Alarm*.....	56



# 02

## LOCKS AND ALARM





### Remote control key/key blade

#### General

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

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

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

#### WARNING

If there are children in the car:

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

#### Loss of a remote control key

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

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

The current number of keys registered to the car can be checked under **Car settings** → **Car Key memory** → **Number of keys**. For a description of the menu system, see page 124.

#### Key memory<sup>1</sup> – door mirrors and driver's seat

The settings are automatically connected to each respective remote control key, see pages 72 and 91.

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

For a description of the menu system, see page 124.

For cars with Keyless drive system, see page 48.

#### Indicator for locking/unlocking

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

- Locking - one flash.
- Unlocking - two flashes.

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

#### Selecting the function

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

For a description of the menu system, see page 124.

#### Immobiliser

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

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

<sup>1</sup> Only in combination with power driver's seat and power mirrors.



## Remote control key/key blade

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

For starting the car, see page 101.

## Functions



Remote control key.

-  Locking
-  Unlocking
-  Approach light duration
-  Boot lid
-  Panic function



PCC\* - Personal Car Communicator.

 Information

## Function buttons

 **Locking** – Locks the doors and boot lid 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 boot lid while the alarm is deactivated.



### Remote control key/key blade

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

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

The function can be changed in the menu system under **Car settings** → **Lock settings** → **Doors unlock** with both the alternatives **All doors** and **Driver door, then all**. For a description of the menu system, see page 124.

 **Approach light duration** – Used to switch on the car's lighting at a distance. For more information, see page 83.

 **Boot lid** – Unlocks and disarms the alarm for the boot lid only. For more information, see page 52.

 **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 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 43.

### Unique functions PCC\*



PCC\* - Personal Car Communicator.

-  Information button
-  Indicator lamps

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

### Using the information button

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

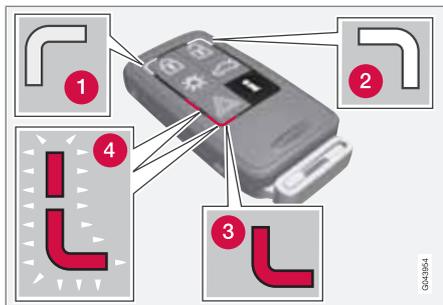
### NOTE

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

Indicator lamps display information in accordance with the following illustration:



## Remote control key/key blade



- 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 boot lid is about 20 m from the car, for other functions up to about 100 m.

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

**NOTE**

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

**Out of PCC range**

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

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

**NOTE**

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

**Detachable key blade**

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

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

**Key blade functions**

Using the remote control key's detachable key blade:

- the driver's door can be opened manually if central locking cannot be activated with the remote control key, see page 49.
- the rear doors' mechanical child safety locks can be activated/deactivated, see page 55.
- access to the glovebox and cargo area (privacy locking\*) is blocked, see page 45.
- the boot lid can be opened manually if the car is de-energised, see page 53.
- the airbag for front passenger seat (PACOS)\* can be activated/deactivated, see page 22.



### Remote control key/key blade

#### Removing the key blade



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

#### Attaching the key blade

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

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

#### Unlocking doors with the key blade

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

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

#### NOTE

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

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

For a car with the Keyless system, see page 49.



## 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 boot lid lock is disconnected from the central locking - the boot lid 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.

## Activating/deactivating



Activating privacy locking.

To activate privacy locking:

- ➡ Insert the key blade in the glovebox lock cylinder.

- ➡ Turn the key blade 180 degrees clockwise. The keyhole is vertical in the locked position for privacy locking.

- ➡ Pull out the key blade. The information display shows a message at the same time.

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

**i** 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 52.

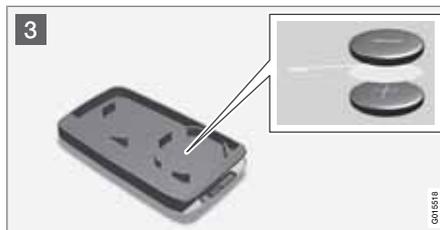


## Battery replacement, remote control key/PCC\*

### Replacing the battery

The batteries should be replaced if:

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



### Opening

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

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

### Remove control key (1 battery)

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

### PCC\* (2 batteries)

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

### Battery type

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

### Assembly

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



### Battery replacement, remote control key/PCC\*

 **IMPORTANT**

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

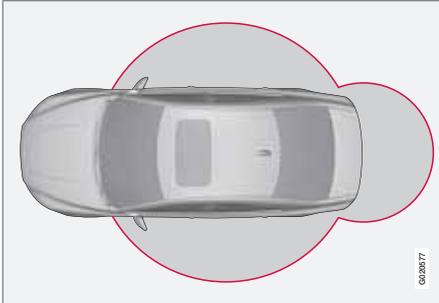
02



### Keyless drive\*

#### Keyless lock and ignition system (only PCC<sup>1</sup>)

##### 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 40.

##### PCC range

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

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

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

If all PCCs are removed from the car when the engine is running or key position II is active (see page 69) and if all doors are closed, then a warning message is shown in the information display and an audio reminder signal sounds at the same time.

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

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

##### Handling the PCC safely

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

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

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



#### **IMPORTANT**

Never leave a PCC behind in the car.

##### Interference to PCC function

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

If interference is experienced nonetheless, use the PCC and the key blade as a remote control key, see page 41.

<sup>1</sup> Personal Car Communicator, see page 42.

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

**Keyless drive\*****Locking**

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

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

All doors and the boot lid 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 boot lid's rubberised pressure plate is actuated - open the door or boot lid as normal.

**Unlocking with the key blade**

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

1. Press the key blade approx. 1 cm straight up into the hole on the underside of the door handle/cover - do not prize.
  - > The plastic cover is prised loose automatically by the torque when the blade is pushed straight up and into the opening.

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

**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 57.

**Key memory<sup>2</sup> – 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

<sup>2</sup> Only in combination with power driver's seat and power mirrors.



## Keyless drive\*

presses their PCC's unlock button, see page 41.

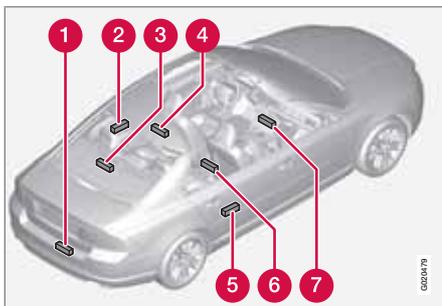
- Select one of three possible memories for seat adjustment with seat button 1-3, see page 72.
- Adjust seat and mirrors manually, see page 72 and 91.

### Lock settings

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

For a description of the menu system, see page 124.

### Antenna location



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

- 1 Rear bumper, centre, inside
- 2 Door handle, left rear
- 3 Parcel shelf, centre, underside
- 4 Roof, centre above rear seat
- 5 Door handle, right rear
- 6 Centre console, under the rear section
- 7 Centre console, under the front section.



### WARNING

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



## Locking/unlocking

**From the outside**

The remote control key can lock/unlock all doors and the boot lid simultaneously. Different sequences for unlocking can be selected, see Unlocking with the remote control key, page 41.

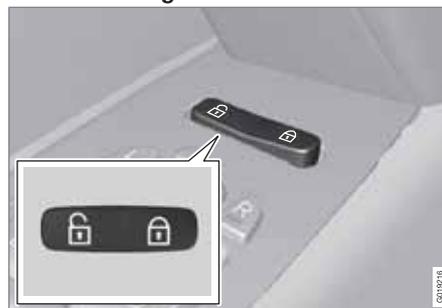
If it is not possible to lock/unlock with the remote control key, the battery may be discharged - lock or unlock the driver's door with the detachable key blade, see page 43.

**WARNING**

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

**Automatic reloading**

If none of the doors or the boot lid 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 56.)

**From the inside****Central locking**

*Central locking.*

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

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

**Unlocking**

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

- Press the central locking button .

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

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

**Locking**

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

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

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

**Global opening**

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

**Automatic locking**

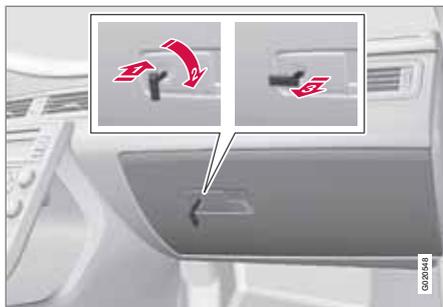
The doors and boot lid are locked automatically when the car starts to move.

The function can be activated/deactivated under **Car settings** → **Lock settings** → **Doors automatic lock**. (For a description of the menu system, see page 124.)



## Locking/unlocking

### Glovebox



The glovebox can only be locked/unlocked using the remote control key's detachable key blade. (For information on the key blade, see page 43).

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 45.

### Boot lid

#### Unlocking with the remote control key



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

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

The doors remain locked and armed.

#### The boot lid can be opened in two different ways

**One press** - The boot lid is unlocked, but remains closed - press lightly on the rubberised

pressure plate under the outer handle and lift the boot lid.

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

**Two presses** - The boot lid is unlocked and the catch is disengaged at which the boot lid opens about a centimetre - lift the outer handle to open. Rain, cold, frost or snow could prevent the tailgate from disengaging from the catch.

#### NOTE

- When the boot lid/tailgate is unlocked with 2 presses, automatic relocking does not take place because the boot lid/tailgate is open - it must be closed manually.
- After the boot lid/tailgate has been closed it is unlocked and the alarm is not armed - relock it and re-arm the alarm with the remote control key's lock button .



## Locking/unlocking

## Unlocking with the key blade



The boot lid can be opened manually with the key blade if the car's battery has drained - the boot lid cannot then be opened with the lighting panel button.

- 1 Prize loose the lock cylinder's cover.
- 2 Unlock the boot lid by turning the key blade one half turn anticlockwise as illustrated.
3. Refit the cover.

<sup>1</sup> Only in combination with alarm.

## Locking with the remote control key

- Press the remote control key's button for locking, , see page 41.

If the car is equipped with an alarm\* the alarm indicator on the instrument panel starts to flash, which means that the alarm is armed.

## Unlocking the car from inside



To unlock/open the boot lid:

- Press the lighting panel button (1) - the catch releases and the boot lid is opened a few centimetres.

Deadlocks\*<sup>1</sup>

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

The deadlocks are activated with the remote control key and are set after an approximately 10 second delay after the doors have been locked.

 NOTE

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

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



## Locking/unlocking

### Temporary deactivation



Active menu options are indicated with a cross.

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

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

1. Access the menu system under **Car settings** (for a detailed description of the menu system, see page 124).
2. Select **Reduced guard**.
3. Select **Activate once**.

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

or

- Select **Ask on exit**.

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

#### If the deadlocks function shall be switched off

- Press **ENTER** and lock the car. (Note that the alarm's movement and tilt detectors\* are switched off at the same time, see page 56.)
  - > The next time the engine is started, the system is reset to zero and the instrument panel display shows the message **Full guard** at which the deadlocks function and the alarm's movement and tilt detectors are re-engaged.

#### If the locking system shall not be changed

- Select no options at all and lock the car.
- or

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

#### NOTE

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

#### WARNING

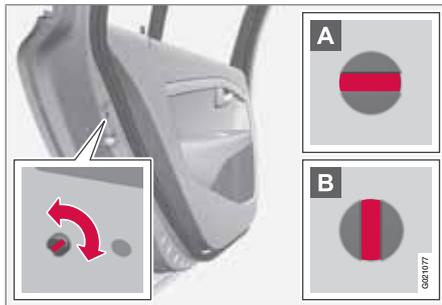
Do not allow anyone to remain in the car without first deactivating the deadlocks to avoid the risk of anyone being locked in.



## Child safety locks

**Manual blocking of the rear doors**

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



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

To activate/deactivate the child safety locks:

- Use the remote control key's detachable key blade to turn the knob, see page 43.

**A** The door is blocked against opening from the inside.

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

**NOTE**

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

**Electrical locking of the rear doors\* and power windows**

*Control panel driver's door.*

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

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

The child safety locks are activated/deactivated in all key positions (see page 69 and up to 2 minutes after the remote control key has been removed from the ignition switch. If a door is opened within this time, the function is deactivated.

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



## Alarm\*

### General

Activated alarm is triggered if:

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

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

### NOTE

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

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

### NOTE

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

### Alarm indicator



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

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

### Arming the alarm

- Press the remote control key lock button.

### Disarming the alarm

- Press the remote control key unlock button.

### Deactivating a triggered alarm

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

### Other alarm functions

#### Automatic re-arming of the alarm

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

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

#### Alarm signals

When the alarm is triggered, the following happens:

- A siren sounds for 30 seconds or until the alarm is switched off. The siren has its own

**Alarm\***

battery which works independently of the car battery.

- The direction indicators flash for 5 minutes or until the alarm is switched off.

**Remote control key not working**

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

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

**Reduced alarm level**

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

The procedure is the same as with the temporary disengaging of deadlocks, see page 53.

**Testing the alarm system****Testing the movement detector in the passenger compartment**

1. Close all windows. Remain in the car.
2. Arm the alarm, see page 56.
3. Wait 15 seconds.
4. Trigger the alarm by moving your arms forward and back at backrest height.
  - > A siren sounds and all direction indicators flash.
5. Deactivate the alarm by unlocking the car with the remote control key.

**Testing the alarm sensors in the doors**

1. Arm the alarm, see page 56.
2. Wait 15 seconds.
3. Unlock the driver's door using the key blade.
4. Open the driver's door.
  - > A siren sounds and all direction indicators flash.
5. Deactivate the alarm by unlocking the car with the remote control key.

**Testing the alarm sensors for the bonnet**

1. Sit in the car and deactivate the movement sensor, see the previous section Reduced alarm level.
2. Arm the alarm, see page 56. Remain in the car and lock the doors with the button on the remote control key.
3. Wait 15 seconds.
4. Open the bonnet with the handle under the dashboard.
  - > A siren sounds and all direction indicators flash.
5. Deactivate the alarm by unlocking the car with the remote control key.

Instruments and controls.....	60
Instruments and controls - Executive .....	68
Key positions.....	69
Seats.....	71
Seats - Executive.....	75
Steering wheel.....	77
Lighting.....	78
Wipers and washing.....	87
Windows, rearview and door mirrors.....	89
Compass* .....	94
Power sunroof*.....	95
Alcoguard*.....	97
Starting the engine.....	101
Starting the engine – Flexifuel.....	103
Starting the engine – external battery.....	105
Gearboxes.....	106
All-wheel drive – AWD*.....	112
Foot brake.....	113
Parking brake.....	115
HomeLink® * .....	118



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# 03

## YOUR DRIVING ENVIRONMENT

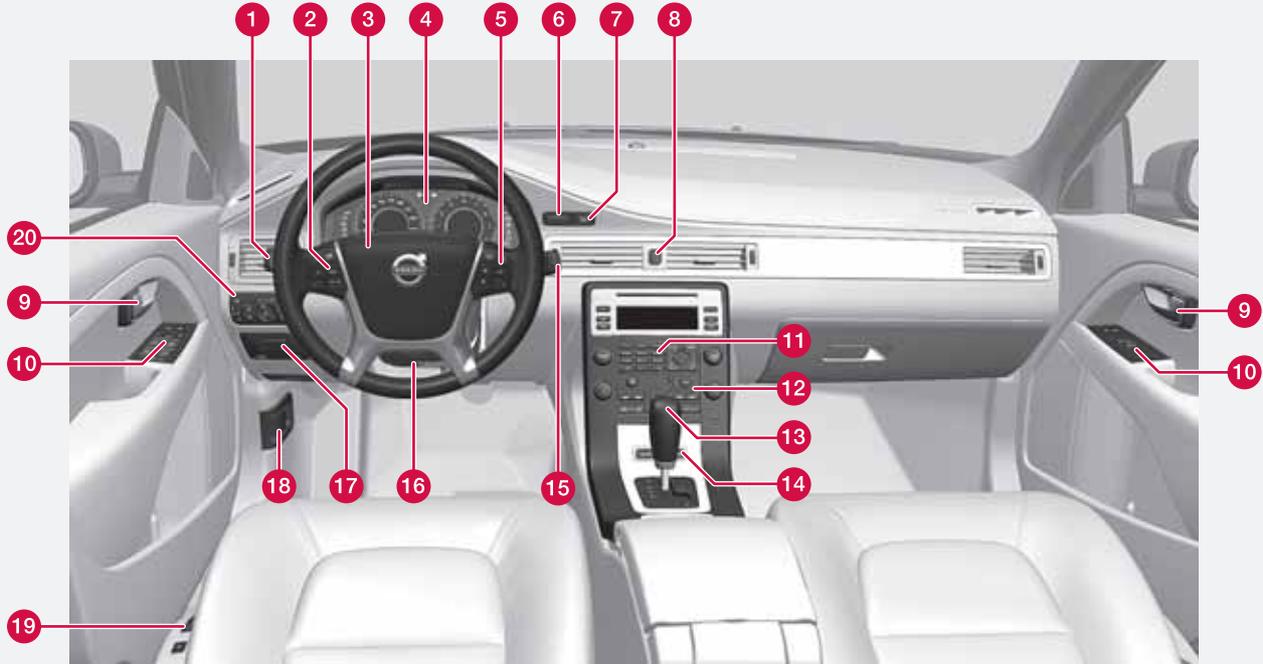




# 03 Your driving environment

## Instruments and controls

### Instrument overview



Left-hand drive.

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## Instruments and controls

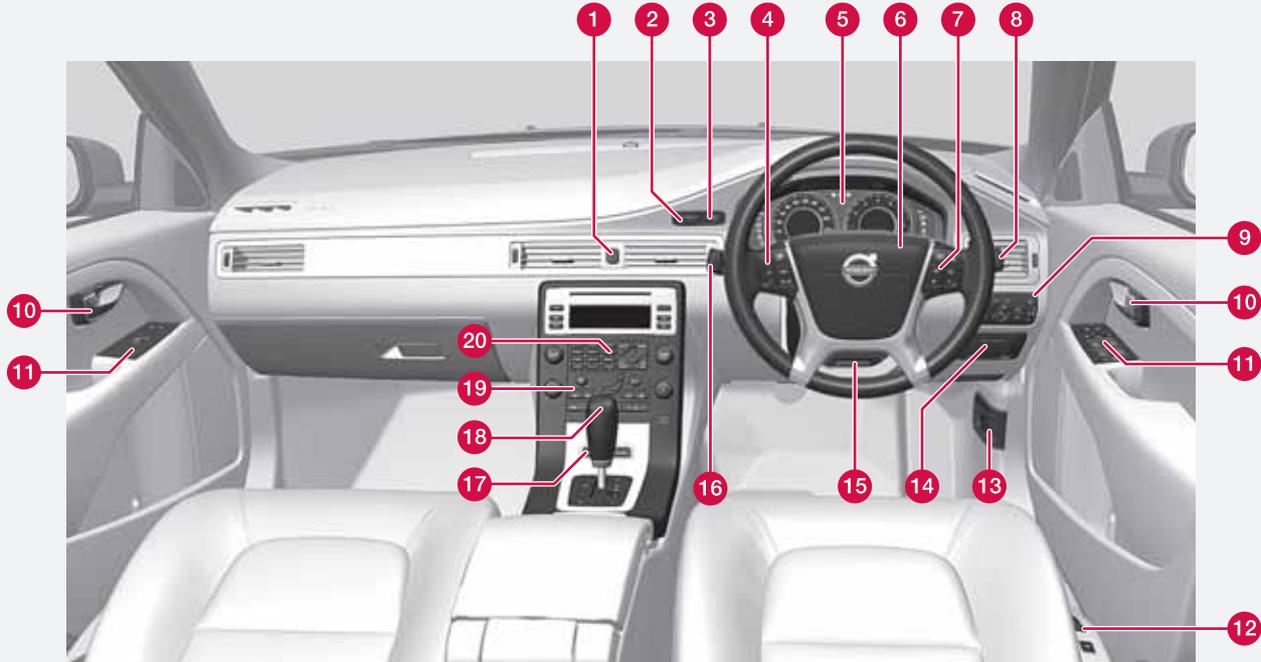
	Function	Page
1	Menus and messages, direction indicators, main/dipped beam, trip computer	78, 81, 128, 160
2	Cruise control	165, 167
3	Horn, airbags	20, 77
4	Combined instrument panel	63, 67
5	Menu, audio and phone control	124, 142, 203
6	Ignition switch	69
7	Start/stop button	101
8	Hazard warning flashers	81
9	Door handle	–
10	Control panel	51, 55, 89, 91
11	Menu control and audio system	124, 143
12	Climate control, ECC	133

	Function	Page
13	Gear selector	106
14	Controls for active chassis (Four-C)*	164
15	Wipers and washing	87, 88
16	Steering wheel adjustment	77
17	Parking brake	115
18	Bonnet opener	252
19	Seat adjustment*	71
20	Headlamp control, opener for fuel filler flap and boot lid	52, 78, 217



# 03 Your driving environment

## Instruments and controls



Right-hand drive.

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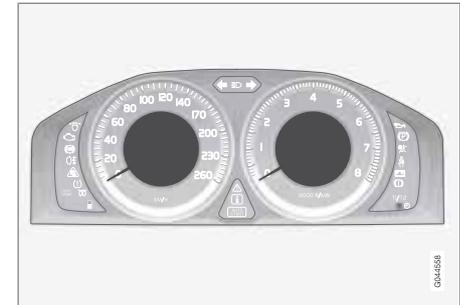


## Instruments and controls

	Function	Page
1	Hazard warning flashers	81
2	Ignition switch	69
3	Start/stop button	101
4	Cruise control	165, 167
5	Combined instrument panel	63, 67
6	Horn, airbags	20, 77
7	Menu, audio and phone control	124, 142, 203
8	Wipers and washing	87, 88
9	Headlamp control, opener for fuel filler flap and boot lid	52, 78, 217
10	Door handle	–
11	Control panel	51, 55, 89, 91
12	Seat adjustment*	71
13	Bonnet opener	252
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	Function	Page
15	Steering wheel adjustment	77
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17	Controls for active chassis (Four-C)*	164
18	Gear selector	106
19	Climate control, ECC	133
20	Menu control and audio system	124, 143

## Information displays



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

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

## Instruments and controls

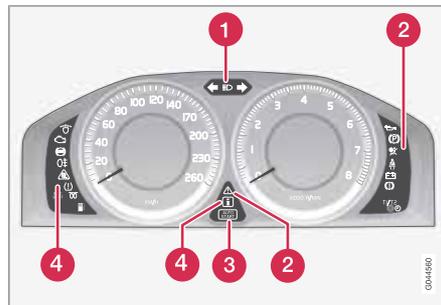
### Meters



Meters in the combined instrument panel.

- 1 Speedometer
- 2 Fuel gauge. See also Trip computer, page 160, and Refuelling, page 217.
- 3 Tachometer. The meter indicates engine speed in thousands of revolutions per minute (rpm).

### Indicator, information and warning symbols



Indicator and warning symbols.

- 1 Main beam and direction indicator symbol
- 2 Indicator and information symbols
- 4 Indicator and warning symbols<sup>1</sup>

### Functionality check

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

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

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

### Indicator and information symbols

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

<sup>1</sup> For certain engine variants, the symbol for low oil pressure is not used. Warnings are made via display text. For information on checking the oil level, see page 253.



## Instruments and controls

Symbol	Specification
	Left-hand direction indicators
	Right-hand direction indicators
	DRIVE - Start/Stop

### ABL fault

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

### Emissions system

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

### ABS fault

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

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

seek assistance from an authorised Volvo workshop.

### Rear fog lamp on

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

### Stability system

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

### Engine preheater (diesel)

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

### Low level in fuel tank

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

### Information, read display text

When one of the car's systems does not behave as intended, this information symbol illuminates and a text appears on the information display. The message text is cleared with the **READ** button, see page 128, 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 <b>READ</b> button, or clear automatically after a while.

### Main beam On

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

### Left/right-hand direction indicators

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

### Indicator and warning symbols

Symbol	Specification
	Low oil pressure <sup>A</sup>
	Parking brake applied
	Airbags – SRS
	Seatbelt reminder
	Alternator not charging

## Instruments and controls

Symbol	Specification
	Fault in brake system
	Warning

<sup>A</sup> For certain engine variants, the symbol for low oil pressure is not used. Warnings are made via display text, see pages 253 and 255.

### Low oil pressure

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

### Parking brake applied

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

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

### Airbags – SRS

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

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

### Seatbelt reminder

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

### Alternator not charging

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

### Fault in brake system

If this symbol illuminates, the brake fluid level may be too low. Stop the car in a safe place and check the level in the brake fluid reservoir, see page 257.

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

**WARNING**

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

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

**WARNING**

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

### Warning

The red warning symbol illuminates when a fault has been indicated which could affect the safety and/or driveability of the car. An explanatory text is shown on the information display at the same time. The symbol remains visible until the fault has been rectified but the text message can be cleared with the **READ** button, see page 128. The warning symbol can



## Instruments and controls

also illuminate in conjunction with other symbols.

Action:

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

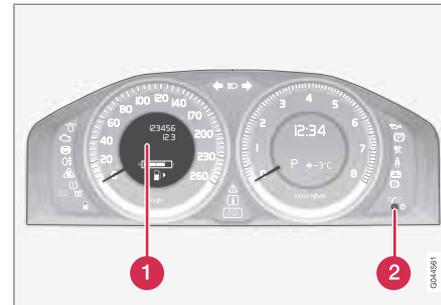
### Reminder – doors not closed

If one of the doors, the bonnet<sup>2</sup> or boot lid is not closed properly then the information or warning symbol illuminates together with an explanatory text message in the combined instrument panel. Stop the car in a safe place as soon as possible and close the door, bonnet or boot lid, whichever is open.

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

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

### Trip meter



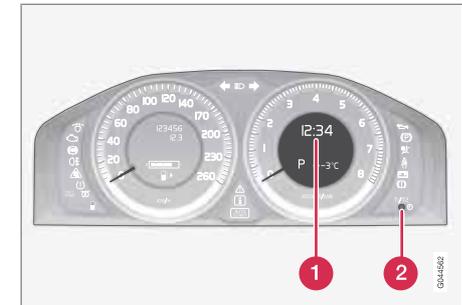
Trip meter and controls.

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

The meters are used to measure short distances.

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

### Clock



Clock and setting knob.

- 1 Display for showing the time.
- 2 Controls for setting the clock.

Turn the knob clockwise/anticlockwise to set the clock. Turn first to the end position and then turn past/over the end position a further approx. 1 mm - a "click" sounds and is felt in the button. Each "click" scrolls 1 minute. In order to change quickly - hold in the "click position".

In connection with a message the clock can be temporarily replaced by a symbol, see page 128.

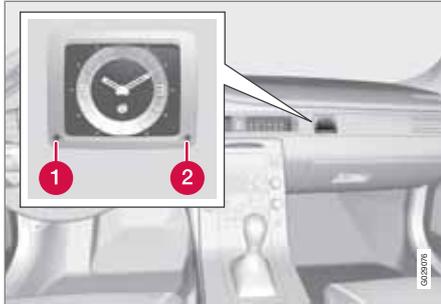
<sup>2</sup> Only cars with alarm\*.



## 03 Your driving environment

### Instruments and controls - Executive

#### Analogue clock



*Analogue clock.*

- 1 Button for setting indicator backwards in time.
- 2 Button for setting indicator forwards in time.

The analogue clock is located in the instrument panel above the glovebox.

To set the time:

- Use the appropriate button to move the indicators either forward or back in time. Setting can be made by means of two methods:
  - Hold the button depressed - the indicator is first moved slowly in time, equivalent to about 5 minutes, then faster.

Release the button when the clock shows the correct time.

- Press the button again - the indicator is moved about 10 seconds in time.



## Key positions

**Insert and remove the remote control key**

Ignition switch with inserted remote control key.

**i NOTE**

For cars with keyless function\*, see page 48.

**Insert the key**

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

**! IMPORTANT**

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

Do not press the remote control key incorrectly turned - Hold the end with the detachable key blade, see page 43.

**Withdraw the key**

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

**Functions**

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

**i NOTE**

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

**Key position 0**

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

**Key position I**

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

**Key position II**

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

**Back to key position 0**

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



## 03 Your driving environment

### Key positions

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

For information on the audio system's functions with remote control key removed, see page 142.

#### Starting and stopping the engine

For information about starting/switching off the engine, see page 101.

#### Towing

For important information about the remote control key during towing, see page 231.

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



## Seats

## Front seats



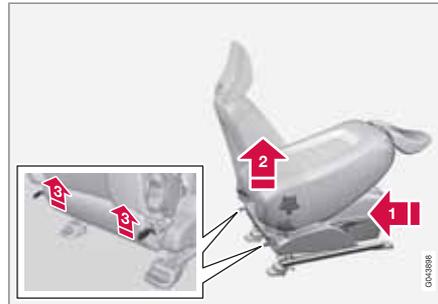
- 1 Lumbar support adjustment, turn the wheel<sup>1</sup>.
- 2 Forward/backward: lift the handle to adjust the distance to the steering wheel and pedals. Check that the seat is locked after changing position.
- 3 Raise/lower\* front edge of seat cushion, pump up/down.
- 4 Adjust backrest rake, turn the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

<sup>1</sup> Also applies to power seat.

**⚠ WARNING**

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

## Lowering the front seat backrest



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

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

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

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

Raising takes place in reverse order.

**⚠ WARNING**

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



## Seats

### Power seat\*



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

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

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

### Preparations

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

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

### Seat with memory function\*



### Store setting

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

1. Adjust the seat and the door mirrors.

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

### Using a stored setting

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

### Key memory\* in remote control key<sup>2</sup>

The positions of the driver's seat and the door mirrors<sup>3</sup> are stored in the key memory when the car is locked with the remote control key.



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

<sup>2</sup> For key memory for keyless drive, see page 49.

<sup>3</sup> Only if the car is equipped with power seat and retractable power door mirrors.



## Seats

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

**i NOTE**

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

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

The key memory can be activated/deactivated under **Car Key memory** → **Seat & mirror positions**. For a description of the menu system, see page 124.

**i NOTE**

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

**Emergency stop**

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

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

**! WARNING**

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

**Heated/ventilated seats\***

For heated/ventilated seats, see page 133.

**Rear seats**
**Lowering the rear seat backrest**
**! IMPORTANT**

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



The backrest is in two sections, they can be folded forward, together or separately.

1. Pull the handle(s). First raise the head restraints if they are lowered.
2. Fold the backrest forward. Lower the centre head restraint fully if the backrest's wide section shall be lowered.

**! WARNING**

Take hold of the backrests and make sure they are locked properly after opening them out in order to prevent injury under hard braking or in the event of an accident.



## Seats

### Head restraint, centre seat, rear



The head restraint can be adjusted vertically to suit the height of the passenger. The upper edge of the head restraint should be aligned with middle of the back of the head. Slide it up as required.

To lower the head restraint again the button by the left-hand shaft must be pressed in while the head restraint is pressed down.

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



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

### **WARNING**

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

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

### **WARNING**

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



## Seats - Executive

## Comfort seats, front



- 1 Adjusting the seat, front - rear.
- 2 Control panel for massage and lumbar.

## Massage



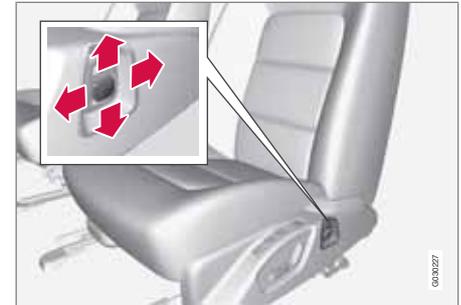
Button for activating massage.

- 1 Hard massage
- 2 Soft massage

Each front seat has massage in the backrest. The massage is performed by air cushions that can massage with either a hard or soft setting. When one of the settings is selected the massage is carried out in accordance with the cycle: massage 6 minutes - pause 4 minutes - massage 6 minutes etc.

When the button is in the centre position, or when the remote control key is in position 0, massage is not activated.

## Setting lumbar



Button for setting lumbar.

The lumbar support is set with the same air cushions used for massage. Adjustment can be made steplessly both in terms of depth and height using the control button, see the illustration above.

Lumbar support can be set when massage is not active.

A memory function recalls the lumbar setting when massage is stopped or when the pressure in the air cushions has decreased, e.g. after a longer period of parking.



## 03 Your driving environment

### Seats - Executive

#### Adjusting the seat, front - rear



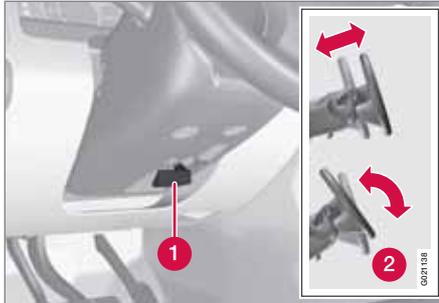
*The illustration above shows a left-hand drive car.*

The passenger seat can be adjusted front - rear. The seat can be moved forward or backward as long as the front or rear part of the button respectively is held depressed, see illustration above. The angle of the backrest is not changed.



## Steering wheel

## Adjusting



Adjusting the steering wheel.

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

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

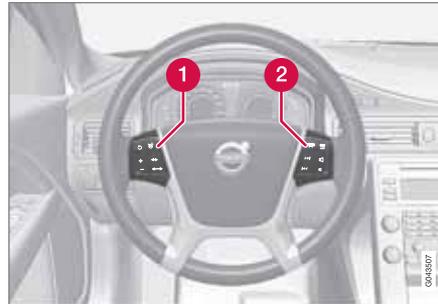
1. Pull the lever towards you to release the steering wheel.
2. Adjust the steering wheel to the position that suits you.
3. Push back the lever to fix the steering wheel in place. If the lever is stiff, press the steering wheel lightly at the same time as you push the lever back.

**WARNING**

Adjust and secure the steering wheel before driving.

With speed related power steering\* the level of steering force can be adjusted, see page 164.

## Keypads\*



Keypads in the steering wheel.

- ❶ Cruise control, see page 165
- Adaptive cruise control, see page 167
- ❷ Audio and phone control, see page 142

## Horn



Horn.

Press the centre of the steering wheel to signal.

## Lighting

### Light switches



Overview, light switches.

- 1 Thumbwheel<sup>1</sup> for adjusting display and instrument lighting
- 2 Rear fog lamp
- 3 Front fog lamps\*
- 4 Light switches
- 5 Thumbwheel<sup>2</sup> for headlamp levelling

### Instrument lighting

Different display and instrument lighting is switched on depending on key position, see page 69.

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

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

### Headlamp levelling

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

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

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

### Main/dipped beam



Headlamp control and stalk switch.

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

<sup>1</sup> For cars equipped with Executive, the thumbwheel also adjusts brightness for auxiliary lighting in handles, storage compartments in doors, analogue clock, cup holder in tunnel console and front floor lighting.

<sup>2</sup> Not available for cars equipped with Xenon headlamps\*.



## Lighting

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

<sup>A</sup> Applies to certain markets.

## NOTE

Main beam can only be activated in position

**Main beam flash**

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

**Dipped beam**

When the engine is started, dipped beam is activated automatically<sup>3</sup> if the headlamp control is in position . If necessary, automatic dipped beam for this position can be

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

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

**Main beam**

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

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

**Active Xenon headlamps - ABL\***

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

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

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

<sup>3</sup> Applies to certain markets.

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



## Lighting

Symbol	Display	Specification
	<b>Headlamp failure</b> <b>Service required</b>	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<sup>4</sup> can be activated/deactivated under **Car settings** → **Light settings** → **Active bending lights**. For a description of the menu system, see page 124.

For headlamp pattern adjustment, see page 83.

### Position/parking lamps



*Headlamp control in position for position/parking lamps.*

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

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

### Brake lights

The brake light automatically comes on during braking. For information on the Emergency brake lights and automatic hazard warning flashers, see page 113.

### Front fog lamps



*Button for front fog lamps.*

The front fog lamps\* can be switched on along with main/dipped beam or position/parking lamps.

Press the button for on/off. The light in the button illuminates when the fog lamps are on.

<sup>4</sup> Activated on delivery from the factory.



## Lighting

**i NOTE**

Regulations for using front fog lamps vary between different countries.

**Rear fog lamp**


Button for rear fog lamp.

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

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

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

**i NOTE**

Regulations for using rear fog lamps vary between different countries.

**Hazard warning flashers**


Button for hazard warning flashers.

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

The hazard warning flashers are activated automatically when the car brakes so suddenly that the emergency brake lights are activated and speed is below 30 km/h. They remain on when the car has stopped and are deactivated automatically when the car is driven off again or the button is depressed. For more informa-

tion on Emergency brake lights and automatic hazard warning flashers, see page 113.

**Direction indicators/flashers**


Direction indicators/flashers.

**Short flash sequence**

-  Move the stalk switch up or down to the first position and release. The direction indicators flash three times. The function can be activated/deactivated under **Car settings** → **Light settings** → **Turn indicators, 3-flash**. For a description of the menu system, see page 125.

**Continuous flash sequence**

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



## Lighting

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 64.

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

### Front roof lighting

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

### Rear roof lighting



Rear roof lighting.

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

### Courtesy lighting

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

### Glovebox lighting

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

### Vanity mirror

The lighting for the vanity mirror, see page 200, is switched on and off respectively when the cover is opened or closed.

### Automatic lighting

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

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

### Neutral position

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

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

- the car is unlocked with the remote control key or key blade, see pages 41 or 44
- the engine is switched off and the remote control key is in position **0**.



## Lighting

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.

### 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 78.
3. Get out of the car and lock the door.

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

The length of time for which the home safe lighting should be kept on can be set under **Car settings** → **Light settings** → **Home safe light duration**. For a description of the menu system, see page 124.

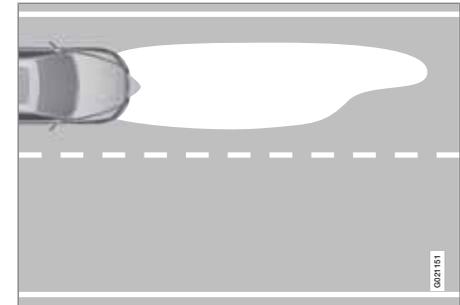
### Approach light duration

Approach lighting is switched on with the remote control key, see page 41, and is used to switch on the car's lighting at a distance.

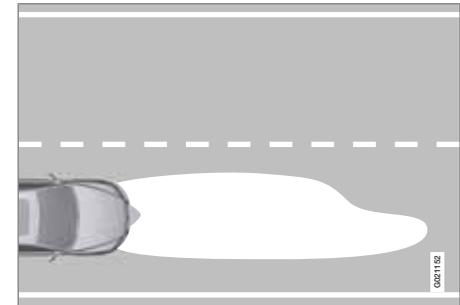
When the function is activated with the remote control, parking lamps, door mirror lamps, number plate lighting, interior roof lamps and courtesy lighting are switched on.

The length of time for which the approach lighting should be kept on can be set under **Car settings** → **Light settings** → **Approach light duration**. For a description of the menu system, see page 124.

### Adjusting headlamp pattern



Headlamp pattern, left-hand traffic.



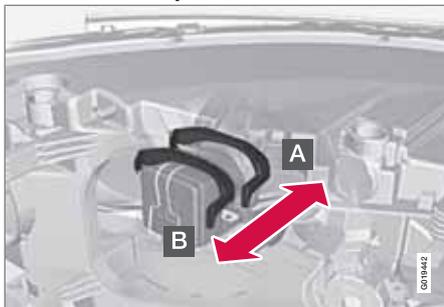
Headlamp pattern, right-hand traffic.

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



## Lighting

### Xenon headlamps\*



Headlamp control for adjusting headlamp pattern.

- A** Normal position – the headlamp pattern is correct for the country in which the car was delivered.
- B** Adapted position – designed for opposite headlamp pattern.

### WARNING

The headlamps must be handled with extreme care due to the Xenon lamp being supplied from a high-voltage unit.

The country in which the car is delivered determines whether normal position is designed for right or left-hand traffic.

### Example 1

If a car that is delivered in Sweden shall be driven in the UK then the headlamps must be set to the adjusted position, see preceding illustration.

### Example 2

A car that is delivered in the UK is designed for left-hand traffic and is driven there with the headlamps in normal position, see preceding illustration.

### Halogen headlamps

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

### Masking the headlamps

1. Copy the A and B templates for left-hand drive cars or the C and D templates for right-hand drive cars with a scale of 1:2, see page 86. Use a photocopier with a zoom function for example:
  - A = LHD Right (left-hand drive, right lens)
  - B = LHD Left (left-hand drive, left lens)
  - C = RHD Right (right-hand drive, right lens)
  - D = RHD Left (right-hand drive, left lens)
2. Transfer the template to a self-adhesive waterproof material and cut it out.

3. Start from the design line on the headlamp lenses, see the dotted line on the side 85. Position the self-adhesive templates at the right distance from each design line using the illustration and the dimensions in the following list:

- A = LHD Right - approx. 86 mm
- B = LHD Left - approx. 40 mm
- C = RHD Right - 0 mm
- D = RHD Left - approx. 96 mm



## Lighting

## Aligning the templates

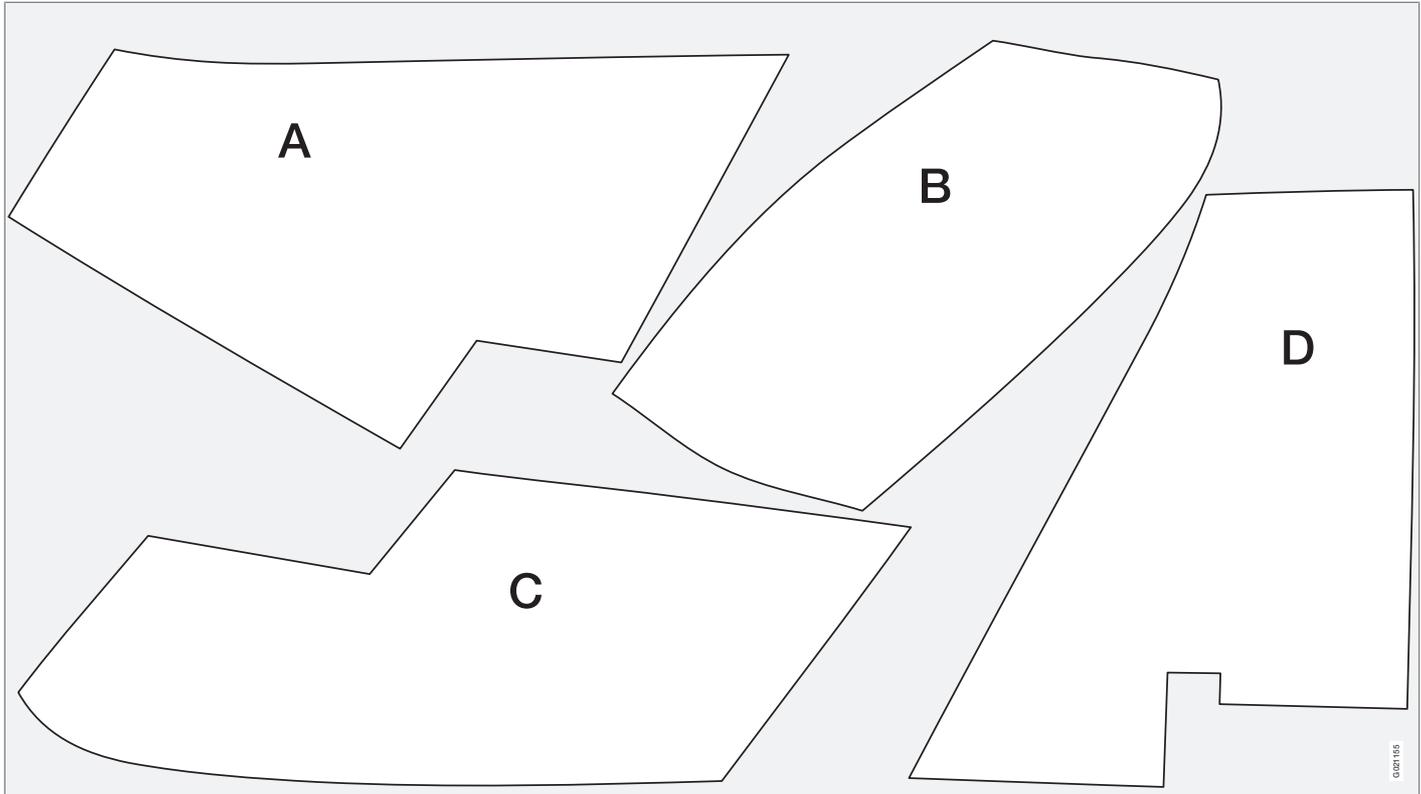


Upper row: masking left-hand drive cars, templates A and B. Lower row: masking right-hand drive cars, templates C and D.



## Lighting

Templates for halogen headlamps

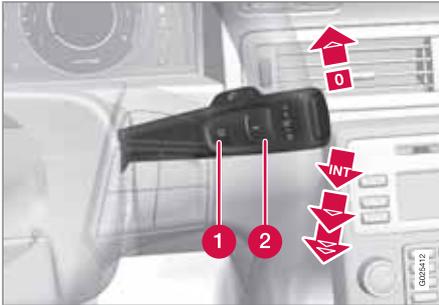


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## Wipers and washing

### Windscreen wipers<sup>1</sup>



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 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 266 and 280.

### Rain sensor\*

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

the rain sensor can be adjusted using the thumbwheel.

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

### Activating and setting the sensitivity

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

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

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

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

### Deactivating

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

<sup>1</sup> Replacing the wiper blades see page 266, service position, wiper blade see page 266 and filling washer fluid see page 267.



## Wipers and washing

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

### **!** IMPORTANT

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

### Washing the headlamps and windows



Washing function.

### Washing the windscreen

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

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

### Heated washer nozzles\*

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

### High-pressure headlamp washing\*

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

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



## 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 the side windows\* have laminated glass.

#### Water and dirt-repellent coating\*



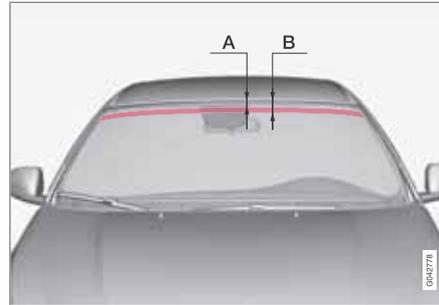
The front side windows are treated with a coating that improves the view in difficult weather conditions. Maintenance, see page 281.



### 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 93.

#### Heat-reflecting windscreen\*



Areas where IR film is not applied.

	Dimensions
A	47 mm
B	87 mm

The windscreen is equipped with a heat-reflecting film (IR) that reduces the solar 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 55.
- 2 Rear window controls
- 3 Front window controls



### WARNING

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



## Windows, rearview and door mirrors

### **! WARNING**

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

### **! WARNING**

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

### Operating



Operating the power windows.

- 1** Operating without auto
- 2** Operating with auto

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

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

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

### **i NOTE**

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

### Operating without auto

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

### Operating with auto

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

### Operating with the remote control key and central locking

To remotely operate the power windows from the outside with the remote control key or from inside with central locking, see pages 41 and 51

### Resetting

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

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

### **! WARNING**

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



## Windows, rearview and door mirrors

## Sun blinds\*

## Rear door



1 Hook with associated catch

Sun blinds are built into the panel on each rear door.

1. Pull up the sun blind and hook it into the hook in the upper door frame.
2. Lock the sun blind by moving the catch upwards.

The window can also be opened and closed when the sun blind is pulled up.

## Rear window



There is a sun blind built into the rear parcel shelf.

- Pull up the sun blind and hook it into the roof clip using the two hooks for the blind.
  - > The spring force in the blind keeps the hooks in position.

When the sun blind is not in use - unhook it, hold onto the handle and allow the blind to roll up slowly.

## Door mirrors



Door mirror controls.

## Adjusting

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

**WARNING**

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



### Windows, rearview and door mirrors

#### Retractable power door mirrors\*

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

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

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

#### Storing the position\*

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

The function can be activated/deactivated under **Car Key memory** → **Seat & mirror positions**. For a description of the menu system, see page 124.

#### Angling the door mirror when parking<sup>1</sup>

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

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

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

#### Automatic angling of the door mirror when parking<sup>1</sup>

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

The function can be activated/deactivated under **Car settings** → **Side mirror settings** → **Auto tilt left mirror** or **Auto tilt right mirror**. For a description of the menu system, see page 124.

#### Automatic retraction when locking

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

The function can be activated/deactivated under **Car settings** → **Side mirror settings** → **Fold mirr. when locking**. For a description of the menu system, see page 124.

#### Resetting to neutral

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

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

The mirrors are now reset in neutral position.

#### Home safe and approach lighting

The light on the door mirrors illuminates when approach lighting or home safe lighting is selected, see page 83.

<sup>1</sup> Only in combination with power seat with memory, see page 72.

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



## Windows, rearview and door mirrors

### Rear window and door mirror defrosters



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

One press of the button starts the heating. The light in the button indicates that the function is active. Disconnect the heating as soon as the ice/misting is cleared in order not to load the battery unnecessarily. However, the heating is switched off automatically after a certain time. Following which, the heating is switched on and off automatically as long as the outside temperature is below +7 °C.

The heating can be engaged automatically if the car is started in an outside temperature lower than +7 °C. The automatic defrosting function must then be activated under **Climate**

settings → Auto. rear defroster. For a description of the menu system, see page 124.

### Interior rearview mirror



#### 1 Control for dimming

#### Manual dimming

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

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

### Automatic dimming\*

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

The compass\* can only be specified for rearview mirrors with automatic dimming, see page 94.



## Compass\*

### Operation



Rearview mirror with compass.

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

The compass is activated automatically when the car is started or in key position **II**, see page 69. To deactivate/activate the compass - press in the button on the rear side of the mirror using a paper clip for example.

### Calibration

The compass may need calibrating to work correctly. **C** is shown in the mirror's display if the compass needs calibrating.

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

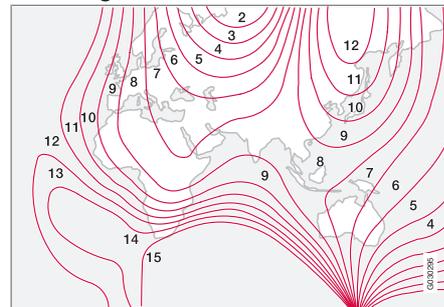
### NOTE

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

3. Press and hold the button on the rear of the rearview mirror (use a paper clip or similar) until **C** is shown again (approx. 6 seconds).
4. Drive off as usual. **C** disappears from the display when calibration is complete.

Alternative calibration method: Drive slowly in a circle at a speed of no more than 8 km/h until **C** disappears from the display when calibration is complete.

### Selecting the zone



Magnetic zones.

The earth is divided into 15 magnetic zones. The correct zone must be selected for the compass to work correctly.

1. The remote control key should be in position **II**, see page 69.
2. Press and hold the button on the rear of the rearview mirror (use a paper clip or similar) for at least 3 seconds. The number for the current area is shown.
3. Press the button repeatedly until the number for the required geographic area (**1-15**) is shown.
4. The display will revert to showing the compass direction after a few seconds.



## Power sunroof\*

**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.*

- ➊ Opening, automatic
- ➋ Opening, manual
- ➌ Closing, manual
- ➍ 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.

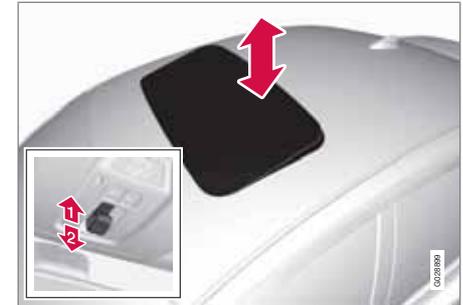
Close automatically by pressing the control to the position for automatic closing and then release it.

The power supply to the sunroof is switched off by 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 removing the remote control key if the driver leaves the car.

**Vertical opening**

*Vertical opening, raised at the rear edge.*

- ➊ Open by pressing the rear edge of the control upward.
- ➋ 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 41 and 51. The doors and the boot lid 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.



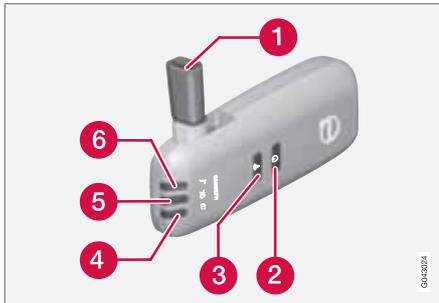
## Alcolock\*

**General information on the Alcolock**

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

**WARNING**

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

**Functions**

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

**Operation****Battery**

Alcolock indicator lamp (4) shows battery status:

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

**NOTE**

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

**Before starting the engine**

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

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



# 03 Your driving environment

## Alcoguard\*

### Result after breath test

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

<sup>A</sup> Limits vary between countries, so find out what limits apply. See also the section entitled General information on the Alcolock on page 97

### **i** NOTE

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

### To bear in mind

#### Before the breath test

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

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

#### Change of driver

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

#### Calibration and service

The Alcolock must be checked and calibrated at a workshop<sup>1</sup> every 12 months.

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

tion will then be possible, see page 99 section Emergency situation.

The message can be cleared by pressing the send button (3) once. Otherwise it goes out by its own after approx. 2 minutes but then reappears each time the engine is started - only recalibration at a workshop<sup>1</sup> can clear the message permanently.

#### Cold or hot weather

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

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

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

<sup>1</sup> An authorised Volvo workshop is recommended.

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

**Alcolock\***

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

**Emergency situation**

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

**NOTE**

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

After the Bypass function has been activated the display shows **Alcolock Bypass enabled** the whole time while driving and can only be reset by a workshop<sup>1</sup>.

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<sup>1</sup>.

**Activating the Bypass function**

- Depress and hold the left-hand stalk switch **READ** button and the button for hazard warning flashers simultaneously for approx. 5 seconds - the display first shows **Bypass activated Wait 1 minute** and then **Alcolock 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<sup>1</sup>.

**Activating the Emergency function**

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

This function can be used once, after which a reset must be made at a workshop<sup>1</sup>.

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

<sup>1</sup> An authorised Volvo workshop is recommended.



## 03 Your driving environment

### Alcoguard\*

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

03



## Starting the engine

### Petrol and diesel engines



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

#### **!** IMPORTANT

Do not press in the remote control key incorrectly turned - Hold the end with the detachable key blade, see page 43.

1. Fit the remote control key in the ignition switch - Gently press the key until it is drawn into the lock. Note that if the car is equipped with an alcolock then a breath test must first be approved before the engine can be started, see page 97.

2. Hold the clutch pedal fully depressed<sup>1</sup>. (For cars with automatic gearbox - Depress the brake pedal.)
3. Press the **START/STOP ENGINE** button and then release it.

#### **i** NOTE

For diesel-engined cars, there may be a slight delay before the engine can be started - **Engine Preheating** is displayed in the meantime.

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

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

#### **!** WARNING

Always remove the remote control key from the ignition switch when leaving the car - especially if there are children in the car. For information on how the key is removed from the ignition switch, see page 69.

#### **i** NOTE

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

### Keyless drive

Follow steps 2–3 for starting petrol and diesel engines. For more information on Keyless drive, see page 48.

#### **i** NOTE

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

#### **!** WARNING

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

### Stop the engine

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

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



### Starting the engine

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

#### Steering lock

The steering lock opens when the **START/STOP ENGINE** button is depressed after the remote control key has been pressed into the ignition switch.

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

#### Key positions

For information on the remote control key's different key positions, see page 69

## Starting the engine – Flexifuel

### General information about starting with Flexifuel

The engine is started in the same way as in a petrol-engined car.

### In the event of starting difficulties

If the engine does not start at the first start attempt:

- Make further attempts to start with the **START/STOP ENGINE** button.

### If the engine still does not start

The outside temperature is lower than +5 °C:

1. Connect the engine block heater for at least 1 hour.
2. Make further attempts to start with the **START/STOP ENGINE** button.

### IMPORTANT

If the engine does not start despite repeated start attempts, you are recommended to contact an authorised Volvo workshop.

### Engine block heater\*



*Electrical input to the engine block heater.*

When the temperature is expected to be lower than -10 °C and the car has been refuelled with bioethanol E85, an engine block heater should be used for about 2 hours to facilitate the quick starting of the engine.

The lower the temperature, the longer the time required with the engine block heater. At -20 °C the heater should be used for approx. 3 hours.

Cars intended for E85 have an electric engine block heater\*. Starting and driving with a pre-heated engine involves significantly lower emissions and reduced fuel consumption. For

this reason you should aim to use the engine block heater throughout the winter months.

### WARNING

The engine block heater is powered by high voltage. Fault tracing and repair of an electric engine block heater and its electrical connections must only be carried out by a workshop - an authorised Volvo workshop is recommended.

### NOTE

Points to remember for carrying reserve fuel:

- In the event of stalling due to an empty fuel tank, bioethanol E85 from a reserve fuel can may make the engine difficult to start in extreme cold. This is avoided by filling the reserve fuel can with 95 octane petrol.

For more information on Flexifuel's bioethanol E 85 fuel, see page 219 and 299.



## 03 Your driving environment

### Starting the engine – Flexifuel

#### Fuel adaptation

If the fuel tank is filled with petrol after the car has been driven on bioethanol E85 (or vice versa) then the engine may run slightly unevenly for a time. For this reason it is important to allow the engine to accustom itself (adapt) to the new fuel mixture.

Adaptation takes place automatically when the car is driven for a short period at an even speed.

#### **IMPORTANT**

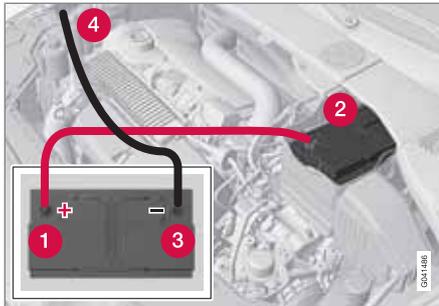
After the fuel mixture in the tank has been changed an adaptation should be made by driving at an even speed for about 15 minutes.

If the battery has been discharged or disconnected then a slightly longer period of driving is required for the adaptation as the memory for the electronics has been cleared.



## Starting the engine – external battery

### Jump starting



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

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

1. Insert the remote control key in key position **0**, see page 69.
2. Ensure that the donor battery is 12 volt.
3. If the donor battery is in another car, switch off the donor car's engine in the other car and ensure that the cars do not touch one another.
4. Connect the red jump lead to the positive terminal on the donor battery **1**.

5. Open the clips on the front cover of the battery in your car and remove the cover, see page 269.
6. Connect the red jump lead to the battery's positive terminal **2**.
7. Connect one end of the black jump lead to the donor battery's negative terminal **3**.

### ! IMPORTANT

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

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

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

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

### ! WARNING

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

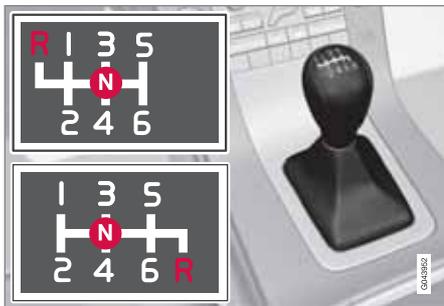


## Gearboxes

### Manual gearbox



Gearshift pattern 5-speed gearbox.



Gearshift pattern 6-speed gearbox.

The 6-speed box is available in two versions - reverse gear position differs between them.

Look at the actual gearshift pattern imprinted on the gear lever.

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

### Reverse gear inhibitor

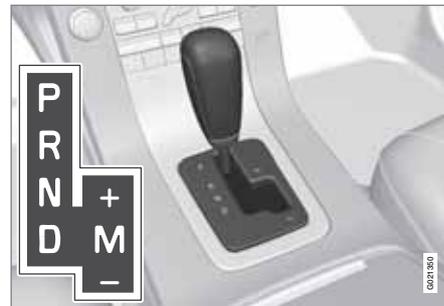
The reverse gear inhibitor hinders the possibility of mistakenly attempting to engage reverse gear during normal forward travel.

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

### NOTE

With the upper variant of the shifting pattern for 6-speed gearbox (see previous illustration) - **first press down** the gear lever in the **N** position in order to engage reverse gear.

### Automatic gearbox, Geartronic\*



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

The information display shows the position of the gear selector using the following indications: **P, R, N, D, S, 1, 2, 3, 4, 5** or **6**, see page 63.

### Gear positions

#### Parking position (P)

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

The gearbox is mechanically blocked when the **P** position is engaged. Activate the electric parking brake by pressing the button, see page 115.



## Gearboxes

**! IMPORTANT**

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

**Reverse (R)**

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

**Neutral position (N)**

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

**Drive (D)**

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

**Geartronic – Manual gear positions (+/-)**

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

Manual gearshift mode is obtained by moving the lever to the side from position **D** to the end position at +/- . The information display shifts the indication from **D** to one of the figures 1 –

6, which is equivalent to the gear that is engaged just then, see page 63.

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

or

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

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

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

To return to automatic driving mode:

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

**i NOTE**

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

**Geartronic - Sport mode (S)<sup>1</sup>**

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

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

Sport mode can be selected at any time while driving.

**Geartronic - Winter mode**

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

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

<sup>1</sup> Only models D5 and T6.

## Gearboxes

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

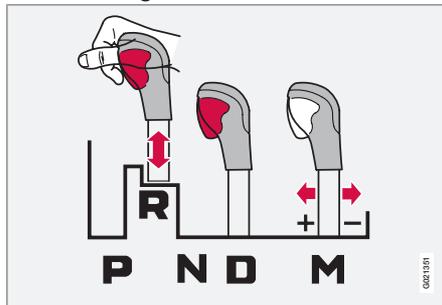
To prevent overrevving the engine, the gearbox control program has a protective downshift inhibitor which prevents the kick-down function.

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:

#### Keylock

To remove the remote control key from the ignition switch, the gear selector must be in the

**P** position. The remote control key is locked in all other positions.

### Parking position (P)

Stationary car with engine running:

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

### Electric gear inhibitor – Shiftlock Parking position (P)

To be able to move the gear selector from **P** to other gear positions, the brake pedal must be depressed and the remote control key must be in position **II**, see page 69.

### Shiftlock – Neutral (N)

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

To be able to move the gear selector from **N** to other gear positions, the brake pedal must be depressed and the remote control key must be in position **II**, see page 69.



## Gearboxes

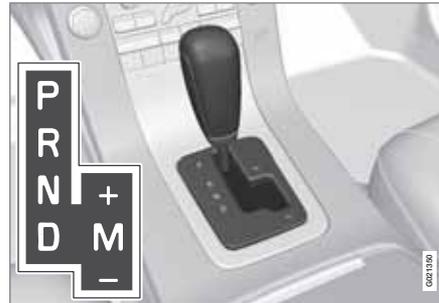
### Deactivating the automatic gear selector inhibitor



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

- 1 Lift the rubber mat in the compartment behind the centre console and open the hatch.
- 2 Fully insert the key blade. Press the key blade down and hold (For information on the key blade, see page 43.)
- 3 Move the gear selector from the **P** position.

### Automatic gearbox, Powershift\*<sup>2</sup>



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

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

Powershift transmission operates in the same way and has similar controls and functions as the Geartronic automatic transmission, described in the previous section.

#### HSA

The HSA (Hill Start Assist) function means that the pressure in the brake system remains for

several seconds while the foot is moved from the brake pedal to the accelerator pedal before setting off or reversing uphill.

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

#### To bear in mind

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

Overheated transmission causes the car to shake and vibrate, and the warning symbol illuminates and the information display shows a message. The transmission can also overheat during slow driving in queues (10 km/h or slower) on an uphill gradient, or with a trailer hitched. The transmission cools down when the car is stationary, with foot brake depressed and the engine running at idling speed.

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

<sup>2</sup> Only 4-cyl. model 2.0, 2.0T, 2.0F.



# 03 Your driving environment

## Gearboxes

wait another moment with your foot on the brake pedal.

### ! IMPORTANT

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

### Text message and action

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

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

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

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

### i NOTE

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

### ! WARNING

If a warning symbol combined with the text **Transm. overheat park safely** is ignored then the heat in the gearbox may become so high that the power transmission between engine and gearbox is temporarily



### Gearboxes

halted in order to prevent the clutch from malfunctioning - the car then loses drive and is stationary until gearbox temperature has cooled to an acceptable level.

For more possible display messages with their respective proposals for solutions concerning automatic transmission, see page 128.

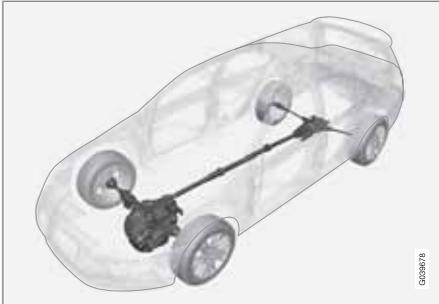
A display text clears automatically after the action has been carried out or after one press on the indicator stalk **READ** button.



## 03 Your driving environment

### All-wheel drive – AWD\*

#### All Wheel Drive is always available



All Wheel Drive means that the car is driving all four wheels at the same time.

The power is automatically distributed between the front and rear wheels. An electronically controlled clutch system distributes the power to the wheels that have the best grip on the current road surface. This provides the best traction and prevents wheel spin. Under normal driving conditions, the majority of power is transmitted to the front wheels.

All Wheel Drive improves driving safety in rain, snow and icy conditions.

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



## Foot brake

### General

The car is equipped with two brake circuits. If one brake circuit is damaged then this will mean that the brakes engage at a deeper level and harder pressure on the pedal is needed to produce the normal braking effect.

The driver's brake pedal pressure is assisted by a brake servo.

### WARNING

The brake servo only works when the engine is running.

If the brake is used when the engine is switched off then the pedal will feel stiff and more force must be used to brake the car.

In very hilly terrain or when driving with a heavy load the brakes can be relieved by using engine braking. Engine braking is most efficiently used if the same gear is used downhill as up.

For more general information on heavy loads on the car, see page 295.

### 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 81.

### 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.



## Foot brake

### Symbols in the combined instrument panel

Symbol	Specification
	Constant glow – Check the brake fluid level. If the level is low, fill with brake fluid and check for the cause of the brake fluid loss.
	Constant glow for 2 seconds when the engine is started – There was a fault in the brake system's ABS function when the engine was last running.

03

### **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.

## Parking brake

### Parking brake, electric

#### Function

A faint electric motor noise can be heard when the parking brake is being applied. The noise can also be heard during the automatic function checking of the parking brake.

If the car is stationary when the parking brake is applied then it only acts on the rear wheels. If it is applied when the car is moving then the normal foot brake is used, i.e. the brake acts on all four wheels. Brake function changes over to the rear wheels when the car is almost stationary.

#### Low battery voltage

If the battery voltage is too low then the parking brake can neither be released nor applied. Connect a donor battery if the battery voltage is too low, see page 105.

### Applying the parking brake



*Parking brake control.*

1. Press the foot brake pedal down firmly.
  2. Press the control.
  3. Release the foot brake pedal and make sure that the car is at a standstill position.
- When parking the vehicle, always engage 1st gear (for manual gearbox) or put the gear selector in position **P** (for automatic gearbox).

 The symbol in the combined instrument panel flashes until the parking brake is fully applied. When the symbol illuminates the parking brake is applied.

In an emergency the parking brake can be applied when the vehicle is moving by depressing the control. When the control is released or

the accelerator pedal is depressed the braking is interrupted.

#### NOTE

In the event of emergency braking at speeds above 10 km/h a signal sounds during the braking procedure.

#### Parking on a hill

If the car is parked facing uphill; turn the wheels **away from** the kerb.

If the car is parked facing downhill, turn the wheels **towards** the kerb.

#### WARNING

Get into the habit of always applying the parking brake when parking on a slope - leaving the car in gear, or in **P** if it has automatic transmission, is not sufficient to hold the car in all situation.



## Parking brake

### Disengaging the parking brake



Parking brake control.

### Cars with manual gearbox

#### Releasing manually

1. Insert the remote control key in the ignition switch.
2. Depress the brake pedal firmly.
3. Pull the control.

#### **i** NOTE

The parking brake can also be released manually by depressing the clutch pedal instead of the brake pedal. Volvo recommends the use of the brake pedal.

#### Releasing automatically

1. Start the engine.

2. Ease up the clutch and depress the accelerator.

### Cars with automatic gearbox

#### Releasing manually

1. Insert the remote control key in the ignition switch.
2. Depress the brake pedal firmly.

3. Pull the control.

#### Releasing automatically

1. Put the seatbelt on.
2. Start the engine.
3. Move the gear selector to position **D** or **R** and depress the accelerator.

#### **i** NOTE

For safety reasons, the parking brake is only released automatically if the engine is running and the driver is wearing a seatbelt. The parking brake is released immediately on cars with automatic gearbox when the accelerator pedal is depressed and the gear selector is in position **D** or **R**.

### Heavy load uphill

A heavy load, such as a trailer, can cause the car to roll backward when the parking brake is released automatically on a steep incline. Avoid this by depressing the control while driv-

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

### Cars with Keyless drive function

Release manually by pressing the **START/STOP ENGINE** button, then depress the brake or clutch pedal and pull the control.

### Symbols

Symbol	Specification
	Read the message on the information display
	A flashing symbol indicates that the parking brake is applied. If the symbol flashes in any other situation then this means that a fault has arisen. Read the message on the information display.



## Parking brake

### Messages



**Park brake not fully released** - A fault is preventing the parking brake from being released. Visit a workshop - an authorised Volvo workshop is recommended. A warning signal sounds if you pull away with this error message.

**Parking brake not applied** - A fault is preventing the parking brake from being applied. Try to apply and release. Visit a workshop if the message remains - a Volvo workshop is recommended.

The message is also illuminated on cars with manual gearbox when the car is driven at low speed with the door open in order to alert the driver that the parking brake may have been unintentionally disengaged.

**Parking brake Service required** - A fault has arisen. Visit a workshop if the fault persists - a Volvo workshop is recommended.

If the car has to be parked before the fault has been rectified then the wheels must be turned as if parking on a hill and 1st gear engaged (manual gearbox) or the gear selector must be in position **P** (automatic gearbox).

### Replacing the brake linings

The rear brake linings must be replaced at a workshop due to the design of the electric parking brake - an authorised Volvo workshop is recommended.



## 03 Your driving environment

### HomeLink® \*

#### General



HomeLink® is a programmable remote control which can control up to three different devices (e.g. garage door, alarm system, outdoor lighting and indoor lighting etc.) and in doing so replace their remote controls. HomeLink® is supplied built into the left-hand sun visor.

The HomeLink® panel consists of three programmable buttons and one indicator lamp.

#### **i** NOTE

HomeLink® is designed not to work if the car is locked from the outside.

Save the original remote controls for future programming (e.g. when switching to another car).

Delete the button programming when the car is to be sold.

Metallic sun visors should not be used in cars fitted with HomeLink®. This may have an adverse effect on its function.

#### Operation

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

Depress the programmed button to activate the garage door, alarm system etc. The indicator lamp illuminates for the time that the button is kept depressed.

#### **i** NOTE

If the ignition is not activated, HomeLink® will work for 30 minutes after the driver's door has been opened.

The original remote controls can of course be used in parallel with HomeLink®.

#### **!** WARNING

If HomeLink® is used to operate a garage door or gate, ensure that nobody is in the vicinity of the door or gate while it is in motion.

Do not use the HomeLink® remote control for any garage door that does not have safety stop and safety reverse. The garage door must react immediately when it detects that something is preventing its movement, and stop directly and reverse. A garage door without these characteristics could cause personal injury. For further information - contact the supplier via the Internet: [www.homelink.com](http://www.homelink.com).

#### Programming for the first time

The first step erases the memory in HomeLink® and must not be carried out when only one individual button is being reprogrammed.

1. Depress the two outer buttons and do not release until the indicator lamp starts to flash after approx. 20 seconds. The flashing indicates that HomeLink® is set in "learn mode" and is ready to be programmed.
2. Position the original remote control 5-30 cm from HomeLink®. Monitor the indicator lamp.



The particular distance that is required between the original remote control and HomeLink® depends on the programming of the device in question. Perhaps several attempts will be required at different distances. Maintain each position for approx. 15 seconds before trying a new one.

3. Depress the button for the original remote control and the button to be programmed on HomeLink® simultaneously. Do not release the buttons until the indicator lamp has changed over from slow to rapid flashing. The rapid flashing indicates successful programming.
4. Test the programming by depressing the programmed button on HomeLink® and watching the indicator lamp:
  - **Constant glow:** The indicator lamp illuminates with a constant glow when the button is kept depressed, this indicates that the programming is complete. The garage door, gate or similar should now be activated when the programmed HomeLink® button is depressed.
  - **Glow not constant:** The indicator lamp flashes quickly for approx. 2 seconds and then changes over to a constant glow for approx. 3 seconds. This proc-

ess is repeated for approx. 20 seconds and indicates that the device has a "rolling code". The garage door, gate or similar is not activated when the programmed HomeLink® button is depressed. Continue the programming in accordance with the following.

5. Locate the "programming button"<sup>1</sup> on the receiver for the garage door for example, normally located close to the antenna's bracket on the receiver. If you have difficulty in finding the button - consult the supplier's manual, or contact the supplier via the Internet: [www.homelink.com](http://www.homelink.com).
6. Depress and release the "programming button". The button flashes for approx. 30 seconds and the next step must be carried out within this period.
7. Depress the programmed button on HomeLink®, while the "programming button" is still flashing, keep it depressed for approx. 3 seconds and then release. Repeat the press/hold/release sequence up to 3 times to conclude the programming.

### Programming individual buttons

To reprogram an individual button, proceed in accordance with the following:

1. Depress the required button on HomeLink® and do not release until step 3 has been completed.
2. When the indicator lamp on HomeLink® starts to flash, after approx. 20 seconds, position the original remote control 5-30 cm from HomeLink®. Monitor the indicator lamp.

The particular distance that is required between the original remote control and HomeLink depends on the programming of the device in question. Perhaps several attempts will be required at different distances. Maintain each position for approx. 15 seconds before trying a new one.

3. Depress the button on the original remote control. The indicator lamp will start to flash. When the flashing has changed over from a slow to a rapid flashing - release both buttons. The rapid flashing indicates successful programming.
4. Test the programming by depressing the programmed button on HomeLink and watching the indicator lamp:

<sup>1</sup> Button designation and colour vary depending on manufacturer.



## 03 Your driving environment

### HomeLink® \*

- **Constant glow:** The indicator lamp illuminates with a constant glow when the button is kept depressed, this indicates that the programming is complete. The garage door, gate or similar should now be activated when the programmed HomeLink® button is depressed.
  - **Glow not constant:** The indicator lamp flashes quickly for approx. 2 seconds and then changes over to a constant glow for approx. 3 seconds. This process is repeated for approx. 20 seconds and indicates that the device has a "rolling code". The garage door, gate or similar is not activated when the programmed HomeLink® button is depressed. Continue the programming in accordance with the following.
5. Locate the "programming button<sup>2</sup>" on the receiver for the garage door for example, normally located close to the antenna's bracket on the receiver. If you have difficulty in finding the button - consult the supplier's manual, or contact the supplier via the Internet: [www.homelink.com](http://www.homelink.com).
  6. Depress and release the "programming button". The button flashes for approx. 30 seconds and the next step must be carried out within this period.
  7. Depress the programmed button on HomeLink®, while the "programming button" is still flashing, keep it depressed for approx. 3 seconds and then release. Repeat the press/hold/release sequence up to 3 times to conclude the programming.

#### Erasing programming

It is only possible to erase the programming for all the buttons on HomeLink®, not for individual buttons.

- Depress the two outer buttons and do not release until the indicator lamp starts to flash after approx. 20 seconds.
  - > HomeLink® is now set in so-called "learn mode" and is ready to be programmed once more, see page 118.

<sup>2</sup> Button designation and colour vary depending on manufacturer.

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



Menus and messages.....	124
Climate control.....	130
Fuel-driven engine block heater and passenger compartment heater*.....	138
Additional heater*.....	141
Audio system.....	142
RSE - Rear Seat Entertainment system - Dual Screen* .....	155
Trip computer.....	160
DSTC – Stability and traction control system.....	162
Adapting driving characteristics.....	164
Cruise control*.....	165
Adaptive cruise control*.....	167
Distance Alert*.....	175
Collision Warning & Pedestrian Detection with Auto Brake*.....	178
Driver Alert System – DAC*.....	185
Driver Alert System - LDW*.....	188
Park assist syst*.....	191
BLIS* – Blind Spot Information System.....	194
Comfort inside the passenger compartment.....	198
Comfort inside the passenger compartment - Executive.....	202
Bluetooth handsfree*.....	203
Built-in phone*.....	208



# 04

## COMFORT AND DRIVING PLEASURE





## Menu and messages

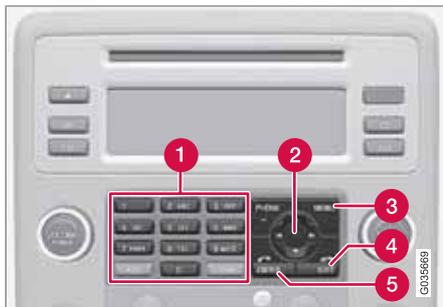
### Operation

Some of the car's functions do not have separate function keys, but instead can be adjusted/activated/deactivated via a menu system.

Navigation in the menus is carried out using some of the centre console buttons or with the steering wheel's right-hand keypad.

Many functions are standard, some are optional. The range varies depending on market.

### Centre console controls

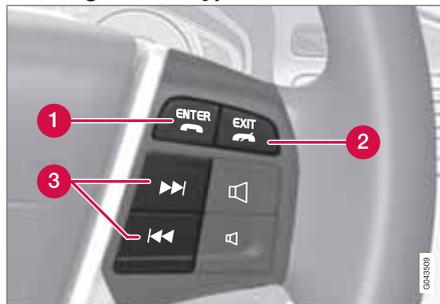


Centre console with information display and controls for menus.

- 1 Numerical keypad 1-9
- 2 Navigation button – scrolls and selects among menu options

- 3 **MENU** – leads to the menu system
- 4 **EXIT** – leads back one step in the menu structure. A long press leads out from the menu system.
- 5 **ENTER** – selects menu options

### Steering wheel keypad\*



- 1 **ENTER**
- 2 **EXIT**
- 3 Navigation buttons – up/down.

If the steering wheel keypad has **ENTER** and **EXIT** then these buttons, and the navigation buttons, have the same functions as the controls in the centre console.

### Search paths

Current menu level is shown at the top right of the centre console display. Search paths to the menu system functions are described in this manual in the following form:

Car settings → Lock settings

The following is an example of how a function can be accessed and adjusted using the centre console buttons:

1. Press **MENU**.
2. Scroll to the desired menu, e.g. **Car settings**, with the navigation buttons and then press **ENTER** - a submenu opens.
3. Scroll to **Lock settings** and press **ENTER** - a new submenu opens.
4. Scroll to **Doors unlock** and press **ENTER** - a submenu of selectable functions opens.
5. Choose between the options and press **ENTER** - a cross is marked in the option's empty box.
6. Exit the programming by backing out of the menus incrementally with short presses on **EXIT** or with one long press.

The navigation buttons can be used instead of **ENTER** and **EXIT** when navigating in the menu

**Menus and messages**

hierarchy. The right-hand arrow is equal to **ENTER** and the left-hand arrow to **EXIT**.

The menu options are numbered and can also be selected directly with the numerical keypad (only 1–9).

**Menu overview**

The phone and audio sources each have separate main menus. An audio source main menu (e.g. CD) can only be accessed when that particular audio source is active, see page 143.

The following menu options are included in **Main menu**:

**Car Key memory**

Seat & mirror positions\*

**Car settings**

Information

Light settings

Lock settings

Reduced guard<sup>1</sup>

Tyre pressure\*

Side mirror settings\*

Collision warning settings\*

Parking camera settings\*

Lane departure warning\*

Steering force level\*

Unit settings

Driver Alert on

**Climate settings**

Automatic blower adjust

Recirculation timer

Auto. rear defroster

Seat heating time limit.

Seat heating off during starting

Reset climate settings

**Main menu AM**

Audio settings

Sound stage

Equalizer front

Equalizer rear

Auto. volume control

Reset all audio settings

**Main menu FM**

FM settings

News

TP (Traffic information)

Radio text

PTY (Program type)

Advanced radio settings

Audio settings<sup>2</sup>

**Main menu DAB\*<sup>3</sup>****Main menu CD**

Random

Off

Folder<sup>4</sup>

Disc<sup>4</sup>

Single disc<sup>5</sup>

All discs<sup>5</sup>

CD settings

Track information\*

<sup>1</sup> Available in certain models.

<sup>2</sup> For submenus, see "Main menu AM/Audio settings".

<sup>3</sup> See page 152.

<sup>4</sup> Only in systems that allow the playback of MP3 and WMA format audio files.

<sup>5</sup> Only in systems with CD changer.



## Menus and messages

News

TP (Traffic information)

Audio settings<sup>2</sup>

### Main menu AUX

AUX input volume

Audio settings<sup>2</sup>

### Main menu USB

USB settings

Track information

News

TP (Traffic information)

Audio settings<sup>2</sup>

### Main menu iPod

iPod settings

News

TP (Traffic information)

Audio settings<sup>2</sup>

Track information

### Main menu, Bluetooth<sup>6</sup>

Call register

Last 10 missed calls

Last 10 received calls

Last 10 dialled calls

Phone book

Search

Copy fr. mobile phone

Bluetooth\*

Change phone<sup>7</sup>

Connect phone<sup>8</sup>

Remove phone

Connect fr. mobile phone

Bluetooth info. for the car

Call options

Automatic answer

Voice mail number

Phone settings

Sounds and volume

Synchronise phone book

### Main menu, Bluetooth<sup>9</sup>

Call register

Last 10 missed calls

Last 10 received calls

Last 10 dialled calls

Phone book

Search

Copy fr. mobile phone

Bluetooth\*

Connect phone<sup>10</sup>

Remove phone

Connect fr. mobile phone

Bluetooth info. for the car

Call options

Automatic answer

<sup>2</sup> For submenus, see "Main menu AM/Audio settings".

<sup>6</sup> Applies to cars that do **not** have built-in phone.

<sup>7</sup> Only shown if a phone is connected.

<sup>8</sup> Only shown if no phone is connected.

<sup>9</sup> Applies to cars **with** built-in phone **and** Bluetooth™ handsfree.

<sup>10</sup> Only shown if no phone is connected.



## Menus and messages

Voice mail number

Change phone

Car phone

Add phone

Added phones<sup>11</sup>

Phone settings

Sounds and volume

Synchronise phone book

### Main menu, built-in phone

Call register

Last 10 missed calls

Last 10 received calls

Last 10 dialled calls

Erase list

Call duration

Phone book

Search

New contact

Copy all

Speed-dial

Erase SIM

Erase phone

Memory status

Messages

Read

Write new

Delete all messages

Message settings

Call options

Send my number

Call waiting

Automatic answer

Auto redial

Voice mail number

Diversions

Change phone<sup>9</sup>

Car phone

Add phone

Added phones<sup>11</sup>

Phone settings

Network selection

SIM security

Edit PIN code

Sounds and volume

IDIS

Reset Phone settings

<sup>11</sup>A maximum of 5 phones.

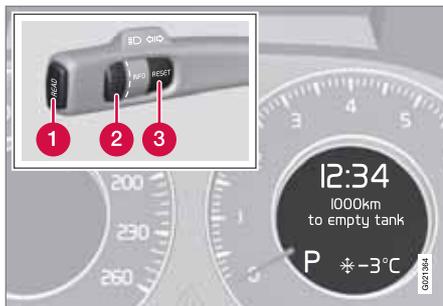
<sup>9</sup> Applies to cars **with** built-in phone **and** Bluetooth™ handsfree.



# 04 Comfort and driving pleasure

## Menus and messages

### Combined instrument panel



Information display and controls for menus.

- 1 **READ** – access to message list and message confirmation.
- 2 Thumbwheel – browse between menu options.
- 3 **RESET** – reset the active function. Used in certain cases to select/activate a function, see the explanation under each respective function.

The menus shown on the information displays in the combined instrument panel are controlled with the left-hand stalk switch. The menus shown depend on key position, see page 69. If a message appears then this must

be acknowledged with **READ** for the menus to be shown.

### Menu overview

Some of the following menu options require the function and hardware to be installed in the car.

#### To empty fuel tank

#### Average

#### Instantaneous

#### Average speed

#### DSTC

#### Current speed<sup>12</sup>

#### Tyre pressure Calibration\*

#### Park heat timer 1/2<sup>13\*</sup>

#### Park vent timer 1/2\*

#### Park timer mode\*

#### Direct start Park heat\*

#### Direct start Park el.heat\*

#### Direct start Park vent\*

#### Additional heat auto\*

#### Rest heat start\*

#### Lane departure warning\*

### Driver Alert\*

### Message



Text message in the information display.

When a warning, information or indicator symbol illuminates, a corresponding message appears on the information display. An error message is stored in a memory list until the fault is rectified.

Press **READ** to acknowledge and browse between the messages.

<sup>12</sup>Only certain markets.

<sup>13</sup>Can only be set when the engine is switched off.

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



## Menus and messages

 NOTE

If a warning message appears while you are using the trip computer, the message must be read (press **READ**) before the previous activity can be resumed.

Message	Specification
Stop safely <sup>A</sup>	Stop and switch off the engine. Serious risk of damage - consult a workshop <sup>B</sup> .
Stop engine <sup>A</sup>	Stop and switch off the engine. Serious risk of damage - consult a workshop <sup>B</sup> .
Service urgent <sup>A</sup>	Contact a workshop <sup>B</sup> to check the car immediately.
Service required <sup>A</sup>	Contact a workshop <sup>B</sup> to check the car as soon as possible.
See manual <sup>A</sup>	Read the owner's manual.
Book time for maintenance	Time to book regular service - contact a workshop <sup>B</sup> .

Message	Specification
Time for regular maintenance	Time for regular service - contact a workshop <sup>B</sup> . 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 <sup>B</sup> .
Transmission oil Change needed	Contact a workshop <sup>B</sup> to check the car as soon as possible.
Transmission performance low	The gearbox cannot handle full capacity. Drive carefully until the message clears <sup>C</sup> . If shown repeatedly - contact a workshop <sup>B</sup> .

Message	Specification
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 <sup>C</sup> .
Transmission hot Stop safely	Critical fault. Stop the car immediately in a safe manner and contact a workshop <sup>B</sup> .
Temporarily OFF <sup>A</sup>	A function has been temporarily switched off and is reset automatically while driving or after starting again.
Low battery Power save mode	The audio system is switched off to save energy. Charge the battery.

A Part of message, shown together with information on where the problem has arisen.

B An authorised Volvo workshop is recommended.

C For more messages concerning automatic transmission, see page 110.



## Climate control

### General

#### Air conditioning

The car is equipped with Electronic Climate Control (ECC). The climate control system cools or heats as well as dehumidifies the air in the passenger compartment.

#### **i** NOTE

The air conditioning system (AC) can be switched off, but to ensure the best possible climate comfort in the passenger compartment and to prevent the windows from misting, it should always be on.

#### Actual temperature

The temperature you select corresponds to the physical experience with reference to factors such as air speed, humidity and solar radiation etc. in and around the car.

The system includes a sun sensor which detects on which side the sun is shining into the passenger compartment. This means that the temperature can differ between the right and left-hand air vents despite the controls being set for the same temperature on both sides.

#### Sensor location

- The sun sensor is located on the top side of the dashboard.
- The temperature sensor for the passenger compartment is located below the climate control panel.
- The outside temperature sensor is located on the door mirror.
- The humidity sensor\* is located in the interior rearview mirror.

#### **i** 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 appropriate, should be closed.

#### Misting windows

Remove misting on the insides of the windows by primarily using the defroster function.

To reduce the risk of misting, keep the windows clean and use window cleaner.

#### Vents in the parcel shelf

#### **i** NOTE

To avoid misting, do not block the vents furthest back on the parcel shelf with clothing or other objects.

#### Temporary shut-off of the air conditioning

When the engine requires full power, e.g. for full acceleration or driving uphill with a trailer, the air conditioning can be temporarily switched off. There may then be a temporary increase in temperature in the passenger compartment.

#### Condensation

In warm weather, condensation from the air conditioning may drip under the car. This is normal.

#### Ice and snow

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

#### Fault tracing and repair

Engage a workshop that has authorisation for the fault tracing and repair of the climate control system. Volvo recommends that you contact an authorised Volvo workshop.



### Refrigerant

The climate control system contains the refrigerant R134a, see page 297. This refrigerant contains no chlorine, which means that it is harmless to the ozone layer. Engage a workshop that has authorisation for filling/changing refrigerant to carry out the work. Volvo recommends that you contact an authorised Volvo workshop.

### Total airing function

The function opens/closes all side windows simultaneously and can be used for example to quickly air the car during hot weather, see page 51.

### Passenger compartment filter

All air entering the car's passenger compartment is cleaned with a filter. This must be replaced at regular intervals. Follow the Volvo Service Programme for the recommended replacement intervals. If the car is used in a severely contaminated environment, it may be necessary to replace the filter more often.

#### NOTE

There are different types of passenger compartment filter. Make sure that the correct filter is fitted.

### Clean Zone Interior Package (CZIP)\*

This option keeps the passenger compartment clear of allergy and asthma inducing substances. For more information on CZIP, see the brochure included with the purchase of the car.

The following is included:

- An enhanced fan function that means that the fan starts when the car is opened with the remote control key. The fan fills the passenger compartment with fresh air. The function starts when required and is disengaged automatically after a time or when one of the passenger compartment doors is opened. The amount of time the fan runs is reduced gradually due to reduced need up until the car is 4 years old.
- The air quality system IAQS is a fully automatic system that cleans the air in the passenger compartment from contaminants such as particles, hydrocarbons, nitrous oxides and ground-level ozone.

#### NOTE

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 281.

### Menu settings

It is possible to change the default settings for three of the climate control system's functions via the centre console, see page 124:

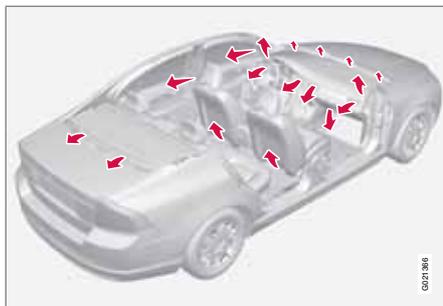
- Fan speed in automatic mode, see page 134.
- Recirculation timer for passenger compartment air, see page 135.
- Automatic rear window defrosting, see page 93.

All climate control system functions are set to original position with **RESET** via the display.



## Climate control

### Air distribution

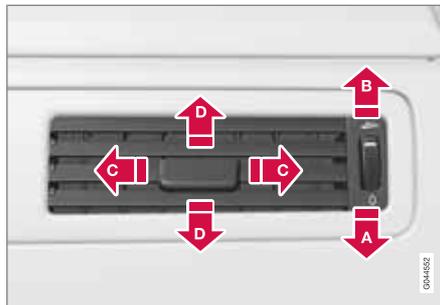


The incoming air is divided between 20 different vents in the passenger compartment.

Air distribution is fully automatic in **AUTO** mode.

If necessary it can be controlled manually, see page 137.

### Air vents in the dashboard

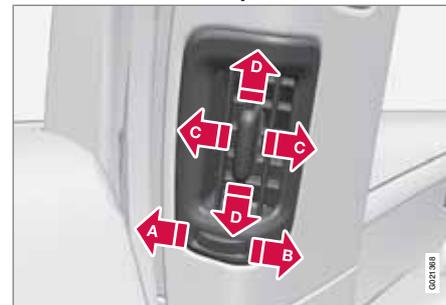


- A** Closed
- B** Open
- C** Lateral airflow
- D** Vertical airflow

Aim the outer vents at the side windows to remove misting.

A certain air flow always comes from the vents in order to maintain a good climate in the passenger compartment.

### Air vents in the door pillars



- A** Closed
- B** Open
- C** Lateral airflow
- D** Vertical airflow

Aim the vents at the windows to remove misting.

Aim the vents into the passenger compartment to maintain a comfortable climate in the rear seat.



### NOTE

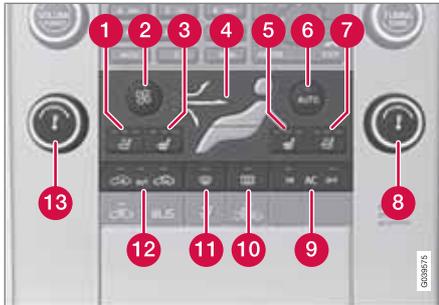
Remember that small children may be sensitive to air flows and draughts.



## Climate control

## Climate control

## Electronic climate control, ECC



- 1 Ventilated front seats\*, left-hand side
- 2 Fan
- 3 Heated front seats, left-hand side
- 4 Air distribution
- 5 Heated front seats, right-hand side
- 6 **AUTO**
- 7 Ventilated front seats\*, right-hand side
- 8 Temperature control, right-hand side
- 9 **AC ON/OFF** – Air conditioning On/Off
- 10 Rear window and door mirror defrosters, see page 93.

- 11 Max. defroster
- 12 Recirculation/Air quality system
- 13 Temperature control, left-hand side

## Operation

## Ventilated front seats\*



Ventilated front seats can only be specified when ECC is installed in the car. The ventilation system consists of fans in the seats and backrests that draw air through the seat upholstery. The cooling effect

increases the cooler the passenger compartment air becomes.

The ventilation is regulated from the climate control and takes seat temperature, solar radiation and outside temperature into consideration.

The ventilation can be used at the same time as seat heating. For example, the function can be used to dry damp from clothing.

The ventilation system can be activated when the engine is running. There are three comfort levels that produce different cooling and dehumidification outputs:

- Comfort level III: press the button once for maximum output – three lamps illuminate.
- Comfort level II: press the button twice for lower output – two lamps illuminate.
- Comfort level I: press the button three times for the lowest output – one lamp illuminates.

Press the button four times to switch off the function – no lamps illuminate.

 **NOTE**

The seat ventilation should be used carefully by people sensitive to draughts. Comfort level I is recommended for long-term use.

 **IMPORTANT**

The seat ventilation cannot be started when passenger compartment temperature is below 5 °C. This is to avoid chilling anyone sitting in the seat.

## Fan



Turn the knob to increase or decrease fan speed. If **AUTO** is selected then fan speed is regulated automatically. The previously set fan speed is disengaged.



## Climate control

### NOTE

If the fan is fully disengaged the air conditioning is not engaged which may result in a risk of misting windows.

### Heated seats\*

#### Front seats



Press the button once for the highest heat level – three lamps illuminate.

Press the button twice for a lower heat level – two lamps illuminate.

Press the button three times for the lowest heat level – one lamp illuminates.

Press the button four times to switch off the heat – no lamps illuminate.

The heating is normally switched off at start up. If the heating has been switched on then it is switched off automatically when the engine is switched off. Automatic start of heating can be activated/deactivated in the menu under:

**Climate settings → Seat heating off during starting**

Seat heating is switched off automatically after a while. The function can be deactivated/activated in the menu under: **Climate settings → Seat heating time limit.**

For a description of the menu system, see page 124.

### WARNING

The heated seat should not be used by people who find it difficult to perceive temperature increase because of sensory loss or for any reason have difficulty in managing to use the control of the heated seat. Otherwise, burn injuries may arise.

#### Rear seats<sup>1</sup>



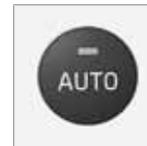
Heat control takes place in the same way as for the front seat.

#### Air distribution



The figure consists of three buttons. When the buttons are pressed a lamp in front of the respective part of the figure illuminates and shows which air distribution is selected, see page 137.

#### Auto



The function automatically regulates temperature, air conditioning, fan speed, recirculation, and air distribution.

If you select one or more manual functions, the other functions continue to be controlled automatically. The air quality sensor is engaged and all manual settings are switched off when **AUTO CLIMATE** is pressed. The display shows **AUTO CLIMATE**.

Fan speed in automatic mode can be set under **Climate settings → Automatic blower adjust**. Select between **Low**, **Normal** or **High**:

<sup>1</sup> Not included if 2-stage booster cushion is selected.



## Climate control

- **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 124.

## Temperature control



The temperatures on the driver and passenger sides can be set independently.

When the car is started, the most recent setting is resumed.

**i** NOTE

Heating or cooling cannot be hastened by selecting a higher/lower temperature than the actual temperature required.

## AC – Air conditioning on/off



The air conditioning is controlled automatically by the system when the **ON** lamp is on. This way, incoming air is sufficiently cooled and dehumidified.

When the **OFF** lamp is on, the air conditioning is always disengaged. Other functions are still controlled automatically. When defroster is selected, the air conditioning system is set for maximum dehumidification.

## Defroster



Used to quickly remove misting and ice from the windscreen and side windows. Air flowing to the windows. The light in the defroster button illuminates when the function is active.

The following also takes place in order to provide maximum dehumidification in the passenger compartment:

- the air conditioning is automatically engaged
- recirculation and the air quality system are automatically disengaged.

The air conditioning can be disengaged manually using the **AC** button. When the defroster function is switched off the climate control system returns to the previous settings.

## Recirculation/Air quality system

## Recirculation



When recirculation is engaged the right-hand orange light in the button illuminates. The function is selected to shut out bad air, exhaust gases etc. from the passenger compartment. The

air in the passenger compartment is recirculated, i.e. no outside air is taken into the car when this function is activated.

**i** NOTE

If the air in the car recirculates for too long, there is a risk of misting on the insides of the windows.

## Timer

With the timer function activated the system will exit manually activated recirculation mode according to a time that depends on the outside temperature. This reduces the risk of ice, misting and bad air. Activate/deactivate the function under **Climate settings** →

**Recirculation timer**. For a description of the menu system, see page 124.



## Climate control

### NOTE

When Defroster is selected, recirculation is always deactivated.

### Air quality system\*



The air quality system separates gases and particles to reduce the levels of odours and pollution in the passenger compartment. If the outside air is contaminated then the air intake is closed and the air

is recirculated. When the **AUTO** button is depressed the air quality sensor is always engaged.

### Activating recirculation/air quality sensor



Switch between the three functions by pressing the button repeatedly.

- The left-hand orange lamp illuminates – the air quality sensor is disengaged. There is no recirculation, only fresh air.
- The centre green lamp illuminates – recirculation not engaged, providing it is not required for cooling in hot weather.

- The right-hand orange lamp illuminates – recirculation is engaged.

### NOTE

The air quality sensor should always be engaged in order to obtain the best air in the passenger compartment.

Recirculation is limited in cold weather to avoid misting.

If the insides of the windows start misting up, disengage the air quality sensor, and the defroster functions for the windscreen, the side and the rear windows should also be used to demist the windows.



## Climate control

### Air distribution table

	Air distribution	Use		Air distribution	Use
	Air to windows. Some air flows from the air vents. The air is not recirculated. Air conditioning is always engaged.	to remove ice and misting quickly.		Air to the floor and windows. Some air flows from the dashboard air vents.	to ensure comfortable conditions and good demisting in cold or humid weather.
	Air to windscreen and side windows. Some air flows from the air vents.	to prevent misting and icing in a cold and humid climate, (not at too low fan speed to enable this).		Air to floor and from dashboard air vents.	in sunny weather with cool outside temperatures.
	Airflow to windows and from dashboard air vents.	to ensure good comfort in warm, dry weather.		Air to floor. Some air flows to the dashboard air vents and windows.	to direct heat or cold to the floor
	Airflow to the head and chest from the dashboard air vents.	to ensure efficient cooling in warm weather.		Airflow to windows, from dashboard air vents and to the floor.	to provide cooler air along the floor or warmer air higher up in cold weather or hot, dry weather.



## Fuel-driven engine block heater and passenger compartment heater\*

### Fuel-driven heater

#### General information about the parking heater

The parking heater heats the engine and passenger compartment and can be started directly or with the timer.

Two different times can be selected using the timer. Here, time refers to the time when the car is heated and ready. The car's electronic system calculates when heating should be started based on the outside temperature.

The heater cannot start if the outside temperature exceeds 15 °C. At -5 °C or lower the maximum running time of the parking heater is 50 minutes.

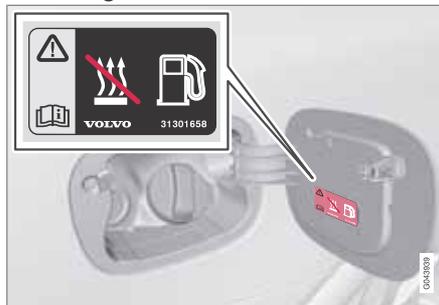
#### WARNING

The car must be outdoors when the parking heater is used.

#### NOTE

When the parking heater is active there may be smoke from the right-hand wheel housing, which is perfectly normal.

### Refuelling



Warning label on fuel filler flap.

#### WARNING

Fuel which spills out can be ignited. Switch off the fuel-driven heater before starting to refuel.

Check the information display to see that the parking heater is switched off. When it is running, the information display shows **Park heat ON**.

### Parking on a hill

If the car is parked on a steep hill, the front of the car should point downhill to ensure that there is a supply of fuel to the parking heater.

### Battery and fuel

If the battery has insufficient charge or the fuel level is too low, the parking heater will be switched off automatically and a message appears on the information display. Acknowledge the message by pressing the indicator stalk **READ** button once, see page 139.

#### IMPORTANT

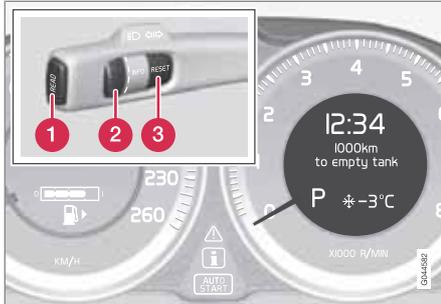
Repeated use of the parking heater combined with short journeys may discharge the battery and impair starting.

The car should be driven for the same time as the heater is used to ensure that the car's battery is recharged adequately to replace the energy consumed by the heater when it is used on a regular basis.



## Fuel-driven engine block heater and passenger compartment heater\*

### Operation



- 1 **READ** button
- 2 Thumbwheel
- 3 **RESET** - resets/selects

For more information on the information display and **READ**, see page 128.

### Symbols and display messages

 When one of the timer's settings or **Direct start** is activated, the information symbol in the combined instrument panel illuminates while the information display shows an explanatory text and a further illuminated symbol. The table shows symbols and display texts that appear.

 **NOTE**

 - Figure 2 in the symbol means the second climate control system in the car, where the normal climate control system is the first. The figure 2 has nothing to do with **TIMER 1** or **TIMER 2**.

Symbol	Display	Specification
	Fuel heater ON	The heater is switched on and running.
	Timer is set for Fuel heater	The heater's timer is activated after the remote control key has been removed from the ignition switch and leaving the car - the engine and passenger compartment are heated at the set time.

Symbol	Display	Specification
 	Heater stopped Low battery	The heater has been stopped by the car's electronics in order to facilitate starting the engine.
 	Heater unavailable. Low fuel level	Setting the heater is not possible due to fuel level being too low (approx. 7 litres) - this is in order to facilitate starting the engine as well as approx. 50 km driving.
	Park heater Service required	Heater not working. Contact a workshop for repair. Volvo recommends that you contact an authorised Volvo workshop.



### Fuel-driven engine block heater and passenger compartment heater\*

A display text clears automatically after a time or after one press on the indicator stalk **READ** button.

#### Direct start and immediate stop

1. Scroll with the thumbwheel to **Direct start Park heat**.
2. Press **RESET** to select between **ON** and **OFF**.

**ON:** Parking heater switched on manually or with programmed timer.

**OFF:** Parking heater switched off.

Following the direct start of the heater it will be activated for 50 minutes.

Heating of the passenger compartment will begin as soon as the engine coolant has reached the correct temperature.

#### NOTE

The car can be started and driven while the parking heater is running.

#### Setting the timer

The time when the car shall be used and heated is specified with the timer.

Select between **TIMER 1** and **TIMER 2**.

#### NOTE

The timer can only be programmed when the remote control key is in key position **I**, see page 69 - programming must therefore be carried out before starting the engine.

1. Scroll with the thumbwheel to **Park heat timer 1**.
2. Briefly press **RESET** to move to the flashing hours setting.
3. Select the required hour using the thumbwheel.
4. Briefly press **RESET** to move to the flashing minutes setting.
5. Select the required minute using the thumbwheel.
6. Briefly press **RESET** to confirm the setting.
7. Press **RESET** to activate the timer.

After setting **Park heat timer 1** a second start time can be programmed with **Park heat timer 2** by scrolling to it with the thumbwheel.

Set the alternative time in the same way as **Park heat timer 1**.

#### Deactivating a timer-started heater

A timer-started heater can be switched off manually before the set time has elapsed. Proceed as follows:

1. Press **READ**.
2. Use the thumbwheel to scroll to the text **Park heat timer 1** or **2**.
  - > The text **ON** flashes on the display.
3. Press **RESET**.
  - > The text **OFF** is shown with a constant glow and the heater is switched OFF.

A timer-started heater can be switched off in accordance with the instructions in the section "Direct start and immediate stop", see page 140.

#### 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.



## Additional heater\*

### General information about the additional heater

In cold climate zones<sup>1</sup> an additional heater may be required to obtain the correct operating temperature in the engine and to obtain sufficient heating in the passenger compartment.

### Fuel-driven additional heater

A fuel-driven additional heater is fitted in cars with diesel engines.

The heater starts automatically when extra heat is required when the engine is running.

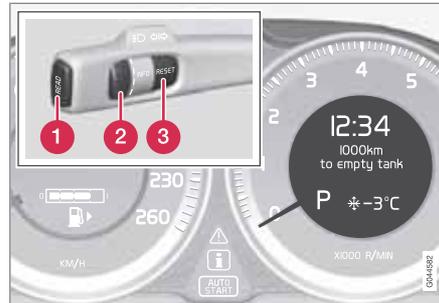
The heater is switched off automatically when the correct temperature is reached or when the engine is switched off.

#### **i** NOTE

When the additional heater is active there may be smoke from the right-hand wheel housing which is perfectly normal.

### Auto mode or shutdown

The additional heater can be switched off for short distances if required.



**1** READ button

**2** Thumbwheel

**3** RESET button

1. Scroll with the thumbwheel to **Additional heat auto**.
2. Press **RESET** to select between **ON** and **OFF**.

#### **i** NOTE

The menu options are only visible in key position **I** - any adjustments must therefore be made before starting the engine.

### Passenger compartment heater\*

If the additional heater is supplemented with timer function then it can be used as a fuel-driven passenger compartment heater, see page 138.

### Electric additional heater

Cars with certain petrol engines<sup>2</sup> have an electric additional heater integrated into the car's climate control system.

In a semi-cold<sup>1</sup> climate zone diesel-driven cars have an electric additional heater instead of a fuel-driven version.

The heater cannot be controlled manually but is instead activated automatically after the engine has been started in outside temperatures below 14 °C and is switched off after the set passenger compartment temperature has been reached.

<sup>1</sup> An authorised Volvo dealer has information regarding the geographical areas concerned.

<sup>2</sup> An authorised Volvo dealer has information regarding the engines concerned.



## Audio system

### General

The audio system can be equipped with different options and is one of the following three basic versions:

- Performance
- High Performance
- Premium Sound

The system version is shown in the display when the audio system is started.

Dolby Surround Pro Logic II and the Dolby symbol  are trademarks of Dolby Laboratories Licensing Corporation. Dolby Surround Pro Logic II System is manufactured under license from Dolby Laboratories Licensing Corporation.

### Remote control key and key positions

The audio system can be used without the remote control key in the ignition switch for 15 minutes at a time.

#### NOTE

Remove the remote control key from the ignition switch if the audio system is used when the engine is switched off. This is to avoid discharging the battery unnecessarily.

If the audio system is active when the engine is switched off then it is activated automatically next time the engine is started.

### Overview



- 1 Input for external audio source; AUX and USB\* (e.g. iPod®<sup>1</sup>)
- 2 Steering wheel keypad
- 3 Centre console control panel
- 4 Control panel with headphones socket\*

### Steering wheel keypad\*



- 1 Confirm selection in menu system, accept phone call.
- 2 Lead up in menu system. Interrupt current function, end/refuse phone calls, clear entered characters.
- 3 Volume
- 4 A short press scrolls between CD tracks or preset radio stations. A long press fast-winds CD tracks or seeks the next available radio station.

<sup>1</sup> The iPod trademark belongs to Apple Computer Inc.

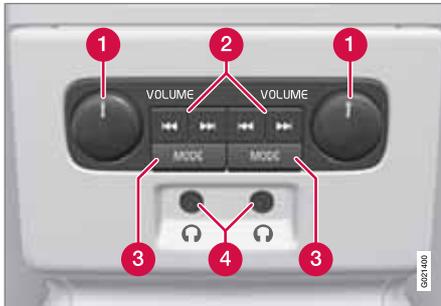
\* Option/accessory, for more information, see Introduction.



## Audio system

### Rear control panel with headphones socket\*

Headphones with an impedance of 16-32 ohm and sensitivity of 102 dB or higher are recommended for best sound reproduction.



- 1 **VOLUME** – Volume, left and right.
- 2 Scroll/search forward and backward.
- 3 **MODE** - Select between AM, FM, CD, AUX, USB\*(e.g. iPod®), DAB1/DAB2\* and On/Off. For connection via AUX or USB, see page 145.
- 4 Headphones sockets (3.5 mm).

### Activating/deactivating

The control panel is activated with **MODE**. Deactivation is possible via a long press on **MODE** or when the engine is switched off.

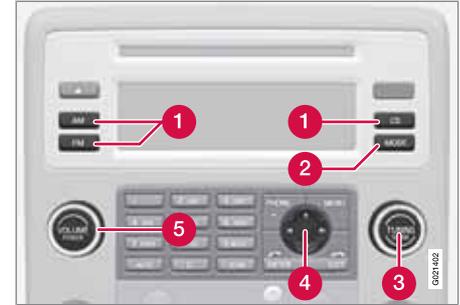
### Scroll/search forward and backward

Short presses on (2) are used to scroll between CD tracks or preset radio stations. A long press fast-winds CD tracks or seeks the next available radio station.

### Limitations

- The audio source (FM, AM, CD etc.) played back in the speakers cannot be controlled from the rear control panel.

### Audio functions



Centre console, controls for audio functions.

- 1 **AM, FM and CD**, internal audio sources
- 2 **MODE** - Scroll between external audio sources (AUX, USB\* and DAB1/DAB2\*). For connection via AUX or USB, see page 145.
- 3 **SOUND** - Pushbutton and knob controls for adjusting the sound pattern
- 4 Navigation button
- 5 **VOLUME** - Volume and On/Off

### Audio volume and automatic volume control

The audio system compensates for disrupting noises in the passenger compartment by increasing the volume with the speed of the



## Audio system

car. The level of compensation can be set at low, medium or high. Select the level under **Audio settings** → **Auto. volume control**.

### External audio source audio volume

The AUX input can be used for connecting an MP3 player which has no USB connection for example, see page 145.

#### NOTE

The audio quality may be impaired if the player is charged while the audio system is in AUX mode. In which case, avoid charging the player via the 12 V socket.

The audio source connected to the AUX input may have a different volume to the internal audio sources. Correct this by adjusting the input volume of the AUX input:

1. Set the audio system in AUX mode using the **MODE** button, press **MENU** and navigate with (4) to **AUX input volume**, see page 142.
2. Turn the **SOUND** control or press the navigation button, see page 142.

### Audio controls

Press the control **SOUND** repeatedly to browse among the following listed options.

Adjustment is made by turning the control.

#### NOTE

Press **MENU** to access the audio settings. For more information, see page 124.

- **Bass** - Bass level.
- **Treble** - Treble level.
- **Fader** – Balance between the front and rear speakers.
- **Balance** – Balance between the left and right-hand speakers.
- **Subwoofer\*** - Bass speaker level. Turning the control anticlockwise to **Min** deactivates the Subwoofer.
- **Surround\*** – Surround settings.

Under **Surround** 3 channel stereo or Dolby Surround Pro Logic II can be activated by selecting **3-ch** or **Dpl2** respectively. This enables the following options:

- **Centre level\*** – Level for centre speaker.
- **Surround level\*** – Level for surround.

### Equalizer

The equalizer<sup>2</sup> can be used to adjust different frequency bands separately.

1. Go to **Audio settings** and select **Equalizer front** or **Equalizer rear**.

The sound level for the wavelength is adjusted with / on the navigation button. Press / to select another wavelength.

2. Use **ENTER** to save or **EXIT** to close.

### Sound stage

The sound experience can be optimised for the driver's seat\*, both front seats or the rear seat. Select one of the options under **Audio settings** → **Sound stage**.

### Optimum sound reproduction

The audio system is calibrated for optimum sound reproduction by means of digital signal processing.

This calibration takes into account loudspeakers, amplifiers, passenger compartment acoustics, listener position etc. for each combination of car model and audio system.

There is also a dynamic calibration that takes into account the position of the volume control, radio reception and vehicle speed.

<sup>2</sup> Only High Performance and Premium Sound.

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

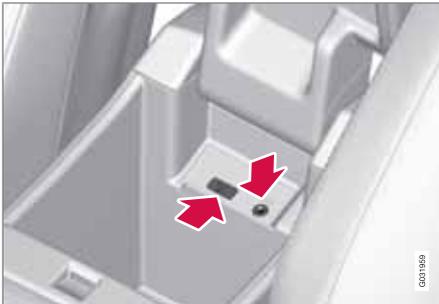


## Audio system

The controls explained in these operating instructions, e.g. **Bass**, **Treble** and **Equalizer**, are only intended for the user to be able to adapt the sound reproduction according to personal taste.

### AUX, USB<sup>3</sup> and external audio source

#### General



An external audio source can be connected to the car's infotainment system via the **USB connection\*** or **AUX input** in the centre console.

The AUX input enables the connection of an external audio source, e.g. an iPod® or MP3 player. Read more on page 144.

If you choose to connect an iPod®, MP3 player or a USB memory stick to the USB connec-

tion\* then you can control the audio source using the car's audio controls.

Select the connection using the **MODE** button:

1. If **USB** is selected then **Connect device** is shown in the display.
2. Connect your iPod®, MP3 player or USB memory stick to the USB connection\* in the centre console's storage compartment (see preceding illustration).

The text **Loading** is shown in the display when the system is loading the storage media's file structure. This may take some time.

Once loading is complete, track information is shown on the display and the desired track can be selected.

A track can be selected in three ways:

- With the **TUNING** control, , see page 142.
- the navigation control's (4) right or left-hand button or, , see page 142.
- the steering wheel keypad (see page 142).

In USB or iPod® mode the audio system operates in an equivalent way to the CD player for playing back music files. For more information, see page 147.

#### NOTE

The system supports the playback of music files in the MP3, WMA and WAV file formats. However, there are variants of these file formats that are not supported by the system. The system also supports most iPod® models produced in 2005 or later. iPod® Shuffle is not supported.

#### USB connection\* and RSE\*



If the car is equipped with RSE\* then the USB connection\* is located in accordance with the above illustration.

<sup>3</sup> Only High Performance and Premium Sound.



## Audio system

### Audio sources

#### USB memory

To facilitate the use of a USB memory stick, only store music files on it. It takes a lot longer for the system to load storage media that contains anything other than compatible music files.

#### **i** NOTE

The system supports removable media which is compatible with USB 2.0 and the FAT32 file system, and can handle a maximum of 500 folders and 64 000 files. The memory must have a capacity of at least 256 Mb.

#### **i** NOTE

When using a longer model USB memory stick the use of the enclosed USB adapter cable is recommended. This is to avoid mechanical wear to the USB input and the connected USB memory stick.

#### MP3 player

Many MP3 players have their own file systems that are not supported by the audio system. For use in the system, an MP3 player must be set in **USB Removable device/Mass Storage Device mode**.

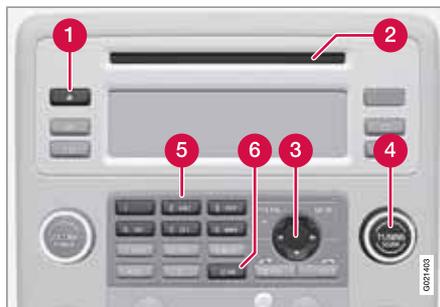
#### iPod®

An iPod® is charged and supplied with power by the USB connection\* via the player's connection cable. However, if the player's battery is fully discharged then it must be charged before being connected.

#### **i** NOTE

When an iPod® is used as audio source, the car's infotainment system has a menu structure that is similar to the iPod® player's own menu structure.

### CD functions



Centre console, controls for CD functions.

- 1** CD eject
- 2** CD insert and eject slot

- 3** Navigation button for changing CD tracks
- 4** Fast-wind and change CD track
- 5** CD changer position selection\*
- 6** Scan CD

#### Start playback (CD player)

If a music CD is in the player when **CD** is pressed then playback is started automatically. Otherwise, insert a disc and press **CD**.

#### Start playback (CD changer\*)

Start CD playback by pressing the **CD** button. If a music CD is in the player when this takes place then playback is started automatically. Otherwise, insert a disc and press **CD**.

#### Insert a CD (CD changer\*)

1. Select an empty position with the number buttons **1-6** or **▲** / **▼** on the navigation button (**4**).

An empty position is marked on the display. The text **Insert disc** shows that a new disc can be inserted. The CD changer can hold up to six CDs.

2. Insert a CD in the CD changer slot.

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



## Audio system

### Disc eject

A CD will stay in the ejected position for approx. 12 seconds. Following which it is re-inserted in the player and playback continues.

Eject individual discs by pressing the eject button.

Eject all discs with a long press on the eject button. The entire magazine is emptied disc by disc.

### Pause

If the volume is turned down completely, the CD player is stopped. The player is restarted when volume is increased.

### Audio files<sup>4</sup>

The CD player also supports MP3 and WMA format audio files.



#### NOTE

Some copy protected audio files may not be read by the player.

When a CD with audio files is inserted into the player the disc's file structure is loaded. Depending on the quality of the disc and the quantity of information there may be a delay before playback starts.

### Navigation and playback

If a disc containing audio files is inside the CD player then **ENTER** leads to the disc's directory structure. The directory structure is navigated in the same way as the audio system's menu structure. Audio files have the symbol  and directories have the symbol . Start audio file playback with **ENTER**.

When the playback of a file is finished the playback of the other files in the same directory continues. Directory change takes place automatically when all files in the current directory have been played back.

### Fast-wind/change CD tracks and audio files

Short presses  /  on the navigation button are used to scroll between CD tracks/audio files. Long presses are used to fast-wind CD tracks/audio files. The steering wheel keypad can also be used for this purpose. Track change can also be made by turning **TUNING**.

### Scan CD

This function plays the first ten seconds of each CD track/audio file. Press **SCAN** to activate. Interrupt with **EXIT** or **SCAN** to continue playback of the current CD track/audio file.

### Random

This function plays the tracks in random order. The random CD tracks/audio files can be scrolled through in the normal way.



#### NOTE

It is only possible to scroll between random CD tracks on the current disc.

Different messages appear depending on which random function has been selected:

- **RANDOM** means that the tracks from only one music CD are played
- **RND ALL** means that all tracks on all music CDs in the CD changer are played.
- **RANDOM FOLDER** means that the audio files in a directory on the current CD are played.

### CD player

If a normal music CD is being played, activate/deactivate under **Random**.

If a disc with audio files is being played, activate/deactivate under **Random** → **Folder**.

### CD changer

If a normal music CD is being played under **Random** → **Single disc** or **Random** → **All**

<sup>4</sup> High Performance and Premium Sound.



## Audio system

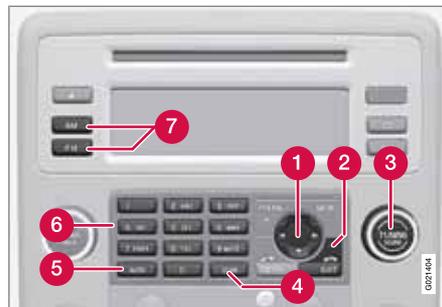
discs. The option **All discs** only applies to the music CDs in the changer.

If a CD with audio files is being played, activate/deactivate instead under **Random** → **Folder**. If you select another CD the function is deactivated.

### Track information

If track information is stored on a music CD then it can be shown on the display. This also applies to MP3 and WMA files for Premium Sound and High Performance. Activate/deactivate in CD mode under **CD settings** → **Track information**.

### Radio functions



Centre console, controls for radio functions.

- 1 Navigation button for tuning, automatic
- 2 Cancel function in progress
- 3 Tuning, manual
- 4 Scan wavelength
- 5 Preset storage, automatic
- 6 Preset buttons and preset storage, manual
- 7 Select wavelength AM and FM (FM1 and FM2)

### Tuning, automatic

1. Select wavelength using **FM** or **AM**.
2. Press / on the navigation button.

### Tuning, manual

1. Select wavelength using **FM** or **AM**.
2. Turn **TUNING**.

### Preset

10 station presets can be stored per wavelength. FM has 2 memories for presets: **FM1** and **FM2**. The stored presets are selected using the preset buttons.

Preset storage can be carried out manually or automatically.

### Preset storage, manual

1. Tune into a station.
2. Hold in a station preset button until the message **Channel stored** appears on the display.

### Preset storage, automatic

The function is especially useful in areas where the radio stations and their frequencies are unfamiliar. The 10 strongest radio stations are stored automatically in a separate memory.

1. Select wavelength using **FM** or **AM**.
2. Hold in **AUTO** until **Autostoring** appears on the display.

Once **Autostoring** disappears from the display, the stations are stored. The radio continues in Auto mode and **Auto** appears on the display. The automatically stored presets can

**Audio system**

now be selected using the preset buttons. Automatic preset storage can be cancelled using **EXIT**.

Auto mode is cancelled by pressing for example **AUTO** or **FM**.

Returning to Auto mode provides access to the autostored presets:

1. Press **AUTO**.  
> **Auto** appears on the display.
2. Press a preset button.

**Scan wavelength**

The function automatically searches the current wavelength for strong stations. When a station is found, it is played for approx. 8 seconds before scanning is resumed.

1. Select wavelength using **AM** or **FM**.
2. Press **SCAN**.

**SCAN** appears on the display. Close using **SCAN** or **EXIT**.

**RDS functions**

RDS (Radio Data System) links FM transmitters into a network. An FM transmitter in such a network sends information that gives an RDS radio the following functions:

- Automatically switches to a stronger transmitter if reception in the area is poor.
- Searches for programme type, such as traffic information or news.
- Receives text information on current radio programme.

**i NOTE**

Some radio stations do not use RDS or only some of its functionality.

If a required programme type is located the radio can switch stations interrupting the audio source currently in use. For example, if the CD player is in use, it is paused. The interrupting transmission is played at a preset volume, see page 151. The radio returns to the previous audio source and volume when the set programme type is no longer broadcast.

The programme functions alarm (**ALARM!**), traffic information (**TP (Traffic information)**), news (**News**), and programme types (**PTY (Program type)**) interrupt one another in order of priority, where alarm has the highest priority and programme types has the lowest. For further programme interruption settings (**EON** and **Regional**), see page 150. Press **EXIT** to return to the interrupted audio source.

**Alarm**

This function is used to warn of serious accidents and catastrophes. The alarm cannot be temporarily interrupted or deactivated. The message **ALARM!** appears on the display when an alarm message is transmitted.

**Traffic information – TP**

This function allows traffic information sent within a set station's RDS network to break through. The **TP (Traffic information)** symbol indicates that the function is activated. If the set station can send traffic information then **TP** appears on the display.

- Activate/deactivate under **FM settings** → **TP (Traffic information)**.

**TP from current station/all stations**

The radio can interrupt with traffic information from only the set (current) station or from all stations.

- Go to **FM settings** → **Advanced radio settings** → **TP Station...** to change.

**News**

This function allows news broadcasts sent within a set station's RDS network to break through. The **NEWS** symbol indicates that the function is active.



## Audio system

- Activate/deactivate under **FM settings** → **News**.

### News from current/all stations

The radio can interrupt with news from only the set (current) station or from all stations.

- Go to **FM settings** → **Advanced radio settings** → **News station** to change.

### Programme types – PTY

The PTY function can be used to select different programme types, such as pop music and serious classic. The PTY symbol indicates that the function is active. This function allows programme types broadcast within a set station's RDS network to break through.

1. Activate in FM mode by selecting a programme type under **FM settings** → **PTY** → **Select PTY**.
2. Deactivate by clearing the PTY under **FM settings** → **Clear all PTY**.

### PTY search

This function searches the entire wavelength for the selected programme type.

1. Select a PTY under **FM settings** → **PTY** → **Select PTY**.

2. Go to **FM settings** → **PTY (Program type)** → **Search PTY**.

If the radio finds any of the selected programme types, >| **To seek** appears on the display.

- To continue searching for another broadcast of the selected programme types, press → on the navigation button.

### Display of programme type

The programme type of the current station can be shown on the display.

- Activate/deactivate in FM mode under **FM settings** → **PTY** → **Show PTY**

### NOTE

Not all radio stations support display of programme type.

### Radio text

Some RDS stations transmit information on programme content, artists, etc. This information can be shown on the display.

- Activate/deactivate in FM mode under **Radio text**.

### Automatic frequency update – AF

This function selects one of the strongest transmitters for a set station. The function may need to search through the entire FM wavelength to find a strong transmitter. If this occurs, the radio mutes and **PI Seek Press Exit to cancel** appears on the display.

- Activate/deactivate in FM mode under **FM settings** → **Advanced radio settings** → **AF**.

### Regional radio programmes – REG

This function causes the radio to continue with a regional transmitter even if its signal strength is low. The symbol **REG** shows that the function is active.

- Activate/deactivate in FM mode under **FM settings** → **Advanced radio settings** → **Regional**.

### Enhanced Other Networks – EON

This function is useful in urban areas with many regional radio stations. It allows the distance between the car and the radio station transmitter to determine when programme functions should interrupt the current audio source.

- Activate/deactivate in FM mode by selecting one of the options under **FM settings** → **Advanced radio settings** → **EON**:



## Audio system

- **Local** – interrupts only if the radio station transmitter is close.
- **Distant**<sup>5</sup> – interrupts if the station transmitter is far away, even if there is a lot of static.
- **Off** – no interruption for programmes from other transmitters.

### Resetting RDS functions

All radio settings can be reset to the original factory settings.

- The reset is carried out in FM mode under **FM settings** → **Advanced radio settings** → **Reset all**.

### Volume control, programme types

The interrupting programme types, e.g. **NEWS** or **TP**, are heard at the volume selected for each respective programme type. If the volume level is adjusted during the programme interruption, the new level is saved until the next programme interruption.

## Menu structure FM

### Main menu FM FM settings

- 1.1 News
- 1.2 TP (Traffic information)
- 1.3 Radio text
- 1.4 PTY (Program type)
  - 1.4.1 Select PTY
    - Clear all PTY
    - Current affairs
    - Information
    - Sport
    - Education
    - Drama
    - Culture
    - Science
    - Varied speech
    - Pop music
    - Rock music
    - Easy listening
    - Light classic

- Classical
- Other music
- Weather & metro
- Finance
- Children's programs
- Social affairs
- Religion
- Phone in
- Travel & touring
- Leisure & hobby
- Jazz music
- Country music
- National music
- Oldies music
- Folk music
- Documentary
- 1.4.2 Search PTY
- 1.4.3 Show PTY text
- 1.5 Advanced radio settings
  - 1.5.1 TP station
  - 1.5.2 News station

<sup>5</sup> Factory settings.



## Audio system

- 1.5.3 AF
- 1.5.4 EON
  - Off
  - Local
  - Distant
- 1.5.5 Regional
- 1.5.6 Reset all FM settings

## Radio system - DAB\*

### General

DAB (Digital Audio Broadcasting) is a digital broadcasting system for radio.

### NOTE

This system does not support DAB+.

### Service and Ensemble

- **Service** - Channel, radio channel (only audio services are supported by the system).
- **Ensemble** - A collection of radio channels on the same frequency.

### Storing channel groups (Ensemble learn)

When the vehicle is moved to a new broadcasting area, programming of existing channel groups in the area can take place.

Programming of channel groups creates an updated list of all available channel groups. The list is not updated automatically. Programming takes place via the **Ensemble learn** menu or directly by means of a long press on **AUTO**. It can take up to a minute to program a channel group if both **Band III** and **LBand** are selected.

### Wavelength

DAB is transmitted on two wavelengths<sup>6</sup>; **Band III** and **LBand**.

- **Band III** - over the whole country<sup>7</sup>
- **LBand** - mainly in large cities

By selecting for example **Band III** on its own, channel programming takes place more quickly than if both **Band III** and **LBand** are selected. It is not certain that all channel groups will be found. Wavelength selection does not affect the stored memories.

### Navigation via lists

There are three types of basic list which can be used for navigation:

- **Ensemble** - Shows channel groups that the receiver has obtained via channel group programming.
- **Service** - Shows channels irrespective of the channel group to which they are allocated. The list can also be filtered using **DAB PTY** (see below).
- **Subchannel** - Subchannels to a selected channel.

The lists can be accessed via the menu. The channel groups can also be accessed by pressing **ENTER**.

### Scanning

Scanning means that all channels in the list are played for 10 seconds each.

- Press **SCAN** to activate

Scanning can also be selected in DAB-PTY mode. In which case only channels of the pre-selected programme type are played.

- Stop scanning by pressing **SCAN** once, or by pressing **EXIT**.

### Subchannel

Secondary components are usually named subchannels. These are temporary and can contain e.g. translations of the main programme into other languages.

<sup>6</sup> Not all areas/countries use both wavelengths.

<sup>7</sup> During a build-up phase DAB will not cover the whole country but will only work in larger urban areas.

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

**Audio system**

If one or more subchannels are broadcast then the > symbol is shown to the right of the channel name in the display. A subchannel is indicated by the > symbol appearing to the left of the channel name in the display.

To access a subchannel:

- Press

To navigate between subchannels:

- Press or

Subchannels can only be accessed on the selected main channel and not on any other one without selecting it.

**DAB PTY (program type)**

**DAB PTY** selects one type of radio programme. There are 29 different programme types which also include different programme categories. After selecting a programme type, navigation only takes place within the channels broadcasting that type.

Exit this mode as follows:

- Press **EXIT**

It is also possible to select a preset channel or exit **DAB PTY** via the menu. In certain cases DAB radio will exit PTY mode when DAB to DAB linking (see below) is implemented.

**DAB to DAB link**

It is possible to exit a channel with poor or no reception to the same channel in another channel group with better reception. There may be a certain delay when changing channel group. There may be a period of silence between the current channel no longer being available to the new channel becoming available.

**DAB display settings**

1. **Basic** - Only the channel name is shown if a primary component is being played. A subchannel name is shown if it is a subchannel being played
2. **Ensemble** - Adds the channel group name to the channel name
3. **Ensemble +PTY** - Adds the programme type name under the channel name

**Preset**

10 station presets can be stored per wavelength. DAB has 2 memories for presets: **DAB1** and **DAB2**. The stored presets are selected using the preset buttons.

A preset contains one channel but no subchannels. If a subchannel is being played and a preset is saved then only the channel ID is registered. This is because subchannels are temporary. At the next attempt to retrieve the preset, the channel which contained the sub-

channel will be played. The preset is not dependent on the channel list.

A saved channel does not have to be in the channel list for it to be playable. If the channel is loaded when it is not available then a preset number is shown and there is silence until an available preset is selected for loading. Alternatively another channel.

**NOTE**

The audio system's DAB system does not support all functions available in the DAB standard.

04

**Menu structure DAB****Main menu DAB**

1. Select ensemble
2. Select service
3. Select subchannel
4. DAB PTY
  - 4.1. DAB PTY off
  - 4.2. News
  - 4.3. Current affairs
  - 4.4. Information
  - 4.5. Sport





### Audio system

- 4.6. Education
- 4.7. Drama
- 4.8. Arts
- 4.9. Science
- 4.10. Talk
- 4.11. Pop music
- 4.12. Rock music
- 4.13. Calm music
- 4.14. Light classic
- 4.15. Classical music
- 4.16. Other music
- 4.17. Weather
- 4.18. Finance
- 4.19. Children
- 4.20. Factual
- 4.21. Religion
- 4.22. Phone in
- 4.23. Travel
- 4.24. Leisure
- 4.25. Jazz and blues
- 4.26. Country music
- 4.27. National music
- 4.28. Oldies music
- 4.29. Folk music
- 4.30. Documentary
- 5. Ensemble learn
- 6. DAB settings
  - 6.1. DAB display settings
    - 6.1.1. Ensemble name
    - 6.1.2. Ensemble name and PTY
    - 6.1.3. Basic
  - 6.2. DAB to DAB link
  - 6.3. FM traffic
  - 6.4. Select DAB band
    - 6.4.1. Band III
    - 6.4.2. LBand
    - 6.4.3. LBand & Band III
  - 6.5. Reset DAB

**RSE - Rear Seat Entertainment system - Dual Screen\*****General**

The RSE system can be used at the same time as the car's infotainment system.

When the rear seat passengers are using DVD, RSE-AUX or watching TV<sup>1</sup> while listening with headphones, the driver and front seat passenger can still use the car's radio or CD player.

**Power consumption, ignition positions**

The system can be activated in ignition position **I** or **II** and while the engine is running. When the car is being started the film stops temporarily and continues when the engine has started.

When the system has been used once without the ignition in position **I** it is blocked. To restart, ignition position **I** must be activated.

**i NOTE**

In the event of extended use (more than 10 minutes) with the engine switched off - the capacity of the car's battery may decrease to such a low level that the engine cannot be started.

In which case a message will appear on the screen.

**TV overview**

Press  and select **TV | DVD | AUX** → **TV** → **MEDIA MENU**.

<b>Channel lock list</b> 	
<b>Channel management</b> 	
<b>Channel search</b> 	<b>Management of new carriers</b> <b>Add carrier</b> <b>Information on frequency</b> <b>Delete a frequency</b> <b>Delete all frequencies</b> <b>Auto scan</b>

<b>System settings</b> 	<b>TV</b> <b>Audio mode</b> <b>Factory default</b> <b>Time zone setting</b>
<b>CI module</b> 	<b>No CAM inserted</b> <b>CI module information</b>
<b>Signal strength</b> 	

**System settings TV**

Press **MEDIA MENU** → **System settings** → **TV**.

<b>Languages</b> TV menu language	<b>E.g. English</b>
<b>Pict. format</b>	<b>16:9</b> <b>4:3</b> <b>Auto</b>

<sup>1</sup> TV is an option for the RSE system.



## RSE - Rear Seat Entertainment system - Dual Screen\*

Mode (screen mode)	Standard Zoom Full screen Centered
Audio mode	Right Left
Banner timeout	The menus can be displayed for between 8-40 seconds.

### System settings-Sound mode

Press **MEDIA MENU** → **System settings** → **Audio mode**.

The original speech for a TV programme can be replaced with speech in another language if the programme is broadcast with several audio tracks.

Audio	Audio - 1, e.g. <b>ENG.</b> Audio - 2, e.g. <b>GER.</b>
Audio mode	Right Left Stereo AC3

### System settings-Factory settings

Press **MEDIA MENU** → **System settings** → **Factory default**.

The system's factory settings are restored here.

### System settings-Time zone settings

Press **MEDIA MENU** → **System settings** → **Time zone setting**.

For local programme times to be displayed correctly the time zone must be set. The **GUIDE** and **INFO** button menus and the clock are affected by local time zones.

### Pay channels

To watch pay channels a payment card must be fitted in an adapter which is inserted into the digital TV box.



The box is located behind the left-hand hatch in the cargo area

1. Open the hatch in the cargo area, it is secured with Velcro straps.
  - > The digital TV box is revealed.
2. Open the rubber cover on the box.
3. Fit the payment card into the adapter. Make sure that it is fitted correctly.
4. Insert the adapter in the digital TV box. Make sure that it is inserted correctly.
  - > The system will detect that it has received new information.
5. Search to watch the new channels that have become available, see the section "Payment card TV channels" below.



## RSE - Rear Seat Entertainment system - Dual Screen\*

### Payment card TV channels

Search so that the system identifies the payment card's channels.

1. Press **MEDIA MENU** on the remote control.
2. Select **Channel search** → **Auto scan**.
3. Select country and press .

### Formats supported by the digital TV box

The TV system supports MPEG-2 transmissions. There is the option to receive MPEG-4 transmissions if you buy an adapter. This adapter is inserted into the digital TV box and is fitted in the same way as the adapter for the payment card. See the section "Pay channels" above.

### Music

#### Playing back a CD disc

1. Insert the CD with the label side turned from the buttons.
  - > The disc starts to play back automatically.
2. Switch on the wireless headphones, select **CHA** for left-hand screen or **CHB** for right-hand screen.

> The sound is directed to the headphones.

3. Adjust the audio volume in the headphones using the volume control/wheel on the headphones.

Alternatively - activate the car's audio system in **MODE-AUX** and press  on the remote control to listen via the speakers.

#### Selecting within a disc directory

1. Load the disc.
2. Press .
3. Scroll using the navigation buttons to select a file.
4. Press  to select the subdirectory.

#### Different playback options

The disc can be played back in different ways, scroll with the navigation buttons to select playback option.

When the dialogue box appears:

1. Press the right-hand navigation button to move over in the right-hand menu.
2. Scroll using the navigation buttons to select playback options.

3. Confirm with .

#### Change CD track

Change CD track with  or  fast-wind by holding the buttons depressed.

#### Pause

1. Pause and restart the disc with .
2. Stop the disc with .
3. Press  again to eject the disc.

#### Discs copied privately can be used.

However, playback and quality depend on the quality of the source file, format and disc quality.

#### AUX input, Electrical socket 12 V

The input allows you to connect other equipment. Always follow the instructions included with the external equipment, or from the manufacturer or reseller, when connecting. Equipment connected via the RSE AUX input can use the screens, wireless headphones, headphones sockets and the car's speakers.



# 04 Comfort and driving pleasure

## RSE - Rear Seat Entertainment system - Dual Screen\*

### Connecting the RSE AUX input



The RSE-AUX input is located under the front armrest.

1. Connect the video cable to the yellow socket.
2. Connect the left-hand audio cable to the white socket and the right-hand one to the red socket.
3. Connect the power cable to the power socket if your equipment is designed for 12 V.

For electrical socket location, see page 200

### System

Formats supported by the system.

Audio format	CD-DA, DVD Audio Playback, MP3, WMA
Video format	DVD video, VCD, SVCD, DivX/MPEG-4, WMA video, Photo CD Kodak, Photo CD JPG
Disc format	DVD-RAM, DVD-ROM, DVD-RW, DVD+RW, DVD-R, DVD+R, CD-R, CD-ROM, CD-RW, CD-3, HDCD

### Advanced system settings

These settings can only be accessed when the DVD player is empty.

- Press **MEDIA MENU**.

<b>GENERAL SETUP</b>	ANGLE MARK CAPTION
<b>AUDIO SETUP</b>	COMPRESSION
<b>DVX(R) REGISTRATION</b>	
<b>PREFERENCES</b>	TV TYPE AUDIO SUBTITLE DEFAULTS

### Changing the battery in the remote control and wireless headphones

The remote control and headphones are powered by 2 AAA batteries.

Take along extra batteries for a long journey.



1. Unscrew the screw and detach the battery cover.
2. Remove the used batteries, turn the new batteries in accordance with the symbols in the battery compartment and insert them.
3. Fit the cover and screw in the screw.

**RSE - Rear Seat Entertainment system - Dual Screen\***

*Wireless headphones*

1. Unscrew the screw and detach the battery cover.
2. Remove the used batteries, turn the new batteries in accordance with the symbols in the battery compartment and insert them.
3. Fit the cover and screw in the screw.

** NOTE**

If the system is too hot to be used or if battery voltage is too low then an information message appears on the screen.

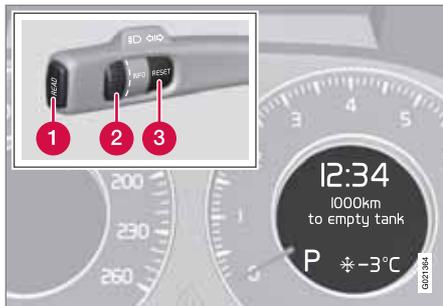
**Environmental care**

Be sure to dispose of the exhausted batteries in an environmentally safe manner.



## Trip computer

### General



Information display and controls.

- 1 **READ** - confirms
- 2 Thumbwheel – browse between menus and options in the trip computer list
- 3 **RESET** – resets

The trip computer's menu is in a variable loop. One of the menu options is a blank display - it also marks the beginning/end of the loop.

### Functions

#### NOTE

If a warning message appears when the trip computer is used then the message must first be acknowledged before the trip computer can be reactivated. Acknowledge the warning message by pressing **READ**.

To change unit for distance and speed - go to **Car settings** → **Unit settings**, see page 124.

#### Average speed

Average speed is calculated from the last resetting. Reset using **RESET**.

#### Instantaneous

Current fuel consumption is calculated every second. The information on the display is updated every couple of seconds. When the car is stationary, "----" appears on the display.

#### Average

Average fuel consumption is calculated from the last resetting. Reset using **RESET**.

#### NOTE

There may be a slight error in the reading if a fuel-driven supplementary and/or parking heater\* has been used.

#### Km to empty tank

The calculation is based on the average fuel consumption over the last 30 km and the remaining driveable fuel quantity. The display shows the approximate distance that can be driven with the fuel quantity remaining in the tank.

An economic driving style generally results in a longer driving distance. For more information on how you can influence fuel consumption, see page 11.

No guaranteed range remains when the display shows "---- km to empty tank". Refuel as soon as possible.

#### NOTE

There may be a slight error in the reading if the driving style has been changed.

#### Resetting

1. Select --- km/h average speed or --.- l/100km average.



### Trip computer

2. Press and hold **RESET** for approx. 1 second to reset the selected function. If **RESET** is kept depressed for at least 3 three seconds then Average speed and Average are reset simultaneously.

#### **Current speed\*<sup>1</sup>**

The instrument panel display shows current speed in mph if the speedometer is graduated in km/h. If the speedometer is graduated in mph then the current speed is shown in km/h.

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<sup>1</sup> Only certain markets.



## DSTC – Stability and traction control system

### General information on DSTC

The stability and traction control system, DSTC (Dynamic Stability and Traction Control) helps the driver to avoid skidding and improves the car's traction.

The activation of the system during braking may be noticed as a throbbing sound. The car may accelerate slower than expected when the accelerator pedal is depressed.

### Active Yaw Control

The function limits the driving and brake force of the wheels individually in order to stabilise the car.

### Spin Control

The function prevents the driving wheels from spinning against the road surface during acceleration.

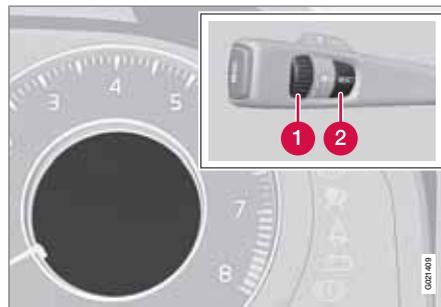
### Traction control system

The function is active at low speed and transfers power from the driving wheel that is spinning to the one that is not.

### Operation

#### Reduced operation

System operation during skidding and acceleration can be reduced. Operation during skidding is delayed and so allows more skidding which provides greater freedom for dynamic driving. Traction in deep snow or sand is improved as traction is no longer limited.



1. Turn the thumbwheel (1) until the **DSTC** menu is shown. **DSTC-ON** means that the system function is unchanged.

**DSTC spin control OFF** means that system operation is reduced.

2. Press and hold **RESET** (2) until the **DSTC** menu is changed.

The system will remain reduced until the engine is switched off - after the engine is started the next time DSTC is back in its normal mode again.



### WARNING

The car's driving characteristics may deteriorate if the function is reduced.

### Messages in the information display

**DSTC Temporarily OFF** means that the system has been temporarily reduced due to excessive temperature in the brake discs.

- The function is reactivated automatically when the brakes have cooled.

**DSTC Service required** system disabled due to a fault.

- Stop the car in a safe place and turn off the engine.
  - > If the message remains when the engine is restarted, drive to a workshop. An authorised Volvo workshop is recommended.

### Symbols in the combined instrument panel

If the symbols  and  are shown at the same time - read the message on the information display.



### DSTC – Stability and traction control system

If the symbol  appears alone then it may appear as follows:

- Flashing light means that the system is now being activated.
- Constant glow for 2 seconds means system check when the engine is started.
- Constant glow after starting the engine or while driving means system fault.



### Adapting driving characteristics

#### Active chassis (Four-C)\*

Active chassis, Four-C (Continuously Controlled Chassis Concept), regulates the characteristics of the shock absorbers so that the car's driving characteristics can be adjusted. There are three settings: **Comfort**, **Sport** and **Advanced**.

##### Comfort

This setting means that the car is perceived as being more comfortable on rough and uneven road surfaces. Shock absorption is soft and the movement of the body is smooth and gentle.

##### Sport

This setting means that the car is perceived as being more sporty and is recommended for more active driving. Steering response is faster than in the Comfort mode. Shock absorption is harder and the body follows the road in order to reduce rolling during cornering.

##### Advanced

This setting is only recommended on very even and smooth road surfaces.

The shock absorbers are optimised for maximum roadholding and rolling in bends is further minimised.

#### Operation



*Chassis settings.*

Use the buttons in the centre console to change setting. The setting in use when the engine is switched off is activated next time the engine is started.

#### Speed related power steering\*

Steering force increases with the speed of the car to give the driver enhanced sensitivity. The steering is firmer and more immediate on motorways. Steering is light and requires no extra effort when parking and at low speed.

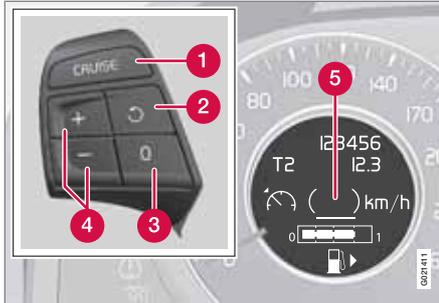
The driver can choose between three different levels of steering force for road responsiveness or steering sensitivity. Go to **Car settings** → **Steering force level** in the menu system and select **Low**, **Medium** or **High**.

For a description of the menu system, see page 125. This menu cannot be accessed while the car is in motion.



## Cruise control\*

## Operation



Steering wheel keypad and display.

- 1 Cruise control - On/Off.
- 2 Standby mode ceases and the stored speed is resumed.
- 3 Standby mode
- 4 Activate and adjust the speed.
- 5 Selected speed (in brackets = Standby mode).

## Activating and setting the speed

Switch on the cruise control with one press on the steering wheel button **CRUISE** - the symbol  is illuminated in the display (5) and the brackets around (---) km/h show that the cruise control is set in standby mode.

The cruise control is then activated with  or , after which the current speed is stored in the memory - the display text (---) km/h changes to show the selected speed, e.g. 100 km/h.

 NOTE

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

## Changing the speed

In active mode the speed is adjusted with long or short presses on  or  - the last press is stored in the memory.

A temporary increase in speed with the accelerator pedal, e.g. during overtaking, does not affect the cruise control setting - the car returns to the set speed when the accelerator pedal is released.

 NOTE

If any cruise control button is held depressed for more than approx. 1 minute then cruise control is disengaged. The engine must be switched off in order to reset cruise control.

## Temporary deactivation - standby mode

Press  to temporarily disengage the cruise control and set it in standby mode - set speed is shown in brackets in the display (5), e.g. (100) km/h.

## Automatic standby mode

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

- wheels lose traction
- the foot brake is used
- speed falls below approx. 30 km/h
- the clutch pedal is depressed
- the gear selector is moved to neutral position (automatic gearbox)
- the driver maintains a speed higher than the set speed for longer than 1 minute.

The driver must then regulate the speed.

## Resume set speed

Cruise control in standby mode is re-activated with one press on the steering wheel button  - the speed is then set to the last stored speed.

 NOTE

A significant increase in speed may arise after the speed has been resumed with .



### Cruise control\*

#### Deactivate

The cruise control is switched off with the steering wheel button **CRUISE** or by switching off the engine - the set speed is deleted from the memory and cannot be resumed with the

 button.



## Adaptive cruise control\*

### General information on ACC

The adaptive cruise control (ACC – Adaptive Cruise Control) helps the driver maintain a safe distance from the vehicle ahead. It provides a more relaxing driving experience on long journeys on motorways and long straight main roads in smooth traffic flows.

The driver sets the desired speed and time interval to the car in front. When the radar detector detects a slower vehicle in front of the car, the speed is automatically adapted to that. When the road is clear again the car returns to the selected speed.

If the adaptive cruise control is switched off or set to the standby mode and the car comes too close to a vehicle in front, then the driver is warned by Distance Alert (see page 175) about the short distance.

### WARNING

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

The adaptive cruise control cannot handle all traffic, weather and road conditions.

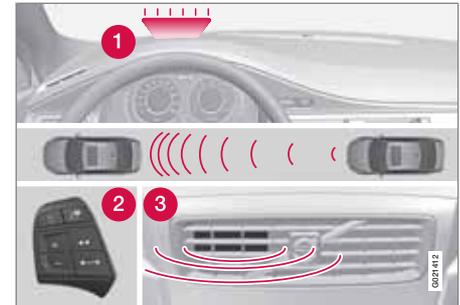
The Function section and onwards informs about limitations of which the driver should be aware before using the adaptive cruise control.

The driver always bears responsibility for maintaining the correct distance and speed, even when the adaptive cruise control is being used.

### IMPORTANT

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

### Function



*Functions overview.*

- ❶ Warning lamp, braking by driver required
- ❷ Steering wheel keypad
- ❸ Radar sensor

Adaptive cruise control consists of a cruise control system and a coordinated spacing system.



## Adaptive cruise control\*

### WARNING

Adaptive cruise control is not a collision avoidance system. The driver must intervene if the system does not detect a vehicle in front.

The adaptive cruise control does not brake for humans or animals, and not for small vehicles such as bicycles and motorcycles. Nor for oncoming, slow or stationary vehicles and objects.

Do not use the adaptive cruise control, for example, in city traffic, in dense traffic, at junctions, on slippery surfaces, with a lot of water or slush on the road, in heavy rain/snow, in poor visibility, on winding roads or on slip roads.

The distance to the vehicle ahead is mainly measured by a radar sensor. Cruise control regulates the speed with acceleration and braking. It is normal for the brakes to emit a low sound when they are being used by cruise control.

### WARNING

The brake pedal moves when the cruise control brakes. Do not rest your foot under the brake pedal as it could become trapped.

The adaptive cruise control aims to follow the vehicle ahead in the same lane at a time interval

set by the driver. If the radar sensor cannot see any vehicle in front then the car will instead maintain the cruise control's set speed. This also happens if the speed of the vehicle in front exceeds the cruise control's set speed.

The cruise control aims to control the speed in a smooth way. In situations that 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 171.

The adaptive cruise control can be activated to follow another vehicle at speeds from 30 km/h up to 200 km/h. If the speed falls below 30 km/h or if the engine speed becomes too low, the cruise control is set in standby mode at which automatic braking ceases - the driver must then take over himself/herself to maintain a safe distance to the vehicle ahead.

### Warning lamp - braking by driver required

Adaptive cruise control has a braking capacity that is equivalent to 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 page 179) 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.

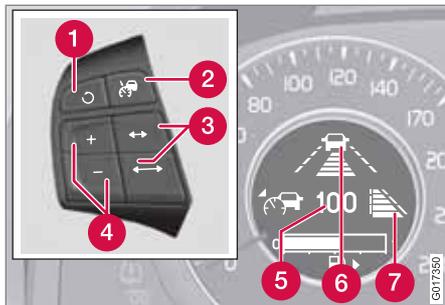
### Steep roads and/or heavy load

Bear in mind that the adaptive cruise control is primarily intended for use when driving on level road surfaces. The cruise control may have difficulty in keeping the correct distance from the vehicle ahead when driving on steep roads, with a heavy load or with a trailer - in which case, be extra attentive and ready to slow down.



## Adaptive cruise control\*

## Operation



Steering wheel keypad and display.

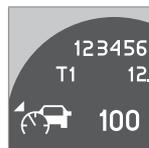
- 1 Standby mode ceases and the stored speed is resumed.
- 2 Cruise control - On/Off or Standby mode.
- 3 Time interval - Increase/decrease.
- 4 Activate and adjust the speed.
- 5 Selected speed (in brackets = Standby mode).
- 6 Time interval - On, during adjustment.
- 7 Time interval - On, after adjustment.

## Activating and setting the speed

Switch on cruise control with one press on the steering wheel button - the symbol is illuminated in the display. The brackets (6) at

(---) mean that cruise control is set in standby mode.

The cruise control is then activated with or , after which the current speed is stored in the memory - the display text (---) changes to show the selected speed, e.g. 100 without brackets.



When the symbol changes to the radar sensor has detected a vehicle.

Only when the symbol (with car) is illuminated, is the distance to the vehicle in front regulated by the cruise control.

## Changing the speed

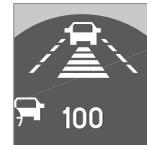
In active mode the speed is adjusted 5 km/h with each press on or . In active mode the button has the same function as but results in a lower increase in speed. The last press is stored in the memory.

## NOTE

If any cruise control button is held depressed for more than approx. 1 minute then cruise control is disengaged. The engine must be switched off in order to reset cruise control.

In certain situations, cruise control cannot be activated. Then the display shows **Cruise control Unavailable**, see page 173.

## Set time interval



Different time intervals to the vehicle in front can be selected and shown in the display as 1-5 horizontal lines - the more lines the longer the time distance. One line corresponds to approximately

1 second, 5 lines approximately 2.5 seconds.

The time interval is increased using the steering wheel button and decreased using .

At low speed, when the distances are short, the adaptive cruise control increases the time interval slightly.

The adaptive cruise control allows the time interval to vary noticeably in certain situations in order to allow the car to follow the vehicle in front smoothly and comfortably.



## Adaptive cruise control\*

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



The number of lines for the selected time interval is shown during the setting itself and for several seconds afterwards. Then a smaller scale version of the symbol is shown to the right of the display. The same symbol is also shown when Distance Alert is activated, see page 175.

### **i** NOTE

Only use the time interval that is allowed in accordance with local traffic regulations.

If cruise control does not seem to react to activation the reason may be that the time interval to the closest vehicle prevents an increase in speed.

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

### Temporary deactivation - standby mode

Press the steering wheel button  to temporarily disengage the cruise control and set it in standby mode - set speed is shown in brackets in the display, e.g. (100).

### Standby mode due to driver intervention

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

- the foot brake is used
- the clutch pedal is depressed for longer than 1 minute<sup>1</sup>
- 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

Adaptive cruise control is dependent on other systems e.g. stability and traction control (DSTC). If any of these systems stop working then cruise control is automatically deactivated.

In the event of automatic deactivation a signal will sound and the message **Cruise control Cancelled** is shown in the display. The driver must then intervene and adapt the speed and distance to the vehicle ahead.

An automatic deactivation can be due to:

- engine speed is too low/high
- speed falls below 30 km/h
- wheels lose traction
- brake temperature is high
- the radar sensor is covered e.g. by wet snow or heavy rain (radar waves blocked).

### Resume set speed

Cruise control in standby mode is re-activated with one press on the steering wheel button  - the speed is then set to the last stored speed.

### **i** NOTE

A significant increase in speed may arise after the speed has been resumed with .

### Deactivate

The cruise control is switched off with the steering wheel button  in standby mode or with one long press in active mode. The set speed is cleared and cannot be resumed with the  button.

<sup>1</sup> Disengaging and selecting a higher or lower gear does not involve standby mode.

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

**Adaptive cruise control\*****The radar sensor and its limitations**

Apart from the adaptive cruise control, the radar sensor is also used by the Collision Warning with Auto Brake function (see page 178) and the Distance Alert function (see page 175). The function of the radar sensor is to detect cars or larger vehicles in the same direction, in the same lane.

Modification of the radar sensor could result in it being illegal to use.

**WARNING**

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

The adaptive cruise control cannot handle all traffic, weather and road conditions.

The Function section and onwards informs about limitations of which the driver should be aware before using the adaptive cruise control.

The driver always bears responsibility for maintaining the correct distance and speed, even when the adaptive cruise control is being used.

**WARNING**

Accessories or other objects such as auxiliary lamps must not be installed in front of the grille.

**WARNING**

Adaptive cruise control is not a collision avoidance system. The driver must intervene if the system does not detect a vehicle in front.

The adaptive cruise control does not brake for humans or animals, and not for small vehicles such as bicycles and motorcycles. Nor for oncoming, slow or stationary vehicles and objects.

Do not use the adaptive cruise control, for example, in city traffic, in dense traffic, at junctions, on slippery surfaces, with a lot of water or slush on the road, in heavy rain/snow, in poor visibility, on winding roads or on slip roads.

The capacity of the radar sensor to detect vehicles in front is reduced significantly:

- if the radar sensor becomes blocked and cannot detect other vehicles e.g. in heavy rain or slush, or if other objects have collected in front of the radar sensor.

**NOTE**

Keep the surface in front of the radar sensor clean.

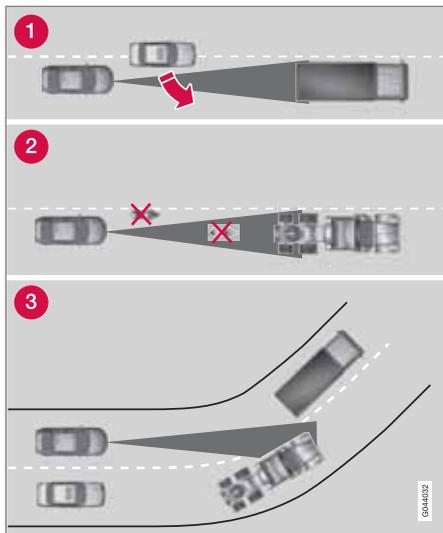
- if the speed of vehicles in front is significantly different from your own speed.

**Examples where the cruise control does not work optimally**

The radar sensor has a limited field of vision. In some situations another vehicle is not detected, or the detection is made later than expected.



## Adaptive cruise control\*



The ACC cannot see small vehicles (Dark triangle: ACC field of vision).

- 1 Sometimes the radar sensor 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 display shows the message **Radar blocked See manual** this means that the radar signals from the radar sensor are blocked and that vehicles in front of the car could not be detected.

In turn this means that the Adaptive Cruise Control, Distance Alert and Collision Warning with Auto Brake functions are not operating either.

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

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.

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



## 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 in the display

Symbol	Message	Specification
		Standby mode or active mode without detected vehicle.
		Active mode with detected vehicle to which cruise control adapts the speed.
		Time interval activated, during adjustment.
		Time interval activated, after adjustment.
	<b>Turn on DSTC to enable Cruise</b>	Cruise control cannot be activated until the stability and traction control function (DSTC) has been set in Normal mode.
	<b>Cruise control Cancelled</b>	The cruise control has been deactivated - the driver has to regulate the speed.
	<b>Cruise control Unavailable</b>	Cruise control cannot be activated. This could be due to: <ul style="list-style-type: none"> <li>• brake temperature is high</li> <li>• the radar sensor is blocked by e.g. wet snow or rain.</li> </ul>



## 04 Comfort and driving pleasure

### Adaptive cruise control\*

Symbol	Message	Specification
	Radar blocked See manual	Cruise control temporarily disengaged. <ul style="list-style-type: none"><li>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.</li></ul> Read about the limitations of the radar sensor, see page 171.
	Cruise control Service required	Cruise control not working. <ul style="list-style-type: none"><li>Contact a workshop - an authorised Volvo workshop is recommended.</li></ul>

04

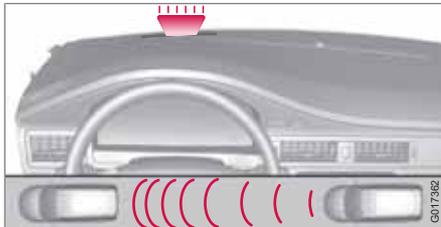


## Distance Alert\*

**General**

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

Distance alert is active at speeds above 30 km/h and only reacts to vehicles driving in front of the car, in the same direction. No distance information is provided for oncoming, slow or stationary vehicles.



Yellow warning light.

A yellow warning lamp in the windscreen illuminates with a constant glow if the distance to the vehicle in front is shorter than the set time interval.

**NOTE**

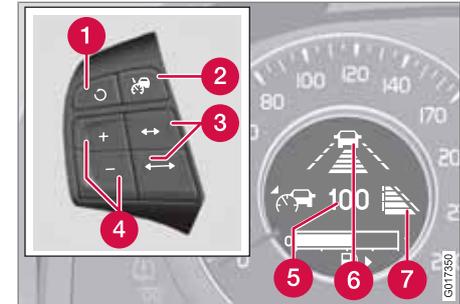
Distance Alert is deactivated during the time that Adaptive Cruise Control is active.

**WARNING**

Distance Alert only reacts if the distance to the vehicle ahead is shorter than the preset value - the speed of the driver's vehicle is not affected.

**Operation**

Press the button in the centre console to switch the function on or off. The function is switched on if one lamp is illuminated in the button.

**Set time interval**

Controls and display for time interval.

- ③ Time interval - Increase/decrease
- ⑥ Time interval - On, during adjustment
- ⑦ Time interval - On, after adjustment

Time intervals are increased using and decreased using .



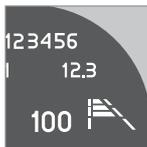
Different time intervals to the vehicle in front can be selected and shown in the display as 1-5 horizontal lines - the more lines the longer the time interval. One line corresponds to approximately

1 second to the vehicle in front, 5 lines approximately 2.5 seconds.



# 04 Comfort and driving pleasure

## Distance Alert\*



The number of lines for the selected time interval is shown during the setting itself and for several seconds afterwards. Then a smaller scale version of the symbol is shown to the right of the display.

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

### NOTE

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

The set time interval is also used by the adaptive cruise control function, see page 169.

Only use the time interval that is allowed in accordance with local traffic regulations.

### Limitations

The function uses the same radar sensor as adaptive cruise control and the collision warning system. For more information on the radar sensor and its limitations, see page 171.

### 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.

## Symbols and messages in the display

Symbol	Message	Specification
		Set time interval, during adjustment.
		Set time interval, after adjustment.



## Distance Alert\*

Symbol	Message	Specification
	<b>Radar blocked.</b> See manual	Distance Alert temporarily disengaged. The radar sensor is blocked and cannot detect other vehicles, e.g. in the event that heavy rain or slush has collected in front of the radar sensor. Read about the limitations of the radar sensor, see page 171.
	<b>Collision warn. Service required</b>	Distance Alert and Collision Warning with Auto Brake are fully or partially disengaged. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.



### Collision Warning & Pedestrian Detection with Auto Brake\*

#### General

Collision Warning and Pedestrian Detection with Auto Brake (Collision Warning and Pedestrian Detection with Full Auto Brake) is designed 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.

The collision warning system has the following three functions.

- **Collision Warning** – Warns the driver of a potentially imminent collision.
- **Brake Support** – Assists the driver to brake effectively in a critical situation.
- **Auto Brake** - Brakes the car automatically in the event of an imminent risk of collision with a pedestrian or vehicle in front, if the driver does not himself/herself react in time by braking and/or steering away. The Auto Brake function can prevent a collision or reduce collision speed.

The collision warning system is activated in situations where the driver should have started braking a lot earlier, which is why the function cannot help the driver in every situation.

Collision Warning with Auto Brake is designed to be activated as late as possible in order to avoid unnecessary intervention.

The collision warning system must not be used as an excuse for the driver to change his/her driving style. If the driver solely relies on Collision Warning with Auto Brake to do the braking, there will be a collision sooner or later.

#### IMPORTANT

Maintenance of collision warning system components must only be performed at a workshop - an authorised Volvo workshop is recommended.

#### WARNING

No automatic system can guarantee 100 % correct function in all situations. Therefore, never try out the Auto brake system by driving towards people - this may cause serious injuries or risk death.

#### 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. The Function section and the section after advise about limitations of which the driver should be aware before using Collision Warning 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.

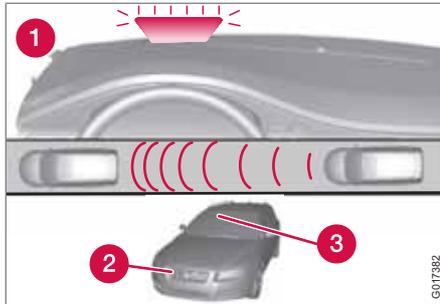
The auto-brake function can prevent a collision or reduce collision speed. To ensure full brake performance, the driver should always depress the brake pedal - even when the car auto-brakes.

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.



## Collision Warning & Pedestrian Detection with Auto Brake\*

### Function



Functions overview.

- 1 Visual warning signal in the event of a collision risk
- 2 Radar sensor
- 3 Camera sensor

### Collision warning

Together with a camera sensor, the radar sensor detects pedestrians, stationary vehicles as well as vehicles driving in the same direction in front of the car.

In the event of there being a risk of collision with a pedestrian or such a vehicle your attention is drawn with a red flashing warning signal and a warning sound.

### Brake support

If the risk of collision still increases after the collision warning then the brake support is activated. The brake support prepares the brake system for rapid braking and the brakes are applied gently, which may be noticed as a slight jerk.

If the brake pedal is depressed sufficiently quickly then full brake function is implemented.

Brake support also reinforces the driver's braking if the system considers that the braking is not sufficient to avoid a collision.

### Auto Brake

If the driver has not yet started an evasive manoeuvre in this situation and the risk of a collision is imminent then the Auto Brake function comes into effect, without the driver needing to touch the brake pedal. Braking then takes place with full brake force in order to reduce collision speed, or with limited brake force if it is sufficient to avoid collision.

### Operation

Settings are made from the centre console display via a menu system. For information on how the menu system is used, see page 124.

#### **i** NOTE

The Brake Support and Auto Brake functions are always enabled - they cannot be deactivated.

### On and Off

To select whether the collision warning system should be switched on or off: In the menu **Car settings** → **Collision warning settings** choose between the options **On** or **Off**.

An activated function is tested at each engine start by briefly illuminating the warning lamp's separate points of light.

When starting the engine, the setting that was selected when the engine was switched off is obtained automatically.

### Activating/deactivating warning signals

The warning lamp is activated automatically when the engine is started if the system is switched on.

The warning sound can be activated/deactivated separately using the options for **On** or **Off** in the menu system under **Car settings**



## Collision Warning & Pedestrian Detection with Auto Brake\*

→ Collision warning settings → Collis'n warn ON Audio ---.

### Set warning distance

The warning distance regulates the distance at which the visual and acoustic warnings are deployed. Select one of the options from **Long**, **Normal** or **Short** in the menu system under **Car settings** → **Collision warning settings** → **Warning distance**.

The warning distance determines the system's sensitivity. Warning distance **Long** provides an earlier warning. First test with **Long** and if this setting produces too many warnings, which could be perceived as irritating in certain situations, then change to warning distance **Normal**.

Only use warning distance **Short** in exceptional cases, e.g. for dynamic driving.

### NOTE

When the adaptive cruise control is in use the warning lamp and warning sound will be used by the cruise control even if the collision warning system is switched off.

The collision warning system warns the driver in the event of a risk of a collision, but the function cannot shorten driver reaction time.

In order for the collision warning system to be effective, always drive with the Distance Alert set at time interval 4 – 5. see page 175.

### NOTE

Even if the warning distance has been set to **Long** then in certain situations warnings could be perceived as being late. E.g. in the event of large differences in speed or if vehicles in front brake heavily.

### Checking settings

The settings required can be controlled on the centre console display. Access via the menu for **Car settings** → **Collision warning settings**, see page 125.

### Limitations

The collision warning system is active from and including approx. 4 km/h.

The visual warning signal may be difficult to notice in the event of strong sunlight, reflections, when sunglasses are being worn or if the driver is not looking straight ahead. The warning sound should therefore always be activated.

On slippery road surfaces the braking distance is extended, which may reduce the capacity to avoid a collision. In such situations the ABS and DSTC systems will provide best possible braking force with maintained stability.

### NOTE

The visual warning signal can be temporarily disengaged in the event of high passenger compartment temperature caused by strong sunlight for example. If this occurs then the warning sound is activated even if it is deactivated in the menu system.

- Warnings may not appear if the distance to the vehicle in front is small or if steering wheel and pedal movements are large, e.g. a very active driving style.

**Collision Warning & Pedestrian Detection with Auto Brake\*****⚠ 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.

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 171.

If warnings are perceived as being too frequent or disturbing then the warning distance can be reduced. This would lead to the system warning at a later stage, which reduces the total number of warnings.

When the car is reversing Collision Warning with Auto Brake cannot be activated.

Collision Warning with Auto Brake is not activated at low speeds - under 4 km/h, which is

why the system does not intervene in situations where the car is approaching a vehicle in front very slowly, e.g. when parking.

Driver commands are always prioritised, which is why Collision Warning with Auto Brake does not intervene in situations where the driver is steering, braking or accelerating in a clear manner, even if a collision is unavoidable.

When Auto Brake has prevented a collision with a stationary object the car remains stationary for a maximum of 1.5 seconds. If the car is braked for a vehicle in front that is moving, then speed is reduced to the same speed as that maintained by the vehicle in front.

On a car with manual gearbox the engine stops when Auto Brake has stopped the car, unless the driver manages to depress the clutch pedal beforehand.

**Camera sensor limitations**

The car's camera sensor is used by the three functions - Collision Warning with Auto Brake, Driver Alert Control, see page 185 and Lane Departure Warning, see page 188.

**i 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.

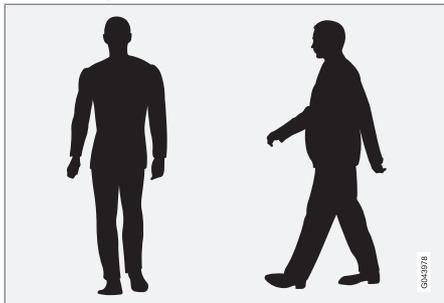
Strong oncoming light, reflections in the carriageway, snow or ice on the road surface, dirty road surfaces or unclear lane markings could also significantly reduce camera sensor function when it is used to scan the carriageway and detect pedestrians and other vehicles.

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.



## Collision Warning & Pedestrian Detection with Auto Brake\*

### Detection of pedestrians (Pedestrian detection)



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 street-lights are lit.

### **WARNING**

Collision Warning with Auto Brake is an assistance tool.

It cannot detect all pedestrians in all situations and it cannot see e.g. partially obscured pedestrians, shorter people or children (below 80 cm) or people in clothing that hides the contours of the body.

- The driver is always responsible that the vehicle is driven properly and with a safety distance adapted to the speed.

### 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.

In turn this means that the Collision Warning with Auto Brake, Lane Departure Warning and Driver Alert Control functions are not operating with full functionality.

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

Cause	Action
The windscreen surface in front of the camera is dirty or covered with ice or snow.	Clean the windscreen surface in front of the camera from dirt, ice and snow.
Thick fog, heavy rain or snow means that the camera does not work sufficiently well.	No action. At times the camera does not work during heavy rain or snowfall.



### Collision Warning & Pedestrian Detection with Auto Brake\*

Cause	Action
The windscreen surface in front of the camera has been	Wait. It may take several minutes for

Cause	Action
cleaned but the message remains.	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	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 <b>READ</b> 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 <b>READ</b> button.
	Auto braking was activated	Auto Brake has been active. The message clears after one press of the <b>READ</b> button.



## 04 Comfort and driving pleasure

### Collision Warning & Pedestrian Detection with Auto Brake\*

Symbol	Message	Specification
	<b>Wind-screen Sensors blocked</b>	<p>The camera sensor is temporarily disengaged.</p> <p>Shown in the event of snow, ice or dirt on the windscreen for example.</p> <ul style="list-style-type: none"> <li>Clean the windscreen surface in front of the camera sensor.</li> </ul> <p>Read about the limitations of the camera sensor, see page 181.</p>
	<b>Radar blocked See manual</b>	<p>Collision Warning with Auto Brake is temporarily disengaged.</p> <p>The radar sensor is blocked and cannot detect other vehicles. For example, in the event that heavy rain or if slush has collected in front of the radar sensor.</p> <p>Read about the limitations of the radar sensor, see page 171.</p>
	<b>Collision warn. Service required</b>	<p>Collision Warning with Auto Brake is fully or partially disengaged.</p> <ul style="list-style-type: none"> <li>Visit a workshop if the message remains - an authorised Volvo workshop is recommended.</li> </ul>

04



## Driver Alert System – DAC\*

### General information on Driver Alert System

The Driver Alert System is intended to assist drivers whose driving ability is deteriorating or who are inadvertently leaving the lane they are driving on.

The Driver Alert System consists of two different functions, which can either be switched on at the same time or individually:

- Driver Alert Control (DAC)
- Lane Departure Warning (LDW), see page 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.

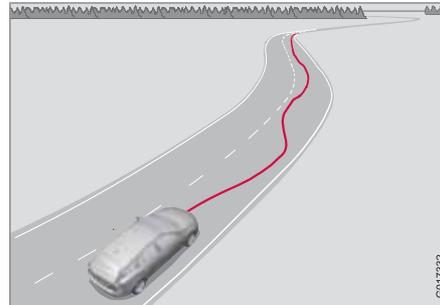
Both functions use a camera which is dependent on the lane having side markings painted on each side.

### 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.

### General information on Driver Alert Control - DAC



The function is intended to attract the driver's attention when he/she starts to drive less consistently, e.g. if he/she becomes distracted or starts to fall asleep.

A camera detects the side markings painted on the carriageway and compares the section of the road with the driver's steering wheel movements. The driver is alerted if the vehicle does not follow the carriageway evenly.

### NOTE

The camera sensor has certain limitations, see page 181.

The objective for DAC is to detect slowly deteriorating driving ability and it is primarily intended for major roads. The function is not intended for city traffic.

In some cases driving ability is not affected despite driver fatigue. In which case there may not be any warning issued for the driver. For this reason it is always important to stop and take a break in the event of any signs of driver fatigue, irrespective of whether or not DAC issues a warning.

### NOTE

The function must not be used to extend a driving stint. Always plan breaks at regular intervals and ensure that you are fully rested.

### Limitation

In some cases the system may issue a warning despite driving ability not deteriorating, for example:

- if the driver tests the LDW function.
- in strong side winds.
- on rutted road surfaces.



# 04 Comfort and driving pleasure

## Driver Alert System – DAC\*

### Operation

Some settings are made from the centre console display and its menu system. For information on how the menu system is used, see page 124.

The current status can be checked on the trip computer display with the left-hand stalk switch.



- 1 Thumbwheel. Turn until the display shows **Driver Alert**. The second row displays the **Off, U navailable** or **Level mark** options.
- 2 **READ** confirms or clears a warning in the memory.

### Activating Driver Alert Control

Using the centre console display with its menu system, search and locate **Car settings** → **Driver Alert**. Select the **On** option.



The function is activated when speed exceeds 65 km/h and remains active as long as the speed is over 60 km/h.

The display shows a level mark with 1-5 bars, where a low number of bars indicates inconsistent driving style. A high number of bars indicates stable driving.

If the vehicle is driven inconsistently then the driver is alerted by an acoustic signal as well as the text message **Driver Alert Time for a break**. The warning is repeated after a time if driving ability does not improve.



### WARNING

An alarm should be taken very seriously, as a sleepy driver is often not aware of his/her own condition.

In the event of an alarm or a feeling of tiredness; stop the car in a safe manner as soon as possible and rest.

Studies have shown that it is equally as dangerous to drive while tired as it is under the influence of alcohol.

### Symbols and messages in the display

Symbol	Message	Specification
	Driver Alert OFF	Function not switched on.
	Driver Alert Unavailable	The carriageway does not have clear side markings or the camera sensor is temporarily disengaged. Read about the limitations of the camera sensor, see page 181.



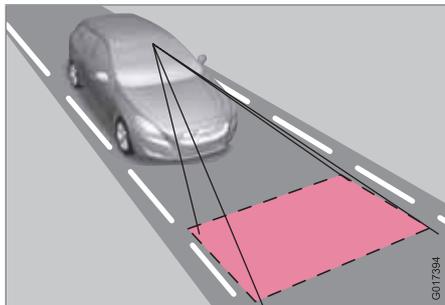
### Driver Alert System – DAC\*

Symbol	Message	Specification
	<b>Driver Alert</b>	<p>The function analyses the driver's driving style.</p> <p>The number of bars can vary in the range 1-5, where a low number of bars indicates inconsistent driving ability. A high number of bars indicates stable driving.</p>
	<b>Driver Alert Time for a break</b>	<p>The vehicle has been driven inconsistently - the driver is alerted by an acoustic warning signal + text.</p>
	<b>Windscreen Sensors blocked</b>	<p>The camera sensor is temporarily disengaged.</p> <p>Shown in the event of snow, ice or dirt on the windscreen for example.</p> <ul style="list-style-type: none"> <li>• Clean the windscreen surface in front of the camera sensor.</li> </ul> <p>Read about the limitations of the camera sensor, see page 181.</p>
 	<b>Driver Alert Sys Service required</b>	<p>The system is disengaged.</p> <ul style="list-style-type: none"> <li>• Visit a workshop if the message remains - an authorised Volvo workshop is recommended.</li> </ul>



## Driver Alert System - LDW\*

### General information on Lane Departure Warning - LDW



The function is intended to reduce the risk for single-vehicle accidents – accidents where, in certain situations, the vehicle leaves the carriageway and is in danger of driving either into a ditch or into oncoming traffic.

LDW consists of a camera that detects the side markings painted on the carriageway. The driver is alerted by an acoustic signal if the vehicle crosses a side marking.

### Operation and function



The function is switched on or off by means of a switch on the centre console. An indicator lamp in the button illuminates when the function is switched on.

The trip computer display shows **Lane Depart Warn Standby <65 km/h** when the function is in standby mode due to speed being below 65 km/h.

The LDW function is activated automatically from standby mode after the camera has scanned in the carriageway's side markings and speed exceeds 65 km/h. The trip computer display then shows **Lane Depart Warn Available**.

If the camera can no longer detect the carriageway's side markings the display shows **Lane Depart Warn Unavailable**.

If speed decreases to below 60 km/h then the function resumes standby mode and the display shows **Lane Depart Warn Standby <65 km/h**.

If the vehicle crosses the left or right-hand side marking of the carriageway without due cause then the driver is alerted by an acoustic signal.

No warning is given in the following situations:

- Direction indicators activated
- The driver has his/her foot on the brake pedal<sup>1</sup>
- In the event of the accelerator pedal being depressed rapidly<sup>1</sup>
- In the event of rapid steering wheel movements<sup>1</sup>
- In the event of a sudden turn so that the car rolls.

The camera sensor also has certain limitations. For more information, see page 181.

<sup>1</sup> A warning is still given when Increased sensitivity is selected, see page 190.

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



## Driver Alert System - LDW\*

### 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.

### Symbols and messages in the display

Symbol	Message	Specification
	Lane departure warning On/Off	The function is switched on/off. Shown at switch-on/off. The text disappears after 5 seconds.
	Lane Depart Warn Standby <65 km/h	The function is set in standby mode due to speed being lower than 65 km/h.
	Lane Depart Warn 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 181.
	Lane Depart Warn Available	The function scans the carriageway's side markings.



## 04 Comfort and driving pleasure

### Driver Alert System - LDW\*

Symbol	Message	Specification
	<b>Windscreen Sensors blocked</b>	The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. <ul style="list-style-type: none"> <li>Clean the windscreen surface in front of the camera sensor.</li> </ul> Read about the limitations of the camera sensor, see page 181.
 	<b>Driver Alert Sys Service required</b>	The system is disengaged. <ul style="list-style-type: none"> <li>Visit a workshop if the message remains - an authorised Volvo workshop is recommended.</li> </ul>

#### Personal preferences

See the centre console display with its menu system and there search for **Car settings** → **Lane departure warning**, see page 125.

Select from the options:

**On at start up** - This option sets the function in standby mode each time the engine is started. Otherwise the same value as when the engine was switched off is obtained.

**Increased sensitivity** – This option increases sensitivity, an alarm is triggered earlier and fewer limitations apply.

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



## Park assist syst\*

**General**

Parking assistance is used as an aid to parking. An acoustic signal as well as symbols on the centre console display indicate the distance to the detected obstacle.

Parking assistance is available in two variants:

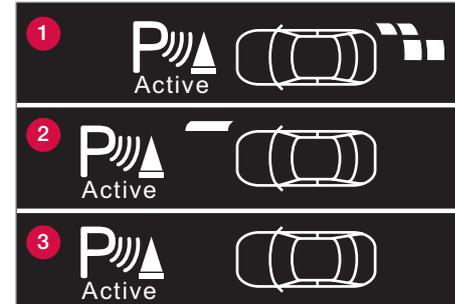
- Rear only
- Both front and rear.

 **WARNING**

- Parking assistance does not relinquish the driver's own responsibility during parking.
- The sensors have blind spots where obstacles cannot be detected.
- Be aware of e.g. people or animals near the car.

**Function**

The system is automatically activated when the car is started and the switch's On/Off lamp is illuminated. If parking assistance is switched off with the button, the lamp goes out.



Display screens in different situations.

- 1 Display in a car with rear sensors only - obstacle detected by both right-hand sensors.
- 2 Display in a car with front and rear sensors - right-hand front sensor is 30 cm or closer to a detected obstacle.
- 3 Display in a car with front and rear sensors - no obstacle front or rear detected.

The centre console display 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 more marked fields in the same sector, the shorter the distance between the car and detected obstacle.



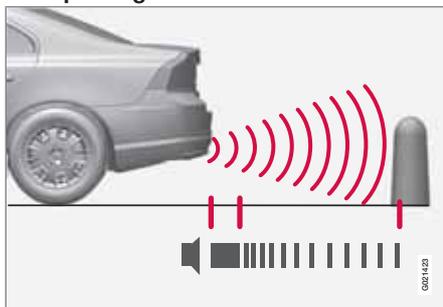
# 04 Comfort and driving pleasure

## Park assist syst\*

The frequency of the signal increases the shorter the distance to an obstacle, in front of or behind the car. Other sound from the audio system is muted automatically.

When the distance is within 30 cm the tone is constant and the marked sensors' bar is fully filled in, see figure (2). If the detected obstacle is within the distance for the constant tone both behind and in front of the car, then the tone sounds alternately from the loudspeakers.

### Rear parking assistance



The distance covered to the rear of the car is about 1.5 metres. The acoustic signal for obstacles behind comes from one of the rear loudspeakers.

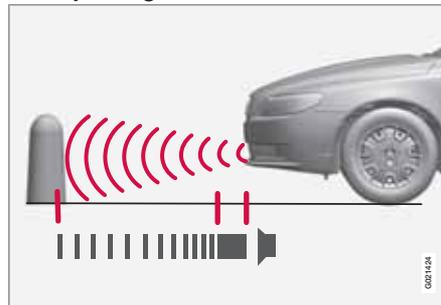
Rear parking assistance is activated when reverse gear is engaged.

The system must be deactivated when reversing with a trailer or bike carrier on the towbar or similar - otherwise they would trigger the sensors.

### NOTE

Rear parking assistance is deactivated automatically when towing a trailer if Volvo genuine trailer wiring is used.

### Front parking assistance



The distance covered in front of the car is about 0.8 metres. The acoustic signal for obstacles in front comes from one of the front loudspeakers.

Front parking assistance is active up to 15 km/h. The lamp in the button is illuminated

in order to indicate that the system is activated. When the speed is below 10 km/h the system is reactivated.

### NOTE

Front parking assistance is deactivated when the parking brake is applied or P mode is selected in a car with an automatic gearbox.

### IMPORTANT

When fitting auxiliary lamps: Remember that they must not obscure the sensors – the auxiliary lamps could then be detected as obstacles.

### Fault indicator



If the information symbol illuminates with constant glow and the information display shows **Park assist syst Service required** then parking assistance is disengaged.



## Park assist syst\*

**!** IMPORTANT

In certain conditions the parking assistance system may produce incorrect warning signals that are caused by external audio sources that emit the same ultrasonic frequencies that the system works with.

Examples of such sources include horns, wet tyres on asphalt, pneumatic brakes and exhaust noises from motorcycles etc.

**Cleaning the sensors**


Sensor location, front.



Sensor location, rear.

The sensors must be cleaned regularly to ensure that they work properly. Clean them with water and car shampoo.

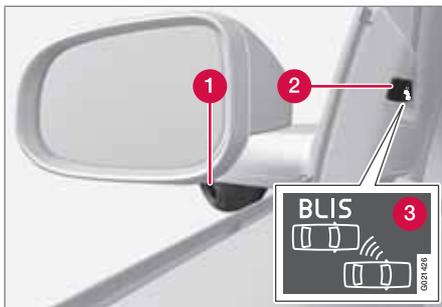
**i** NOTE

Dirt, ice and snow covering the sensors may cause incorrect warning signals.



## BLIS\* – Blind Spot Information System

### General information on BLIS



- 1 BLIS camera
- 2 Indicator lamp
- 3 BLIS symbol

BLIS is an information system based on camera technology that under certain conditions can help the driver to notice vehicles moving in the same direction as the host vehicle in the so-called "blind spot".

### WARNING

The system is a supplement to, not a replacement for, a safe driving style and use of the rearview mirrors. It can never replace the driver's attention and responsibility. The responsibility for changing lanes safely always rests with the driver.

The system is designed to work most effectively when driving in dense traffic on multi-lane highways.

When a camera (1) has detected a vehicle inside the blind spot zone the indicator lamp (2) illuminates with a constant glow.

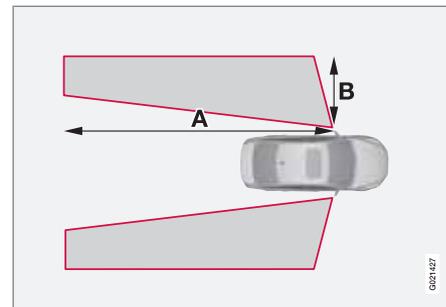
### NOTE

The lamp illuminates on the side of the car where the system has detected the vehicle. If the car is overtaken on both sides at the same time then both lamps illuminate.

BLIS advises the driver with a message if a fault arises in the system. If for example the system's cameras are obscured then the BLIS indicator lamp flashes and a message is shown on the information display. In such cases, check and clean the lenses.

If necessary, the system can be switched off temporarily, see the section Activate/deactivate.

### Blind spots



*A = approx. 9.5 m and B = approx. 3 m*

### Activating/deactivating



*Button for activating/deactivating.*

**BLIS\* – Blind Spot Information System**

BLIS is activated when the engine is started. The indicator lamps in the door panels flash three times when BLIS is activated.

The system can be deactivated/activated after starting the engine with one press on the **BLIS** button.

When BLIS is deactivated, the lamp in the button goes out and a message is shown in the instrument panel display.

When BLIS is activated the light in the button illuminates, a new text message is shown on the display and the indicator lamps in the door panels flash 3 times. Press the **READ** button to delete the text message. (For a description of messages, see page 128).

**When BLIS operates**

The system operates when the car is driven at a speed above 10 km/h.

**Overtaking**

The system is designed to react if:

- you overtake another vehicle at a speed of up to 10 km/h faster than the other vehicle
- you are overtaken by a vehicle travelling up to 70 km/h faster than you are travelling.

**⚠ WARNING**

BLIS does not work in sharp bends.

BLIS does not work when the car is reversing.

A wide trailer coupled to the car can conceal other vehicles in adjacent lanes. It can prevent the vehicle in the screened area from being detected by BLIS.

**Daylight and darkness**

In daylight the system reacts to the shape of the surrounding vehicles. The system is designed to detect motor vehicles such as cars, trucks, buses and motorcycles.

In darkness the system reacts to the headlamps of surrounding vehicles. If the headlamps of surrounding vehicles are not switched on then the system does not detect the vehicles. This means for example that the system does not react to a trailer without headlamps which is towed behind a car or truck.

**⚠ WARNING**

The system does not react to cyclists or moped riders.

The BLIS cameras have limitations similar to those of the human eye, i.e. they do not "see" as well e.g. in heavy snowfall, against strong light or in thick fog.

**Cleaning**

In order to work most effectively the BLIS camera lenses must be clean. The lenses can be cleaned with a soft cloth or damp sponge. Clean the lenses carefully so that they are not scratched.

**! IMPORTANT**

The lenses are electrically heated to melt ice or snow. If necessary, brush snow away from the lenses.

**Messages on the display**

Message	Specification
Blind-spot info system ON	The BLIS system is activated.
Blind spot syst. Service required	Blind spot syst. disengaged - contact a workshop.
Blind spot syst. Camera blocked	The BLIS camera is blocked by dirt, snow or ice - clean the lenses.



## BLIS\* – Blind Spot Information System

04

Message	Specification
Blind spot syst. Reduced function	Reduced function in the data transmission between the BLIS system's camera and the car's electrical system.  The camera resets itself when the data transmission between the BLIS system's camera and the car's electrical system returns to normal.
Blind-spot info system OFF	The BLIS system is deactivated.

**! IMPORTANT**

Repair of the BLIS system components must only be performed by a workshop - an authorised Volvo workshop is recommended.

### Limitations

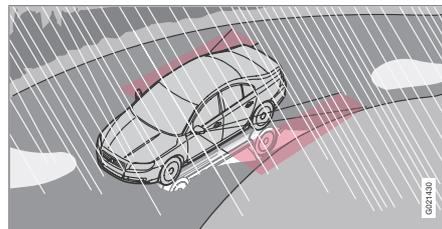
In some situations the BLIS indicator lamp may illuminate despite there being no other vehicle within the blind spot.

**i NOTE**

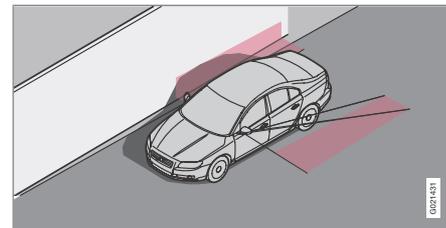
If the BLIS indicator lamp illuminates on isolated occasions despite there being no other vehicle within the blind spot then this does not mean that a fault has arisen in the system.

In the event of a fault in the BLIS system the display shows the text **Blind spot syst. Service required.**

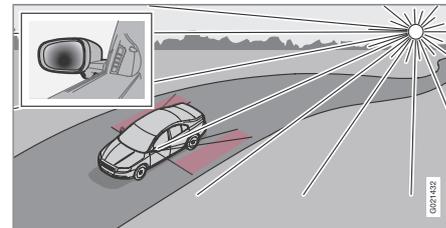
Here are several examples of situations where the BLIS indicator lamp may illuminate even if there is no other vehicle within the blind spot.



Reflection from shiny wet road surface.



Own shadow on large light smooth surface, e.g. noise barrier or concrete road surface.



Low stationary sunlight shining into the camera.

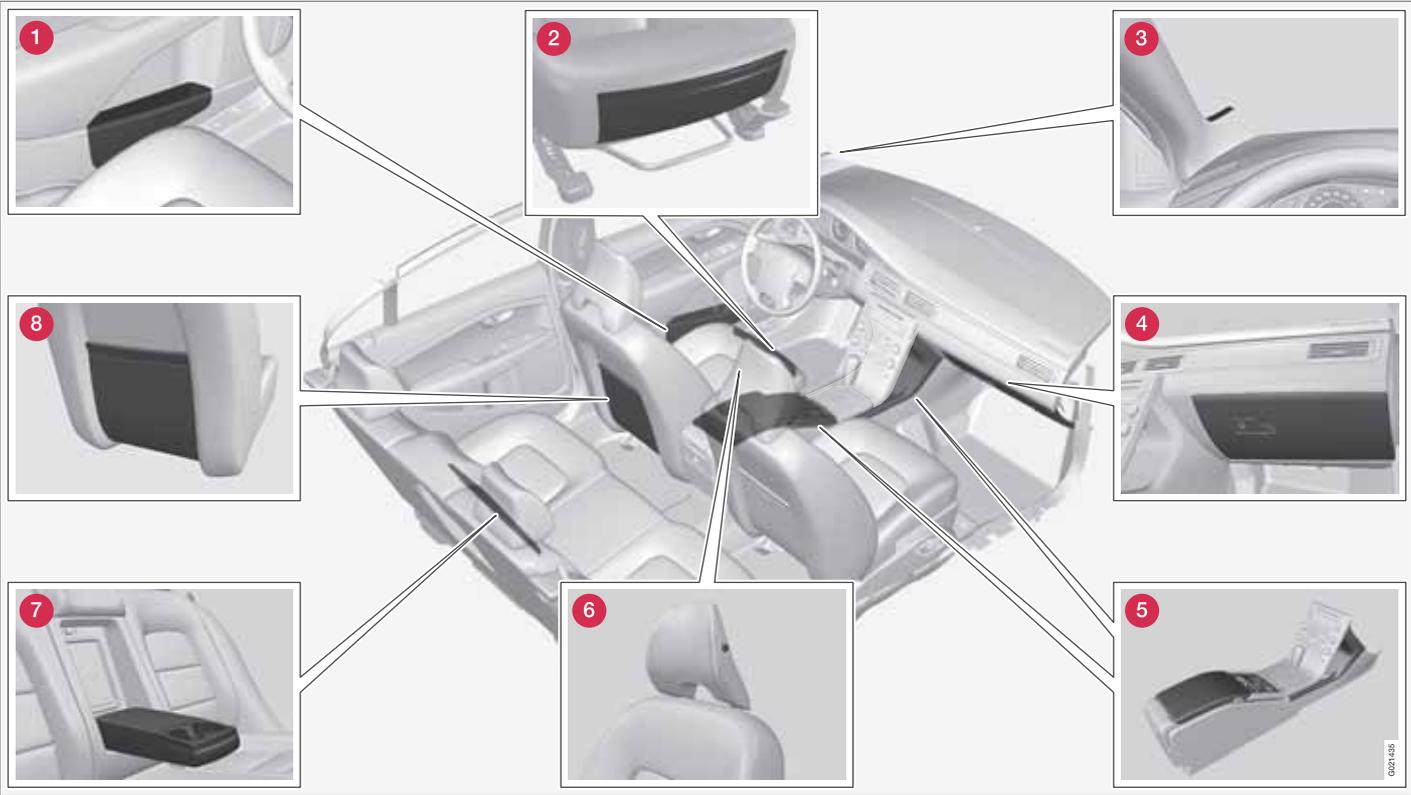


### BLIS\* – Blind Spot Information System



## Comfort inside the passenger compartment

### Storage spaces



04



## Comfort inside the passenger compartment

- 1 Storage compartment in door panel
- 2 Storage pocket\* on front edge of front seat cushions
- 3 Ticket clip
- 4 Glovebox
- 5 Storage compartment, cup holder
- 6 Jacket holder
- 7 Cup holder\* in armrest, rear seat
- 8 Storage pocket

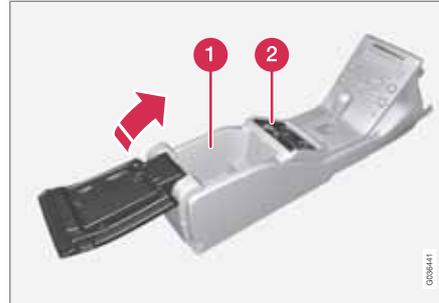
### Jacket holder

The jacket holder is only designed for light clothing.

### WARNING

Keep loose objects such as mobile phones, cameras, remote controls for accessories, etc. in the glove compartment or other compartments. Otherwise they may injure people in the car in the event of sudden braking or a collision.

### Tunnel console



- 1 Storage compartment (e.g. for CD discs), input for AUX and USB<sup>1</sup> (e.g. iPod®) under the armrest.
- 2 Includes cup holder for driver and passenger as well as 12 V socket and small compartment. (If ashtray and cigarette lighter are specified then there is a cigarette lighter in the 12 V socket and a detachable ashtray in the small compartment.)

### Cigarette lighter and ashtray\*

The ashtray in the tunnel console is detached by lifting the tray straight up.

Activate the lighter by pushing in the button. The button pops out when the lighter is hot. Pull

out the lighter and light a cigarette on the heated coils.

### Glovebox



The owner's manual and maps can be kept here for example. There are also holders for pens on the inside of the lid. The glovebox can be locked with the key blade, see page 43.

<sup>1</sup> For RSE\* the USB input is in a different location, see page 142.



## Comfort inside the passenger compartment

### 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.

### 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 69.

#### **IMPORTANT**

Max. socket is 10 A (120 W) if one socket is used at a time. If both sockets are used simultaneously, 7.5 A (90 W) per socket is applicable.

#### **WARNING**

Always leave the plug in the socket when the socket is not in use.

#### **NOTE**

Optional equipment and accessories - e.g. TV 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

#### **Electrical socket in cargo area\***

For more information, see page 223.



### Comfort inside the passenger compartment - Executive

#### Cooler box



There is a cooler box behind the armrest in the rear seat. The cooler box works when the engine is running or the remote control key is in position II.

#### **WARNING**

Store bottles well sealed in the cooler box and make sure that the door is closed for the journey.

#### **NOTE**

The cooler box needs to have free circulation of air for optimum function. For this reason you should leave at least 5 cm of space at the air intake for the cooler box in the cargo area.

#### Mat in cargo area



#### **NOTE**

The rear seat must be folded forward slightly in cars with refrigerator before the cargo area mat can be removed. Fold the backrest forward by pulling the handle, see page 73.

#### Glass



There is a storage compartment for two glasses and a bottle opener under the cover in the armrest.

#### **WARNING**

Store glasses in the storage compartment or in cup holders and make sure that the armrest cover is closed for the journey.



## Bluetooth handsfree\*

### General



System overview.

- 1 Mobile phone
- 2 Microphone
- 3 Steering wheel keypad
- 4 Centre console

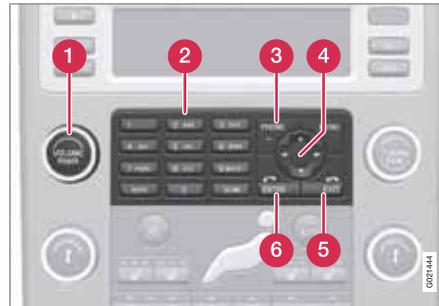
### Bluetooth™

A mobile phone equipped with Bluetooth™ can be connected wirelessly to the audio system. The audio system then works handsfree, with the option to control a range of the mobile phone's functions remotely. The mobile phone can be operated by its own keys irrespective of whether or not it is connected.

### NOTE

Only a selection of mobile phones are fully compatible with the handsfree function. Volvo recommends that you seek assistance from an authorised Volvo dealer or visit [www.volvocars.com](http://www.volvocars.com) for information on compatible phones.

### Phone functions, controls overview



Centre console control panel.

- 1 **VOLUME** – Same functionality available in steering wheel keypad.
- 2 Number and letter buttons
- 3 **PHONE** - On/off and standby mode
- 4 Navigation button

- 5 **EXIT** - End/refuse phone calls, clear entered characters, interrupt current function. Same functionality available in steering wheel keypad.
- 6 **ENTER** – Accept calls. A press of the button reveals latest dialled numbers. Same functionality available in steering wheel keypad.

### Remember

The menus are controlled from the centre console and the steering wheel keypad. For general information on menus, see page 124.

### NOTE

If the car is equipped with both Bluetooth™ handsfree and built-in phone then there is an additional menu (for changing the phone) in the phone menu, see page 125.

### Activating/deactivating

A short press on **PHONE** activates the handsfree function. The text **PHONE** at the top of the display shows that it is in phone mode. The symbol  shows that the handsfree function is active.

One long press on **PHONE** deactivates the handsfree function and disconnects a connected phone.



### Bluetooth handsfree\*

#### Connect mobile phone

A mobile phone is connected in different ways depending on whether or not it has been connected previously. To connect a mobile phone for the first time, follow one of the sets of instructions below:

Alternative 1 - via the car's menu system

1. Make the mobile phone detectable/visible via Bluetooth™, see mobile phone manual or [www.volvocars.com](http://www.volvocars.com).
2. Activate the handsfree function with **PHONE**.
  - > Menu option **Add phone** appears on the display. If one or more mobile phones have already been registered then these are also shown.
3. Select **Add phone**.
  - > The audio system searches for mobile phones in the vicinity. The search takes approximately 30 seconds. The mobile phones detected are specified with their respective Bluetooth™ name in the display. The handsfree function's Bluetooth™ name is shown in the mobile phone such as **My Car**.

4. Choose one of the mobile phones in the audio system display.
5. Enter the number series shown in the audio system display via the mobile phone keypad.

Alternative 2 - via the phone's menu system

1. Activate the handsfree function with **PHONE**. If there is a phone connected, disconnect the connected phone.
2. Search with the phone's Bluetooth™, see the mobile phone manual.
3. Select **My Car** in the list of units detected in your mobile phone.
4. Enter the PIN code '1234' into the mobile phone when prompted for the PIN code.
5. Select to connect to **My Car** from the mobile phone.

The mobile phone is registered and connected automatically to the audio system while the text **Synchronising** is shown in the display. For more information on how mobile phones are registered, see page 206.

When the connection is established the symbol  is shown and the mobile phone Bluetooth™ name is shown in the display. Now

the mobile phone can be controlled from the audio system.

#### To call

1. Make sure that the text **PHONE** is shown at the top of the display and that the  symbol is visible.
2. Dial the number or use the phone book, see page 206.
3. Press **ENTER**.

The call is interrupted with **EXIT**.

#### Disconnecting the mobile phone

Automatic disconnection takes place if the mobile phone moves out of the audio system's range. For more information on connection, see page 206.

Manual disconnection takes place by deactivating the handsfree function with one long press on **PHONE**. The handsfree function is also deactivated when the engine is switched off or when a door is opened<sup>1</sup>.

When the mobile phone has been disconnected an ongoing call can be continued with the mobile phone's built-in microphone and speaker.

<sup>1</sup> Only Keyless Drive.

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

**Bluetooth handsfree\*****NOTE**

Some mobile phones require that the changeover from handsfree is confirmed from the phone's keypad.

**Making and receiving calls****Incoming call**

Calls are accepted with **ENTER** even if the audio system is in CD or FM mode for example. Refuse or end with **EXIT**.

**Automatic answer**

The automatic answer function means that calls are accepted automatically.

- Activate/deactivate under **Call options** → **Automatic answer**.

**In call menu**

Press **MENU** or **ENTER** during an ongoing call to access the following functions:

- **Mute microphone** - audio system microphone is muted.
- **Transfer call to mobile** - the call is transferred to the mobile phone.

**NOTE**

With certain mobile phones the connection is terminated when the privacy function is used. This is normal. The handsfree function asks if you want to reconnect.

- **Phone book** – searching in the phone book.

**NOTE**

A new call cannot be started during an ongoing call.

**Audio settings****Phone call volume**

The call volume can be regulated when the handsfree function is in phone mode. Use the steering wheel keypad or **VOLUME**.

**Audio system volume**

Providing there is no ongoing call taking place, the audio system volume is controlled as usual with **VOLUME**. In order to control audio system volume during an ongoing call you have to switch to one of the audio sources.

The audio source can be automatically muted for incoming calls under **Phone settings** → **Sounds and volume** → **Mute radio**.

**Ring volume**

Go to **Phone settings** → **Sounds and volume** → **Ring volume** and adjust with ▲/▼ on the navigation button.

**Ring signals**

The handsfree function has integrated ring signals that can be selected under **Phone settings** → **Sounds and volume** → **Ring signals** → **Ring signal 1** etc.

**NOTE**

The connected mobile phone's ring signal is not deactivated when one of the handsfree system's integrated signals is used.

In order to select the connected phone's ring signal<sup>2</sup>, go to **Phone settings** → **Sounds and volume** → **Ring signals** → **Use mobile phone signal**.

<sup>2</sup> Not supported by all mobile phones.



## Bluetooth handsfree\*

### More on registering and connecting

A maximum of five mobile phones can be registered. Registration is performed once per phone. After registration the phone no longer needs to be visible/detectable. A maximum of one mobile phone can be connected at a time. Phones can be deregistered under **Bluetooth** → **Remove phone**.

### Automatic connection

When the handsfree function is active and the last mobile phone connected is in range it is connected automatically. When the audio system searches for the last phone connected its name is shown in the display. To change over to manual connection of another phone, press **EXIT**.

### Manual connection

If you want to connect a mobile phone other than the last connected or change the connected mobile phone, proceed as follows:

1. Set the audio system in phone mode.
2. Press **PHONE** and select one of the phones in the list.

The connection can also be made via the menu system.

The menu structure is available in two variants depending on whether the car only has

Bluetooth™ handsfree or if the car also has a built-in phone.

- For cars with only Bluetooth™ handsfree the connection is made under **Main menu Bluetooth** → **Bluetooth** → **Connect phone** or **Main menu Bluetooth** → **Bluetooth** → **Change phone** → **Add phone**.
- For cars with built-in phone and Bluetooth™ handsfree the connection is made under **Main menu Bluetooth** → **Bluetooth** → **Connect phone** or **Main menu Bluetooth** → **Change phone** → **Add phone**.

### Phone book

All use of the phone book presupposes that the text **PHONE** is shown at the top of the display and that the  symbol is visible.

The audio system stores a copy of the phone book from each registered mobile phone. The phone book is copied automatically to the audio system during each connection.

- Deactivate the function under **Phone settings** → **Synchronise phone book**. Searching for contacts is only performed in the connected mobile phone's phone book.

 **NOTE**

If the mobile phone does not support copying of the phone book then **List is empty** is shown when copying is finished.

If the phone book contains a ringing caller's contact information then this is shown in the display.

### Searching for contacts

The easiest way to search in the phone book is with long presses on the keys **2-9**. This starts a search in the phone book based on the key's first letter.

The phone book can also be reached with  /  on the navigation button or with  /  on the steering wheel keypad. The search can also be performed from the phone book's Search menu under **Phone book** → **Search**:

1. Enter the first few letters of the contact and press **ENTER**, or simply press **ENTER**.
2. Scroll to a contact and press **ENTER** to call.

### Voice recognition

The mobile phone's voice recognition function for dialling can be used by holding in **ENTER**.

04



## Bluetooth handsfree\*

**i NOTE**

Only a selection of mobile phones are fully compatible with the voice recognition function. Volvo recommends that you contact an authorised Volvo dealer or visit [www.volvocars.com](http://www.volvocars.com) for information on compatible phones.

**Voice mail number**

Voice mail number can be changed under **Call options** → **Voice mail number**. If there is no number stored then this menu can be reached with one long press on **1**. Press **1** for a long time to use the stored number.

**Call lists**

The call lists are copied to the handsfree function at each new connection and are then updated during the connection. Press **ENTER** to show the last dialled. Other call lists are available under **Call register**.

**i NOTE**

Certain mobile phones show a list of the last dialled numbers in reverse order.

**Inputting text**

Input text using the keypad in the centre console. Press once for the key's first character,

twice for the second etc. Continue pressing for more characters, see the following table.

A short press on **EXIT** deletes an input character. One long press on **EXIT** clears all input characters. ▲ / ▼ on the navigation button scrolls between the characters.

Key	Function
1	Space . 1 - ? ! , : " ' ( )
2 ABC	A B C 2 Ä Å Æ Ç
3 DEF	D E F 3 È É
4 GHI	G H I 4 Ì
5 JKL	J K L 5
6 MNO	M N O 6 Ñ Ò Ò Ø
7 PQRS	P Q R S 7 ß
8 TUV	T U V 8 Ü Û
9 WXYZ	W X Y Z 9

Key	Function
AUTO *	Pressed briefly if two characters shall be entered after each other with the same key.
0 +	+ 0 @ * # & \$ £ / %
SCAN #	Shift between upper and lower case letter



## Built-in phone\*

### General



System overview.

- 1 Microphone
- 2 SIM card reader
- 3 Keypad, see page 142.
- 4 Control panel
- 5 Privacy handset\*

### Safety

Engage a workshop to perform the service via the phone. Volvo recommends that you seek assistance from an authorised Volvo workshop. The built-in phone must be switched off during refuelling or in the vicinity of blasting work. IDIS limits the menu system depending on the speed of the car, see page 210.

### Remember

#### SIM card

The phone can only be used with a valid SIM card Subscriber Identity Module. For installation, see page 211. Emergency calls to emergency numbers can be made without a SIM card.

#### NOTE

The built-in phone cannot read 3G type SIM cards. Combined 3G/GSM cards work. Contact the network operator if the SIM card needs to be changed.

#### Menus and controls

The menus are navigated using the control panel (4) and the steering wheel keypad (3). For general information on menus, see page 124. For information on the phone's controls, see page 203.

#### NOTE

If the car is equipped with both Bluetooth™ handsfree and built-in phone then there is an additional menu (for changing the phone) in the phone menu, see page 125.

### On/Off

Switch on the phone with a short press on **PHONE**. Enter the PIN code if necessary. The  symbol shows that the phone is switched on. When this symbol is shown calls can be received even if the CD menu for example is shown in the display. Briefly press **PHONE** to use the phone menus and to dial out. The text **PHONE** shows that the phone menu is active.

Switch off the phone with one long press on **PHONE**.

### Making and receiving calls

#### Making calls

1. Switch on the phone.
2. If **PHONE** is not shown in the display, briefly press **PHONE**.
3. Dial the number or use the phone book, see page 209.
4. Press **ENTER** for handsfree calls or pick up the privacy handset\*. Release the handset by pulling it down.

#### Ending a call

End a call by pressing **EXIT** or by hanging up the privacy handset\*.

**Built-in phone\*****Incoming call**

Press **ENTER** for handsfree calls or pick up the privacy handset\*. If the privacy handset\* is off the hook when the phone rings then calls must be received using **ENTER**.

End calls by pressing **EXIT** or by hanging up the privacy handset\*. Refuse calls using **EXIT**.

**Automatic answer**

See page 205.

**Call waiting**

The function enables a new call to be answered during an ongoing call. The new call is answered as usual and the previous call is put on hold.

- Activate/deactivate under **Call options**  
→ **Call waiting**.

**Automatic diversions**

Incoming calls can be diverted automatically depending on the type of call and situation.

- Activate/deactivate under **Call options**  
→ **Diversions**.

**During a call**

Press **MENU** or **ENTER** during a call to access the In-call menu.

**To call**

1. Put the call on hold under **Hold**.
2. Dial the number of the third party or use the **Phone book** menu option.

Switch between calls using the **Swap** menu option.

**Conference call**

A conference call consists of several parties. It can be initiated when a call is underway and another is on hold. The **Join** menu option starts the conference call.

All ongoing calls are disconnected if the conference call is terminated.

**Switching between the privacy handset\* and handsfree**

Switch from handsfree to the privacy handset\* by picking up the privacy handset or selecting in the menu.

Switch from the privacy handset\* to handsfree using the **Handsfree** menu option.

**Mute mode**

Mute mode involves deactivating the microphone, see page 208.

- Activate/deactivate the microphone using the **Microphone on/Mute microphone** menu option.

**Audio settings****Phone call volume**

The phone uses the front door speakers. Call volume can be controlled when the text **PHONE** is shown at the top of the display.

- Use the steering wheel keypad or **VOLUME**.

**Audio system volume**

See page 143.

**Signals and volume**

Change the ring signal under **Phone settings**  
→ **Sounds and volume** → **Ring signals**.

Activate/deactivate the message beep under **Phone settings** → **Sounds and volume** → **Message beep**.

Control the ring volume under **Phone settings**  
→ **Sounds and volume** → **Ring volume**.

Adjust using **▲** / **▼** on the navigation button.



## Built-in phone\*

### Phone book

Contact information can be stored on the SIM card or in the phone.

### Storing contacts in the phone book

1. Press **MENU** and scroll to **Phone book** → **New contact**.
2. Enter a name and press **ENTER**. For information on text input, see below.
3. Enter a number and press **ENTER**.
4. Scroll to **SIM card** or **Phone memory** and press **ENTER**.

### Inputting text

See page 207.

### Searching for contacts

See page 206.

### Erasing contacts

Erase a contact in the phone book by selecting it and pressing **ENTER**. Then scroll to **Erase** and press **ENTER**.

Erase all contacts under **Phone book** → **Erase SIM** or **Erase phone**.

### Copying entries between the SIM card and the phone book

Go to **Phone book** → **Copy all** → **SIM to phone** or **Phone to SIM** and press **ENTER**.

### Voice mail number

See page 207.

### Other functions and settings

#### IDIS

IDIS (Intelligent Driver Information System) can, in active driving situations, delay or refuse ring signals from incoming calls. This way less attention is distracted from driving.

- IDIS is deactivated under **Phone settings** → **IDIS**.

#### Reading messages

1. Scroll to **Messages** → **Read** and press **ENTER**.
2. Scroll to a message and press **ENTER**.
3. The message text is shown in the display. Additional selections can be made by pressing **ENTER**.

#### Writing and sending messages

1. Scroll to **Messages** → **Write new** and press **ENTER**.
2. Enter text and press **ENTER**. For information on text input, see page 207.
3. Scroll to **Send** and press **ENTER**.
4. Enter a phone number and press **ENTER**.

### Message settings

Message settings are not normally changed. The network provider has further information on these settings. There are three options under **Messages** → **Message settings**:

- **SMSC number** - Specifies the message centre which will transfer the messages.
- **Validity time** - Specifies how long the message will be stored in the message centre.
- **Message type**.

### Call lists

Lists of received, dialled and missed calls are stored in **Call register**. Dialled calls are also shown by pressing **ENTER**. The phone numbers in the lists can be saved in the phone book.

### Call duration

Call duration is stored under **Call register** → **Call duration**.

- Reset the values under **Call register** → **Call duration** → **Reset timers**.

### Show/hide number for third party

The phone number can be temporarily hidden under **Call options** → **Send my number**.



## Built-in phone\*

### IMEI number

In order to block a phone the network provider must be advised of the phone's IMEI number.

- Dial **\*#06#** to show the number in the display. Write it down and keep it in a safe place.

### Network selection

The network can be selected either automatically or manually under **Phone settings** → **Network selection**.

### SIM code and security

The PIN code can protect the SIM card from unauthorised use.

The code can be changed under **Phone settings** → **Edit PIN code**.

Change the security level under **Phone settings** → **SIM security**.

Select maximum security with the **On** option. The code will then need to be entered each time the phone is switched on.

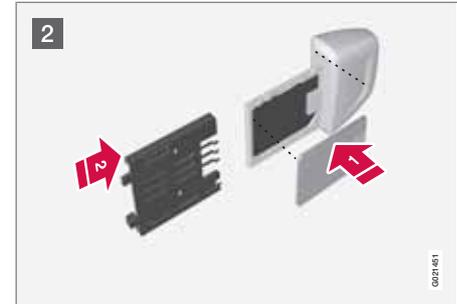
Select the next highest security level with the **Automatic** option. The phone then stores the code and automatically specifies it when the phone is switched on. When the SIM card is used with another phone the code must be entered manually.

Select minimum security with the **Off** option. The SIM card can then be used without the code at all.

### Reset to factory settings

The phone settings are fully reset under **Phone settings** → **Reset Phone settings**.

### Installing the SIM card



- 1 Make sure that the phone is deactivated. Pull out the SIM card holder which is located in the glovebox.
- 2 Place the SIM card with the metal surface visible and fit the cover on the SIM card holder . Refit the SIM card holder.

Recommendations during driving.....	214
Refuelling.....	217
Fuel.....	218
Loading.....	222
Cargo area .....	224
Driving with a trailer.....	225
Towing and recovery.....	231



# 05

DURING YOUR JOURNEY





## Recommendations during driving

### General

#### Economical driving

Driving economically means driving smoothly while thinking ahead and adjusting your driving style and speed to the prevailing conditions.

- 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.
- Remove unnecessary items from the car - the greater the load the higher the fuel consumption.
- Use engine braking to slow down, when it can take place without risk to other road users.
- A roof load and ski box increase air resistance, leading to higher fuel consumption - remove the load carriers when not in use.
- Do not run the engine to operating temperature at idling speed, but rather drive with a light load as soon as possible - a cold engine consumes more fuel than a warm one.
- Cars with the D5 engine and 6-speed manual transmission are started in 2nd gear under normal conditions on level ground.

For more information and further advice, see page 11.



#### WARNING

Never switch off the engine while moving, such as downhill, this deactivates important systems such as the power steering and brake servo.

#### Driving in water

The car can be driven through water at a maximum depth of 25 cm at a maximum speed of 10 km/h. Extra caution should be exercised when passing through flowing water.

During driving in water, maintain a low speed and do not stop the car. When the water has been passed, depress the brake pedal lightly and check that full brake function is achieved. Water and mud for example can make the brake linings wet resulting in delayed brake function.

- Clean the electric contacts of the electric engine block heater and trailer coupling after driving in water and mud.
- Do not let the car stand with water over the sills for any long period of time - this could cause electrical malfunctions.



#### IMPORTANT

Engine damage can occur if water enters the air filter.

In depths greater than 25 cm, water could enter the transmission. This reduces the lubricating ability of the oils and shortens the service life of these systems.

In the event of the engine stalling in water, do not try restart - tow the car from the water to a workshop - an authorised Volvo workshop is recommended. Risk of engine breakdown.

#### Engine, gearbox and cooling system

Under special conditions, for example hard driving in hilly terrain and hot climate, there is a risk that the engine and drive system may overheat - in particular with a heavy load.

For information about overheating when driving with a trailer, see page 225.

- Remove any auxiliary lamps from in front of the grille when driving in hot climates.
- If the temperature in the engine's cooling system is too high the instrument panel's warning symbol is illuminated and there is a text message displayed there **High engine temp Stop safely** - stop the car in a safe way and allow the engine to run at idling speed for several minutes to cool down.



## Recommendations during driving

- If the text message **High engine temp Stop engine** or **Coolant level low, Stop engine** is shown then the engine must be switched off after stopping the car.
- In the event of overheating in the gearbox a built-in protection function is activated which, amongst other things, illuminates the instrument panel's warning symbol and there is a text message displayed there **Transmission hot Reduce speed** or **Transmission hot Stop safely** - follow the recommendation given and lower the speed and stop the car in a safe way and allow the engine to run at idling speed for a few minutes to allow the gearbox to cool down.
- If the car overheats, the air conditioning may be switched off temporarily.
- Do not turn the engine off immediately you stop after a hard drive.

### NOTE

It is normal for the engine's cooling fan to operate for a while after the engine has been switched off.

### Open boot lid

#### WARNING

Do not drive with the boot lid open. Toxic exhaust fumes can be drawn into the car through the cargo area.

### Do not overload the battery

The electrical functions in the car load the battery to varying degrees. Avoid using the key position **II** when the engine is switched off. Instead use the **I** mode - which uses less power.

Also, be aware of different accessories that load the electrical system. Do not use functions which use a lot of power when the engine is switched off. Examples of such functions are:

- ventilation fan
- windscreen wiper
- audio system (high volume)
- headlamps.

If the battery voltage is low the information display shows the text **Low battery Power save mode**. The energy-saving function then shuts down certain functions or reduces certain functions such as the ventilation fan and/or audio system.

- In which case, charge the battery by starting the engine and then running it for at

least 15 minutes - battery charging is more effective during driving than running the engine at idling speed while stationary.

### Before a long journey

- Check that the engine is working normally and that fuel consumption is normal.
- Make sure that there are no leaks (fuel, oil or other fluid).
- Check all bulbs and tyre tread depths.
- Carrying a warning triangle is a legal requirement in certain countries.

### Winter driving

Check the following in particular before the cold season:

- The engine coolant must contain at least 50% glycol. This mixture protects the engine against frost erosion down to approximately  $-35^{\circ}\text{C}$ . To achieve optimum antifreeze protection, different types of glycol must not be mixed.
- The fuel tank must be kept filled to prevent condensation.
- Engine oil viscosity is important. Oils with lower viscosity (thinner oils) facilitate starting in cold weather and also reduce fuel consumption while the engine is cold. For more information on suitable oils, see page 296.



### Recommendations during driving

#### **IMPORTANT**

Low viscosity oil must not be used for hard driving or in hot weather.

- The condition of the battery and charge level must be inspected. Cold weather places great demands on the battery and its capacity is reduced by the cold.
- Use washer fluid to avoid ice forming in the washer fluid reservoir.

To achieve optimum roadholding Volvo recommends using winter tyres on all four wheels if there is a risk of snow or ice.

#### **NOTE**

The use of winter tyres is a legal requirement in certain countries. Studded tyres are not permitted in all countries.

#### **Slippery driving conditions**

Practise driving on slippery surfaces under controlled conditions to learn how the car reacts.



## Refuelling

## Refuelling

## Opening/closing the fuel filler flap



Open the fuel filler flap using the button on the lighting panel - the flap opens when the button is released.

The filler flap is located on the right-hand rear wing, as indicated by the information display's arrow by the symbol

Close the fuel filler flap by pressing it in until a click confirms that it is closed.

## Opening the fuel filler flap manually



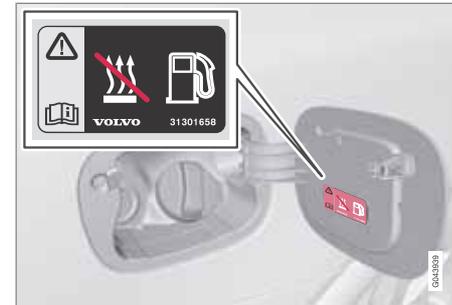
The fuel filler flap can be opened manually when electric opening from the passenger compartment is not possible.

1. Open/remove the side hatch in the cargo area (same side as fuel filler flap) and locate the green cord with handle.
2. Pull the cord gently straight back until the fuel filler flap folds out with a "click".

**IMPORTANT**

Pull the wire gently - minimal force is required to disengage the hatch lock.

## Opening/closing the fuel cap



A certain overpressure may arise in the tank in the event of high outside temperatures. Open the cap slowly.

After refuelling, refit the cap and turn it until one or more clicking sounds are heard.

**Filling up with fuel**

Do not overfill the tank but fill until the pump nozzle cuts out.

**NOTE**

Excess fuel in the tank can overflow in hot weather.



## Fuel

### General information on fuel

Fuel of a lower quality than that recommended by Volvo must not be used as engine power and fuel consumption is negatively affected.

#### WARNING

Always avoid inhaling fuel vapour and getting fuel splashes in the eyes.

In the event of fuel in the eyes, remove any contact lenses and rinse the eyes in plenty of water for at least 15 minutes and seek medical attention.

Never swallow fuel. Fuels such as petrol, bioethanol and mixtures of them and diesel are highly toxic and could cause permanent injury or be fatal if swallowed. Seek medical attention immediately if fuel has been swallowed.

#### WARNING

Fuel which spills onto the ground can be ignited.

Switch off the fuel-driven heater before starting to refuel.

Never carry an activated mobile phone when refuelling. The ring signal could cause spark build-up and ignite petrol fumes, leading to fire and injury.

#### IMPORTANT

Mixing different types of fuel or the use of fuel not recommended invalidates Volvo's guarantees, and any associated service agreement. This applies to all engines. NOTE: It does not apply to cars with engines that are adapted to run on ethanol fuel (E85).

#### NOTE

Extreme weather conditions, driving with a trailer or driving at high altitudes in combination with fuel grade are factors that could affect the car's performance.

### Catalytic converters

The purpose of the catalytic converters is to purify exhaust gases. They are located close to the engine so that operating temperature is reached quickly.

The catalytic converters consist of a monolith (ceramic or metal) with channels. The channel walls are lined with a thin layer of platinum/rhodium/palladium. These metals act as catalysts, i.e. they participate in and accelerate a chemical reaction without being used up themselves.

### Lambda-sond™ oxygen sensor

The Lambda-sond is part of a control system intended to reduce emissions and improve fuel economy.

An oxygen sensor monitors the oxygen content of the exhaust gases leaving the engine. This value is fed into an electronic system that continuously controls the injectors. The ratio of fuel to air directed to the engine is continuously adjusted. These adjustments create optimal conditions for efficient combustion, and together with the three-way catalytic converter reduce harmful emissions (hydrocarbons, carbon monoxide and nitrous oxides).

### Petrol

Petrol must meet the EN 228 standard. Most engines can be run with octane ratings of 95 and 98 RON. 91 RON should only be used in exceptional cases.

- 95 RON can be used for normal driving.
- 98 RON is recommended for optimum performance and minimum fuel consumption.

When driving in temperatures above +38 °C, fuel with the highest possible octane rating is recommended for optimum performance and fuel economy.

**Fuel****! IMPORTANT**

- Always refuel with unleaded petrol so as not to damage the catalytic converter.
- Do not use additives not recommended by Volvo.

**Bioethanol E85**

Do not modify the fuel system or its components, and do not replace components with parts that are not specifically designed for use with bioethanol.

**! WARNING**

Methanol must not be used. A decal on the inside of the fuel filler flap shows the correct alternative fuel.

The use of components not designed for bioethanol engines could cause fire, injury or engine damage.

**Reserve fuel can**

The reserve fuel can should be filled with petrol, see the NOTE box, page 103.

**! IMPORTANT**

Make sure the reserve fuel can is securely fastened and that its cap is sealed.

**! WARNING**

Ethanol is sensitive to sparks, and explosive gases could form in the reserve fuel can if it is refuelled with ethanol.

**Diesel**

Diesel must fulfil the EN 590 or JIS K2204 standards. Diesel engines are sensitive to contaminants, such as excessively high volumes of sulphur particles for example. Only use diesel fuel from well-known producers. Never use diesel of dubious quality.

At low temperatures (-6 °C to -40 °C), a paraffin precipitate may form in the diesel fuel, which may lead to ignition problems. Special diesel fuel designed for low temperatures around freezing point is available from the major oil companies. This fuel is less viscous at low temperatures and reduces the risk of paraffin precipitate.

The risk of condensation in the fuel tank is reduced if the tank is kept well filled. When

refuelling, check that the area around the fuel filler pipe is clean. Avoid spilling fuel onto the paintwork. Wash off any spillage with detergent and water.

**! IMPORTANT**

Only ever use fuel that fulfils the European diesel standard.

The sulphur content must be a maximum of 50 ppm.

**! IMPORTANT**

Diesel type fuels which must not be used:

- Special additives
- Marine Diesel Fuel
- Fuel oil
- RME<sup>1</sup> (Rape Methyl Ester) and vegetable oil.

These fuels do not fulfil the requirements in accordance with Volvo recommendations and generate increased wear and engine damage that is not covered by the Volvo warranty.

**Empty tank**

The design of the fuel system in a diesel engine means that if the vehicle runs out of fuel, the

<sup>1</sup> Diesel fuel may contain a certain amount of RME, but further amounts must not be added.



## Fuel

tank may need to be vented in the workshop in order to restart the engine after fuelling.

Once the engine has stopped due to fuel starvation, the fuel system needs a few moments to carry out a check. Do this before starting the engine, once the fuel tank has been filled with diesel:

1. Place the remote key in the ignition switch and push it gently so that it is pulled in (see page 69).
2. Press the **START** button **without** depressing the brake and/or clutch pedal.
3. Wait approx. 1 minute.
4. To start the engine: Depress the brake and/or clutch pedal and then press the **START** button again.

### Draining condensation from the fuel filter

The fuel filter separates condensation from the fuel. Condensation can disrupt engine operation.

The fuel filter must be drained at the intervals specified in the Service and Warranty Booklet or if you suspect that the car has been filled with contaminated fuel.

#### **IMPORTANT**

Certain special additives remove the water separation in the fuel filter.

### Diesel particle filter (DPF)

Diesel cars are equipped with a particle filter, which results in more efficient emission control. The particles in the exhaust gases are collected in the filter during normal driving. So-called "regeneration" is started in order to burn away the particles and empty the filter. This requires the engine to have reached normal operating temperature.

Regeneration of the filter takes place automatically at an interval of approximately 300-900 km depending on driving conditions. Regeneration normally takes 10-20 minutes. It may take a little longer at a low average speed. Fuel consumption may increase slightly during regeneration.

#### Regeneration in cold weather

If the car is frequently driven short distances in cold weather then the engine does not reach normal operating temperature. This means that regeneration of the diesel particle filter does not take place and the filter is not emptied.

When the filter has become approximately 80% full of particles, a warning triangle on the instrument panel illuminates, and the message **Soot filter full**. See manual is shown on the instrument panel display.

Start regeneration of the filter by driving the car until the engine reaches normal operating temperature, preferably on a main road or motor-

way. The car should then be driven for approximately 20 minutes more.

#### **NOTE**

A smaller reduction of engine power may be noticed temporarily during regeneration.

When regeneration is complete the warning text is cleared automatically.

Use the parking heater\* in cold weather so that the engine reaches normal operating temperature more quickly.

#### **IMPORTANT**

If the filter fills up with particles then it can be difficult to start the engine and the filter will be incapable of functioning. Then there is a risk that the filter will have to be replaced.

### Fuel consumption

Fuel consumption figures may change if the car is equipped with extra equipment that affects the car's weight. See information about weights, page 291.

The manner in which the car is driven, and other non-technical factors can also affect fuel consumption.

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



### Fuel

Consumption is higher and power output lower for fuel with an octane rating of 91 RON.

#### NOTE

Extreme weather conditions, driving with a trailer or driving at high altitudes in combination with fuel grade are factors that could affect the car's performance.



## 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 291.



The boot lid is opened via a button on the lighting panel or the remote control key, see page 52.

### WARNING

The car's driving characteristics change depending on the weight and distribution of the load.

### To bear in mind when loading

- Position the load firmly against the backrest in front.
- Put wide loads in the centre.
- Heavy objects should be placed as low as possible. Avoid placing heavy loads on lowered backrests.
- Cover sharp edges with something soft to avoid damaging the upholstery.
- Secure all loads to the load retaining eyelets with straps or web lashings.

### WARNING

A loose object weighing 20 kg can, in a frontal collision at a speed of 50 km/h, carry the impact of an item weighing 1000 kg.

### WARNING

The protection provided by the inflatable curtain in the headlining may be compromised or eliminated by high loads.

- Never load cargo above the backrest.

### WARNING

Always secure the load. During heavy braking the load may otherwise shift, causing injury to the car's occupants.

Cover sharp edges and sharp corners with something soft.

Switch off the engine and apply the parking brake when loading/unloading long items. Otherwise you may accidentally knock the gear lever or gear selector with the load into a drive position - and the car could then move off.

### Front seat

The passenger seat backrest can also be folded for an extra long load, see page 71.

### 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 291.



## Loading

### Lowering the rear seat backrest

If the rear seat backrest needs to be lowered, see page 73.

### Load retaining eyelets



The folding load retaining eyelets are used to fasten straps in order to anchor items in the cargo area.

### **!** WARNING

Hard, sharp and/or heavy objects that are loose or protrude could cause injury during heavy braking. Always secure large and heavy objects with a seatbelt or cargo retaining straps.

### Bag holder\*

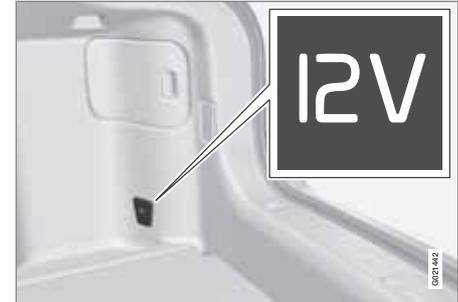


*Bag holder under folding hatch in the floor.*

The bag holder keeps carrier bags in place and prevents them from overturning and spreading their contents across the cargo area.

1. Fold up the holder, which is part of the floor hatch.
2. Fasten the bags with strap and secure the carrying handle in the hooks.

### 12 V electrical socket\*



Raise the cover to access the electrical socket.

- The socket also provides voltage when the remote control key is not in the ignition switch.

### **i** NOTE

Remember that using the electrical socket with the engine switched off involves the risk of discharging the car's battery.



## Cargo area

### Ski hatch

The hatch in the backrest can be opened to transport long narrow items.



- 1 Fold the right-hand backrest forward.
- 2 Release the hatch in the rear seat backrest by sliding the bolt up while pressing the hatch down/forward.
- 3 Fold back the backrest with the hatch open.

Use the seatbelt to prevent the load from moving.

### **WARNING**

Stop the engine and apply the parking brake when loading and unloading. Otherwise the gear lever/selector can accidentally be knocked and moved to a driving position.

### Removing the hatch

After the hatch has been released and the backrest folded backwards, open the hatch approx. 30 degrees and pull it straight up.

### Attaching the hatch

Refit the hatch in the grooves behind the upholstery and close the hatch.



## Driving with a trailer

### General

Payload depends on the car's kerb weight. The total of the weight of the passengers and all accessories, e.g. towbar, reduces the car's payload by a corresponding weight. For more detailed information on weights, see page 291.

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 243.
- The engine is loaded more heavily than usual when driving with a trailer.
- Do not tow a heavy trailer when the car is brand new. Wait until it has been driven at least 1000 km.
- The brakes are loaded much more than usual on long and steep downhill slopes. Downshift to a lower gear and adjust your speed.

- For safety reasons, the maximum permitted speed for the car when coupled with a trailer should not be exceeded. Follow the regulations in force for the permitted speeds and weights.
- Maintain a low speed when driving with a trailer up long, steep ascents.
- Avoid driving with a trailer on inclines of more than 12%.

### Trailer cable

An adapter is required if the car's towing bracket has 13 pin electrics and the trailer has 7 pin electrics. Use an adapter cable approved by Volvo. Make sure the cable does not drag on the ground.

### Direction indicators and brake lights on the trailer

If any of the trailer's lamps for direction indicators are broken, then the combined instrument panel's symbol for direction indicators flashes faster than normal and the display shows the text **Bulb fail - Ind. signal trailer**.

If any of the trailer's lamps for the brake light are broken then the **Bulb fail - Stop lamp trailer** text is shown.

### Level control\*

The rear shock absorbers maintain a constant height irrespective of the car's load (up to the maximum permissible weight). When the car is

stationary the rear of the car lowers slightly, which is normal.

### Trailer weights

For information on Volvo's permitted trailer weights, see page 292.

#### NOTE

The stated maximum permitted trailer weights are those permitted by Volvo. National vehicle regulations can further limit trailer weights and speeds. Towbars can be certified for higher towing weights than the car can actually tow.

#### WARNING

Follow the stated recommendations for trailer weights. Otherwise, the car and trailer may be difficult to control in the event of sudden movement and braking.

### Manual gearbox

#### Overheating

When driving with a trailer in hilly terrain in a hot climate there may be a risk of overheating.

- Do not run the engine at higher revolutions than 4500 rpm (diesel engines: 3500 rpm) - otherwise the oil temperature may become too high.



## Driving with a trailer

### Diesel engine 5-cyl

- In the event of a risk of overheating the optimal speed for the engine is 2300-3000 rpm for optimal circulation of the coolant.

### Automatic gearbox

#### Overheating

When driving with a trailer in hilly terrain in a hot climate there may be a risk of overheating.

- An automatic gearbox selects the optimum gear related to load and engine speed.
- In the event of overheating a warning symbol illuminates on the instrument panel combined with a text message - follow the recommendation given.

#### Steep inclines

- Do not lock the automatic transmission in a higher gear than the engine "can cope with" - it is not always a good idea to drive at a high gear with low engine revolutions.

### IMPORTANT

See also the specific information on slow driving with trailer for cars with the Powershift automatic transmission on page 109.

### 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 228.

### 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.



## Driving with a trailer

### Storing the detachable towbar

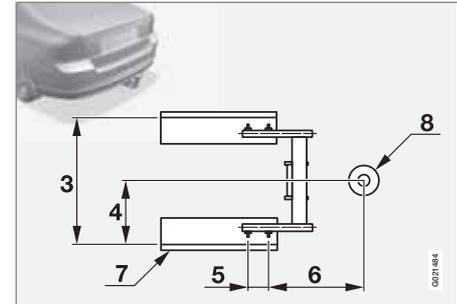
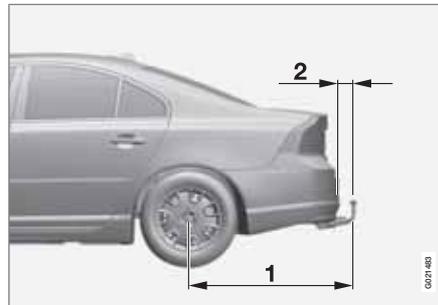


Towbar storage space.

### **!** IMPORTANT

Always remove the towbar after use and store it in the appointed location in the car, firmly fastened with its strap.

### Specifications



### Dimensions, mounting points (mm)

1	1127
2	93
3	855
4	428
5	112
6	360
7	Side member
8	Ball centre



## Driving with a trailer

### Attaching the towbar



- 1 Remove the protective cover by first pressing in the catch **1** and then pulling the cover straight back **2**.



- 2 Ensure that the mechanism is in the unlocked position by turning the key clockwise.



- 3 The indicator window must show red.



- 4 Insert the towbar until you hear a click.



- 5 The indicator window must show green.



- 6 Turn the key anticlockwise to locked position. Remove the key from the lock.



## Driving with a trailer



- 7 Check that the towbar is secure by pulling it up, down and back.

**! WARNING**

If the towbar is not fitted correctly then it must be detached and reattached in accordance with the previous instructions.

**! IMPORTANT**

Only grease in the ball for the towing hitch, the remainder of the towbar should be clean and dry.



- 8 Safety cable.

**! WARNING**

Be sure to attach the trailer's safety cable to the correct place.

**Removing the towbar**



- 1 Insert the key and turn it clockwise to the unlocked position.



- 2 Push in the locking wheel **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 227.



### Driving with a trailer



- 4 Push the protective cover until it snaps tight.

**Towing and recovery****Towing**

Find out the highest legal speed for towing before towing the car.

1. Press the remote control key into the ignition switch to unlock the steering lock so that the car can be steered, see page 69.
2. The remote control key must remain in the ignition switch while the car is being towed.
3. Keep the towline taut when the towing vehicle reduces speed by holding your foot gently pressed on the brake pedal - thereby avoiding unnecessary jerking.
4. Be prepared to brake to stop.

**WARNING**

- The steering lock must be unlocked before towing.
- The remote control key must be in key position **II**.
- Never remove the remote control key from the ignition switch while driving or when the car is being towed.

**WARNING**

The brake servo and power steering do not work when the engine is switched off. The brake pedal must be pressed about five times harder than normal, and the steering will be considerably heavier than normal.

**Manual gearbox**

- Move gear lever into neutral and release the parking brake.

**Automatic gearbox, Geartronic****IMPORTANT**

Note that the car must always be towed with the wheels rolling forward.

- Cars with automatic gearbox must not be towed at speeds above 80 km/h or further than 80 km.
- Move the gear selector to position **N** and release the parking brake.

**Automatic gearbox, Powershift**

The 2.0, 2.0T and 2.0F models with Powershift automatic transmission should not be towed as the transmission is dependent on the engine running in order to receive sufficient lubrication.

**IMPORTANT**

Avoid towing.

- However, the car can be towed for a short distance at low speed to move it from a dangerous position - not further than 10 km and not faster than 10 km/h. Note that the car must always be towed with the wheels rolling forward.
- In the event of moving a longer distance than 10 km, the car must be transported with the drive wheels raised from the road - professional recovery is recommended.

- Move the gear selector to position **N** and release the parking brake.

**Jump starting**

Do not tow the car to bump start the engine. Use a donor battery if the battery is discharged and the engine does not start, see page 105.

**IMPORTANT**

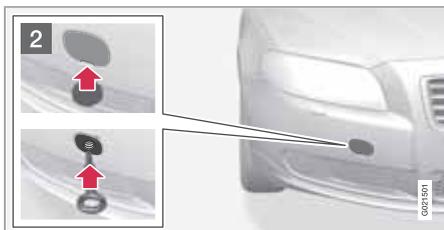
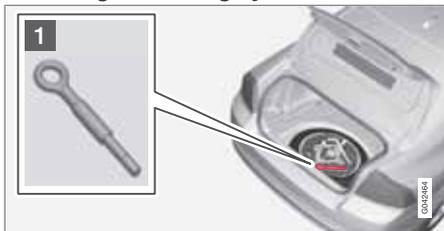
Bump starting the car can damage the catalytic converter.

## Towing and recovery

### Towing eye

The towing eye is screwed into a threaded socket behind a cover on the right-hand side of the bumper, front or rear.

### Attaching the towing eye



- 1 Take out the towing eye that is located under the floor hatch in the cargo area.
- 2 The cover for the towing eye's attachment point is available in two variants which must be opened in different ways:

- Open the variant with a recess using a coin or similar inserted in the recess, turning it outwards. Then turn out the cover completely and remove it.
- The second variant has a marking along one side or in a corner: Press the marking with a finger and fold out the opposite side/corner at the same time using a coin or similar - the cover turns around its axis and can then be removed.

Screw the towing eye right in up to its flange. Turn in the towing eye firmly e.g. using the wheel wrench.

After use, unscrew the towing eye and return it to its place.

Finish by refitting the cover onto the bumper.

### ! IMPORTANT

The towing eye is only designed for towing on roads - **not** for pulling the car unstuck or out of a ditch. Call a recovery service for recovery assistance.

### i NOTE

On certain cars with towbar fitted the towing eye cannot be attached in the rear bracket. Attach the towrope in the towbar.

For this reason it is advisable to store the detachable towbar's towball in the car.

### Recovery

Call a recovery service for recovery assistance.

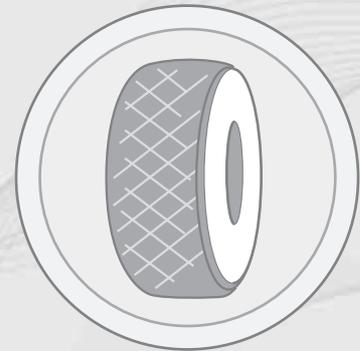
### ! IMPORTANT

Note that the car must always be transported with the wheels rolling forward.

- An All Wheel Drive car (AWD) with raised front suspension must not be towed at speeds above 70 km/h. It should not be towed further than 50 km.

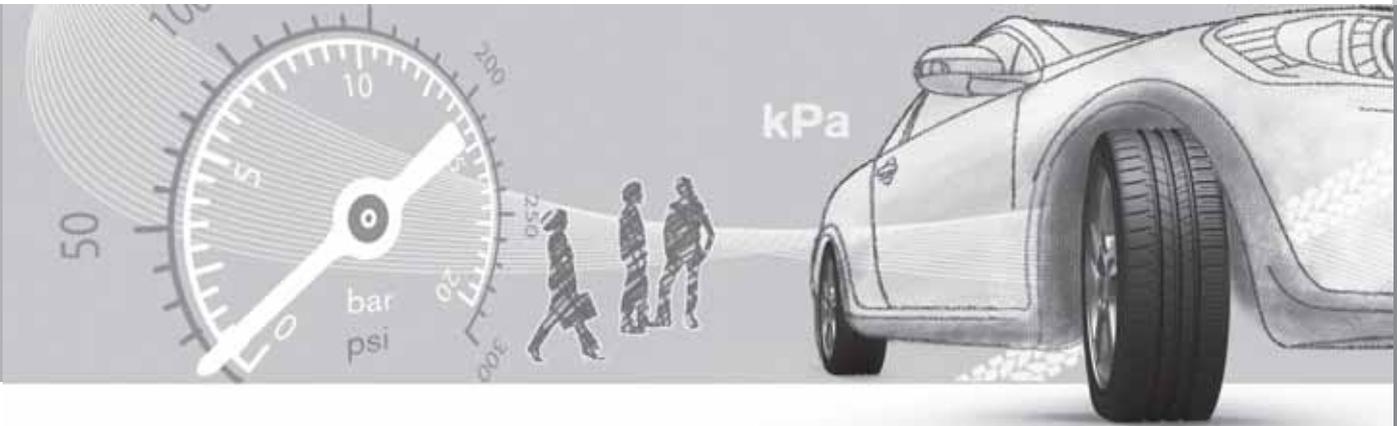


General .....	236
Changing wheels .....	240
Tyre pressure .....	243
Warning triangle and first-aid kit* .....	244
Emergency puncture repair (TMK)* .....	245



# 06

## WHEELS AND TYRES



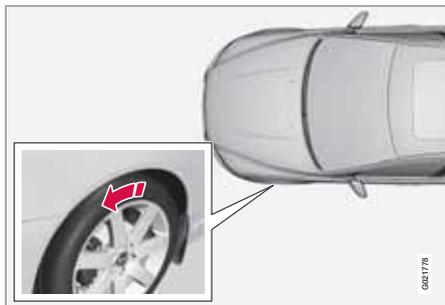


## General

### Driving characteristics

Tyres greatly affect the car's driving characteristics. The type of tyre, dimensions, tyre pressure and speed rating are important for how the car performs.

### Direction of rotation



The arrow shows the tyre's direction of rotation.

Tyres with a tread pattern which are designed to only turn in one direction have the direction of rotation marked with an arrow. The tyre must always rotate in the same direction throughout its lifespan. Tyres should only be switched between front and rear positions, never between left and right-hand sides, or vice versa. If the tyres are fitted incorrectly, the car's braking characteristics and capacity to force rain and slush out of the way are adversely affected.

Tyres with the greatest tread depth should always be fitted to the rear of the car (to decrease the risk of skidding).

### **i** NOTE

Ensure that tyres of the same type and dimensions, and also the same make, are fitted to all four wheels.

Follow the recommended tyre pressures specified in the tyre pressure table, see page 300.

### Tyre care

#### Tyre age

All tyres older than 6 years old should be checked by an expert even if they seem undamaged. Tyres age and decompose, even if they are hardly ever or never used. The function can therefore be affected. This applies to all tyres that are stored for future use. Examples of external signs which indicate that the tyre is unsuitable for use are cracks or discoloration.

### New tyres



Tyres are perishable. After a few years they begin to harden at the same time as the friction capacity/characteristics gradually deteriorate. For this reason, aim to get as fresh tyres as possible when you replace them. This is especially important with regard to winter tyres. The last four digits in the sequence mean the week and year of manufacture. This is the tyre's DOT marking (Department of Transportation), and this is stated with four digits, for example 1510. The tyre in the illustration was manufactured in week 15 of 2010.

#### Summer and winter tyres

When summer and winter wheels are changed the wheels should be marked with which side of the car they were mounted on, for example **L** for left and **R** for right.



## General

### Wear and maintenance

The correct tyre pressure results in more even wear, see page 243. Driving style, tyre pressure, climate and road condition affect how quickly your tyres age and wear. To avoid differences in tread depth and to prevent wear patterns arising, the front and rear wheels can be switched with each other. A suitable distance for the first change is approx. 5000 km and then at 10 000 km intervals. Volvo recommends that you contact an authorised Volvo workshop for checking if you are uncertain about tread depth. If significant differences in wear (>1 mm difference in tread depth) between tyres have already occurred, the least worn tyres must always be placed on the rear. Understeer is normally easier to correct than oversteer, and leads to the car continuing forwards in a straight line rather than having the rear end skidding to one side, resulting in possible complete loss of control over the car. This is why it is important for the rear wheels never to lose grip before the front wheels.

Wheels should be stored lying down or hanging up - and not standing up.

#### WARNING

A damaged tyre can lead to loss of control of the car.

### Tyres with tread wear indicators



Tread wear indicators.

Tread wear indicators are narrow treadless bands across the width of the tread. On the side of the tyre are the letters **TWI** (Tread Wear Indicator). When the tyre's tread depth is down to 1.6 mm, the tread depth will be level in height with the tread wear indicators. Change to new tyres as soon as possible. Remember that tyres with little tread depth provide very poor grip in rain and snow.

### Rims and wheel bolts

#### IMPORTANT

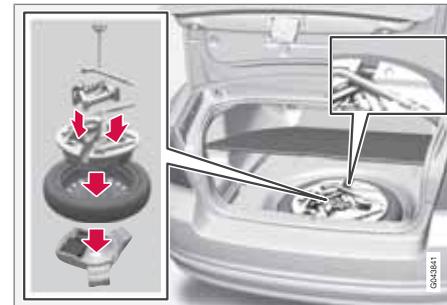
The wheel bolts must be tightened to 140 Nm. Overtightening can damage the nuts and the bolts.

Only use rims that are tested and approved by Volvo and which are Volvo genuine accessories. Check the torque with a torque wrench.

### Locking wheel bolts\*

Locking wheel bolts\* can be used on both aluminium and steel rims. Under the cargo area floor there is space for the sleeve for the lockable wheel bolts.

### Tools



Located under the cargo area floor are the car's towing eye, jack\* and wheel wrench\*. There is also space for the sleeve for the lockable wheel bolts.

### Jack\*

The jack's thread must always be well greased.



# 06 Wheels and tyres

## General

The original jack should only be used for changing to the spare wheel. The jack's thread must always be well greased.

### Tools - returning into place

The tools and jack\* must be returned to their correct places after use. The jack needs to be cranked together to the correct position in order to have space.

The foam block and spare wheel are replaced in the reverse order to taking out.

Note that there is an arrow on the upper foam block. It must point forwards in the car.

### IMPORTANT

The tools and jack\* must be stored in the intended location in the car's cargo area when not in use.

### Winter tyres

Volvo recommends winter tyres with particular dimensions. Tyre dimensions are dependent on engine variant. When driving on winter tyres, the correct type of tyres must be fitted to all four wheels.

### 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.

### 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 300

### 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)



## General

**Tyre dimensions**

225/50R17 98W.

The dimensions are stated on all car tyres.

Example of designation:

225	Tyre width (mm)
50	Ratio between tyre wall height and tyre width (%)
R	Radial ply
17	Rim diameter in inches (")
98	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 300.

**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 300.

The only exception to these conditions is winter tyres (both those with metal studs and those without), where a lower speed rating may be used. If such a tyre is chosen, the car must not be driven faster than the speed rating of the tyre (for example, class Q can be driven at a maximum of 160 km/h).

Traffic regulations determine how fast a car can be driven, not the speed rating of the tyres.

**NOTE**

It is the maximum permitted speed that is stated in the table.

Q	160 km/h (used only on winter tyres)
T	190 km/h
H	210 km/h
V	240 km/h
W	270 km/h
Y	300 km/h

**WARNING**

The car must be fitted with tyres which have the same or a higher load index (LI) and speed rating (SS) than specified. If a tyre with too low a load index or speed rating is used, it may overheat.



## Changing wheels

### Removing

Set up the warning triangle, see page 244 if a wheel must be replaced at a busy location. The car and jack\* must be on a firm horizontal surface.

1. Apply the parking brake and engage reverse gear, or position **P** if the car has an automatic gearbox.

### WARNING

Check that the jack is not damaged, that the threads are thoroughly lubricated and that it is free from dirt.

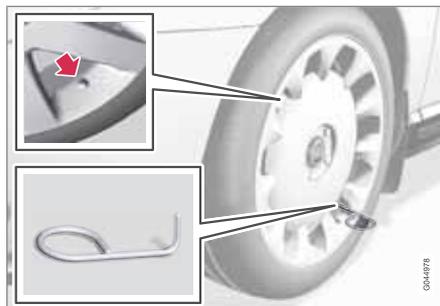
### NOTE

Volvo recommends only using the jack\* that belongs to the car model in question, which is indicated on the jack's label.

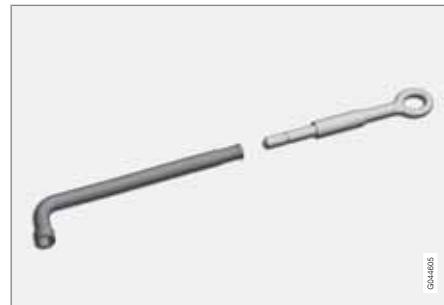
The label also indicates the jack's maximum lift capacity at a specified minimum lifting height.

2. Take out the jack\*, wheel wrench\* and removal tool for hubcaps\* located under the cargo floor in the cargo area. If another jack is selected, see page 252.
3. Cars with steel wheel rims have detachable hubcaps. Use the removal tool to hook in

and pull off any full-wheel hubcaps. Alternatively, the hubcaps can be pulled away by hand.



4. Place chocks in front of and behind the wheels which will remain on the ground. Use heavy wooden blocks or large stones for example.
5. (For cars with steel wheel rims and detachable wheel covers) Prize off the wheel cover.
6. 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.

7. Loosen the wheel bolts ½-1 turn anticlockwise with the wheel wrench.

### WARNING

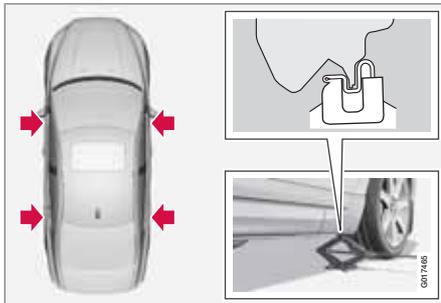
Never position anything between the ground and the jack, nor between the jack and the car's jacking point.

8. 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



## Changing wheels

jack down so it is pressed squarely on the ground.



### ! IMPORTANT

The ground must be firm, smooth and level.

9. 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.
5. Refit any full hubcaps.

### i NOTE

The wheel cover outlet for the valve must be positioned over the valve on the wheel rim during fitting.

### ! WARNING

Never crawl under the car when it is raised on the jack.

Passengers must leave the car when it is raised on the jack.

Park the car so that passengers have the car - or preferably a crash barrier - between them and the road.

### Spare wheel\*

The spare wheel (Temporary spare) is only intended for use temporarily and must be replaced by an ordinary wheel as soon as possible. The car's handling may be altered by the use of the spare wheel. The spare wheel is smaller than the normal wheel. The car's ground clearance is affected accordingly. Pay attention to high kerbs and do not machine wash the car. If the spare wheel is fitted on the front axle, you cannot use snow chains at the same time. On all-wheel drive cars the drive on the rear axle can be disconnected. The spare wheel must not be repaired. The correct tyre pressure for the spare wheel is stated in the tyre pressure table, see page 300.



### Changing wheels

#### **IMPORTANT**

Never drive faster than 80 km/h with a spare wheel on the car.

#### **IMPORTANT**

The car must never be driven fitted with more than one temporary spare wheel.

The spare wheel is located in the spare wheel well with the outside down. The same bolt runs through to secure the spare wheel and the foam block. The foam block contains all the tools.

#### **Taking out the spare wheel**

1. Fold up the cargo area floor, from the rear and forwards.
2. Undo the retaining screw.
3. Lift out the foam block with its tools.
4. Lift out the spare wheel.



## Tyre pressure

### Tyre pressure



The tyre pressure decal on the driver's side door pillar (between frame and rear door) shows which pressures the tyres should have at different loads and speed conditions. This is also specified in the tyre pressure table, see page 300.

- Tyre pressure for the car's recommended tyre dimension
- ECO pressure<sup>1</sup>
- Spare wheel tyre pressure (Temporary Spare)

#### **i** NOTE

Temperature differences change the tyre pressure.

<sup>1</sup> ECO pressure results in improved fuel economy.

### Fuel economy, ECO pressure

At speeds under 160 km/h, the general tyre pressure is recommended (applies for both full load and light load) in order to obtain optimum fuel economy.

### Checking the tyre pressure

The tyre pressures must be checked every month.

This also applies to the car's spare wheel.

Check tyre pressures on cold tyres. "Cold tyres" means the tyres are the same temperature as the ambient temperature. After several kilometres of driving, the tyres warm up and the pressure increases.

Inadequate tyre pressure increases fuel consumption, shortens tyre lifespan and impairs the car's roadholding. Driving on tyres with tyre pressure that is too low could result in the tyres overheating and being damaged. Tyre pressure affects travelling comfort, road noise and steering characteristics.

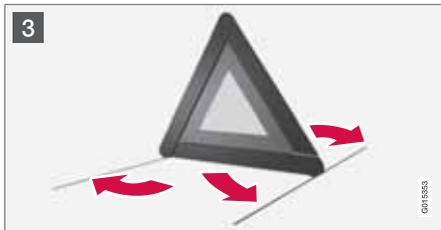
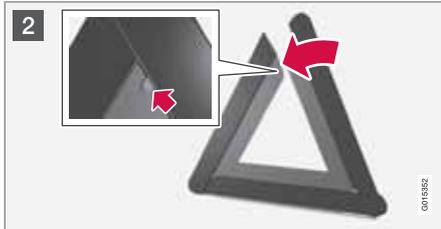
#### **i** NOTE

Tyre pressure decreases over time, this is a natural phenomenon. Tyre pressure also varies depending on ambient temperature.



### Warning triangle and first-aid kit\*

#### Warning triangle



The warning triangle is fitted on the inside of the boot lid with two clips.

- 1 Detach the warning triangle case by pulling both of the snap latches outwards.
- 2 Take the warning triangle from the case, fold out and assemble the two loose sides.
- 3 Fold out the warning triangle's support legs.

Follow the regulations for the use of a warning triangle. Position the warning triangle in a suitable place with regard to traffic.

Ensure the warning triangle and its case are properly secured in the cargo area after use.

#### First aid kit\*

A case with first aid equipment is located in the cargo area.



## Emergency puncture repair (TMK)\*

### General



Emergency puncture repair (TMK; Temporary Mobility Kit) is used to seal a puncture and check and adjust tyre pressure. It consists of a compressor and a bottle of sealing fluid. The kit works as a temporary repair. The sealing fluid bottle must be replaced before its expiration date and after use.

The sealing fluid effectively seals tyres punctured in the tread.

### **i** NOTE

The emergency puncture repair kit is only intended for sealing tyres with a puncture in the tread.

The emergency puncture repair kit has limited capacity to seal tyres which have punctures in

the wall. Do not seal tyres with the emergency puncture repair kit if they have larger slits, cracks or similar damage.

12 V sockets\* for connecting the compressor are located by the centre console in the front, by the rear seat and in the cargo area. Choose the electrical socket that is nearest the punctured tyre.

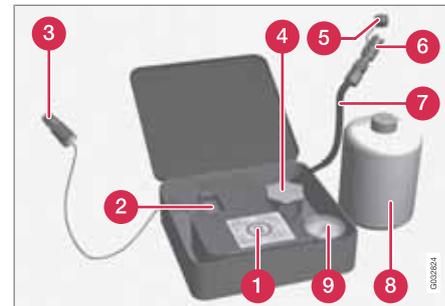
### Location of the emergency puncture repair kit

Set up the warning triangle if a tyre is being sealed in a trafficked location. The emergency puncture repair kit is located under the floor in the cargo area.

### **⚠** WARNING

You should not drive faster than 80 km/h after the emergency tyre repair kit has been used. Volvo recommends that you visit an authorised Volvo workshop for inspection of the sealed tyre (maximum driving distance is 200 km). The staff there can determine whether or not the tyre can be repaired or if it needs to be replaced.

### Overview



- 1 Label, maximum permitted speed
- 2 Switch
- 3 Cable
- 4 Bottle holder (orange cap)
- 5 Protective cap
- 6 Pressure reducing valve
- 7 Air hose
- 8 Sealing fluid bottle
- 9 Pressure gauge



## Emergency puncture repair (TMK)\*

### Sealing punctured tyres



For information on the function of the parts, see preceding illustration.

1. Open the lid of the emergency puncture repair kit.
2. Detach the label for maximum permitted speed and affix it to the steering wheel.

### **⚠ WARNING**

The sealing fluid can irritate the skin. In the case of contact with skin, wash away the fluid with soap and water.

3. Check that the switch is in position **0** and locate the cable and the air hose.

### **i NOTE**

Do not break the bottle's seal before use. The seal is broken automatically when the bottle is screwed in.

4. Unscrew the orange cap and unscrew the bottle's stopper.
5. Screw the bottle into its holder.

### **⚠ WARNING**

Do not unscrew the bottle, it is equipped with a reverse catch to prevent leakage.

6. Unscrew the wheel's dust cap and screw in the air hose valve connection to the bottom of the thread on the tyre's air valve.
7. Plug the cable into the 12 V socket and start the car.

### **⚠ WARNING**

Do not leave children in the car without supervision when the engine is running.

8. Flick the switch to position **I**.

### **⚠ WARNING**

Never stand next to the tyre when the compressor is running. If cracks or unevenness arise then the compressor must be switched off immediately. The journey should not be continued. Contacting an authorised tyre centre is recommended.

### **i NOTE**

When the compressor starts, the pressure can increase up to 6 bar but the pressure drops after approximately 30 seconds.

9. Inflate the tyre for 7 minutes.

### **⚠ IMPORTANT**

Risk of overheating. The compressor must not run for more than 10 minutes.

10. Switch off the compressor to check the pressure on the pressure gauge. Minimum



## Emergency puncture repair (TMK)\*

pressure is 1.8 bar and maximum 3.5 bar. (Release air with the pressure reducing valve if the tyre pressure is too high.)

### WARNING

If the pressure is below 1.8 bar then the hole in the tyre is too big. The journey should not be continued. Contacting an authorised tyre centre is recommended.

11. Switch off the compressor and unplug the cable from the 12 V socket.
12. Detach the hose from the tyre valve and fit the valve cap.
13. As soon as possible, drive approximately 3 km at a maximum speed of 80 km/h so that the sealing fluid can seal the tyre.

### Rechecking the repair and pressure

1. Reconnect the equipment.
2. Read the tyre pressure on the pressure gauge.
  - If it is below 1.3 bar then the tyre is insufficiently sealed. The journey should not be continued. Contact a tyre centre.
  - If the tyre pressure is higher than 1.3 bar, the tyre must be inflated to the pressure specified in accordance with the

tyre pressure table, see page 300 (1 bar=100 kPa). Release air using the pressure reducing valve if the tyre pressure is too high.

### WARNING

Do not unscrew the bottle, it is equipped with a reverse catch to prevent leakage.

3. Make sure the compressor is switched off. Detach the air hose and cable. Refit the dust cap.

### NOTE

The sealing fluid bottle and the hose must be replaced after use. Volvo recommends that this replacement is performed by an authorised Volvo workshop.

### WARNING

Check the tyre pressure regularly.

Volvo recommends that you drive to the nearest authorised Volvo workshop for the replacement/repair of the damaged tyre. Advise the workshop that the tyre contains sealing fluid.

### WARNING

You should not drive faster than 80 km/h after the emergency tyre repair kit has been used. Volvo recommends that you visit an authorised Volvo workshop for inspection of the sealed tyre (maximum driving distance is 200 km). The staff there can determine whether or not the tyre can be repaired or if it needs to be replaced.

### Inflating the tyres

The car's original tyres can be inflated by the compressor.

1. The compressor must be switched off. Make sure that the switch is in position **0** and locate the cable and air hose.
2. Unscrew the wheel's dust cap and screw in the air hose valve connection to the bottom of the thread on the tyre's air valve.

### WARNING

Inhaling car exhaust fumes can result in danger to life. Never leave the engine running in sealed areas or areas that lack sufficient ventilation.



### Emergency puncture repair (TMK)\*

#### **WARNING**

Do not leave children in the car without supervision when the engine is running.

3. Connect the cable to one of the car's 12 V sockets and start the car.
4. Start the compressor by flicking the switch to position I.

#### **IMPORTANT**

Risk of overheating. The compressor must not run for more than 10 minutes.

5. Inflate the tyre to the pressure specified in accordance with the tyre pressure table, see page 300. (Release air using the pressure reducing valve if the tyre pressure is too high.)
6. Switch off the compressor. Detach the air hose and cable.
7. Refit the dust cap.

#### **Replacing the sealing fluid canister**

Replace the bottle when the expiration date has passed. Treat the old bottle as environmentally hazardous waste.

#### **WARNING**

The bottle contains 1.2-Ethanol and natural rubber-latex.

Harmful if ingested. Could result in allergic reaction in the event of skin contact.

Avoid contact with the skin and eyes.

Store out of the reach of children.

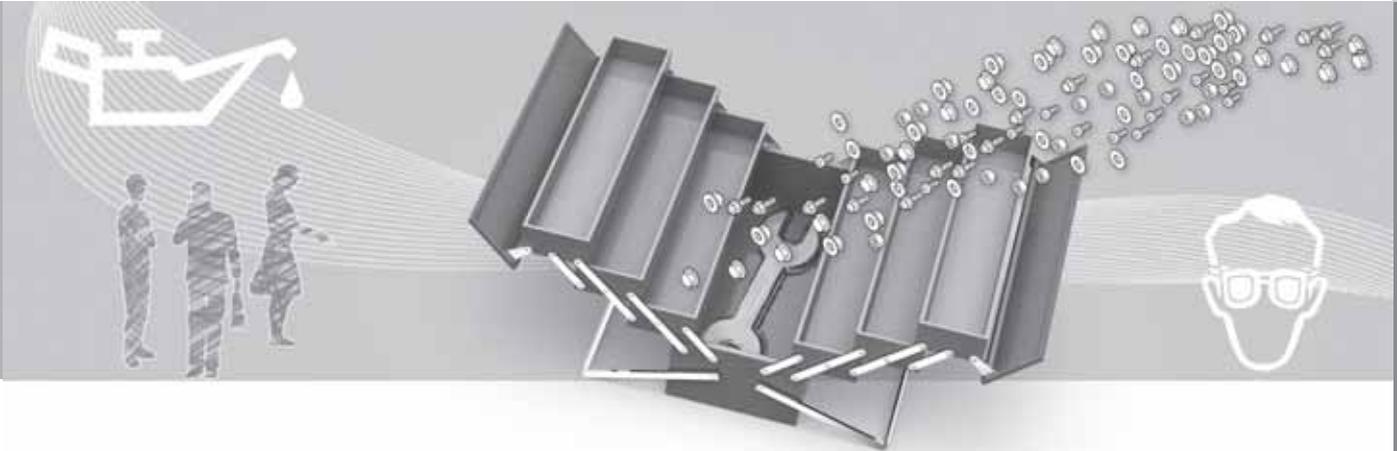


Engine compartment.....	252
Lamps.....	259
Wiper blades and washer fluid.....	266
Battery.....	268
Fuses.....	271
Car care.....	280



# 07

## MAINTENANCE AND SERVICE





## Engine compartment

### General

#### Volvo service programme

To keep the car as safe and reliable as possible, follow the Volvo service programme as specified in the Service and Warranty Booklet. Volvo recommends engaging an authorised Volvo workshop to perform the service and maintenance work. Volvo workshops have the personnel, special tools and service literature to guarantee the highest quality of service.

#### ! IMPORTANT

For the Volvo warranty to apply, check and follow the instructions in the Service and Warranty Booklet.

#### Check regularly

Check the following oils and fluids at regular intervals, e.g. when refuelling:

- Coolant
- Engine oil
- Power steering fluid
- Washer fluid

#### ! WARNING

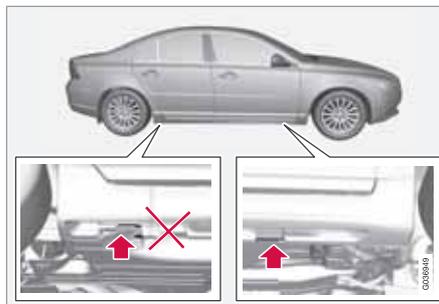
Bear in mind that the radiator fan may start automatically some time after the engine has been switched off.

Always have the engine cleaned by a workshop. There is a risk of fire if the engine is hot.

#### Raising the car

#### i NOTE

Volvo recommends only using the jack that belongs to the car model in question. If a jack is selected other than the one recommended by Volvo, follow the instructions for use supplied with the equipment

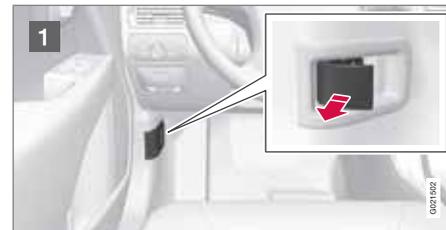


If the car is raised with a workshop jack; position the jack against the front edge on the engine's subframe.

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.

#### Opening and closing the bonnet



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## Engine compartment

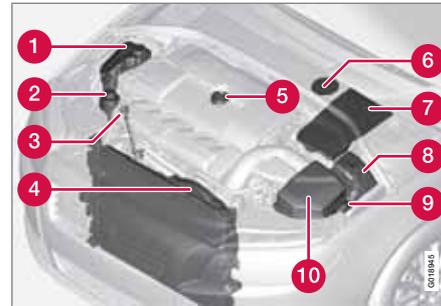


- 1 Pull the handle by the pedals. You will hear when the catch releases.
- 2 Move the catch to the left and open the bonnet. (The catch hook is located between the headlamp and grille, see illustration.)

**WARNING**

Check that the bonnet locks properly when closed.

## Engine compartment, overview



The appearance of the engine compartment may vary depending on engine variant.

- 1 Coolant expansion tank
- 2 Power steering fluid reservoir
- 3 Engine oil dipstick<sup>1</sup>
- 4 Radiator
- 5 Filler opening for engine oil
- 6 Brake and clutch fluid reservoir (left-hand drive)
- 7 Battery
- 8 Relay and fuse box, engine compartment
- 9 Filling washer fluid
- 10 Air filter

- 9 Filling washer fluid
- 10 Air filter

**WARNING**

High voltage from the ignition system. The voltage in the ignition system is highly dangerous. The remote control key must always be in **0** position when work is being done in the engine compartment, see page 69.

Do not touch the spark plugs or ignition coil when the remote control key is in **II** position or when the engine is hot.

## Checking the engine oil



Volvo recommends Castrol oil products.

<sup>1</sup> Engines with electronic oil level sensor have no dipstick (5-cyl. diesel).



## Engine compartment

When driving under adverse conditions, see page 295.

### ! IMPORTANT

In order to fulfil the requirements for the engine's service intervals all engines are filled with a specially adapted synthetic engine oil at the factory. The choice of oil has been made very carefully with regard to service life, starting characteristics, fuel consumption and environmental impact.

An approved engine oil must be used in order that the recommended service intervals can be applied. Only use a prescribed grade of oil for both filling and oil change, otherwise you will risk affecting service life, starting characteristics, fuel consumption and environmental impact.

Volvo Car Corporation disclaims all warranty liability if engine oil of the prescribed grade and viscosity is not used.

Volvo uses different systems for warning of low/high oil level or low/high oil pressure. Certain variants have an oil pressure sensor, and then the lamp for oil pressure is used. Other variants have an oil level sensor, and then the driver is informed via the warning symbol in the centre of the instrument unit as well as by dis-

play texts. Certain models have both variants. Contact a Volvo dealer for more information.

Change the engine oil 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 than that specified on the decal, see page 296.

For capacities, see page 296 and onwards.

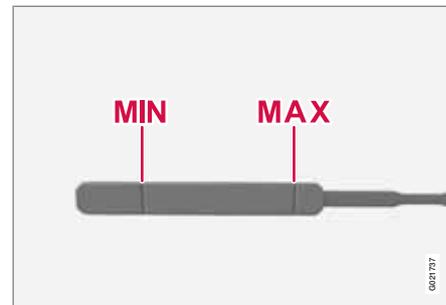
### Engine with oil dipstick<sup>2</sup>



*Dipstick and filler pipe.*

Checking the oil level in a new car is especially important before the first scheduled oil change.

Volvo recommends checking the oil level every 2 500 km. The most accurate measurements are made on a cold engine before starting. The measurement will be inaccurate if taken immediately after the engine is switched off. The dipstick will indicate that the level is too low because the oil has not had time to flow down into the oil sump.



*The oil level must be between the **MIN** and **MAX** marks.*

### Measurement and filling if required

1. Ensure that the car is level. After switching off the engine it is important to wait 5 minutes to allow the oil time to run back to the sump.
2. Pull up and wipe the dipstick.

<sup>2</sup> Only applies to petrol and 4-cyl. diesel.



## Engine compartment

3. Re-insert the dipstick.
4. Pull it out and check the level.
5. If the level is close to **MIN** then 0.5 litres should be added. If the level is significantly below, then an additional amount is required.
6. If required, check the level again, do it after driving a short distance. Then repeat steps 1 - 4.

### WARNING

Never fill above the **MAX** mark. The level should never be above **MAX** or below **MIN** as this could lead to engine damage.

### WARNING

Do not spill oil onto the hot exhaust manifold due to the risk of fire.

### Engine with electronic oil level sensor<sup>3</sup>



Filler pipe.<sup>4</sup>

You do not need to take action with respect to the engine oil level before a message is shown in the display, see the illustration below.



Message and graph in the display.

- 1 Message
- 2 Engine oil level

### 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 **Engine oil level Fill with 0.5 l oil**, only fill with 0.5 litres.

<sup>3</sup> Only applies to 5-cyl. diesel.

<sup>4</sup> Engines with electronic oil level sensor have no dipstick (5-cyl. diesel).



## Engine compartment

### NOTE

The oil level is only detected by the system during driving. The system cannot directly detect changes when the oil is filled or drained. The car must be driven about 30 km before the oil level display is correct.

### 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.

### WARNING

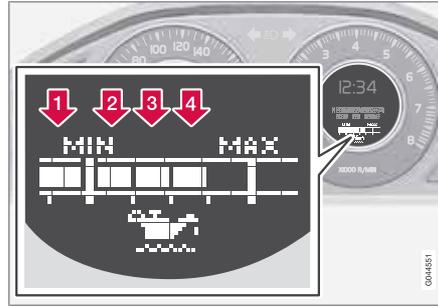
Do not spill oil onto the hot exhaust manifold due to the risk of fire.

### 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 69.
2. Rotate the thumbwheel on the left-hand stalk switch to position **Engine oil level**  
**Wait...**

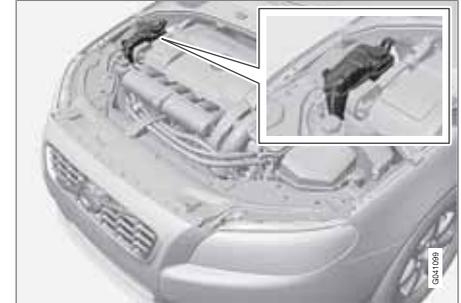
> You will then see information displayed about the engine oil level.



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. For capacities, see page 297.



## Engine compartment

### ! IMPORTANT

- A high content of chlorine, chlorides and other salts may cause corrosion in the cooling system.
- Always use coolant with anti-corrosion agent as recommended by Volvo.
- Ensure that the coolant mixture is 50% water and 50% coolant.
- Mix the coolant with approved quality tap water. In the event of any doubt about water quality, used ready-mixed coolant in accordance with Volvo recommendations.
- When changing coolant/replacing cooling system components, flush the cooling system clean with approved quality tap water or flush with ready-mixed coolant.
- The engine must only be run with a well-filled cooling system. High temperatures may occur, causing a risk of damage (cracks) to the cylinder head.

For capacities and for standards regarding water quality, see page 297.

### 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.

### ! WARNING

Coolant can be very hot. If the coolant requires topping up when the engine is at operating temperature, unscrew the expansion tank cap slowly to gently release the overpressure.

## Brake and clutch fluid

### Checking the level

Brake and clutch fluid have a common reservoir. The level must be between the **MIN** and **MAX** marks that are visible inside the reservoir. Check the level regularly.

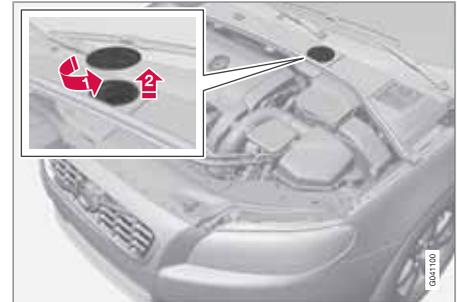
Change the brake fluid every other year or at every other regular service.

For capacities and recommended fluid grade, see page 297. The fluid should be changed annually on cars driven in conditions requiring hard, frequent braking, such as driving in mountains or tropical climates with high humidity.

### ! WARNING

If the brake fluid is under the **MIN** level in the brake fluid reservoir, do not drive further before topping up the brake fluid. Volvo recommends that the reason for the loss of brake fluid is investigated by an authorised Volvo workshop.

### Filling



The fluid reservoir is located on the driver's side.

The fluid reservoir is protected under the cover over the cold 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.



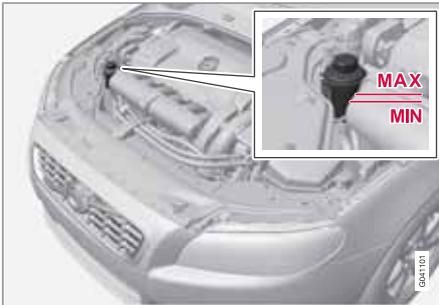
### Engine compartment

2. Unscrew the reservoir cap and fill the fluid. The level must be between the **MIN** and **MAX** marks, which are located on the inside of the reservoir.

#### **IMPORTANT**

Do not forget to refit the cap.

### Power steering fluid



#### **IMPORTANT**

Keep the area around the power steering fluid reservoir clean when checking. The cover must not be opened.

between the **MIN** and **MAX** marks. For capacities and recommended fluid grade, see page 297.

#### **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.

Check the level frequently. The fluid does not require changing. The fluid level must be



## Lamps

**General**

All bulbs are specified, see page 264. Bulbs and spotlights that are of a special type or that are only suitable for replacement by a workshop are:

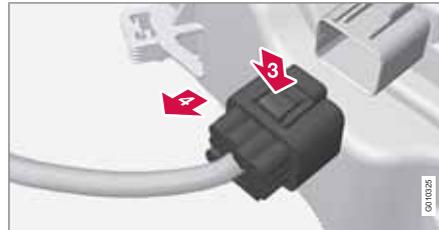
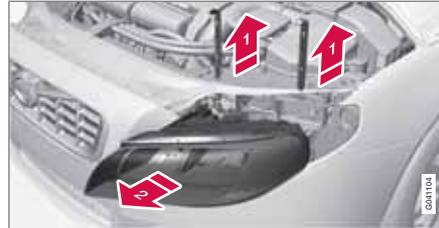
- General interior lighting in the roof
- Reading lamps
- Glovebox lighting
- Courtesy lighting
- Direction indicators, door mirror
- Approach lighting, door mirror
- Brake light
- Xenon, Active Xenon and LED lamps

**WARNING**

On cars equipped with Xenon lamps, headlamp replacement must be performed at a workshop - an authorised Volvo workshop is recommended. The lamp must be handled with extreme caution because it is equipped with a high voltage unit.

**IMPORTANT**

Never touch the glass part of the bulbs with your fingers. Grease and oils from your fingers are vaporised by the heat, coating the reflector and then causing damage.

**Headlamps front**

All of the headlamp bulbs are replaced via the engine compartment. Loosen and remove the whole headlamp.

**WARNING**

Always switch off the ignition and remove the remote control key before starting to replace a bulb.

**Removing the headlamp**

1. Press the **START-/STOP ENGINE** button quickly.
2. (Upper illustration)
  - 1 Pull out the headlamp's locking pins.
  - 2 Pull the headlamp straight forward.

**IMPORTANT**

Do not pull the electrical cable, only the connector.

3. (Lower illustration)
  - 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.
4. Lift out the headlamp and place it on a soft surface to avoid scratching the lens.
5. Replace the bulb in question.

**Securing the headlamp**

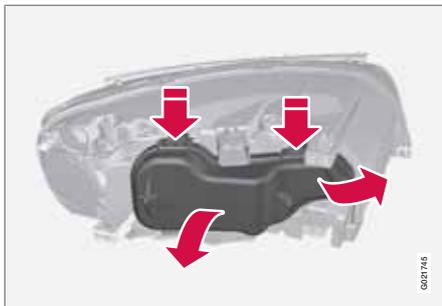
1. Plug in the connector, a clicking sound should be heard.
2. Reinstall the headlamp and locking pins. Check that they are correctly inserted.
3. Check the lighting.



## Lamps

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

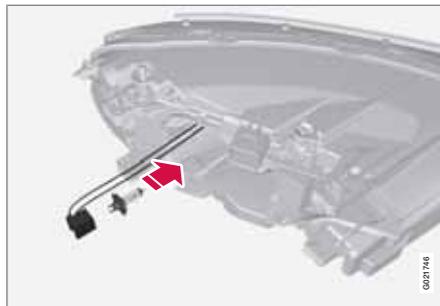


Before starting to replace a bulb, see page 259.

1. Open the lock clamp by pressing up/out.
2. Press down the clips on the cover and remove it.

Reinstall the cover in reverse order.

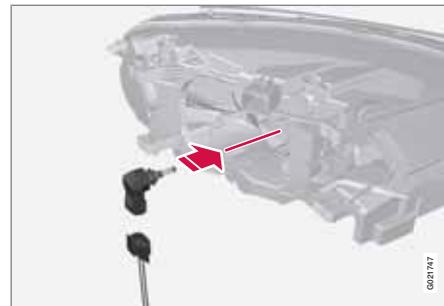
### Dipped beam, halogen



1. Detach the headlamp, see page 259.
2. Remove the cover.
3. Unplug the connector from the bulb.
4. Detach the bulb by pressing the holder downwards.
5. Fit the new bulb in the socket and snap it in. It can be secured in one position.

Reinstall the parts in reverse order.

### Main beam, Halogen



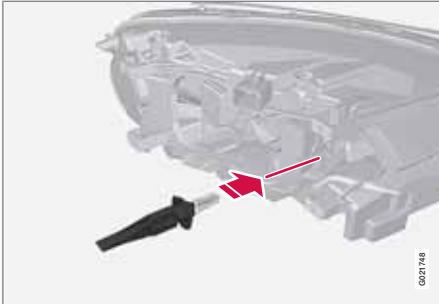
1. Detach the headlamp.
2. Remove the cover, see page 260
3. Detach the bulb by turning anticlockwise and then pulling straight out
4. Unplug the connector from the bulb.
5. Replace the bulb and align it in the socket and turn clockwise in order to secure it. It can be secured in one position.

Reinstall the parts in reverse order.



## Lamps

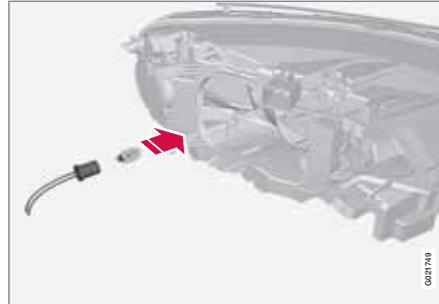
## Extra main beam, Xenon\*



1. Detach the headlamp.
2. Remove the cover, see page 260.
3. Detach the bulb by pressing the holder downwards.
4. Unplug the connector from the bulb.
5. Fit the new bulb in the socket and snap it in. It can only be secured in one position.

Reinstall the parts in reverse order.

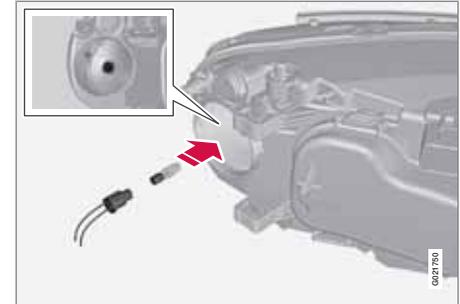
## Position/parking lamps



1. Detach the headlamp.
2. Remove the cover, see page 260.
3. For better access, detach the main beam bulb first.
4. Pull the cable in order to withdraw the bulb holder.
5. Remove the blown bulb and fit a new one. It can only be secured in one position.
6. Fit the bulb holder in the socket and press until a clicking sound is heard.

Reinstall the parts in reverse order.

## Direction indicators/flashers



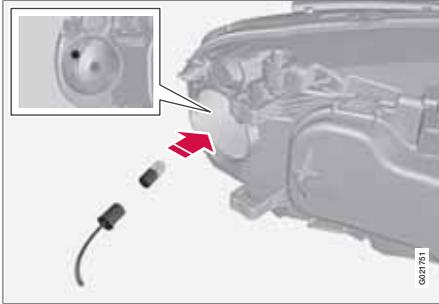
1. Detach the headlamp.
2. Remove the small round cover.
3. Pull the bulb holder in order to extract the bulb.
4. Remove the blown bulb and fit a new one. It can only be installed in one way.
5. Fit the bulb holder in the socket and press until a clicking sound is heard.
6. Refit the cover. It must be fitted and pressed in until a clicking sound is heard.

Reinstall the parts in reverse order.



## Lamps

### Side marker lamps



Before starting to replace a bulb, see page 259.

1. Detach the headlamp.
2. Remove the small round cover.
3. Pull the cable in order to withdraw the bulb holder.
4. Remove the blown bulb and fit a new one. It can only be installed in one way.
5. Fit the bulb holder in the socket and press until a clicking sound is heard.
6. Refit the cover. It must be fitted and pressed in until a clicking sound is heard.

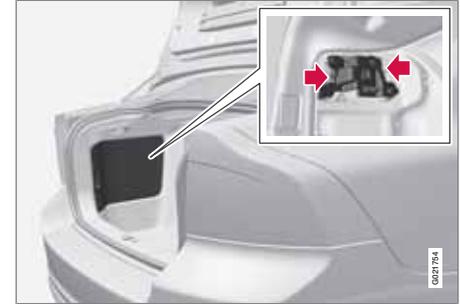
Reinstall the parts in reverse order.

### Front fog lamps



1. Remove the cover by pressing in the 4 clips with a thin blade and pulling straight out.
2. Unscrew the lamp housing screw and pull it out.
3. Turn the bulb anticlockwise and remove it.
4. Fit a new bulb by turning clockwise.
5. Refit the bulb. (The profile of the bulb holder corresponds to the profile of the foot of the bulb).
6. Refit the bulb holder. The **TOP** mark on the bulb holder must always be upward.

### Lamp housing, rear



The bulbs in the rear light cluster are replaced from inside the cargo area (not the LED lamps).

1. Remove the covers in the left/right-hand panel to access the bulbs. The bulbs are located in separate bulb holders.
2. Press the catches together and pull out the bulb holder.
3. Replace the bulb.
4. Plug in the connector.
5. Press the bulb holder into place and refit the cover.



## Lamps

## NOTE

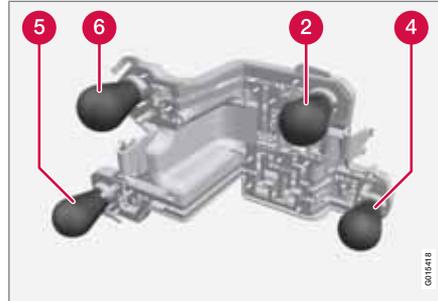
If an error message remains after the broken bulb has been replaced then we recommend that you visit an authorised Volvo workshop.

## Location of rear bulbs



Lamp lens, right-hand side

- 1 Position/parking lights (LED)
- 2 Direction indicators
- 3 Side position lights (LED)
- 4 Brake light
- 5 Rear fog lamp (one side)
- 6 Reversing lamp



Rear lamp bulb holder

- 2 Direction indicators
- 4 Brake light
- 5 Rear fog lamp (one side)
- 6 Reversing 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.



## Lamps

### Lighting, cargo area



1. Insert a screwdriver and gently prize so that the lamp housing comes loose.
2. Replace the bulb.
3. Check that the bulb illuminates and press back the lamp housing.

### Vanity mirror lighting

#### Removing the mirror glass



1. Insert a screwdriver underneath the lower edge, in the centre. Carefully prize up the lug on the edge.
2. Insert the screwdriver underneath the edge on the left and right-hand sides (by the black rubber sections), and prize carefully so that the mirror glass comes loose in the lower edge.
3. Carefully detach and lift aside the entire mirror glass and cover.
4. Replace the bulb.

#### Securing the mirror glass

1. Press the three lugs at top edge of the mirror glass back into position.

2. Then press the three lower lugs back into position.

### Specification, bulbs

Lighting	W	Type
Extra main beam, Xenon, ABL	55	H7
Dipped beam, halogen	55	H7
Main beam, Halogen	65	H9
Brake light	21	P21W
Reversing lamp	21	P21W
Rear fog lamp	21	P21W
Front direction indicators	21	H21W
Direction indicators, rear/	21	PY21W
Front fog lamps	35	H8
Cargo area lighting, number plate lighting	5	Tubular lamp SV8.5
Vanity mirror	1.2	W2x4.6D

**Lamps**

Lighting	W	Type
Front position and parking lamps	5	W5W
Front side marker lamps	5	W5W
Glovebox lighting	5	Tubular lamp SV8.5



## Wiper blades and washer fluid

### Wiper blades

#### Service position

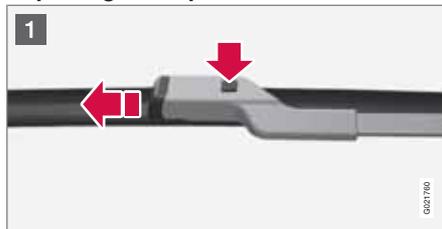


In order to change, clean or lift the wiper blades (for scraping off ice from the windscreen) they must be in service position.

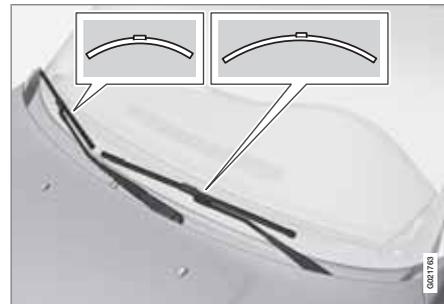
1. Turn the remote control key to key position **0**, see page 69, and keep the remote control key in the ignition switch.
2. Move the right-hand stalk switch up for about 1 second. The wipers then move to standing straight up.

The wipers return to the starting position when the car is started.

#### Replacing the wiper blades



- 1 Lift up the wiper arm. Press the button located on the wiper blade mounting and pull straight out parallel with the wiper arm.
- 2 Slide in the new wiper blade until a "click" is heard.
- 3 Check that the blade is firmly installed.



#### **i** NOTE

The wiper blades are different lengths. The blade on the driver's side is longer than the blade on the passenger side.

#### Cleaning

For cleaning wiper blades and windscreen, see page 280 and onwards.

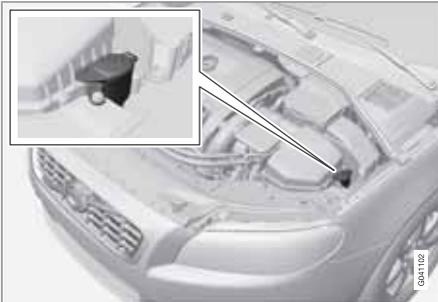


## Wiper blades and washer fluid

### **!** IMPORTANT

Check the wiper blades regularly. Neglected maintenance shortens the service life of the wiper blades.

### Filling washer fluid



The windscreen and headlamp washers share a common reservoir.

### **!** IMPORTANT

Add washer antifreeze during the winter so that the fluid does not freeze in the pump, reservoir and hoses.

For capacities, see page 297.



## Battery

### Warning symbols on the battery

	Use protective goggles.
	Further information in the owner's manual.
	Store the battery out of the reach of children.
	The battery contains corrosive acid.

	Avoid sparks and naked flames.
	Risk of explosion.
	Must be taken for recycling.

**i** **NOTE**  
An expended battery must be recycled in an environmentally responsible manner - it contains lead.

### Operation

- Check that the cables to the battery are correctly connected and properly tightened.
- Never disconnect the battery when the engine is running.

The service life and function of the battery is influenced by factors such as the number of starts, discharging, driving style, driving conditions, climatic conditions etc.

**!** **IMPORTANT**  
Never use a quick charger to charge the battery.

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



## Battery

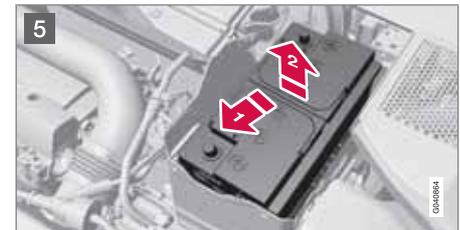
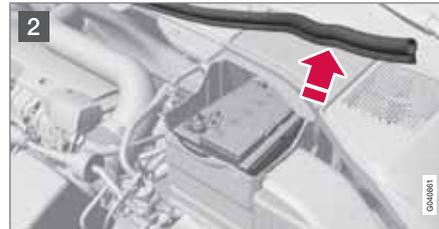
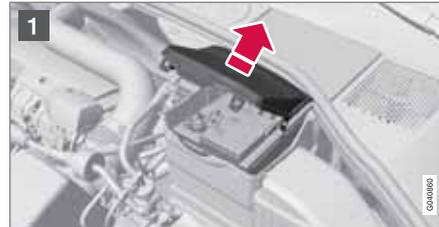
**i** NOTE

The life of the battery is shortened if it becomes discharged repeatedly.

The life of the battery is affected by several factors, including driving conditions and climate. Battery starting capacity decreases gradually with time and therefore needs to be recharged if the car is not used for a longer time or when it is only driven short distances. Extreme cold further limits starting capacity.

To maintain the battery in good condition, at least 15 minutes of driving/week is recommended or that the battery is connected to a battery charger with automatic trickle charging.

A battery that is kept fully charged has a maximum service life.

**Changing**
**Removal**


Switch off the ignition and wait for 5 minutes.

- 1 Open the clips on the front cover and remove the cover.
- 2 Release the rubber moulding so that the rear cover is free.
- 3 Remove the rear cover by screwing one quarter turn and lifting it away.



## Battery

### **WARNING**

Connect and disconnect the positive and negative cables in the correct sequence.

4

- 1  Detach the black negative cable
- 2  Detach the red positive cable
- 3  Detach the ventilation hose from the battery
- 4  Loosen the screw holding the battery clamp.
- 5  Move the battery to the side and lift it up.

3. Secure the battery using the battery clamp.
4. Connect the ventilation hose.
5. Connect the red positive cable.
6. Connect the black negative cable.
7. Press in the rear cover. (See Removal).
8. Reinstall the rubber moulding. (See Removal).
9. Reinstall the front cover and secure it with the clips. (See Removal).

### Installation



1. Lower the battery into the battery box.
2. Move the battery inward and to the side until it reaches the rear edge of the box.



## General

All electrical functions and components are protected by a number of fuses in order to protect the car's electrical system from damage by short circuiting or overloading.

If an electrical component or function does not work, it may be because the component's fuse was temporarily overloaded and failed. If the same fuse fails repeatedly then there is a fault in the circuit. Volvo recommends that you visit an authorised Volvo workshop for checking.

## Changing

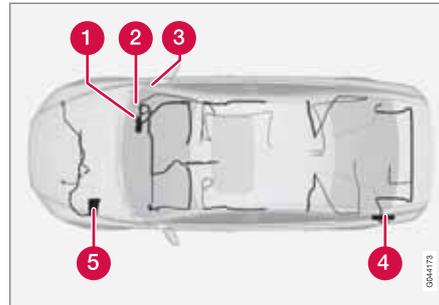
1. Look in the fuse diagram to locate the fuse.
2. Pull out the fuse and check from the side to see whether the curved wire has blown.
3. If this is the case, replace it with a new fuse of the same colour and amperage.



## WARNING

Never use a foreign object, or a fuse with an amperage higher than that specified when replacing a fuse. This could cause significant damage to the electrical system and possibly lead to fire.

## Location, central electrical units



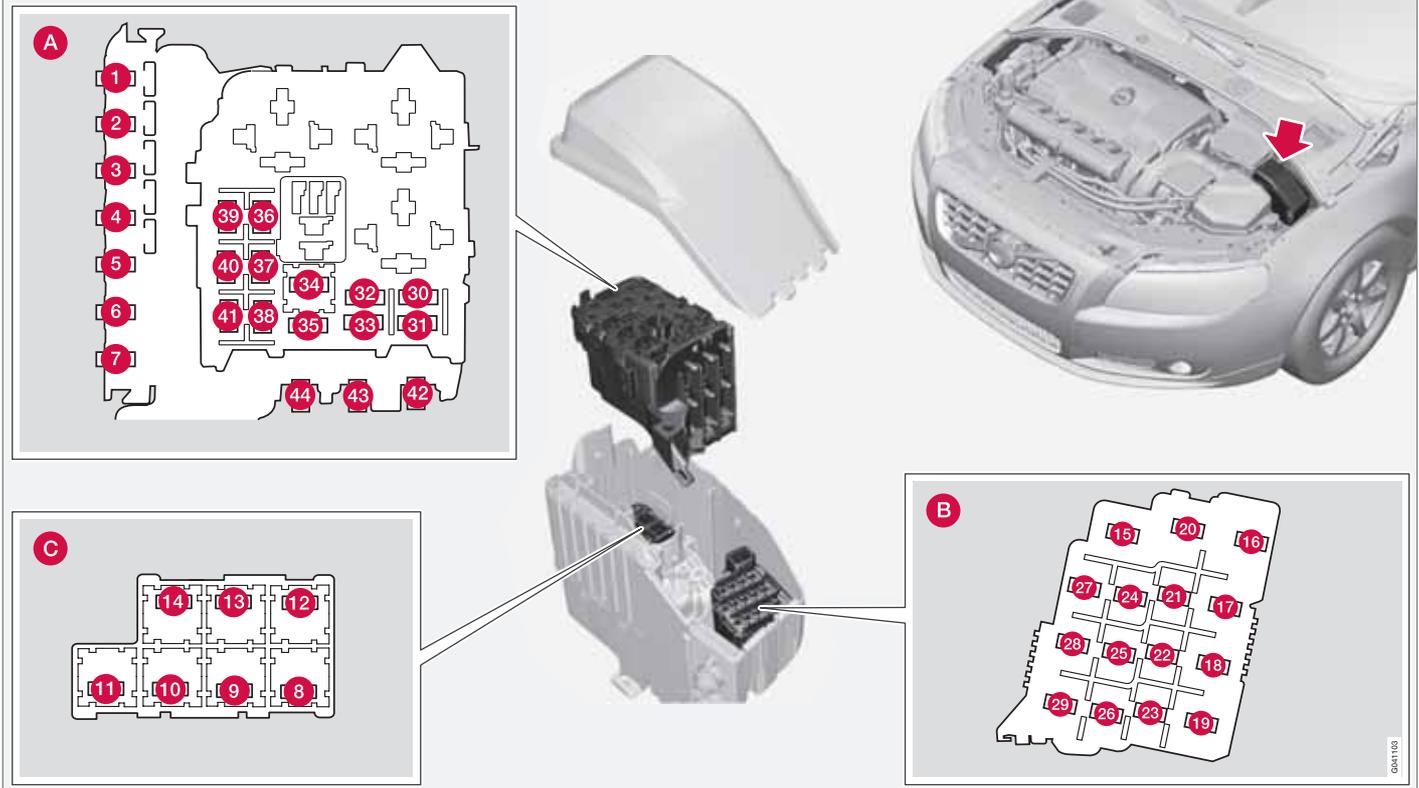
Central electrical unit locations in a left-hand drive car. In a right-hand drive car the central electrical units under the glovebox change sides.

- 1, 2 Under the glovebox
- 3 At the side panel on the passenger side (only Executive\*)
- 4 Cargo area
- 5 Engine compartment



## 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).

- Fuses 1-7 and 42-44 are of the "Midi Fuse" type and must only be replaced by a workshop<sup>1</sup>.
- Fuses 8-15 and 34 are of the "JCASE" type and should be replaced by a workshop<sup>1</sup>.
- Fuses 16-33 and 35-41 are of the "Mini Fuse" type.

	Function	A
1	Primary fuse for the central electronic module (CEM) with fuse box B under the glovebox	50
2	Primary fuse for the central electronic module (CEM) with fuse box B under the glovebox	50
3	Primary fuse for central electrical unit in cargo area	60
4	Primary fuse for central electrical unit in passenger compartment with fuse box A under the glovebox	60
5	Primary fuse for central electrical unit in passenger compartment with fuse box A under the glovebox	60
6	-	-
7	PTC element air pre-heater*	100
8	Headlamp washers*	20

	Function	A
9	Windscreen wipers	30
10	Parking heater*	25
11	Ventilation fan	40
12	-	-
13	ABS pump	40
14	ABS valves	20
15	-	-
16	Headlamp levelling* (Xenon, Active Xenon)	10
17	Primary fuse for the central electronic module (CEM) with fuse box B under the glovebox	20
18	ABS	5
19	Speed related power steering*	5
20	Engine control module, Transmission control module, Airbags	10

<sup>1</sup> An authorised Volvo workshop is recommended.





# 07 Maintenance and service

## Fuses

	Function	A
21	Heated washer nozzles*	10
22	Relay coil, relay, vacuum pump (5-cyl. petrol and 2.0T)	5
23	Headlamp control	5
24	-	-
25	-	-
26	-	-
27	Internal relay coils	5
28	Auxiliary lamps*	20
29	Horn	15
30	Relay coil, main relay, engine management system	10
	Engine control module (5, 6-cyl. petrol)	
	Engine control module (8-cyl.)	
31	Transmission control module	15

	Function	A
32	Compressor A/C	15
33	Relay coil, relay, compressor A/C	5
34	Actuator solenoid, starter motor	30
35	Ignition coils (4-cyl. petrol), Glow control module (diesel)	10
	Ignition coils (5, 6-cyl. petrol)	20
	Ignition coils (8-cyl.)	
36	Engine control module (petrol)	10
	Engine control module (diesel)	15
37	Valves (1.6 l petrol)	10
	Mass air flow sensor (5-cyl. diesel), Control valves (5-cyl. diesel), Injectors (5, 6-cyl. petrol), Engine control module (6-cyl.)	15
	Injectors (8-cyl.)	

	Function	A
38	Engine valves, Engine control module (6-cyl.) Solenoids, cam profile (6-cyl.) Actuator motors, intake manifold (6-cyl.) Mass air flow sensor (4-cyl. 2.0 l petrol)	10
39	Lambda-sond (4-cyl. petrol, 5-cyl. diesel), Control module, radiator roller cover (D3 manual)	10
	EVAP valve (5, 6-cyl. petrol), Lambda-sonds (5, 6-cyl. petrol)	15
	EVAP valve (8-cyl.) Lambda-sonds (8-cyl.)	
40	Coolant pump (8-cyl.)	10
	Vacuum pump (4-cyl. 2.0 l petrol), Crankcase ventilation heater (5-cyl.), Diesel filter heater (5-cyl.)	20
41	-	-
42	Glow plugs (diesel)	70



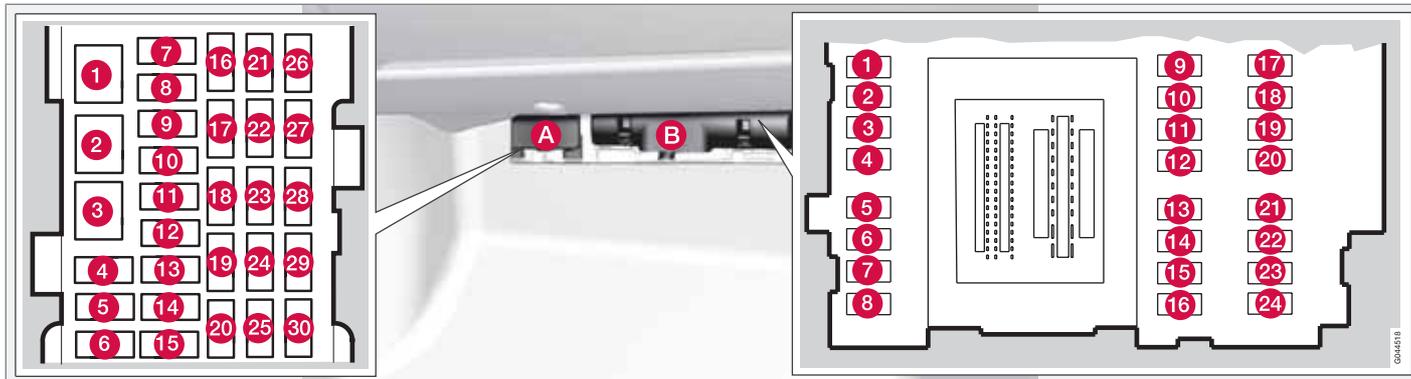
## Fuses

	Function	A
43	Cooling fan (4-cyl., 5-cyl. petrol)	60
	Cooling fan (6-cyl. petrol, 5-cyl. diesel)	80
	Cooling fan (8-cyl.)	
44	Electro-hydraulic power steering	100



## Fuses

### Under the glovebox



### Positions

Box A	Function	A
1	Primary fuse for audio control module*	40
2	-	-
3	-	-
4	-	-
5	-	-

Box A	Function	A
6	-	-
7	12 V socket cargo area*, Refrigerator*	15
8	Control panel, driver's door	20
9	Control panel, front passenger door	20

Box A	Function	A
10	Control panel, rear passenger door, right	20
11	Control panel, rear passenger door, left	20
12	Keyless*	20
13	Power seat driver's side*	20

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07



## Fuses

Box A	Function	A
14	Power seat passenger side*	20
15	Folding head restraint*	15
16	-	-
17	RTI control module* RTI display* Satellite radio*, Digital radio*	10
18	Audio Infotainment control module	15
19	Phone* Bluetooth™*	5
20	-	-
21	Sun roof*, Interior lighting roof, Climate sensor	5

Box A	Function	A
22	12 V socket, tunnel console Rear Seat Entertainment (RSE)*	15
23	Seat heating (passenger side)	15
24	Seat heating (driver's side)	15
25	Massage seats, front*, Armrest lighting*, Refrigerator lighting*, Relay coil, relay, refrigerator*	10
26	Seat heating, rear passenger side right*	15
27	Seat heating, rear passenger side left*	15
28	Parking assistance*, Parking camera*, Towbar control module *	5
29	AWD control module*	10
30	Active chassis Four-C*	10

Box B	Function	A
1	-	-
2	-	-
3	Interior lighting, Driver's door control panel, power windows, Power seats, front*, Remote controlled garage door opener*	7.5
4	Information display (DIM)	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 rear, Central locking system fuel filler flap	10
9	-	-
10	Windscreen washers	15
11	Opening boot lid	10



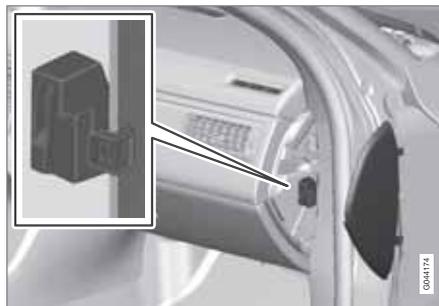
## Fuses

Box B	Function	A
12	-	-
13	Fuel pump	20
14	Remote control key receiver, Movement detector alarm*, Climate panel	5
15	Steering lock	15
16	Siren alarm*, Data link connector OBDII	5
17	-	-
18	Airbags	10
19	Collision warning system	5
20	Accelerator pedal, PTC element air preheater*, Dimming, interior rearview mirror*, Seat heating, rear*	7.5
21	Infotainment <sup>A</sup> , Audio <sup>A</sup> , Rear Seat Entertainment (RSE)*	15
22	Brake light	5

Box B	Function	A
23	Sunroof*	20
24	Immobiliser	5

<sup>A</sup> Only Performance.

### At dashboard - Executive\*



The central electrical unit is located behind the side panel on the passenger side.

### **i** NOTE

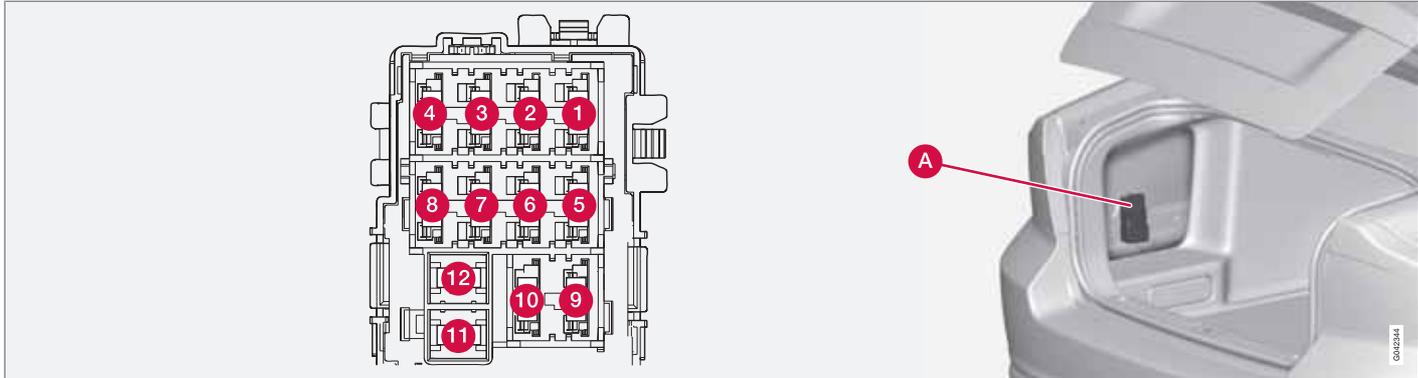
For any fuse replacement the recommendation is that the car is taken into an authorised Volvo workshop.

	Function	A
1	Analogue clock	5



## Fuses

## Cargo area



The fuse box is located behind the upholstery on the left-hand side.

## Positions

	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	-	-

	Function	A
7	-	-
8	-	-
9	-	-
10	-	-
11	Trailer socket 1*	40
12	-	-

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



## Car care

### Washing the car

Wash the car as soon as it becomes dirty. Wash the car in a car wash with oil separator. Use car shampoo.

- Remove bird droppings from the paintwork as soon as possible. Bird droppings contain chemicals that affect and discolour paintwork very quickly. An authorised Volvo workshop is recommended for the removal of any discoloration.
- Hose down the underbody.
- Rinse the entire car to remove loose dirt. Do not spray directly onto the locks.
- Wash using a sponge, car shampoo and plenty of lukewarm water.
- Clean the wiper blades with a lukewarm soap solution or car shampoo.
- Use cold degreasing agent on very dirty surfaces.
- Dry the car using a clean, soft chamois or a water scraper.

### WARNING

Always have the engine cleaned by a workshop. There is a risk of fire if the engine is hot.

### IMPORTANT

Dirty headlamps have impaired functionality. Clean them regularly, when refuelling for example.

### NOTE

Outside lighting such as headlamps, fog lamps and rear lamps may temporarily have condensation on the inside of the lens. This is 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 266.

### NOTE

Wash the wiper blades and windscreen regularly with lukewarm soap solution or car shampoo.

Do not use any strong solvents.

### Automatic car washes

An automatic car wash is a simple and quick way of washing the car, but it cannot reach everywhere. Handwashing the car is recommended for achieving optimum results.

### NOTE

During the first few months a new car must only be handwashed. This is because the paintwork is more sensitive when it is new.

### High-pressure washing

When using high-pressure washing, use sweeping movements and make sure that the nozzle does not come closer than 30 cm to the surface of the car (the distance applies to all exterior parts). Do not spray directly onto the locks.

### Testing the brakes

### WARNING

Always test the brakes after washing the car, including the parking brake, to ensure that moisture and corrosion do not attack the brake linings and reduce braking performance.

Lightly depress the brake pedal now and then when driving long distances in rain or slush. The heat from the friction causes the brake lin-



ings to warm up and dry. Do the same thing after starting in very damp or cold weather.

### Exterior plastic, rubber and trim components

A special cleaning agent available from Volvo dealers is recommended for the cleaning and care of coloured plastic parts, rubber and trim components, such as glossy trim mouldings. When using such a cleaning agent the instructions must be followed carefully.

#### IMPORTANT

Avoid waxing and polishing on plastic and rubber.

When using degreasant on plastic and rubber, only rub with light pressure if it is necessary. Use a soft washing sponge.

Polishing glossy trim mouldings could wear away or damage the glossy surface layer.

Polishing agent that contains abrasive must not be used.

### Rims

Only use rim cleaning agent recommended by Volvo.

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.

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.

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



## Car care

Under normal conditions the rustproofing does not require treatment for approximately 12 years. After this period, it should be treated at three-year intervals. Volvo recommends that you engage an authorised Volvo workshop for assistance if the car needs further treatment.

Dirt and road salt can lead to corrosion so it is important to keep the car clean. The car's rustproofing needs to be checked regularly and touched-up if necessary in order for it to be maintained.

### Cleaning the interior

Only use cleaning agents and car care products recommended by Volvo. Clean regularly and follow the instructions included with the car care product.

Vacuuming is important prior to using cleaning agents.

### 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 approved in accordance with the Oeko-Tex 100 standard and is treated to preserve its original appearance.

Leather upholstery ages and acquires a beautiful patina over time. The leather is refined and processed so that it retains its natural charac-

teristics. It is given a protective coating, but regular cleaning is required in order to maintain both characteristics and appearance. Volvo offers a comprehensive product for the cleaning and treatment of leather upholstery which, when used in accordance with the instructions, preserves the leather's protective coating. After a period of use the natural appearance of the leather will nevertheless emerge, depending more or less on the surface texture of the leather. This is a natural maturing of the leather and shows that it is a natural product.

To achieve best results Volvo recommends cleaning and the application of protective cream once to four times per year (or more if necessary). The Volvo Leather Care kit is available from your Volvo dealer.

### IMPORTANT

- Certain items of coloured clothing (for example, jeans and suede garments) may stain the upholstery.
- Never use strong solvents. Such products may damage fabric, vinyl and leather upholstery.

### Washing instructions for leather upholstery

1. Pour the leather cleaner on the dampened sponge and squeeze out a strong foam.



2. Work the dirt away with gentle circular movements.
3. Dab accurately with the sponge on the stains. Allow the sponge to absorb the stain. Do not rub.
4. Wipe off with soft paper or a cloth and allow the leather to dry completely.

#### Protective treatment of leather upholstery

1. Pour a small amount of the protective cream on the felted cloth and massage in a thin layer of cream with gentle circular movements on the leather.
2. Allow the leather to dry for 20 minutes before use.

The leather has now been given improved protection against stains and improved UV protection.

#### Washing instructions for the leather steering wheel

- Remove dirt and dust with a soft pre-moistened sponge and neutral soap.
- Leather needs to breathe. Never cover the leather steering wheel with protective plastic.
- Use natural oils. Volvo's leather care agents are recommended for best results.

#### If the steering wheel has stains:

**Group 1** (ink, wine, coffee, milk, sweat and blood)

- Use a soft cloth or sponge. Mix a 5% ammonia solution. (For blood stains, use a solution of 2 dl water and 25g salt.)

**Group 2** (fats, oils, sauces and chocolate)

1. Same procedure as group 1.
2. Polish with an absorbent paper or cloth.

**Group 3** (dry dirt, dust)

1. Use a soft brush to remove the dirt.
2. Same procedure as group 1.

#### Treating stains on interior plastic, metal and wood parts

A fibrillated fibre or microfibre cloth, lightly moistened with water, available from Volvo dealers, is recommended for cleaning interior parts and surfaces.

Do not scrape or rub stains. Never use strong stain removers. A special cleaning agent available from Volvo dealers can be used for more difficult cleaning.

#### 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 and doors.

#### Materials

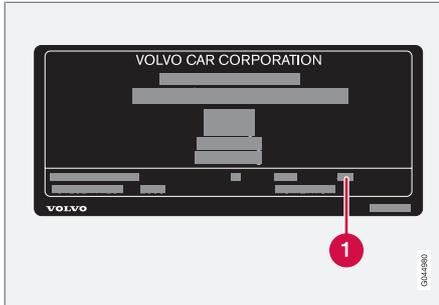
- primer in a can
- spray can or touch-up pen<sup>1</sup>
- masking tape

<sup>1</sup> Follow the instructions that are included with the package for the touch-up pen.



## Car care

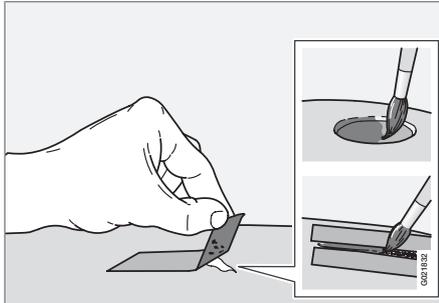
### Colour code



#### 1 Car colour code

It is important that the correct colour is used. For product decal location, see page 288.

### Repairing stone chips



Before work is begun, the car must be clean and dry and at a temperature above 15 °C.

1. Apply a piece of masking tape over the damaged surface. Then remove the tape to remove any loose paint.
2. Stir the primer well and apply using a fine brush or a matchstick. Apply paint using a brush once the primer is dry.
3. For scratches, proceed as above, but mask around the damaged area to protect the undamaged paintwork.
4. After a few days, polish the touched-up areas. Use a soft rag and a small amount of lapping paste.

#### NOTE

If the stone chip has not penetrated to the bare metal and there is an undamaged colour coat, you can paint straight after cleaning the damaged surface.

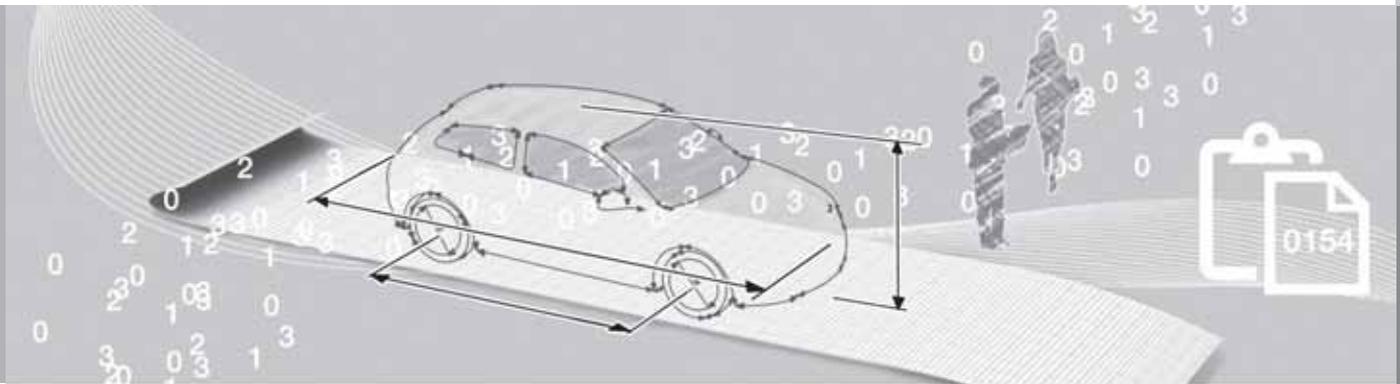


Type designations.....	288
Dimensions and weights.....	290
Engine specifications.....	294
Engine oil.....	295
Fluids and lubricants.....	297
Fuel.....	299
Wheel and tyres, dimensions and pressure .....	300
Electrical system.....	302
Type approval.....	303
Symbols in the display.....	304



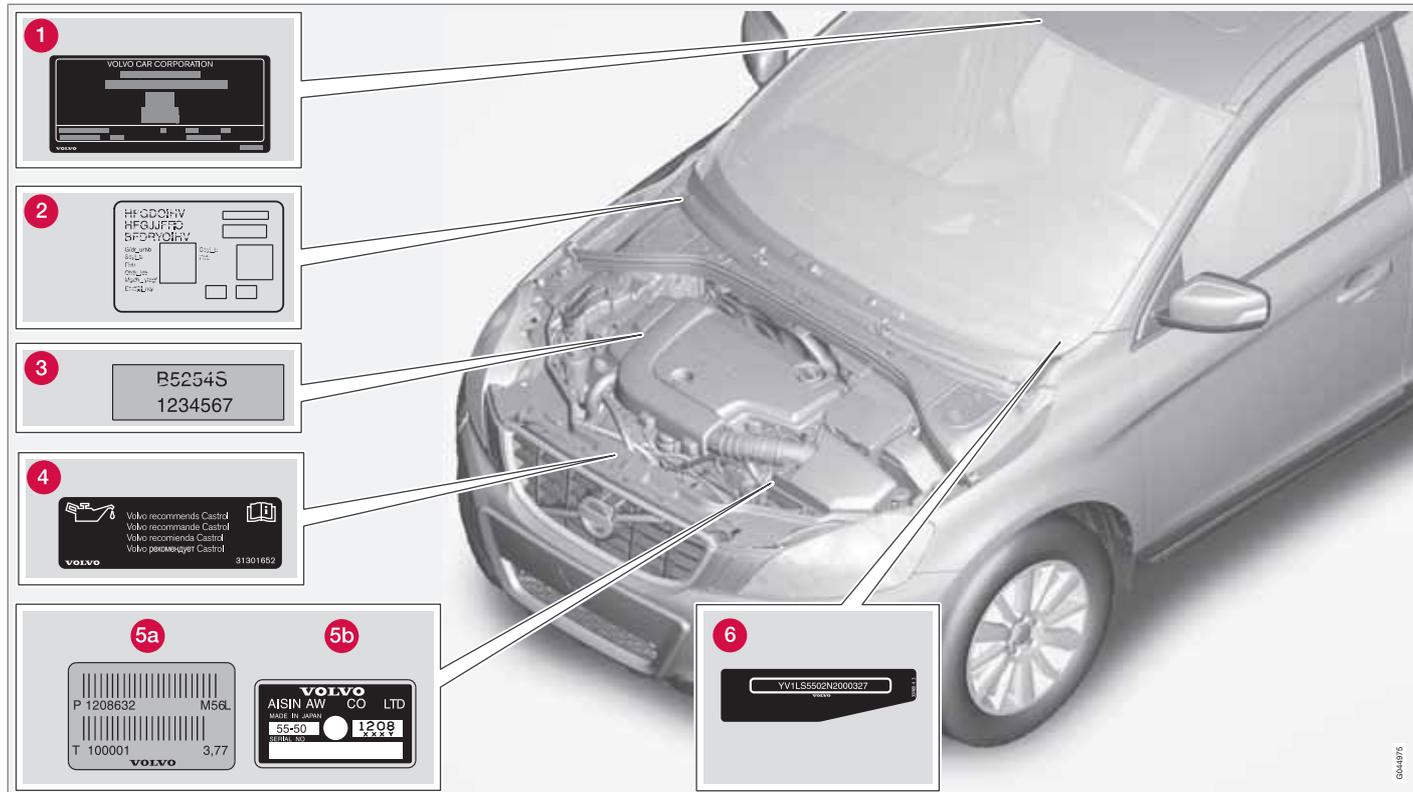
# 08

## 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, component and serial numbers.
- 4 The engine oil label specifies oil grade and viscosity.
- 5 Gearbox type designation and serial number.
  - A Manual gearbox
  - B Automatic gearbox
- 6 Car's identification number. (VIN Vehicle Identification Number)

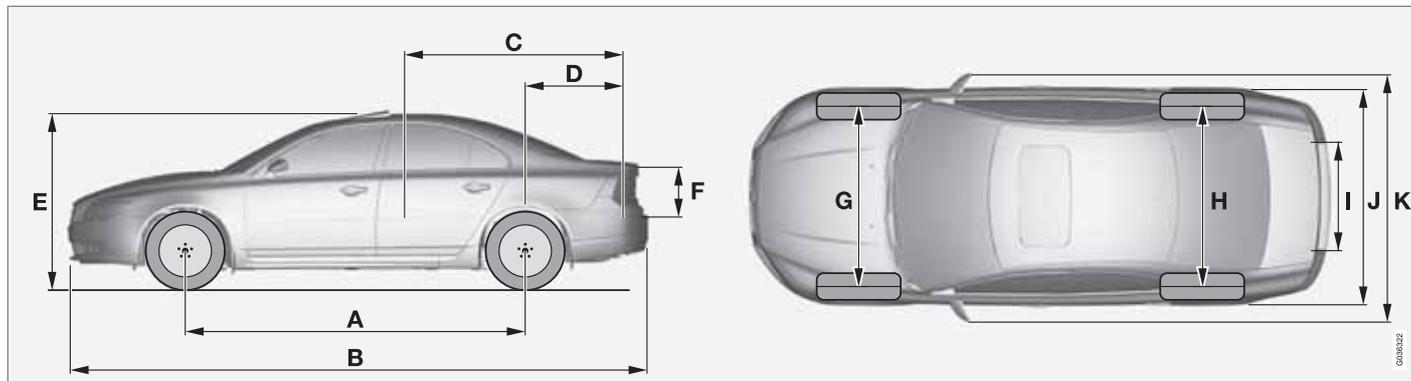
Further information on the car is presented in the registration document.

**i** NOTE

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

## Dimensions and weights

### Dimensions



	Dimensions	mm
A	Wheelbase	2835
B	Length	4851
C	Load length, floor, folded seat	1927
D	Load length, floor	1094
E	Height	1493
F	Load height	368

	Dimensions	mm
G	Front track	1588 <sup>A</sup>
		1578 <sup>B</sup>
H	Rear track	1585 <sup>A</sup>
		1575 <sup>B</sup>
I	Load width, floor	1130

	Dimensions	mm
J	Width	1861
K	Width including door mirrors	2106

A with 16" wheel  
B with 17" wheel

06/08/22

## Dimensions and weights

**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 292) influences the payload and is not included in the kerb weight.

Permitted max. load = Gross vehicle weight - Kerb weight.

**i NOTE**

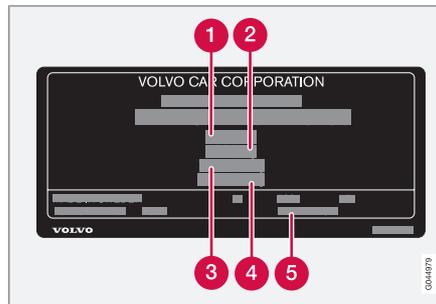
The documented kerb weight applies to cars in the standard version - i.e. a car without extra equipment or accessories. This means that for every accessory added the loading capacity of the car is reduced correspondingly by the weight of the accessory.

Examples of accessories that reduce loading capacity are the Kinetic/Momentum/Summum equipment levels, as well as other accessories such as Towbar, Load carriers, Space box, Audio system, Auxiliary lamps, GPS, Fuel-driven heater, Safety grille, Carpets, Cargo cover, Power seats, etc.

Weighing the car is a certain way of ascertaining the kerb weight of your own particular car.

**⚠ WARNING**

The car's driving characteristics change depending on how heavily it is loaded and how the load is distributed.



For information on decal location, see page 288.

- 1** Max. gross vehicle weight
- 2** Max. train weight (car+trailer)
- 3** Max. front axle load
- 4** Max. rear axle load
- 5** Equipment level

Max. load: See registration document.

Max. roof load: 100 kg.

<b>Dimensions and weights</b>
-------------------------------

**Towing capacity and towball load**

Engine	Gearbox	Max. weight braked trailer (kg)	Max. towball load (kg)
2.0F	Automatic, MPS6	1000	50
All	All (except 2.0F with Automatic, MPS6)	1200	50
2.0F	Manual, MTX75	1320	75
2.0T	Manual, MMT6	1800	90
2.0T	Automatic, MPS6	1800	90
2.5FT	Manual, M66	1600	75
2.5FT	Automatic, TF-80SC	1800	90
2.5T	Manual, M66	1600	75
2.5T	Automatic, TF-80SC	1800	90
T4	Manual, MMT6	1600	75
T4	Automatic, MPS6	1600	75
T5	Manual, MMT6	1800	90
T5	Automatic, MPS6	1800	90
3.2	Automatic, TF-80SC Automatic, TF-80SC AWD	1800	90
T6 AWD	Automatic, TF-80SC	2000	90
D3	Manual, M66	1600	75

<b>Dimensions and weights</b>
-------------------------------

Engine	Gearbox	Max. weight braked trailer (kg)	Max. towball load (kg)
D3	Automatic, TF-80SC	1600	75
D5	Manual, M66	1600	75
D5	Automatic, TF-80SC Automatic, TF-80SC AWD	2000	90

Max. weight unbraked trailer (kg)	Max. towball load (kg)
750	50

**i** NOTE

The use of a stabiliser hitch on the towing bracket is recommended for trailers heavier than 1800 kg.

<b>Engine specifications</b>
------------------------------

**Engine specifications**

Model	Engine code	Output (kW/rpm)	Output (hp/rpm)	Torque (Nm/rpm)	No. of cylinders	Bore (mm)	Stroke (mm)	Swept volume (litres)	Compression ratio
2.0F	B4204S4	107/6000	145/6000	190/4500	4	87,5	83.1	1.999	10.8:1
2.5FT	B5254T8 <sup>A</sup>	147/4800	200/4800	300/1500-4500	5	83.0	93.2	2.521	9.0:1
2.5FT	B5254T11	170/4800	231/4800	340/1700-4800	5	83.0	93.2	2.521	9.0:1
2.0T	B4204T6	149/6000	203/6000	300/1750-4000	4	87,5	83.1	1.999	10.0:1
2.5T	B5254T10	170/4800	231/4800	340/1700-4800	5	83.0	93.2	2.521	9.0:1
T4	B4164T	132/5700	180/5700	240/1600-5000	4	79	81.4	1,595	10.0:1
T5	B4204T7	177/5500	240/5500	320/1800-5000	4	87,5	83.1	1.999	10.0:1
3.2	B6324S5	179/6400	243/6400	320/3200	6	84	96	3.192	10.8:1
T6	B6304T4	224/5600	304/5600	440/2100-4200	6	82.0	93.2	2.953	9.3:1
D3	D5204T2	120/2900	163/2900	400/1400-2850	5	81.0	77	1.984	16.5:1
D5	D5244T10	151/4000	205/4000	420/1500-3250	5	81.0	93.15	2.400	16.5:1

<sup>A</sup> Certain markets

## Engine oil

**Adverse driving conditions**

Adverse driving conditions can lead to abnormally high oil temperature or oil consumption. Below are some examples of adverse driving conditions.

Check the oil level more frequently for long journeys:

- towing a caravan or trailer
- in mountainous regions
- at high speeds
- in temperatures colder than  $-30\text{ }^{\circ}\text{C}$  or hotter than  $+40\text{ }^{\circ}\text{C}$

The above also apply to shorter driving distances at low temperatures.

Choose a fully synthetic engine oil for adverse driving conditions. It provides extra protection for the engine.

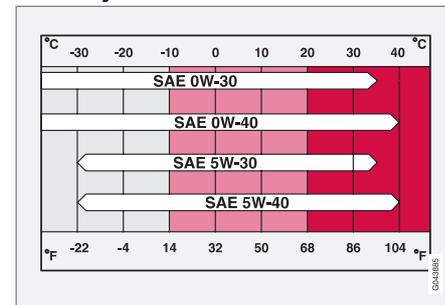
Volvo recommends Castrol oil products.

**! IMPORTANT**

In order to fulfil the requirements for the engine's service intervals all engines are filled with a specially adapted synthetic engine oil at the factory. The choice of oil has been made very carefully with regard to service life, starting characteristics, fuel consumption and environmental impact.

An approved engine oil must be used in order that the recommended service intervals can be applied. Only use a prescribed grade of oil for both filling and oil change, otherwise you will risk affecting service life, starting characteristics, fuel consumption and environmental impact.

Volvo Car Corporation disclaims all warranty liability if engine oil of the prescribed grade and viscosity is not used.

**Viscosity chart**

## Engine oil

## Engine oil grade

Engine variant	Engine code		Volume, incl. oil filter (litres)
2.5FT	B5254T8 <sup>A</sup>	<b>Oil grade: ACEA A5/B5</b> <b>Viscosity: SAE 0W-30</b>	5.5
2.5FT	B5254T11		5.5
2.5T	B5254T10		5.5
3.2	B6324S5		6.8
T6	B6304T4		6.8
D3	D5204T2		5.9
D5	D5244T10		5.9
2.0F	B4204S4	<b>Oil grade: ACEA A5/B5</b> <b>Viscosity: SAE 5W-30</b> When driving under adverse conditions, use ACEA A5/B5 SAE 0W-30.	4.3
2.0T	B4204T6		5.4
T4	B4164T		4.1
T5	B4204T7		5.4

<sup>A</sup> Certain markets

For filling engine oil, see page 253.

## Fluids and lubricants

## Other fluids and lubricants

Manual gearbox	Volume (litres)	Prescribed transmission fluid
MMT6	1.7	BOT 350M3
MTX75	1.8	
M66	1.9	

Automatic gearbox	Volume (litres)	Prescribed transmission fluid
MPS6	7.3	BOT 341
TF-80SC	7.0	JWS 3309 <sup>A</sup> AW1 <sup>B</sup>

<sup>A</sup> Only applies to 2.5FT and 2.5T.

<sup>B</sup> Applies to others.

Fluid	System	Volume (litres)	Prescribed grade
Coolant	2.0F	7.8	Coolant recommended by Volvo mixed with 50% water <sup>A</sup> , see the packaging.
	T5	10.5	
	2.0T, 2.5T, 2.5FT, 3.2 and T6	8.9	
	D3 and D5	8.9	
	T4, Manual select	9.2	
	T4, Automatic	9.8	

## Fluids and lubricants

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.
Washer fluid	Cars with headlamp washing	6.5	Use a washer antifreeze recommended by Volvo, mixed with water.
	Cars without headlamp washing	4.5	
Fuel	Petrol engine	approx. 70	Petrol: see page 218
	Diesel engine	approx. 70	Diesel: see page 219

<sup>A</sup> Water quality must fulfil the standard STD 1285.1.



### NOTE

Under normal driving conditions, the gear-box oil does not need to be changed during its service life. However, this may be necessary under adverse driving conditions, see page 297.

See further information and more advice on pages 12 and 214.

See page 218 for general information on fuel.

### Fuel consumption

There are several causes that can affect fuel consumption negatively. 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.

### 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 300.
- Choice of tyres can affect fuel consumption - seek advice on suitable tyres from a dealer.

<b>Wheel and tyres, dimensions and pressure</b>
---

**Approved tyre pressures**

Variant	Tyre size	Speed (km/h)	Load, 1-3 persons		Max. load		ECO pressure <sup>A</sup>
			Front (kPa) <sup>B</sup>	Rear (kPa)	Front (kPa)	Rear (kPa)	Front/rear (kPa)
3.2 T6	225/55 R 16	0-160	230	210	260	260	260
	225/50 R 17	160 +	280	280	290	290	-
	245/45 R 17						
	245/40 R 18	0-160	230	210	260	260	260
160 +		270	270	290	290	-	
D5	225/55 R 16	0-160	220	210	260	260	260
	225/50 R 17	160 +	260	260	270	270	-
	245/45 R 17						
	245/40 R 18	0-160	230	210	260	260	260
		160 +	260	260	270	270	-

## Wheel and tyres, dimensions and pressure

Variant	Tyre size	Speed (km/h)	Load, 1-3 persons		Max. load		ECO pressure <sup>A</sup>
			Front (kPa) <sup>B</sup>	Rear (kPa)	Front (kPa)	Rear (kPa)	Front/rear (kPa)
2.5T	225/55 R 16	0-160	220	210	260	260	260
2.0T	225/50 R 17	160 +	260	260	270	270	-
2.5FT <sup>C</sup>	245/45 R 17						
D3	205/60 R 16	0-160	230	210	260	260	260
T5		160 +	260	260	270	270	-
T4							
DRIVE	245/40 R 18						
Temporary Spare Tyre		max. 80	420	420	420	420	-

<sup>A</sup> Economical driving.

<sup>B</sup> In certain countries there is the "bar" unit beside the SI unit "Pascal": 1 bar = 100 kPa.

<sup>C</sup> 245/45 R17 and 245/40 R18 are not approved for 2.5FT.

## Electrical system

### Electrical system

The car has a voltage-regulated AC alternator. The electrical system is single-pole and uses the chassis and engine casing as a conductor.

The battery capacity is dependent upon the equipment level in the vehicle.



### IMPORTANT

If the battery is replaced, replace it with a battery of the same cold start capacity and reserve capacity as the original (see the decal on the battery).

### Battery

Voltage (V)	Cold start capacity, CCA - Cold Cranking Amperes (A)	Reserve capacity (minutes)
12	520-800	100-160
12	520-700	100-135
12	600-800	120-160
12	700-800	135-160

## Type approval

## Remote control system

Country	
A, B, CY, CZ, D, DK, E, EST, F, FIN, GB, GR, H, I, IRL, L, LT, LV, M, NL, P, PL, S, SK, SLO	 Delphi hereby certifies that this remote control key system conforms to the essential characteristic requirements and other relevant regulations of directive 1999/5/EC.
IS, LI, N, CH	
HR	
ROK	Delphi 2003-07-15, Germany R-LPD1-03-0151
BR	
RC	 CCAB06LP1940T4

## Radar system

Country	
Singapore	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Complies with IDA standards DA105753</div> IDA: Infocomm Development Authority of Singapore.
Brazil	

## 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 64, 65 and 128.

The red warning symbol  illuminates when a fault has been indicated which could affect the safety and/or driveability of the car. At the same time an explanatory text is displayed in the information display.

The yellow information symbol  illuminates, in combination with text in the information display, when a deviation in any of the car's systems has occurred. The yellow symbol information can also illuminate in combination with other symbols.

### Symbols in the display

#### Indicator and warning symbols in the combined instrument panel

Symbol	Meaning	Page
	Low oil pressure	65
	Parking brake	65, 115, 116
	Airbags - SRS	19, 65
	Seatbelt reminder	16, 65
	Alternator not charging	65
	Fault in the brake system	65, 114
	Warning, safety mode	19, 30, 65, 67, 110

#### Indicator and information symbols in the combined instrument panel

Symbol	Meaning	Page
	Fault in the ABL system*	64, 79
	Emissions system	64
	Fault in the ABS system	64, 114
	Rear fog lamp on	64, 81
	Stability system, DSTC	64, 162
	Engine preheater (diesel)	64
	Low level in fuel tank	64, 139
	Information, read display text	64
	Main beam on	64, 79
	Left-hand direction indicators	64
	Right-hand direction indicators	64

## Symbols in the display

## Other information symbols in the combined instrument panel

Symbol	Meaning	Page
	Adaptive cruise control*	165, 169, 173
	Adaptive cruise control*	173
	Adaptive cruise control*, Distance Alert*	173, 176
	Adaptive cruise control*, Distance Alert*	173, 176
	Adaptive cruise control*	173
	Adaptive cruise control*, Distance Alert*	169, 175
	Adaptive cruise control*, Distance Alert*	169, 175
	Adaptive cruise control*	169

Symbol	Meaning	Page
	Radar sensor*	173, 176, 183
	Camera sensor*, Laser sensor*	183, 186, 189
	Auto Brake*, Distance Alert*, Collision warning system*	176, 183
	Fuel-driven engine block heater and passenger compartment heater*	139
	ABL system*	79
	Fuel filler flap, right-hand side	217
	Low battery	139
	Parking brake	116
	Rain sensor*	87

Symbol	Meaning	Page
	Driver Alert System*	186
	Driver Alert System*, Lane Departure Warning*	186, 189
	Driver Alert System*, Lane Departure Warning*	189
	Driver Alert System*, Time for a break	186

## Information symbols in the centre console display

Symbol	Meaning	Page
	Audio files	147
	Directory in CD disc	147
	Traffic information	149
	Phone*	203, 208

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

## Symbols in the display

Symbol	Meaning	Page
	Bluetooth™ hands-free*	204, 206
	Parking assistance*	191

## Information symbols in the roof console display

Symbol	Meaning	Page
	Seatbelt reminder	17
	Airbag, passenger seat, activated	22, 23
	Airbag, passenger seat, deactivated	23



**A**

ACC – Adaptive cruise control.....	167	Air conditioning, AC.....	135	Audio system.....	142
Active Bending Lights (ABL).....	79	Air distribution.....	132, 137	functions.....	143
Active chassis – FOUR-C.....	164	Air vents.....	132	overview.....	142
Active Xenon headlamps.....	79	Alarm.....	56	Audio volume	
Adaptation.....	104	alarm indicator.....	56	phone.....	205
Adapting driving characteristics.....	164	alarm signals.....	56	phone/media player.....	205
Adaptive cruise control.....	167	arming.....	56	ring signal, phone.....	205
fault tracing.....	172	checking the alarm.....	42	Auto	
radar sensor.....	171	deactivating.....	56	climate control settings.....	134
Adaptive cruise control fault tracing.....	172	deactivating a triggered alarm.....	56	Automatic car washes.....	280
Additional heater (Diesel).....	141	reduced alarm level.....	57	Automatic gearbox.....	106
Adjusting headlamp pattern.....	83	temporary disarming of the alarm.....	57	manual gear positions (Geartronic).....	107
halogen headlamp.....	84	testing the alarm system.....	57	towing and recovery.....	231
Adjusting the steering wheel.....	77	Alcolock.....	97	trailer.....	226
Airbag		Allergy and asthma inducing sub- stances.....	131	Automatic locking.....	51
activating/deactivating, PACOS.....	22	All-wheel drive, AWD.....	112	Automatic relocking.....	51
driver's and front passenger side.....	20	All Wheel Drive (AWD).....	112	Auxiliary heater.....	141
key switch off.....	22	Approach light, duration.....	83	AUX input.....	142
AIRBAG .....	20	Audio		AWD, All-wheel drive.....	112
Airbag system .....	19	headphones socket.....	143		
Air conditioning.....	135	rear control panel.....	143		
general.....	130	settings.....	143		
		surround.....	142		

**B**

Backrest.....	71
front seat, lowering.....	71
Backrest rear seat, lowering.....	73

- Bag holder ..... 223
- Battery..... 268, 302  
 maintenance..... 268  
 remote control key/PCC..... 46  
 start assistance..... 105  
 symbols on the battery..... 268  
 warning symbols..... 268
- Bioethanol E85..... 219
- Blind spot (BLIS)..... 194
- Blind Spot Information System, BLIS..... 194
- Bluetooth  
 handsfree..... 203  
 mute microphone..... 205  
 transfer call to mobile..... 205
- Bonnet, opening..... 252
- Boot lid  
 locking/unlocking..... 52
- Brake and clutch fluid..... 257
- Brake light..... 80
- Brakes..... 113  
 anti-lock braking system, ABS..... 113  
 brake light..... 80  
 brake system..... 113  
 electric parking brake..... 115  
 Emergency Brake Assistance, EBA ... 113  
 emergency brake lights..... 80
- filling brake fluid..... 257  
 symbols in the combined instrument  
 panel..... 114
- Built-in phone..... 208
- Bulbs, see Lighting..... 259
- [**
- Calls**  
 functions during a call..... 208, 209  
 incoming..... 204, 209  
 operation..... 204, 208  
 volume in phone..... 209  
 waiting..... 209
- Call waiting..... 209
- Camera sensor..... 181
- Car care..... 280
- Car care, leather upholstery..... 282
- Cargo area  
 loading..... 222  
 load retaining eyelets..... 223  
 mat..... 202
- Car upholstery..... 282
- Car wash..... 280
- Catalytic converter..... 218  
 recovery..... 231
- Centre console..... 124
- Chassis settings..... 164
- Checking and topping up the coolant.... 256
- Checking the engine oil level..... 253
- Children..... 31  
 child safety locks..... 36  
 child seats and side airbags..... 24  
 location in the car..... 31  
 safety..... 31
- Child safety locks..... 55
- Child seat..... 31
- Child seats..... 31  
 ISOFIX fixture system for child seats... 36  
 recommended..... 33  
 upper mounting points for child seats.. 36
- Cigarette lighter socket..... 199
- Cleaning  
 automatic car washes..... 280  
 car wash..... 280  
 rims..... 281  
 seatbelts..... 283  
 upholstery..... 282
- Clean Zone Interior Package (CZIP)..... 131

Climate control.....	130	Crash, see Collision.....	30	Driving.....	214
general.....	130	Cruise control.....	165	cooling system.....	214
sensors.....	130	CZIP (Clear Zone Interior Package).....	131	with the boot lid open.....	215
Clock				with trailer.....	225
analogue.....	68	<b>D</b>		Driving in water.....	214
Clock, setting.....	67	<hr/>		Driving with a trailer	
CO <sub>2</sub> emissions .....	299	DAB, menu structure.....	153	towball load.....	291
Collision.....	30	DAB Radio.....	152	towing capacity.....	291
Collision warning.....	178, 179	Deadlocks.....	53	DSTC, see also Stability control system..	162
Collision warning system		deactivation.....	53		
radar sensor.....	171, 179	temporary deactivation.....	54	<b>E</b>	
Collision Warning with Auto Brake*.....	178	Defroster.....	135	<hr/>	
Colour code, paint.....	284	Diesel.....	219	ECC, electronic climate control.....	133
Combined instrument panel.....	128	Diesel particle filter.....	220	Economical driving.....	214
Comfort inside the passenger compart- ment.....	198	Dipstick, electronic.....	255	ECO pressure.....	243
Compass.....	94	Direction indicators.....	81	Electrical socket.....	200
calibration.....	94	Disengaging the gear selector inhibitor...	109	cargo area.....	223
setting the zone.....	94	Display lighting.....	78	front seat.....	200
Condensation in headlamps.....	280	Distance Alert.....	175	Electric parking brake.....	115
Controls		Dolby Surround Pro Logic II.....	142	low battery voltage.....	115
centre console.....	124	Door mirrors.....	91	releasing automatically.....	116
Cooler box.....	202	Driver Alert Control.....	185	releasing manually.....	116
Cooling system.....	214	Driver Alert System.....	185	Emergency calls.....	208

- Emergency puncture repair..... 245
- Engine
- overheating..... 225
  - starting..... 101
- Engine block heater..... 103
- fuel-driven..... 138
- Engine compartment
- coolant..... 256
  - oil..... 253
  - overview..... 253
  - power steering fluid..... 258
- Engine oil..... 253, 295
- adverse driving conditions..... 295
  - capacities..... 295
  - filter..... 253
  - oil grade..... 295
- Engine specifications..... 294
- Environmental labelling, FSC, owner's manual..... 12
- Error messages
- Driver Alert Control..... 186
  - Lane Departure Warning..... 189
  - see Messages and symbols..... 173
- Error messages in BLIS..... 195
- Error messages in Distance Alert..... 176
- Error messages in the Adaptive cruise control..... 173
- Expectant mothers, seatbelt..... 17
- External dimensions..... 290
- ## F
- 
- Fan..... 133
- Fault tracing for the camera sensor..... 182
- First aid equipment..... 244
- First aid kit ..... 244
- Flexifuel..... 103
- adaptation..... 104
- Fluids, capacities..... 297
- Fluids and oils..... 297
- FM, menu structure..... 151
- Fog lamp
- front..... 80
- Fog lamps
- rear..... 81
- Fog lamps, on/off..... 80
- Foot brake..... 113
- FOUR-C – Active chassis..... 164
- Front seat
- adjusting front - rear..... 76
  - lumbar..... 75
  - massage..... 75
- FSC, environmental labelling..... 12
- Fuel..... 218
- fuel consumption..... 299
  - fuel economy..... 243
  - fuel filter..... 220
- Fuse box..... 271
- glovebox..... 276
- Fuses..... 271
- box in cargo area..... 279
  - changing..... 271
  - general..... 271
  - relay/fuse box in engine compartment..... 272
- Fuse table
- fuses in engine compartment..... 273
- ## G
- 
- Gearbox..... 106
- automatic..... 106
  - manual..... 106
- Gear selector inhibitor..... 108

Gear selector inhibitor, mechanical disengagement.....	109
Geartronic.....	107
Glass.....	202
laminated/reinforced.....	89
Glovebox.....	199
locking.....	52
Gross vehicle weight.....	291

## H

---

Hazard warning flashers.....	81
Headlamp levelling.....	78
Headlamp pattern, adjusting.....	83
Headlamp pattern adjustment	
Active Bending Lights .....	84
Headlamps.....	259
Headphones socket.....	143
Head restraint	
centre seat, rear.....	74
lowering.....	74
Heated washer nozzles.....	88
Heating.....	135
rearview and door mirrors.....	93

rear window.....	93
seats.....	134
Heat-reflecting windscreen.....	89
High engine temperature.....	225
High-pressure headlamp washing.....	88
HomeLink® .....	118
Home safe lighting.....	83
Hoot.....	77
Horn.....	77

## I

---

IAQS – Interior Air Quality System.....	131
IC – Inflatable Curtain.....	26
IDIS – Intelligent Driver Information System.....	210
Ignition keys.....	69
IMEI number.....	211
Immobiliser.....	40
Indicator lamps, PCC.....	42
Inflatable curtain.....	26
Information and warning symbols.....	64
Information button, PCC.....	42

Information displays.....	63
Inlaid mats.....	200
Instrument lighting, see Lighting.....	78
Instrument overview	
left-hand drive.....	60
right-hand drive.....	62
Instruments and controls.....	60
Interior lighting, see Lighting.....	82
Interior rearview mirror.....	93
automatic dimming.....	93
Intermittent wiping.....	87
iPod®, connection.....	145

## J

---

Jack.....	241
-----------	-----

## K

---

Kerb weight.....	291
Key.....	40
Key blade.....	43
Keyless drive.....	48, 101

Keyless start (keyless drive).....	48, 101
Keylock.....	108
Keypad in the steering wheel.....	77, 124, 165, 208
Key positions.....	69

## L

Labels.....	288
Laminated glass.....	89
Lamps, see Lighting.....	259
Lane Departure Control.....	188
Leather upholstery, washing instructions	282
Lighting.....	259
Active Xenon headlamps.....	79
approach light, duration.....	83
automatic lighting, passenger compart- ment.....	82
bulbs, specifications.....	264
controls.....	82
display lighting.....	78
front fog lamps.....	80
headlamp levelling.....	78
home safe lighting.....	83
in passenger compartment.....	82
instrument lighting.....	78
main/dipped beam.....	78
position/parking lamps.....	80
rear fog lamp.....	81
Lighting, bulb replacement.....	259
cargo area.....	264
dipped beam halogen.....	260
direction indicators.....	261
fog lamp.....	262
lamp housing, rear.....	262
lamp housing, rear, direction indica- tors.....	262
main beam, Xenon lamp.....	261
main beam halogen.....	260
number plate lighting.....	263
parking lamps.....	261
side marker lamps.....	262
vanity mirror.....	264
Light switches.....	78
Loading	
cargo area.....	222
general.....	222
load retaining eyelets.....	223
roof load.....	222
Lock confirmation .....	40
Locking/unlocking	
inside.....	51

Locks	
automatic locking.....	51
boot lid.....	52
locking.....	51
unlocking.....	51
Lubricants.....	297
Lubricants, capacities.....	297

## M

Main/dipped beam, see Lightning.....	78
Maintenance	
rustproofing.....	281
Making calls.....	204, 208
Manual gearbox.....	106
towing and recovery.....	231
Manual gear positions (Geartronic).....	107
Massage	
front seat.....	75
Max. roof load .....	291
Memory function in seats.....	72
Menus and messages.....	124

Menu structure			
DAB.....	153		
FM.....	151		
Messages and symbols			
Collision Warning with Auto Brake.....	183		
Distance Alert.....	176		
Driver Alert Control.....	186		
Lane Departure Warning.....	189		
Messages and symbols in the Adaptive cruise control.....	173		
Messages in BLIS.....	195		
Messages in the combined instrument panel.....	128		
Messages in the information display.....	162		
Meters in the combined instrument panel			
fuel gauge.....	64		
speedometer.....	64		
tachometer.....	64		
Misting.....	135		
attending to the windows.....	130		
condensation in headlamps.....	280		
remove with the air vents.....	137		
timer function.....	135		
Mobile phone			
connect.....	206		
handsfree.....	203		
register phone.....	203		
<b>O</b>			
Oil, see also Engine oil.....	295		
Oil level low.....	253		
Overheating.....	225		
Owner's manual, environmental labelling..	12		
<b>P</b>			
PACOS.....	22		
PACOS, switch.....	22		
Paintwork			
colour code.....	284		
damage and touch-up.....	283		
Panel lighting.....	78		
Panic function.....	41		
Parking assistance.....	191		
parking assistance sensors.....	193		
Parking brake.....	115		
Parking heater.....	138		
battery and fuel.....	138		
parking on a hill.....	138		
time setting.....	140		
Passenger compartment.....	198		
Passenger compartment filter.....	131		
Passenger compartment heater			
fuel-driven.....	138		
PCC – Personal Car Communicator			
functions.....	41		
range.....	42, 43		
Pedestrian detection.....	178		
Petrol grade.....	218		
Phone			
built-in, overview.....	208		
connect.....	206		
handsfree.....	203		
incoming calls.....	204		
making calls.....	204		
messages.....	210		
on/off.....	208		
phone book.....	206		
phone book, shortcut.....	206		
receiving a call.....	205		
register phone.....	203		

ring signal.....	209
SIM card.....	211
Phone book.....	210
Pinch protection, sunroof.....	96
Polishing.....	281
Position/parking lamps.....	80
Power seat.....	72
Powershift gearbox.....	109, 231
Power sunroof.....	95
Power windows.....	89
Privacy locking.....	45
Puncture, see Tyres.....	241
Putting calls on hold.....	209

## R

Radar sensor.....	167
limitations.....	171
Rain sensor.....	87
Rear bulbs	
location.....	263
Rear control panel	
audio system.....	143
Rearview and door mirrors	
compass.....	94
door.....	91
electrically retractable.....	92
heating.....	93
interior.....	93
Rear window, defrosting.....	93
Recirculation.....	135
Recommendations during driving.....	214
Recommended child seats, table.....	33
Recovery.....	232
Refrigerant.....	131
Refuelling.....	217
fuel cap.....	217
fuel filler flap, electrical opening.....	217
fuel filler flap, manual opening.....	217
refuelling.....	217
Relay/fuse box: see Fuses.....	271
Remote control, HomeLink®	
programmable .....	118
Remote control key.....	40
battery replacement.....	46
detachable key blade.....	43
functions.....	41
range.....	42
Remote control key system, type approval.....	303
Resetting the door mirrors.....	92
Resetting the power windows.....	90
Retractable power door mirrors.....	92
Reverse gear inhibitor.....	106
Rims	
cleaning.....	281
Roof load, max. weight .....	291
Rustproofing.....	281
<b>S</b>	
Safety mode.....	30
Seat, see Seats.....	71
Seatbelt	
rear seat.....	17
seatbelt tensioner.....	18
Seatbelt reminder.....	17
Seatbelts.....	16
Seats.....	71
head restraints, rear.....	74
heating.....	134
lowering the front backrest.....	71

lowering the rear backrest.....	73	Steering wheel.....	77	Symbols and messages in the Adaptive	
power seats.....	72	keypad.....	77, 124, 142, 165, 208	cruise control.....	173
ventilated front seats.....	133	keypad, adaptive cruise control.....	169		
Service programme.....	252	steering wheel adjustment.....	77	<b>T</b>	
Set time interval.....	175	Stone chips and scratches.....	283	Temperature	
Side airbags.....	24	Storage compartment.....	202	actual temperature.....	130
Signal input, external.....	142	Storage spaces in the passenger compart- ment.....	198	Temperature control.....	135
SIM card.....	211	Sun blind.....	91	Testing the alarm system.....	57
SIPS bags.....	24	Sunroof		Timer.....	135
Ski hatch.....	224	opening and closing.....	95	Tools.....	241
Soot filter.....	220	pinch protection.....	96	Total airing function.....	51, 131
Soot filter full.....	220	sunscreen.....	96	Towbar	
Spare wheel.....	241	ventilation position.....	95	detachable, attachment .....	228
temporary spare.....	241	Sunscreen, sunroof.....	96	detachable, removal .....	229
Spin control.....	162	Surround.....	142	Towbar, see Towing equipment.....	226
Spin control function.....	162	Symbols.....	162	Towing.....	231
Stability and traction control system.....	162	indicator symbols.....	64	towing eye.....	232
Stability system.....	162	information symbols.....	64	Towing capacity.....	291
Stains.....	282	warning symbols.....	64	Towing equipment.....	226
Start assistance.....	105	Symbols and messages		specifications.....	227
Steering force, speed related.....	164	Collision Warning with Auto Brake.....	183	Towing eye.....	232
Steering force level, see Steering force...	164	Distance Alert.....	176		
Steering lock.....	102	Driver Alert Control.....	186		
		Lane Departure Warning.....	189		



## WHIPS

child seat/booster cushion.....	27
whiplash injury.....	27
Windows, rearview and door mirrors.....	89
Windscreen washing.....	88
Windscreen wipers.....	87
rain sensor.....	87
Winter driving.....	215
Winter tyres.....	238
Wiper blades.....	266
changing.....	266
cleaning.....	266
service position.....	266
Wipers and washing.....	87



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