V60 Plug-in Hybrid 2016 (15w17) User Manual

Version 2025-05-29

Disclaimer

Due to the dynamic nature of our software-based product, the content of this PDF represents the most up-to-date version of the user manual as of the time of printing. As we continuously update and improve our product, certain content may not reflect the most up-to-date information in a future instance. Therefore, we strongly recommend utilising the digital user manual app in your car's centre display for the most accurate and up-to-date information. You can also access information in the Volvo Cars mobile app.

Please note that if you choose to print the manual, we cannot guarantee the validity of the information in future instances, as updates may have occurred since the time of printing. To ensure the highest level of safety and optimal product usage, we strongly advise relying on the digital user manual, which can be easily accessed through your car's centre display. This printable version is generic and does not correspond to your car. If there are discrepancies between this printable manual and the manual you see in your car's centre display, the latter takes precedence.

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1. Introduction

1.1. Change of ownership for cars with Volvo On Call*

In the event of change of ownership of a car it is important to change the owner of the Volvo On Call (VOC) service.

Closing the VOC service

Contact a Volvo dealer in the event of change of ownership in order to close the service. The dealer cancels the subscription and deletes the service history. The service can also be terminated with VOC's mobile app.

In the event of change of ownership it is important to reset personal settings and user data in the car to the original factory settings, see <u>Change of ownership</u>.

Starting the VOC service

Buying a used car with VOC:

The new owner contacts his/her dealer who transfers the remaining time of the subscription to the new owner. It is important that the contact details are updated for VOC to work, and that the previous owner does not have access to perform services in the car. The new owner is given a personal four-digit PIN code, which is required to identify him/her as the owner (or another authorised person) in order to gain access to certain services.

* Option/accessory.

1.2. The owner's manual and the environment

The paper pulp in a printed owner's manual comes from Forest Stewardship Council[®] certified forests or other controlled sources.

The FSC[®] symbol shows that the paper pulp in a printed owner's manual comes from FSC[®] certified forests or other controlled



1.3. Plug-in hybrid - overview

Overview of the unique functions for V60 Plug-in hybrid.



1 <u>Charging the hybrid battery</u>.

2 Hybrid battery.

3 <u>Electric motor</u> with drive on the rear wheels.

1.4. Digital owner's manual in the car

The owner's manual can be read on the screen in the car^[1]. The content is searchable and it is easy to navigate between different sections.



Open the digital owner's manual - press the MY CAR button in the centre console, press OK/MENU and select Owner's manual.

For basic navigation, read how the system is operated and menu navigation. See below for a more detailed description.

Owner's l	Manual		
Q SEARCH Use search to find answers.	CATEGORIES Filter information via categories.	FAVOURITES Your saved Favourites are available here.	QUICK GUIDE Recommended articles.
			1

Owner's manual, start page.

There are four options for finding information in the digital owner's manual:

- Search Search function for finding an article.
- Categories All articles sorted into categories.
- Favourites Quick access to favourite-bookmarked articles.
- Quick Guide A selection of articles for common functions.

Select the information symbol in the lower right-hand corner in order to obtain information about the digital owner's manual.

(i) Note

The digital owner's manual is not available while driving.

Search



Searching using the character wheel.

- 1 Character list.
- **2** Changing the input mode (see following table).

Use the character wheel to enter a search term, e.g. "seatbelt".

- 1 Turn TUNE to the desired letter, press OK/MENU to confirm. The number and letter buttons on the control panel in the centre console can also be used.
- **2** Continue with the next letter and so on.
- **3** To change the input mode to numbers or special characters, or to perform a search, turn TUNE to one of the options (see explanation in the following table) in the list for changing the input mode (2), press OK/MENU.

123/ABC	Change between letters and numbers with OK/MENU.
MORE	Change to special characters with OK/MENU.
ок	Perform the search. Turn TUNE to select a search result article, press OK/MENU to go to the article.
a A	Changes between lowercase and uppercase letters with OK/MENU.

{|} Changes from the character wheel to the search field. Move the cursor with TUNE. Delete any misspelling with EXIT. To return to the character wheel, press OK/MENU. Note that the digit and letter buttons on the control panel can be used for editing in the search field.

Enter with the numerical keyboard



Numerical keyboard.

Another way of entering characters is to use the centre console's buttons 0-9, * and #.

When e.g. **9** is pressed, a bar appears with all characters^[2] under the button, e.g. W, x, y, z and **9**. Quick presses on the button move the cursor through these characters.

- Stop with the cursor on the desired character in order to select it the character is shown on the enter line.
- Delete/undo using EXIT. .

To enter a number, hold in the corresponding number key.

Categories

The articles in the owner's manual are structured into main categories and subcategories. The same article can be in several appropriate categories in order to be found more easily.

Turn TUNE to navigate in the category tree and press OK/MENU to open a category - selected 📕 - or article - selected 🗅 . Press EXIT to go back to the previous view.

Favourites

Located here are the articles that are saved as favourites. To select an article as a favourite, see the heading "Navigating in an article" below.

Turn TUNE to navigate in the favourite list and press OK/MENU to open an article. Press EXIT to go back to the previous view.

Quick Guide

Located here is a selection of articles for getting to know the car's most common functions. The articles can also be accessed via categories, but are collected here for quick access.

Turn TUNE to navigate in the Quick Guide and press OK/MENU to open an article. Press EXIT to go back to the previous view.

Navigating in an article

Reading the owner's manual	ŝ
A good way of getting to know your new car is to read owner's manual, ideally before your first journey. This	d the will give
you the opportunity to familiarise yourself with new fu to see how best to handle the car in different situation to make the best use of all the car's features. Please u	nctions, is, and pay
attention to the <u>safety instructions</u> contained in the m	anual.
	2
	0
The specifications, design features and illustrations in owner's manual are not binding. We reserve the right modifications without prior potice	this to make
4 modified on s without phot notice.	
© Volvo Car Corporation	
	33
* Option/accessory for more information, see Introduc	ction

1 Home - leads to the start page for the owner's manual.

2 Favourite - adds/removes an article as a favourite. You can also press the FAV button in the centre console to add/remove an article as a favourite.

3 Highlighted link - leads to linked article.

4 Special texts - if the article contains warnings, important or note texts then an associated symbol is shown here as well as the number of such texts in the article.

Turn TUNE to navigate between the links or scroll in an article. When the screen has scrolled to the start/end of an article the home and favourite options are accessed by scrolling a further step up/down. Press OK/MENU to activate the

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- ^[1] Applies to certain car models.
- ^[2] The character for each button may vary depending on market/country/language.

1.5. Reading the owner's manual

A good way of getting to know your new car is to read the owner's manual, ideally before your first journey.

Reading the owner's manual is a good way to become familiar with new functions, get advice on how best to handle the car in different situations and learn how to make the best use of all the car's features. Please pay attention to the safety instructions contained in the owner's manual.

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

© Volvo Car Corporation

Owner's Manual in mobile devices



(i) Note

The Owner's manual is available for download as a mobile application (applies for certain car models and mobile devices), see <u>www.volvocars.com</u>.

The mobile application also includes video and searchable content and easy navigation between different sections.

Options/accessories

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

In addition to standard equipment, the owner's 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 appear if there is a risk of injury.

(!) Important

"Important" texts appear if there is a risk of damage.

(i) Note

NOTE texts give advice or tips that facilitate the use of e.g. features and functions.

Footnote

In certain places the owner's manual contains supplementary information. The supplement is indicated with an information symbol: ^[1]. Press the symbol to see the supplement.

Message texts

In the car there are displays that show menu texts and message texts. In the owner's manual the appearance of these texts differs from the normal text. Examples of menu texts and message texts: **Media, Sending location**.

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

Λ		
VOLVO		

G031590

Black ISO symbols on yellow warning field, white text/image on black message field. Used to indicate the presence of danger which, if the warning is ignored, may result in serious personal injury or fatality.

(!)	
VOLVO	
	G031592

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.

(i) Note

It is not intended that the decals illustrated in the owner's manual should be exact replicas of those in the car. They are included to show their approximate appearance and location in the car. The information that applies to your particular car can be found on the decal on the 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 Lists of letters appear 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.
- Arrows with letters are used to clarify a movement when the reciprocal order is of no relevance.

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

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

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Position lists

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

Bulleted lists

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

Example:

- Coolant
- Engine oil

Related information

Related information refers to other articles containing closely-associated information.

Images

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

* Option/accessory.

^[1] Example of supplementary information.

1.6. Water and dirt-repellent coating

The windows are treated with a surface coating that improves visibility in difficult weather conditions.

Water and dirt-repellent coating*



There is natural wear of the water-repellent coating.

Maintenance:

- 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.
- Treatment with a special finishing agent available from Volvo dealers is recommended in order to maintain the waterrepellent properties on the side windows. This should be used first after three years and then each year.

(!) Important

Do not use a metal ice scraper to remove ice from the windows. Use the heating to remove ice from the door mirrors, see Windows and rearview and door mirrors - heating.

* Option/accessory.

1.7. Accessories and extra equipment

The incorrect connection and installation of accessories and extra equipment can negatively affect the car's electronic system.

Certain accessories only function when associated software is installed in the car's computer system. Volvo therefore recommends that you always contact an authorised Volvo workshop before installing accessories or extra equipment which are connected to or affect the electrical system.

Heat-reflecting windscreen*

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

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

For the optimal function of electronic equipment, it should be positioned on the part of the windscreen with no heat-reflecting film (see the highlighted area in the illustration).



Areas where IR film is not applied.

A is the distance from the top edge of the windscreen down to the start of the field. B is the distance from the top edge of the windscreen down to the end of the field.

	Dimensions
А	40 mm
В	80 mm

* Option/accessory.

1.8. Recording data

Certain information about the vehicle's operation and functionality, and any incidents, are recorded in the car.

Your vehicle contains a number of computers whose function is to continuously check and monitor the vehicle's operation and functionality. Some of the computers can record information during normal driving if they detect an error. In addition, information is recorded in the event of a collision or incident. Parts of the recorded information are required so that technicians can dia-

gnose and rectify faults in the vehicle during servicing and maintenance and so that Volvo can fulfil legal requirements and other regulations.

In addition to this, the information is used for research purposes by Volvo in order to continually develop quality and safety, as the information can contribute to a better understanding of the factors that cause accidents and injuries.

The information includes details of the status and functionality of various systems and modules in the vehicle with regard to engine, throttle, steering and brake systems, amongst other things. This information may include details regarding the way the driver drives the vehicle, such as vehicle speed, brake and accelerator pedal use, steering wheel movement and whether or not the driver and passengers have used their seatbelts. For the reasons given this information may be stored in the vehicle's computers for a certain length of time, but also as a result of a collision or incident. This information may be stored by Volvo as long as it can help to further develop and further enhance safety and quality and as long as there are legal requirements and other regulations that Volvo needs to consider.

Volvo will not contribute to the above-described information being disclosed to third parties without the vehicle owner's consent. However, due to national legislation and regulations Volvo may be required to disclose such information to authorities such as police authorities, or others who may assert a legal right to have access to it.

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

1.9. Support and information about the car on the Internet

There is additional information regarding your car on the Volvo Cars website and support page. From the website, it is also possible to navigate through to My Volvo, a personal web page for you and your car.

Support on the Internet

Go to <u>support.volvocars.com</u> or use the QR code below to visit the page. The support page is available for most markets.



QR code that leads to the support page.

The information on the support page is searchable and can also be subdivided into different categories. Available here is support for options related to e.g. Internet connected services and functions, Volvo On Call (VOC)*, the navigation system* and apps. Video and step-by-step instructions explain different procedures, e.g. how the car is connected to the Internet via a mobile phone.

Downloadable information from the support page

Maps

For cars equipped with Sensus Navigation*, there is the facility to download maps from the support page.

Mobile apps

For selected Volvo models from model year 2014 and 2015, the owner's manual is available in the form of an app. The VOC* app can also be accessed from here.

Owner's manuals from previous model years

Owner's manuals from previous model years are available here in PDF format. The Quick Guide and supplement can also be accessed from the support page. Select car model and model year in order to download the publication required.

Contact

On the support page there is contact information for customer support and the nearest Volvo dealer.

My Volvo on the Internet^[1]

From <u>www.volvocars.com</u> it is possible to navigate through to My Volvo Web which is a personal Web page for you and your car.

Create a personal Volvo ID, log in to My Volvo Web and get an overview of service, agreements and warranties, amongst other things. At My Volvo Web there is also information about accessories and software adapted for your car model.

- * Option/accessory.
- ^[1] Applies to certain markets.

1.10. Plug-in hybrid - introduction

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

Important to know

✓. Warning

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

High-voltage current



Several components in the car work with high-voltage current that could be dangerous in the event of incorrect intervention. Do not touch anything that is not clearly described in the owner's manual. Read more about the <u>engine</u> <u>compartment</u>. Orange-coloured cables must only be handled by qualified personnel.

Driving the car

The car is driven as a completely normal car. The electric motor drives the car mostly at low speeds, the diesel engine at higher speeds, as well as during more active driving. Read more about <u>Economical driving</u>.

Drive modes

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

Combined instrument panel

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

Preconditioning

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

Charging the hybrid battery

(!) Important

Never connect the charging cable when there is a risk of lightning.

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

The electric motor is used as an engine brake during light braking and the car's kinetic energy is converted to electrical energy which is used to charge the hybrid battery. Read more about <u>recycling the brake force energy</u>.

In addition, the diesel engine can charge the electric motor's hybrid battery with a special high-voltage generator when the need arises, see <u>drive system and drive modes</u>.

1.11. Laminated glass



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

* Option/accessory.

1.12. Environmental philosophy

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 is constantly working on the development of safer and more efficient products and solutions in order to reduce the negative impact on the environment.



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

Volvo Cars 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 "Contributing to a better environment".

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

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

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

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

The system consists of an electronic sensor and a carbon filter. The incoming air is monitored continuously and if there is an increase in the level of certain unhealthy gases, such as carbon monoxide, then the air intake is closed. Such a situation may arise in heavy traffic, queues and tunnels for example.

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

Interior

The interior of a Volvo is designed to be pleasant and comfortable, even for people with contact allergies and for asthma sufferers. Extreme attention has been given to choosing environmentally-compatible materials.

Volvo workshops and the environment

Regular maintenance creates the conditions for a long service life and low fuel consumption for your car. In this way you contribute to a cleaner environment. When Volvo's workshops are entrusted with the service and maintenance of your car it becomes part of our system. Volvo makes clear demands regarding the way in which our workshops are designed in order to prevent spills and discharges into the environment. Our workshop staff have the knowledge and the tools required to guarantee good environmental care.

Contributing to a better environment

It is easy to contribute to a better environment - 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 instructions in the owner's manual 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 <u>Eco guide</u>, <u>Economical driving</u> and <u>Fuel consumption</u>.

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.
1.13. Volvo ID

Volvo ID is your personal ID that provides access to various services^[1].



Examples of services:

- My Volvo Your personal web page for you and your car.
- In an Internet-connected car* Certain functions and services require that you have registered your car to a personal Volvo ID, for example to be able to send a new address from a map service on the Internet directly to the car.
- Volvo On Call, VOC* Volvo ID is used when logging in to the Volvo On Call mobile app.

Advantages of Volvo ID

- One user name and one password to access online services, i.e. only one username and one password to remember.
- When changing the username/password for a service (e.g. VOC) it will also be changed automatically for other services (e.g. My Volvo)

Create a Volvo ID

To create a Volvo ID you need to enter a personal e-mail address. Then follow the instructions in the e-mail message that is automatically sent to the specified address in order to complete the registration. It is possible to create a Volvo ID via one of the following services:

- My Volvo Enter your e-mail address and follow the instructions.
- Volvo On Call, VOC* Download the latest version of the VOC app. Choose to create a Volvo ID from the start page, enter e-mail address and follow the instructions.

^[1] The services available may vary over time and vary depending on equipment level and market.

* Option/accessory.

1.14. Change of ownership

In the event of change of ownership it is important to reset all user data and system settings to the original factory settings.

To restore factory settings press MY CAR in the centre console, then OK/MENU and select Settings \rightarrow Reset to factory settings.

User data is reset (e.g. for <u>apps</u>, <u>web browser</u>) and personal settings in menus (for example <u>climate settings</u>, <u>vehicle settings</u>) receive the original factory settings.

For cars with Volvo On Call, VOC* the personal settings stored in the car are cleared. To unsubscribe from the VOC subscription, see <u>Change of ownership for cars with Volvo On Call</u>*.

* Option/accessory.

2.1. Child safety

2.1.1. Side airbag (SIPS) - child seat/booster cushion

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.

Child seat/booster cushion can be placed on the front passenger seat provided that the car does not have an activated airbag on the front passenger side.

2.1.2. Two-stage booster seat* - lowering

The integrated booster seat in the rear seat can be folded down from the upper or lower stage to fully lowered position in the seat cushion. However, it is not possible to adjust the booster cushion from the upper stage to the lower stage.



1

Pull the handle forwards to release the cushion.





2

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

(!) Important

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

(i) Note

Before the rear backrest is lowered, the booster cushion must be lowered first.

/ Warning

If the instructions for the two-stage booster seat are not followed then the child could sustain serious injury in the event of an accident.

/IV Warning

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

* Option/accessory.

2.1.3. Child seats - location

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.

The warning label for the passenger airbag is fitted in one of the following two locations in the car:





Alternative 2: Position of airbag label on passenger side door pillar. The label becomes visible when the passenger door is opened.

You may place:

- a child seat/booster cushion on the front passenger seat provided there is no activated airbag on the front passenger side. .
- one or more child seats/booster cushions in the rear seat.

/! Warning

Never use a rear-facing child seat on a seat protected by an activated airbag. Failure to follow this advice can lead to death or serious injury to the child.

/! 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.

/!\ 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.

2.1.4. General information on child safety

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 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; see Child seats.

(i) Note

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

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 safety locks

The rear doors and rear door windows* can be blocked manually or electronically* from opening from the inside.

* Option/accessory.

2.1.5. Two-stage booster seat* - raising

The integrated booster seat in the rear seat can be folded up into two stages. How many stages the cushion should be folded up depends on the child's weight.

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

Stage 1^[1]



1

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





2

Press the booster cushion backwards to lock.

Stage 2^[2]



1

Start from the lower stage. Press the button.





2

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

(i) Note

It is not possible to adjust the booster seat from stage 2 to stage 1. It must first be reset by being fully <u>folded down</u> into the seat cushion.

✓ Warning

If the instructions for the two-stage booster seat are not followed then the child could sustain serious injury in the event of an accident.

/ Warning

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

- * Option/accessory.
- ^[1] Lower stage.
- ^[2] Upper stage.

2.1.6. Child seats - upper mounting points

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



The upper mounting points are primarily intended for use with front-facing child seats. Volvo recommends that small children should sit in rear-facing child seats to as late an age as possible.

(i) Note

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

(i) Note

In cars with a cargo cover over the luggage compartment, this must be removed before child seats can be attached to the securing points.

For detailed information on how the child seat should be tensioned in the upper mounting points, see the seat manufacturer's instructions.

/IV 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.

2.1.7. Child seat - ISOFIX

ISOFIX is a fixture system for <u>car child seats</u> that is based on an international standard.



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

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

Press the seat cushion down to access the mounting points.

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

2.1.8. Child seats

Children should sit comfortably and safely. Make sure that the child seat is being used correctly.



Child seats and airbags are not compatible.

(i) Note

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

Warning

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

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

Recommended child seats^[1]

Weight	Front seat (with deactivated airbag)	Outer rear seat	Centre rear seat
Group 0 max 10 kg Group 0+ max 13 kg		Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the ISOFIX fixture system. Type approval: E1 04301146 (L)	
Group 0 max 10 kg Group 0+ max 13 kg	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the car's seatbelt. Type approval: E1 04301146 (U)	Volvo infant seat (Volvo Infant Seat) - rear-facing child seat, secured with the car's seatbelt. Type approval: E1 04301146 (U)	Volvo infant seat (Volvo Infant Seat) - rear-fa- cing child seat, secured with the car's seatbelt. Type approval: E1 04301146 (U)
Group 0 max 10 kg Group 0+ max 13 kg	Child seats which are universally approved. (U)	Child seats which are universally approved. (U)	Child seats which are universally approved. (U)
Group 1 9-18 kg	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - rear-facing child seat, se- cured with the car's seatbelt and straps. Type approval: E5 04192 (L)	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - rear-facing child seat, se- cured with the car's seatbelt and straps. Type approval: E5 04192 (L)	
Group 1 9-18 kg	Child seats which are universally approved. (U)	Child seats which are universally approved. (U)	Child seats which are universally approved. (U)
Group 2 15-25 kg	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - rear-facing child seat, se- cured with the car's seatbelt and straps. Type approval: E5 04192 (L)	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - rear-facing child seat, se- cured with the car's seatbelt and straps. Type approval: E5 04192 (L)	
Group 2 15-25 kg	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - front-facing child seat, se- cured with the car's seatbelt. Type approval: E5 04191 (U)	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - front-facing child seat, se- cured with the car's seatbelt. Type approval: E5 04191 (U)	Volvo rear-facing/turnable child seat (Volvo Convertible Child Seat) - front-facing child seat, secured with the car's seatbelt. Type approval: E5 04191 (U)
Group 2/3 15- 36 kg	Volvo booster seat with backrest (Volvo Booster Seat with backrest). Type approval: E1 04301169 (UF)	Volvo booster seat with backrest (Volvo Booster Seat with backrest). Type approval: E1 04301169 (UF)	Volvo booster seat with backrest (Volvo Booster Seat with backrest). Type approval: E1 04301169 (UF)
Group 2/3 15- 36 kg	Booster cushion with and without backrest (Booster Cushion with and without backrest). Type approval: E5 04216 (UF)	Booster cushion with and without backrest (Booster Cushion with and without backrest). Type approval: E5 04216 (UF)	Booster cushion with and without backrest (Booster Cushion with and without backrest). Type approval: E5 04216 (UF)
Group 2/3 15- 36 kg		Integrated booster cushion (Integrated Booster Cushion) - available as a factory fitted option. Type approval: E5 04189 (B)	
L: Suitable U: Suitabl	e for specific child seats. These child seats may be inten e for universally approved child seats in this weight class	ded for use in a special car model, limited or semi-univ s.	ersal categories.

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

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

^[1] 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.

2.1.9. ISOFIX - types of child seat

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

Type of child seat	Weight	Size class	Passenger seats for ISOFIX installa	ation of child seats
			Front seat	Outer rear seat
Infant seat transverse	max 10 kg	F	Х	х
		G	Х	Х
Infant seat, rear-facing	max 10 kg	E	х	ОК (IL)
Infant seat, rear-facing	max 13 kg	E	х	ОК (IL)
		D	x	ОК (IL)
		С	х	ОК (IL)
Child seat, rear-facing	9-18 kg	D	х	ОК (IL)
		С	Х	ОК (IL)
Front-facing child seat	9-18 kg	В	х	OK ^[1] (IUF)
		B1	х	OK ^[1] (IUF)
		А	х	ΟΚ ^[1] (IUF)

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

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

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

Make sure you select the right <u>size class</u> of child seat with <u>ISOFIX</u> fixture system.

^[1] Volvo recommends rear-facing child seats for this group.

2.1.10. ISOFIX - size classes

There is a size classification for child seats using the <u>ISOFIX</u> fixture system in order to assist users in choosing the <u>correct type of child seat</u>.

Size class	Description
A	Full size, front-facing child seat
В	Reduced size (alt. 1), front-facing child seat

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Size class	Description
B1	Reduced size (alt.2), front-facing child seat
С	Full size, rear-facing child seat
D	Reduced size, rear-facing child seat
E	Rear-facing infant seat
F	Transverse infant seat, left-hand
G	Transverse infant seat, right-hand

/! Warning

Never place the child in the passenger seat if the car is fitted with an activated airbag.

(i) Note

If an ISOFIX child seat has no size classification, the car model must be included on the vehicle list for the child seat.

(i) Note

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

2.1.11. Child seat - two-stage booster seat*

The integrated booster seats in the rear seat allow children to sit comfortably and safely.

The booster cushions are specially designed to provide optimum safety. In combination with the seatbelt they are approved for

children who weigh between 15 and 36 kg and who are at least 95 cm in height.





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

Check before driving that:

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

Adjusting the booster seat's two levels is performed by raising and lowering.

/ Warning

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



If the instructions for the two-stage booster seat are not followed then the child could sustain serious injury in the event of an accident.

* Option/accessory.

2.1.12. WHIPS - child seats

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

<u>Child seat/booster cushion</u> can be placed on the front passenger seat provided that the car does not have an <u>activated airbag</u> on the front passenger side.

2.2. Airbags

2.2.1. Side airbag (SIPS) - child seat/booster cushion

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

<u>Child seat/booster cushion</u> can be placed on the front passenger seat provided that the car does not have an <u>activated airbag</u> on the front passenger side.

2.2.2. Passenger airbag - activating/deactivating*

<u>Front passenger airbag</u> can be deactivated if the car is equipped with a switch, PACOS (Passenger Airbag Cut Off Switch).

Switch - PACOS

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.

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



Location of airbag switch.

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

/ Warning

Activated airbag (passenger seat):

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

Deactivated airbag (passenger seat):

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

Failure to follow the advice given above can endanger life.

/ 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.

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(i) Note

When the remote control key is in key position II the warning symbol for the airbag is shown in the combined instrument panel for approx. 6 seconds.

Following which, the indicator in the roof console is illuminated showing the correct status for the front passenger seat airbag.



Indicator showing that the passenger airbag is activated.

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

/IV 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.



Indicator showing that the passenger airbag is deactivated.

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

/!\ Warning

Do not allow anyone to sit in the front passenger seat if the message in the roof console indicates that the airbag is deactivated, and if the warning symbol for the airbag system is also displayed on 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.

/!\ Warning

Failure to follow the advice given above can endanger the lives of passengers in the car.

* Option/accessory.

2.2.3. Passenger airbag

To supplement the protection afforded by the <u>seatbelt</u> on the passenger side, the car is equipped with an <u>airbag</u>.

The airbag is folded up into a compartment above the glovebox. Its cover panel is marked AIRBAG.





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

The warning label for the passenger airbag is fitted in one of the following two locations in the car:





Alternative 2: Position of airbag label on passenger side door pillar. The label becomes visible when the passenger door is opened.

Warning

Never use a rear-facing child seat on a seat protected by an activated airbag. Failure to follow this advice can lead to death or serious injury to the child.

Warning /!\

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

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

/!\ Warning

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

/ Warning

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

Switch - PACOS*

The front passenger airbag can be <u>deactivated</u> if the car is equipped with a switch, PACOS (Passenger Airbag Cut Off Switch).

/ Warning

Activated airbag (passenger seat):

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

Deactivated airbag (passenger seat):

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

Failure to follow the advice given above can endanger life.

/ 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.

* Option/accessory.

2.2.4. When the systems deploy

In the event of a collision Volvo's different personal safety systems work together in order to minimise injury.

System	Triggered
Seatbelt tensioner front seat	In the event of a frontal collision, and/or side-impact collision, and/or rear-end collision and/or overturning
Seatbelt tensioner, rear seat	In a frontal collision and/or side-impact accident and/or overturning
Airbags (<u>Steering wheel</u> and <u>passenger airbag</u>)	In a frontal collision ^[1]
<u>Side airbags (SIPS)</u>	In a side-impact accident ^[1]
Inflatable Curtain IC	In the event of a side impact collision and/or overturning and/or some frontal collisions ^[1]
Whiplash protection WHIPS	In a rear-end collision

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If the <u>airbags</u> 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.

(i) Note

The airbags and belt tensioner system are deployed only once during a collision.

/! Warning

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

/! Warning

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

^[1] 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.

2.2.5. Airbag system

In the event of a frontal collision the airbag system helps to protect the head, face and chest of the driver and passenger.





Airbag system viewed from above, right-hand-drive car.

The system consists of airbags and sensors. A sufficiently violent collision trips the sensors and the airbag(s) are inflated and become hot. The airbag cushions the initial collision impact for the occupant. The airbag deflates when compressed by the collision. 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.

(i) Note

The detectors react differently depending on the nature of the collision and whether or not the seatbelts are fastened. Applies to all belt positions.

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

2.2.6. Side airbag (SIPS)

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's backrests.

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





Front passenger seat, left-hand drive.

/ Warning

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

2.2.7. Driver airbag

To supplement the protection afforded by the <u>seatbelt</u> the car is equipped on the driver's side with an <u>airbag</u>.

This airbag is fitted into the centre of the steering wheel. The steering wheel is marked AIRBAG.
/ Warning

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

2.3. Seatbelt

2.3.1. Seatbelt tensioner

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

/ Warning

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

2.3.2. General information on seatbelts

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



Tension the hip strap over the lap by pulling the diagonal shoulder belt up towards the shoulder. The hip strap must be positioned low down (not over the abdomen).

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.

Unbelted occupants will be reminded to fasten their seatbelt by means of an audio and visual reminder.

Remember

- Do not use clips or anything else that can prevent the seatbelt from fitting properly.
- The seatbelt must not be twisted or caught on anything.

/ 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.

2.3.3. Seatbelt - pregnancy

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

Seatbelt must always be worn during pregnancy. But it is crucial that it be worn in the correct way.



The diagonal section should wrap over the shoulder then be routed between the breasts and to the side of the abdomen.

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

As the pregnancy progresses, pregnant drivers must adjust the seat 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.

2.3.4. Seatbelt - putting on

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

Put on the seatbelt before driving starts.

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







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

The buckles only fit the intended lock in the rear seat $^{[1]}$.

Remember

The seatbelt locks and cannot be withdrawn:

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

^[1] Certain markets.

2.3.5. Seatbelt - loosening

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

Loosen the seatbelt when the car is stationary.

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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.

2.3.6. Seatbelt reminder

Unbelted occupants will be reminded to fasten their seatbelt 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 in the <u>combined instrument panel</u>.

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 <u>seatbelts</u> are being used in the rear seat. A message appears in the combined instrument panel when the seatbelts are in use, or if one of the rear doors has been opened. The message is acknowledged automatically after approximately 30 seconds driving or after pressing the <u>indicator stalk OK button</u>. If anyone is unbelted then the message can only be acknowledged manually by pressing the indicator stalk OK button.
- Provides a warning if one of the rear seatbelts is unfastened during travel. This warning takes the form of a message in the combined instrument panel along with the audio/visual signal. The warning stops when the seatbelt is re-fastened, or it can

also be acknowledged manually by pressing the OK button.

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

Certain markets

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

2.4. Safety mode

2.4.1. Safety mode - moving the car

If Normal mode is shown after Safety mode See manual has been reset after <u>attempting to start the car</u>, the car can be moved carefully out of a dangerous position.

Do not move the car further than necessary.



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.

2.4.2. General information on safety mode

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.



Warning triangle in the combined instrument panel.

If the car is involved in a collision, the text **Safety mode See manual** may appear in the <u>combined instrument panel</u> information display. This means that the car has reduced functionality.

⟨↓ 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.

2.4.3. Safety mode - attempting to start the car

If the car is set in <u>safety mode</u> then an attempt to start the car can be made if everything seems normal and the absence of fuel leakage has been checked.

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 <u>vehicle re-</u> <u>covery service</u> used instead. Even if the car appears to be driveable, hidden damage may make the car impossible to control once moving.

/ Warning

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

/ Warning

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

2.5. WHIPS

2.5.1. General information on WHIPS (whiplash protection)

WHIPS (Whiplash Protection System) is a protection against whiplash injuries. The system consists of

energy absorbing backrests and specially designed head restraints in the front seats.



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The WHIPS 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.

Seat properties

When the WHIPS system is deployed, the front seat backrests are lowered backward to change 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.

2.5.2. WHIPS - seating position

For optimum protection from the WHIPS system the driver and passenger must have the correct seating position and make sure that the system's function is not obstructed.

Seating position

Set the correct seating position in the <u>front seat</u> before driving starts.

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.

Function



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's backrest. Make sure you do not to obstruct the function of the WHIPS system.



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 make contact with 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 seat appears to be undamaged.

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

2.5.3. WHIPS - child seats

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

<u>Child seat/booster cushion</u> can be placed on the front passenger seat provided that the car does not have an <u>activated airbag</u> on the front passenger side.

2.6. When the systems deploy

In the event of a collision Volvo's different personal safety systems work together in order to minimise injury.

System	Triggered
Seatbelt tensioner front seat	In the event of a frontal collision, and/or side-impact collision, and/or rear-end collision and/or overturning
Seatbelt tensioner, rear seat	In a frontal collision and/or side-impact accident and/or overturning
Airbags (<u>Steering wheel</u> and <u>passenger airbag</u>)	In a frontal collision ^[1]
Side airbags (SIPS)	In a side-impact accident ^[1]
Inflatable Curtain IC	In the event of a side impact collision and/or overturning and/or some frontal collisions ^[1]
Whiplash protection WHIPS	In a rear-end collision

If the <u>airbags</u> 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.

(i) Note

The airbags and belt tensioner system are deployed only once during a collision.

🔶 Warning

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

/ Warning

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

^[1] 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.

2.7. Safety - warning symbol

The warning symbol is shown if a fault is detected during fault tracing or if a system has been activated. Where required, the warning symbol is shown together with a message in the <u>combined instrument panel</u> information display.



Warning triangle and warning symbol for the <u>airbag system</u> in the combined instrument panel.

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

/I 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.

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.

2.8. Inflatable Curtain (IC)

The inflatable curtain helps to prevent the driver and passengers from striking their heads on the inside of the car during a collision.



Inflatable curtain IC (Inflatable Curtain) is part of the SIPS system and the airbag system. It is fitted along both sides of the headlining and helps protect the driver and passengers in the car's outer seats. A sufficiently violent collision trips the sensors and the inflatable curtain is inflated.

/! 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 windows in the doors. 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.

3.1. trip computer

3.1.1. Trip computer - digital combined instrument panel

The car's trip computer can record, calculate and show information.

The trip computer's menu is in a variable loop. One of the alternatives is that the trip computer's three displays extinguish - this also marks the start/end of the loop.



Information displays and stalk switch controls.

1 OK - Opens the loop with the trip computer's functions + Activates the selected option.

2 Thumbwheel - Opens the loop with the trip computer's headings + Scrolls through the options.

3 RESET - Undoes, zeroes or backs out of a function after making a selection.

Functions

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Proceed as follows to open and check/adjust functions:

- To ensure that no control is in the middle of a sequence "Reset" them first with two presses on RESET. Ð
- Press OK loop with all functions opens. Ð
- Browse through the functions with the $\ensuremath{\textbf{thumbwheel}}$ and select/confirm with OK. .
- Ð Finish by pressing twice on RESET after completed checking/adjustment.

The different functions of the trip computer are listed in the following table:

Functions	Information
Trip computer reset Average Average speed 	Note that this function does not reset both trip meters T1 and T2 - see table under next section "Headings" and section "Resetting - Average speed/consumption" for information on the process.
Messages	For more information, see <u>Messages - handling</u> .
Themes	The appearance of the <u>combined instrument panel</u> is selected here.
Settings*	Select Auto On or Off. For more information, see <u>General information about heaters</u> .
Contrast mode/Colour mode	Adjusting the combined instrument panel's brightness and colour intensity.
 Preconditioning Direct start - Symbol Timer 1 - leads to the menu for selecting time. - Symbol Timer 2 - leads to the menu for selecting time. 	For a description of programming the timer, see <u>Timer - setting</u> .
Service status	Shows the number of months and mileage to next service.
Oil level ^[1]	For more information, see Engine oil - checking and filling.

Headings



Three trip computer headings can be displayed simultaneously - one in each "window".

One of the heading combinations in the following table can be selected for constant display in the combined instrument panel. Proceed as follows to determine which:

- To ensure that no control is in the middle of a sequence "Reset" them first with two presses on RESET. Ð
- Turn the **thumbwheel** selectable heading combinations are shown in a loop.
- Stop on desired heading combination. .

Heading combinations			Information
Battery status	Trip meter T1 + Meter reading	Distance to empty battery	Long press on RESET resets trip meter T1.
Average	Trip meter T1 + Meter reading	Average speed	Long press on RESET resets trip meter T1.
Instantaneous	Trip meter T2 + Meter reading	Distance to empty tank	Long press on RESET resets trip meter T2.
Instantaneous	Meter reading	kmh<>mph	kmh<>mph - see section <u>"Digital speed display"</u> .
	No trip computer information.		This option extinguishes all three trip computer displays - it also marks the beginning/end of the loop.

The combined instrument panel's heading combination for the trip computer can be changed to another option at any time during the journey. Proceed as follows:

• Turn the thumbwheel - stop on the desired heading.

Resetting - Trip meter

Turn with the **thumbwheel** to the heading combination containing the trip meter to be reset:

• Give a long press on RESET - selected trip meter is zeroed.

Resetting - Average speed/consumption

- 1. Select function Trip computer reset and activate with OK.
- 2. Select one of the following options with the thumbwheel and activate with OK:
- I/100 km
- km/h
- Reset both
- 3. Finish with RESET.
- * Option/accessory.
- ^[1] Certain engines.

3.1.2. Trip computer - supplementary information

The car's trip computer can record, calculate and show information. Supplementary information covering several functions follows below.

Average

Average fuel consumption is calculated from the last resetting.

(i) Note

There may be a slight deviation if a fuel-driven heater* has been used.

Average speed

The average speed is calculated for the driving distance driven since the last reset to zero.

Instantaneous

The information for current fuel consumption is updated continuously - approximately once per second. When the car is driven at low speed the consumption is shown per time unit - at a higher speed it is shown related to mileage.

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Different units (km/miles) can be selected for the display - see section "Change unit".

Range - distance to empty tank



The trip computer shows the approximate distance that can be driven with the fuel quantity remaining in the tank.

No guaranteed range remains when the heading Distance to empty shows "----".

In which case, refuel as soon as possible.

The calculation is based on the average fuel consumption over the last 30 km and the remaining driveable fuel quantity.

Distance to empty battery

No guaranteed range remains when the display shows "---- km to empty battery". The display shows the approximate distance that can be driven with the energy quantity remaining in the hybrid battery.

The calculation is based on the average consumption of normally loaded vehicle, during normal driving and taking into account whether the air conditioning (AC) is switched on or off.



There may be a slight deviation if the driving style has been changed.

An economic driving style generally results in a longer driving distance. For more information on how energy consumption can be influenced, see Volvo Car Corporation's Environmental Philosophy.

Mileage for electric operation

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In order to achieve the longest possible mileage for electric operation, the driver of an electric car also has to think about energy conservation. The more consumers there are (stereo, electric heating in windows/mirrors/seats, very cold air from the climate control system, etc.) that are active - the shorter the potential mileage.

(i) Note

In addition to high current take-off in the passenger compartment, sudden acceleration and braking, high speed, heavy loads, low outside temperature and uphill gradients also reduce the possible driving distance.

Digital speed display

The speed is shown in the opposite unit (kmh/mph) in relation to the main instrument. If it is calibrated in mph then the trip computer shows the corresponding speed in km/h and vice versa.

Change unit

You can change unit (km/miles) for distance and speed in the menu system MY CAR, see MY CAR.

(i) Note

In addition to in the trip computer, these units are also changed in Volvo's navigation system*.

* Option/accessory.

3.1.3. Trip computer

The car's trip computer can record, calculate and show information while driving.

Checking and settings of the trip computer can be made immediately after the combined instrument panel is automatically illuminated in connection with unlocking. If none of the trip computer's controls are actuated within approx. 30 seconds after the driver's door has been opened then the instrument extinguishes, after which either key position II or starting the engine is required in order to operate the trip computer.

(i) Note

If a warning message appears when the trip computer is used then the message must first be acknowledged before the trip computer can be reactivated.

• Acknowledge the message by briefly pressing the indicator stalk OK button.

Group menus

The trip computer has two different group menus:

- Functions
- Heading in combined instrument panel

The trip computer's **functions** or **headings** are each listed in an infinite loop.

3.1.4. Trip computer - trip statistics*

Information is stored about completed trips containing average fuel consumption and average speed, which can be viewed in the centre console's screen as a bar chart.

Function



Trip statistics^[1]

Fuel and electricity consumption are shown in separate graphs. Electricity consumption is "net" consumption, i.e. energy consumed minus regenerated energy created during braking.

Each bar symbolises 1 km or 10 km driven distance, depending on the scale selected - the bar at the far right shows the value for the current kilometre or 10 km.

Using the TUNE control, the scale for the bars can be changed between 1 km and 10 km - the cursor on the far right changes position between up and down in relation to the scale selected.

Operation

Different settings can be made in the menu system MY CAR, see MY CAR - there, find Trip statistics.

With the "Reset when vehicle has been off for minimum 4h" option highlighted, all statistics are deleted automatically once driving is complete and the car has been stopped for 4 hours. Trip statistics start again from zero the next time the engine is started.

 Reset when vehicle has been off for minimum 4h - highlight the box by selecting ENTER and go back out of the menu by selecting EXIT.

If a new driving cycle is started before 4 hours have elapsed then the current period must first be deleted manually using the "Start new trip" option.

• Start new trip - ENTER is used to delete all previous statistics, go back out of the menu by selecting EXIT.

See also information on Eco guide.

* Option/accessory.

^[1] The figure is schematic - layout may vary depending on car model or updated software.

3.2. Combined instrument panel

3.2.1. Menu overview - combined instrument panel

Which menus are shown in the combined instrument panel's information display depends on the <u>key</u> <u>position</u>.

Some of the following menu options require the function and hardware to be installed in the car.

Settings* Themes Contrast mode/Colour mode Service status Messages^[1] Oil level^[1] Preconditioning Trip computer reset

* Option/accessory.

^[1] The number of messages is indicated in brackets.

3.2.2. Eco guide & Hybrid guide

Eco guide and Hybrid guide are two <u>combined instrument panel</u> instruments which help the driver to drive the car with optimum driving economy.

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

Eco guide

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

To view this function, select the theme "Eco"; see <u>Digital combined instrument panel - overview</u>.



1 Instantaneous value

2 Average value

Instantaneous value

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

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

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

Very low instantaneous values illuminate the red zone on the meter (with a short delay), which means poor driving economy and hence should be avoided.

Average value

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

Hybrid guide

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

To view this function, select the theme "Hybrid" or "Performance", see Digital combined instrument panel - overview.



Driver-requested power
 Available electric motor power

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

Driver-requested power

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

Available electric motor power

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

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

3.2.3. Outside temperature gauge

The display for the outside temperature gauge appears in the combined instrument panel.



1 Display for outside temperature gauge

When the temperature lies between +2 °C to -5 °C a snowflake symbol illuminates in the display. This warns of icy roads. If the car has been stationary, the gauge may display a reading that is too high.

3.2.4. Symbols in the display

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.

• Red warning symbol, illuminates when a fault has been indicated which could affect the safety and/or driveability of the car. An explanatory text is shown in the information display in the combined instrument panel at the same time.

• Information symbol, illuminates in combination with text in the information display in the combined instrument panel, when a deviation in any of the car's systems has occurred. The information symbol can also illuminate in conjunction with other symbols.

Warning symbols in the combined instrument panel

Symbol	Specification	See
Ø	Parking brake applied	Combined instrument cluster - meaning of warning symbols, Parking brake
*	Airbags – SRS	Safety - warning symbol, Combined instrument cluster - meaning of warning symbols
	Seatbelt reminder	General information on seatbelts, Combined instrument cluster - meaning of warning symbols
	Starter battery not charging	Combined instrument cluster - meaning of warning symbols
BRAKE	Fault in brake system	Combined instrument cluster - meaning of warning symbols, Foot brake
	Warning, safety mode	Safety - warning symbol, General information on safety mode, Combined instrument cluster - meaning of warning symbols

Control symbols in the combined instrument panel

Symbol	Specification	See
) T	ABL fault*	Combined instrument panel - meaning of indicator symbols, Active Xenon headlamps*
Ç.	Emissions system	Combined instrument panel - meaning of indicator symbols
6	ABS fault	Combined instrument panel - meaning of indicator symbols, Foot brake
O≢	Rear fog lamp on	Combined instrument panel - meaning of indicator symbols, Rear fog lamp
	Stability system, ESC (Electronic Stability Control), Trailer stability assist*	Combined instrument panel - meaning of indicator symbols, Electronic stability control (ESC) - symbols and messages, Trailer Stability Assist - TSA ^[1]
	Stability system, sport mode	Combined instrument panel - meaning of indicator symbols, Electronic stability control (ESC) - symbols and messages
00	Engine preheater (diesel)	Combined instrument panel - meaning of indicator symbols
	Low level in fuel tank	Combined instrument panel - meaning of indicator symbols, Preconditioning - messages
<u>í</u>	Information, read display text	Combined instrument panel - meaning of indicator symbols
Ð	Main beam On	Combined instrument panel - meaning of indicator symbols, Main/dipped beam
-	Left-hand direction indicators	Combined instrument panel - meaning of indicator symbols
•	Right-hand direction indicators	Combined instrument panel - meaning of indicator symbols
(!)	Tyre pressure system*	Combined instrument panel - meaning of indicator symbols, Tyre pressure monitoring $\star^{[2]}$

Information symbols in the combined instrument panel

Symbol	Specification	See
ĒCA	Active high beam, AHB (Active High Beam) *	Active main beam*
	Camera sensor*, Laser sensor*	Active main beam *, City Safety [™] - symbols and messages, Collision warning system * - symbols and messages, Driver Alert Control (DAC) * - symbols and messages, Lane Departure Warning (LDW) - symbols and messages
* * 7	Adaptive cruise control*	Adaptive cruise control * - symbols and messages
	Adaptive cruise control*, Distance Warning* (Distance Alert)	<u>Adaptive cruise control</u> * - set time interval, <u>Distance Warning</u> *
	Adaptive cruise control*, time interval	Adaptive cruise control - ACC*, Adaptive cruise control * - overview
K)	Cruise control*	Cruise control*
÷	Radar sensor*	<u>Adaptive cruise control</u> * - symbols and messages, <u>Distance Warning</u> * - symbols and messages, <u>Collision w</u> <u>arning system</u> * - symbols and messages
	Foot brake	<u>Foot brake</u>
É	Speed limiter	Speed limiter*

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Symbol	Specification	See
ා්ක	Auto Brake*, Distance Warning* (Distance Alert), City Safety™, Collision warning system*	Distance Warning * - symbols and messages, <u>City Safety™ - symbols and messages</u> , <u>Collision warning syste</u> <u>m</u> * - symbols and messages
<u>111</u>	Engine block and passenger compartment heater*	Preconditioning - messages
<u>222 </u>	Engine block heater and passenger compart- ment heater* Service required	Preconditioning - messages
B	Activated timer*	Preconditioning - messages
茶	ABL system*	Active Xenon headlamps*
	Fuel filler flap, right-hand side	Fuel filler flap - Opening/closing
E I	Low battery	Preconditioning - messages
(P)!	Parking brake	Parking brake
Ø₽	Rain sensor*	Wipers and washers
2	Driver Alert System*, Lane Departure Warning*	Driver Alert Control (DAC) * - symbols and messages, <u>Lane Departure Warning (LDW) - symbols and messa</u> aes
4	Driver Alert System*, Lane Departure Warning*	Lane Departure Warning (LDW) - symbols and messages
<u>.</u>	Driver Alert System*, Time for a break	Driver Alert Control (DAC)* - operation
<u>±</u>	Driver Alert System*, Time for a break	Driver Alert Control (DAC) * - symbols and messages
°	Recorded speed information*	Road sign information (RSI) * - operation
â	Parking inside	Preconditioning - parking inside
¶≘	Parking outside	Preconditioning - parking outside
**	Heating the seat	Preconditioning - parking inside, Preconditioning - parking outside
¢	Drive systems	Drive system - symbols and messages
<u>e]</u>	Gear shift indicator	Gear shift indicator*
,∄Ē	Gear positions	Automatic gearbox – Geartronic
	Measuring the oil level	Engine oil - checking and filling

Information symbols in the roof console display

Symbol	Specification	See
FASTEN #	Seatbelt reminder	Seatbelt reminder
8	Airbag, passenger seat, activated	Passenger airbag - activating/deactivating*
ALEXANDER Po	Airbag, passenger seat, deactivated	Passenger airbag - activating/deactivating*

* Option/accessory.

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

^[2] Standard in certain markets.

3.2.5. Combined instrument panel - meaning of indicator symbols

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The indicator symbols alert the driver that a function is activated, that the system is operating, or that an error or failure has occurred.

Indicator symbols

Symbol	Specification
	ABL fault
C) CHECK	Emissions system
0	ABS fault
()‡	Rear fog lamp on
2	Stability system, see <u>Electronic stability control (ESC) - general</u>
	Stability system, sport mode, see <u>Electronic stability control (ESC) - operation</u>
00	Engine preheater
	Low level in fuel tank
(i)	Information, read display text
Ð	Main beam On
	Left-hand direction indicator
	Right-hand direction indicator
(!)	Tyre pressure system , see <u>Tyre pressure monitoring</u> $*$ ^[1]

ABL fault

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

Emissions system

If the symbol illuminates after the engine has been started 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.

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

Rear fog lamp on

This symbol illuminates when the rear fog lamp is switched on.
Stability system

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

Stability system, sport mode

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

Engine preheater

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

Low level in fuel tank

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

Information, read display text

When one of the car's systems does not behave as intended, this information symbol illuminates and a text appears on the information display. The message text is cleared with the OK button, see Menu navigation - combined instrument panel, 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.

(i) Note

When a service message is shown, the symbol and message are cleared using the OK button, or disappear automatically after a time.

Main beam On

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

Left/right-hand direction indicator

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

Tyre pressure system

The symbol illuminates in the event of low tyre pressure, or if a fault arises in the tyre pressure system.

Reminder - doors not closed

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



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



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

If the bonnet^[2] is not closed properly then the warning symbol illuminates together with an explanatory image in the information display. Stop the car in a safe place as soon as possible and close the bonnet.

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

- * Option/accessory.
- ^[1] Standard in certain markets.
- ^[2] Only cars with alarm*.

3.2.6. Menu navigation - combined instrument panel

The left-hand stalk controls the <u>menus</u> shown on the information display in the <u>combined instrument panel</u>. Which menus are shown depends on the <u>key position</u>.



Display and controls for menu navigation.

- **1** OK access to message list and message confirmation.
- **2** Thumbwheel browse between menu options.
- **3** RESET reset the active function. Used in certain cases to select/activate a function, see the explanation under each respective function.

If there is a message then it must be acknowledged with OK in order that the menus shall be shown.

3.2.7. Clock

The clock display appears in the combined instrument panel.



Clock.

1 Display for showing the time

Setting the clock

The clock can be adjusted in the menu system MY CAR, see <u>MY CAR</u>.

3.2.8. Combined instrument panel - license agreement

A license is an agreement for the right to operate a certain activity or the right to use someone else's entitlement according to the terms and conditions in the agreement. The following text is Volvo's agreement with the manufacturer/developer.

Combined Instrument Panel Software

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Lua

3.2.9. Digital combined instrument panel - overview

The combined instrument panel's information display shows information on some of the car's functions, as well as messages.



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The instrument shows information according to the selections made, see Menu navigation - combined instrument panel.

- 1 Hybrid battery gauge
- 2 Current energy level
- 3 Active drive mode

4 The symbol illuminates when the internal combustion engine is operating.

() Hybrid guide (Driver Support Power Meter). Shows the current driver-requested propulsion power and available electric motor power, i.e. the limit when the internal combustion engine starts/stops. For more information, <u>Eco guide & Hybrid guide</u>.

Energy recovery



When the electric motor generates power for the hybrid battery, bubbles are shown in the hybrid battery gauge - see <u>Foot</u> <u>brake</u>.

Information display



Information display.

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

Gauges and indicators



Alternative themes can be selected for the combined instrument panel. Possible themes are "Hybrid", "Elegance", "Eco" and "Performance".

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

To select the theme, press the left-hand stalk switch's OK button and select the Themes menu option by turning the thumbwheel on the lever. Press the OK button. Turn the thumbwheel to select the theme and confirm the selection by pressing the OK button.

On certain model variants, the appearance of the centre console's screen follows the theme selected for the combined instrument panel.

The contrast mode and colour mode for the instrument can also be set using the left-hand stalk switch.

For more information on menu navigation, see Menu navigation - combined instrument panel.

The choice of theme and setting of contrast mode and colour mode can be stored for each remote control key in the car key memory*, see <u>Remote control key - personalisation</u>*.



Gauges and indicators, theme "Hybrid".

- 1 Fuel gauge. When the indicator lowers to only one white marking^[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also Trip computer - supplementary information and Filling up with fuel.
- **2** Hybrid battery gauge
- 3 Speedometer
- **4** Hybrid guide. See also <u>Eco guide & Hybrid guide</u>.



Gauges and indicators, theme "Elegance".

- 1 Fuel gauge. When the indicator lowers to only one white marking^[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also Trip computer - supplementary information and Filling up with fuel.
- 2 No function
- 3 Speedometer
- 4 No function



Gauges and indicators, theme "Eco".

- 1 Fuel gauge. When the indicator lowers to only one white marking^[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also Trip computer - supplementary information and Filling up with fuel.
- **2** Eco guide. See also <u>Eco guide & Hybrid guide</u>.
- 3 Speedometer
- 4 Hybrid guide. See also <u>Eco guide & Hybrid guide</u>.



Gauges and indicators, theme "Performance".

- Fuel gauge. When the indicator lowers to only one white marking^[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also <u>Trip computer supplementary information</u> and <u>Filling up with fuel</u>.
- 2 E-boost gauge. Illustrates electric motor use, its support to the internal combustion engine and engine braking^[2] with the electric motor.
- 3 Speedometer
- 4 Tachometer. The meter indicates engine speed in thousands of revolutions per minute (rpm).
- **5** Hybrid guide. See also <u>Eco guide & Hybrid guide</u>.
- 6 Gear position indicator. See also <u>Automatic gearbox -- Geartronic</u>.

Indicator and warning symbols



Indicator and warning symbols.

- 1 Indicator symbols
- Indicator and warning symbols
- 3 Warning symbols

Functionality check

All indicator and warning symbols, apart from symbols in the centre of the information display, illuminate in key position || 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 || then all symbols go out within a few seconds except the symbol for faults in the car's emissions system.

- * Option/accessory.
- ^[1] When the display's message "Distance to empty fuel tank:" starts to show "----", the marking becomes red.
- ^[2] Engine braking with the electric motor charges the hybrid battery, see <u>Foot brake</u>.

3.2.10. Combined instrument cluster - meaning of warning symbols

The warning symbols alert the driver that an important function is activated, or that a serious error or a serious failure has occurred.

Warning symbols

Symbol	Specification
Ø	Parking brake applied
*	Airbags – SRS
. A	Seatbelt reminder
	Starter battery not charging
(O) BRANE	Fault in brake system
	Warning

Parking brake applied

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

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

For more information, see <u>Parking brake</u>.

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

Starter battery not charging

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

Fault in brake system

If this symbol illuminates, the brake fluid level may be too low. Stop the car in a safe place and check the level in the brake fluid reservoir; see <u>Brake and clutch fluid - level</u>.

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 <u>Brake and clutch fluid level</u>. 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 lit at the same time, there is a risk that the rear end will skid during heavy braking.

Warning

The red warning symbol illuminates when a fault has been indicated which could affect the safety and/or driveability of the car. An explanatory text is shown on the information display at the same time. The symbol remains visible until the fault has been rectified but the text message can be cleared with the OK button; see <u>Menu navigation - combined instrument panel</u>. The warning symbol can also illuminate in conjunction with other symbols.

Action:

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

Reminder – doors not closed

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



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



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

If the bonnet^[1] is not closed properly then the warning symbol illuminates together with an explanatory image in the information display. Stop the car in a safe place as soon as possible and close the bonnet.

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

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^[1] Only cars with alarm*.

3.2.11. Trip meter

The trip meter display appears in the combined instrument panel.



Trip meter.

Display for trip meter

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

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

A long press (until the change occurs) on the left-hand stalk switch RESET button resets the trip meter shown. For more information, see <u>Trip computer - supplementary information</u>.

3.2.12. Combined instrument panel

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

The combined instrument panel's information display shows information on some of the car's functions, as well as messages.

- Digital combined instrument panel overview
- <u>Combined instrument panel meaning of indicator symbols</u>
- <u>Combined instrument cluster meaning of warning symbols</u>

3.3. My Car

3.3.1. MY CAR

MY CAR is a menu source that handles many of the car's functions, e.g. City Safety[™], locks and alarm, automatic fan speed, setting the clock, etc.

Certain functions are standard, others are optional - the range also varies depending on the market.

Operation

Navigation in the menus is carried out using buttons in the centre console or with the steering wheel's right-hand keypad*.

EXIT functions

Depending on the function the cursor is on when EXIT is depressed briefly, and on which menu level, one of the following may occur:

- phone call is rejected
- current function is interrupted
- input characters are deleted
- most recent selections are undone
- leads up in the menu system.

A long press on EXIT leads to the normal view for MY CAR or if you are in the normal view, to the highest menu level (main source menu).

* Option/accessory.

3.3.2. MY CAR - vehicle settings

The vehicle settings menu option in the MY CAR menu source handles many of the car's functions, e.g. car key memory and lock settings for doors.

Vehicle settings	Read about
Car key memory	
On Off	
Lock settings	
Automatic door locking	
On Off	
Doors unlock	
All doors Driver door, then all	
Keyless entry unlock	
All doors unlock	
Doors on same side	
Both front doors	
Audible confirmation	
On Off	
Door lock confirmation light	
On Off	
Unlock confirmation light	
On	
Off	
Reduced Guard	
Activate reduced guard	
Off	
Ask when exiting	
On Off	
Side mirror settings	
On	
Off	
Tilt left mirror on reverse gear	
On Off	
Tilt right mirror on reverse gear	
On	
Off	
Light settings	
Approach light duration	
Off 30 sec	
60 sec	
90 sec	

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Home safe light duration Off 30 sec 60 sec 90 sec	
Triple indicator On Off	
Daytime running lights On Off	
Temporary LH traffic On Off or	
Temporary RH traffic On Off	
Active bending lights On Off	
Auxiliary Lights On Off	
Active main beam On Off	
Tyre pressure	
Calibrate tyre pressure	
Tyre monitoring On Off	
Steering force level Low Medium High	
Speed in infotainment display On Off	
Reset vehicle settings All menus in Vehicle settings are given original factory settings.	

3.3.3. MY CAR - Voice settings

The voice settings menu option in the MY CAR menu source manages functions such as voice tutorial and command list for voice recognition.

Voice control settings	Read about
Tutorial	Help functions for voice recognition

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Command list	Voice recognition - quick commands
Global commands	
Navigation commands	
Radio commands	
Media commands	
Phone commands	
Navigation commands only applies if Volvo's navigation system* is installed.	
User setting	Voice recognition - settings
Default	
Trained user	
Speaker adaptation	Help functions for voice recognition
Read out speed	Voice recognition - settings
Fast	
Medium	
Slow	

* Option/accessory.

3.3.4. MY CAR - search paths

MY CAR is a menu source that handles many of the car's functions, e.g. setting the clock, door mirrors and locks.

Current menu level is shown at the top of the centre console's screen. The search paths to the menu system's functions are specified on the form:

Settings \rightarrow Vehicle settings \rightarrow Lock settings \rightarrow Doors unlock \rightarrow Driver door, then all.

The following is an example of how a function can be accessed and adjusted using the steering wheel keypad:

- 1 Press the centre console button MY CAR.
- **2** Press the thumbwheel.
- 3 Scroll to the desired menu, e.g. Settings , with the thumbwheel and then press the thumbwheel a submenu opens.
- 4 Scroll to the desired menu, e.g. Vehicle settings and press the thumbwheel a submenu opens.
- **5** Scroll to Lock settings and press the thumbwheel a new submenu opens.
- 6 Scroll to Doors unlock and press the thumbwheel a drop-down menu containing selectable options opens.
- 7 Scroll between the options All doors and Driver door, then all with the thumbwheel and press the thumbwheel the option is selected.
- **8** Exit the programming by backing out of the menus incrementally with short presses on EXIT or with one long press.

The procedure is the same for the <u>centre console controls</u>: OK/MENU, EXIT and the **TUNE** knob.

3.3.5. MY CAR - Internet settings

The Internet settings menu option in the MY CAR menu source handles functions such as e.g. Bluetooth[®] and Wi-Fi.

Internet settings	Read about
Connect through Car modem Bluetooth Wi-Fi None	Internet-connected car, Car modem * ^[1] , Registering a Bluetooth [®] device and Internet-connected car
Car modem Data usage Network operator Data roaming Lock SIM card Change SIM card PIN Access Point Name	Car modem* ^[1]
Bluetooth	Registering a Bluetooth [®] device
Wi-Fi	Internet-connected car
Car Wi-Fi hotspot	Car modem * ^[1]
Car Wi-Fi hotspot On Off	
Name	
Password	

* Option/accessory.

^[1] Only cars with Volvo On Call.

3.3.6. MY CAR Information

Information menu option in the MY CAR menu source handles functions such as Number of keys and VIN number.

Information Read	Read about
Number of keys	
VIN number	

3.3.7. MY CAR - driving support system

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note. 128 / 962 Driving support systems menu option in the MY CAR menu source handles functions such as e.g. Collision warning system and Lane keeping aid.

Driver support system	Read about
Collision warning	
Collision warning On Off	
Warning distance Short Normal Long	
Warning sound On Off	
Road sign information	
Road sign information On Off	
Speed alert On Off	
ESC OFF On Off	
City Safety On Off	
BLIS On Off	
Distance alert On Off	
Driver Alert On Off	

3.3.8. MY CAR - menu options

MY CAR is a menu source where many of the car's functions can be handled, e.g. setting the clock, door mirrors and locks.



Example of normal view for MY CAR.

Press MY CAR in the centre console to go to normal view for MY CAR. Normal view shows the status of some of the car's driver support systems in the upper part of the screen along with the status of the Start/Stop* function in the lower part of the screen.

Pressing OK/MENU accesses the menu source My Car where the following options are available:

- My S60^[1]
- Trip statistics
- Drive-E^[2]/Hybrid^[3]
- Tyre pressure
- Settings
- Service & repair
- Owner's manual

My S60^[1]

My CarMy S60^[1]

The screen shows a grouping of all of the car's driver support systems - these can be activated or deactivated here.

Trip statistics

My Car \rightarrow Trip statistics

The screen shows the history as a bar chart with average consumption of electricity^[3] and fuel.

Drive-E^[2]

 $My \ Car \ \rightarrow \ Drive-E$

Parts of the Volvo Drive-E concept are described here, among other things. Select from among the following headings:

Start/Stop

Here there is information about the Start/Stop function.

ECO driving guide

Tips, advice and a description of what it means to drive economically can be found here.

Hybrid^[3]

My Car \rightarrow Hybrid

Information on the car's drive system is found here. Select from among the following headings:

Power flow

The screen shows whether the motor or engine is driving the car and how the motive force is flowing.

Driving modes

The car's different drive modes are explained.

ECO driving guide

Tips, advice and a description of what it means to drive economically can be found here.

Tyre pressure

 $My \ Car \ \rightarrow \ Tyre \ pressure$

The screen shows information about the car's tyre pressure monitoring - the system can be activated or deactivated here.

Settings

 $My \ Car \ \rightarrow \ Settings$

The menus are structured as follows:

Menu level 1

Menu level 2 Menu level 3 Menu level 4

Shown here are the 4 first menu levels under **Settings**. Certain functions are standard, others are optional - the range also varies depending on the market.

When selecting whether a function should be activated/On or deactivated/Off a square is displayed:

On: Selected square.

Off: Empty square.

• Select On/Off with OK - then back out of the menu with EXIT.

Menus under settings

- Vehicle settings, see MY CAR vehicle settings
- Driver support system, see <u>MY CAR driving support system</u>
- System options, see <u>MY CAR System options</u>
- Voice control settings, see <u>MY CAR Voice settings</u>
- Climate settings, see <u>MY CAR Climate settings</u>
- Internet settings, see <u>MY CAR Internet settings</u>
- Volvo On Call, see <u>Menu options with Volvo On Call</u>*.
- FAV key options link a normally used function in MY CAR to FAV button, see Favourites
- Information, see <u>MY CAR Information</u>
- Reset to factory settings all user data is reset and all settings in all menus receive the factory settings.

Service and repair

 $My \ Car \ \rightarrow \ Service \ \& \ repair$

Here there is service and workshop information for the car as well as information about booked service appointments.

Owner's manual

 $My \ Car \ \rightarrow \ Owner's \ manual$

The screen shows the <u>digital owner's manual</u>.

- * Option/accessory.
- ^[1] Depending on car model.
- ^[2] Applies to the V40, V40 Cross Country, S60, S60L, V60, V60 Cross Country, XC60, S80 and V70/XC70.
- ^[3] Applies to the V60 Plug-in Hybrid and S60L Twin Engine.

3.3.9. MY CAR - System options

The system settings menu option in the MY CAR menu source handles functions such as e.g. time and languages.

System options	Read about
Time settings	
The combined instrument panel's clock is adjusted here.	
24 baur clock	
Qn	
Off	
Summer time	
Auto	
On Off	
Auto time	
On	
Off	
Location	
Language	
Selects language for texts in the screen and the combined instrument panel.	
Language: Driver display	
Selects language for texts in the combined instrument panel.	
Distance and fuel units	
MPG(US)	
MPG(UK)	
km/l	
l/100km	
lemperature unit	
Celsius	
Selects the unit for the display of outside temperature and setting of the climate control system.	
Screen saver	
On	
Off	
The surrent screen is current content rades out after a period of inactivity and is replaced by a blank screen if this option is selected.	
Show help text	
On	
Off	
Explanatory text for the screen's current content is shown with this option selected.	
Reset system options	
All menus in System options are given original factory settings.	

3.3.10. MY CAR - Climate settings

Climate settings menu option in the MY CAR menu source handles functions such as e.g. fan adjustment and recirculation.

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Climate settings	Read about
Auto fan	
Normal	
High	
Low	
Recirculation timeout	
On	
Off	
Auto rear defrost	
On	
Off	
Interior air quality system	
On	
Off	
Reset climate settings	
All menus in Climate settings are given original factory settings.	

3.4. Controls - beam/lighting

3.4.1. Daytime running lights

With the knob for headlamp control in AUTO position, and the car's electrical system in key position || or the engine running, the daytime running lights are activated automatically in daylight.

Daytime running lights during the day. DRL



Knob for headlamp control in AUTO position.

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

Warning

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

The driver is always responsible for ensuring that the car is driven with the correct beam pattern for the traffic situation and in accordance with applicable traffic regulations.

3.4.2. Position/parking lamps

Position/parking lamps are switched on with the headlamp control's knob.



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

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

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

When it is dark outside and the tailgate is opened the rear position/parking lamps are switched on in order to alert traffic behind. This takes place irrespective of what position the knob is in or what key position the car's electrical system is in.

3.4.3. Active main beam*

Active main beam function is available with on/off functionality, or adaptive functionality, depending on headlamp variant. The function detects the headlamp beams from oncoming traffic or the rear lights of vehicles in front, and switches the lighting from main beam to dipped beam. Active main beam with adaptive functionality only dims the part of the light beam that points directly to the vehicle. The lighting returns to main beam when the incoming light has stopped.

Active main beam - AHB

Active main beam (Active High Beam - AHB) is a function which uses a camera sensor at the top edge of the windscreen to detect the headlamp beams from oncoming traffic or the rear lights of vehicles in front, and then switches from main beam to

dipped beam. The function can also take streetlights into account.

Car with halogen headlamps

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

Car with active Xenon headlamps

If the active main beam has the on/off functionality then the lighting returns to main beam about a second after the camera sensor no longer detects the headlamp beams from oncoming traffic the rear lights of vehicles in front.

If the active main beam has adaptive functionality then, unlike what happens during conventional dimming, the light beam continues to illuminate with main beam on both sides of oncoming traffic or vehicles ahead - only the part of the light beam that points directly to the vehicle is dimmed.



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

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

Activating/deactivating

AHB can be activated when the headlamp control's knob is in position AUTO (provided that the function has not been deactivated in the menu system MY CAR, see <u>MY CAR</u>).



Stalk switch and knob for headlamp control in AUTO position.

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

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

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

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

Manual operation

(i) Note

Keep the windscreen surface in front of the camera sensor free from ice, snow, mist and dirt.

Do not stick or attach anything to the windscreen in front of the camera sensor as this may reduce effectiveness or cause one or more of the systems dependent on the camera to stop working.

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

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

/l Warning

AHB is an aid for using the optimum beam pattern when conditions are favourable.

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

(! Important

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

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

For more information on the limitations of the camera sensor, see <u>Collision warning system</u>* - camera sensor limitations.

* Option/accessory.

3.4.4. Tunnel detection*

Tunnel detection changes the lighting from daytime running lights to dipped beam when the car is driven into a tunnel. Approx. 20 seconds after the car has left the tunnel, the lighting returns to daytime running lights.

The tunnel detection function is available in cars with rain sensor*. The sensor detects the entrance to a tunnel and resets the lighting from daytime running lights to dipped beam. Approx. 20 seconds after the car has left the tunnel, the lighting returns

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to daytime running lights. If the car is driven into another tunnel within this time period then dipped beam is kept switched on. This avoids repeated changes to the car's lighting.

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

* Option/accessory.

3.4.5. Brake lights

The brake light automatically comes on during braking.

The brake light is switched on when the brake pedal is depressed. In addition, it is switched on when one of driving support systems <u>Adaptive cruise control</u>, <u>City Safety</u> or <u>Collision warning system</u> brakes the car.

3.4.6. Headlamps - adjusting headlamp pattern

If the car is equipped with active Xenon headlamps and has the Active main beam function then the headlamp pattern must be reset when changing from right to left-hand traffic, and vice versa.

Active Xenon headlamps*

No adjustment of the headlamp pattern is necessary for cars without the Active main beam* function. The headlamp pattern is designed in such a way that oncoming traffic is not dazzled.

Adjustment of the headlamp pattern is required for cars with Active main beam. The car must be stationary with the engine running when the headlamp pattern is shifted between right and left-hand traffic.

The headlamp pattern is changed in the menu system MY CAR, see MY CAR.

Halogen headlamps

No adjustment of the headlamp pattern is necessary. The headlamp pattern is designed in such a way that oncoming traffic is not dazzled.

* Option/accessory.

3.4.7. Main/dipped beam

With the knob for headlamp control in position AUTO and the car's electrical system in key position || or the engine running, the dipped beam is activated automatically in poor light conditions.

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With the knob for headlamp control in position D dipped beam is always switched on when the engine is running or when key position II is active.



Stalk switch and knob for headlamp control.

Position for main beam flash

Position for main beam

Dipped beam

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

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

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.

Main beam

Main beam can be activated when the knob is in position AUTO ^[1] or ^[1] or ^[1]. Activate/deactivate main beam by moving the stalk switch towards the steering wheel to the end position and then releasing. Alternatively, the main beam can be deactivated by a light press of the stalk switch toward the steering wheel.

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

Auxiliary lamps*

If the car has auxiliary lamps, the driver can use the MY CAR menu system to choose whether they should be deactivated or switched on/off simultaneously with the main beam^[2], see <u>MY CAR</u>.

^[1] When dipped beam is switched on.

* Option/accessory.

^[2] Auxiliary lamps must be connected to the electrical system by a workshop. Volvo recommends that you contact an authorised Volvo workshop.

3.4.8. Approach lighting

Approach lighting consists of parking lamps, lamps in the door mirrors, number plate lighting, interior roof lighting as well as courtesy lighting.

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

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

The length of time for which the approach lighting should be kept on can be set in the menu system MY CAR, see MY CAR.

3.4.9. Rear fog lamp

When visibility is reduced by fog the rear fog lamp can be used so that other road users shall notice vehicles in front at an early stage.



Button for rear fog lamp.

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

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

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



Regulations on the use of rear fog lamps vary from country to country.

3.4.10. Hazard warning flashers

The hazard warning flashers warn other road users by means of all of the car's direction indicator lamps flashing simultaneously when this function is activated. When the hazard warning flashers are activated both direction indicator symbols flash in the combined instrument panel.



Button for hazard warning flashers.

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

The hazard warning flashers are activated automatically when the car has been braked so suddenly that the emergency brake lights have been activated at a speed below 10 km/h. The hazard warning flashers remain on when the car has stopped and are deactivated automatically when the car is driven off again or the button is depressed.

3.4.11. Interior lighting
The passenger compartment lighting is activated/deactivated with the buttons in the controls above the front seats and the rear seat.



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

- **1** Reading lamp, left-hand side
- **2** Reading lamp, right-hand side
- **3** Interior lighting

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

- the engine has been switched off and the car's electrical system is in key position 0
- the car has been unlocked but the engine has not been started.

Front roof lighting

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

Rear roof lighting



Rear roof lighting.

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

Courtesy lighting

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

Glovebox lighting

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

Vanity mirror lighting

The lighting for the <u>vanity mirror</u> is switched on and off respectively when the cover is opened or closed.

Lighting in the cargo area

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

Automatic lighting

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

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- Off right-hand side pressed in, automatic lighting deactivated.
- **Neutral position** automatic lighting activated.
- **On** left-hand side pressed in, passenger compartment lighting switched on.

Neutral position

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

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

- the car is unlocked with the remote control key or key blade, see <u>Remote control key functions</u> or <u>Detachable key blade -</u> <u>unlocking doors</u>
- the engine has been switched off and the car's electrical system is in key position 0.

Passenger compartment lighting is switched off when:

- the engine is started
- the car is locked.

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

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

Ambience lights*

When the normal passenger compartment lighting is switched off and the engine is running, a number of LEDs illuminate, including one in the ceiling lighting, in order to provide a low-light and enhance the mood while driving. The light also makes it easier to see objects in storage compartments etc. during the darker hours of the day. This lighting goes out for a little while after the normal passenger compartment lighting when the car is locked. The brightness is controlled using the thumbwheel on the headlamp control.

* Option/accessory.

3.4.12. Light switches

The headlamp control activates and adjusts the external lighting. It is also used to adjust display and instrument lighting and <u>ambience lights</u>.

Overview, light switches



Overview, light switches.

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

Knob positions

(i) Note

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

Position	Specification
0	Daytime running lights ^[2] when the car's electrical system is in key position or the engine is running. Main beam flash can be used.
EDOE	Daytime running lights, position/parking lamps rear and side marker lamps when the car's electrical system is in key position or the engine is running. Position/parking lamps/side marker lamps when the car is parked. Main beam flash can be used.

Position	Specification
AUTO	Daytime running lights, position/parking lamps rear and side marker lamps in daylight when the car's electrical system is in key position or the engine is running.
	Dipped beam and position/parking lamps/side marker lamps in weak daylight or darkness, or when the rear fog lamp or windscreen wipers with continuous wiping are activated.
	The <u>tunnel detection</u> * function is activated.
	Main beam can be activated when dipped beam is switched on.
	Main beam flash can be used.
Ð	Dipped beam and position/parking lamps/side marker lamps.
	Main beam can be activated.
	Main beam flash can be used.

Volvo recommends that AUTO mode is used when the car is driven.

Warning

The car's audio system is not able to determine when daylight is too weak or sufficiently strong, e.g. in fog and rain, in all situations.

The driver is always responsible for ensuring that the car is driven with a beam pattern suitable for the traffic situation and in accordance with applicable traffic regulations.

Instrument lighting

Different display and instrument lighting is switched on depending on key position; see Key positions - functions at different levels.

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.

- Leave the engine running, or have the car's electrical system in key position I. 1
- 2 Roll the thumbwheel up/down to raise/lower beam alignment.



Thumbwheel positions for different load cases.

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

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

- * Option/accessory.
- ^[1] Not available for cars equipped with active Xenon headlamps*.
- ^[2] Fitted in or under the front bumper.

3.4.13. direction indicators

The car's direction indicators are operated with the left-hand stalk switch. The direction indicator lamps flash three times or continuously, depending on how far up or down the stalk switch is moved.



Direction indicators.

Short flash sequence

I) Move the stalk switch up or down to the first position and release. The direction indicator lamps flash three times. The function can be activated/deactivated in the menu system MY CAR, see <u>MY CAR</u>.

Continuous flash sequence

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

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

Direction indicator symbols

For direction indicator symbols, see Combined instrument panel - meaning of indicator symbols.

3.4.14. Home safe light duration

Home safe lighting consists of dipped beam, parking lamps, lamps in the door mirrors, number plate lighting, interior roof lighting as well as courtesy lighting.

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

- Remove the remote control key from the ignition switch. 1
- 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 Main/dipped beam.
- **3** Get out of the car and lock the door.

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

The length of time for which the home safe lighting should be kept on can be set in the menu system MY CAR, see MY CAR.

3.4.15. Active Xenon headlamps*

Active Xenon headlamps are designed to provide maximum illumination in bends and junctions and so provide increased safety.

Active Xenon headlamps ABL



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

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

The function is activated automatically when the car is started (provided that it has not been deactivated in the menu system MY CAR, see <u>MY CAR</u>). In the event of a fault in the function the **Symbol** illuminates in the combined instrument panel at the same time as the information display shows an explanatory text and a further illuminated symbol.

Symbol	Message	Specification
*	Headlamp system malfunction Service required	The system is disengaged. Visit a workshop if the message remains. Volvo recommends that you contact an au- thorised Volvo workshop.

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

The function^[1] can be deactivated/activated in the menu system MY CAR, see <u>MY CAR</u>.

For headlamp pattern adjustment, see Headlamps - adjusting headlamp pattern.

Cornering lights*

Active Xenon headlamps with the Active main beam function of the adaptive type (Active main beam with adaptive functionality) are equipped with cornering lights that temporarily illuminate the area diagonally in front of the car in the direction the steering wheel is turned in a sharp bend, or in the direction the direction indicators are being used.

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

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- * Option/accessory.
- ^[1] Activated on delivery from the factory.

3.5. Controls - miscellaneous

3.5.1. Door mirrors

The door mirror positions are adjusted with the joystick in the driver's door controls.



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.

- Adjust the position with the joystick in the centre. 2
- Press the L or R button again. The light should no longer be illuminated. 3

/!\ Warning

Both mirrors are the wide-angle type to provide optimal vision. Objects may appear further away than they actually are.

Storing settings^[1]

The settings for the rearview and door mirrors and the positions of the driver's seat can be stored for each remote control key in the car key memory*, see <u>Remote control key - personalisation</u>*.

Angling the door mirror when parking^[1]



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

1 Engage reverse gear and press the L or R button.

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

Automatic angling of the door mirror when parking^[1]

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

The function can be activated/deactivated in the menu system MY CAR, see MY CAR.

Automatic retraction when locking^[1]

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

The function can be activated/deactivated in the menu system MY CAR, see MY CAR.

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:

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

The mirrors are now reset in neutral position.

Automatic dimming*

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

Retractable power door mirrors*

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

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

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

Home safe and approach lighting

The lamp on the door mirrors illuminates when approach lighting or home safe lighting is selected.

* Option/accessory.

^[1] Only in combination with power seat with memory, see <u>Seats, front - electrically operated</u>*.

3.5.2. Steering wheel

The steering wheel can be adjusted in different positions and has controls for horn and cruise control, as well as menu, audio and phone control.

Adjusting



Adjusting the steering wheel.

- Lever releasing the steering wheel
- 2 Possible steering wheel positions

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

- The lever is pulled towards the driver to release the steering wheel. 1
- **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 the steering wheel and fix it before driving away.

With speed related power steering* the level of steering force can be adjusted, see <u>Adjustable steering force</u>*.

Keypads*



Keypads in the steering wheel.

1 <u>Cruise control</u>** and <u>Adaptive cruise control - ACC</u>**.

2 Audio and phone control, see supplement, Sensus Infotainment.

Horn



Horn.

Press the centre of the steering wheel to signal.

* Option/accessory.

3.5.3. Power windows

All power windows can be operated using the control panel for the driver's door - the control panels for the other doors operate their respective power window.



Driver's door control panel.

- Switch for electric child safety locks * and disengaging rear power window buttons; see <u>Child safety locks electrical</u> <u>activation</u>*.
- **2** Rear window controls
- 3 Front window controls

/ Warning

Check that children or other passengers are not trapped when the windows are closed from the driver's door.

Warning

Check that no children or other passengers are trapped if/when the windows are closed using the remote control key.

/ Warning

If there are children in the car - remember to always switch off the power supply to the power windows by selecting key position **0** and then take the remote control key with you when leaving the car. For information on key positions - see <u>Key</u> <u>positions - functions at different levels</u>.

Operating



Operating the power windows.

- Operating without auto
- Operating with auto

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

In order for the power windows to be used, the key position must be at least I - see <u>Key positions - functions at different levels</u>. The power windows can be operated for a few minutes after the engine has been switched off and after the remote control key has been removed - although not after a door has been opened.

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

(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 Remote control key and Locking/unlocking - from the inside.

Resetting

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

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

Warning

A reset must take place for pinch protection to work.

* Option/accessory.

3.5.4. Heating* of the steering wheel

The steering wheel can be heated with electric heating.

Function



Button position may vary depending on equipment selected and market.

Repeatedly press the button to switch between the following functions:

Function	Indicator
Switched off	Button lamp extinguished
Heating	Button lamp illuminated

Automatic steering wheel heating

With activated automatic start of steering wheel heating, the heating of the steering wheel starts when the engine is started. Automatic start takes place when the car is cold and the ambient temperature is below approx. 10 °C. Activate/deactivate the function in the menu system <u>MY CAR</u>.

* Option/accessory.

3.5.5. Sunroof*

The sunroof can be operated with a control in the roof panel.

The sunroof's inner sunscreen is closed manually. The sunroof has a wind deflector.

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

Horizontal opening



Horizontal opening, backward/forward.

- Dpening, automatic
- 😢 Opening, manual
- 🚯 Closing, manual
- 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 the sunroof is closed. The sunroof's pinch-protection function only operates during automatic closing, not manual.

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

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

/ Warning

If there are children in the car:

Remember to always switch off the power supply to the sunroof by selecting key position **0** and then take the remote control key with you when leaving the car. For information on key positions - see <u>Key positions - functions at different</u> <u>levels</u>.

Vertical opening



Vertical opening, raised at the rear edge.

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

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 Remote control key - functions and Locking/unlocking - from the inside. The doors and the tailgate are locked. To interrupt closing, press the lock button again.

Warning

If the sunroof is closed with the remote control key, check that no one risks being trapped.

Sunscreen

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

Pinch protection

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

Wind deflector



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

* Option/accessory.

3.5.6. Wipers and washers

Wipers and washers clean the windscreen and rear window. The headlamps are cleaned with high-pressure washing.

Windscreen wipers^[1]



Windscreen wipers and windscreen washers.

1 Rain sensor, On/Off

2 Thumbwheel sensitivity/frequency

Windscreen wipers off

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

Single sweep



INT

Raise the stalk switch and release to make one sweep.

Intermittent wiping

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 <u>Car wash</u> and <u>Wiper blades</u>.

Rain sensor*



The rain sensor automatically starts the windscreen wipers based on how much water it detects on the windscreen. The sensitivity of the rain sensor can be adjusted using the thumbwheel.

When the rain sensor is activated a lamp in the button is illuminated and the rain sensor symbol 🖤 is shown in the combined instrument panel.

Activating and setting the sensitivity

When activating the rain sensor, the car must be running or the remote control key in position | or || 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 rain sensor button 🔯 . The windscreen wipers make one sweep.

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

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

Deactivate

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

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

(!) Important

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

Washing the headlamps and windows



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Washing the windscreen

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

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

Heated washer nozzles*

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

High-pressure headlamp washing*

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

Reduced washing

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

Wiping and washing the rear window



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Rear window wiper – intermittent wiping

2 Rear window wiper – continuous speed

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

(i) Note

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

Wiper - reversing

Engaging reverse gear while the windscreen wipers are on initiates intermittent rear window wiping^[2]. The function stops when reverse gear is disengaged.

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

(i) Note

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

^[1] For replacing the wiper blades and service position wiper blades, see <u>Wiper blades</u>. For filling washer fluid, see <u>Washer fluid</u> <u>- filling</u>.

* Option/accessory.

^[2] This function (intermittent wiping when reversing) can be deactivated. Visit a workshop. Volvo recommends an authorised Volvo workshop.

3.5.7. Rearview mirror - interior

The interior rearview mirror can be dimmed with a control in the mirror's lower edge. Alternatively, the rearview mirror dims automatically.



1 Control for dimming

Manual dimming

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

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

Automatic dimming*

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

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

i Note If the sensors are obscured by e.g. parking permits, transponders, sun visors or objects in the seats or in the cargo area in such a way that light is prevented from reaching the sensors, then the dimming function of the interior rearview and door mirrors is reduced. Only rearview mirror with automatic dimming can be equipped with <u>compass</u>.

* Option/accessory.

3.5.8. Windows and rearview and door mirrors - heating

The defroster is used to quickly remove misting and ice from the rear window and door mirrors.

Rear window and door mirror defrosters



Heating, rear window and door mirrors

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

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

ically after a certain time.

The door mirrors and rear window are demisted/defrosted automatically if the car is started in an outside temperature lower than +7 °C. Automatic defrosting can be selected in the menu system MY CAR, see MY CAR.

3.6. Symbols and messages

3.6.1. BLIS - symbols and messages

In situations where the BLIS (Blind Spot Information) and CTA (Cross Traffic Alert) functions fail or are interrupted, the combined instrument panel may show a symbol, supplemented by an explanatory message. Follow any recommendation given.

Message examples:

Message	Specification
CTA OFF	CTA is manually switched off - BLIS is active.
BLIS and CTA OFF Trailer attached	BLIS and CTA are temporarily non-operational because a trailer is connected to the car's electrical system.
BLIS and CTA Service required	BLIS and CTA are non-operational.Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

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

3.6.2. Preconditioning - messages

Symbols and messages regarding preconditioning.



When the fuel-driven heater has been activated the heat symbol illuminates in the information display.

When one of the timers has been activated, the symbol for activated timer illuminates in the display at the same time as the set time is shown next to the symbol.



Symbol in the display for activated timer.

The table shows symbols and display texts that appear.

Symbol	Display	Specification
<u>111</u>	Auto heater ON	The fuel-driven heater is switched on and operating. The heater's timer is activated after the remote control key has been removed from the ignition switch and leaving the car - the engine and passenger compartment are heated at the set time.
<u></u> i	Fuel operated heater stopped Battery saving mode	The fuel-driven heater is stopped by the car's electronics in order to facilitate starting the engine. The starter battery's charge level is too low.
	Fuel operated heater stopped Low fuel level	The fuel-driven heater is stopped. Setting the heater is not possible due to fuel level being too low - this is in order to facilitate starting the engine as well as approx. 50 km driving.
<u> 222 </u>	Fuel operated heater Service required	The fuel-driven heater is fully or partially disengaged. Visit a workshop if the message remains. Volvo recommends that you contact an authorised Volvo workshop.
	Preconditioning interrupted by power supply change	The electrically-driven heater or AC system is stopped. The transfer of energy is interrupted.
	Preconditioning stopped due to malfunction	The electrically-driven heater or AC system is stopped. Visit a workshop. An authorised workshop is recommended.
	Preconditioning stopped Hybrid battery temperature high	The electrically-driven heater or AC system is stopped. The hybrid battery is too hot, wait until the temperature has returned to normal.

A display text clears automatically after a time or after one press on the <u>indicator stalk</u> OK button.

3.6.3. Messages

When a warning, information or indicator symbol illuminates, a corresponding message appears on the information display.

Message	Specification
Stop safely ^[1]	Stop and switch off the engine. Serious risk of damage - consult a workshop ^[2] .
Stop engine ^[1]	Stop and switch off the engine. Serious risk of damage - consult a workshop ^[2] .
Service urgent ^[1]	Contact a workshop ^[2] to check the car immediately.
Service required ^[1]	Contact a workshop ^[2] to check the car as soon as possible.
See manual ^[1]	Read the owner's manual.
Book time for maintenance	Time to book regular service - contact a workshop ^[2] .
Time for regular maintenance	Time for regular service - contact a workshop ^[2] . 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 ^[2] .
Transmission Oil change needed	Contact a workshop ^[2] to check the car as soon as possible.
Transmission Reduced performance	The gearbox cannot handle full capacity. Drive carefully until the message clears $[3]$. If shown repeatedly - contact a workshop $[2]$.
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 ^[3] .
Transmission hot Stop safely Wait for cooling	Critical fault. Stop the car immediately in a safe manner and contact a workshop $^{[2]}$.
Temporarily off ^[1]	A function has been temporarily switched off and is reset automatically while driving or after starting again.
Low battery charge Power save mode	The audio system is switched off to save energy. Charge the battery.

^[1] Part of message, shown together with information on where the problem has arisen.

^[2] An authorised Volvo workshop is recommended.

^[3] For more information regarding the automatic gearbox, see <u>Automatic gearbox -- Geartronic</u>.

3.6.4. Electronic stability control (ESC) - symbols and messages

<u>Stability system</u> ESC (Electronic Stability Control) helps the driver to avoid skidding and improves the car's traction.

Table

Symbol	Message	Specification
2	ESC Temporarily OFF	ESC system has been temporarily reduced due to excessive brake disc temperature - the function is reactivated automatically when the brakes have cooled.

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Symbol	Message	Specification
	ESC Service required	 ESC system disengaged. Stop the car in a safe place, switch off the engine and start it again. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.
and	"Message"	There is a text message in the <u>combined instrument panel</u> - Read it!
?	Constant glow for 2 seconds.	System check when the engine is started.
2	Flashing light.	ESC system is being activated.
	Constant glow.	Sport mode is activated. NOTE: The ESC system is not deactivated in this mode - it is partially reduced.

3.6.5. Adaptive cruise control* - symbols and messages

The adaptive cruise control (ACC - Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

Sometimes the adaptive cruise control may display a symbol and/or text message. Here are some examples follow the recommendation given if appropriate:

Symbol	Message	Specification
*	The symbol is GREEN	The car maintains the stored speed.
¶?γ°	The symbol is WHITE	Adaptive cruise control is set to standby mode.
3		Standard cruise control is selected manually.
	Set ESC to Normal to enable Cruise	The adaptive cruise control cannot be activated until the <u>Stability system (ESC)</u> has been set in Normal mode.
	Adaptive cruise control cancelled	The adaptive cruise control has been deactivated - the driver has to regulate the speed himself.
	Adaptive cruise control unavailable	 The adaptive cruise control cannot be activated. This could be due to: brake temperature is high the radar sensor is blocked by e.g. wet snow or rain.
¥.	Radar blocked See manual	 The adaptive cruise control is temporarily disengaged. The radar sensor is blocked and cannot detect other vehicles. For example, in the event of heavy rain or if slush has collected in front of the radar sensor. Read about <u>radar sensor limitations</u>.
	Adaptive cruise control Service required	 The adaptive cruise control is disengaged. Contact a workshop - an authorised Volvo workshop is recommended.
	Press brake to hold vehicle + acoustic alarm ^[1]	 The car is stationary and the cruise control will release the foot brake to allow the parking brake to take over and hold the car, but a fault in the parking brake means the car will shortly begin to roll. The driver must brake himself/herself. The message remains and the alarm sounds until the driver depresses the brake pedal or uses the accelerator pedal.
	Below 30 km/h Lead vehicle required ^[1]	Shown in the event of attempts to activate the adaptive cruise control at speeds below 30 km/h without a vehicle in front within the activation distance.

^[1] Only with Queue Assist.

3.6.6. Distance Warning* - symbols and messages

The Distance Warning function (Distance Alert) warns the driver if the time interval to the vehicle ahead becomes too short.

The function has certain symbols and messages that can be shown in the combined instrument panel if the function is reduced due to its limitations.

Symbol ^[1]	Message	Specification
ě	Radar blocked See manual	Distance Warning temporarily disengaged. The radar sensor is blocked and cannot detect other vehicles, e.g. in the event of heavy rain or if slush has collected in front of the radar sensor. Read about <u>radar sensor limitations</u> .
ක් ම	Collision warning Service required	Distance Warning and Collision Warning with Auto Brake fully or partially disengaged. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

* Option/accessory.

^[1] Symbols are schematic - may vary by market and car model.

3.6.7. Messages - handling

Use the left-hand stalk switch to acknowledge and browse among <u>messages</u> that are shown in the information display of the combined instrument panel.

When a warning, information or indicator symbol illuminates, a corresponding message appears in the display at the same time. An error message is stored in a memory list until the fault has been rectified.

Press OK on the left-hand stalk switch to acknowledge a message. Scroll through messages with the thumbwheel.

(i) Note

If a warning message appears while you are using the trip computer, the message must be read (press OK) before the previous activity can be resumed.

3.6.8. Collision warning system* - symbols and messages

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"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian, bicycle or vehicle in front that are stationary or moving in the same direction.

Symbol ^[1]	Message	Specification
sêc	Collision warning system OFF	Collision warning system switched off. Shown when the engine is started. The message clears after about 5 seconds or after one press of the OK button.
ب ۇر	Collision warning system Unavailable	The collision warning system cannot be activated. Shown when the driver attempts to activate the function. The message clears after about 5 seconds or after one press of the OK button.
utes	Auto Braking was activated	Auto Brake has been active. The message clears after one press of the OK button.
	Windscreen sensors blocked See manual	 The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. Clean the windscreen surface in front of the camera sensor. Read about <u>camera sensor limitations</u>.
ě	Radar blocked See manual	Collision Warning with Auto Brake is temporarily disengaged. The radar sensor is blocked and cannot detect other vehicles. For example, in the event of heavy rain or if slush has collected in front of the radar sensor. Read about <u>radar sensor limitations</u> .
⇒^_ ⇒~=>	Collision warning Service required	 Collision Warning with Auto Brake is fully or partially disengaged. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

* Option/accessory.

^[1] Symbols are schematic - may vary by market and car model.

3.6.9. Symbols in the display

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.

- Red warning symbol, illuminates when a fault has been indicated which could affect the safety and/or driveability of the car. An explanatory text is shown in the information display in the combined instrument panel at the same time.

• Information symbol, illuminates in combination with text in the information display in the combined instrument panel, when a deviation in any of the car's systems has occurred. The information symbol can also illuminate in conjunction with other symbols.

Warning symbols in the combined instrument panel

Symbol	Specification	See
Ø	Parking brake applied	Combined instrument cluster - meaning of warning symbols, Parking brake
*	Airbags – SRS	Safety - warning symbol, Combined instrument cluster - meaning of warning symbols
â	Seatbelt reminder	General information on seatbelts, Combined instrument cluster - meaning of warning symbols
	Starter battery not charging	Combined instrument cluster - meaning of warning symbols
(D) BRAKE	Fault in brake system	Combined instrument cluster - meaning of warning symbols, Foot brake
	Warning, safety mode	Safety - warning symbol, General information on safety mode, Combined instrument cluster - meaning of warning symbols

Control symbols in the combined instrument panel

Symbol	Specification	See
Ť	ABL fault*	Combined instrument panel - meaning of indicator symbols, Active Xenon headlamps*
C	Emissions system	Combined instrument panel - meaning of indicator symbols
Θ	ABS fault	Combined instrument panel - meaning of indicator symbols, Foot brake
Qŧ	Rear fog lamp on	Combined instrument panel - meaning of indicator symbols, Rear fog lamp
2	Stability system, ESC (Electronic Stability Control), Trailer stability assist*	Combined instrument panel - meaning of indicator symbols, Electronic stability control (ESC) - symbols and messages, Trailer Stability Assist - TSA ^[1]
₽ ₽ ₽	Stability system, sport mode	Combined instrument panel - meaning of indicator symbols, Electronic stability control (ESC) - symbols and messages
700	Engine preheater (diesel)	Combined instrument panel - meaning of indicator symbols
	Low level in fuel tank	Combined instrument panel - meaning of indicator symbols, Preconditioning - messages
۵	Information, read display text	Combined instrument panel - meaning of indicator symbols
Ð	Main beam On	Combined instrument panel - meaning of indicator symbols, Main/dipped beam
-	Left-hand direction indicators	Combined instrument panel - meaning of indicator symbols
	Right-hand direction indicators	Combined instrument panel - meaning of indicator symbols
(!)	Tyre pressure system*	Combined instrument panel - meaning of indicator symbols, Tyre pressure monitoring* ^[2]

Information symbols in the combined instrument panel

Symbol	Specification	See
ĒCA	Active high beam, AHB (Active High Beam) *	Active main beam*
à	Camera sensor*, Laser sensor*	Active main beam *, City Safety [™] - symbols and messages, Collision warning system * - symbols and messages, Driver Alert Control (DAC) * - symbols and messages, Lane Departure Warning (LDW) - symbols and messages
** F	Adaptive cruise control*	Adaptive cruise control * - symbols and messages
-	Adaptive cruise control*, Distance Warning* (Distance Alert)	Adaptive cruise control* - set time interval, Distance Warning*
	Adaptive cruise control*, time interval	Adaptive cruise control - ACC*, Adaptive cruise control * - overview
K)	Cruise control*	Cruise control*
÷	Radar sensor*	Adaptive cruise control* - symbols and messages, <u>Distance Warning</u> * - symbols and messages, <u>Collision w</u> <u>arning system</u> * - symbols and messages
	Foot brake	<u>Foot brake</u>
Ċ	Speed limiter	Speed limiter*

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Symbol	Specification	See
ා්ක	Auto Brake*, Distance Warning* (Distance Alert), City Safety™, Collision warning system*	Distance Warning * - symbols and messages, <u>City Safety™ - symbols and messages</u> , <u>Collision warning syste</u> <u>m</u> * - symbols and messages
111	Engine block and passenger compartment heater*	Preconditioning - messages
<u>222 </u>	Engine block heater and passenger compart- ment heater* Service required	Preconditioning - messages
B	Activated timer*	Preconditioning - messages
茶	ABL system*	Active Xenon headlamps*
	Fuel filler flap, right-hand side	Fuel filler flap - Opening/closing
E I	Low battery	Preconditioning - messages
(P)!	Parking brake	Parking brake
$\langle T \rangle$	Rain sensor*	Wipers and washers
2	Driver Alert System*, Lane Departure Warning*	Driver Alert Control (DAC) * - symbols and messages, <u>Lane Departure Warning (LDW) - symbols and messa</u> aes
5	Driver Alert System*, Lane Departure Warning*	Lane Departure Warning (LDW) - symbols and messages
	Driver Alert System*, Time for a break	Driver Alert Control (DAC) * - operation
<u>±</u>	Driver Alert System*, Time for a break	Driver Alert Control (DAC) * - symbols and messages
* \$	Recorded speed information*	Road sign information (RSI) * - operation
â	Parking inside	Preconditioning - parking inside
¶≘	Parking outside	Preconditioning - parking outside
**	Heating the seat	Preconditioning - parking inside, Preconditioning - parking outside
¢	Drive systems	Drive system - symbols and messages
<u>e]</u>	Gear shift indicator	Gear shift indicator*
,£	Gear positions	Automatic gearbox – Geartronic
	Measuring the oil level	Engine oil - checking and filling

Information symbols in the roof console display

Symbol	Specification	See
FASTEN #	Seatbelt reminder	Seatbelt reminder
8	Airbag, passenger seat, activated	Passenger airbag - activating/deactivating*
ALEXANDER Po	Airbag, passenger seat, deactivated	Passenger airbag - activating/deactivating*

* Option/accessory.

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

^[2] Standard in certain markets.

3.6.10. Driver Alert Control (DAC)* - symbols and messages

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<u>DAC</u> can show symbols and text messages on the combined instrument panel or in the centre console's display screen in different situations.

Here are some examples:

Symbol ^[1]	Message	Specification
<u></u>	Driver Alert Time for a break	The vehicle has been driven inconsistently - the driver is alerted by an acoustic warning signal + text.
h	Windscreen sensors blocked See manual	 The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. Clean the windscreen surface in front of the camera sensor. Read about camera sensor <u>limitations</u>.
<u>8</u> .	Driver Alert system Service required	The system is disengaged.Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

* Option/accessory.

^[1] Symbols are schematic - may vary by market and car model.

3.6.11. Drive system - symbols and messages

In some situations the drive system can display a message in the combined instrument panel - follow the recommendation given if appropriate.



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

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

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

Message	Specification	Action
PURE not available due to low hy- brid system temperature	One or more components in the drive system have not reached the correct operating temperature.	Drive in HYBRID mode until the message changes to PURE available - then press the PURE button.
PURE not available due to tempor- ary hybrid system limitations	Temporary system limitation, e.g. operating temper- ature not correct.	Drive in HYBRID mode until the message changes to PURE available - then press the PURE button.
PURE not available due to low bat- tery charge	The hybrid battery's energy level is too low.	Drive in SAVE mode until the message changes to PURE available or charge the battery with a charging cable and 230 VAC - then press the PURE button.
PURE not available when gear lever in manual position	The gear selector is in manual "+/-" position.	Move the gear selector to the side, to automatic mode and then press the \ensuremath{PURE} button.
PURE available	The PURE mode is available again after the previous limitation.	-
POWER not available due to tem- porary hybrid system limitations	Temporary system limitation, e.g. operating temper- ature not correct.	-
SAVE not available due to tempor- ary hybrid system limitations	Temporary system limitation, e.g. operating temper- ature not correct.	-

Specification

Action

AWD not available due to temporary hybrid system limitations Temporary system limitation, e.g. operating temperature not correct.

3.6.12. Combined instrument panel - meaning of indicator symbols

The indicator symbols alert the driver that a function is activated, that the system is operating, or that an error or failure has occurred.

Indicator symbols

Symbol	Specification
~ —	ABL fault
CHECK C	Emissions system
Θ	ABS fault
()‡	Rear fog lamp on
- []	Stability system, see <u>Electronic stability control (ESC) - general</u>
	Stability system, sport mode, see <u>Electronic stability control (ESC) - operation</u>
00	Engine preheater
	Low level in fuel tank
(Î)	Information, read display text
Ð	Main beam On
-	Left-hand direction indicator
	Right-hand direction indicator
(!)	Tyre pressure system , see <u>Tyre pressure monitoring</u> $*$ ^[1]

ABL fault

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

Emissions system

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

ABS fault

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

1 Stop the car in a safe place and turn off the engine.

- 2 Restart the engine.
- **3** If the symbol remains illuminated, drive to a workshop to have the ABS system checked. Volvo recommends that you seek assistance from an authorised Volvo workshop.

Rear fog lamp on

This symbol illuminates when the rear fog lamp is switched on.

Stability system

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

Stability system, sport mode

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

Engine preheater

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

Low level in fuel tank

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

Information, read display text

When one of the car's systems does not behave as intended, this information symbol illuminates and a text appears on the information display. The message text is cleared with the OK button, see <u>Menu navigation - combined instrument panel</u>, 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.

(i) Note

When a service message is shown, the symbol and message are cleared using the OK button, or disappear automatically after a time.

Main beam On

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

Left/right-hand direction indicator

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

Tyre pressure system

The symbol illuminates in the event of low tyre pressure, or if a fault arises in the tyre pressure system.

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Reminder – doors not closed

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



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



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

If the bonnet^[2] is not closed properly then the warning symbol illuminates together with an explanatory image in the information display. Stop the car in a safe place as soon as possible and close the bonnet.

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

- * Option/accessory.
- ^[1] Standard in certain markets.
- ^[2] Only cars with alarm*.

3.6.13. City Safety[™] - symbols and messages

In conjunction with automatic braking by the <u>City Safety™</u> system, one or more symbols may illuminate in the combined instrument panel and a text message may be shown. A text message can be acknowledged by briefly pressing the OK button on the direction indicator stalk.

Symbol	Message	Meaning/Action
3 ⁸ 89	Auto braking by City Safety	City Safety™ is braking or has automatically braked.
	Windscreen sensors blocked See manual	The laser sensor is temporarily non-operational because something is blocking it. Remove the object blocking the sensor and/or clean the windscreen in front of the sensor. Read about laser sensor limitations.
ు ర ీశాల 	City Safety Service required	City Safety™ is not operational. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

3.6.14. Alcohol lock* - symbols and text messages

The function of the alcohol lock is to prevent the car from being driven by individuals under the influence of alcohol.

In addition to the previously described messages related to <u>how the alcohol lock works before starting the</u> <u>engine</u> the combined instrument panel's display can also show the following:

Display text	Meaning/Action
Alcoguard Restart possible	The engine has been switched off for less than 30 minutes - engine starting possible without new test.
Alcoguard Service required	Contact a workshop ^[1] .
Alcoguard No signal received	Transmission failed - send manually with button (3) or take a new breath test.
Alcoguard Please try again	Test failed - take a new breath test.
Alcoguard Please blow longer	Blowing too short - blow for longer.
Alcoguard Please blow softer	Blowing too hard - blow more gently.
Alcoguard Please blow harder	Blowing too weak - blow harder.
Alcoguard preheating Please wait	Heating not finished - wait for text Alcoguard Please blow for 5 seconds.

* Option/accessory.

^[1] An authorised Volvo workshop is recommended.

3.6.15. Combined instrument cluster - meaning of warning symbols

The warning symbols alert the driver that an important function is activated, or that a serious error or a serious failure has occurred.

Warning symbols

Symbol	Specification
©	Parking brake applied
*	Airbags – SRS
.	Seatbelt reminder
	Starter battery not charging
O BRANE	Fault in brake system
	Warning

Parking brake applied

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

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

For more information, see <u>Parking brake</u>.

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 assist-

ance from an authorised Volvo workshop.

Seatbelt reminder

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

Starter battery not charging

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

Fault in brake system

If this symbol illuminates, the brake fluid level may be too low. Stop the car in a safe place and check the level in the brake fluid reservoir; see <u>Brake and clutch fluid - level</u>.

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 <u>Brake and clutch fluid level</u>. 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 lit at the same time, there is a risk that the rear end will skid during heavy braking.

Warning

The red warning symbol illuminates when a fault has been indicated which could affect the safety and/or driveability of the car. An explanatory text is shown on the information display at the same time. The symbol remains visible until the fault has been rectified but the text message can be cleared with the OK button; see <u>Menu navigation - combined instrument panel</u>. The warning symbol can also illuminate in conjunction with other symbols.

Action:

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

Reminder – doors not closed

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



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



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

If the bonnet^[1] is not closed properly then the warning symbol illuminates together with an explanatory image in the information display. Stop the car in a safe place as soon as possible and close the bonnet.

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

* Option/accessory.

^[1] Only cars with alarm*.

3.6.16. Lane Departure Warning (LDW) - symbols and messages

In situations where there is no Lane assistance function, a symbol may be shown in the combined instrument panel in combination with an explanatory message - follow the recommendation given if appropriate.

Message examples:

Symbol	Message	Specification
	Lane Departure Warning ON/Lane Departure Warning OFF	The function is switched on/off. Shown at switch-on/off. The text disappears after approx. 5 seconds.

Symbol	Message	Specification
	Windscreen sensors blocked See manual	 The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. Clean the windscreen in front of the camera sensor. Read about <u>camera sensor limitations</u>.
	Driver Alert system Service required	 The system is disengaged. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

3.7. Seats

3.7.1. Seats, front - electrically operated*

The car's front seats have different setting options for optimum seating comfort. The power seat can be moved forward/backward and up/down. The front edge of the seat cushion can be raised/lowered. The backrest angle and lumbar support* can be changed.

Power seat



- **1** Front edge of seat cushion up/down
- 2 Raise/lower seat
- **(3)** Seat, forward/backward
- 4 Backrest rake
- **5** Lumbar support* is adjusted inward and outward

The power seats have overload protection which is tripped if a seat is blocked by an object. If this should happen, set the car's electrical system in key position | or 0 and wait a short time before adjusting the seat again.

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

Preparations

The seat can be adjusted for a certain time after unlocking the door with the remote control key without the key in the ignition switch. Seat adjustment is normally made in key position | and can always be made when the engine is running.

Seat with memory function*



The memory function stores settings for the seat and the door mirrors.

Store setting

- 1 Memory button
- 2 Memory button
- 3 Memory button
- 4 Button for storing settings
- Adjust the seat and the door mirrors. 1
- 2 Press and hold button M while pressing button 1, 2 or 3 simultaneously. Hold the buttons depressed until the acoustic signal is heard and text is shown in the combined instrument panel.

The seat must be adjusted again before a new memory can be set.

The setting for lumbar support is not stored.

Using a stored setting

Press one of the memory buttons 1-3 until the seat and the door mirrors stop. If the button is released, the movement of the seat and door mirrors will be interrupted.

Key memory* in remote control key

All remote control keys can be used by different drivers to store the settings for the driver's seat and door mirrors^[1], see <u>Remote control key - personalisation</u>*.

Emergency stop

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

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

Warning

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

Heated seats

For heated seats, see <u>Heated front seats</u>* and <u>Heated rear seat</u>*.

* Option/accessory.

^[1] Only if the car is equipped with power seat with memory and retractable power rearview and door mirrors. The setting for lumbar support is not stored.

3.7.2. Seats, rear

The rear seat backrest and the outer seat head restraints can be folded. The centre seat head restraint can be adjusted to suit the height of the passenger.

Head restraint, centre seat, rear



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

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

Warning /!`

The centre seat head restraint must be in its lowest position when the centre seat is not used. When the centre seat is used, the head restraint must be correctly adjusted to the height of the passenger so that it covers the whole of the back of the head if possible.

Manual lowering of the outer head restraints, rear seat



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

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

[1\ Warning

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

Lowering the rear seat backrest



(!) Important

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

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

(i) Note

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

- The left-hand section can be folded separately. .
- The centre section can be folded separately.
- The right-hand section can only be folded together with the centre section. .

If the entire backrest is to be folded then the different sections should be folded separately. Ð





1 1

If the centre backrest is being lowered - release and adjust the head restraint for the centre backrest, see the earlier section "Head restraint, centre seat, rear".

2 2

The outer head restraints are lowered automatically when the outer backrests are lowered. Pull up the backrest's locking handle A while folding the backrest forward at the same time. A red indicator on the lock catch B shows that the backrest is no longer locked in place.

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(i) Note

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

Raising takes place in reverse order.

(i) Note

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

/! Warning

Check that the backrests and head restraints in the rear seat are locked properly after being folded up.

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



- 1 The remote control key must be in key position ||.
- 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 passengers in any of the outer seats.

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

/ Warning

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

* Option/accessory.

3.7.3. Heated front seats*

The front seat heating has three positions for increasing the comfort for driver and passenger when it is cold.



Current heat level is shown in the centre console display screen.



Press the button repeatedly in order to activate the function:

- Highest heat level three orange fields illuminate in the centre console's screen (see figure above).
- Lower heat level two orange fields illuminate in the screen.
- Lowest heat level one orange field illuminates in the screen.
- Switch off the heat no field illuminates.

/ Warning

Heated seats must not be used by people who find it difficult to perceive an increase in temperature due to a lack of sensation or who otherwise have problems operating the controls for the heated seats. Otherwise they may suffer burn injuries.

Automatic start of driver's seat heating

With the automatic start of the driver's seat heating activated, the driver's seat will have the highest heat level when the engine is started.

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Automatic start takes place when the car is cold and the ambient temperature is lower than approx. +10 °C.

It is possible to activate/deactivate the function in the menu system MY CAR. For a description of the menu system, see <u>MY</u> <u>CAR</u>.

* Option/accessory.

3.7.4. Heated rear seat*

The heating for the rear seat's^[1] outer positions has three positions for increasing the comfort for passengers when it is cold.



Current heat level is shown in the pushbutton's lamps.

Press the button repeatedly in order to activate the function:

- Highest heat level three lamps illuminate.
- Lower heat level two lamps illuminate.
- Lowest heat level one lamp illuminates.
- Switch off the heat no lamp illuminates.

/ Warning

Heated seats must not be used by people who find it difficult to perceive an increase in temperature due to a lack of sensation or who otherwise have problems operating the controls for the heated seats. Otherwise they may suffer burn injuries.

* Option/accessory.

^[1] Heated rear seat is not specified with the option for <u>integrated two-stage booster seat</u>.

3.7.5. Seats, front

The car's front seats have different setting options for optimum seating comfort.



1 Raise/lower the seat, pump up/down.

- Porward/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.
- **6** Change the lumbar support*, press the button.

/ 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 heavy braking or an accident.

Lowering the passenger seat backrest*^[1]



The passenger seat's 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.

/ 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.

* Option/accessory.

^[1] Only applies to comfort seats.

3.8. Instruments and controls, left-hand drive car - overview

The overview shows where the car's displays and controls are located.

Overview, left-hand drive cars



	Function	See
0	Menus and messages, direction indicators, main/dipped beam, trip computer	Menu navigation - combined instrument panel, Messages - handling, direction indicators, Main/dipped be am and Trip computer - supplementary information.
0	Cruise control*	Cruise control * and Adaptive cruise control - ACC*.
8	Horn, airbags	Steering wheel and Airbag system.
4	Combined instrument panel	Combined instrument panel.
6	Menu navigation, audio control, phone control *	MY CAR, Audio and media - operating the system and Bluetooth® handsfree phone - overview.
6	START/STOP ENGINE button	Starting the engine.

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	Function	See
0	Ignition switch	Key positions.
8	Screen for infotainment system and display of menus	Audio and media, Audio and media - overview, Audio and media - operating the system and MY CAR.
9	Door handle	-
0	Control panel	Locking/unlocking - from the inside, Child safety locks - electrical activation*, Power windows and Door mirrors.
1	Hazard warning flashers	Hazard warning flashers.
Ø	Control panel for infotainment system and menu navigation	Audio and media - operating the system and MY CAR.
₿	Control panel for climate control	Electronic climate control - ECC.
14	Gear selector	Automatic gearbox Geartronic.
Ъ	Controls for drive modes	Drive system - drive modes.
16	Wipers and washing	Wipers and washers.
Ð	Steering wheel adjustment	Steering wheel.
18	Bonnet opener	Bonnet - opening and closing.
19	Parking brake	Parking brake.
20	Seat adjustment*	Seats, front - electrically operated*.
21	Headlamp control, opener for fuel filler flap and tailgate	Light switches, Fuel filler flap - Opening/closing and Locking/unlocking - tailgate.

* Option/accessory.

3.9. Key positions

The remote control key can be used to set the vehicle's electrical system in different modes/levels so that different functions are available; see .



Ignition switch with remote control key extracted/inserted.

(i) Note

For cars with the Keyless* function the remote control key does not need to be inserted into the ignition switch but can be stored in e.g. a pocket. For more information on Keyless functions, see <u>Keyless drive</u>*

Insert the remote control key

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

() Important

Foreign objects in the ignition switch can impair the function or destroy the lock.

Do not press in the remote control key incorrectly turned - hold the end with the detachable key blade, see <u>Detachable</u> key blade - detaching/attaching.

Remove the remote control key

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

* Option/accessory.

3.10. Volvo Sensus

Volvo Sensus is the heart of the personal Volvo experience and connects you with the car and outside world. Sensus provides information, entertainment and assistance when it is needed. Sensus consists of intuitive functions that both enhance the car journey and simplifies ownership of the car.

SENSUS

An intuitive navigation structure makes it possible to receive relevant support, information and entertainment when it is necessary, without distracting the driver.

Sensus covers all the car's solutions that enable connection* to the outside world and provides you with intuitive control over all the car's capabilities.

Volvo Sensus combines and presents many functions in several of the car's systems on the centre console's display screen. With Volvo Sensus the car can be personalised by means of an intuitive user interface. Settings can be made in Car settings, Audio and media, Climate control, etc.

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

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

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

For more information about all functions/systems, see the relevant section in the owner's manual or its supplement.

* Option/accessory.

3.11. Compass*

The upper right-hand corner of the rearview mirror contains a display that shows the compass direction in which the front of the car is pointing.

Operation



Rearview mirror with compass.

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 when key position II is active, see <u>Key positions - functions at</u> <u>different levels</u>. To deactivate/activate the compass - press in the button on the underside of the mirror using a paper clip for example.

Calibration

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

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

Proceed as follows to perform calibration:

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

(i) Note

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

3 Hold the button on the underside of the rearview mirror depressed (use a paper clip or similar) for approx. 3 seconds. The number of the current magnetic zone is shown.



Magnetic zones.

Press the button repeatedly until the required magnetic zone (1–15) is shown. See the map of magnetic zones for the compass.

5 Wait until the display returns to showing the character **C**, or hold the button on the underside of the rearview mirror depressed for approx. 6 seconds until the character **C** is shown.

- 6 Drive slowly in a circle at a speed of no more than 10 km/h until a compass direction is shown in the display, indicating that calibration is complete. Then drive a further 2 circles to fine-tune calibration.
- 7 Cars with heated windscreen*: If the character C is shown in the display when the heated windscreen is activated, perform the calibration in accordance with point 6 above with the heated windscreen activated, see <u>Demisting and defrosting the windscreen</u>.
- 8 Repeat the above procedure as necessary.
- * Option/accessory.

3.12. Instruments and controls, right-hand drive car - overview

The overview shows where the car's displays and controls are located.

Overview, right-hand drive cars



	Function	See
0	Screen for infotainment system and display of menus	Audio and media, Audio and media - overview, Audio and media - operating the system and MY CAR.
2	Ignition switch	Key positions.
3	START/STOP ENGINE button	Starting the engine.
4	Cruise control*	Cruise control * and Adaptive cruise control - ACC *.
6	Combined instrument panel	Combined instrument panel.

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	Function	See
6	Horn, airbags	Steering wheel and Airbag system.
0	Menu navigation, audio control, phone control *	MY CAR, Audio and media - operating the system and Bluetooth® handsfree phone - overview.
8	Wipers and washing	Wipers and washers.
9	Door handle	-
0	Control panel	Locking/unlocking - from the inside, Child safety locks - electrical activation*, Power windows and Door mirrors.
1	Headlamp control, opener for fuel filler flap and tailgate	Light switches, Fuel filler flap - Opening/closing and Locking/unlocking - tailgate.
Ð	Seat adjustment*	Seats, front - electrically operated*.
ß	Parking brake	Parking brake.
14	Steering wheel adjustment	Steering wheel.
15	Menus and messages, direction indicators, main/dipped beam, trip computer	Menu navigation - combined instrument panel, Messages - handling, direction indicators, Main/dipped be am and Trip computer - supplementary information.
16	Gear selector	Automatic gearbox Geartronic.
Ð	Controls for drive modes	Drive system - drive modes.
18	Control panel for climate control	Electronic climate control - ECC.
19	Control panel for infotainment system and menu navigation	Audio and media - operating the system and MY CAR.
20	Hazard warning flashers	Hazard warning flashers.
2	Bonnet opener	Bonnet - opening and closing.

* Option/accessory.

4. Climate

4.1. Preconditioning

4.1.1. Preconditioning - messages

Symbols and messages regarding preconditioning.



When the fuel-driven heater has been activated the heat symbol illuminates in the information display.

When one of the timers has been activated, the symbol for activated timer illuminates in the display at the same time as the set time is shown next to the symbol.



Symbol in the display for activated timer.

The table shows symbols and display texts that appear.

Symbol	Display	Specification
<u>111</u>	Auto heater ON	The fuel-driven heater is switched on and operating. The heater's timer is activated after the remote control key has been removed from the ignition switch and leaving the car - the engine and passenger compartment are heated at the set time.
<u></u> i	Fuel operated heater stopped Battery saving mode	The fuel-driven heater is stopped by the car's electronics in order to facilitate starting the engine. The starter battery's charge level is too low.
<u>***</u>	Fuel operated heater stopped Low fuel level	The fuel-driven heater is stopped. Setting the heater is not possible due to fuel level being too low - this is in order to facilitate starting the engine as well as approx. 50 km driving.
<u> 222 I</u>	Fuel operated heater Service required	The fuel-driven heater is fully or partially disengaged. Visit a workshop if the message remains. Volvo recommends that you contact an authorised Volvo workshop.
	Preconditioning interrupted by power supply change	The electrically-driven heater or AC system is stopped. The transfer of energy is interrupted.
	Preconditioning stopped due to malfunction	The electrically-driven heater or AC system is stopped. Visit a workshop. An authorised workshop is recommended.
	Preconditioning stopped Hybrid battery temperature high	The electrically-driven heater or AC system is stopped. The hybrid battery is too hot, wait until the temperature has returned to normal.

A display text clears automatically after a time or after one press on the indicator stalk OK button.

4.1.2. Preconditioning - parking outside

With the **Outdoor parking** option, both the electrically-driven heater and the fuel-driven heater^[1] are activated during preconditioning.



With the **Outdoor parking** option, in addition to the electrically-driven heater, the fuel-driven heater is also permitted during preconditioning.

/ Warning

Do not use the fuel-driven auxiliary heater indoors in unventilated areas. Exhaust fumes are given off.

(i) Note

The car can be started and driven even when the fuel-driven auxiliary heater is running.

- **1** Press OK to access the menu.
- 2 Scroll with the thumbwheel to Preconditioning and select with OK.
- **3** If the setting **Outdoor parking** has already been made then the symbol for this is shown in the display, in which case continue from point 7.
- **4** If Indoor parking is selected then the <u>symbol for this</u> is shown instead. Scroll with the thumbwheel to the symbol and select with OK.
- 5 Scroll forward in the next menu to Outdoor parking and select with OK.
- 6 Go back in the menu with RESET.
- 7 Select whether or not seat heating and steering wheel heating^[2] should be activated. Scroll with the thumbwheel to and select with OK.
- 8 Scroll with the thumbwheel to Driver seat or Passenger seat and select with the OK button if they should be activated^[2] during preconditioning.
- 9 Exit the menu with RESET.
- ^[1] The fuel-driven heater is not activated if the outside temperature exceeds 15 °C.
- ^[2] Seat heating and steering wheel heating can only be activated when the car is plugged into the mains power circuit.

4.1.3. Preconditioning - timer

Preconditioning timer is connected to the car's clock.

The time when the car shall be used and acclimatised is specified with the timer.

Two different times can be selected using the timer. The car's electronics select when preconditioning shall be activated based on prevailing external climatic conditions.

(i) Note

All timer programming will be cleared if the car's clock is reset.

4.1.4. Timer - switching off

A timer activated for preconditioning can be switched off manually.

- Press OK to access the menu. 1
- Scroll with the thumbwheel to Preconditioning and select with OK. 2
- If a timer is set then a clock symbol is shown beside the set time.
- Select one of the two timers using the thumbwheel and confirm with OK. 3
- Switch off the timer by pressing: Δ
 - long on OK or
 - short on OK to go forward in the menu. Then select to stop the timer and confirm with OK.
- 5 Exit the menu with RESET.

A timer activated for preconditioning can also be deactivated.

4.1.5. Preconditioning - direct start

Preconditioning of the car can be started directly.

Direct start can be performed via:

- information display
- remote control key*
- mobile*.

In the event of direct start of preconditioning, Volvo recommends that you activate via the remote control key or mobile.

Direct start via the information display

- Press OK to access the menu. 1
- Scroll with the thumbwheel to **Preconditioning** and select with OK. 2
- Scroll forward in the next menu to Direct start in order to activate the preconditioning and select with OK. 3
- Exit the menu with RESET. 4

Direct start via the remote control key*



Indicator lamp on remote control key with PCC*.

Preconditioning can be activated via the remote control key:
1 Hold the button for approach lighting $\overline{:}$ depressed for 2 seconds.

Hazard warning flashers provide information in accordance with the following:

- 5 short flashes followed by a constant glow for approx. 3 seconds the signal has reached the car and preconditioning has been activated.
- 5 short flashes the signal has reached the car but preconditioning has not been activated.
- Hazard warning flashers remain switched off the signal has not reached the car.

If the button for information **i** is depressed when preconditioning is active then the indicator lamp will show the status for this - at the same time the car's <u>lock status</u> is shown. While the status is being investigated the indicator lamp emits a pair of short flashes followed by a constant glow if preconditioning is active.

Status is also shown in the trip computer while preconditioning is in progress.

Direct start via a mobile*

Activation and information about the selected settings that can be managed from a mobile phone will be available via the Volvo On Call* mobile app.

* Option/accessory.

4.1.6. Timer - setting

Two different times can be selected using the timer. Here time refers to the time when the car shall be used and acclimatised.

(i) Note

All timer programming will be cleared if the car's clock is reset.

- 1 Press OK to access the menu.
- 2 Scroll with the <u>thumbwheel</u> to **Preconditioning** and select with OK.
- 3 Select one of the two timers using the thumbwheel and confirm with OK.
- **4** Briefly press OK to move to the illuminated hours setting.
- **5** Select the required hour using the thumbwheel.
- 6 Briefly press OK to move to the illuminated minutes setting.
- **7** Select the required minute using the thumbwheel.

- Press OK^[1] to confirm the setting. 8
- Go back in the menu structure with RESET. 9
- 10 Select the second timer (continued from point 2) or exit the menu with RESET.

^[1] An further press of OK activates the timer.

4.1.7. General information about preconditioning

The climate in the car's passenger compartment can be preconditioned (acclimatised) before departure, in both hot and cold climates.



In different cases, the preconditioning uses the car's fuel-driven and electrically-driven heaters and the car's AC system:

- In a cold climate the fuel-driven heater heats both the engine and the passenger compartment the electrically-driven heater . only heats the passenger compartment before departure.
- In a hot climate the AC system cools the passenger compartment. Ð

Preconditioning the car reduces wear.

During preconditioning in warm weather, condensation from the air conditioning may drip under the car. This is normal.

(i) Note

During preconditioning of the passenger compartment, the car works to reach comfort temperature and not the temperature set in the climate control system.

(i) Note

The compressor can operate and cool the hybrid battery even when passenger compartment cooling is not selected or required. The compressor emits noise.

(i) Note

The car's doors and windows should be closed during the preconditioning of the passenger compartment.

Options for preconditioning

Select from the following:

- parking inside
- parking outside.

Preconditioning can then be activated:

- directly via the information display, remote control key* or mobile*
- with timer.

(i) Note

Volvo recommends that you activate preconditioning via the timer, and then have the car connected to the mains power circuit.

Connection to the mains power circuit

The car can be preconditioned both when <u>connected</u> and not connected * to the mains power circuit.

When the car is plugged into the mains power circuit^[1]

- Heating/cooling can last up to 50 minutes.
- Seat and steering wheel heating can be activated during preconditioning.

When the car is not plugged into the mains power circuit*

- Heating can last up to 50 minutes.
- Cooling takes place for 2-3 minutes.

During preconditioning, the electrically-driven heater and AC system use power from the hybrid battery. If the car is not connected to the mains power circuit during preconditioning then the mileage for electric operation is reduced accordingly.

* Option/accessory.

[1] A charging station which is not always active, e.g. because of a timer, may cause loss of function for preconditioning.

4.1.8. Timer - starting

The time when the car shall be used and acclimatised is specified with the timer.

When the timer is activated the car's electronics choose when preconditioning should be activated based on prevailing outside climatic conditions.

- 1 Press OK to access the menu.
- 2 Scroll with the thumbwheel to Preconditioning and select with OK.
- 3 Select one of the two timers using the thumbwheel and activate with OK.
- 4 Exit the menu with RESET.

It is also possible to start the timer via the Volvo On Call* mobile app.

* Option/accessory.

4.1.9. Preconditioning - parking inside

With the Indoor parking option the electrically-driven heater is activated during preconditioning.



If you select the **Indoor parking** setting then the fuel-driven heater is deactivated during preconditioning. This heating will have a slightly lower performance than the **Outdoor parking** setting in outside temperatures lower than 5 °C.

(i) Note

The car must be connected to the mains power circuit before the electrically-driven heater can be activated.

Warning /!\

Do not use the fuel-driven auxiliary heater indoors in unventilated areas. Exhaust fumes are given off.

- Press OK to access the menu. 1
- Scroll with the thumbwheel to Preconditioning and select with OK. 2
- If the setting Indoor parking has already been made then the symbol for this is shown in the display, in which case 3 continue from point 7.
- 4 If Outdoor parking is selected then the symbol for this is shown instead. Scroll with the thumbwheel to the symbol and select with OK.
- Scroll forward in the next menu to Indoor parking and select with OK. 5
- Go back in the menu with RESET. 6
- Select whether or not seat heating and steering wheel heating^[1] should be activated. Scroll with the thumbwheel to #/#/ 7 and select with OK.
- 8 Scroll with the thumbwheel to Driver seat or Passenger seat and select with the OK button if they should be activated^[2] during preconditioning.
- 9 Exit the menu with RESET.

^[1] Seat heating and steering wheel heating can only be activated when the car is plugged into the mains power circuit. ^[2] Tick the box to activate.

4.1.10. Preconditioning - immediate stop

Preconditioning of the car can be deactivated directly via the information display.

- Press OK to access the menu. 1
- Scroll with the thumbwheel to Preconditioning and select with OK. 2
- Scroll forward in the next menu to Stop in order to deactivate the preconditioning and select with OK. 3
- Exit the menu with RESET. 4

4.2. Climate system controls

4.2.1. Fan

The fan should always be activated in order to avoid misting on the windows.

(i) Note

If the fan is fully switched off then the air conditioning is not engaged - which can cause a risk of misting on the windows.

Fan knob



Turn the knob to increase or decrease fan speed. If AUTO is selected, then the fan speed is regulated <u>automatically</u> - the fan speed previously set is disengaged.

4.2.2. Auto-regulation

The auto function automatically regulates <u>temperature</u>, <u>air conditioning</u>, <u>fan speed</u>, <u>recirculation</u> and <u>air</u> <u>distribution</u>.



If you select one or more manual functions, the other functions continue to be controlled automatically. All manual settings are disengaged when AUTO is pressed. The display screen shows **AUTO CLIMATE**.

Fan speed in automatic mode can be set in the menu system MY CAR. For a description of the menu system, see MY CAR.

4.2.3. Temperature control in the passenger compartment

When the car is started, the most recent temperature setting is resumed.

(i) Note

Heating or cooling cannot be hastened by selecting a higher or lower temperature than the actual desired temperature.



Current temperature for each side is shown in the centre console's display screen.



The temperature can be adjusted with the knob - separately for the driver's side and the passenger side.

4.2.4. Sensors - climate control

The climate control system has a number of sensors to help control the temperature in the car.

- 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 in the door mirror.
- The humidity sensor* is located by the interior rearview mirror.

(i) Note

Do not cover or block the sensors with clothing or other objects.

* Option/accessory.

4.2.5. Actual temperature

The temperature you select in the passenger compartment corresponds to the physical experience with reference to factors such as ambient temperature, air speed, humidity and solar radiation etc. in and around the car at the time.

The system includes a <u>sun sensor</u> 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.

4.3. Air distribution

4.3.1. Air distribution - table

Three buttons are used to select the distribution of the air.

	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.
لغ	Air to windscreen, via defroster vent, and side windows. Some air flows from the air vents.	to avoid misting and icing in a cold and humid climate (to achieve this the fan level must not be too low).
فئ	Airflow to windows and from dashboard air vents.	to ensure good comfort in warm, dry weather.
هرً	Airflow to the head and chest from dashboard air vents.	to ensure efficient cooling in warm weather.
هرُ	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.
فتر	Air to floor and from dashboard air vents.	in sunny weather with cool outside temperatures.
نم،	Air to floor. Some air flows to the dashboard air vents and windows.	to direct heat or cold to the floor.
فخر	Airflow to windows, from dashboard air vents and to the floor.	to provide cooling along the floor in hot, dry weather or warming upwards in cold weather.

4.3.2. Air distribution in the passenger compartment

The incoming air is divided between a number of different vents in the passenger compartment.



Air distribution is fully automatic in AUTO mode.

If necessary it can be controlled manually; see the <u>air distribution table</u>.

Air vents in the dashboard



A Open

- B Closed
- 😥 Lateral airflow
- Vertical airflow

Aim the outer vents at the side windows to remove misting.

Air vents in the door pillars



A Closed

B Open

- Chateral airflow
- Vertical airflow

Aim the vents at the windows to remove misting in cold weather.

Aim the vents into the passenger compartment to maintain a comfortable climate in the rear seat in hot weather.

(i) Note

Remember that small children may be sensitive to air flows and draughts.

Air distribution



- Air distribution defroster windscreen
- 2 Air distribution air vent instrument panel
- 3 Air distribution ventilation floor

The figure consists of three buttons. When pressing the buttons the corresponding figure is illuminated in the screen (see following figure) and an arrow in front of each part of the figure shows the air distribution that is selected. For more information, see the <u>air distribution table</u>.



The selected air distribution is shown in the centre console display screen.

4.3.3. Demisting and defrosting the windscreen

Max. defroster is 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.

(i) Note

The noise level increases as the fan is operating at max.

When the defroster is switched off the climate control returns to the previous settings.

In drive mode PURE, activation of the defroster function may cause the internal combustion engine to start and change to <u>drive</u> <u>mode</u> HYBRID.

4.3.4. Air distribution - recirculation

Select recirculation to shut out bad air, exhaust gases etc. from the passenger compartment, i.e. no outside air is taken into the car when this function is activated.



When recirculation is engaged the orange lamp in the button illuminates.

() Important

If the air in the car is recirculated for too long then 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.

It is possible to activate/deactivate the function in the menu system MY CAR. For a description of the menu system, see <u>MY</u> <u>CAR</u>.

(i) Note

When max. defroster is selected, recirculation is always deactivated.

4.3.5. Air conditioning

The air conditioning cools and dehumidifies incoming air as required.



In <u>drive mode</u> PURE the AC is preset not to start.

When the lamp in the AC button illuminates, the air conditioning is controlled by the system's automatic function.

When the lamp in the AC button is switched off the air conditioning is disconnected. Other functions are still controlled automatically. When the <u>max. defroster function</u> is activated, the air conditioning is switched on automatically so that the air is dehumidified at the maximum setting.

4.4. Air quality

4.4.1. Air quality - passenger compartment filter

All air entering the car's passenger compartment is cleaned with a filter.

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The filter 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.

(i) Note

There are different types of passenger compartment filter. Make sure that the correct filter is fitted.

4.4.2. Air quality

The interior in a passenger compartment is designed to be pleasant and comfortable, even for people with contact allergies and for asthma sufferers.

- Passenger compartment filter Ð
- Material in the passenger compartment
- Clean Zone Interior Package (CZIP)* Ð
- Interior Air Quality System (IAQS)*
- * Option/accessory.

4.4.3. Air quality - IAQS*

The air quality system IAQS 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.

It is possible to activate/deactivate the function in the menu system MY CAR. For a description of the menu system, see MY CAR.

(i) Note

The air quality sensor must always be enabled to ensure the best air in the passenger compartment.

In a cold climate recirculation is limited so as to prevent misting.

In the event of misting, the air quality sensor should be disengaged, and the defroster functions for the windscreen and side windows, as well as the rear window, should be used.

(i) 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.

* Option/accessory.

4.4.4. Air quality - Clean Zone Interior Package (CZIP)*

CZIP comprises a series of modifications that keep the passenger compartment even clearer from allergy and asthma-inducing substances.

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.

(i) 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.

For more information on CZIP, see the brochure included with the purchase of the car.

* Option/accessory.

4.4.5. Air quality - material

Tested materials have been developed in order to minimise the quantity of dust in the passenger compartment and to 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 to clean the interior.

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4.5. Engine and passenger compartment heater

4.5.1. General information about heaters

The engine needs to be kept warm in order to reduce the environmental impact when it is started. As a consequence, the car is equipped with electrically-driven heater and fuel-driven heater. These heaters are used in order to achieve the correct operating temperature for the engine and to generate sufficient heat in the passenger compartment.

- <u>Electric heater</u>
- <u>Fuel-driven heater</u>

4.5.2. Fuel-driven heater

The car is equipped with electrically-driven and fuel-driven heater.

In colder weather, the car's fuel-driven heater can be activated during warming-up. The heater starts automatically when extra heat is required and is switched off automatically when not required.

(i) Note

When the fuel-driven auxiliary heater is active, exhaust fumes may be given off from the right-hand wheel housing, which is perfectly normal.

If you do not want the car's fuel-driven heater to start during preconditioning, activate Indoor parking, see <u>Preconditioning -</u> parking inside. However, this may prolong the warming-up time.

The fuel-driven heater cannot be started during driving or preconditioning if the outside temperature exceeds 15 °C. At -5 °C or lower the maximum running time of the heater is 50 minutes during preconditioning.

If the fuel level in the tank is too low then the fuel-driven heater is prevented from starting, with inadequate heating as a result.

(i) Note

Make sure that there is sufficient fuel in the car's regular fuel tank when driving at temperatures below +15 °C.

. ↓ Warning

Do not use the fuel-driven auxiliary heater indoors in unventilated areas. Exhaust fumes are given off.

Refuelling



Warning label on fuel filler flap.

/ Warning

Fuel which spills out could be ignited. Switch off the fuel-driven auxiliary heater before starting to refuel.

Check in the combined instrument panel that the heater is switched off. The heat symbol is shown when it is operating.

Parking on a hill

If the car is parked on a steep hill, the front of the car should point downhill to ensure that there is a supply of fuel to the fueldriven heater.

Starter battery and fuel

If the starter battery has insufficient charge or if the fuel level is too low, the heater will be switched off automatically and a message is shown in the combined instrument panel. Acknowledge the message by pressing the <u>indicator stalk</u> OK button once.

4.5.3. Fuel-driven heater - auto mode/deactivation

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The fuel-driven heater's automatic start sequence can be deactivated if required.

(i) Note

If the fuel-driven auxiliary heater is deactivated, the diesel engine will start more frequently in order to meet the need for heat in drive mode PURE or HYBRID, i.e. electrical operation will be restricted.

- 1 Press the indicator stalk OK button to access the menu.
- 2 Scroll with the thumbwheel to Settings and select with OK.
- 3 Select one of the alternatives Auto heater ON or Auto heater OFF using the thumbwheel and confirm with OK.
- 4 Exit the menu with RESET.

4.5.4. Electrically-driven heater

The car is equipped with electrically-driven and <u>fuel-driven heater</u>.

The electrically-driven heater cannot be controlled manually but is activated automatically when required.

(i) Note

If the electrically-driven heater is activated then the charging time for the hybrid battery will be extended. The time required for heating the car is mainly determined by the outside temperature.

4.6. Global opening

The global opening function opens or closes all side windows simultaneously and can be used for example to quickly air the car during hot weather.



Central locking button

A long press on the 🔂 symbol in the central locking button **opens** all side windows simultaneously. The same procedure on the 🔂 symbol **closes** all side windows simultaneously.

4.7. Electronic climate control - ECC

ECC (Electronic Climate Control) maintains the temperature selected in the passenger compartment and can be set separately for the driver's side and passenger side.

The auto function is used to automatically control temperature, air conditioning, fan speed, recirculation and air distribution.



4.8. General information on climate control

The car is equipped with <u>electronic climate control</u>. The climate control system cools or heats as well as dehumidifies the air in the passenger compartment.

When the climate control system is activated it is recommended that the panel's air vents are fully open in order to obtain the most efficient air conditioning possible.

If there is no heat from the coolant then the electrically-driven heater is used primarily. In colder weather the car's fuel-driven heater can also be started.

The engine block heater, fuel-driven heater and electrically-driven heater are used as heat sources during driving. The heat source(s) used depends on the prevailing conditions, e.g. ambient temperature.

During driving the car automatically starts the systems needed to maintain comfort inside the passenger compartment - except in <u>drive mode</u> PURE, when climate comfort is deprioritised, e.g. AC and certain electrically-driven sources are switched off.

The climate in the car's passenger compartment can be preconditioned (acclimatised) before departure, in both hot and cold climates.

(i) Note

Air conditioning (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 switched on.

To bear in mind

- To ensure that the air conditioning works optimally, the side windows, and sunroof* should be closed. Ð
- Global opening opens/closes all side windows simultaneously and can be used for example to quickly air the car during hot weather.
- Remove ice and snow from the climate control system air intake (the grille between the bonnet and the windscreen).
- When running at idling speed, preconditioning or charging the hybrid battery in hot weather, condensation from the air . conditioning may drip under the car. This is normal.
- When the engine requires full power, e.g. for full acceleration, the air conditioning can be temporarily switched off. There . may then be a temporary increase in temperature in the passenger compartment.
- . Remove misting on the insides of the windows primarily by using the defroster function. To reduce the risk of misting, keep the windows clean and use window cleaner.
- * Option/accessory.

4.9. Menu settings - climate control

It is possible to activate/deactivate or change the default settings for six of the climate control system's functions via the centre console.

- Fan level during automatic climate control. .
- Recirculation timer.
- Automatic start of <u>rear window defroster</u>. Ð
- Interior air quality system *.
- Automatic start of seat heating driver.
- Automatic start of steering wheel heating.

More information is available in the description of the menu system.

The climate control system's functions can be reset in the menu system MY CAR to the default settings. For a description of the menu system, see <u>MY CAR</u>.

* Option/accessory.

4.10. Heated front seats*

The front seat heating has three positions for increasing the comfort for driver and passenger when it is cold.



Current heat level is shown in the centre console display screen.



Press the button repeatedly in order to activate the function:

- Highest heat level three orange fields illuminate in the centre console's screen (see figure above).
- Lower heat level two orange fields illuminate in the screen.
- Lowest heat level one orange field illuminates in the screen.
- Switch off the heat no field illuminates.

/!\ Warning

Heated seats must not be used by people who find it difficult to perceive an increase in temperature due to a lack of sensation or who otherwise have problems operating the controls for the heated seats. Otherwise they may suffer burn injuries.

Automatic start of driver's seat heating

With the automatic start of the driver's seat heating activated, the driver's seat will have the highest heat level when the engine is started.

Automatic start takes place when the car is cold and the ambient temperature is lower than approx. +10 °C.

It is possible to activate/deactivate the function in the menu system MY CAR. For a description of the menu system, see \underline{MY} <u>CAR</u>.

* Option/accessory.

4.11. Heating * of the steering wheel

The steering wheel can be heated with electric heating.

Function



Button position may vary depending on equipment selected and market.

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

Function	Indicator
Switched off	Button lamp extinguished
Heating	Button lamp illuminated

Automatic steering wheel heating

With activated automatic start of steering wheel heating, the heating of the steering wheel starts when the engine is started. Automatic start takes place when the car is cold and the ambient temperature is below approx. 10 °C. Activate/deactivate the function in the menu system <u>MY CAR</u>.

* Option/accessory.

4.12. Climate control system - fault tracing and repair

The air conditioning system must only be serviced and repaired by an authorised workshop.

Fault tracing and repair

The air conditioning system contains fluorescent tracing agents. Use ultraviolet light when looking for leaks.

Volvo recommends that you contact an authorised Volvo workshop.

/ Warning

The air conditioning system contains pressurised refrigerant R134a. This system must only be serviced and repaired by an authorised workshop.

4.13. Heated rear seat*

The heating for the rear seat's^[1] outer positions has three positions for increasing the comfort for passengers when it is cold.



Current heat level is shown in the pushbutton's lamps.

Press the button repeatedly in order to activate the function:

- Highest heat level three lamps illuminate.
- Lower heat level two lamps illuminate.
- Lowest heat level one lamp illuminates.
- Switch off the heat no lamp illuminates.

✓ Warning

Heated seats must not be used by people who find it difficult to perceive an increase in temperature due to a lack of sensation or who otherwise have problems operating the controls for the heated seats. Otherwise they may suffer burn injuries.

* Option/accessory.

^[1] Heated rear seat is not specified with the option for <u>integrated two-stage booster seat</u>.

5. Locks and alarm

5.1. Remote control key

5.1.1. Remote control key - range

Remote control key functions (in its basic version) have a range of approx. 20 metres from the car.

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

(i) Note

The remote control key functions may be disrupted by surrounding radio waves, buildings, topographical conditions, etc. The car can always be locked/unlocked with the <u>key blade</u>.

If the remote control key is removed from the car when the engine is running or <u>key position | or ||</u> is active, and if all doors are closed, then a warning message is shown in the information display in the combined instrument panel and an audio reminder signal sounds at the same time.

The message is extinguished and the audible reminder signal stops when the remote control key is brought back to the car after either/or:

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

5.1.2. Key positions - functions at different levels

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

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

Level	Fu	Inctions
0	•	Odometer, clock and temperature gauge are illuminated.
	•	Electrically operated seats can be adjusted.
	•	The audio system can be used for a limited time - see Audio and media.

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Level	Functions	
I	• Sunroof, power windows, 12 V socket in the passenger compartment, navigation, phone, ventilation fan and windscreen wipers can be used. Current consumption loads the starter battery in this key position.	
11	•	The headlamps come on.
	•	Warning/indicator lamps illuminate for 5 seconds.
	•	Several other systems are activated. However, electric heating in seat cushions and the rear window can only be activated after starting the engine.
	This key position consumes a lot of current from the starter battery and should therefore be avoided!	

Selecting key position/level

Key position 0 - Unlock the car - This means that the car's electrical system is at level 0.

(i) Note

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

- **Key position I** With the remote control key fully inserted into the ignition switch^[1] Briefly press START/STOP ENGINE.
- **Key position II** With the remote control key fully inserted into the ignition switch^[1] Give a long^[2] press on START/STOP ENGINE.
- Back to key position 0 To return to key position 0 from position II and I Briefly press on START/STOP ENGINE.

Audio system

For information on the audio system's functions with remote control key removed, see Audio and media.

Starting and stopping the engine

For information about starting/stopping the engine, see <u>Starting the engine</u>.

- * Option/accessory.
- ^[1] Not required for cars with the Keyless* function.
- ^[2] Approx. 2 seconds.

5.1.3. Remote control key

Amongst other things, the remote control key is used for locking/unlocking and starting the engine.

There are two variants of remote control key - Remote control key in basic version and Remote control key with PCC (Personal Car Communicator)*.

Functionality	Basic ^[1]	with PCC ^[2]
Locking/unlocking and detachable key blade	x	x
Keyless locking/unlocking		x
Keyless engine starting		x
Information button and indicator lamps		x

Remote control key with PCC has extended functionality compared with the remote control key in the basic version - e.g. support for Keyless Drive and certain unique functions.

All remote control keys have a <u>detachable key blade</u> made of metal. The visible section is available in two versions so that it is possible to distinguish between the remote control keys.

More remote control keys can be ordered - but not variants other than the one supplied with the car. Up to six keys can be programmed and used for one single car.

The car is supplied with two remote control keys

/ Warning

If there are children in the car:

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

* Option/accessory.

^[1] 5-button key

^[2] 6-button key

5.1.4. Remote control key - losing

If you lose a remote control key then a new one can be ordered at a workshop - an authorised Volvo workshop is recommended.

The remaining remote control keys must be taken to the Volvo workshop. The code of the missing remote control key must be erased from the system as a theft prevention measure.

The current number of keys registered to the car can be checked in the menu system MY CAR. For a description of the menu system, see <u>MY CAR</u>.

5.1.5. Key positions

The remote control key can be used to set the vehicle's electrical system in different modes/levels so that different functions are available; see .



Ignition switch with remote control key extracted/inserted.

(i) Note

For cars with the Keyless* function the remote control key does not need to be inserted into the ignition switch but can be stored in e.g. a pocket. For more information on Keyless functions, see <u>Keyless drive</u>*

Insert the remote control key

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

() Important

Foreign objects in the ignition switch can impair the function or destroy the lock.

Do not press in the remote control key incorrectly turned - hold the end with the detachable key blade, see <u>Detachable</u> key blade - detaching/attaching.

Remove the remote control key

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

* Option/accessory.

5.1.6. Remote control key - personalisation*

The key memory in the <u>remote control key</u> means that certain settings in the car can be individually adapted for different people.



The key memory function is available in combination with power* driver's seat.

Settings for <u>door mirrors</u>, driver's seat, <u>steering force</u> and the combined instrument panel's <u>theme</u>, <u>contrast and colour mode</u> can be stored in the memory, depending on the car's equipment level.

The function^[1] can be activated/deactivated in the menu system MY CAR. For a description of the menu system, see <u>MY CAR</u>.

When the function is activated, the settings are automatically linked to the key memory. This means that a change in a setting will automatically be saved to the specific remote control key's memory.

Storing settings

Make sure that the key memory function is activated in the menu system MY CAR.

Proceed as follows in order to store the settings and use the key memory in the remote control key:

- Unlock the car with the remote control key in whose memory the setting^[2] shall be stored.
- Make the desired settings for e.g. the seat and the door mirrors.
- The settings are stored in the current remote control key's memory.

The next time the car is unlocked with the same remote control key, the positions that are stored in the key memory will be set automatically - providing that they have been changed since the last time the current remote control key was used.

Emergency stop

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

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

/ Warning

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

Changing settings

If several people each with a remote control key approach the car, then the settings for e.g. seat and door mirrors are implemented for the person whose remote control key unlocks the driver's door.

If the driver's door has been opened by person A with remote control key A, but person B with remote control key B shall drive, then the settings can be changed as follows:

- Standing by the driver's door, or sitting behind the steering wheel, person B presses the button for unlocking on his/her remote control key, see <u>Remote control key functions</u>.
- Select one of three possible memories for seat adjustment with seat button 1-3, see <u>Seats, front electrically operated</u>*.
- Adjust seat and door mirrors manually, see <u>Seats, front electrically operated</u>* and <u>Door mirrors</u>.

Reactivation of settings

When the car is locked or after 30 minutes if the car is left unlocked, the key memory will be deactivated and a standard driver profile will be set. To reactivate the key memory for the current remote control key, the following is required.

For cars without Keyless Drive

The settings that are stored in the key memory are activated if the car is unlocked by pressing the remote control key's unlock button.

For cars with Keyless Drive

The key memory is activated if:

- The car is unlocked either by pressing the remote control key's unlock button or via keyless unlocking.
- If the car is unlocked, a key scan is made when the driver's door is opened. If a unique remote control key is found, its stored settings will be activated. If the car is locked, see the previous point.

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- ^[1] Called Car key memory in MY CAR.
- ^[2] This setting does not affect settings that have been stored in the power seat's memory function.

5.1.7. Locking/unlocking - indicator

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

- Locking one flash and the door mirrors are folded^[1] in.
- Unlocking two flashes and the door mirrors are folded^[1] out.

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

Selecting the function

Different options for indicating locking/unlocking with light can be set in the car's menu system MY CAR. For a description of the menu system, see <u>MY CAR</u>.

^[1] Only for cars with retractable power door mirrors.

5.1.8. Type approval - remote control key system

Type approval for the remote control key system can be read in the table.

Lock system, standard



Keyless lock system (Keyless drive)



5.1.9. Immobiliser

The electronic immobiliser is a theft protection system that prevents an unauthorised person from starting the car.

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

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

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

For starting the car, see <u>Starting the engine</u>.
5.1.10. Remote control key - replacing the battery

The battery^[1] for the remote control key may need to be replaced.

The battery for the remote control key should be replaced if:

Ð the information symbol in the combined instrument panel illuminates and the display shows Car key battery low See manual

and/or

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





Opening

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

3 2

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

(i) Note

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

Important

Avoid touching new batteries and their contact surfaces with your fingers as this may impair their function.

Battery replacement

1 3

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

Remote control key (one battery)

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

Remote control key with PCC* (two 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, two in the remote control key with PCC.

(i) Note

Volvo recommends that the batteries to be used in the remote control key/PCC fulfil UN Manual of Test and Criteria, Part III, sub-section 38.3. Batteries fitted in the factory or replaced by an authorised Volvo workshop fulfil the above criteria.

Assembly

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

() Important

Make sure that exhausted batteries are disposed of in a manner which is kind to the environment.

^[1] Remote control key with PCC has two batteries.

* Option/accessory.

5.1.11. Remote control key - functions

The remote control key in basic version has functions such as locking and unlocking the doors.

Functions



Remote control key in basic version.

- Locking
- Unlocking
- 🔅 Approach light duration
- ✓ Tailgate





Remote control key with PCC*(Personal Car Communicator).

1 Information

Function buttons

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

Press and hold to close all the windows and sunroof* simultaneously. For more information, see Global opening.

✓ Warning

If the sunroof and windows are closed using the remote control key, check that nobody's hands are trapped.

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

Press and hold to open all windows simultaneously. For more information, see Global opening.

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 ten seconds - unlocking the remaining doors.

The function can be changed in the menu system MY CAR. For a description of the menu system, see MY CAR.

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

The button can also be used for activating preconditioning.

Tailgate - Unlocks and disarms the alarm for the tailgate only.

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 approx. 3 minutes.

* Option/accessory.

5.2. Keyless

5.2.1. Keyless drive * - unlocking with the key blade

If central locking cannot be unlocked with the remote control key, e.g. if the batteries are discharged, then the left-hand front door can be opened using the detachable key blade.



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Hole for key blade - to loosen the cover.

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

- 1 Press the key blade approx. 1 cm straight up into the hole on the underside of the door handle/cover do not prize.
- > The plastic cover loosens automatically by means of the torque when the blade is pushed straight up and into the opening.
- 2 Then insert the key blade in the lock cylinder and unlock the door.
- **3** Refit the plastic cover after unlocking.

(i) Note

When the driver's door is unlocked using the key blade and is opened, the alarm is triggered. It is switched off by inserting the PCC in the ignition switch, see <u>Alarm - remote control key not working</u>.

* Option/accessory.

5.2.2. Keyless Drive* - antenna location

Cars equipped with Keyless Drive have a number of built-in antennas positioned at different locations in the car.



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

* Option/accessory.

5.2.3. Keyless drive * - interference to remote control key function

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(i) Note

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

If interference is experienced nonetheless, use the remote control key and the key blade like a remote control key in basic version, see <u>Remote control key - functions</u>.

* Option/accessory.

5.2.4. Keyless drive* - secure handling of the remote control key

It is important to handle the car's remote control keys with great care.

If one of the remote control keys^[1] has been left in the car then the Keyless functionality is deactivated in case the car is e.g. locked with the other remote control key that belongs to the car. This prevents unauthorised entry.

The next time the car is unlocked with the other remote control key the forgotten remote control key is reactivated again.

(!) Important

Avoid leaving the remote control key with PCC behind in the car. If someone breaks into your car and takes the remote control key, it will e.g. be possible to start the car by pressing the remote control key in the ignition switch and then pressing the START/STOP ENGINE button.

* Option/accessory.

^[1] Applies to remote control key with PCC (Personal Car Communicator).

5.2.5. Keyless drive * - unlocking

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

(i) Note

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

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* Option/accessory.

5.2.6. Keyless drive*

Cars equipped with Keyless Drive have a starting and locking system that can be operated keylessly.

With the keyless starting and locking system the car can be started, locked and unlocked without the <u>remote control key</u>^[1] inserted in the ignition switch. It is enough to have the remote control key with you in a pocket. The system makes it easier and more convenient to e.g. open the car when your hands are full.

Both of the remote control keys included with the car have Keyless functionality. It is possible to order more remote control keys.

The car's electrical system can be set to three different levels - key position **0**, **I** and **II** - with the remote control key.

* Option/accessory.

^[1] Only applies to Remote Control Key with PCC.

5.2.7. Keyless drive * - locking

Cars equipped with Keyless drive have a touch-sensitive area on the outer handle of the doors and a rubberised button next to the tailgate's rubberised pressure plate for locking/unlocking.



The touch-sensitive area on the outer door handles and the rubberised button next to the tailgate's rubberised pressure plate.

Lock the doors and the tailgate with one long press on any of the door handles' touch-sensitive areas or press the smaller of the tailgate's two rubberised buttons - the <u>lock indicator</u> in the windscreen confirms that locking has been completed by starting to flash.

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

(i) Note

In cars with automatic gearbox selectors, the gear selector must be set to the P position; otherwise the car can be neither locked nor alarmed.

* Option/accessory.

5.2.8. Keyless Drive* - remote control key range

In order to unlock the doors or tailgate automatically without pressing a button on the remote control key^[1], a remote control key must be within approx. 1.5 metres from the car's door handle or tailgate.

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The person who wishes to lock or unlock a door must have the remote control key with him or her. It is not possible to lock or unlock a door if the remote control key is on the opposite side of the car.



The red rings in the above figure indicate the range covered by the system's antennas.

If all remote control keys are removed from the car when the engine is running or <u>key position I or II</u> is active, and if all doors are closed, then a warning message is shown in the information display in the combined instrument panel and an audio reminder signal sounds at the same time.

When the remote control key has been returned to the car, the warning message goes off and the audible reminder ceases once either/or:

- a door has been opened and closed
- the remote control key has been inserted in the ignition switch
- The OK button has been pressed.
- * Option/accessory.

^[1] Applies to remote control key with PCC (Personal Car Communicator).

5.2.9. Keyless Drive * - lock settings

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

Lock settings for cars equipped with Keyless Drive can be adapted by indicating in the menu system MY CAR which doors are to be unlocked.

For a description of the menu system, see <u>MY CAR</u>.

* Option/accessory.

5.3. Alarm

5.3.1. Alarm - remote control key not working

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

- 1 Open the driver's door with the <u>detachable key blade</u>.
- > The alarm is triggered, the <u>alarm indicator</u> 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.
- Start the engine. 2

5.3.2. Alarm

The alarm is a device that warns in the event of e.g. a break-in in the car.

Activated alarm is triggered if:

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

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

(i) Note

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

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

(i) Note

Do not attempt to repair or alter components in the alarm system yourself. Any such attempts may affect the terms of the insurance.

Arming the alarm

Press the remote control key lock button. 1

Deactivate the alarm

1 Press the remote control key unlock button.

Deactivating a triggered alarm

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

* Option/accessory.

5.3.3. Alarm indicator

The alarm indicator shows <u>alarm system</u> status.



Same LED as lock 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 | is selected) Alarm has been triggered.

5.3.4. Reduced alarm level

Reduced guard means that the movement and tilt detectors can be temporarily deactivated.

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

The procedure is the same as with the temporary disengaging of <u>deadlocks</u>^[1].

^[1] Only in combination with alarm.

5.3.5. Alarm signals

When the <u>alarm</u> is triggered a siren sounds and all direction indicators flash.

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

5.3.6. Alarm - automatic re-arming

Automatic re-arming of the <u>alarm</u> prevents the car being left with the alarm disarmed unintentionally.

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

5.4. Locking/unlocking

5.4.1. Privacy locking*

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



Active locks for remote control key with key blade.



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

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.

(i) Note

Do not forget to pull out the <u>cargo cover</u> over the cargo area before closing the tailgate.

Activate/deactivate



Activating privacy locking.

To activate privacy locking:

EI) 1

Insert the key blade in the glovebox lock cylinder.

2 2

Turn the key blade 180 degrees clockwise.

в 3

Pull out the key blade. The combined instrument panel's information display shows a message at the same time.

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

(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.

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For information on locking the glovebox only, see <u>Locking/unlocking - glovebox</u>.

* Option/accessory.

5.4.2. Manual locking of the door

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

The left-hand front door can be locked with its lock cylinder and the remote control key's detachable key blade, see $\underline{Keyless}$ \underline{drive}^* - unlocking with the key blade.

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



Manual locking of the door. Not to be mixed up with child safety locks.

1 Use the remote control key's detachable key blade to turn the knob, see <u>Detachable key blade - detaching/attaching</u>.

A The door is blocked against opening from the outside.

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

(i) Note

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

* Option/accessory.

5.4.3. Locking/unlocking - from the outside

Locking/unlocking from the outside is carried out using the remote control key. The remote control key can lock/unlock all doors and the tailgate simultaneously. Different sequences for unlocking can be selected, see .

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

(i) Note

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

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

(i)Note

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

Warning

Be aware of the risk of being locked in the car when it is locked from the outside using the remote control key - it is then not possible to open any of the doors from the inside with the door controls.

For more information, see <u>Deadlocks</u>*.

Automatic relocking

If none of the doors or the tailgate is opened within two 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 <u>Alarm</u>.)

* Option/accessory.

5.4.4. Deadlocks*

Deadlocks^[1] means that all door handles are mechanically disengaged, which prevents doors being opened from both inside and outside.

The deadlocks are activated with the <u>remote control key</u> and are set after an approx. ten seconds delay after the doors have been locked.

(i) 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 with the remote control key when the deadlocks function is activated. The front left door can also be unlocked with the <u>detachable key blade</u>. In addition, it is possible to unlock and open the doors and tailgate on cars equipped with the Keyless Drive* by touching door handles or the handle on the tailgate.

/ Warning

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

Temporary deactivation



Active menu options are indicated with a cross.

- 1 MY CAR
- 2 OK MENU
- **3 TUNE** knob control
- 4 EXIT

If someone is going to stay in the car but the doors must be locked from the outside, then the deadlocks function can be temporarily switched off. This takes place the menu system MY CAR. For a description of the menu system, see MY CAR.

(i) Note

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

The above applies if the deadlocks have not been deactivated temporarily.

* Option/accessory.

^[1] Only in combination with alarm.

5.4.5. Locking/unlocking - indicator

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

- Locking one flash and the door mirrors are folded^[1] in.
- Unlocking two flashes and the door mirrors are folded^[1] out.

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

Selecting the function

Different options for indicating locking/unlocking with light can be set in the car's menu system MY CAR. For a description of the menu system, see <u>MY CAR</u>.

^[1] Only for cars with retractable power door mirrors.

5.4.6. Locking/unlocking - tailgate

The tailgate can be opened, locked and unlocked in several ways.

Manual opening



Rubber plate with electrical contact.

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

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

() Important

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

Unlocking with the remote control key



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

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

The doors remain locked and armed.

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

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

Unlocking the car from inside



1 Unlocking, tailgate

To unlock the tailgate:

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

Locking with the remote control key

- 1 Press the remote control key's button for locking f. see <u>Remote control key functions</u>.
- > The lock indicator on the instrument panel starts flashing, which means that the car is locked and the alarm * has been activated.

^{*} Option/accessory.

5.4.7. Detachable key blade - unlocking doors

The <u>detachable key blade</u> can be used if central locking cannot be activated with the <u>remote control key</u>, e.g. if the key's battery has run out.

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

1 Unlock the left-hand front door with the key blade in the door handle's lock cylinder. For illustration and more information, see <u>Keyless drive</u>* - unlocking with the key blade .



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

For cars with the Keyless system, see $\underline{Keyless \ drive}^*$ - unlocking with the key blade .

* Option/accessory.

5.4.8. Locking/unlocking - from the inside

All of the doors and the tailgate can be locked or unlocked simultaneously using the central locking button on the driver's door and passenger door*.

Central locking



Central locking.

Press one side not be button to lock - the other side not be button.

Press and hold to also open all side windows * simultaneously.

Unlocking

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

• Press the central locking button 🔂.

A long press also opens all the side windows * simultaneously (see also Global opening).

• Pull the door handle and open the door - the door is unlocked and opened in one operation.

Lamp in lock button

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

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

• Illuminated lamp means that all doors are locked.

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

Locking

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

A long press also closes all side windows and sunroof simultaneously (see also Global opening).

Lock button* rear doors



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

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

To unlock the door:

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

Automatic locking

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

The function can be activated/deactivated in the menu system MY CAR. For a description of the menu system, see MY CAR.

5.4.9. Lock indicator

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



Same LED as alarm indicator.

(i) Note

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

5.4.10. Child safety locks - manual activation

The child safety locks prevent children from being able to open a rear door from the inside.

Activate/deactivate child safety locks



Manual child safety locks. Not to be mixed up with manual door lock.

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:

- 1 Use the remote control key's <u>detachable key blade</u> to turn the knob.
- A The door is blocked against opening from the inside.
- B The door can be opened from both the outside and the inside.

/ Warning

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

- 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.

5.4.11. 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 <u>Detachable key blade - detaching/attaching</u>.



Locking the glovebox:

1 💵

Insert the key blade in the glovebox lock cylinder in accordance with the illustration above.

2 🛛

Turn the key blade 90 degrees clockwise.

3 🚯

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Pull out the key blade.

• Unlock by carrying this out in reverse order.

For information on privacy locking, see <u>Privacy locking</u>*.

* Option/accessory.

5.4.12. Child safety locks - electrical activation*

Child safety locks with electrical activation prevent children from opening the rear doors or windows from the inside.

Activation

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

To activate the child safety locks:



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Control panel driver's door.

Start the engine or choose a key position higher than **0**.

- **2** Press the button in the driver's door control panel.
- > The combined instrument panel's information display shows the message **Rear child lock activated** and the button's lamp illuminates the locks are active.

When the child safety lock is active then the rear:

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

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

* Option/accessory.

5.5. Detachable key blade

5.5.1. Detachable key blade - detaching/attaching

Detaching/attaching the detachable key blade is carried out as follows:
Removing the key blade



1 Slide the spring-loaded catch to the side.

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.

5.5.2. Detachable key blade

A remote control key contains a detachable key blade of metal with which some functions can be activated and some operations carried out. The key blade's unique code is provided by authorised Volvo workshops, which are recommended when ordering new key blades.

Key blade functions

Using the remote control key's detachable key blade:

- the left-hand front door can be opened manually if central locking cannot be activated with the remote control key, see <u>Detachable key blade - unlocking doors</u>.
- the rear doors' mechanical child safety locks can be <u>activated/deactivated</u>.
- the right-hand front door and the rear doors can be locked manually, e.g. in the event of power failure.
- access to the glovebox and cargo area (privacy locking*) can be blocked.
- the airbag for front passenger seat (PACOS*) can be <u>activated/deactivated</u>.
- * Option/accessory.

5.5.3. Detachable key blade - unlocking doors

The <u>detachable key blade</u> can be used if central locking cannot be activated with the <u>remote control key</u>, e.g. if the key's battery has run out.

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

1 Unlock the left-hand front door with the key blade in the door handle's lock cylinder. For illustration and more information, see <u>Keyless drive</u>* - unlocking with the key blade.

2

(i) Note

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

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

For cars with the Keyless system, see $\underline{Keyless \ drive}^*$ - unlocking with the key blade .

* Option/accessory.

5.6. PCC – Personal Car Communicator

5.6.1. Remote control key with PCC* - unique functions

A remote control key with PCC has enhanced functionality compared with a <u>remote control key in basic</u> <u>version</u> in the form of an information button and indicator lamps.



Remote control key with PCC.

1 Information button



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

Using the information button

- Press the information button 🚺. 1
- > All indicator lamps flash for approximately 7 seconds and the light travels around on the remote control key. This indicates that information from the car is being scanned. If any of the other buttons are pressed during this time then the reading is interrupted.
- (i) Note

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

Indicator lamps display information in accordance with the following illustration:



1 Green continuous light – the car is locked.

- **2** Yellow continuous light the car is unlocked.
- 3 Red continuous light the alarm has been triggered since the car was locked.

4 Red light flashing alternately in both indicator lamps – The alarm was triggered less than 5 minutes ago.

* Option/accessory.

5.6.2. Remote control key with PCC* - range

The range of a remote control key with PCC (Personal Car Communicator) for locking, unlocking the doors and tailgate is approx. 20 metres from the car - the other functions are up to approx. 100 metres.

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

(i) Note

The information button function may be disrupted by surrounding radio waves, buildings, topographical conditions, etc.

Outside the remote control key's range

If the remote control key 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 in the indicator lamps travelling around on the remote control key.

If several remote control keys are used for the car then it is only the one last used for locking/unlocking that shows the correct status.

(i) Note

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

* Option/accessory.

5.7. Remote-controlled immobiliser with tracking system*

Remote-controlled immobiliser with tracking system^[1] makes it possible to track and locate the car, and to remotely activate the immobiliser to switch off the engine.

Contact your nearest Volvo dealer for more information and assistance with activating the system.

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* Option/accessory.

 $^{[1]}$ Only certain markets and in combination with Volvo On Call $^{\star}.$

6.1. Adaptive cruise control

6.1.1. Adaptive cruise control* - overview

The adaptive cruise control (ACC - Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

Operation of the adaptive cruise control and steering wheel keypad varies depending on whether or not the car is equipped with speed limiter^[1].

Adaptive cruise control with Speed limiter



Cruise control - On/Off.

- **2** Standby mode ceases and the stored speed is resumed.
- **3** Standby mode

- 4 Time interval Increase/decrease.
- **6** Activate and adjust the speed.
- **6** Green marking at stored speed (WHITE = standby mode).
- **7** Time distance
- **8** ACC is active at the GREEN symbol (WHITE = standby mode).

Adaptive cruise control without Speed limiter



- 1 Standby mode ceases and the stored speed is resumed.
- **2** Cruise control On/Off or Standby mode.
- **3** Time interval Increase/decrease.
- 4 Activate and adjust the speed.
- (Not used)
- **6** Green marking at stored speed (WHITE = standby mode).
- **7** Time distance
- 8 ACC is active at the GREEN symbol (WHITE = standby mode).
- * Option/accessory.
- ^[1] A Volvo dealer has updated information about what applies in each respective market.

6.1.2. Adaptive cruise control* - function

The <u>adaptive cruise control</u> (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

It consists of a cruise control system and a coordinated spacing system.

Function overview



Function overview $^{[1]}$.

- 1 Warning lamp braking by driver required
- 2 Steering wheel keypad
- 3 Radar sensor

✓ 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 low trailers, 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.

Distance to the vehicle ahead is measured primarily by a radar sensor. The cruise control function regulates the speed with acceleration and braking. It is normal for the brakes to emit a low sound when they are being used by the adaptive cruise control.

The adaptive cruise control aims to follow the vehicle ahead in the same lane according to what the driver set for time interval. If the radar sensor cannot see any vehicle in front then the car will instead maintain the speed set and stored by the driver. This also takes place if the speed of the vehicle in front exceeds the stored speed.

The adaptive cruise control aims to control the speed in a smooth way. In situations that demand sudden braking the driver must brake himself/herself. This applies with large differences in speed, or if the vehicle in front brakes heavily. Due to limitations in the radar sensor braking may come unexpectedly or not at all.

The adaptive cruise control can be activated to follow another vehicle at speeds from 30 km/h^[2] up to 200 km/h. If the speed falls below 30 km/h or if the engine speed becomes too low, the cruise control is set in standby mode at which automatic braking ceases - the driver must then take over himself/herself to maintain a safe distance to the vehicle ahead.

Warning lamp - braking by driver required

Adaptive cruise control has a braking capacity that is equivalent to approx. 40% of the car's braking capacity.



1. Collision warning system warning lamp and warning sound^[3].

If the car needs to be braked more heavily than the adaptive cruise control capacity and the driver does not brake, then the warning lamp and warning sound from the Collision warning system are used in order to alert the driver that immediate intervention is required.

(i) Note

The warning lamp may be difficult to see in strong sunlight or when wearing sunglasses.

/ Warning

The adaptive cruise control only warns of vehicles which its radar unit has detected - hence a warning may not be given, or it may be given with a certain delay. Do not wait for a warning without braking when so required.

Steep roads and/or heavy load

Bear in mind that the adaptive cruise control is primarily intended for use when driving on level road surfaces. It may have difficulty in keeping the correct distance from the vehicle ahead when driving on steep downhill slopes, with a heavy load or with a trailer - in which case, be extra attentive and ready to slow down.

- * Option/accessory.
- ^[1] NOTE: The illustration is schematic details may differ depending on car model.
- ^[2] <u>Queue Assist</u> (in cars with automatic gearbox) can operate in the range 0-200 km/h.
- ^[3] NOTE: The illustration is schematic details may vary depending on car model.

6.1.3. Adaptive cruise control - ACC*

The adaptive cruise control (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

The adaptive cruise control provides a more relaxing driving experience on long journeys on motorways and long straight main roads in smooth traffic flows.

The driver sets the desired <u>speed</u> and <u>time interval</u> 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 <u>switched off or set to standby mode</u> and the car comes too close to a vehicle in front, then the driver is warned instead by the <u>distance warning</u> function about the short distance.

/ Warning

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

The adaptive cruise control cannot handle all traffic, weather and road conditions.

Read all the sections about the adaptive cruise control in the owner's manual in order to learn about its limitations, of which the driver should be aware before it is used.

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.

For a limited time after the service, the ACC function can have a somewhat limited range. The system is calibrated whilst driving and full function returns automatically.

Automatic gearbox

Cars with automatic gearbox have enhanced functionality with the adaptive cruise control's <u>Queue assistance</u> function.

* Option/accessory.

6.1.4. Adaptive cruise control* - symbols and messages

The <u>adaptive cruise control</u> (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

Sometimes the adaptive cruise control may display a symbol and/or text message. Here are some examples - follow the recommendation given if appropriate:

Symbol	Message	Specification
** F	The symbol is GREEN	The car maintains the stored speed.
** F	The symbol is WHITE	Adaptive cruise control is set to standby mode.
ñ		Standard cruise control is selected manually.
	Set ESC to Normal to enable Cruise	The adaptive cruise control cannot be activated until the <u>Stability system (ESC)</u> has been set in Normal mode.
	Adaptive cruise control cancelled	The adaptive cruise control has been deactivated - the driver has to regulate the speed himself.
	Adaptive cruise control unavailable	 The adaptive cruise control cannot be activated. This could be due to: brake temperature is high the radar sensor is blocked by e.g. wet snow or rain.

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

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Symbol	Message	Specification
÷.	Radar blocked See manual	 The adaptive cruise control is temporarily disengaged. The radar sensor is blocked and cannot detect other vehicles. For example, in the event of heavy rain or if slush has collected in front of the radar sensor. Read about <u>radar sensor limitations</u>.
	Adaptive cruise control Service required	The adaptive cruise control is disengaged.Contact a workshop - an authorised Volvo workshop is recommended.
	Press brake to hold vehicle + acoustic alarm ^[1]	 The car is stationary and the cruise control will release the foot brake to allow the parking brake to take over and hold the car, but a fault in the parking brake means the car will shortly begin to roll. The driver must brake himself/herself. The message remains and the alarm sounds until the driver depresses the brake pedal or uses the accelerator pedal.
	Below 30 km/h Lead vehicle required ^[1]	Shown in the event of attempts to activate the adaptive cruise control at speeds below 30 km/h without a vehicle in front within the activation distance.

* Option/accessory.

^[1] Only with Queue Assist.

6.1.5. Adaptive cruise control* - temporary deactivation, and standby mode

The <u>adaptive cruise control</u> (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

The adaptive cruise control can be temporarily deactivated and set in standby mode.

Temporary deactivation/standby mode - with speed limiter

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

Press the steering wheel button **0**

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

Temporary deactivation/standby mode - without speed limiter

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

Standby mode due to driver intervention

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

- the foot brake is used
- the gear selector is moved to **N** position (automatic gearbox)

• the driver maintains speed higher than the stored 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 setting - the car returns to the last stored speed when the accelerator pedal is released.

Automatic standby mode

The adaptive cruise control is dependent on other systems, e.g. <u>Stability system ESC</u>. If any of these systems stops working, the adaptive cruise control is deactivated automatically.

In the event of automatic deactivation a signal will sound and the message **Adaptive cruise control cancelled** is shown in the combined instrument panel. The driver must then intervene and adapt the speed and distance to the vehicle ahead.

An automatic deactivation can be due to:

- the driver opens the door
- the driver takes off his seatbelt
- engine speed is too low/high
- speed has fallen below 30 km/h^[1]
- wheels lose traction
- brake temperature is high
- the radar sensor is covered e.g. by wet snow or heavy rain (radar waves blocked).

Resume set speed

Adaptive cruise control in standby mode is reactivated with one press on the steering wheel button 🖸 - the speed is then set to the last stored speed.

(i) Note

A pronounced increase in speed may occur after the cruise control has been reactivated with the old D button.

* Option/accessory.

^[1] Does not apply to a car with Queue assistance - it can go all the way down to 0 km/h.

6.1.6. Adaptive cruise control* - managing speed

The adaptive cruise control (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.





Adaptive cruise control without Speed limiter

To start the ACC:

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

To activate ACC:

- At the required speed press the steering wheel button + or -. .
- > The current speed is stored in the memory, the combined instrument panel shows a "magnifying glass" (6) around the stored speed for a second or so and its marking changes from WHITE to GREEN.



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



Only when the symbol shows an image of another vehicle is the distance to the vehicle in front controlled by the ACC.



At the same time a speed range is marked:

- the higher speed with GREEN marking is the pre-programmed speed
- the lower speed is the speed of the vehicle in front.

Changing the stored speed

Stored speed is changed with short or long presses on the + or - steering wheel button.

To adjust +/- 5 km/h:

• Use short presses - each press gives +/- 5 km/h.

To adjust +/- 1 km/h:

• Hold down the button and release it at the required speed.

Last press made is stored in the memory.

If speed is increased using the accelerator pedal prior to pressing the $\pm/-$ button, then it is the car's current speed when the button is pressed that is stored.

A temporary increase in speed with the accelerator pedal, e.g. during overtaking, does not affect the setting - the car returns to the last stored speed when the accelerator pedal is released.

(i) Note

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

In certain situations it cannot be reactivated - in which case, the <u>combined instrument panel</u> shows **Adaptive cruise control unavailable**.

* Option/accessory.

6.1.7. Adaptive cruise control* - deactivate

The <u>adaptive cruise control</u> (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

Keypad with Speed limiter

The adaptive cruise control is switched off with the steering wheel button off in the steering wheel keypad - the set/stored speed is thus cleared and cannot then be resumed with the 🖸 button.

Keypad without Speed limiter

With a short press on the steering wheel button \mathbf{m} the adaptive cruise control is set in <u>standby mode</u>. It is switched off with an additional short press - the set/stored speed is thus cleared and cannot then be resumed with the \mathbf{O} button.

6.1.8. Adaptive cruise control* - overtaking another vehicle

The adaptive cruise control (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

When the car is following another vehicle and the driver indicates an impending overtaking manoeuvre with the direction indicator^[1], the adaptive cruise control helps to briefly accelerate the car towards the vehicle in front.

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

Warning

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

* Option/accessory.

^[1] On left flash only in left-hand-drive car, or right flash in right-hand-drive car.

6.1.9. Adaptive cruise control* - set time interval

The adaptive cruise control (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.



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

To set/change the time distance:

Turn the thumbwheel on the steering wheel keypad (or use the $\leftrightarrow/\leftrightarrow$ buttons for cars without Speed limiter).

At low speed, when the distances are short, the adaptive cruise control increases the time interval slightly.

The adaptive cruise control allows the time interval to vary noticeably in certain situations in order to allow the car to follow the vehicle in front smoothly and comfortably.

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

The same symbol is also shown when **Distance Warning** function is activated.

(i) Note

Only use the time intervals permitted by local traffic regulations.

If the adaptive cruise control does not appear to react when activated, this may be because the time distance to the vehicle in front is preventing an increase in speed.

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

Read more how <u>speed is handled</u>.

* Option/accessory.

6.1.10. Adaptive cruise control* - fault tracing and action

The <u>adaptive cruise control</u> (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

If the combined instrument panel shows the message **Radar blocked See manual** then it means that the adaptive cruise control's <u>radar sensor</u> cannot detect other vehicles in front of the car.

This message indicates that neither of the functions for Distance Alert or Collision Warning with Auto Brake are working.

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

Cause	Action
The radar surface in the grille is dirty or covered with ice or snow.	Clean the radar surface in the grille from dirt, ice and snow.
Heavy rain or snow blocking the radar signals.	No action. Sometimes the radar does not work during heavy rain or snowfall.
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.

* Option/accessory.

6.1.11. Adaptive Cruise Control* - queue assistance

The <u>adaptive cruise control</u> (ACC – Adaptive Cruise Control) helps the driver to maintain an even speed combined with a pre-selected time interval to the vehicle ahead.

Queue assistance also provides the adaptive cruise control with enhanced functionality at speeds below 30 km/h.

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

Queue assistance has the following functions:

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

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

Extended speed range

(i) Note

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

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

(i) Note

A vehicle in front must be within a reasonable distance in order to enable activation of the adaptive cruise control at a speed lower than 30 km/h.

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

Press the steering wheel button O.

or

- Depress the accelerator pedal.
- > The adaptive cruise control will then resume following the vehicle in front.

(i) Note

The Queue Assist function can hold the car stationary for a maximum of 4 minutes - then the parking brake is applied and the adaptive cruise control is disengaged.

• The parking brake must be released before the adaptive cruise control can be reactivated.

Change of target



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

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

∕ ./\ Warning

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

• The driver must intervene him/herself and brake.

Automatic standby mode with change of target

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

- when the speed is below 5 km/h and the adaptive cruise control is uncertain whether the target object is a stationary vehicle or some other object, e.g. a speed bump.
- when the speed is below 5 km/h and the vehicle in front turns off so the adaptive cruise control no longer has a vehicle to follow.

Termination of automatic braking at a standstill

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

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

• the driver puts his/her foot on the brake pedal

- the parking brake is applied
- the gear selector is moved to **P**, **N** or **R** position
- the driver sets the adaptive cruise control in standby mode.

Automatic activation parking brake

In certain situations queue assistance applies the parking brake in order to keep the car remaining stationary.

This takes place if:

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

6.2. Distance Warning

6.2.1. Distance Warning* - symbols and messages

The Distance Warning function (Distance Alert) warns the driver if the time interval to the vehicle ahead becomes too short.

The function has certain symbols and messages that can be shown in the combined instrument panel if the function is reduced due to its limitations.

Symbol ^[1]	Message	Specification
÷	Radar blocked See manual	Distance Warning temporarily disengaged. The radar sensor is blocked and cannot detect other vehicles, e.g. in the event of heavy rain or if slush has collected in front of the radar sensor. Read about <u>radar sensor limitations</u> .
(م گر	Collision warning Service required	Distance Warning and Collision Warning with Auto Brake fully or partially disengaged. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

* Option/accessory.

^[1] Symbols are schematic - may vary by market and car model.

6.2.2. Distance Warning*

The Distance Warning function (Distance Alert) warns the driver if the time interval to the vehicle ahead becomes too short.

Distance Warning is active at speeds above 30 km/h and only reacts to vehicles driving in front of the car, in the same direction. No distance information is provided for oncoming, slow or stationary vehicles.



Orange-coloured warning lamp^[1].

An orange-coloured 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.

(i) Note

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

/ Warning

Distance warning only reacts if the distance to the vehicle ahead is shorter than the preset value - the speed of the driver's vehicle is not affected.

Operation



Press the button in the centre console to switch the function on or off. The function is switched on if one lamp is illuminated in the button.

Some combinations of the selected equipment leave no vacant space for a button in the centre console - in which case the function is operated in the car's menu system MY CAR MY CAR - there, search for and locate the function Distance Alert.

Set time interval



Controls and symbol for time interval.

1 Time interval - Increase/decrease.

2 Time interval - On.



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

The same symbol is also shown when <u>Adaptive cruise control</u> is activated.

i Note

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

The set time interval is also used by the function adaptive cruise control.

Only use the time intervals permitted by local traffic regulations.

* Option/accessory.

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

6.2.3. Distance Warning* - limitations

The Distance Warning function (Distance Alert) warns the driver if the time interval to the vehicle ahead becomes too short.

This function, which uses the same radar sensor as Adaptive cruise control and Collision warning with auto brake, has certain limitations.

(i) Note

Strong sunlight, reflections or strong variations in light intensity, as well as wearing sunglasses, could mean that the warning light in the windscreen cannot be seen.

Poor weather or winding roads could affect the radar sensor's capacity to detect vehicles in front.

The size of other vehicles could also affect detection capacity, e.g. motorcycles. This could mean that the warning lamp illuminates at a shorter distance than the setting or that the warning is temporarily absent.

Extremely high speeds can also cause the lamp to illuminate at a shorter distance than that set due to limitations in sensor range.

For further information on radar sensor limitations, see Radar sensor - limitations and Collision warning system* - operation.

* Option/accessory.

6.3. BLIS

6.3.1. BLIS - symbols and messages

In situations where the BLIS (Blind Spot Information) and CTA (Cross Traffic Alert) functions fail or are interrupted, the combined instrument panel may show a symbol, supplemented by an explanatory message. Follow any recommendation given.

Message examples:

Message	Specification
CTA OFF	CTA is manually switched off - BLIS is active.
BLIS and CTA OFF Trailer attached	BLIS and CTA are temporarily non-operational because a trailer is connected to the car's electrical system.
BLIS and CTA Service required	 BLIS and CTA are non-operational. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

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

6.3.2. BLIS* - operation

BLIS (Blind Spot Information) is a function designed for providing support for the driver when driving in dense traffic on roads with several lanes in the same direction.

Activate/deactivate BLIS

BLIS is activated when the engine is started. This is confirmed by the indicator lamps in the door panels flashing once.

The BLIS function can be deactivated/activated the car's menu system MY CAR.

When BLIS is deactivated/activated the lamp in the button extinguishes/illuminates and the combined instrument panel confirms the change with a text message. The door panel indicator lamps flash once upon activation.

To extinguish the message:

Press the left stalk switch OK button. Ð

or

Wait approx. 5 seconds - the message extinguishes. .

Activate/deactivate BLIS

BLIS is activated when the engine is started. This is confirmed by the indicator lamps in the door panels flashing once.



Button for activating/deactivating.

The BLIS function can be deactivated/activated by pressing the BLIS button on the centre console.

Some combinations of the selected equipment leave no vacant space for a button in the centre console - in which case the function is handled by the car's menu system MY CAR.

When BLIS is deactivated/activated the lamp in the button extinguishes/illuminates and the combined instrument panel confirms the change with a text message. The door panel indicator lamps flash once upon activation.

To extinguish the message:

Press the left stalk switch OK button. .

or

Wait approx. 5 seconds - the message extinguishes. Ð

When BLIS operates



Principle for BLIS: 1. Zone in blind spot. 2. Zone for rapidly approaching vehicle.

The BLIS function is active at speeds above approx. 10 km/h.

The system is designed to react when:

- the driver's vehicle is overtaken by other vehicles
- the driver's vehicle is rapidly caught up by another vehicle.

When BLIS detects a vehicle in zone 1 or a quickly approaching vehicle in zone 2, the door panel BLIS lamp illuminates with a constant glow. If the driver activates the direction indicator on the same side as the warning in this situation then the BLIS lamp will change from a constant glow to flashing with a more intense light.

🔶 Warning

BLIS does not work in sharp bends.

BLIS does not work when the car is being reversed.

Limitations

• Dirt, ice and snow covering sensors can reduce functionality and make it impossible to provide warnings. BLIS cannot detect hazards if it is covered.

- Do not affix any objects, tape or labels in the area of the sensors.
- BLIS is deactivated when a trailer is connected to the car's electrical system.

() Important

Repair of the BLIS and CTA functions' components or repainting the bumpers must only be performed by a workshop - an authorised Volvo workshop is recommended.

* Option/accessory.

6.3.3. BLIS*

BLIS (Blind Spot Information) is a function designed for providing support for the driver when driving in dense traffic on roads with several lanes in the same direction.

BLIS is a driver's aid intended to provide a warning about:

- vehicles in the car's blind spot
- rapidly approaching vehicles in the left and right-hand lanes closest to the car.

The BLIS function CTA (Cross Traffic Alert) is a driver's aid intended to provide a warning about:

• crossing traffic when the car is reversed.

✓! Warning

BLIS is a supplementary aid and does not work in all situations.

BLIS is no substitute for a safe driving style and the use of rearview and door mirrors.

BLIS can never replace the driver's responsibility and attention - it is always the driver's responsibility to change lanes in a safe manner.

Overview



BLIS lamp location $^{\left[1\right] }.$

1 Indicator lamp

2 BLIS symbol

(i) 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.

Maintenance

The sensors for the BLIS functions are located inside the rear wing/bumper on each corner of the car.



Keep this surface clean - also on the left-hand side.

• To ensure optimal functionality the areas in front of the sensors must be kept clean.

* Option/accessory.

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

6.3.4. CTA*

The BLIS function CTA (Cross Traffic Alert) is a driver aid intended to warn about crossing traffic when the car is reversing. CTA is a supplement to <u>BLIS</u>.

Activate/deactivate CTA

CTA is activated when the engine is started. This is confirmed by the indicator lamps for BLIS in the door panels flashing once.



On/Off for parking assistance and CTA sensors.

The CTA function can be deactivated/activated separately with the Parking assistance On/Off button. The BLIS lamps flash once on reactivation.

However, the BLIS function remains activated after the CTA has been deactivated.

Warning /!\

CTA is a supplementary aid and does not work in all situations.

CTA is no substitute for a safe driving style and the use of rearview and door mirrors.

CTA can never replace the driver's responsibility and attention - it is always the driver's responsibility to reverse in a safe manner.

When CTA operates



Principle for CTA.

CTA supplements the BLIS function by being able to see crossing traffic from the side during reversing, such as when reversing out of a parking space.

CTA is primarily designed to detect vehicles. In favourable conditions, it may also be able to detect smaller objects, such as cyclists and pedestrians.

CTA is only active during reversing and is activated automatically when the gearbox's reverse position is selected.

- If CTA detects something approaching from the side, an acoustic warning signal sounds. The signal comes from either the Ð left or the right-hand speaker, depending on the direction from which the object is approaching.
- CTA also warns by illuminating the BLIS lamps. .
- An additional warning is provided in the form of an illuminated icon in the display screen's PAS graphics. .

Limitations

CTA does not perform optimally in all situations, but has a certain limitation - for example, the CTA sensors cannot "see" through other parked vehicles or obstructing objects.

Here are some examples of when CTA's "field of vision" may be limited from the beginning and approaching vehicles cannot therefore be detected until they are very close:



The car is parked deep inside a parking slot.

1 Blind CTA sector.


In an angled parking slot CTA can be completely "blind" on one side.

However, when the driver is slowly reversing the car, the angle is changed in relation to the vehicle/object that is blocking, at which the blind sector rapidly decreases.

Examples of further limitations:

- Dirt, ice and snow covering sensors can reduce functionality and make it impossible to provide warnings. CTA cannot detect hazards if it is covered.
- CTA is deactivated when a trailer is connected to the car's electrical system.

(!) Important

Repair of the BLIS and CTA functions' components or repainting the bumpers must only be performed by a workshop - an authorised Volvo workshop is recommended.

Maintenance

The sensors for the BLIS and CTA functions are located inside the rear wing/bumper on each corner of the car.



Keep this surface clean - also on the left-hand side.

- To ensure optimal functionality the areas in front of the sensors must be kept clean. .
- Do not affix any objects, tape or labels in the area of the sensors.

* Option/accessory.

6.4. City Safety

6.4.1. City Safety[™] - operation

City Safety[™] is a function for helping the driver to avoid a collision when driving in queues, amongst other things, when changes in the traffic ahead, combined with a lapse in attention, could lead to an incident.

On and Off

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The City Safety[™] function is activated automatically when the engine is started.

In certain situations, it may advisable to disable City Safety[™], e.g. where leafy branches could sweep over the bonnet and/or windscreen.

City Safety[™] handled in the menu system MY CAR <u>MY CAR</u> and after starting the engine the function can be deactivated as follows:

Search in MY CAR for Driver support system and select the Off option at City Safety.

However, the function will be enabled the next time the engine is started, regardless of whether the system was enabled or disabled when the engine was switched off.



The laser sensor also transmits laser light when City Safety™ is disabled manually.

6.4.2. City Safety[™] - limitations

The sensor in City Safety is designed to detect cars and other large vehicles in front of the car irrespective of whether it is day or night.

However, the function does have some limitations.

The sensor's limitations mean that City Safety has poorer functionality - or none at all - in e.g. heavy snowfall or rain, dense fog, dust storms or white-out situations. Misting, dirt, ice or snow on the windscreen may also disrupt the function.

Low-hanging objects, e.g. a flag/pennant for projecting load, or accessories such as auxiliary lamps and bull bars that are higher than the bonnet limit the function.

The laser beam from the sensor in City Safety measures how the light is reflected. The sensor cannot detect objects with low reflection capacity. The rear sections of the vehicle generally reflect the light sufficiently thanks to the number plate and rear light reflectors.

On slippery road surfaces the braking distance is extended, which may reduce the capacity of City Safety to avoid a collision. In such situations the ABS^[1] and ESC^[2] systems will provide best possible braking force with maintained stability.

When your own car is reversing, City Safety is temporarily deactivated.

City Safety is not activated at low speeds - under 4 km/h, which is why the system does not intervene in situations where a vehicle in front is being approached very slowly, e.g. when parking.

Driver commands are always prioritised, which is why City Safety does not intervene in situations where the driver is steering or accelerating in a clear manner, even if a collision is unavoidable.

When City Safety has prevented a collision with a stationary object the car remains stationary for a maximum of 1.5 seconds. If the car is braked for a vehicle in front that is moving, then speed is reduced to the same speed as that maintained by the vehicle in front.

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On a car with manual gearbox the engine stops when City Safety has stopped the car, unless the driver manages to depress the clutch pedal beforehand.

(i) Note

- Keep the windscreen surface in front of the laser sensor free from ice, snow and dirt (see the illustration for <u>sensor</u> <u>location</u>).
- Do not affix or mount anything on the windscreen in front of the laser sensor.
- Remove ice and snow from the bonnet snow and ice must not exceed a height of 5 cm.

Fault tracing and action

If the message **Windscreen sensors blocked See manual** is shown in the combined instrument panel it indicates that the laser sensor is blocked and cannot detect vehicles in front of the car. This means in turn that City Safety is not operational.

The **Windscreen sensors blocked See manual** message is not shown for all situations in which the laser sensor is blocked. The driver must therefore be diligent about keeping the windscreen and area in front of the laser sensor clean.

The following table presents possible causes for the message being shown, along with suggestions for appropriate action.

Cause	Action
The windscreen surface in front of the laser sensor is dirty or covered with ice or snow.	Clean the windscreen surface in front of the sensor from dirt, ice and snow.
The laser sensor field of vision is blocked.	Remove the blocking object.

(!) Important

If there are cracks, scratches or stone chips in the windscreen in front of either of the laser sensor's "windows" and they cover a surface of approx. 0.5 x 3.0 mm (or larger), then a workshop must be contacted for replacement of the windscreen (see the illustration for <u>sensor location</u>) - an authorised Volvo workshop is recommended.

Failure to take action may result in reduced performance for City Safety™.

To avoid the risk of failed, deficient or reduced operation for City Safety[™], the following also applies:

- Volvo recommends that you do **not** repair cracks, scratches or stone chips in the area in front of the laser sensor instead, the whole windscreen should be replaced.
- Before replacing a windscreen, contact an authorised Volvo workshop to verify that the correct windscreen is ordered and fitted.
- The same type or Volvo-approved windscreen wipers must be fitted during replacement.

^[1] (Anti-lock Braking System) - Anti-lock braking system.

^[2] (Electronic Stability Control) - Stability system.

6.4.3. City Safety[™] - laser sensor

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

The City Safety[™] function includes a sensor which transmits laser light (see illustration for sensor location). Contact a qualified workshop in the event of a fault or if the laser sensor needs servicing - an authorised Volvo workshop is recommended. It is absolutely essential to follow the prescribed instructions when handling the laser sensor.

The following two labels relate to the laser sensor:



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

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

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

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

Radiation data for the laser sensor

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

Maximum pulse energy	2.64 µJ
Maximum average output	45 mW
Pulse duration	33 ns
Divergence (horizontal x vertical)	28° × 12°

Warning

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

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

6.4.4. City Safety[™]

City Safety[™] is a function for helping the driver to avoid a collision when driving in queues, amongst other things, when changes in the traffic ahead, combined with a lapse in attention, could lead to an incident.

The City Safety[™] function is active at speeds under 50 km/h and it helps the driver by automatically braking the car in the event of imminent risk of collision with vehicles in front, should the driver not react in time by braking and/or steering away.

City Safety™ is activated in situations where the driver should have started braking earlier, which is why it cannot help the driver in every situation.

City Safety[™] is designed to be activated as late as possible in order to avoid unnecessary intervention.

City Safety™ must not be used as an excuse for the driver to change his/her driving style. If the driver solely relies on City Safety ${}^{\scriptscriptstyle\mathsf{TM}}$ to do the braking, there will be a collision sooner or later.

The driver or passengers normally only notice City Safety™ if a situation arises where the car is extremely close to being in a collision.

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If the car is also equipped with Collision Warning with Auto Brake* these two systems complement each other.

(!) Important

Maintenance and replacement of City Safety[™] components must only be performed by a workshop - an authorised Volvo workshop is recommended.

/I Warning

City Safety[™] does not engage in all driving situations or traffic, weather or road conditions.

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

City Safety™ can prevent collision at a speed difference of less than 15 km/h - at a higher speed difference, it is only possible to reduce collision speed. In order to obtain full brake function, the driver must depress the brake pedal.

Never wait for City Safety™ to engage. The driver always bears responsibility for maintaining the proper distance and speed.

* Option/accessory.

6.4.5. City Safety[™] - function

City Safety detects the traffic in front of the car with a laser sensor fitted in the top edge of the windscreen. If there is an imminent risk of collision, City Safety will automatically brake the car, which may be experienced as heavy braking.



Laser sensor transmitter and receiver window^[1].

If the speed difference is 4-15 km/h in relation to the vehicle in front then City Safety can completely avoid a collision.

City Safety activates a short, sharp braking procedure and stops the car in normal circumstances, just behind the vehicle in front. For most drivers this is well outside normal driving style and may be experienced as being uncomfortable.

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

When the function is activated and brakes, the combined instrument panel shows a text message to the effect that the function is/has been active.

(i) Note

When City Safety[™] brakes, the brake lights come on.

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

6.4.6. City Safety[™] - symbols and messages

In conjunction with automatic braking by the <u>City Safety™</u> system, one or more symbols may illuminate in the combined instrument panel and a text message may be shown. A text message can be acknowledged by briefly pressing the OK button on the direction indicator stalk.

Symbol	Message	Meaning/Action
s≜æ	Auto braking by City Safety	City Safety™ is braking or has automatically braked.
	Windscreen sensors blocked See manual	 The laser sensor is temporarily non-operational because something is blocking it. Remove the object blocking the sensor and/or clean the windscreen in front of the sensor. Read about laser sensor limitations.
jên	City Safety Service required	City Safety [™] is not operational. Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

6.5. Driver Alert System

6.5.1. Driver Alert System*

The Driver Alert System is intended to assist drivers whose driving ability is deteriorating or who are inadvertently leaving the lane they are driving on.

The Driver Alert System consists of different functions which can either be switched on at the same time or individually:

- <u>Driver Alert Control DAC</u>.
- Lane Departure Warning LDW.

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.

Driver Alert System does not work in all situations but is designed merely as a supplementary aid.

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

* Option/accessory.

6.5.2. Driver Alert Control (DAC)*

The DAC 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.

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.



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.

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.

(i) Note

The function must not be used to extend a period of driving. Always plan breaks at regular intervals, and make sure you are well rested.

Limitation

In some cases the system may issue a warning despite driving ability not deteriorating, for example:

in strong side winds

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• on rutted road surfaces.

(i) Note

The camera sensor has certain limitations.

* Option/accessory.

6.5.3. Driver Alert Control (DAC)* - operation

Settings are made from the centre console display screen and its menu system.

On/Off

The Driver Alert function can be set in standby mode via the menu system <u>MY CAR</u>:

- Checked box function activated.
- Unchecked box the function is deactivated.

Function

Driver Alert is activated when speed exceeds 65 km/h and remains active as long as the speed is over 60 km/h.



If the vehicle is being driven erratically, the driver is notified by an acoustic signal plus the text message **Driver Alert Time for a break** - the linked symbol is illuminated in the combined instrument panel at the same time. The warning is repeated after a time if driving ability does not improve.

The warning symbol can go off:

Press the left stalk switch OK button.

🔶 Warning

An alarm should be taken very seriously, as a sleepy driver is often not aware of his/her own condition.

In the event of an alarm or a feeling of tiredness; stop the car in a safe manner as soon as possible and rest.

Studies have shown that it is equally as dangerous to drive while tired as it is under the influence of alcohol.

* Option/accessory.

6.5.4. Lane Departure Warning (LDW)*

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

The purpose of Lane Departure Warning (Lane Departure Warning) is to help the driver to reduce the risk of the vehicle accidentally leaving its own lane in certain situations on motorways and similar major routes.

Principle for LDW



(The figure is schematic - not model specific.)

A camera reads the side lines of the road/lane.

If the car crosses one of the side lines the driver is alerted with an acoustic signal.

(i) Note

The driver is only warned once each time the wheels cross a line. So there is no acoustic alarm when there is a line between the car's wheels.

Warning /!

Lane assistance is merely a driver aid and does not engage in all driving situations or traffic, weather or road conditions.

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

^{*} Option/accessory.

6.5.5. Driver Alert Control (DAC)* - symbols and messages

<u>DAC</u> can show symbols and text messages on the combined instrument panel or in the centre console's display screen in different situations.

Here are some examples:

Symbol ^[1]	Message	Specification
<u></u> !	Driver Alert Time for a break	The vehicle has been driven inconsistently - the driver is alerted by an acoustic warning signal + text.
ì	Windscreen sensors blocked See manual	 The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. Clean the windscreen surface in front of the camera sensor. Read about camera sensor <u>limitations</u>.
程期:	Driver Alert system Service required	The system is disengaged.Visit a workshop if the message remains - an authorised Volvo workshop is recommended.

* Option/accessory.

^[1] Symbols are schematic - may vary by market and car model.

6.6. Cruise control

6.6.1. Radar sensor

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

The radar sensor is used by the following functions:

- Distance Warning*
- Adaptive cruise control*
- Collision Warning System with Auto Brake and Cyclist and Pedestrian Detection*

(! Important

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

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

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

Modification of the radar sensor could result in it being illegal to use.

* Option/accessory.

6.6.2. Speed limiter* - temporary deactivation and standby mode

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



Steering wheel keypad and combined instrument panel.

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

Temporary deactivation - standby mode

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

- 1 Press 0.
- > The mark (5) in the combined instrument panel changes colour from GREEN to WHITE and the driver can temporarily exceed the set maximum speed.

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

Temporary deactivation with the accelerator pedal

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

- 1 Depress the accelerator pedal fully.
- The combined instrument panel shows the stored maximum speed with a coloured mark (5) and the driver can temporarily exceed the set maximum speed - the mark (5) changes colour during this time from GREEN to WHITE. The speed limiter is automatically reactivated after the release of the accelerator pedal and the car's speed is slowed down to below the selected/stored maximum speed - the display's mark (5) changes colour from WHITE to GREEN and the car's maximum speed is again limited.

* Option/accessory.

6.6.3. Speed limiter* - changing speed

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



Steering wheel keypad and combined instrument panel.

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

Changing the stored speed

Stored max. speed is changed with short or long presses on the 🛨 or 💳 steering wheel button.

To adjust +/- 5 km/h:

Use short presses - each press gives +/- 5 km/h. .

To adjust +/- 1 km/h:

Hold down the button and release it at the required max. speed. .

Last press made is stored in the memory.

6.6.4. Cruise control* - managing speed

The cruise control (CC – Cruise Control) helps the driver to maintain an even speed. It is possible to activate, set and change the stored speed.





The steering wheel buttons and combined instrument panel in cars with speed limiter^[1].

- 1 Cruise control On/Off.
- **2** Standby mode ceases and the stored speed is resumed.
- 3 Standby mode
- 4 Activate and adjust the speed.
- **5** Selected speed (GREY = Standby mode).
- **6** Cruise control active WHITE symbol (GREY = Standby mode).

Activating and setting the speed

To start the cruise control:

• Press the steering wheel button for CRUISE (without speed limiter) or 🕅 (with speed limiter).

> The cruise control symbol (6) in the combined instrument panel illuminates - cruise control is in standby mode.

To activate cruise control:

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

> The current speed is stored in memory and the combined instrument panel's marking (5) illuminates at the selected speed and the symbol (6) changes from GREY to WHITE - the car then follows the stored speed.

(i) Note

Cruise Control cannot be enabled at speeds below 30 km/h.

Changing the stored speed

Stored speed is changed with short or long presses on the + or - steering wheel button.

To adjust +/-5 km/h:

Use short presses - each press gives +/- 5 km/h.

To adjust +/- 1 km/h:

Hold down the button and release it at the required speed.

Last press made is stored in the memory.

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

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.

(i) Note

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

* Option/accessory.

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

6.6.5. Speed limiter*

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

Overview



Steering wheel keypad and combined instrument panel.

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

6.6.6. Speed limiter* - alarm for speed exceeded

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

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

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



* Option/accessory.

6.6.7. Cruise control* - deactivate

The cruise control (CC – Cruise Control) helps the driver to maintain an even speed.

How it is deactivated is described here.



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The steering wheel buttons and combined instrument panel in cars with speed limiter^[1].

- 1 Cruise control On/Off.
- **2** Standby mode ceases and the stored speed is resumed.
- 3 Standby mode
- 4 Activate and adjust the speed.
- **5** Selected speed (GREY = Standby mode).
- **6** Cruise control active WHITE symbol (GREY = Standby mode).

Cruise control is switched off with the steering wheel button (1) or by switching off the engine - the set/stored speed is thus cleared and cannot then be resumed with the 🖸 button.

* Option/accessory.

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

6.6.8. Radar sensor - limitations

A radar sensor has certain limitations - due to its limited field of vision for example.

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The capacity of the adaptive cruise control to detect a vehicle in front is significantly reduced if:

- the speed of vehicles in front is significantly different from your own speed Ð
- its radar sensor becomes blocked e.g. in heavy rain or slush, or if other objects have collected in front of the radar sensor. Ð

(i) Note

Keep the area in front of the radar sensor clean - see subheading <u>"Maintenance"</u>.

Field of vision

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.



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.

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Warning /!\

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

The adaptive cruise control cannot handle all traffic, weather and road conditions.

Read all the sections about the adaptive cruise control in the owner's manual in order to learn about its limitations, of which the driver should be aware before it is used.

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 fitted in front of the grille.

Warning /1

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.

6.6.9. Speed limiter* - deactivation

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



Steering wheel keypad and combined instrument panel.

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

To deactivate the speed limiter:

- 1 Press the steering wheel button 🖾.
- The combined instrument panel's symbol for speed limiter (6) and the selection of the set speed (5) both extinguish the set/stored speed is thus cleared and cannot then be resumed with the D button. The driver can then use the accelerator pedal to choose a speed without limitation.

6.6.10. Cruise control* - resume set speed

The cruise control (CC – Cruise Control) helps the driver to maintain an even speed. After <u>temporary deactivation and standby mode</u> it is possible to resume the set speed.





The steering wheel buttons and combined instrument panel in cars with speed limiter^[1].

- 1 Cruise control On/Off.
- **2** Standby mode ceases and the stored speed is resumed.
- 3 Standby mode
- 4 Activate and adjust the speed.
- **5** Selected speed (GREY = Standby mode).
- **6** Cruise control active WHITE symbol (GREY = Standby mode).

To reactivate the cruise control from standby mode:

Press the steering wheel button D. .

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

(i) Note

A marked speed increase may occur once the speed has been resumed by selecting the $oldsymbol{O}$ button.

* Option/accessory.

6.6.11. Cruise control* temporary deactivation and standby mode

The cruise control (CC – Cruise Control) helps the driver to maintain an even speed. The function can be temporarily deactivated and set in standby mode.





The steering wheel buttons and combined instrument panel in cars with speed limiter^[1].

- Cruise control On/Off.
- **2** Standby mode ceases and the stored speed is resumed.
- 3 Standby mode
- 4 Activate and adjust the speed.
- **5** Selected speed (GREY = Standby mode).
- **6** Cruise control active WHITE symbol (GREY = Standby mode).

Temporary deactivation - standby mode

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

Press the steering wheel button **0**.

> The combined instrument panel's marking (5) and symbol (6) change colour from WHITE to GREY - cruise control is temporarily disengaged.

Standby mode due to driver intervention

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

- the foot brake is used
- the gear lever/selector is moved to **N** position

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• the driver maintains speed higher than the stored 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 setting - the car returns to the last stored speed when the accelerator pedal is released.

Automatic standby mode

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

- wheels lose traction
- engine speed is too low/high
- speed falls below approx. 30 km/h.

The driver must then regulate the speed.

* Option/accessory.

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

6.6.12. Cruise control*

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

Overview





The steering wheel buttons and combined instrument panel in cars with speed limiter^[1].

- **1** Cruise control On/Off.
- **2** Standby mode ceases and the stored speed is resumed.
- 3 Standby mode
- 4 Activate and adjust the speed.
- **5** Selected speed (GREY = Standby mode).
- **6** Cruise control active WHITE symbol (GREY = Standby mode).

/ Warning

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

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

* Option/accessory.

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

6.6.13. Speed limiter* - getting started

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



Steering wheel keypad and combined instrument panel.

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

Switch on and activate

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

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

While driving

- 1 Press the steering wheel button 🖾 to switch on the speed limiter.
- > The symbol (6) for speed limiter illuminates in the combined instrument panel.
- > The speed limiter is then active and the selected max. speed is stored in the memory.

When stationary

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

6.7. Collision warning system

6.7.1. Collision warning system* - function

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian, cyclist or vehicle in front that are stationary or moving in the same direction.



Function overview^[1].

- 1 Audio-visual warning signal in the event of a collision risk.
- 2 Radar sensor^[2]
- 3 Camera sensor

Collision Warning with Auto Brake executes three steps in the following order:

- Collision warning
- Brake support^[3]
- Auto Brake^[3]

The collision warning system and <u>City Safety™</u> complement each other.

1 - Collision warning

The driver is first warned of a potentially imminent collision.

The collision warning system can detect pedestrians, cyclists or vehicles that are stationary or moving in the same direction in front of the driver's vehicle.
If there is a risk of collision with a pedestrian, cyclist or a vehicle then the driver's attention is attracted with a flashing red warning signal (1) and an acoustic signal.

2 - Brake support^[2]

If the risk of collision has increased further after the collision warning then the brake support is activated.

This means that the brake system is prepared for rapid braking by applying the brakes lightly, which may feel like a slight jolt.

If the brake pedal is depressed sufficiently quickly then full brake function is implemented.

Brake support also reinforces the driver's braking if the system considers that the braking is not sufficient to avoid a collision.

3 - Auto Brake^[2]

The automatic brake function is activated last.

If in this situation the driver has not yet started to take evasive action and the risk of collision is imminent then the automatic braking function is deployed - this takes place irrespective of whether or not the driver brakes. Braking then takes place with full brake force in order to reduce collision speed, or with limited brake force if it is sufficient to avoid a collision. For cyclists, the warning and full brake intervention may come very late or simultaneously.

/ 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 or cyclists driving in another direction to the car or to animals.

Warning only activated in the event of a high risk for collision. This section "Function" and the section "Limitations" inform about limitations that the driver must be aware of before using the Collision Warning system with Auto Brake.

Warnings and brake interventions for pedestrians and cyclists are deactivated at a vehicle speed exceeding 80 km/h.

Warnings and brake interventions for pedestrians and cyclists 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.

* Option/accessory.

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

^[2] With system Level 2 only.

^[3] With system Level 2 only.

6.7.2. Collision warning system * - detection of pedestrians

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian, cyclist or vehicle in front that are stationary or moving in the same direction.



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 function's 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 camera sensor's ability to see pedestrians at dusk and dawn is limited just like the human eye.
- The camera sensor's capacity to detect pedestrians is deactivated when driving in darkness and tunnels even when streetlights are lit.

/ Warning

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is a means of assistance. The function cannot detect all pedestrians in all situations and does not see, for example:

- partially obscured pedestrians, people in clothing that hides their body contour or pedestrians shorter than 80 cm.
- pedestrians who are carrying larger objects.

The driver is always responsible that the vehicle is driven properly and with a safety distance adapted to the speed.

* Option/accessory.

6.7.3. Collision warning system* - detection of cyclists

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian, bicycle or vehicle in front that are stationary or moving in the same direction.



The function only "sees" cyclists from behind, who are travelling in the same direction.



Optimum examples of what the system interprets as a cyclist - with clear body and bicycle contours, directly from behind and in the car's centre line.

Optimal performance of the system requires that the system function that detects a cyclist receives as unambiguous information as possible about the body and bicycle contours - this implies the opportunity to identify the bicycle, head, arms, shoulders, legs, upper and lower body combined with a normal human pattern of movement.

If large parts of the cyclist's body or bicycle are not visible to the function's camera then the system cannot detect a cyclist.

- For the function to be able to detect a cyclist, he/she must be an adult and riding an "adult bicycle".
- The bicycle must be equipped with a highly visible and approved^[1] rearward-facing red reflector, fitted at least 70 cm above the roadway.
- The function can only detect cyclists directly from behind and who are travelling in the same direction not at an angle from behind, not from the side.
- Cyclists travelling on the left or right-hand edge of the car's imagined/extended side lines may be detected late or not at all.
- The function's capacity to detect cyclists at dusk and dawn is limited just like the human eye.
- The function's capacity to detect cyclists is deactivated when driving in darkness and tunnels even when streetlights are lit.
- For optimum bicycle detection, the City Safety[™] function must be activated, see <u>City Safety[™]</u>.

/ Warning

Collision Warning with Auto Brake & Cyclist Detection is a means of assistance.

The function cannot detect:

- all cyclists in all situations and does not see partially obscured cyclists, for example.
- cyclists in clothing that obscures the contours of the body or who are approaching from the side.
- bicycles that have no rearward-facing red reflector.
- bicycles loaded with large objects.

The driver is always responsible that the vehicle is driven properly and with a safety distance adapted to the speed.

* Option/accessory.

^[1] The reflector must fulfil the recommendations and conditions of the traffic authority in the market in question.

6.7.4. Collision warning system* - camera sensor limitations

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian, bicycle or vehicle in front that are stationary or moving in the same direction.

The function uses the car's camera sensor, which has certain limitations.

The car's camera sensor is also used - as well as by Collision Warning with Auto Brake - by the functions:

- <u>Active main beam</u>
- <u>Road sign information</u>
- Driver Alert Control DAC
- Lane Keeping Aid

(i) Note

Keep the windscreen surface in front of the camera sensor free from ice, snow, mist and dirt.

Do not stick or attach anything to the windscreen in front of the camera sensor as this may reduce effectiveness or cause one or more of the systems dependent on the camera to stop working.

The camera sensors have limitations similar to the human eye, i.e. they "see" worse in darkness, heavy snowfall or rain and in thick fog for example. Under such conditions the functions of camera-dependent systems could be significantly reduced or temporarily disengaged.

Strong oncoming light, reflections in the carriageway, snow or ice on the road surface, dirty road surfaces or unclear lane markings could also significantly reduce camera sensor function when it is used to scan the carriageway and detect pedestrians and other vehicles. The field of vision of the camera sensor is limited, which is why pedestrians, cyclists and vehicles cannot be detected in some situations, or they are detected later than anticipated.

During very high temperatures the camera is temporarily switched off for about 15 minutes after the engine is started in order to protect camera functionality.

Fault tracing and action

If the display shows the message Windscreen sensors blocked See manual then this means that the camera sensor is blocked and cannot detect pedestrians, cyclists, vehicles or road markings in front of the car.

At the same time, this means that - besides Collision Warning with Auto Brake - the following functions will not have full functionality either:

- Active main beam
- **Driver Alert Control**
- Lane Keeping Aid
- Road sign information

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

Cause	Action
The windscreen surface in front of the camera is dirty or covered with ice or snow.	Clean the windscreen surface in front of the camera from dirt, ice and snow.
Thick fog, heavy rain or snow means that the camera does not work sufficiently well.	No action. At times the camera does not work during heavy rain or snowfall.
The windscreen surface in front of the camera has been cleaned but the message remains.	Wait. It may take several minutes for the camera to measure the visibility.
Dirt has appeared between the inside of the windscreen and the camera.	Visit a workshop to have the windscreen inside the camera cover cleaned - an authorised Volvo workshop is recommended.

* Option/accessory.

6.7.5. Collision warning system*

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian, cyclist or vehicle in front that are stationary or moving in the same direction.

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is activated in situations where the driver should have started braking earlier, which is why it cannot help the driver in every situation.

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is designed to be activated as late as possible in order to avoid unnecessary intervention.

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" can prevent a collision or reduce collision speed.

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" must not be used as an excuse for the driver to change his/her driving style. If the driver solely relies on Collision Warning with Auto Brake to do the braking, there might be a risk of a collision sooner or later.

Two system levels

Depending on how the car is equipped, the "Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" function may appear in two variants:

Level 1

The driver is merely warned^[1] of occurring obstacles by means of visual and acoustic signals - no automatic braking intervenes, the driver must himself brake.

Level 2

The driver is warned of occurring obstacles by means of visual and acoustic signals - the car is braked automatically if the driver himself does not act within a reasonable time.

(!) Important

Maintenance of the internal components of the "Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" must only be performed at a workshop - an authorised Volvo workshop is recommended.

* Option/accessory.

^[1] No warning for cyclists with "Level 1".

6.7.6. Collision warning system* - symbols and messages

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian, bicycle or vehicle in front that are stationary or moving in the same direction.

Symbol ^[1]	Message	Specification
site	Collision warning system OFF	Collision warning system switched off. Shown when the engine is started. The message clears after about 5 seconds or after one press of the OK button.
sắt.	Collision warning system Unavailable	The collision warning system cannot be activated. Shown when the driver attempts to activate the function. The message clears after about 5 seconds or after one press of the OK button.
ාස්ත	Auto Braking was activated	Auto Brake has been active. The message clears after one press of the OK button.
	Windscreen sensors blocked See manual	 The camera sensor is temporarily disengaged. Shown in the event of snow, ice or dirt on the windscreen for example. Clean the windscreen surface in front of the camera sensor. Read about <u>camera sensor limitations</u>.

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Symbol ^[1]	Message	Specification
M	Radar blocked See manual	Collision Warning with Auto Brake is temporarily disengaged. The radar sensor is blocked and cannot detect other vehicles. For example, in the event of heavy rain or if slush has collected in front of the radar sensor. Read about <u>radar sensor limitations</u> .
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Collision warning Service required	<ul> <li>Collision Warning with Auto Brake is fully or partially disengaged.</li> <li>Visit a workshop if the message remains - an authorised Volvo workshop is recommended.</li> </ul>

* Option/accessory.

^[1] Symbols are schematic - may vary by market and car model.

# 6.7.7. Collision warning system* - operation

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian, bicycle or vehicle in front that are stationary or moving in the same direction.

### Warning signals On and Off



1. Acoustic and visual warning signal in the event of a collision risk.^[1]

You can select whether the collision warning system's acoustic and visual warning signals should be switched on or off.

When starting the engine, the setting that was selected when the engine was switched off is obtained automatically.

### (i) Note

The Brake Support and Auto Brake functions are always enabled - they cannot be deactivated.

Settings for the collision warning system are made via the centre console's screen and the menu system MY CAR, see MY CAR.

#### Light and acoustic signals

When the collision warning system's light and acoustic warnings are activated, the warning lamp (no. [1] in previous illustration) is tested each time the engine is started by briefly illuminating the warning lamp's separate points of light.

After starting the engine, both the light and acoustic signals can be switched off:

 Search for Collision warning in Driver support system in the menu system MY CAR <u>MY CAR</u> - and there select to uncheck the function.

#### Acoustic signal

After starting the engine the warning sound can be activated/deactivated separately:

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Following which, the collision warning system is only indicated with a light signal.

### Set warning distance

The warning distance regulates the distance at which the visual and acoustic warnings are deployed.

 Search for Warning distance in Collision warning in the menu system MY CAR <u>MY CAR</u> - and there select Long, Normal or Short.

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.

### (i) Note

When the adaptive cruise control is in use the warning lamp and warning sound will be used by the cruise control even if the collision warning system is switched off.

The collision warning system warns the driver in the event of a risk of a collision, but the function cannot shorten driver reaction time.

In order for the collision warning system to be effective, always drive with Distance Warning set at time interval 4–5.

### (i) Note

Even if the warning distance has been set to **Long** warnings could be perceived as being late in certain situations, e.g. when there are large differences in speed or if vehicles in front brake heavily.

### / Warning

No automatic system can guarantee 100 % correct function in all situations. Therefore, never test Collision Warning with Auto Brake by driving at people or vehicles - this may cause severe damage and injury and risk lives.

### **Checking settings**

The current settings can be controlled via the centre console's screen and the menu system MY CAR.

### Maintenance



Camera and radar sensor  $^{\left[ 2\right] }.$ 

For the sensors to work correctly, they must be kept clear of dirt, ice and snow, and be cleaned regularly with water and car shampoo.

#### (i) Note

Dirt, ice and snow covering the sensors will reduce their function and may prevent measurement.

- * Option/accessory.
- ^[1] The illustration is schematic car model and details may differ.
- ^[2] NOTE: The illustration is schematic details may vary depending on car model.

### 6.7.8. Collision warning system* - limitations

"Collision Warning with Auto Brake and Cyclist and Pedestrian Detection" is an aid to assist the driver when there is a risk of colliding with a pedestrian, cyclist or vehicle in front that are stationary or moving in the same direction. The function has certain limitations - for example, it is not active until approx. 4 km/h.

The collision warning system's visual warning signal (see (1) in illustration) 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 ESC systems will provide best possible braking force with maintained stability.

### (i) Note

The visual warning signal can be temporarily disengaged in the event of high passenger compartment temperature caused by strong sunlight for example. If this occurs then the warning sound is activated even if it is deactivated in the menu system.

Warnings may not appear if the distance to the vehicle in front is small or if steering wheel and pedal movements are large, e.g. a very active driving style.

### /!\ Warning

Warnings and brake interventions could be implemented late or not at all if the traffic situation or external influences mean that the radar or camera sensor cannot detect a pedestrian, a vehicle or a cyclist in front correctly.

The sensor system has a limited range for pedestrians and cyclists  $^{[1]}$  - the system can provide effective warnings and brake interventions for them at vehicle speeds up to 50 km/h. For stationary or slow-moving vehicles, warnings and brake interventions are effective at vehicle speeds up to 70 km/h.

Warnings for stationary or slow-moving vehicles could be disengaged due to darkness or poor visibility.

Warnings and brake interventions for pedestrians and cyclists are deactivated at vehicle speeds exceeding 80 km/h.

The collision warning system uses the same radar sensors as the Adaptive cruise control. Read more about radar sensor limitations.

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.

Collision Warning with Auto Brake is temporarily deactivated with reverse gear engaged.

Collision Warning with Auto Brake is not activated at low speeds - under 4 km/h, which is why the system does not intervene in situations where the car is approaching a vehicle in front very slowly, e.g. when parking.

In situations where the driver demonstrates active, aware driving behaviour, a collision warning may be postponed slightly in order to keep unnecessary warnings to a minimum.

When Auto Brake has prevented a collision with a stationary object the car remains stationary for a maximum of 1.5 seconds. If the car is braked for a vehicle in front that is moving, then speed is reduced to the same speed as that maintained by the vehicle in front.

On a car with manual gearbox the engine stops when Auto Brake has stopped the car, unless the driver manages to depress the clutch pedal beforehand.

^{*} Option/accessory.

^[1] For cyclists, the warning and full brake intervention may come very late or simultaneously.

### 6.8. Lane assistance

### 6.8.1. Lane Departure Warning (LDW) - limitations

Lane Departure Warning (Lane Departure Warning) camera sensor has limitations in a similar way to the human eye.

For more information, read about *camera sensor limitations*.

### (i) Note

There are some situations where LDW does not give any warning, such as:

- Direction indicators are switched on
- The driver has his/her foot on the brake pedal^[1]
- In the event of rapid depression of the accelerator pedal^[1]
- In the event of rapid steering wheel movements^[1]
- If turning is so sharp that the car rolls.

^[1] When "Increased sensitivity" is selected a warning is still given, see Lane Departure Warning (LDW) - function.

# 6.8.2. Lane Departure Warning (LDW)*

The purpose of Lane Departure Warning (Lane Departure Warning) is to help the driver to reduce the risk of the vehicle accidentally leaving its own lane in certain situations on motorways and similar major routes.

### **Principle for LDW**



(The figure is schematic - not model specific.)

A camera reads the side lines of the road/lane.

If the car crosses one of the side lines the driver is alerted with an acoustic signal.

### (i) Note

The driver is only warned once each time the wheels cross a line. So there is no acoustic alarm when there is a line between the car's wheels.

### /! Warning

Lane assistance is merely a driver aid and does not engage in all driving situations or traffic, weather or road conditions.

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

* Option/accessory.

# 6.8.3. Lane Departure Warning (LDW) - function

Certain settings can be made for the Lane Departure Warning (Lane Departure Warning) function.





Press the centre console's button to activate or deactivate the function. The button's lamp illuminates when the function is switched on.

This function is complemented in the combined instrument panel with intuitive graphics in different situations.

### Personal preferences

Settings are made from the centre console's screen via the menu system in MY CAR. For a description of the menu system, see <u>MY CAR</u>.

Select from the options:

- On at startup The function is set in standby mode each time the engine is started. Otherwise the same value as when the engine was switched off is obtained.
- Increased sensitivity The sensitivity increases, an alarm is triggered earlier and fewer limitations apply.

# 6.8.4. Lane Departure Warning (LDW) - operation

Lane Departure Warning (Lane Departure Warning) is complemented in the combined instrument panel with intuitive graphics in different situations. Here are some examples:



LDW function side lines.

- The LDW symbol has WHITE side lines the function is active and detects/"sees" one side line, or both.
- The LDW symbol has GREY side lines the function is active but detects neither left nor right side line.

or

- The LDW symbol has GREY side lines the function is in standby mode because the speed is below 65 km/h.
- The LDW symbol has no side lines the function is deactivated.

# **6.8.5.** Lane Departure Warning (LDW) - symbols and messages

In situations where there is no Lane assistance function, a symbol may be shown in the combined instrument panel in combination with an explanatory message - follow the recommendation given if appropriate.

#### Message examples:

Symbol	Message	Specification
	Lane Departure Warning ON/Lane Departure Warning OFF	The function is switched on/off. Shown at switch-on/off. The text disappears after approx. 5 seconds.
8	Windscreen sensors blocked See manual	<ul> <li>The camera sensor is temporarily disengaged.</li> <li>Shown in the event of snow, ice or dirt on the windscreen for example.</li> <li>Clean the windscreen in front of the camera sensor.</li> <li>Read about <u>camera sensor limitations</u>.</li> </ul>
	Driver Alert system Service required	<ul> <li>The system is disengaged.</li> <li>Visit a workshop if the message remains - an authorised Volvo workshop is recommended.</li> </ul>

### 6.9. Park assist syst

# 6.9.1. Park assist syst* - cleaning the sensors

Parking assistance is used as an aid to parking. An acoustic signal as well as symbols on the centre console's screen indicate the distance to the detected obstacle.

The sensors must be cleaned regularly to ensure that they work properly. Clean them with water and car shampoo.





Sensor location, rear.

### (i) Note

Dirt, ice and snow covering the sensors may cause incorrect warning signals.

* Option/accessory.

# 6.9.2. Park assist syst* - backward

Parking assistance is used as an aid to parking. An acoustic signal as well as symbols on the centre console's screen indicate the distance to the detected obstacle.



The distance covered to the rear of the car is about 1.5 metres. The acoustic signal for obstacles behind comes from one of the rear loudspeakers.

Rear parking assistance is activated when reverse gear is engaged.

When reversing with e.g. a trailer on the towbar, rear parking assistance is switched off automatically - otherwise the sensors would react to the trailer.

### i Note

When reversing with e.g. a trailer or bike carrier on the towbar - without Volvo genuine trailer wiring - parking assistance may need to be switched off manually in order that the sensors do not react to them.

* Option/accessory.

### 6.9.3. Park Assist*

Parking assistance is used as an aid to parking. An acoustic signal as well as symbols on the centre console's screen indicate the distance to the detected obstacle.

Parking assistance sound level can be adjusted during the ongoing acoustic signal using the centre console's VOL knob. The sound level can also be adjusted in the audio settings menu, which is accessed by pressing SOUND or in the car's <u>menu system</u> MY CAR^[1].

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.
- * Option/accessory.
- ^[1] Depending on the audio and media system.

### 6.9.4. Park assist camera - limitations

Parking camera is an auxiliary system, which is activated when reverse gear is selected.

#### (i) Note

A bike carrier or other accessory mounted on the rear of the car could obscure the camera's view.

### To bear in mind

Pay attention to the possibility that, even if it only looks like a relatively small part of the image is obscured, it could be a relatively large sector that is hidden from view. Obstacles could thereby go undetected until they are very close to the car.

- Keep the camera lens free from dirt, ice and snow.
- Clean the camera lens regularly with lukewarm water and car shampoo take care not to scratch the lens.

### 6.9.5. Park assist syst* - fault indication

Parking assistance is used as an aid to parking. An acoustic signal as well as symbols on the centre console's display screen indicate the distance to the detected obstacle.



If the combined instrument panel's information symbol illuminates with constant glow and the text message **Park Assist System Service required** is shown then parking assistance is disengaged.

### ( ! ) Important

In certain conditions the parking assistance system may produce incorrect warning signals that are caused by external sound 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.

#### * Option/accessory.

### 6.9.6. Park assist syst* - function

The parking assistance system is automatically activated when the engine is started - the switch's On/Off lamp is illuminated. If parking assistance is switched off with the button, the lamp goes out.



On/Off for parking assistance and CTA*.

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If the car is equipped with <u>CTA</u> the indicator lamps flash for <u>BLIS</u> once, then parking assistance is activated using the button.



Display screen view - showing an obstacle left front and right rear.

The centre console's display screen shows an overview of the relationship between the car and detected obstacle.

Marked sectors show which of the four sensor(s) detected an obstacle. The closer to the car symbol a selected sector box is, the shorter the distance between the car and a detected obstacle.

The frequency of the signal increases the shorter the distance to an obstacle, in front of or behind the car. Other sound from the audio system is muted automatically.

When the distance is within 30 cm the tone is constant and the active sensor's field nearest the car is filled in. If the detected obstacle is within the distance for the constant tone both behind and in front of the car, then the tone sounds alternately from the loudspeakers.

### (!) Important

Objects e.g. chains, thin glossy poles or low barriers may be in the "signal shadow" and are then temporarily not detected by the sensors - the pulsating tone may then unexpectedly stop instead of changing over to the expected constant tone.

The sensors cannot detect high objects, such as projecting loading docks.

In such situations, pay extra attention and manoeuvre/reposition the car particularly slowly or stop the current parking manoeuvre - there may be a high risk of damage to vehicles or other objects since the sensors are temporarily unable to function optimally.

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### 6.9.7. Park assist camera*

Parking camera is an auxiliary system, which is activated when the reverse gear is selected.

The camera image is shown on the centre console's screen.

### (i) Note

When a towbar is configured with the car's electrical system, the protrusion of the towbar is included when the function measures the parking space.

### /!\ Warning

- The parking camera serves as an aid. It does not relieve the driver of responsibility when reversing.
- The camera has blind spots, where obstacles cannot be detected. .
- Be aware of people and animals in the vicinity of the car.

### **Function and operation**



Camera location next to the opening handle.

The camera shows what is behind the car and if something appears from the sides.

The camera shows a wide area behind the car and part of the bumper and any towbar.

Objects on the screen may appear to tilt slightly - this is normal.

#### (i) Note

Objects on the display screen may be closer to the car than they appear to be on the screen.

If another view is active then the parking camera system takes over automatically and its camera image is displayed on the screen.

When reverse gear is selected, two unbroken lines are shown graphically which illustrate where the car's rear wheels will roll with the current steering wheel angle - this facilitates parallel parking, reversing into tight spaces and for hitching a trailer. The car's approximate external dimensions are illustrated by means of dashed lines. The park assist lines can be deactivated - see section Settings.

If the car is also equipped with <u>Parking assistance sensors</u> * then their information is shown graphically as coloured areas in order to illustrate distances to detected obstacles, see heading "Cars with reversing sensors" later in the text.

The camera is active approx. 5 seconds after reverse gear has been disengaged or until the car's speed exceeds 10 km/h forward or 35 km/h backward.

### **Light conditions**

The camera image is adjusted automatically according to prevailing light conditions. Because of this, the image may vary slightly in brightness and quality. Poor light conditions can result in a slightly reduced image quality.

(i) Note

Keep the camera lens clear of dirt, snow and ice to ensure optimum function. This is particularly important in poor light.

### Park assist lines



Examples of how the park assist lines can be displayed for the driver.

The lines on the screen are projected as if they were at ground level behind the car and are directly related to steering wheel movement, which shows the driver the path the car will then take - also when the car is turning.

### (i) Note

- When reversing with a trailer which is not connected electrically to the car, the lines on the display show the route the car will take not the trailer.
- The screen shows no lines when a trailer is connected electrically to the car's electrical system.
- The parking camera is deactivated automatically when towing a trailer if a Volvo genuine trailer cable is used.

#### (!) Important

Remember, that with the rear camera view selected, the monitor only displays the area behind the car. Be aware of the sides and front of the car when manoeuvring in reverse.

### **Boundary lines**



The system's different lines.

Boundary line, free reversing zone
 "Wheel tracks"

The dashed line (1) frames in a zone up to about 1.5 m back from the bumper. It is also the limit of the car's most protruding parts, such as door mirrors and corners - also when the car is turning.

The wide "wheel tracks" (2) between the side lines indicate where the wheels will roll and can extend about 3.2 m back from the bumper if no obstacle is in the way.

### Cars with reversing sensors *



Coloured fields (one per sensor) show distance.

If the car is also equipped with <u>Parking assistance</u> the distance is shown with coloured fields for each sensor that registers an obstacle.

The colour of the areas changes with decreasing distance to the obstacle - from light yellow to yellow, via orange to red.

Colour / paint	Distance (metres)
Light yellow	0,7–1,5
Yellow	0,5-0,7
Orange	0,3-0,5
Red	0-0.3

* Option/accessory.

### 6.9.8. Park assist camera - settings

Parking camera is an auxiliary system, which is activated when the reverse gear is selected.

### Activate switched-off camera

If the camera function is switched off when reverse gear is selected, it is activated in the following way:



• Press CAM - the screen shows the current camera view.

### **Change setting**

The default setting is that the camera is activated when reverse gear is selected.

The settings for the parking camera can be changed when the screen shows a camera view:

- Press OK/MENU when a camera view is shown the screenchanges to a menu with various options.
- Turn to reach the desired option with TUNE.
- Highlight the option by pressing OK/MENU once and go back out with EXIT.

### Towbar

The camera can be used to advantage when hitching a trailer. A park assist line for the towbar's intended "trajectory" toward the trailer can be shown on the screen - exactly as for the "wheel tracks".

A choice can be made between showing the "wheel tracks" or the towbar's trajectory - both options cannot be shown simultaneously.

Press OK/MENU when a camera view is shown.

- Turn to reach the Tow bar trajectory guide line option with TUNE.
- Highlight the option by pressing OK/MENU once and go back out with EXIT.

#### Zoom

If precise manoeuvring is required then the camera view can be zoomed in:

Press CAM or turn TUNE - repeated press/turn changes back to the normal view.

If more options are available, they are in a loop - press/turn until the desired camera view is shown.

#### Automatic zoom

In cars with <u>Parking assistance</u> and towbar, Automatic zoom is also available as an option in the camera menu. With this option selected, the camera zooms into the towbar automatically when the car approaches an object/trailer.

See the earlier heading "Change setting" for how a menu option is activated.

### 6.9.9. Park assist syst* - forward

Parking assistance is used as an aid to parking. An acoustic signal as well as symbols on the centre console's screen indicate the distance to the detected obstacle.

The parking assistance system is automatically activated when the engine is started - the switch's On/Off lamp is illuminated. If

#### parking assistance is switched off with the button, the lamp goes out.



The distance covered in front of the car is about 0.8 metres. The acoustic signal for obstacles in front comes from one of the front loudspeakers.

Front park assist is active up to approx. 10 km/h. The lamp in the button is illuminated in order to indicate that the system is activated. When the speed is below 10 km/h the system is reactivated.

### (i) 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 auxiliary lamps are fitted: Remember that these must not obscure the sensors - the auxiliary lamps may then be perceived as an obstacle.

* Option/accessory.

# 6.10. Anti-skid system

# 6.10.1. Electronic stability control (ESC) - symbols and messages

Stability system ESC (Electronic Stability Control) helps the driver to avoid skidding and improves the car's traction.

### Table

Symbol	Message	Specification
	ESC Temporarily OFF	ESC system has been temporarily reduced due to excessive brake disc temperature - the function is reactivated automatically when the brakes have cooled.
	ESC Service required	<ul> <li>ESC system disengaged.</li> <li>Stop the car in a safe place, switch off the engine and start it again.</li> <li>Visit a workshop if the message remains - an authorised Volvo workshop is recommended.</li> </ul>
۵ and	"Message"	There is a text message in the <u>combined instrument panel</u> - Read it!
2	Constant glow for 2 seconds.	System check when the engine is started.
	Flashing light.	ESC system is being activated.
₽ ?	Constant glow.	Sport mode is activated. <b>NOTE:</b> The ESC system is not deactivated in this mode - it is partially reduced.

# 6.10.2. Electronic stability control (ESC) - general

Stability system ESC (Electronic Stability Control) helps the driver to avoid skidding and improves the car's traction.



The activation of the ESC system during braking may be noticed as a throbbing sound. The car may accelerate slower than expected when the accelerator pedal is depressed.

### /!\ Warning

The stability system ESC is supplementary assistance - it cannot handle all situations in all road conditions.

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

The ESC system consists of the following functions:

- Active Yaw Control
- Spin Control
- Traction control system
- Engine drag control EDC
- Corner Traction Control CTC
- Trailer Stability Assist TSA

### **Active Yaw Control**

The function checks the driving and brake force of the wheels individually in order to stabilise the car.

### **Spin Control**

The function prevents the driving wheels from spinning against the road surface during acceleration.

### **Traction control system**

The function is active at low speed and transfers power from the driving wheel that is spinning to the one that is not.

### Engine drag control - EDC

EDC (Engine Drag Control) prevents involuntary wheel locking, e.g. after shifting down or engine braking when driving in low gears on slippery road surfaces.

Involuntary wheel locking while driving can, amongst other things, impair the driver's ability to steer the car.

### **Corner Traction Control - CTC**

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

### Trailer Stability Assist* - TSA^[1]

<u>Trailer stability assist</u> function is to stabilise the car and trailer combination if it begins to snake. For more information, see <u>Driving with a trailer</u>*.

### (i) Note

The function is deactivated if the driver selects Sport mode.

### * Option/accessory.

^[1] Trailer Stability Assist is included in the installation of Volvo genuine towbar.

# 6.10.3. Electronic stability control (ESC) - operation

<u>Stability system</u> ESC (Electronic Stability Control) helps the driver to avoid skidding and improves the car's traction.

### Selection of level - Sport mode

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



However, the driver can select the Sport mode, which allows for a more active driving experience.

Sport mode is selected in the menu system MY CAR. For a description of the menu system, see MY CAR.

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

If, for example, the driver stops a controlled skid by releasing the accelerator pedal, then the ESC system intervenes and stabilises the car.

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



Sport mode is indicated in the combined instrument panel by means of this symbol illuminating with a constant glow until the driver deselects the function or until the engine is switched off - after the next time the engine is started the ESC system is back in its normal mode again.

# 6.11. Road sign information

# 6.11.1. Road sign information (RSI)* - operation

The road sign information function (RSI – Road Sign Information) helps the driver to remember which speed-related road signs the car has passed.

The function is operated as follows:



Recorded speed information^[1].

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



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

### End of restriction or motorway

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

Examples of such signs are:




End of motorway.

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

## Additional signs



Examples of additional signs^[1].

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

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



The speed applicable on an exit is indicated in certain markets by means of an additional sign containing an arrow. Speed signs linked to this type of additional sign are displayed only if the driver is using the direction indicator.



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

## Display of additional information



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

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note. 398 / 962

## Setting in MY CAR

There are options for RSI in the MY CAR menu system; see MY CAR.

## Road sign information On/Off



The combined instrument panel's speed symbol display can be disabled. The function can be activated/deactivated in the menu system MY CAR. For a description of the menu system, see <u>MY CAR</u>.

## Speed warning



The driver can opt to receive a warning when the applicable speed limit is exceeded by 5 km/h or more. This warning is given by the symbol showing the applicable maximum speed temporarily flashing when this speed is exceeded. The function can be activated/deactivated in the menu system MY CAR. For a description of the menu system, see <u>MY CAR</u>.

#### * Option/accessory.

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

# 6.11.2. Road Sign Information (RSI)*

The road sign information function (RSI – Road Sign Information) helps the driver to remember which speed-related road signs the car has passed.



Examples of readable speed related signs^[1].

The RSI function gives information on current speed, e.g. that a motorway or road is starting/ending and when overtaking is prohibited.

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

### 

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

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

* Option/accessory.

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

# 6.11.3. Road sign information (RSI)* - limitations

The road sign information function (RSI – Road Sign Information) helps the driver to remember which speedrelated road signs the car has passed. The function has the following limitations.

The RSI function's camera sensor has limitations just like the human eye - read more about camera sensor limitations.

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

Here are several examples of what can disrupt the function:

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

## 6.12. Type approval

## 6.12.1. Type approval - radar system

Type approval for the radar system can be read in the table.

Country/Area				
Europe	€ Delphi Electronics & Safety hereby declares that L2C0038TR and L2C0049TR are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. This declaration of conformity may, if necessary, be consulted with Delphi Electronics & Safety / One Corporate Center / Kokomo, Indiana 46904-9005 USA.			

## 6.13. Radar sensor

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

The radar sensor is used by the following functions:

- Distance Warning*
- Adaptive cruise control*

Collision Warning System with Auto Brake and Cyclist and Pedestrian Detection*

#### (!) Important

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

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

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

Modification of the radar sensor could result in it being illegal to use.

* Option/accessory.

## 6.14. Adjustable steering force*

Speed related power steering causes the steering wheel force to increase with the speed of the car in order to give the driver enhanced sensitivity.

On motorways the steering feels firmer. 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 in the menu system MY CAR, <u>MY CAR</u>:

Once there, search for Steering force level and select Low, Medium or High.

This setting is not accessible when the car is moving.

#### (i) Note

In certain situations the power steering may become too hot and then needs to be temporarily cooled - during this time the power steering operates with reduced power and turning the steering wheel may then be perceived to be slightly heavier.

In parallel with the temporarily reduced steering assistance the combined instrument panel shows a message.

* Option/accessory.

## 7. Hybrid-related information

# 7.1. Range for electric operation

The car's range for electric operation is dependent on several factors, such as the number of consumers that are switched on.

### **Power consumers**

In order to achieve the longest possible mileage for electric operation, the driver of an electric car also has to think about saving current. The more consumers there are (stereo, electric heating in windows/mirrors/seats, very cold air from the climate control system, etc.) that are switched on - the shorter the potential mileage.

To specify the range for electric operation, see <u>Range - specification</u>.

### (i) Note

In addition to high power output in the passenger compartment, high speed, sudden acceleration, heavy loads and uphill gradients can also reduce the possible driving distance.

## Longer periods of inactive time

During normal hybrid battery charging some of the charging current is used to keep the car's drive system ready to drive, mainly to control the hybrid battery's temperature. If the car is not being used for a few days then energy can be saved by not starting preconditioning. If the car is not used for a long time, the hybrid battery performs best if the car is parked in a cool place. For further information about what to consider during longer periods of inactive time, see Long-term storage - points to remember.

# 7.2. Planning your driving

It is important to plan carefully when driving in electric mode in order to achieve the longest possible driving distance.

Utilise electric operation as much as possible:

- Find out where the charging stations are located.
- Prioritise choosing a parking space with a charging station.
- Balance electricity consumption with the accelerator pedal, and by these means use the advantages of the electric motor. Ð

### / Warning

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

### (i) Note

Make a habit of always starting a journey with fully-charged hybrid battery.

## **Driving techniques**

The electric motor acts as both engine and alternator. During <u>braking</u> the brake force is used to <u>recharge the hybrid battery</u> - energy that otherwise would have been lost as heat energy.

Here is some advice that reduces power consumption (allowing longer possible mileage) without the need for travelling time to increase or driving pleasure to decrease.

- Do not hold the car stationary on a hill with the accelerator pedal. Use the foot brake instead.
- Use engine braking and smooth operation of the foot brake when braking this recharges the hybrid battery and extends the possible mileage with the electric motor.
- High speed increases power consumption considerably due to increased wind resistance doubling speed increases wind resistance 4 times.
- Maintain the car regularly follow Volvo's recommended service intervals.
- Towing another car consumes a lot of electricity use the **AWD** mode. This then charges the hybrid battery, in combination with improving the car's driving characteristics and roadholding, see <u>Drive system drive modes</u>.

## **Outside temperature**

The electric motor, electronics and batteries work best at approx. 25 °C. When the car is connected to an electrical socket it is <u>conditioned</u> to its optimal temperature range. If the car is started in cold weather or goes beyond its permitted temperature range while driving then the fuel heater starts and, if required, the internal combustion engine starts automatically so that heating takes place. The car can be driven electrically but with reduced power if the temperature becomes too low.

Similarly, the system may need to be cooled down when driving in hot conditions.

### (i) Note

If the outside temperature drops extremely low then the petrol engine will always be running.

### **Power consumers**

The more power consumers in the car that are switched on (e.g. stereo, electrically heated windows, door mirrors, seats, etc.) the higher the energy consumption.

# 7.3. Long-term storage - points to remember

To reduce degradation of the hybrid battery during long-term storage of the vehicle it is recommended that the state of charge remains at 25%.

Proceed as follows:

- Select the "Hybrid" theme for the combined instrument panel. For information on menu navigation, see Combined instrument panel.
- If the state of charge is high run the car until approx. 25% remains. If the state of charge is low press the POWER button and run the car until approx. 25% is achieved. For more information on the drive modes, see Drive system - drive modes.
- If storage has lasted longer than 6 months and is intended to continue start the engine in drive mode POWER and leave it Ð running for at least 10 minutes until the state of charge has stabilised at around 25% again (recommended).

If the car has been locked in and could not be run, and the hybrid battery's charge level is significantly below 25% - charge the battery for approx. 45 minutes at the lowest level, depending on the state of charge. Check the charge level continuously in the combined instrument panel, see Charging the hybrid battery - starting.

For handling the starter battery in connection with long-term storage, see Starter battery - general.

### (i) Note

Choose the coolest location possible for the vehicle in order to minimise aging of the battery during long-term storage. During summer the vehicle should preferably remain indoors or outdoors in the shade, depending on where the temperature is lowest.

### (!) Important

During long-term storage, the charging cable must not be plugged into the car's charging input socket.

## Old fuel

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

## 7.4. Plug-in hybrid - overview

Overview of the unique functions for V60 Plug-in hybrid.



- 1 <u>Charging the hybrid battery</u>.
- 2 <u>Hybrid battery</u>.
- 3 <u>Electric motor</u> with drive on the rear wheels.
- 4 Drive modes.
- **5** <u>Combined instrument panel</u> with unique information for the plug-in hybrid.

# 7.5. Eco guide & Hybrid guide

Eco guide and Hybrid guide are two <u>combined instrument panel</u> instruments which help the driver to drive the car with optimum driving economy.

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

## Eco guide

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



Instantaneous value
Average value

#### Instantaneous value

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

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

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

Very low instantaneous values illuminate the red zone on the meter (with a short delay), which means poor driving economy and hence should be avoided.

#### Average value

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

## Hybrid guide

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

To view this function, select the theme "Hybrid" or "Performance", see Digital combined instrument panel - overview.



1 Driver-requested power

2 Available electric motor power

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

#### Driver-requested power

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

#### Available electric motor power

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

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

# 7.6. Charging current

Charging current is used for <u>charging the hybrid battery</u> as well as preconditioning of the car. <u>Charging cable</u> between the car's charging input socket and a 230 VAC socket can be set for different current intensity loads (6-16 A) using the control unit.

When the charging cable is activated the combined instrument panel shows a message and a lamp in the car's charging input socket illuminates. The charging current is mainly used for battery charging, but is also used for preconditioning the car.

#### (!) Important

Never unplug the charging cable from the 230 VAC socket while charging is in progress - there is then a risk of damaging the 230 VAC socket. Always stop charging first, and then disconnect the charging cable.

#### Charging time varies with the amperage setting on the control unit.

#### See examples in the following table:

Current intensity (A) ^[1]	Charging time (hours)
6	7,5–10,0
10	4,5-7,0
16	4,0-5,5

#### (i) Note

- If the weather is very hot or very cold, some of the charging current is used to heat/cool the hybrid battery and the passenger compartment, which results in a longer charging time.
- The charging time is extended if <u>preconditioning</u> has been selected. The time required depends mainly on the outside temperature.



Charging cable plug and charging input socket.

Normally several 230 VAC consumers are included in a fuse circuit, so additional consumers (e.g. lighting, vacuum cleaner, electric drill, etc.) can be on the same fuse.

## Example 1

If the car is connected to a 230 VAC/10 A socket and the control unit is set at 16 A, then the car will attempt to draw 16 A from the 230 VAC mains power circuit - after a while the overloaded 10 A fuse for the socket will be tripped and battery charging stopped.

In which case, reset the fuse for the socket and select a lower charging current on the control unit, see <u>Charging the hybrid bat-</u> tery - preparations.

## Example 2

If the car is connected to a 230 VAC/10 A socket and the control unit is set at 10 A, then the car will draw 10 A from the 230 VAC mains power circuit. If additional consumers are connected to the same socket (or another socket in the same fuse

circuit) then there is a risk that the fuse for the socket/fuse socket will be overloaded and triggered, at which point battery charging is stopped.

In which case, reset the fuse for the socket/fuse circuit and select a lower charging current on the control unit - or disconnect other consumers from the socket.

## Example 3

If the car is connected to a 230 VAC/10 A socket and the control unit is set at 6 A, then the car will only draw 6 A from the 230 VAC mains power circuit. Battery charging will of course take longer, but then additional consumers can be connected at the same time to the same socket (or fuse circuit) as long as the total load does not exceed the capacity of the fuse circuit.

^[1] Maximum charging current may vary depending on market.

# 7.7. General information about preconditioning

The climate in the car's passenger compartment can be preconditioned (acclimatised) before departure, in both hot and cold climates.



In different cases, the preconditioning uses the car's fuel-driven and electrically-driven heaters and the car's AC system:

- In a cold climate the fuel-driven heater heats both the engine and the passenger compartment the electrically-driven heater only heats the passenger compartment before departure.
- In a hot climate the AC system cools the passenger compartment.

Preconditioning the car reduces wear.

#### During preconditioning in warm weather, condensation from the air conditioning may drip under the car. This is normal.

#### (i) Note

During preconditioning of the passenger compartment, the car works to reach comfort temperature and not the temperature set in the climate control system.

#### (i) Note

The compressor can operate and cool the hybrid battery even when passenger compartment cooling is not selected or required. The compressor emits noise.

### (i) Note

The car's doors and windows should be closed during the preconditioning of the passenger compartment.

## **Options for preconditioning**

Select from the following:

- parking inside
- <u>parking outside</u>.

Preconditioning can then be activated:

- <u>directly</u> via the information display, remote control key* or mobile*
- with <u>timer</u>.

#### (i) Note

Volvo recommends that you activate preconditioning via the timer, and then have the car connected to the mains power circuit.

### Connection to the mains power circuit

The car can be preconditioned both when <u>connected</u> and not connected * to the mains power circuit.

#### When the car is plugged into the mains power $\operatorname{circuit}^{\left[1\right]}$

- Heating/cooling can last up to 50 minutes.
- Seat and steering wheel heating can be activated during preconditioning.

#### When the car is not plugged into the mains power circuit*

Heating can last up to 50 minutes.

Cooling takes place for 2-3 minutes.

During preconditioning, the electrically-driven heater and AC system use power from the hybrid battery. If the car is not connected to the mains power circuit during preconditioning then the mileage for electric operation is reduced accordingly.

* Option/accessory.

^[1] A charging station which is not always active, e.g. because of a timer, may cause loss of function for preconditioning.

# 7.8. Charging the hybrid battery

In addition to the fuel tank, as in a conventional car, the car is equipped with a rechargeable battery - a socalled hybrid battery of the lithium-ion type.

The hybrid battery is charged using a charging cable with control unit which is located in the storage area under the cargo area floor, see Charging cable with control unit.

#### (i)Note

Use a charging cable recommended by Volvo in accordance with IEC 62196 and IEC 61851 that supports temperature monitoring.

The time it takes for the hybrid battery to be charged is dependent on the charging current that is used.

During the charging of the car's hybrid battery the display on the charging cable's control unit shows the current status during an ongoing charging and after charging is complete.

While the hybrid battery is being charged, charging is also in progress for the car's starter battery.

If the hybrid battery's temperature is below -10 °C or above 30 °C then it may mean that some of the car's functions are changed or unavailable because the capacity of the hybrid batteries is reduced outside this temperature range.

An example of this is the PURE drive mode (see Drive system and drive modes) which is not selectable if the temperature in the battery is too low or high.

## Charging with fixed control unit in accordance with mode 3^[1]

In certain markets the control unit is installed within a charging station connected to the mains power circuit. In which case, the charging cable has no control unit of its own.

Instead, it has a special connector to be used to connect the charging cable to the charging station. Follow the instructions at the charging station.

^[1] European standard - EN 61851-1.

# 7.9. Plug-in hybrid - introduction

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

### Important to know

### 

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

#### High-voltage current



Several components in the car work with high-voltage current that could be dangerous in the event of incorrect intervention. Do not touch anything that is not clearly described in the owner's manual. Read more about the <u>engine</u> <u>compartment</u>.

### ∕ ./\ Warning

Orange-coloured cables must only be handled by qualified personnel.

## Driving the car

The car is driven as a completely normal car. The electric motor drives the car mostly at low speeds, the diesel engine at higher speeds, as well as during more active driving. Read more about <u>Economical driving</u>.

## **Drive modes**

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

## **Combined instrument panel**

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

## Preconditioning

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

## Charging the hybrid battery

(!) Important

Never connect the charging cable when there is a risk of lightning.

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

The electric motor is used as an engine brake during light braking and the car's kinetic energy is converted to electrical energy which is used to charge the hybrid battery. Read more about <u>recycling the brake force energy</u>.

In addition, the diesel engine can charge the electric motor's hybrid battery with a special high-voltage generator when the need arises, see <u>drive system and drive modes</u>.

## 7.10. Digital combined instrument panel - overview

The combined instrument panel's information display shows information on some of the car's functions, as well as messages.



The instrument shows information according to the selections made, see Menu navigation - combined instrument panel.

- 1 Hybrid battery gauge
- 2 Current energy level
- 3 Active drive mode
- 4 The symbol illuminates when the internal combustion engine is operating.

Hybrid guide (Driver Support Power Meter). Shows the current driver-requested propulsion power and available electric motor power, i.e. the limit when the internal combustion engine starts/stops. For more information, <u>Eco guide & Hybrid guide</u>.

## **Energy recovery**



1 When the electric motor generates power for the hybrid battery, bubbles are shown in the hybrid battery gauge - see Foot brake.

## Information display



Information display.

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

## Gauges and indicators



Alternative themes can be selected for the combined instrument panel. Possible themes are "Hybrid", "Elegance", "Eco" and "Performance".

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

To select the theme, press the left-hand stalk switch's OK button and select the **Themes** menu option by turning the thumbwheel on the lever. Press the OK button. Turn the thumbwheel to select the theme and confirm the selection by pressing the OK button.

On certain model variants, the appearance of the centre console's screen follows the theme selected for the combined instrument panel.

The contrast mode and colour mode for the instrument can also be set using the left-hand stalk switch.

For more information on menu navigation, see <u>Menu navigation - combined instrument panel</u>.

The choice of theme and setting of contrast mode and colour mode can be stored for each remote control key in the car key memory*, see <u>Remote control key - personalisation</u>*.



Gauges and indicators, theme "Hybrid".

- Fuel gauge. When the indicator lowers to only one white marking^[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also <u>Trip computer supplementary information</u> and <u>Filling up with fuel</u>.
- **2** Hybrid battery gauge
- 3 Speedometer
- **4** Hybrid guide. See also <u>Eco guide & Hybrid guide</u>.



Gauges and indicators, theme "Elegance".

- Fuel gauge. When the indicator lowers to only one white marking^[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also <u>Trip computer supplementary information</u> and <u>Filling up with fuel</u>.
- 2 No function
- 3 Speedometer
- 4 No function



Gauges and indicators, theme "Eco".

- 1 Fuel gauge. When the indicator lowers to only one white marking^[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also Trip computer - supplementary information and Filling up with fuel.
- **2** Eco guide. See also <u>Eco guide & Hybrid guide</u>.
- 3 Speedometer
- 4 Hybrid guide. See also <u>Eco guide & Hybrid guide</u>.



Gauges and indicators, theme "Performance".

- 1 Fuel gauge. When the indicator lowers to only one white marking^[1], the yellow indicator symbol for low level in the fuel tank is illuminated. See also Trip computer - supplementary information and Filling up with fuel.
- 2 E-boost gauge. Illustrates electric motor use, its support to the internal combustion engine and engine braking^[2] with the electric motor.
- 3 Speedometer
- 4 Tachometer. The meter indicates engine speed in thousands of revolutions per minute (rpm).
- **(5)** Hybrid guide. See also <u>Eco guide & Hybrid guide</u>.
- 6 Gear position indicator. See also <u>Automatic gearbox -- Geartronic</u>.

## Indicator and warning symbols



Indicator and warning symbols.

- 1 Indicator symbols
- Indicator and warning symbols
- Over the symbols of the symbols o

#### Functionality check

All indicator and warning symbols, apart from symbols in the centre of the information display, illuminate in key position || 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 || then all symbols go out within a few seconds except the symbol for faults in the car's emissions system.

- * Option/accessory.
- ^[1] When the display's message "Distance to empty fuel tank:" starts to show "----", the marking becomes red.
- ^[2] Engine braking with the electric motor charges the hybrid battery, see <u>Foot brake</u>.

# 7.11. Charging cable with control unit

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

The charging cable with its control unit is used to charge the car's hybrid battery. Use a charging cable recommended by Volvo.



The charging cable is located in the storage compartment under the cargo area's floor cover.

Specifications, charging cable			
Enclosure class	IP67		
Ambient temperature	-32 ºC to +50 ºC		

### ✓ Warning

The charging cable must not be used if any part of it is damaged - there is then the risk of electric shock and serious personal injury.

A damaged or inoperative charging cable must only be repaired by a workshop - an authorised Volvo workshop is recommended.

#### (!) Important

Never unplug the charging cable from the 230 VAC socket while charging is in progress - there is then a risk of damaging the 230 VAC socket. Always stop charging first, and then disconnect the charging cable.

## Control unit



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Control unit display and controls.

1 Indicator^[1] shows selected charging current.

(2) The symbol illuminates when the charging cable is plugged into a 230 VAC socket.

3 Pushbuttons to increase/decrease the charging current.

4 The symbol illuminates when the charging cable is plugged into the car's 230 VAC input socket.

#### (!) Important

Multiple plugs, overvoltage protection or similar devices must not be used together with the charging cable since this may involve a risk of fire, electric shocks, etc.

An adapter between the 230 VAC socket and charging cable may only be used if the adapter is marked with approval in accordance with IEC 61851 and IEC 62196.

### (i) Note

The charging cable will remember the last setting of the charging current. It is therefore important to adjust the setting if another 230 VAC socket is used at the next charging.

^[1] Maximum charging current may vary depending on market.

## 7.12. Drive systems

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

### Two drive systems

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



- 1 Hybrid battery
- 2 High-voltage generator^[1]
- **3** Diesel engine
- 4 Electric motor

The electric motor drives the car mostly at low speeds, the internal combustion engine at higher speeds, as well as during more active driving.

Both the internal combustion engine and electric motor can generate motive force directly to the wheels. The internal combustion engine can also charge the electric motor's hybrid battery using a special high-voltage generator.

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

## 8.1. Alcohol lock

## 8.1.1. Alcohol lock* - before starting the engine

The function of the alcohol lock is to prevent the car from being driven by individuals under the influence of alcohol.

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



- When the indicator lamp (6) is green the alcohol lock is ready for use.
- Withdraw the alcohol lock from its holder. If the alcohol lock is outside the car when it is unlocked then it must first be activated with the switch (2).
- Lift 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**.
- If no message is shown then the transmission to the car may have failed in which case, press the button (3) to transmit the result to the car manually.
- Fold down the nozzle and refit the alcohol lock in its holder.
- Start the engine following an approved breath test within 5 minutes otherwise it must be repeated.

## **Result after breath test**

Indicator lamp (5) + Display text	Specification
Green lamp + Alcoguard Approved test	Start the engine - no alcohol content measured.
Yellow lamp + Alcoguard Approved test	Engine starting possible - measured alcohol content is above 0.1 mg/ml but below the limit value in force ^[1] .
Red lamp + Disapproved test Wait 1 minute to try again	Engine starting not possible - measured alcohol content is above the limit value in force ^[1] .

### (i) Note

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

* Option/accessory.

^[1] Limit values vary from country to country. Find out what applies in your country. See also <u>Alcohol lock</u>*.

## 8.1.2. Alcohol lock* - to bear in mind

The function of the alcohol lock is to prevent the car from being driven by individuals under the influence of alcohol.

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



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

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 alcohol lock must be checked and calibrated at a workshop^[1] every 12 months.

30 days before recalibration is necessary the combined instrument panel shows the message Alcoguard Calibration required See manual. If calibration is not carried out within these 30 days then normal engine starting will be blocked - only starting with the Bypass function will then be possible, see the following heading "Emergency situation".

The message can be cleared by pressing the send button (3) once. Otherwise it extinguishes on its own after approx. 2 minutes but then reappears each time the engine is started - only recalibration at a workshop^[1] can clear the message permanently.

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# Cold or hot weather

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

Temperature (ºC)	Maximum heating time (seconds)
+10 to +85	10
-5 to +10	60
-40 to -5	180

At temperatures below -20  $^{\circ}$ C or above +60  $^{\circ}$ C the alcohol lock requires additional power supply. The combined instrument panel shows **Alcoguard Please insert power cable**. In which case, connect the power supply cable from the glovebox and wait until indicator lamp (6) is green.

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

# **Emergency situation**

In the event of an emergency situation or the alcohol lock is out of order, it is possible to bypass the alcohol lock in order to drive the car.

(i) Note

All Bypass activation is logged and saved in memory, see <u>Recording data</u>.

After the Bypass function has been activated the combined instrument panel shows **Alcoguard Bypass enabled** the whole time while driving and can only be reset by a workshop^[1].

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 alcohol lock is installed, either the Bypass or Emergency function is selected as the bypassing option. This setting can be changed afterwards at a workshop^[1].

#### Activating the Bypass function

 Depress and hold the left-hand stalk switch OK button and the button for hazard warning flashers simultaneously for approx. 5 seconds - the combined instrument panel first shows Bypass activated Please wait for 1 minute and then Alcoguard Bypass enabled - after which the engine can be started.

This function can be activated more than once. The error message shown during driving can only be cleared at a workshop^[1].

#### Activating the Emergency function

 Depress and hold the left-hand stalk switch OK button and the button for hazard warning flashers simultaneously for approx. 5 seconds - the combined instrument panel shows Alcoguard Bypass enabled and the engine can be started.

This function can be used once, after which a reset must be made at a workshop^[1].

* Option/accessory.

# 8.1.3. Alcohol lock* - functions and operation

The function of the alcohol lock is to prevent the car from being driven by individuals under the influence of alcohol.

### **Functions**



- **3** Transmission button.
- **4** Lamp for battery status.
- **6** Lamp for result of breath test.
- 6 Lamp indicates ready for breath test.

# **Operation - battery**

Alcohol lock indicator lamp (4) shows battery status:

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

### (i) Note

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

#### * Option/accessory.

# 8.1.4. Alcohol lock* - storage

The function of the alcohol lock is to prevent the car from being driven by individuals under the influence of alcohol.

Store the alcohol lock in its holder. Release the handheld unit by depressing it slightly in its holder and releasing it - it then springs out and can be removed from the holder.



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Handheld unit storage and charging station.

- Replace the handheld unit in the holder by pushing it in until it engages.
- Store the handheld unit in the holder this provides it with the best protection and keeps its batteries fully charged.

* Option/accessory.

# 8.1.5. Alcohol lock*

The function of the alcohol lock 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. Alcohol lock calibration takes place in accordance with each market's limit value in force for driving legally.

#### / Warning

The alcohol lock 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.

* Option/accessory.

# 8.1.6. Alcohol lock* - symbols and text messages

The function of the alcohol lock is to prevent the car from being driven by individuals under the influence of alcohol.

In addition to the previously described messages related to <u>how the alcohol lock works before starting the</u> <u>engine</u> the combined instrument panel's display can also show the following:

Display text	Meaning/Action
Alcoguard Restart possible	The engine has been switched off for less than 30 minutes - engine starting possible without new test.
Alcoguard Service required	Contact a workshop ^[1] .
Alcoguard No signal received	Transmission failed - send manually with button (3) or take a new breath test.
Alcoguard Please try again	Test failed - take a new breath test.
Alcoguard Please blow longer	Blowing too short - blow for longer.
Alcoguard Please blow softer	Blowing too hard - blow more gently.
Alcoguard Please blow harder	Blowing too weak - blow harder.
Alcoguard preheating Please wait	Heating not finished - wait for text Alcoguard Please blow for 5 seconds.

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* Option/accessory.

^[1] An authorised Volvo workshop is recommended.

# 8.2. Towing and recovery

# 8.2.1. Towing eye

The towing eye is screwed into a threaded socket behind a cover on the rear right-hand side of the bumper.

# Attaching the towing eye





#### 1 1

Take out the towing eye, which is located behind the panel on the left-hand side of the cargo area.

### 2 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.

The towing eye may be used to pull the car up onto a recovery vehicle with a flatbed platform. The car's position and ground clearance determine whether it is possible. If the slope of the recovery vehicle's ramp is too steep, or if the ground clearance under the car is inadequate, then the car may be damaged if you try to pull it up using the towing eye. Raise the car using the recovery vehicle's lifting device if necessary.



No one/nothing is allowed to remain behind the recovery vehicle while the car pulled up onto the flatbed platform.

# 8.2.2. Recovery

Recovery means that the vehicle is transported away by means of another vehicle.

Call a recovery service for recovery assistance.

The towing eye may be used to pull the car up onto a recovery vehicle with a flatbed platform. The car's position and ground clearance determine whether it is possible. If the slope of the recovery vehicle's ramp is too steep, or if the ground clearance under the car is inadequate, then the car may be damaged if you try to pull it up using the towing eye. Raise the car using the recovery vehicle's lifting device if necessary.

#### / Warning

No one/nothing is allowed to remain behind the recovery vehicle while the car pulled up onto the flatbed platform.

#### (!) Important

Note that the V60 Plug-in Hybrid must always be transported raised up with all the wheels on the recovery vehicle's platform.

# 8.2.3. Towing

Towing the V60 Plug-in Hybrid is not permitted. When moving the car it must be <u>transported</u> raised up with all the wheels on a recovery vehicle's platform.

### Jump starting

Do not tow the car to bump start the engine. Use a donor battery if the starter battery is discharged and the engine does not start, see <u>Jump starting with battery</u>.

#### (!) Important

The electric drive motor and the catalytic converter may be damaged during attempts to tow-start the car.

# 8.3. Brakes

# 8.3.1. Parking brake

The parking brake holds the car stationary, when the driver's seat is empty, by mechanically locking/blocking two wheels.

# Function

A faint electric motor noise can be heard when the electrically-controlled 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 <u>Jump starting with battery</u>.

# Applying the parking brake



Parking brake control - apply.

- Depress the foot brake pedal firmly. 1
- Press the parking brake control. 2
- (P) The combined instrument panel's symbol starts flashing once there is a constant glow the parking brake is > applied.
- Release the foot brake pedal and make sure that the car is at a standstill position. 3

When parking the vehicle put the gear selector in the P position.

#### **Emergency brake**

In an emergency the parking brake can be applied when the vehicle is in motion by pressing and holding the parking brake control. The braking procedure is stopped when the control is released.

(i) Note

An acoustic signal sounds while emergency braking is active at high speeds.

### Parking on a hill

If the car is parked facing uphill:

Turn the wheels **away from** the kerb. Ð

If the car is parked facing downhill:

Turn the wheels **towards** the kerb.

#### Warning /!\

Always apply the parking brake when parking on a slope - leaving the car in gear, or in P if it has automatic transmission, is not sufficient to hold the car in all situation.

# Disengaging the parking brake



Parking brake control - release.

### **Releasing manually**

- Insert the remote control key in the ignition switch^[1]. 1
- Depress the foot brake pedal firmly. 2
- Pull the control. 3
- () The parking brake releases and the combined instrument panel's symbol extinguishes. >

### **Releasing automatically**

- Put the seatbelt on. 1
- Start the engine. 2
- Depress the foot brake pedal firmly. 3
- Move the gear selector to position  $\mathsf{D}$  or  $\mathsf{R}$  and depress the accelerator. 4

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The parking brake releases and the combined instrument panel's symbol extinguishes.

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

### Replacing the brake linings

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

### Symbols and messages

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

Symbol	Message	Meaning/Action
(P)!	"Message"	Read the combined instrument panel's message.
Ø		<ul><li>A flashing symbol indicates that the parking brake is applied.</li><li>If the symbol flashes in any other situation then this means that a fault has arisen.</li><li>Read the combined instrument panel's message.</li></ul>
	Handbrake not fully released	<ul> <li>A fault is preventing the parking brake from being released:</li> <li>Try to apply and release the brake.</li> <li>If the fault persists after a few attempts:</li> <li>Visit a workshop - an authorised Volvo workshop is recommended.</li> <li>Note: A warning signal sounds if the journey is continued with this error message.</li> </ul>
	Handbrake not applied	<ul> <li>A fault is preventing the parking brake from being applied:</li> <li>Try to release and apply the brake.</li> <li>If the fault persists after a few attempts:</li> <li>Visit a workshop - an authorised Volvo workshop is recommended.</li> <li>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.</li> </ul>
	Handbrake Service required	<ul> <li>A fault has arisen:</li> <li>Try to apply and release the brake.</li> <li>If the fault persists after a few attempts:</li> <li>Visit a workshop - an authorised Volvo workshop is recommended.</li> </ul>

If the car has to be parked before a possible fault is rectified then the wheels must be turned as if parking on a hill and the gear selector must be set in position P.

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

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# 8.3.2. Foot brake - anti-lock braking system

The anti-lock braking system, ABS (Anti-lock Braking System), prevents the wheels from locking up during braking.

The function allows the steering ability to be 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.

# 8.3.3. Foot brake - emergency brake assistance

Emergency brake assistance EBA (Emergency Brake Assist) helps to increase the braking force and so reduce the braking distance.

EBA detects the driver's braking style and increases the braking force when 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.

#### (i) 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.

# 8.3.4. Foot brake - emergency brake lights and automatic hazard warning flashers

Emergency brake lights are activated in order to alert vehicles behind about heavy 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 in the event of heavy braking. After the car's speed has been slowed down to below 10 km/h the brake light returns from flashing to the normal constant glow - while at the same time the car's <u>hazard warning lights</u> are activated. These flash until the driver accelerates the car up to a higher speed again or switches off the hazard warning lights.

# 8.3.5. Brake fluid - grade and volume

The medium in a hydraulic brake system is called brake fluid, and it is used to transfer pressure from e.g. a brake pedal via a master brake cylinder to one or more slave cylinders, which in turn act on a mechanical brake.

Prescribed grade: DOT 4

Volume: 0.6 litres

# 8.3.6. Foot brake

The foot brake is used to reduce the car's speed while driving.

The car is equipped with two brake circuits. If a brake circuit is damaged then the brake pedal will engage deeper and a higher 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 doesn't operate until after the engine has been started, see Starting the engine.

If the foot brake is used in a de-energised car with the electric motor and internal combustion engine switched off - e.g. if the car is being towed - then pedal travel is slightly longer and a higher pedal pressure must be used to brake the car.

For cars with the <u>Hill start assist (HSA)</u> * * function, the pedal returns more slowly than usual to normal position if the car is parked on a gradient or on an uneven surface.

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 Engine oil - adverse driving conditions.

### Function check when the engine is started

The car is equipped with a so-called "brake by wire" brake system. After each time the engine is started there is an automatic function check of the brake system when the driver depresses the brake pedal to take the gear selector from the **P** position, see <u>Automatic gearbox -- Geartronic</u>. In connection with the function check, in some cases, the information display may show a message and a symbol, see examples in the table at the end of this section.

#### (i) Note

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

# Light braking - hybrid battery charging

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

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

#### Braking on wet roads

When driving for a long time in heavy rain without braking, the braking effect may be delayed slightly when next using the brakes. This may also be the case after a car wash. It is then necessary to depress the brake harder. For this reason, maintain a greater distance to the traffic ahead.

Brake the car firmly after driving on wet roads and after a car wash. The brake discs are then warmed up, dry more quickly and are protected against corrosion. Take the prevailing traffic situation into account when braking.

### Braking on salted roads

When driving on salted roads a layer of salt may form on the brake discs and brake linings. This may extend braking distance. For this reason, keep an extra large safety distance to the vehicle ahead. Also make sure of the following:

- Brake occasionally to remove any layer of salt. Make sure that other road users are not put at risk by the braking.
- Gently depress the brake pedal when driving is finished and before the next journey starts.

### **Maintenance**

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

New and replacement brake linings and brake discs only provide optimal brake performance after a few hundred kilometres after "wearing-in". Compensate for the reduced brake performance by depressing the brake pedal harder. Volvo recommends only fitting brake linings that are approved for your Volvo.

#### (!) Important

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

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

### Symbols and messages

Symbol	Message	Meaning/Action
0		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.
Θ		Constant glow for 2 seconds when the engine is started - automatic function check.
**	Fully depress the brake pedal in order to leave the P-position	Foot pressure on the brake pedal is too low. <ul> <li>Depress the pedal further.</li> </ul>

Brake pedal characteristics changed Service required       May be shown in very cold weather or if the gear selector has been moved from the P position with the brake pedal insufficiently depressed.         • Switch off the engine by pressing the START/STOP ENGINE button - start the engine again and depress the brake pedal.         If the error message remains: Contact a workshop - an authorized Velve workshop is recommended.	Symbol	Message	Meaning/Action
Switch off the engine by pressing the START/STOP ENGINE button - start the engine again and depress the brake pedal.  If the error message remains: Contact a workshop - an authorized Velve workshop is recommended.		Brake pedal characteristics changed Service required	May be shown in very cold weather or if the gear selector has been moved from the <b>P</b> position with the brake pedal insufficiently depressed.
If the error message remains: Contact a workshop - an authorised Velve workshop is recommended			<ul> <li>Switch off the engine by pressing the START/STOP ENGINE button - start the engine again and de- press the brake pedal.</li> </ul>
in the end message remains. Contact a workshop - an authorised voice workshop is recommended.			If the error message remains: Contact a workshop - an authorised Volvo workshop is recommended.



* Option/accessory.

# 8.4. Fuel

# 8.4.1. Fuel - handling

Fuel of a lower quality than that recommended by Volvo must not be used as engine power and fuel consumption is negatively affected.

### Verning

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

Mixtures of various fuel types or use of fuels which are not recommended will invalidate Volvo's guarantees and any supplementary service agreements; this is applicable to all engines.

#### (i) 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.

# 8.4.2. Economical driving

Driving economically means driving smoothly while thinking ahead and adjusting your driving style and speed to the prevailing conditions.

- Use the ECO Guide which indicates how fuel-efficiently the car is being driven, see Eco guide & Hybrid guide.
- Drive in the highest gear possible, adapted to the current traffic situation and road lower engine speeds result in lower fuel consumption. Use the gear indicator.
- Avoid sudden unnecessary acceleration and heavy braking.
- High speed results in increased fuel consumption the wind resistance increases with speed.
- 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.
- Drive with the correct air pressure in the tyres and check this regularly select ECO tyre pressure for best results, see <u>Tyres approved tyre pressures</u>.
- Choice of tyres can affect fuel consumption seek advice on suitable tyres from a dealer.

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- Remove unnecessary items from the car the greater the load the higher the consumption.
- Use engine braking to slow down, when it can take place without risk to other road users.
- A roof load and ski box increase air resistance, leading to higher consumption remove the load carriers when not in use.
- Avoid driving with open windows.

For information about Volvo Car Corporation's environmental philosophy, see Environmental philosophy.

For more information about fuel consumption, see Fuel consumption and CO2 emissions.

#### ✓ Warning

Never switch off the engine while moving, such as downhill, this deactivates important systems such as the power steering and brake servo.

# 8.4.3. Diesel particle filter (DPF)

Diesel cars are equipped with a particle filter, which results in more efficient emission control.

The particles in the exhaust gases are collected in the filter during normal driving. So-called "regeneration" is started in order to burn away the particles and empty the filter. This requires the engine to have reached normal operating temperature.

Regeneration of the particle filter is automatic and normally takes 10-20 minutes. It may take a little longer at a low average speed. Fuel consumption may increase slightly during regeneration.

During regeneration, charging of the hybrid battery is activated temporarily in the background, which is similar to the SAVE function, see <u>Drive system - drive modes</u>.

### Regeneration in cold weather

If the car is frequently driven short distances in cold weather then the engine does not reach normal operating temperature. This means that regeneration of the diesel particle filter does not take place and the filter is not emptied.

When the filter has become approx. 80% full of particles, a yellow warning triangle is shown in the combined instrument panel, and the message **Soot filter full See manual** is shown in its information display.

Start regeneration of the filter by driving the car until the engine reaches normal operating temperature, preferably on a main road or motorway. The car should then be driven for approximately 20 minutes more.

#### (i) Note

The following may arise during regeneration:

- a smaller reduction of engine power may be noticed temporarily
- fuel consumption may increase temporarily
- a smell of burning may arise.

When regeneration is complete the warning text is cleared automatically.

Use the parking heater* in cold weather - the engine then reaches normal operating temperature more quickly.

#### ( ! ) Important

If the filter is completely filled with particles, it may be difficult to start the engine and the filter is non-functional. Then there is a risk that the filter will need to be replaced.

* Option/accessory.

# 8.4.4. 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. For more information, see <u>Fuel consumption and CO2 emissions</u>.

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).

# 8.4.5. Fuel - diesel

Diesel is used as fuel.

Only use diesel fuel from well-known producers. Never use fuel of dubious quality. Diesel fuel must fulfil the EN 590 and/or SS 155435 standards. Diesel engines are sensitive to contaminants in the fuel, such as metals and a high volume of sulphur for example.

At low temperatures (-6 °C to -40 °C), a paraffin precipitate may form in the diesel fuel, which may lead to ignition problems. Special diesel fuel designed for low temperatures around freezing point is available from the 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

Diesel fuel must:

- fulfil the EN 590 and/or SS 155435 standards
- have a sulphur content not exceeding 10 mg/kg
- have a maximum of 7 vol % FAME (Fatty Acid Methyl Ester).

#### ( ! ) Important

Diesel type fuels that must not be used:

- Special additives
- Marine diesel fuel
- Heating oil
- FAME^[1] (Fatty Acid Methyl Ester) and vegetable oil.

These fuels do not fulfil the requirements in accordance with Volvo recommendations and generate increased wear and engine damage that is not covered by the Volvo warranty.

### Limitation due to low outside temperature

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

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

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

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

### Fuel age

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

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

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

Follow the recommended action where appropriate.

### **Empty tank**

The design of the fuel system in a diesel engine means that if the vehicle runs out of fuel, the tank may need to be vented in the workshop in order to restart the engine after fuelling.

Once the engine has stopped due to fuel starvation, the fuel system needs a few moments to carry out a check. Do this before starting the engine, once the fuel tank has been filled with diesel:

- Insert the remote control key in the ignition switch and push it in to the end position. For more information, see <u>Key</u> positions.
- Press the START button without depressing the brake and/or clutch pedal.
- Wait approx. one minute.
- To start the engine: Depress the brake and/or clutch pedal and then press the START button again.

#### (i) Note

Before filling with fuel in the event of fuel shortage:

• Stop the car on as flat/level ground as possible - if the car is tilting there is a risk of air pockets in the fuel supply.

#### To bear in mind when you have run out of fuel

Avoid running out of fuel. In the event of an empty tank, it is possible to continue driving with the available charge in the hybrid battery. After refilling the fuel, it may seem to take longer to start the engine (up to 30 seconds). In certain cases, repeated attempts to start the car may also be required.

Once the engine has been started, it is recommended to keep it running for at least 5 minutes. Select drive mode AWD or POWER in order to facilitate the supply of fuel.

If the message Internal combustion engine unavailable Limited performance and mileage is shown in the combined instrument panel's information display - switch off and then restart the engine again to regain full function.

### 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. For more information, see <u>Volvo service programme</u>.



Certain special additives remove the water separation in the fuel filter.

^[1] Diesel fuel may contain a certain amount of FAME, but further amounts must not be added.

# 8.5.1. Energy flow

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



The function to display the energy flow is activated in the menu system  $\ensuremath{\mathsf{MY}}\xspace$  CAR:

• Search for HYBRID → Power flow and confirm with OK.

# 8.5.2. Drive system - drive modes

Both of the car's drive systems are used either individually or in parallel. The driver can select between different drive modes while driving. Regardless of selected drive mode, the control system checks that the

combination of drivability, driving experience, environmental impact and fuel economy is always optimal in relation to the drive mode selected.



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

#### (i) Note

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



Controls for drive modes.

#### /!\ Warning

Do not leave the car in an unventilated area with activated drive mode and the fuel-driven engine switched off - automatic engine start occurs at low energy level in the hybrid battery, and the exhaust gases could then cause serious injury to people and animals.

# 1 – HYBRID



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

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

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

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

• Charge the hybrid battery from a 230 VAC socket with the charging cable (see <u>Charging current</u>) or use the SAVE function.

# 2 – PURE



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

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

#### (i) Note

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

# Please note

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

The internal combustion engine may start automatically in certain cases, despite the PURE drive mode being selected, for example:

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

### **Please note**

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

# 3 – POWER



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

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

### **Please note**

- The internal combustion engine runs continuously.
- The car is driven by both the front and rear wheels.

This drive mode results involves increased fuel consumption.

# 4 – AWD



The mode activates all-wheel drive, which improves the car's grip and traction. The mode is primarily designed for low speed on slippery road surfaces, but all-wheel drive also has a stabilising effect at higher speeds.

### **Please note**

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

# 5 – SAVE



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

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

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

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

Regardless of selected drive mode, charging of the hybrid battery is activated temporarily in the background - similar to the SAVE function - then an automatic <u>DPF</u> regeneration is performed.

### **Please note**

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

### Drive modes in MY CAR

The car's menu system contains brief descriptions about the car's different drive modes.

- 1 Go to MY CAR  $\rightarrow$  HYBRID  $\rightarrow$  Driving modes.
- 2 There, select between PURE, HYBRID, POWER, AWD and SAVE and confirm with OK.

# Start/Stop function

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

### **Trip statistics**

The car stores statistics for consumed electricity/fuel related to mileage travelled.

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

Go to MY CAR  $\rightarrow$  Trip statistics and confirm with OK.

# 8.5.3. Drive system - symbols and messages

In some situations the drive system can display a message in the combined instrument panel - follow the recommendation given if appropriate.



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

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

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

Message	Specification	Action
PURE not available due to low hy- brid system temperature	One or more components in the drive system have not reached the correct operating temperature.	Drive in HYBRID mode until the message changes to PURE available - then press the PURE button.
PURE not available due to tempor- ary hybrid system limitations	Temporary system limitation, e.g. operating temper- ature not correct.	Drive in HYBRID mode until the message changes to PURE available - then press the PURE button.
PURE not available due to low bat- tery charge	The hybrid battery's energy level is too low.	Drive in SAVE mode until the message changes to PURE available or charge the battery with a charging cable and 230 VAC - then press the PURE button.
PURE not available when gear lever in manual position	The gear selector is in manual "+/-" position.	Move the gear selector to the side, to automatic mode and then press the $\ensuremath{PURE}$ button.
PURE available	The PURE mode is available again after the previous limitation.	-
POWER not available due to tem- porary hybrid system limitations	Temporary system limitation, e.g. operating temper- ature not correct.	-
SAVE not available due to tempor- ary hybrid system limitations	Temporary system limitation, e.g. operating temper- ature not correct.	-
AWD not available due to tempor- ary hybrid system limitations	Temporary system limitation, e.g. operating temper- ature not correct.	_

# 8.5.4. Drive systems

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

# Two drive systems

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



- **1** Hybrid battery
- 2 High-voltage generator^[1]
- **3** Diesel engine
- 4 Electric motor

The electric motor drives the car mostly at low speeds, the internal combustion engine at higher speeds, as well as during more active driving.

Both the internal combustion engine and electric motor can generate motive force directly to the wheels. The internal combustion engine can also charge the electric motor's hybrid battery using a special high-voltage generator.

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

# 8.6. Driving with a trailer

# 8.6.1. Towing capacity and towball load

Towing capacity and towball load for driving with a trailer can be read in the tables.

# Max. weight braked trailer

Engine	Engine code ^[1]	Gearbox	Max. weight braked trailer (kg)	Max. towball load (kg)
D5 AWD	D87PHEV	Automatic, TF-80SD	1800	90
D6 AWD	D97PHEV	Automatic, TF-80SD	1800	90

# Max. weight unbraked trailer

Max. weight unbraked trailer (kg)	Max. towball load (kg)
750	50

^[1] Engine code, component and serial number can be read on the engine; see <u>Type designations</u>.

# 8.6.2. Driving with a trailer*

When driving with a trailer there are a number of important points to think about regarding e.g. the towing bracket, the trailer and how the load is positioned in the trailer.

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, see <u>Weights</u>.

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 information on the tyre pressure, see <u>Tyres</u> <u>approved tyre pressures</u>.
- The engine is loaded more heavily than usual when driving with a trailer.
- Do not tow a heavy trailer when the car is brand new. Wait until it has been driven at least 1000 km.
- The brakes are loaded much more than usual on long and steep downhill slopes. Downshift to a lower gear and adjust your speed.

- For safety reasons, the maximum permitted speed for the car when coupled with a trailer should not be exceeded. Follow the regulations in force for the permitted speeds and weights.
- Maintain a low speed when driving with a trailer up long, steep ascents.
- Avoid driving with a trailer on inclines of more than 12%.

### **Trailer cable**

An adapter is required if the car's towing bracket has 13 pin electrics and the trailer has 7 pin electrics. Use an adapter cable approved by Volvo. Make sure the cable does not drag on the ground.

### Direction indicators and brake lights on the trailer

If any of the trailer's lamps for direction indicators are broken, then the combined instrument panel's symbol for direction indicators flashes faster than normal and the information display shows the text **Trailer indicator malfunction**.

If any of the trailer's lamps for the brake light are broken then the Trailer brake light malfunction text is shown.

# **Trailer weights**

For information on Volvo's permitted trailer weights, see Towing capacity and towball load.

#### (i) Note

The stated maximum permitted trailer weights are those permitted by Volvo. National vehicle regulations can further limit trailer weights and speeds. Towbars may be certified for higher or lower 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.

* Option/accessory.

# 8.6.3. Detachable towbar* - attachment/removal

The attachment/removal of the detachable towbar is performed in the following way:

# Attaching



# 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.



### 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.



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# 8

Safety cable.

#### . Warning

Take care to secure the trailer's safety cable in the intended bracket.
### 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 <u>Detachable towbar</u>* - storage

4



4

Push the protective cover until it snaps tight.

* Option/accessory.

# 8.6.4. Detachable towbar* - storage

Store the detachable towbar in the cargo area.



Towbar storage space.

Important

Always remove the towbar after use and store it in the appointed location in the car.

* Option/accessory.

# 8.6.5. Detachable towbar* - specifications

Specifications for detachable towbar.

### Specifications





The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note. 474 / 962

Dimensions, mounting points (mm)		
A	998	
В	81	
С	854	
D	427	
E	109	
F	282	
G	Side member	
н	Ball centre	

* Option/accessory.

# 8.6.6. Towing bracket/Towbar*

A towing bracket means that it is possible to e.g. tow a trailer behind the car.

If the car is equipped with a detachable/removable towbar, the installation instructions for the loose section must be followed carefully, see <u>Detachable towbar</u>* - attachment/removal.

#### / Warning

If the car is fitted with a Volvo detachable towbar:

- Follow the installation instructions carefully.
- The detachable section must be locked with the key before setting off.
- Check that the indicator window shows green.

### Important checks

The towbar's towball must be cleaned and greased regularly.

#### (i) Note

When a hitch with a vibration damper is used, the towball must not be lubricated.

* Option/accessory.

# 8.6.7. Driving with a trailer* - automatic gearbox

When driving with a trailer in hilly terrain in a hot climate there may be a risk of overheating.

- An automatic gearbox selects the optimum gear related to load and engine speed.
- In the event of overheating a warning symbol is illuminated in the combined instrument panel with a message that is shown in the information display follow the recommendation given.

### **Steep inclines**

• Do not lock the automatic transmission in a higher gear than the engine "can cope with" - it is not always a good idea to drive at a high gear with low engine revolutions.

### Parking on a hill

- 1 Depress the foot brake.
- 2 Activate the parking brake.
- **3** Move the gear selector to position P.
- 4 Release the foot brake.
- Move the gear selector to park position P when parking an automatic car with a hitched trailer. Always use the parking brake.
- Block the wheels with chocks when parking a car with hitched trailer on a hill.

### Starting on a hill

- 1 Depress the foot brake.
- **2** Move the gear selector to driving position D.
- 3 Release the parking brake.
- **4** Release the foot brake and start driving off.
- * Option/accessory.

# 8.6.8. Trailer Stability Assist - TSA^[1]

The trailer stability assist TSA (Trailer Stability Assist) function is designed to stabilise the car and trailer combination if it begins to snake.

TSA- the function is included in the <u>stability system</u>  $ESC^{\lfloor 2 \rfloor}$ .

### **Function**

The snaking phenomenon can occur with any car/trailer combination. Snaking normally occurs at high speeds. But, there is a risk of it occurring at lower speeds (70-90 km/h) if the trailer is overloaded or the load is improperly distributed, e.g. too far back.

In order for snaking to occur, there must be a triggering factor, e.g.:

- в Car with trailer subjected to a sudden and powerful side wind.
- Car with trailer drives on an uneven road surface or in a pothole.
- Sweeping steering wheel movements.

### Operation

If snaking has started, it could be difficult or even impossible to suppress. This makes the car/trailer combination difficult to control and there is a risk that you could, for example, end up in the wrong lane or leave the carriageway.

The trailer stability assist function continually monitors car movements, particularly lateral movements. If snaking is detected, the front wheels are individually braked. This serves to stabilise the car/trailer combination. This is often enough to help the driver regain control of the car.

If snaking is not eliminated the first time the TSA system comes into action, the car/trailer combination is braked with all wheels and engine power is reduced. Once snaking has been gradually suppressed and the car/trailer combination is stable once again, the system stops regulating and the driver once again has full control of the car. For more information, see Electronic stability control (ESC) - operation.

### **Miscellaneous**

TSA can engage within the speed range 60-160 km/h.

#### (i) Note

TSA function is switched off if the driver selects Sport mode, see Electronic stability control (ESC) - general.

TSA may fail to engage if the driver uses sudden steering wheel movements to try to rectify the snaking because, in such a situation, the system cannot determine whether it is the trailer or the driver that is causing the snaking.



The ESC^[2] symbol in the combined instrument panel flashes when the TSA system is working.

- ^[1] Included in the installation of Volvo genuine towbar.
- ^[2] (Electronic Stability Control) Electronic stability control.

# 8.7. Charging the hybrid battery

## 8.7.1. Long-term storage - points to remember

To reduce degradation of the hybrid battery during long-term storage of the vehicle it is recommended that the state of charge remains at 25%.

Proceed as follows:

- Select the "Hybrid" theme for the combined instrument panel. For information on menu navigation, see <u>Combined</u> <u>instrument panel</u>.
- If the state of charge is high run the car until approx. 25% remains. If the state of charge is low press the POWER button and run the car until approx. 25% is achieved. For more information on the drive modes, see <u>Drive system drive modes</u>.
- If storage has lasted longer than 6 months and is intended to continue start the engine in drive mode POWER and leave it running for at least 10 minutes until the state of charge has stabilised at around 25% again (recommended).

If the car has been locked in and could not be run, and the hybrid battery's charge level is significantly below 25% - charge the battery for approx. 45 minutes at the lowest level, depending on the state of charge. Check the charge level continuously in the combined instrument panel, see <u>Charging the hybrid battery - starting</u>.

For handling the starter battery in connection with long-term storage, see Starter battery - general.

#### (i) Note

Choose the coolest location possible for the vehicle in order to minimise aging of the battery during long-term storage. During summer the vehicle should preferably remain indoors or outdoors in the shade, depending on where the temperature is lowest.

#### ( ! ) Important

During long-term storage, the charging cable must not be plugged into the car's charging input socket.

### Old fuel

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

# 8.7.2. Charging current

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

Charging current is used for charging the hybrid battery as well as preconditioning of the car. Charging cable between the car's charging input socket and a 230 VAC socket can be set for different current intensity loads (6-16 A) using the control unit.

When the charging cable is activated the combined instrument panel shows a message and a lamp in the car's charging input socket illuminates. The charging current is mainly used for battery charging, but is also used for preconditioning the car.

#### (!) Important

Never unplug the charging cable from the 230 VAC socket while charging is in progress - there is then a risk of damaging the 230 VAC socket. Always stop charging first, and then disconnect the charging cable.

#### Charging time varies with the amperage setting on the control unit.

#### See examples in the following table:

Current intensity (A) ^[1]	Charging time (hours)
6	7,5–10,0
10	4,5-7,0
16	4,0-5,5

#### (i) Note

- If the weather is very hot or very cold, some of the charging current is used to heat/cool the hybrid battery and the passenger compartment, which results in a longer charging time.
- The charging time is extended if <u>preconditioning</u> has been selected. The time required depends mainly on the outside temperature.



Charging cable plug and charging input socket.

Normally several 230 VAC consumers are included in a fuse circuit, so additional consumers (e.g. lighting, vacuum cleaner, electric drill, etc.) can be on the same fuse.

### Example 1

If the car is connected to a 230 VAC/10 A socket and the control unit is set at 16 A, then the car will attempt to draw 16 A from the 230 VAC mains power circuit - after a while the overloaded 10 A fuse for the socket will be tripped and battery charging stopped.

In which case, reset the fuse for the socket and select a lower charging current on the control unit, see <u>Charging the hybrid bat-</u> tery - preparations.

### Example 2

If the car is connected to a 230 VAC/10 A socket and the control unit is set at 10 A, then the car will draw 10 A from the 230 VAC mains power circuit. If additional consumers are connected to the same socket (or another socket in the same fuse

circuit) then there is a risk that the fuse for the socket/fuse socket will be overloaded and triggered, at which point battery charging is stopped.

In which case, reset the fuse for the socket/fuse circuit and select a lower charging current on the control unit - or disconnect other consumers from the socket.

### Example 3

If the car is connected to a 230 VAC/10 A socket and the control unit is set at 6 A, then the car will only draw 6 A from the 230 VAC mains power circuit. Battery charging will of course take longer, but then additional consumers can be connected at the same time to the same socket (or fuse circuit) as long as the total load does not exceed the capacity of the fuse circuit.

^[1] Maximum charging current may vary depending on market.

# 8.7.3. Charging the hybrid battery - starting

How to start charging the hybrid battery.

() Important

Never connect the charging cable when there is a risk of lightning.

#### (i) Note

Use a charging cable recommended by Volvo in accordance with IEC 62196 and IEC 61851 that supports temperature monitoring.



Take out the <u>charging cable</u> from the storage compartment under the cargo area floor.



1

Connect the charging cable to a 230 VAC socket. Never use an extension cord.

- 2 Set the correct <u>charging current</u> (for current 230 VAC socket) on the control unit.

#### 3

Remove the charging handle's cover and then connect the handle to the car.



#### 4

Location of the charging handle's cover.

#### () Important

To avoid damage to the paint, e.g. in the event of high winds, position the charging handle's protective cover so that it does not touch the car.

The charging cable's charging handle is fastened/locked in, and charging starts after approx. 10 seconds.

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- **5** To check the remaining charging time:
  - Press the remote control key's button for Approach lighting the combined instrument panel then shows the estimated time.

Battery charging can be interrupted for a while if the car is unlocked:

- and the door is opened charging restarts after 2 minutes.
- without the door being opened the car is relocked automatically, see <u>Locking/unlocking from the outside</u>. Charging restarts after 1 minute.

#### (i) Note

Approach lighting must be active in order to show the remaining charging time. Its settings are managed in the menu system <u>MY CAR</u>.

#### (!) Important

Never unplug the charging cable from the 230 VAC socket while charging is in progress - there is then a risk of damaging the 230 VAC socket. Always stop charging first, and then disconnect the charging cable.

**6** When charging is complete (see following below) - open the driver's door. Then the combined instrument panel illuminates and can show information about charge status.



The LED lamps show the current status while charging is in progress. The white, blue, red and yellow lamps are activated when the passenger compartment lighting is switched on - they remain switched on for a while after the passenger compartment lighting has been switched off.

LED lamp glow	Specification
White constant	LED light
Yellow constant	Waiting mode ^[1] - waiting for charging to start.
Green flashing	Charging in progress ^[2] .
Green constant	Charging complete ^[3] .
Blue - flashing or constant	Timer switched on.
Red - flashing, constant	A fault has arisen.

Condensation from the air conditioning may drip under the car during charging. This is normal and takes place due to cooling of the hybrid battery.

- ^[1] For example, after a door has been opened or the charging cable's plug is not locked in.
- ^[2] The slower the flashing, the closer to fully charged.
- ^[3] Extinguishes after a while.

# 8.7.4. Charging the hybrid battery

In addition to the fuel tank, as in a conventional car, the car is equipped with a rechargeable battery - a socalled hybrid battery of the lithium-ion type.

The hybrid battery is charged using a <u>charging cable with control unit</u> which is located in the storage area under the cargo area floor, see <u>Charging cable with control unit</u>.

#### (i) Note

Use a charging cable recommended by Volvo in accordance with IEC 62196 and IEC 61851 that supports temperature monitoring.

The time it takes for the hybrid battery to be charged is dependent on the <u>charging current</u> that is used.

During the charging of the car's hybrid battery the display on the charging cable's control unit shows the current <u>status</u> during an ongoing charging and after charging is complete.

While the hybrid battery is being charged, charging is also in progress for the car's starter battery.

If the hybrid battery's temperature is below -10  $^{\circ}$ C or above 30  $^{\circ}$ C then it may mean that some of the car's functions are changed or unavailable because the capacity of the hybrid batteries is reduced outside this temperature range.

An example of this is the PURE drive mode (see <u>Drive system and drive modes</u>) which is not selectable if the temperature in the battery is too low or high.

### Charging with fixed control unit in accordance with mode 3^[1]

In certain markets the control unit is installed within a charging station connected to the mains power circuit. In which case, the charging cable has no control unit of its own.

Instead, it has a special connector to be used to connect the charging cable to the charging station. Follow the instructions at the charging station.

^[1] European standard - EN 61851-1.

# 8.7.5. Charging cable with control unit - ground fault breaker

The control unit for the <u>charging cable</u> has a built-in ground fault breaker that protects the car and the user from electric shocks caused by system faults.

If the control module's built-in ground fault breaker is tripped then the car symbol illuminates with red constant glow - check the 230 VAC socket.

#### () Important

The control unit's earth fault switch does not protect the 230 VAC socket.

## 8.7.6. Charging the hybrid battery - preparations

Before recharging the car's hybrid battery can be <u>started</u> a number of preparations need to be made.

#### / Warning

- Charging the hybrid battery must only take place from approved grounded 230 VAC sockets.
- The control unit's ground fault breaker protects the car, but there may still be a risk of overloading the 230 VAC mains
  power circuit.
- Avoid visible worn or damaged mains sockets since they may lead to fire damage and/or personal injury if used.
- Never use an extension cable.

#### / Warning

The hybrid battery must only be replaced by a workshop - an authorised Volvo workshop is recommended.

#### **Before charging**

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#### (!) Important

- The control unit should not be flooded or immersed in water.
- Avoid exposing the control unit and its plug to direct sunlight. In such cases, the overheating protection in the plug is at risk of reducing or interrupting the charging of the hybrid battery.

#### () Important

- Check that the 230 VAC socket has adequate power supply for charging electric vehicles in the event of uncertainty • the socket must be checked by a qualified professional.
- If the socket has unknown current intensity use the lowest level on the control unit.

On the <u>charging cable's control unit</u> select the required <u>charging current</u> 6-16 A^[1]. On delivery, the lowest possible charging current is preset.

### Opening/closing the cover for the charging input socket



#### 1 1

Press in the rear section of the cover and release.

#### 2 😫

Open the cover.

#### 3 🚯

Pull away the cover for the charging input socket and secure it in the holder inside the cover. Make sure that the cover's rubber straps are bent downwards in order to prevent the cover coming off from the holder.

Close the cover for the charging input socket in reverse order.

^[1] Maximum charging current may vary depending on market.

# 8.7.7. Charging cable with control unit - status messages

During the <u>charging</u> of the car's hybrid battery the display on the charging cable's <u>control unit</u> shows the current status during an ongoing charging and after charging is complete.

Control unit display	Status	Specification	Recommended action
The indicator for charging current (1) is extinguished. The car symbol (5) illuminates with a constant green glow.	Standby	<ul> <li>The charging cable is connected to the car.</li> <li>Charging is possible but has not yet been activated by the electronics in the car.</li> </ul>	Wait until the battery is fully charged.
Existing current consumption is shown with a green indic- ator (1). The car symbol (5) illuminates with a constant green glow.	Charging in progress.	<ul> <li>The car's electronics have started charging.</li> <li>Charging in progress.</li> </ul>	Wait until the battery is fully charged.
The indicator for charging current is extinguished. The car symbol (5) flashes red.	Charging is not possible.	<ul> <li>There is a communication error between the control unit and the car.</li> <li>The ventilation for the car's electronics is not adequate, not activated or defective.</li> </ul>	<ul> <li>Check all connections or use another 230 VAC socket.</li> <li>Restart the battery charging.</li> </ul>
The car symbol (5) illuminates with a constant red glow.	Charging is not possible.	<ul> <li>The ground fault breaker on the char- ging cable has triggered.</li> </ul>	<ul> <li>Unplug the charging cable from the 230 VAC socket.</li> <li>The ground fault breaker is reset and the unit restarts.</li> </ul>
The indicator (1) for charging current and the house symbol (3) flash red.	Charging is not possible.	Temperature monitoring has triggered for the 230 VAC socket.	Restart charging. If the problem persists - consult a qualified professional.

# 8.7.8. Charging cable with control unit

The charging cable with its control unit is used to charge the car's hybrid battery. Use a charging cable recommended by Volvo.



The charging cable is located in the storage compartment under the cargo area's floor cover.

Specifications, charging cable		
Enclosure class	IP67	
Ambient temperature	-32 ºC to +50 ºC	

#### 🔶 Warning

The charging cable must not be used if any part of it is damaged - there is then the risk of electric shock and serious personal injury.

A damaged or inoperative charging cable must only be repaired by a workshop - an authorised Volvo workshop is recommended.

#### ( ! ) Important

Never unplug the charging cable from the 230 VAC socket while charging is in progress - there is then a risk of damaging the 230 VAC socket. Always stop charging first, and then disconnect the charging cable.

### Control unit



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Control unit display and controls.

1 Indicator^[1] shows selected charging current.

(2) The symbol illuminates when the charging cable is plugged into a 230 VAC socket.

**3** Pushbuttons to increase/decrease the charging current.

4 The symbol illuminates when the charging cable is plugged into the car's 230 VAC input socket.

#### (!) Important

Multiple plugs, overvoltage protection or similar devices must not be used together with the charging cable since this may involve a risk of fire, electric shocks, etc.

An adapter between the 230 VAC socket and charging cable may only be used if the adapter is marked with approval in accordance with IEC 61851 and IEC 62196.

#### (i) Note

The charging cable will remember the last setting of the charging current. It is therefore important to adjust the setting if another 230 VAC socket is used at the next charging.

^[1] Maximum charging current may vary depending on market.

# 8.7.9. Charging the hybrid battery - ending

How to stop charging the hybrid battery.

#### (i) Note

To be able to detach the charging cable glove from the car's 230 VAC intake, the car must first be unlocked using the remote control key/PCC.



#### 1

Unlock the car with the remote control key/PCC* - the charging cable's locked plug releases/is unlocked.





Unplug the cable from the car's electrical input socket, refit the charging input socket's cover and close the hatch, see Charging the hybrid battery - preparations.



#### 3

Unplug the cable from the 230 VAC socket.

Return the charging cable to the storage space under the cargo area floor.

### Charging with the diesel engine



The hybrid battery can also be charged by the car's diesel engine, see Drive systems.

* Option/accessory.

# 8.7.10. Charging cable with control unit - temperature monitoring

In order for the car's hybrid battery to be <u>charged</u> safely every time, the <u>control unit</u> has a built-in monitoring device for the charging current.

The control unit's monitoring device ensures that the permissible <u>charging current</u> is automatically adjusted to take into account the safety aspect. This ensures safe operation without supervision as well as optimised charging time.

#### (i) Note

Use a charging cable recommended by Volvo in accordance with IEC 62196 and IEC 61851 that supports temperature monitoring.

#### **Temperature fuse**

Temperature monitoring is activated automatically when the car's hybrid battery starts charging. If a critical temperature is reached then the charging current is lowered. If this happens repeatedly, then charging is switched off.

#### ( ! ) Important

If the temperature monitoring has automatically lowered the charging current repeatedly and charging has been interrupted then the cause of the overheating must be investigated and rectified.

## 8.8. Recommendations for driving

## 8.8.1. Range for electric operation

The car's range for electric operation is dependent on several factors, such as the number of consumers that are switched on.

#### **Power consumers**

In order to achieve the longest possible mileage for electric operation, the driver of an electric car also has to think about saving <u>current</u>. The more consumers there are (stereo, electric heating in windows/mirrors/seats, very cold air from the climate control system, etc.) that are switched on - the shorter the potential mileage.

To specify the range for electric operation, see <u>Range - specification</u>.

#### (i) Note

In addition to high power output in the passenger compartment, high speed, sudden acceleration, heavy loads and uphill gradients can also reduce the possible driving distance.

#### Longer periods of inactive time

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During normal <u>hybrid battery charging</u> some of the charging current is used to keep the car's drive system ready to drive, mainly to control the hybrid battery's temperature. If the car is not being used for a few days then energy can be saved by not starting preconditioning. If the car is not used for a long time, the hybrid battery performs best if the car is parked in a cool place. For further information about what to consider during longer periods of inactive time, see <u>Long-term storage - points to</u> <u>remember</u>.

# 8.8.2. Driving with open tailgate/boot lid

When driving with the tailgate open, toxic exhaust fumes can be sucked into the car through the cargo area.

#### ∕ !∖ Warning

Do not drive with an open tailgate! Toxic exhaust fumes could be drawn into the car through the cargo area.

## 8.8.3. Planning your driving

It is important to plan carefully when driving in electric mode in order to achieve the longest possible driving distance.

Utilise electric operation as much as possible:

- Find out where the charging stations are located.
- Prioritise choosing a parking space with a charging station.
- Balance electricity consumption with the accelerator pedal, and by these means use the advantages of the electric motor.

#### / Warning

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

#### (i) Note

Make a habit of always starting a journey with fully-charged hybrid battery.

### **Driving techniques**

The electric motor acts as both engine and alternator. During <u>braking</u> the brake force is used to <u>recharge the hybrid battery</u> - energy that otherwise would have been lost as heat energy.

Here is some advice that reduces power consumption (allowing longer possible mileage) without the need for travelling time to increase or driving pleasure to decrease.

- Do not hold the car stationary on a hill with the accelerator pedal. Use the foot brake instead.
- Use engine braking and smooth operation of the foot brake when braking this recharges the hybrid battery and extends the possible mileage with the electric motor.
- High speed increases power consumption considerably due to increased wind resistance doubling speed increases wind resistance 4 times.
- Maintain the car regularly follow Volvo's recommended service intervals.
- Towing another car consumes a lot of electricity use the **AWD** mode. This then charges the hybrid battery, in combination with improving the car's driving characteristics and roadholding, see <u>Drive system drive modes</u>.

#### **Outside temperature**

The electric motor, electronics and batteries work best at approx. 25 °C. When the car is connected to an electrical socket it is <u>conditioned</u> to its optimal temperature range. If the car is started in cold weather or goes beyond its permitted temperature range while driving then the fuel heater starts and, if required, the internal combustion engine starts automatically so that heating takes place. The car can be driven electrically but with reduced power if the temperature becomes too low.

Similarly, the system may need to be cooled down when driving in hot conditions.

(i) Note

If the outside temperature drops extremely low then the petrol engine will always be running.

#### **Power consumers**

The more power consumers in the car that are switched on (e.g. stereo, electrically heated windows, door mirrors, seats, etc.) the higher the energy consumption.

# 8.8.4. Driving in water

Driving in water means that the car is driven through a water-covered roadway. Driving in water must be carried out with great caution.

The car can be driven through water at a maximum depth of 25 cm at a maximum speed of walking pace. Extra caution must 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.

Damage to any component, engine, transmission, turbocharger, differential or its internal components caused by flooding, hydrostatic locking or oil shortage, is not covered by the warranty.

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.

* Option/accessory.

# 8.8.5. Before a long journey

Before a long journey, it makes good sense to go through the following points:

- Check that the engine is working normally and that <u>fuel consumption</u> 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.

# 8.8.6. Overload - starter battery

The electrical functions in the car load the <u>starter battery</u> to varying degrees. Avoid using the <u>key position II</u> when the engine is switched off. Instead use position I - 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
- headlamps
- windscreen wiper
- audio system (high volume).

If the starter battery voltage is low then the combined instrument panel's information display shows the text **Low battery charge 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. 1 In which case, charge the starter battery by starting the engine and then running it for at least 15 minutes - starter battery charging is more effective during driving than running the engine at idling speed while stationary.

# 8.8.7. Winter driving

For winter driving it is important to perform certain checks in order to ensure that the car can be driven safely.

Check the following in particular before the cold season:

- The engine <u>coolant</u> must contain 50% glycol. This mixture protects the engine against frost erosion down to approximately –35 °C. To avoid health risks, 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 <u>Engine oil - adverse driving</u> <u>conditions</u>.

#### ( ! ) Important

Low viscosity oil must not be used for hard driving or in hot weather.

- The condition of the starter battery and charge level must be inspected. Cold weather places great demands on the starter battery and its capacity is reduced by the cold.
- Use <u>washer fluid</u> to avoid ice forming in the washer fluid reservoir.

To achieve optimum roadholding Volvo recommends using winter tyres on all wheels if there is a risk of snow or ice.

#### (i) 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.

# 8.8.8. Overheating

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.

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For information about overheating when driving with a trailer, see <u>Driving with a trailer</u>*.

- Remove any auxiliary lamps from in front of the grille when driving in hot climates.
- If the temperature in the engine's cooling system is too high then a warning symbol is illuminated in the combined
  instrument panel's information display and a text message High engine temperature Stop safely is shown there stop the
  car in a safe way and allow the engine to run at idling speed for several minutes in order to cool down.
- If the text message High engine temperature Turn off engine or Engine coolant level low Stop safely is shown then the engine must be switched off after stopping the car.
- In the event of overheating in the gearbox a built-in protection function is activated which, amongst other things, illuminates a warning symbol in the combined instrument panel, and its display shows the text message Transmission hot Reduce speed or Transmission hot Stop safely Wait for cooling follow the recommendation given and lower the speed and stop the car in a safe way and allow the engine to run at idling speed for a few minutes in order to allow the gearbox to cool down.
- If the car overheats, the air conditioning may be switched off temporarily.
- Do not turn the engine off immediately you stop after a hard drive.

#### (i) Note

It is normal for the engine's cooling fan to operate for a time after the engine has been switched off.

* Option/accessory.

## 8.9. Refuelling

### 8.9.1. Fuel filler flap - manual opening

The fuel filler flap can be opened manually when electric opening from the passenger compartment is not possible.



- Open/remove the side hatch in the cargo area (same side as fuel filler flap).
- Expand/open a perforated section in the isolation and locate a green cord with handle.
- 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.

# 8.9.2. Fuel tank - volume

Fuel tank volume for each respective engine alternative can be read in the table.

Engine	Volume (litres)	Prescribed grade
All	approx 45	Fuel - diesel

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# 8.9.3. Fuel consumption and CO2 emissions

Fuel consumption in a vehicle is measured in litres per 100 km and CO2 emissions in grams per km.

Explanation		
CO ₂	gram/km	
Ø	litre/100 km	
	Combined driving	
aut	Automatic gearbox	

#### (i) Note

If the consumption and emission data is missing then it is included in the enclosed supplement.



Fuel consumption and emission values in the table above are based on specific EU cycles^[1], that apply to cars with kerb weight in the basic version and without extra equipment. The car's weight may increase depending on equipment. This, as well as how heavily the car is loaded, increases fuel consumption and carbon dioxide emissions.

There are several reasons for increased fuel consumption compared with the table's values. Examples of this are:

- The driver's driving style.
- If the customer has specified wheels larger than those fitted as standard on the model's basic version, then resistance increases.

- High speed results in increased wind resistance.
- Fuel quality, road and traffic conditions, weather and the condition of the car.

Even a combination of the above-mentioned examples can result in significantly improved consumption. For further information, please refer to the regulations referred to ^[1].

Large deviations in fuel consumption may arise in a comparison with the EU driving cycles^[1] which are used in the certification of the car and on which the consumption figures in the table are based.

#### (i) 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.

^[1] Official fuel consumption figures are based on two standardised driving cycles in a laboratory environment ("EU driving cycles") all in accordance with EU Regulation no 692/2008 and 715/2007 (Euro 5 / Euro 6) and UN ECE Regulation no 101. The regulations cover the driving cycles for urban driving and extra-urban driving. - Urban driving - the measurement starts with cold starting the engine. The driving is simulated. - Extra-urban driving - the car is accelerated and braked at speeds between 0-120 km/h. The driving is simulated. - Cars with manual gearbox are started in 2nd gear (applies to cars with up to 18-inch wheels). The value for combined driving, which is reported in the table, is a combination of urban driving and extra-urban driving, in accordance with legal requirements. CO2 emissions - the exhaust gases are collected in order to calculate the carbon dioxide emissions during the two driving cycles. These are then analysed and give the value for CO₂ emissions.

## 8.9.4. Filling up with fuel

Important things to consider when refuelling.

### Opening/closing the fuel cap



The fuel filler cap can be attached onto the flap.

A certain overpressure may arise in the tank in the event of high outside temperatures. Open the cap slowly.

After refuelling - refit the cap and turn it until one or more clicking sounds are heard.

### Filling up with fuel

Do not overfill the tank but fill until the pump nozzle cuts out.

#### (i) Note

Excess fuel in the tank can overflow in hot weather.

### Filling with a fuel can^[1]

When filling with a fuel can, use the funnel located under the floor hatch in the cargo area.

Make sure you insert the funnel's pipe firmly into the filler pipe. The filler pipe has an openable cover and the funnel's pipe must be slid past the cover before filling can begin.

^[1] Only applies to cars with diesel engine.
# 8.9.5. Fuel filler flap - Opening/closing

The fuel filler flap can be opened/closed as follows:

# 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.



• Close the fuel filler flap by pressing it in until a click confirms that it is closed.

# 8.10. Gearbox

# 8.10.1. Gear shift indicator*

The gear shift indicator notifies the driver when it is appropriate to engage the next higher or lower gear.

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

An indicator is available as an aid on certain variants - GSI (Gear Shift Indicator) - which notifies the driver when it is appropriate to engage the next higher or lower gear in order to obtain the lowest possible fuel consumption.

However, taking into consideration characteristics such as performance and vibration-free running, it may be advantageous to change gear at a higher engine speed. The framed number indicates the current gear.

## Automatic gearbox



Combined instrument panel "Digital" with gear shift indicator.

The framed number indicates the current gear.

* Option/accessory.

# 8.10.2. Gearboxes

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

With the gear selector in manual gear position (+/-) the internal combustion engine is permanently in operation. The driver must then change manually and the car engine brakes when the accelerator pedal is released, see Automatic gearbox --Geartronic.

### (!) Important

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

# 8.10.3. Automatic gearbox -- Geartronic

The Geartronic gearbox has two different gear modes - Automatic and Manual.



D: Automatic gear positions. +/-: Manual gear positions. S: Sport mode  $^{[1]}$  .

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

## **Gear positions**



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

# Parking position - P

Select  ${\mathsf P}$  position when starting the engine or when the car is parked.

In order to be able to move the gear selector from the P position, the brake pedal must be depressed and key position must be II, see <u>Key positions - functions at different levels</u>.

## i Note

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

The gearbox is mechanically blocked when the P position is engaged. Also apply the <u>parking brake</u> when the car is parked.

## (i) Note

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

## () Important

The car must be stationary when position P is selected.

## 

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

## **Reverse position - R**

The car must be stationary when  ${\sf R}$  position is selected.

## **Neutral position - N**

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

In order to be able to move the gear selector from N to another gear position, the brake pedal must be depressed and key position must be II, see <u>Key positions - functions at different levels</u>.

# Drive position - D

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

# Geartronic - Manual gear positions (+S-)

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



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

 Move the lever 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 "+S-" 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.

## Geartronic - Winter mode

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

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

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

## Kick-down

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

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

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

### Safety function

To prevent overrevving the engine, the gearbox control program has a protective downshift inhibitor which prevents the kickdown 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.

## Towing

If the car has to be towed - see important information in the section Towing.

- * Option/accessory.
- ^[1] Not possible in a V60 Plug-in Hybrid.

# 8.10.4. Gear selector inhibitor

There are two different types of gear selector inhibitor - mechanical and automatic.

## Mechanical gear selector inhibitor



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M: Manual shifting^[1] - "+/-"- or "-Sport mode^[2].

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

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

## Automatic gear selector inhibitor

The automatic gearbox has special safety systems:

### Parking position (P)

Stationary car with engine running:

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

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

In order to be able to move the gear selector from P to other gear positions, the brake pedal must be depressed and the key position must be ||.

### Shiftlock – Neutral (N)

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

In order to be able to move the gear selector from the N position to another gear position, the brake pedal must be depressed and the key position must be II.

## Deactivate automatic gear selector inhibitor



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

### 1 💵

Lift the rubber mat in the compartment behind the centre console and locate a hole^[3] for the <u>key blade</u> in the bottom of the compartment.

### 2 😫

Search for a spring-loaded button down in the hole with the key blade; depress the button with the blade and hold.

### 3 🚯

Move the gear selector from the  ${\sf P}$  position and pull up the key blade.

4 Set the rubber mat back in place.

^[1] The illustration is schematic.

^[2] Not on V60 PLUG-IN HYBRID.

^[3] There may be 2 holes - one for the key blade and one that fixes the rubber mat.

# 8.11. All-wheel drive - (AWD)

Optimal traction is achieved with all-wheel drive.



Use this button on the centre console to activate all-wheel drive (AWD – All Wheel Drive), see <u>Drive system - drive</u> <u>modes</u>. The mode is primarily intended for use at low speed in slippery driving conditions. All-wheel drive also has a stabilising effect at higher speeds.

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

# 8.12. Eco guide & Hybrid guide

Eco guide and Hybrid guide are two <u>combined instrument panel</u> instruments which help the driver to drive the car with optimum driving economy.

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

# Eco guide

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



1 Instantaneous value 2 Average value

### Instantaneous value

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

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

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

Very low instantaneous values illuminate the red zone on the meter (with a short delay), which means poor driving economy and hence should be avoided.

### Average value

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

## Hybrid guide

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

To view this function, select the theme "Hybrid" or "Performance", see Digital combined instrument panel - overview.



1 Driver-requested power

2 Available electric motor power

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

### Driver-requested power

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

### Available electric motor power

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

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

# 8.13. Steering lock

The steering lock makes steering difficult if the car is e.g. taken unlawfully. A mechanical noise may be noticed when the steering lock unlocks or locks.

# Function

- The steering lock is activated when the driver's door is opened after the engine has been switched off.
- The steering lock is deactivated when the remote control key is in the ignition switch^[1] and the START/STOP ENGINE button is depressed.

^[1] Cars with Keyless drive only need to have a remote control key inside the passenger compartment.

# 8.14. Switching off the engine

The engine is switched off using the START/STOP ENGINE button.



To stop the engine:

• Press START/STOP ENGINE - the engine stops.

If the gear selector is not in  ${\sf P}$  position or if the car is moving:

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

# 8.15. Hill start assist (HSA)*

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

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

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

* Option/accessory.

# 8.16. Jump starting with battery

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



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

1 Set the car's electrical system in key position 0, see <u>Key positions - functions at different levels</u>.

### () Important

After key position 0: Wait approx. 2 minutes before connecting the donor battery, in order to allow the control system to first set the necessary parameters.

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

### ! Important

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



Open the clips on the front cover of the battery in your car 1 and remove the cover.

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

### (i) Note

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

## Important

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

12 Remove the jump leads in reverse order - first the black and then the red.

- Make sure that none of the black jump lead's clamps comes into contact with the battery's positive terminal or the clamp connected to the red jump lead.
- **13** Refit the front cover for the battery in your car.

### / Warning

- The battery can generate oxyhydrogen gas, which is highly explosive. A spark can be formed if a jump lead is connected incorrectly, and this can be enough for the battery to explode.
- The battery contains sulphuric acid, which can cause serious burns.
- If sulphuric acid comes into contact with eyes, skin or clothing, flush with large quantities of water. If acid splashes into the eyes seek medical attention immediately.

# 8.17. Starting the engine

The engine is started and switched off using the remote control key and the START/STOP ENGINE button.



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

### (!) Important

Do not press in the remote control key incorrectly turned - hold the end with the detachable key blade, see Detachable key blade - detaching/attaching.

- 1 Insert the remote control key in the ignition switch and press it in to its end position. Note that if the car is equipped with alcohol lock* then a breath test must first be approved before the engine can be started. For more information on the Alcohol lock, see <u>Alcohol lock</u>*.
- Depress the brake pedal fully^[1]. 2
- Press the START/STOP ENGINE button and then release it. 3

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

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

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

### (!) Important

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

### /!\ Warning

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

## Warning

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

#### (i)Note

The idling speed can be noticeably higher than normal for certain engine types during cold starting. This is done in order 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 keyless starting of the engine.

### (i) Note

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

#### Warning /!\

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

## * Option/accessory.

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

# 9.1. Bluetooth handsfree phone

# 9.1.1. Bluetooth[®] handsfree phone - audio settings

It is possible to adjust the call volume, audio system volume and ring signal volume.

## Phone call volume

The phone call volume can only be changed during a call. Use the steering wheel keypad or turn the VOL control.

## Audio system volume

Providing there is no ongoing call taking place, the audio system volume is controlled as usual by turning VOL.

If an audio source is active on receipt of an incoming call then it is muted automatically.

## **Ring signal volume**

The ring signal volume can be changed by pressing the SOUND button, turning TUNE to **Ringtone volume** and pressing OK/MENU. Adjust the ring signal volume by turning TUNE and save the setting with OK/MENU.

## **Ring signals**

The handsfree-function's built-in ring signal is used for incoming calls.

### (i) Note

For certain mobile phones the connected mobile phone's ring signal is not switched off, and is then used at the same time as the handsfree system's built-in signal.

# 9.1.2. Changing to another Bluetooth[®] device

It is possible to change from a connected device to another one if there are several devices in the car. The device must first have been <u>registered</u> to the car.

## Changing media device

- 1 Check that the external device has Bluetooth[®] activated, see the external device's manual.
- 2 In the normal view for the Bluetooth[®] media source, press OK/MENU and select Change device.
- > The car searches for previously connected devices. The external devices detected are specified with their respective Bluetooth[®] name in the display screen.
- **3** Select the device to be connected.
- > Connection of the external device takes place.

## **Changing phone**

- 1 Check that the external device has Bluetooth[®] activated, see the external device's manual.
- 2 In the normal view for the phone source, press OK/MENU and select Change phone.
- > The car searches for previously connected devices. The external devices detected are specified with their respective Bluetooth[®] name in the display screen.
- **3** Select the device to be connected.
- > Connection of the external device takes place.

# 9.1.3. Symbols in the screen

### Overview of the symbols that can be shown in the screen's activity/status field.



Activity/status field.

The activity/status field shows what the ongoing activities are, and in some cases their status. Not all activity/status symbols are shown all the time due to the limited space in the field.

Symbol	Specification
S	Connects to the Internet via Bluetooth [®] .
*	Connected to the Internet via Bluetooth [®] .
×	Not connected to the Internet via Bluetooth [®] .
C ^{II}	Connects to the Internet via Wi-Fi.
•1)])	Connected to the Internet via Wi-Fi.
<b>X</b>	Not connected to the Internet via Wi-Fi.
	Connects to the Internet via car modem * ^[1] . The bars show the signal strength in the mobile phone network and the type of connection is shown below the bars.
.11 3G	Connects to the Internet via car modem * ^[1] .
XI 3G	Not connected to the Internet via car modem * ^[1] .
R 3G	Car modem $*$ ^[1] connected to the Internet via roaming (for use within networks abroad).
	The symbol is shown when the car's location is transmitted.
~	Phone connected to the car.
	Missed call.
6	Call in progress.
	Unread text message.

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Symbol	Specification
×	Microphone switched off.
Ø	Audio muted (MUTE).
SOS	SOS service * ^[1] active.
ON CALL	ON CALL service * ^[1] active.

- * Option/accessory.
- ^[1] Only cars with Volvo On Call.

# 9.1.4. Bluetooth[®] handsfree phone

A mobile phone equipped with  $\mathsf{Bluetooth}^{^{(\! 0\!)}}$  can be connected wirelessly to the car.



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Phone functions, controls overview.

The device must first be registered and connected to the car.

The audio and media system acts as handsfree, with the facility to remotely control a selection of the mobile phone's functions. The mobile phone can still be operated with its own keys when it is connected to the car.

When a mobile phone is connected to the car, it is also possible to simultaneously stream audio files from the phone or other Bluetooth[®]-connected media device, see <u>Media Bluetooth[®]</u>. Change between the main sources TEL and MEDIA to manage each source's functions.

## (i) 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 for information on compatible phones.

## Activate



A short press on TEL activates last connected phone. If a phone is already connected, and TEL is pressed, a shortcut menu is shown with commonly used menu options for the phone. The **constant** symbol indicates that a phone is connected.

## To call

- Make sure that the constraints symbol appears at the top of the screen and that the handsfree function is in phone mode. 1
- Dial the number required, or in normal view turn TUNE to the right to access the phone book and to the left for the call 2 register for all calls.
- 3 Press OK/MENU to call the selected contact or number from the call register.

The call is interrupted with EXIT.

## Reading a text message^[1]

The car mirrors the connected mobile phone's text messages.

If a connected telephone receives a text message the symbol 🚝 is shown at the top of the screen.

- Press TEL and then press OK/MENU in order to access Phone menu. 1
- Turn TUNE to Messages and press OK/MENU. 2
- Turn TUNE to the message to be read out and press OK/MENU. 2
- The message is shown on the screen.
- Pressing OK/MENU accesses the message menu with options to e.g. allow the system voice to read out the message^[2], call the sender of the message or delete the message.

If the main source TEL is already active then a pop-up menu with new messages is shown on the screen. Pressing OK/MENU shows the selected message while the system voice reads it out at the same time^[2]. The reading is interrupted with EXIT.

The pop-up menu and the notification sound can be switched off under Phone menu  $\rightarrow$  Message notifications.

## (i) Note

To show the connected mobile phone's messages in the car, mirroring must be accepted in the mobile phone when it is connected. Depending on the mobile phone, this can be activated by means of the following:

- a pop-up box or a notification is shown and accepted in the phone.
- accept sharing of information in the phone's settings for the Bluetooth® connection to the car.

In some cases it may be a requirement that the mobile phone is disconnected and reconnected to the car in order for mirroring to be activated.

^[1] Not supported by all mobile phones.

# 9.1.5. Registering a Bluetooth[®] device

It is possible to have two Bluetooth[®] devices connected simultaneously. One phone and one media device, which you can switch between. It is also possible to call with the phone and simultaneously stream audio files. It is possible to <u>connect the car to the Internet</u> via the mobile phone's Internet connection.

A maximum of 15 Bluetooth[®] devices can be registered. Registration is performed once per device. After registration the device no longer needs to be visible/searchable, but only has Bluetooth[®] activated.

## (i) Note

If the phone's operating system is updated then it is possible that the registration of the phone is interrupted. In which case, disconnect the phone, see <u>Removing a Bluetooth[®] device</u> and then reconnect it.



Connecting an external device takes place in different ways depending on whether or not the device has been connected previously. The connection options below presume that this is the first time the device is being connected (registered) and that no other device is connected. The connection options show the connection of a phone. Connecting a <u>media device</u> is performed in the same way, but starting from the main source MEDIA.

There are two possible ways of connecting devices, either search for the external device from the car, or search for the car from the external device. If one option does not work then try with the other.

### If you are not already in the normal view for the phone, press TEL in the centre console.



Example of normal view for the phone.

## Alternative 1 - search for the external device via the car's menu system

- 1 Make the external device searchable/visible via Bluetooth[®], see the external device's manual or <u>www.volvocars.com</u>.
- 2 In the normal view for the phone source, press OK/MENU and select Search new phone (for media device Search new device).
- > The car will now search for available Bluetooth[®] devices, which can take approx. one minute.
- 3 Select the Bluetooth[®] device to be connected from the list, press OK/MENU.
- **4** Check that the specified number code in the car matches that in the external device. In which case, choose to accept in both places.
- 5 Choose to accept or reject any options for contacts and messages in the phone.
- > The external device is now connected.

If the connection failed, press EXIT and connect the device as described under Alternative 2.

## Alternative 2 - Search for the car with the Bluetooth[®] function of the external device

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- 1 In the normal view for the phone source, press OK/MENU, select Make car discoverable and confirm with OK/MENU.
- **2** Search with the external device for  $\mathsf{Bluetooth}^{\circ}$  devices.
- > The device will now search for available Bluetooth[®] devices, which can take approx. one minute.
- 3 Select the car's name on the external device's screen.
- 4 Check that the specified number code in the car matches that in the external device. In which case, choose to accept in both places.
- 5 Choose in the phone to accept or reject any options for phone contacts and messages.
- > The external device is now connected.

When the external device is connected, the external device's Bluetooth[®] name is shown in the car's display screen and the device can be controlled from the car.

# 9.1.6. Remote control*

The remote control can be used for all functions in the <u>audio and media system</u>. The remote control's buttons

have the same functions as the buttons in the centre console or steering wheel keypad.



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When using the remote control, first press the remote control's button  $L_{a}^{b}$  to position **F**. Then aim the remote control at the IR receiver, which is located to the right of the INFO <u>button</u> in the centre console.

### ✓ Warning

Keep loose objects such as mobile phones, cameras, remote controls for accessories, etc. in the glove compartment or other compartments. Otherwise they may injure people in the car in the event of sudden braking or a collision.

### (i) Note

Do not expose the remote control to direct sunlight (e.g. on the instrument panel) - otherwise problems may arise with the batteries.

* Option/accessory.

# 9.1.7. Phone book

The car mirrors the connected mobile phone's phone book and only shows this phone book when the mobile phone is connected.

All use of the phone book requires that the *symbol* appears at the top of the display screen and that the handsfree function is in phone mode.

If the phone book contains a ringing caller's contact information then this is shown in the display screen.

### (i) Note

To show the connected mobile phone's phone book in the car, mirroring must be accepted in the mobile phone when it is connected. Depending on the mobile phone, this can be activated by means of the following:

- a pop-up box or a notification is shown and accepted in the phone.
- accept sharing of information in the phone's settings for the Bluetooth[®] connection to the car.

In some cases it may be a requirement that the mobile phone is disconnected and reconnected to the car in order for mirroring to be activated.

# 9.1.8. Disconnecting the Bluetooth[®] device

When the Bluetooth[®] device is out of range of the car it is automatically disconnected.

When the mobile phone has been disconnected an ongoing call can continue by using the mobile phone's built-in microphone and speaker.

The handsfree function is deactivated when the engine is switched off and the door is opened^[1].

To deregister a Bluetooth[®] device from the car, see <u>Removing a Bluetooth[®] device</u>. The car will then not search for the device automatically.

^[1] Only Keyless Drive.

# 9.1.9. Making and receiving calls

Functions for handling phone calls.

## **Incoming call**

1 Press OK/MENU to answer incoming call. The function is active even if the audio system is in e.g. RADIO or MEDIA mode.

Refuse or end with EXIT.

## In call menu

In the normal view for the phone source, one press on OK/MENU during the current call gives access to the following functions:

- **Mobile phone** the call is transferred from handsfree to the mobile phone. For some mobile phones the connection is interrupted. This is normal. The handsfree function asks if you want to reconnect.
- Mute microphone audio system microphone is muted.
- Dial number option to call a third party using the number keys (current call set in standby).

# Call register

The call register is mirrored in the handsfree function at each new connection and is then updated during the connection. In the normal view for the phone source, turn TUNE to the left to see the call register.

In the normal view for the phone source, you can see the call register for the connected phone by pressing OK/MENU and then selecting **Call list**.

## (i) Note

To show the connected mobile phone's call register in the car, mirroring must be accepted in the mobile phone when it is connected. Depending on the mobile phone, this can be activated by means of the following:

- a pop-up box or a notification is shown and accepted in the phone.
- accept sharing of information in the phone's settings for the Bluetooth® connection to the car.

In some cases it may be a requirement that the mobile phone is disconnected and reconnected to the car in order for mirroring to be activated.

# 9.1.10. Removing a Bluetooth[®] device

It is possible to remove (deregister) a Bluetooth[®] device from the car. The car will then not locate the device automatically.

## Removing a media device

In the normal view for the Bluetooth[®] media source, press OK/MENU and select Change device  $\rightarrow$  Delete device.

## **Removing a phone**

In the normal view for the phone source, press OK/MENU and select Change phone  $\rightarrow$  Delete device.

# 9.1.11. Bluetooth[®] handsfree phone - overview

System overview for Bluetooth[®] handsfree phone.



```
System overview
```

- 1 Mobile phone
- 2 Microphone
- 3 Steering wheel keypad
- 4 Centre console control panel

# 9.1.12. Automatic connection of Bluetooth[®] device

When a Bluetooth[®] device is <u>registered</u> in the car the last external device connected is connected automatically when the car is started.

When the Bluetooth[®] function is active and the last device connected is in range it is connected automatically. If the last connected device is not available then the system will try to connect an previously connected device.

To connect to another device, press EXIT, select to <u>connect a new device</u> or <u>change to another already registered device</u>.

# 9.1.13. Connecting and disconnecting a Bluetooth[®] device

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note. 539 / 962 The car is equipped with Bluetooth[®] and can wirelessly communicate with other Bluetooth[®] devices after registration and connection.

A maximum of 15 Bluetooth[®] devices can be registered. Registration is performed once per device. After registration the device no longer needs to be visible/searchable, but only has Bluetooth[®] activated.

When the Bluetooth[®] function is active and the last device connected is in range it is automatically connected to the car when it is started. The name of the connected device is shown in the source's normal view. To connect to another device, press OK/MENU and select <u>change device</u>.

When the Bluetooth[®] device is out of range of the car it is automatically disconnected. To manually disconnect a device - deactivate Bluetooth in the device. If you want to deregister a Bluetooth[®] device from the car, select <u>Removing a Bluetooth[®] device</u>. The car will then not search for the device automatically.

It is possible to have two Bluetooth[®] devices connected simultaneously. One phone @ and one media device ), which you can <u>switch between</u>.

	Change phone	
AL AL	Search new device	
*	Make car discoverable	•
	Fredrik (Galaxy S4)	
	GT-19300	
	iPhoneFred	
	Xperia arc	•
	Connect device	G050251

Phone connected as both phone and as media device.

# 9.2. CD/DVD
# 9.2.1. Random selection of disc track or audio file

This function plays the tracks/audio files in random order^[1].

To listen to the tracks/audio files in random order for the selected source:

- 1 Press OK/MENU in the normal view for the selected source
- 2 Turn TUNE to Shuffle
- **3** Press OK/MENU to activate/deactivate the function.

^[1] Does not apply to DVD video discs. For externally connected audio sources via the AUX/USB input this only applies to USB and iPod[®]. Not supported by all mobile phones.

# 9.2.2. CD/DVD

Media player can play back pre-recorded and burned CD/DVD discs.

The media player supports and can play the following main types of discs and files:

- Pre-recorded CD/DVD discs (CD/DVD Audio).
- Pre-recorded DVD-Video discs (DVD Video).
- Burned CD-/DVD discs with audio files.

For more information about the supported formats, see compatible file formats.

A disc may contain a maximum of 5000 files (including playlists) in order to be playable.

### (i) Note

Some audio files that are copy-protected by record companies or privately copied audio files cannot be loaded by the player.

It is possible to copy music from disc^[1] to the car's <u>hard disk drive (HDD)</u> and then play it back from there.

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

For basic information on playback and navigation, read <u>how the system is operated and menu navigation</u>. See below for a more detailed description.

### Playback and navigation of CD/DVD Audio

In the normal view for the disc source, press OK/MENU and turn TUNE to access the disc's track structure. Navigate in the structure by turning TUNE.

Start playback of a track by pressing OK/MENU.

### Playback and navigation of burned CD/DVD discs

If a disc with audio/video files is inserted into the player then the disc's folder structure needs to be loaded. Depending on the quality of the disc and the quantity of information there may be a certain delay before playback starts.

In the normal view for the disc source, press OK/MENU and turn TUNE to access the disc's folder structure or to browse the categories. Navigate in the structure by turning TUNE, select folder using OK/MENU and go back in the structure using EXIT.

Start playback of a file by pressing OK/MENU.

When the playback of a file is finished the playback of the other files in the same folder continues. Folder change takes place automatically when all files in the current folder have been played back.

### Playback and navigation of DVD Video

To manage DVD Video, see <u>Playback and navigation of DVD video discs</u>.

### Media search

There is the option to search for music in your devices. The search scans through USB, disc and the hard disk drive. Read more about the <u>search function</u>.

^[1] Certain markets.

# 9.2.3. Fast forward/reverse

It is possible to fast forward/rewind audio and video files^[1].

Hold the button for 🗹 / 📂 depressed in order to fast forward/rewind audio or video files forward/backward.

Audio files are fast forwarded/rewound at one speed, while video files can be fast forwarded/rewound at several speeds. Repeatedly press the buttons 🖂 / 📂 to increase the fast forward/rewind speed for video files. Release the button to return to viewing at normal speed.

* Option/accessory.

^[1] Only applies to CD/DVD* discs, USB and iPod[®].

# 9.2.4. Playback and navigation of DVD video discs

When playing back a DVD video disc a disc menu may appear on the display screen. The disc menu gives access to additional functions and settings, such as selecting subtitles, language and scene selection. For basic information on playback and navigation, read <u>how the system is operated and menu navigation</u>. See below for a more detailed description.

### (i) Note

A video film is only shown when the car is stationary. When the car is moving at a speed of over about 8 km/h no picture is shown and **Video unavailable at this speed** appears on the display screen, although the audio is heard during this time. The picture is shown again as soon as the car's speed falls below about 6 km/h.

### Navigation in the DVD video disc's menu



Navigation in the DVD video disc's menu is performed using the number keys in the centre console as illustrated above.

### Changing chapter or title

Turn TUNE to access the list of chapters and navigate through them (if the film is being played back then it is paused). Press OK/MENU to select the chapter, this also leads back to the original position (if the film was being played back then it is restarted). Press EXIT to access the title list.

Titles are selected in the title list by turning TUNE and the selection is confirmed with OK/MENU, this also leads back to the chapter list. Press OK/MENU to activate the selection and return to the start position. Use EXIT to cancel the selection and this leads back to the original position (without any selection being made).

The chapter can also be changed by pressing on K / K in the centre console or the steering wheel keypad.

# 9.2.5. Media player - compatible file formats

The media player can play back a variety of file types and is compatible with the formats in the following tables.

### Compatible file formats for CD/DVD discs

### (i) Note

Dual format, double-sided discs (DVD Plus, CD-DVD format) are thicker than regular CD discs and therefore playback cannot be guaranteed and malfunction may arise.

If a CD contains a mixture of MP3 and CDDA tracks, all MP3s will be ignored.

Audio format	CD audio, mp3, wma, aac, m4a
Video format	DVD Video

### Compatible file formats via USB connection

Audio and video files in the following table are supported by the system for playback via the USB connection.

Audio format	mp3, mp4, wma, aac, m4a, m4b
Video format	-

### Audio specifications for MP3 file format

Format	kHz	kbps
MPEG-1/Audio	32	32-320 ^[1]
	44.1	32-320 ^[1]
	48	32-320 ^[1]
MPEG-2/Audio	16	8–160
	22.05	8–160
	24	8–160
MPEG-2.5/Audio	8	8-64
	11.025	8-64
	12	8-64

### Audio specifications for .wma file format

For the file to be played back, the following criteria must be met:

### Audio specifications for .aac file format

For the file to be played back, the following criteria must be met:

Audio format	MPEG-2 and MPEG-4
Audio sampling rate	8-96 kHz
Audio channels (ch)	1ch and 2ch

### Audio specifications for .wav file format

For the file to be played back, the following criteria must be met:

Audio sampling rate	Up to 44.1 kHz
Audio channels (ch)	1ch and 2ch
Audio bit rate	16 kbps for 1ch

The .wav file format also supports the PCM format.

^[1] Does not apply to 144 kbps.

### 9.2.6. Camera angle for playback of DVD video discs

If the DVD video disc supports it, the function can be used to choose from which camera position a particular scene should be shown.

1 In the normal view for the disc source, press OK/MENU and select Advanced settings → Angles.

### 9.2.7. Picture settings

You can adjust the display settings (when the car is stationary) for brightness and contrast.

¹ In playback mode, press OK/MENU and select Image settings, confirm with OK/MENU.

**²** Turn TUNE to the adjustment option and confirm with OK/MENU.

**3** Adjust the setting by turning TUNE and confirm with OK/MENU.

To return to the settings list, press the OK/MENU or EXIT.

## 9.2.8. Media search

There is the option to search for music in your devices. The search seeks through USB, disc and hard disc drive.

Media search is available from the normal view for the sources Disc, USB and HDD.

To start the search, in the normal view for the source, press OK/MENU and select Media search.

### Search function



Searching using the character wheel.

1 Character list.

**2** Changing the input mode (see following table).

Use the character wheel to enter search terms.

Turn TUNE to the desired letter, press OK/MENU to confirm. The number and letter buttons on the control panel in the 1 centre console can also be used.

To change the input mode to numbers or special characters, or to go to the results list, turn TUNE to one of the options (see explanation in the following table) in the list for changing the input mode (2), press OK/MENU.

- Continue with the next letter and so on. 2
- When you are satisfied with your search term, select Search. 3
- > Search is carried out. The result is shown and grouped in the following categories: artist, album, track, genre, year and composer.
- Turn TUNE to a category, press OK/MENU. 4
- Turn TUNE in order to select a media, press OK/MENU to start playback. 5

123/ABC	Change between letters and numbers with OK/MENU.
MORE	Change to special characters with OK/MENU.
Search	Carry out media search.
{ }	Changes from the character wheel to the Keyword: field. Move the cursor with TUNE. Delete any misspelling with EXIT. To return to the character wheel, press OK/MENU.
	Note that the digit and letter buttons on the control panel can be used for editing in the Keyword: field.

A short press on EXIT deletes an input character. A long press on EXIT will clear all entered characters.



Numerical keyboard.

Another way of entering characters is to use the centre console's buttons 0-9, * and #.

When e.g. **9** is pressed, a bar appears with all characters^[1] under the buttons, e.g. **W**, **x**, **y**, **z** and **9**. Quick presses on the button move cursor through these characters.

- Stop with the cursor on the desired character in order to select it the character is shown on the enter line.
- Delete/change using EXIT.

To enter a number, hold in the corresponding number key.

^[1] The character for each button may vary depending on market/country/language.

## 9.3. Digital radio

# 9.3.1. Radio stations as presets

Frequently used radio stations are optimally saved as presets in order to facilitate simple activation.



Station presets.

### AM^[1]/FM radio

10 presets can be stored per wavelength (e.g. AM).

The stored presets are selected using the preset buttons.

- **1** Tune into a station, see <u>Radio tuning</u>.
- 2 Hold one of the preset buttons depressed for a few seconds. The preset button can now be used.

A list of pre-selected channels can be shown in the display screen.

1 To activate/deactivate, in the normal view for the AM/FM source, press OK/MENU and select Show → Presets.

### Digital radio (DAB)*

10 presets can be stored per wavelength. Storage of presets is performed by means of a long press on the desired preset button, for more information see AM/FM radio above. The stored presets are selected using the preset buttons.

A preset contains one channel but no subchannels. If a subchannel is being played and a preset is saved then only the main channel is registered. This is because subchannels are temporary. At the next attempt to retrieve the preset, the channel which contained the subchannel will be played. The preset is not dependent on the channel list.

A list of pre-selected channels can be shown in the display screen.

1 To activate/deactivate, in the normal view for the DAB source, press OK/MENU and select Show → Presets.

(i) Note

The audio system's DAB system does not support all functions in the DAB standard.

^[1] Does not apply to the V60 Plug-in Hybrid and S60L Twin Engine.

* Option/accessory.

### 9.3.2. DAB to DAB* link

DAB to DAB linking means that the DAB radio can go from one channel with poor or no reception to the same channel in another channel group with better reception.

There may be a certain delay when changing channel group. There may be a period of silence between the current channel no longer being available to the new channel becoming available.

1 To activate/deactivate, in the normal view for the DAB source, press OK/MENU and select DAB-DAB linking.

* Option/accessory.

# 9.3.3. Radio text

Some RDS stations transmit information on programme content, artists, etc. This information may be shown on the display screen. Radio text can be shown for FM and DAB* radio.

1 To activate/deactivate, in the normal view for the FM/DAB source, press OK/MENU and select Show.

* Option/accessory.

# 9.3.4. Digital radio (DAB)* - subchannel

Secondary components are usually named subchannels. These are temporary and can contain e.g. translations of the main programme into other languages.

If one or more subchannels are broadcast then the V symbol is shown to the left of the channel name in the display screen. A subchannel is indicated by the - symbol appearing to the left of the channel name in the display screen.

Turn TUNE to access the subchannels.

Subchannels can only be accessed via the main channel. To access other subchannels, select a different main channel.

* Option/accessory.

# 9.3.5. Radio programme types (PTY)

One or more radio programme types, such as pop and classical music can be selected for DAB*-radio. After selecting a programme type navigation only occurs among the channels transmitting that type.

- 1 To select programme type, in the normal view for the DAB source, press OK/MENU and select Programme type (PTY) filtering.
- **2** Turn TUNE to the programme type that is to be marked/unmarked.
- **3** Mark/unmark the programme type with OK/MENU.
- 4 When the desired programme types are selected, leave the menu system using EXIT.

PTY symbol is shown in the screen when the function is active.

In some cases DAB radio will exit PTY mode, see <u>DAB to DAB</u>* link.

* Option/accessory.

# 9.3.6. Digital radio (DAB)*

DAB (Digital Audio Broadcasting) is a digital broadcasting system for <u>radio</u>. The car supports DAB, DAB+ and DMB.

### (i) Note

Coverage for DAB is not available in all locations. If there is no coverage then the message **No reception** is shown in the display screen.

* Option/accessory.

# 9.4. External audio source via AUX/USB input

# 9.4.1. Random selection of disc track or audio file

This function plays the tracks/audio files in random order^[1].

To listen to the tracks/audio files in random order for the selected source:

- 1 Press OK/MENU in the normal view for the selected source
- 2 Turn TUNE to Shuffle
- **3** Press OK/MENU to activate/deactivate the function.

^[1] Does not apply to DVD video discs. For externally connected audio sources via the AUX/USB input this only applies to USB and iPod[®]. Not supported by all mobile phones.

# **9.4.2.** Connecting an external audio source via AUX/USB input

An external audio source, e.g. an iPod[®] or MP3 player, can be connected to the audio system via any of the connections in the centre console.



Connection points for external audio sources.

To connect the audio source:

- 1 Connect your audio source to one of the connections in the centre console's storage compartment (see illustration).
- 2 In the normal view for the media source, press MEDIA, turn TUNE to the desired audio source USB, iPod or AUX and press OK/MENU.

The text Reading USB is shown in the screen when the system is loading the storage media's file structure. Depending on the file structure and number of files there may be some delay before loading is finished.

### (i) Note

The system supports most iPod[®] models produced in 2005 or later.

### (i) Note

To prevent damage to the USB connection, this is shut off if the USB connection is short-circuited or if a connected USB unit is taking too much power (this may happen if the unit connected does not meet the USB standard). The USB connection is reactivated automatically the next time the ignition is turned on, unless the fault persists.

# 9.4.3. Fast forward/reverse

It is possible to fast forward/rewind audio and video files^[1].

Hold the button for 🗹 / 📂 depressed in order to fast forward/rewind audio or video files forward/backward.

Audio files are fast forwarded/rewound at one speed, while video files can be fast forwarded/rewound at several speeds. Repeatedly press the buttons 🛀 / 📂 to increase the fast forward/rewind speed for video files. Release the button to return to viewing at normal speed.

* Option/accessory.

^[1] Only applies to CD/DVD * discs, USB and iPod[®].

# 9.4.4. Media player - compatible file formats

The media player can play back a variety of file types and is compatible with the formats in the following tables.

### Compatible file formats for CD/DVD discs

### (i) Note

Dual format, double-sided discs (DVD Plus, CD-DVD format) are thicker than regular CD discs and therefore playback cannot be guaranteed and malfunction may arise.

If a CD contains a mixture of MP3 and CDDA tracks, all MP3s will be ignored.

Audio format	CD audio, mp3, wma, aac, m4a
Video format	DVD Video

### Compatible file formats via USB connection

Audio and video files in the following table are supported by the system for playback via the USB connection.

Audio format	mp3, mp4, wma, aac, m4a, m4b
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The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

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Video format –	

### Audio specifications for MP3 file format

Format	kHz	kbps
MPEG-1/Audio	32	32-320 ^[1]
	44.1	32-320 ^[1]
	48	32-320 ^[1]
MPEG-2/Audio	16	8-160
	22.05	8-160
	24	8-160
MPEG-2.5/Audio	8	8-64
	11.025	8-64
	12	8-64

### Audio specifications for .wma file format

For the file to be played back, the following criteria must be met:

	WMA version	8.x, 9.x, 10.x, Pro
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### Audio specifications for .aac file format

For the file to be played back, the following criteria must be met:

Audio format	MPEG-2 and MPEG-4
Audio sampling rate	8-96 kHz
Audio channels (ch)	1ch and 2ch

### Audio specifications for .wav file format

For the file to be played back, the following criteria must be met:

Audio sampling rate	Up to 44.1 kHz
Audio channels (ch)	1ch and 2ch
Audio bit rate	16 kbps for 1ch

The .wav file format also supports the PCM format.

^[1] Does not apply to 144 kbps.

# 9.4.5. Setting the audio volume for external audio source

Set the volume for an <u>external audio source</u>. If the volume is too high or too low then the quality of the sound may deteriorate.

If an external audio source (e.g. an MP3 player or iPod[®]) is connected to the AUX input then the audio source that is connected can have a different volume than the audio system's internal volume (e.g. radio). Correct this by adjusting the volume of the input: In the normal view for the AUX source, press OK/MENU, select **AUX input** and then volume setting **Standard** or **Boost**.

### (i) Note

If the external audio source's volume is too high or too low, the quality of the sound may deteriorate. The audio quality may also be impaired if the player is charged while the audio and media system is in AUX mode. In which case, avoid charging the player via the 12 V socket.

# 9.4.6. External audio source via AUX/USB input

An external audio source, e.g. an iPod[®] or MP3 player, can be <u>connected</u> to the audio system.



An iPod[®] or MP3 player with rechargeable batteries is recharged (when the ignition is on or the engine is running) if the device is plugged into the USB connection.

It is possible to copy music from USB^[1] to the car's <u>hard disk drive (HDD)</u> and then play it back from there.

For basic information on playback and navigation, read <u>how the system is operated and menu navigation</u>. See below for a more detailed description.

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

### **Playback and navigation**

An audio source connected to the USB input can be operated using the car's audio controls. A device connected via the AUX input cannot be controlled via the car.

In the normal view for the audio source, turn TUNE to enter the folder structure or to search in categories. Navigate in the structure by turning TUNE, select folder using OK/MENU and go back in the structure using EXIT.

Start playback of a file by pressing OK/MENU.

When the playback of a file is finished the playback of the other files in the same folder continues. Folder change takes place automatically when all files in the current folder have been played back.

### Media search

There is the option to search for music in your devices. The search scans through USB, disc and the hard disk drive. Read more about the <u>search function</u>.

### **USB** memory

To facilitate the use of a USB memory, 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 mobile media compliant with USB 2.0 and the FAT32 file system.

### (i) Note

When using a longer model USB memory stick the use of a USB adapter cable is recommended. This is to avoid mechanical wear to the USB input and the connected USB memory stick.

#### Technical specifications

Maximum number of files	15000
Maximum number of folders	1000
Maximum number of folder levels	8
Maximum number of playlists	100
Maximum number of items in a playlist	1000
Subfolders	No limit

### 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®

### (i) Note

The system only supports the playback of audio files from iPod[®].

### (i) Note

The iPod[®] source must be used (not USB) to start playback.

When an iPod[®] is used as audio source, the car's audio and media system has a menu structure that is similar to the iPod[®] player's own menu structure.

^[1] Certain markets.

# 9.4.7. Media search

There is the option to search for music in your devices. The search seeks through USB, disc and hard disc drive.

Media search is available from the normal view for the sources Disc, USB and HDD.

To start the search, in the normal view for the source, press OK/MENU and select Media search.

### Search function



Searching using the character wheel.

1 Character list.

**2** Changing the input mode (see following table).

Use the character wheel to enter search terms.

1 Turn TUNE to the desired letter, press OK/MENU to confirm. The number and letter buttons on the control panel in the centre console can also be used.

To change the input mode to numbers or special characters, or to go to the results list, turn TUNE to one of the options (see explanation in the following table) in the list for changing the input mode (2), press OK/MENU.

- **2** Continue with the next letter and so on.
- **3** When you are satisfied with your search term, select **Search**.
- Search is carried out. The result is shown and grouped in the following categories: artist, album, track, genre, year and composer.
- **4** Turn TUNE to a category, press OK/MENU.
- **5** Turn TUNE in order to select a media, press OK/MENU to start playback.

123/ABC	Change between letters and numbers with OK/MENU.
MORE	Change to special characters with OK/MENU.
Search	Carry out media search.
{ }	Changes from the character wheel to the Keyword: field. Move the cursor with TUNE. Delete any misspelling with EXIT. To return to the character wheel, press OK/MENU.
	Note that the digit and letter buttons on the control panel can be used for editing in the Keyword: field.

A short press on EXIT deletes an input character. A long press on EXIT will clear all entered characters.

#### Enter with the numerical keyboard



Numerical keyboard.

Another way of entering characters is to use the centre console's buttons 0-9, * and #.

When e.g. **9** is pressed, a bar appears with all characters^[1] under the buttons, e.g. **W**, **x**, **y**, **z** and **9**. Quick presses on the button move cursor through these characters.

- Stop with the cursor on the desired character in order to select it the character is shown on the enter line.
- Delete/change using EXIT.

To enter a number, hold in the corresponding number key.

^[1] The character for each button may vary depending on market/country/language.

### 9.5. Remote control

9.5.1. Remote control*

The remote control can be used for all functions in the <u>audio and media system</u>. The remote control's buttons

have the same functions as the buttons in the centre console or steering wheel keypad.





When using the remote control, first press the remote control's button  $L_{a}^{b}$  to position **F**. Then aim the remote control at the IR receiver, which is located to the right of the INFO <u>button</u> in the centre console.

### Warning

Keep loose objects such as mobile phones, cameras, remote controls for accessories, etc. in the glove compartment or other compartments. Otherwise they may injure people in the car in the event of sudden braking or a collision.

### (i) Note

Do not expose the remote control to direct sunlight (e.g. on the instrument panel) - otherwise problems may arise with the batteries.

* Option/accessory.

# 9.5.2. Remote control* - functions

Possible functions to be controlled using the remote control.

Key	Function
L F R	F = Front display screen L and R = Not possible options.
NAV	Change to navigation*
RADIO	Change to radio source (e.g. AM)
Media	Change to media source (e.g. Disc, TV*)
TEL	Change to Bluetooth [®] handsfree
	Scroll/fast rewind, change track/song
	Play/pause
	Stop
	Scroll/fast forward, change track/song
DVD	Menu
€XIT	To previous, cancels function, deletes input characters
\$	Navigate up/down

Key	Function
• •	Navigate right/left
OK MENU	Confirm selection or go to the menu system for the selected source
đ	Volume, decrease
	Volume, increase
0-9	Preset channels, number and letter input
FAV *	Shortcuts for favourite setting
INF0 #	Information about the current programme, song, etc. Also used when there is more information available than can be shown in the display screen
Ē	Selection of language for soundtrack
	Subtitles, selection of language for text
	Teletext*, On/Off

* Option/accessory.

# 9.5.3. Remote control* - battery replacement

How to replace the batteries in the remote control for the audio and media system.

(i) Note

Battery life is normally 1-4 years and depends on how much the remote control is used.

The remote control is powered by four batteries of the AA/LR6 type.



- Push down the catch on the battery cover and slide the battery cover in the direction of the infrared lens.
- Remove the used batteries, turn the new batteries in accordance with the symbols in the battery compartment and fit them.
- Refit the cover.

### (i) Note

Be sure to dispose of the exhausted batteries in an environmentally safe manner.

* Option/accessory.

# 9.6. Internet-connected car

# 9.6.1. Book service and repair*^[1]

### Manage service, repair and booking information directly in your Internet-connected car.

This service^[1] provides a convenient way to book a service and workshop visit directly in the car. Car information is sent to your dealer, who can prepare the workshop visit. The dealer will contact you to schedule an appointment time. For certain markets, the system reminds you of a scheduled appointment time as it approaches and the navigation system^[2] can also guide you to the workshop when the time comes.

### Before the service can be used

#### Volvo ID and my profile

- Log in to the owner portal My Volvo, go to your profile and carry out the following: Ð
  - Check that the car is connected to your profile. 1
  - Check that your contact information is correct. 2
  - Select the Volvo dealer you want to contact for service and repair. 3
  - Choose preferred communication channel (phone). Booking information is always sent to the car and to you via email. 4

#### Prerequisite for booking from car

- To send and receive booking information to and from the car, the car must be connected to the Internet. Ð
- Since the booking information is sent over your private phone subscription, you will be asked whether you want to send Ð the information. The question is asked once and then applies to the selected connection for a limited time.
- . For the service to work and for the system to communicate via the car's screen, notifications/pop-up messages must be accepted. In the normal view for the MY CAR source, press OK/MENU and then Service & repair -> Display notifications.

### Using the service

All menus and settings are accessed from the normal view in MY CAR by pressing OK/MENU and then Service & repair.

When it is time for service, and in some cases when the car is in need of repair, this is notified in the and via a pop-up menu in the screen.



Service message in the screen.

Meaning of the answer options in the screen's pop-up menu:

- Yes A booking enquiry is sent to your dealer who then comes back with a booking proposal. The service lamp and service message in the combined instrument panel are extinguished.
- No No more pop-up messages will be shown in the screen. The message in the combined instrument panel remains. After
  this option has been selected, it is possible to start the manual booking in the car, see below.
- **Postpone** The pop-up menu is shown the next time the car is started.

#### Book a service or repair manually^[1]

- 1 Press the MY CAR button in the centre console and select Service & repair → Dealer information → Request service or repair.
- > Vehicle data is sent automatically to your dealer.
- 2 The dealer sends a booking proposal to the car.
- 3 Accept or request a new booking proposal.

After the booking has been accepted the booking information is stored in the car, see My bookings. The car will automatically communicate with you via the screen by means of reminders about the booking and guide you to the workshop visit.

You can also book a workshop visit via My Volvo. Go to "My bookings" and select "Update" in order to gain access to bookings from My Volvo.

#### My bookings^[1]

Show booking information in the car's screen. Accept or request a new booking proposal.

1 Select Service & repair → My bookings.

#### Call the dealer^[1]

With a phone connected to the car, you can call your dealer.

1 Select Service & repair → Dealer information → Call dealer.

### Using the navigation system^{[1], [2]}

Enter your workshop as destination or waypoint in the navigation system.

- 1 Select Service & repair  $\rightarrow$  Dealer information  $\rightarrow$  Set single destination.
- 1 Select Service & repair → Dealer information → Add as waypoint.

#### Sending vehicle data^[1]

Vehicle data are sent to a central Volvo database (not your dealer) from which Volvo dealers can retrieve vehicle information using the car's identification number (VIN^[3]). The number is printed in the car's service and warranty booklet, alternatively inside the windscreen's bottom left-hand corner.

1 Select Service & repair → Send car data.

### Booking information and vehicle data

When you decide to book a service from your car, the booking information and vehicle data will be sent. Vehicle data information consists of information within the following areas:

- service requirement
- function status
- fluid levels
- Meter reading
- the car's vehicle identification number (VIN^[3])
- The car's software version.
- * Option/accessory.
- ^[1] Applies to certain markets.
- ^[2] Applies to Sensus Navigation.
- ^[3] Vehicle Identification Number

# 9.6.2. Symbols in the screen

Overview of the symbols that can be shown in the screen's activity/status field.



Activity/status field.

The activity/status field shows what the ongoing activities are, and in some cases their status. Not all activity/status symbols are shown all the time due to the limited space in the field.

Symbol	Specification
S	Connects to the Internet via Bluetooth [®] .
*	Connected to the Internet via Bluetooth [®] .
×	Not connected to the Internet via Bluetooth [®] .
<b>S</b>	Connects to the Internet via Wi-Fi.
•1)])	Connected to the Internet via Wi-Fi.
<b>X</b> (()•	Not connected to the Internet via Wi-Fi.
	Connects to the Internet via car modem * ^[1] . The bars show the signal strength in the mobile phone network and the type of connection is shown below the bars.
.11 3G	Connects to the Internet via car modem * ^[1] .
3G	Not connected to the Internet via car modem * ^[1] .
R 3G	Car modem * ^[1] connected to the Internet via roaming (for use within networks abroad).
	The symbol is shown when the car's location is transmitted.
~	Phone connected to the car.
	Missed call.
6	Call in progress.
	Unread text message.

Symbol	Specification
×	Microphone switched off.
叉	Audio muted (MUTE).
SOS	SOS service * ^[1] active.
ON CALL	ON CALL service * ^[1] active.

- * Option/accessory.
- ^[1] Only cars with Volvo On Call.

# 9.6.3. Web browser

The car has a built-in web browser that makes it possible to search and display information from the Internet.

For basic operation, read how the system is operated and menu navigation.

The web browser is a simple type and supports the HTML 4 standard in text and images. The web browser does not support moving images, video and audio. It is not possible to download and save files.

To use the web browser, the car must first be <u>connected to the Internet</u>.

### (i) Note

Data is transferred when using the internet (data traffic), which can have a cost.

Activation of data roaming can result in further charges.

Contact your network operator about the cost for data traffic.

### (i) Note

The web browser is not available while driving.

Press the Connect button in the centre console  $\bigoplus$  and select Web browser.

When connected to the Internet using Bluetooth[®] the Bluetooth[®] symbol is shown in the top right hand corner of the screen.

If no Internet connection is available then this will be advised in the screen.

### Search function



Searching using the character wheel.

- 1 Character list.
- **2** Changing the input mode (see following table).
- **3** Recently visited web pages (history).

Use the character wheel to enter a web address URL, e.g. <u>www.volvocars.com</u>.

- 1 Turn TUNE to the desired letter, press OK/MENU to confirm. The number and letter buttons on the control panel in the centre console can also be used.
- 2 Continue with the next letter.
- **3** To change the input mode to numbers or special characters, load the address entered or to go to the history, turn TUNE to one of the options (see explanation in the following table) in the list for changing the input mode (2), press OK/MENU.

123/ABC	Change between letters and numbers with OK/MENU.
=>	Leads to history (3). Turn TUNE to select a web address URL, press OK/MENU to go to the address.
Go	Loads the entered web address URL with OK/MENU.
a A	Changes between lowercase and uppercase letters with OK/MENU.
-----	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------
{ }	Changes from the character wheel to the Address: field. Move the cursor with TUNE. Delete any misspelling with EXIT. To return to the character wheel, press OK/MENU.
	Note that the digit and letter buttons on the control panel can be used for editing in the Address: field.

A short press on EXIT deletes an input character. A long press on EXIT will clear all entered characters.

#### Enter with the numerical keyboard



Numerical keyboard.

Another way of entering characters is to use the centre console's buttons **0-9**, * and **#**.

When e.g. **9** is pressed, a bar appears with all characters^[1] under the buttons, e.g. **W**, **x**, **y**, **z** and **9**. Quick presses on the button move cursor through these characters.

- Stop with the cursor on the desired character in order to select it the character is shown on the enter line.
- Delete/change using EXIT.

To enter a number, hold in the corresponding number key.

### Navigating in the web browser

Turn TUNE to navigate between links or scroll on the web page. Press OK/MENU to activate the selection/highlighted link.



Moving the cursor on a web page.

The cursor can be moved freely across the page with the keypad in the centre console. Press the INFO button in order to change to the menu bar at the top of the page.

The pop-up menu is accessed with button number 5 in the centre console. Alternatively, move the cursor to a non-clickable area and press OK/MENU.

### **Functions**

Available functions are accessed via pop-up menu button number 5 in the centre console. Alternatively, move the cursor to a non-clickable area and press OK/MENU.

- Back Backs out to the previous page. .
- Forward If you have gone back out it is possible to go forward to the page again.
- Reload Updates the page. .
- Stop Stops loading the page and goes back.
- New tab Create a new tab/page. Up to four tabs can be open at the same time. Ð
- Close tab Closes tab/page. .
- **Zoom in/Zoom out** Zooms in/out on the page. Ð
- Add bookmark/Delete bookmark Instead of typing in a web page address each time it is visited, it is possible to store a quick link (bookmark) to the page. Max. 20 bookmarks can be saved.

• Settings - Adapting the web browser display and information management, see below for more information.

#### Settings

- Bookmarks Rename, Reorder or Delete.
- **Content filtering** It is possible to make certain adaptations so that the web pages are shown in the desired way. The following functions can be activated/deactivated: **Show images, Block pop-ups** and **Enable JavaScript**.
- Accept cookies Cookies are small text files that are stored. They make it possible to use certain functions on web pages and for the website owner to track statistics, for example over which pages visitors navigate to.
- Text size Select the character size to be used: Large, Medium or Small.
- Clear browsing data Cookies, browsing history and cache will be cleared.
- FAV key options -It is possible to link certain functions to the FAV button. A linked function is then activated simply by
  pressing the FAV button, see <u>Favourites</u>.

^[1] The character for each button may vary depending on market/country/language.

# 9.6.4. Apps

Applications (apps) are applications that can be used if the car is connected to the Internet. App types can, for example, be navigation services, social media, Internet radio and music services.

For basic use and navigation, read how the system is operated and menu navigation.

To use the apps, the car must first be <u>connected to the Internet</u>.

A <u>symbol</u> is shown in the upper right-hand corner of the screen when the car is connected to the Internet. If no Internet connection is available then this will be advised in the screen.

#### (i) Note

Data is transferred when using the internet (data traffic), which can have a cost.

Activation of data roaming can result in further charges.

Contact your network operator about the cost for data traffic.

	Internet	
1	Apps	
	Web browser	
		G050329

Press () in the centre console and select Apps to display available apps^[1]. Select an app in the list and start with OK/MENU.

The apps are downloaded from the Internet to the car and are run from there. The apps load (are updated) each time that they are started, which means that an Internet connection is required each time an app is used.

### The apps share the car's location information

Some apps require location information. The apps use GNSS (Global Navigation Satellite System) to locate the car, which means that the car's position may also be sent to Volvo's service providers. The service providers work on behalf of Volvo and may only process location information to the extent required in order to provide the service. All subcontractors are bound by agreements requiring them to observe confidentiality and to treat location information in accordance with legislation in force.

# Login

Some apps/services require a login. There are two types:

• Certain apps may require registration with the app/service provider. When the app starts you are informed about any need to log in. Follow the onscreen instructions to register or use an existing account to log in.

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Certain apps/services require a login with a personal Volvo ID. Register or use an existing account and get access to a
number of beneficial services, e.g. send an address from a map service on the Internet directly to a navigation app or
Volvo's navigation system * ^[2]. For more information and how you create an account, see.

### **Navigation services**

Navigation services give road information which leads to a preset destination. However, not all of the recommended guidance is always guaranteed as reliable, since situations may arise that lie outside the capacity and judgement of the system, such as sudden changes in the weather.

### / Warning

Observe the following.

- Direct all your attention to the road and make sure that all your concentration is on driving.
- Follow applicable traffic legislation and drive with good judgment.
- Due to weather conditions or time of year affecting the road conditions, some recommendations may be less reliable.

### (i) Note

It is possible to upgrade to Sensus Navigation which includes more functions and map data updates. Contact your dealer.

^[1] The apps available may vary over time and vary depending on equipment level and market.

* Option/accessory.

^[2] Sensus Navigation.

# 9.6.5. Internet map^[1]

Internet map is a function that enables Internet-based map display.

The system can calculate a suitable route and indicate the position of the car in relation to the route on the map. In the event of a deviation from the planned route the system automatically adjusts the route and still guides to the destination. In addition to normal map data, the map also shows traffic information and symbols for selected points of interest (POI).

Route calculation will cease to function in the event of poor coverage or a weak signal in the Internet connection. Certain map scales may be missing depending on how much of the map data has been downloaded.

#### (i) Note

Data is transferred when using the internet (data traffic), which can have a cost.

Activation of data roaming can result in further charges.

Contact your network operator about the cost for data traffic.

Volvo offers a full-scale navigation system (Sensus Navigation) which uses hard disk-based maps, voice guidance, advanced route calculation taking into account traffic information, Internet search and the option of several waypoints. Contact your dealer to upgrade to Sensus Navigation. The Internet map is replaced during upgrading.

The Internet map provides road information which leads to a pre-selected destination. However, not all recommended route directions are reliable because situations can arise that lie outside the capacity and judgement of the system, such as sudden changes in weather, for example.

#### / Warning

Observe the following.

- Direct all your attention to the road and make sure that all your concentration is on driving.
- Follow applicable traffic legislation and drive with good judgment.
- Due to weather conditions or time of year affecting the road conditions, some recommendations may be less reliable.

^[1] Applies to certain markets.

# 9.6.6. Car modem * ^[1]

The car is equipped with a modem that can be used to connect the car to the Internet. It is also possible to distribute the Internet connection via Wi-Fi.

# Internet connection

11	Connect through	C Car modem
M	dar modem	Bluetooth
	Bluetooth	None
	🗧 Wi-Fi	
	Car Wi-Fi hotspot	
1		



Holder for SIM card in the glove box.

- 1 Fit your personal SIM card in the holder which is located in the glovebox.
- 2 Press MY CAR in order to reach the normal view for the source. Then press OK/MENU and select Settings → Internet settings → Car modem.
- **3** Enter the SIM card's PIN code.
- > The car connects to the Internet and it is possible to use its Internet functions, see Internet-connected car.

#### (i) Note

To avoid having to enter the PIN code every time the car is restarted it is recommended to switch off the PIN code lock. Press MY CAR to reach the normal view for the source. Then press OK/MENU and select **Settings**  $\rightarrow$  **Internet settings**  $\rightarrow$  **Car modem**. Deselect the check box **Lock SIM card**.

#### (i) Note

Data is transferred when using the internet (data traffic), which can have a cost.

Activation of data roaming can result in further charges.

Contact your network operator about the cost for data traffic.

To deactivate the Internet connection, press MY CAR in order to reach the normal view for the source. Then press OK/MENU and select Settings  $\rightarrow$  Internet settings  $\rightarrow$  None.

### Share Wi-Fi-hotspot

	Internet settings Connect through der modem	Car mode
	<ul><li>Bluetooth</li><li>Wi-Fi</li></ul>	No device 🕨
	Car Wi-Fi hotspot	
Γ	Manage car Wi-Fi hotspot	G050259

When the car is connected to the Internet via car modem it is possible to distribute the Internet connection (Wi-Fi-hotspot) so that other devices can use the car modem.

The network operator (SIM card) must support tethering (distribution of Internet connection).

1 Press MY CAR in order to reach the normal view for the source. Then press OK/MENU and select Settings → Internet settings → Car Wi-Fi hotspot

Enter the name of the Wi-Fi network (SSID) and enter a password. The name should contain 6-32 characters, and the password 10-63 characters. It is possible to change the name and password later on.

**2** Activate the car's Wi-Fi hotspot by marking the check box.

> It is now possible for external devices to connect to the car's Wi-Fi-hotspot.

To deactivate distribution of Internet connection - uncheck the box.

#### (i) Note

Activation of Wi-Fi-hotspot can result in further charges from your network operator.

Contact your network operator about the cost for data traffic.

Up to 8 devices can be connected to the car's Wi-Fi hotspot. The number of devices connected is shown by first pressing MY CAR in order to reach the normal view for the source. Then press OK/MENU and select Settings  $\rightarrow$  Internet settings.

ļ	nternet settings	
	Connect through	Car mode 🔻
	ા Car modem	
	* Bluetooth	No device 🕨
	🔋 Wi-Fi	
	Car Wi-Fi hotspot	(1) 🕨
1	Manage car Wi-Fi hotspot	)50283
		8

The number of devices connected to the car's Wi-Fi hotspot.

To view which devices are connected to the car's Wi-Fi hotspot, press MY CAR in order to reach the normal view for the source. Then press OK/MENU and select Settings  $\rightarrow$  Internet settings  $\rightarrow$  Car Wi-Fi hotspot.

#### Technology and security for the Wi-Fi hotspot

The 2.4GHz frequency is used for allocating the Wi-Fi hotspot. If multiple devices are operating on the frequency at the same time then it can result in impaired performance.

- Frequency 2.4 GHz.
- Standards 802.11 b/g/n.

- Security type WPA2-AES-CCMP.
- The antenna for the car's modem is fitted on the car's roof.

### No or poor Internet connection

See Internet-connected car.

* Option/accessory.

^[1] Only cars with Volvo On Call.

# 9.6.7. Volvo ID

Volvo ID is your personal ID that provides access to various services^[1].



Examples of services:

- My Volvo Your personal web page for you and your car.
- In an Internet-connected car* Certain functions and services require that you have registered your car to a personal Volvo ID, for example to be able to send a new address from a map service on the Internet directly to the car.
- Volvo On Call, VOC* Volvo ID is used when logging in to the Volvo On Call mobile app.

# Advantages of Volvo ID

• One user name and one password to access online services, i.e. only one username and one password to remember.

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• When changing the username/password for a service (e.g. VOC) it will also be changed automatically for other services (e.g. My Volvo)

# Create a Volvo ID

To create a Volvo ID you need to enter a personal e-mail address. Then follow the instructions in the e-mail message that is automatically sent to the specified address in order to complete the registration. It is possible to create a Volvo ID via one of the following services:

- My Volvo Enter your e-mail address and follow the instructions.
- For an Internet-connected car* Enter your e-mail address in the app that requires Volvo ID and follow the instructions.
   Alternatively, press the Connect button 
   in the centre console twice and select Apps → Settings and follow the instructions.
- Volvo On Call, VOC* Download the latest version of the VOC app. Choose to create a Volvo ID from the start page, enter e-mail address and follow the instructions.

^[1] The services available may vary over time and vary depending on equipment level and market.

* Option/accessory.

# 9.6.8. Internet-connected car

Connecting the car to the Internet gives the opportunity to use, for example, navigation services, web radio and music services via <u>apps</u> and to use the vehicle's built in <u>web browser</u>.



When the vehicle is connected to the Internet it is possible to use additional programs (apps). The apps that are available may vary, but app type can include navigation services, social media, Internet radio and music services, for example. The car has a simple web browser to search and display information from the Internet.

If the Internet connection is via the mobile phone it also possible to use the other mobile phone functions, such as reading text messages and calling, see <u>Bluetooth[®] handsfree phone</u>.

Mobile phone and network operator must support tethering (sharing the Internet connection) and the subscription must include data traffic.

#### i Note

Data is transferred when using the internet (data traffic), which can have a cost.

Activation of data roaming can result in further charges.

Contact your network operator about the cost for data traffic.

For basic operation, read how the system is operated and menu navigation .

### Connect the car to the Internet

nternet settings	
Connect through C Car mod	em
Bluetoot	
* Bluetooth None	
🔋 Wi-Fi	
Car Wi-Fi hotspot	
Select connection technology	G050258

Settings for Internet connection.

The Internet connection's default setting is to not connect to the Internet. After a connection option has been selected, the selected option will be retained and the car will automatically connect when the network is available. To change the Internet connection method, choose another connection option. In order to not automatically connect to the Internet, choose to cancel the network connection.

Select connection option: Bluetooth[®], Wi-Fi or car modem *:

#### Car modem*^[1]

When connecting to the Internet using the car modem, the Volvo On Call services will use the connection.

To connect with the car modem, see  $\underline{Car modem} * {[2]}$ .

- The mobile phone must first be registered and connected to the car. 1
- Activate tethering (sharing the Internet connection (portable/personal hotspot)) in the mobile phone. 2
- Press MY CAR in order to reach the normal view for the source. Then press OK/MENU and select Settings → Internet 3 settings  $\rightarrow$  Connect through  $\rightarrow$  Bluetooth.
- > The car is now connected.

In the future, the car will automatically connect via Bluetooth[®] to an available network.

A symbol in the screen shows the current connection status.

To cancel the network connection, see Cancel network connection.

The car can remember a maximum of 10 Bluetooth® networks. If one more is added then the oldest network and password are removed from the list of remembered networks.



- 1 Activate tethering (sharing the Internet connection (portable/personal hotspot)) in the mobile phone.
- 2 Press MY CAR in order to reach the normal view for the source. Then press OK/MENU and select Settings → Internet settings → Connect through → Wi-Fi.
- > The search for available Wi-Fi networks is started.
- 3 Select your network.
- 4 Select Connect.
- **5** Enter the network password.

> The car now attempts to connect to the network.

In the future, the car will automatically connect via Wi-Fi to an available network.

A symbol in the screen shows the current connection status.

To cancel the network connection, see Cancel network connection.

The car can remember a maximum of 10 Wi-Fi networks. If one more is added then the oldest network and password are removed from the list of remembered networks.

### Remove saved Wi-Fi network

- 1 Press MY CAR in order to reach the normal view for the source.
- 2 Then press OK/MENU and select Settings → Internet settings.
- 3 Select Wi-Fi.
- > A list of available networks is shown.
- 4 Select the network to be removed.
- 5 Select Forget.
- > The car will no longer connect to the network automatically.

#### **Remove all networks**

All networks can be removed simultaneously. Please note that all user data and system settings are reset to original factory settings.

To restore factory settings press MY CAR in the centre console, then OK/MENU and select Settings  $\rightarrow$  Reset to factory settings.

### Technology and security for Wi-Fi

It is only possible to connect to the following types of network:

- Frequency 2.4 GHz.
- Standards 802.11 b/g/n.
- Security type WPA2-AES-CCMP.

If several devices operate on the frequency at the same time then it may result in reduced performance.

### **Cancel network connection**

Connect through st Car modem Bluetooth Wi-Fi Car Wi-Fi hotspot	C Car Blue Wi-F Non	modem tooth e
Select connection technol	ogy	, r

Press OK/MENU and select Settings → Internet settings → Connect through → None. The car will not connect to the Internet.

### No or poor Internet connection

The amount of data transferred is dependent on the services or apps that are used in the car. For example streaming audio can require large amounts of data which requires a good connection and good signal strength.

#### Mobile phone to car

The speed of the connection may vary depending on the location of the mobile phone in the car. Move the mobile phone closer to the car's audio and media system in order to increase the signal strength. Ensure that there is no interference in between.

#### Mobile phone to network

The speed of the mobile network varies depending on the coverage in the present location. Poor network coverage may occur, for example in tunnels, behind mountains, in deep valleys or indoors. The speed also depends on the agreement you have with your network.

#### (i) Note

In the event of problems with data traffic, contact your network operator.

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* Option/accessory.

^[1] Only cars with Volvo On Call

^[2] Only cars with Volvo On Call.

# 9.7. Audio settings

# 9.7.1. Setting the equaliser

Set the equaliser and adjust the volume separately for different radio frequencies or TV.

- 1 Press SOUND to access the audio settings menu. Turn TUNE to scroll to Equalizer and press OK/MENU.
- **2** Select wavelength by turning TUNE and confirm with OK/MENU.
- **3** Adjust the audio setting by turning TUNE and confirm with OK/MENU or undo the command using EXIT. Continue in the same way with other wavelengths to be changed.
- **4** When the audio setting is complete, press EXIT button to confirm and return to normal view.

# 9.7.2. Audio and media - general audio settings

General audio settings for the audio and media system.

Press SOUND to access the audio settings menu (Bass, Treble, etc.). Turn TUNE to scroll to your selection (e.g. Treble) and press OK/MENU in order to select.

Adjust the setting by turning TUNE and save the setting with OK/MENU. Note that the audio volume can only be adjusted within a comfortable range. When a function is active (e.g. navigation system) the audio volume can be adjusted by turning VOL to min/max position.

Continue turning  $\ensuremath{\mathsf{TUNE}}$  in order to access other options:

- Premium sound* <u>Advanced audio settings</u>.
- Bass Bass level.
- Treble Treble level.
- Fader Balance between the front and rear speakers.
- Balance Balance between the left and right-hand speakers.

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- Equalizer Volume level for different wavelengths.
- Navigation volume The volume of the navigation system * system voice.
- Voice control volume The volume of the voice recognition system voice.
- Ringtone volume The volume of the car's ring signal for a <u>connected mobile phone</u>.
- Park assist volume The volume for parking assistance*.
- Cross Traffic Alert-vol. The volume for the CTA system *.
- Volume compensation Audio compensation for excessive noise in the passenger compartment.
- Reset audio settings Restores the audio settings to factory settings.
- * Option/accessory.

# 9.7.3. Setting the audio volume for external audio source

Set the volume for an <u>external audio source</u>. If the volume is too high or too low then the quality of the sound may deteriorate.

If an external audio source (e.g. an MP3 player or iPod[®]) is connected to the AUX input then the audio source that is connected can have a different volume than the audio system's internal volume (e.g. radio). Correct this by adjusting the volume of the input: In the normal view for the AUX source, press OK/MENU, select **AUX input** and then volume setting **Standard** or **Boost**.

#### (i) Note

If the external audio source's volume is too high or too low, the quality of the sound may deteriorate. The audio quality may also be impaired if the player is charged while the audio and media system is in AUX mode. In which case, avoid charging the player via the 12 V socket.

# **9.7.4.** Setting the audio volume and automatic volume control

Set the audio compensation for excessive noise in the passenger compartment.

The audio system compensates for disrupting noises by increasing the volume in relation to the speed of the car. The compensation level can be set to Low, Medium, High or Off.

- 1 Press SOUND to access the audio settings menu. Turn TUNE to Volume compensation and press OK/MENU.
- **2** Select level by turning TUNE and confirm with OK/MENU.

# 9.7.5. Audio and media - audio settings

The audio system is pre-calibrated for optimal sound reproduction, but can be adapted to your needs.

## Setting for optimal sound reproduction

The audio system is pre-calibrated for optimum sound reproduction by means of digital signal processing.

This calibration takes into account loudspeakers, amplifiers, passenger compartment acoustics, listener position etc. for each combination of car model and audio system.

There is a also a dynamic calibration that takes into account the position of the volume control, radio reception and vehicle speed.

The controls explained in this owner's manual, e.g. Bass, Treble and Equalizer, are only intended for the user to be able to adapt the sound reproduction according to personal taste.

### Audio guality when streaming audio from the Internet

The amount of data transferred is dependent on the services or apps that are used in the car. For example streaming audio can require large amounts of data which requires a good connection and good signal strength. In some apps it is possible to set the audio quality. Selecting a high audio quality can increase loading time and cause breaks in the sound. In order to ensure a consistent sound experience it is recommended to select a lower audio quality.

# 9.7.6. Audio and media - advanced audio settings*

Adapt the audio settings for radio and media according to your wishes.

All the advanced audio settings are accessed by pressing SOUND in order to access the audio settings menu. Turn TUNE to scroll to Premium sound* and press OK/MENU.

### Sound stage

The sound experience can be optimised for different parts of the car. The sound profile can be set for Driver seat, Rear seats or Whole car.

- Turn TUNE to scroll to Sound stage and press OK/MENU. 1
- Select sound profile by turning TUNE and confirm with OK/MENU. 2

### Surround

The surround system can be set to the On/Off position. When On is selected, the system selects the setting for optimal sound reproduction. Normally DPL II and ^{III PLII} are then shown in the screen. If the recording is made with Dolby Digital technology

then playback will take place with this setting, **DIGITAL** is then shown in the screen. When Off is selected, 3-channel stereo is available.

- 1 Turn TUNE to scroll to Surround and press OK/MENU.
- 2 Surround can be set in On/Off mode by pressing OK/MENU

The surround level can be set separately if On is selected.

- 1 Turn TUNE to scroll to the level setting and confirm with OK/MENU.
- 2 Select surround level by turning TUNE and confirm with OK/MENU.

#### **Bass speaker**

The volume level for the subwoofer can be set separately.

- 1 Turn TUNE to scroll to Subwoofer and press OK/MENU.
- 2 Select volume level by turning TUNE and confirm with OK/MENU.

#### **Centre speaker**

The volume level for the centre speaker can be set separately. If surround is in On mode then DPL II centre level is set, otherwise **3 channel centre level** is set.

- 1 Turn TUNE to scroll to Centre and press OK/MENU.
- 2 Select volume level by turning TUNE and confirm with OK/MENU.

* Option/accessory.

# 9.7.7. Volume control for interrupting RDS-functions

The interrupting RDS-functions, e.g. alarm or traffic information (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.

# 9.8. Media Bluetooth

# 9.8.1. Changing to another Bluetooth[®] device

It is possible to change from a connected device to another one if there are several devices in the car. The device must first have been <u>registered</u> to the car.

### Changing media device

- 1 Check that the external device has Bluetooth[®] activated, see the external device's manual.
- 2 In the normal view for the Bluetooth[®] media source, press OK/MENU and select Change device.
- > The car searches for previously connected devices. The external devices detected are specified with their respective Bluetooth[®] name in the display screen.
- **3** Select the device to be connected.
- > Connection of the external device takes place.

# Changing phone

- 1 Check that the external device has Bluetooth[®] activated, see the external device's manual.
- 2 In the normal view for the phone source, press OK/MENU and select Change phone.
- > The car searches for previously connected devices. The external devices detected are specified with their respective Bluetooth[®] name in the display screen.
- **3** Select the device to be connected.
- > Connection of the external device takes place.

# 9.8.2. Random selection of disc track or audio file

This function plays the tracks/audio files in random order^[1].

To listen to the tracks/audio files in random order for the selected source:

- 1 Press OK/MENU in the normal view for the selected source
- 2 Turn TUNE to Shuffle
- **3** Press OK/MENU to activate/deactivate the function.

^[1] Does not apply to DVD video discs. For externally connected audio sources via the AUX/USB input this only applies to USB and iPod[®]. Not supported by all mobile phones.

# 9.8.3. Registering a Bluetooth[®] device

It is possible to have two Bluetooth[®] devices connected simultaneously. One phone and one media device, which you can switch between. It is also possible to call with the phone and simultaneously stream audio files. It is possible to <u>connect the car to the Internet</u> via the mobile phone's Internet connection.

A maximum of 15 Bluetooth[®] devices can be registered. Registration is performed once per device. After registration the device no longer needs to be visible/searchable, but only has Bluetooth[®] activated.

#### (i) Note

If the phone's operating system is updated then it is possible that the registration of the phone is interrupted. In which case, disconnect the phone, see <u>Removing a Bluetooth[®] device</u> and then reconnect it.



Connecting an external device takes place in different ways depending on whether or not the device has been connected previously. The connection options below presume that this is the first time the device is being connected (registered) and that no other device is connected. The connection options show the connection of a phone. Connecting a <u>media device</u> is performed in the same way, but starting from the main source MEDIA.

There are two possible ways of connecting devices, either search for the external device from the car, or search for the car from the external device. If one option does not work then try with the other.

#### If you are not already in the normal view for the phone, press TEL in the centre console.



Example of normal view for the phone.

### Alternative 1 - search for the external device via the car's menu system

- 1 Make the external device searchable/visible via Bluetooth[®], see the external device's manual or <u>www.volvocars.com</u>.
- 2 In the normal view for the phone source, press OK/MENU and select Search new phone (for media device Search new device).
- > The car will now search for available Bluetooth[®] devices, which can take approx. one minute.
- 3 Select the Bluetooth[®] device to be connected from the list, press OK/MENU.
- **4** Check that the specified number code in the car matches that in the external device. In which case, choose to accept in both places.
- 5 Choose to accept or reject any options for contacts and messages in the phone.
- > The external device is now connected.

If the connection failed, press EXIT and connect the device as described under Alternative 2.

### Alternative 2 - Search for the car with the Bluetooth[®] function of the external device

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- 1 In the normal view for the phone source, press OK/MENU, select Make car discoverable and confirm with OK/MENU.
- **2** Search with the external device for Bluetooth[®] devices.
- > The device will now search for available Bluetooth[®] devices, which can take approx. one minute.
- 3 Select the car's name on the external device's screen.
- **4** Check that the specified number code in the car matches that in the external device. In which case, choose to accept in both places.
- 5 Choose in the phone to accept or reject any options for phone contacts and messages.
- > The external device is now connected.

When the external device is connected, the external device's Bluetooth[®] name is shown in the car's display screen and the device can be controlled from the car.

# 9.8.4. Fast forward/reverse

It is possible to fast forward/rewind audio and video files^[1].

Hold the button for Karl / Mathematical depressed in order to fast forward/rewind audio or video files forward/backward.

Audio files are fast forwarded/rewound at one speed, while video files can be fast forwarded/rewound at several speeds. Repeatedly press the buttons 🖂 / 📂 to increase the fast forward/rewind speed for video files. Release the button to return to viewing at normal speed.

* Option/accessory.

^[1] Only applies to CD/DVD* discs, USB and iPod[®].

# 9.8.5. Disconnecting the Bluetooth[®] device

When the Bluetooth[®] device is out of range of the car it is automatically disconnected.

When the mobile phone has been disconnected an ongoing call can continue by using the mobile phone's built-in microphone and speaker.

The handsfree function is deactivated when the engine is switched off and the door is  $opened^{[1]}$ .

To deregister a Bluetooth[®] device from the car, see <u>Removing a Bluetooth[®] device</u>. The car will then not search for the device automatically.

# 9.8.6. Media Bluetooth[®]

The car's media player is equipped with Bluetooth[®] and can wirelessly play streaming audio files from external devices with Bluetooth[®], such as mobile phones and PDAs.

The device must first be registered and connected to the car.

For basic information on playback and navigation, read <u>how the system is operated and menu navigation</u>. See below for a more detailed description.

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

### **Playback and navigation**

Navigation and control of the audio can be carried out via the centre console buttons or via the steering wheel keypad. In some external devices it is also possible to change tracks from the device.

When a mobile phone is connected to the car it is also possible to remotely control a selection of the mobile phone's functions, see <u>Bluetooth[®] handsfree phone</u>. Change between the main sources TEL and MEDIA to manage each one's functions.

#### (i) Note

The Bluetooth[®] media player must support the Audio/Video Remote Control Profile (AVRCP) and Advanced Audio Distribution Profile (A2DP). The player should use AVRCP version 1.3, A2DP 1.2. Otherwise some functions may not work.

Not all mobile phones and external media players available in the market are fully compatible with the Bluetooth[®] function in the car's media player. Volvo recommends that you contact an authorised Volvo dealer for information on compatible phones and external media players.

#### (i) Note

The car's media player can only play the audio files via the Bluetooth[®] function.

# 9.8.7. Removing a Bluetooth[®] device

It is possible to remove (deregister) a Bluetooth[®] device from the car. The car will then not locate the device automatically.

#### Removing a media device

In the normal view for the Bluetooth[®] media source, press OK/MENU and select Change device  $\rightarrow$  Delete device.

## **Removing a phone**

In the normal view for the phone source, press OK/MENU and select Change phone -> Delete device.

# 9.8.8. Automatic connection of Bluetooth[®] device

When a Bluetooth[®] device is registered in the car the last external device connected is connected automatically when the car is started.

When the Bluetooth® function is active and the last device connected is in range it is connected automatically. If the last connected device is not available then the system will try to connect an previously connected device.

To connect to another device, press EXIT, select to connect a new device or change to another already registered device.

# 9.8.9. Connecting and disconnecting a Bluetooth[®] device

The car is equipped with Bluetooth[®] and can wirelessly communicate with other Bluetooth[®] devices after registration and connection.

A maximum of 15 Bluetooth[®] devices can be registered. Registration is performed once per device. After registration the device no longer needs to be visible/searchable, but only has Bluetooth[®] activated.

When the Bluetooth® function is active and the last device connected is in range it is automatically connected to the car when it is started. The name of the connected device is shown in the source's normal view. To connect to another device, press OK/MENU and select change device.

When the Bluetooth[®] device is out of range of the car it is automatically disconnected. To manually disconnect a device - deactivate Bluetooth in the device. If you want to deregister a Bluetooth[®] device from the car, select Removing a Bluetooth[®] device. The car will then not search for the device automatically.

It is possible to have two Bluetooth[®] devices connected simultaneously. One phone **@** and one media device **D**, which you can <u>switch between</u>.



Phone connected as both phone and as media device.

# 9.9. Media player

# 9.9.1. Hard disk drive (HDD)

It is possible to copy music from disc/USB^[1] to the car's hard disk drive (HDD) and then play it back from there.

For information about the supported formats, see <u>compatible file formats</u>.

For basic information on playback and navigation, read <u>how the system is operated and menu navigation</u>. See below for a more detailed description.

### Copying music to the hard disk drive

Folders have the symbol 1

- 1 In the normal view for the hard disk drive source, press OK/MENU and select to copy from disc/USB.
- 2 Select what to copy, and then Continue.
- 3 Select destination for location of copied music.
- Importing music from disc/Importing music from USB
   Do not remove the disc/USB memory before the transfer has been confirmed Music files imported.

#### (i) Note

When copying from USB the music files that are not located in folders will not appear, i.e. if they are located in the root. These tracks can be imported by selecting to import **All tracks**, or by downloading the files into folders.

The system can copy music that is up to 8 levels deep in subfolders.

#### File formats that can be copied to the hard disc drive

#### CD-/DVD discs: mp3, wma, aac.

USB: mp3, mp4, wma, aac, m4a, m4b.

### Rename/delete folder or file

- 1 In the normal view for the hard disk drive source, press OK/MENU and select Rename/delete files.
- 2 Select the folder or file, press OK/MENU and select Rename or Delete.
- 3 Use the character wheel to enter the new name and then Save.

It is not possible to rename a file to exactly the same name as another file. The system would then keep the old name.

#### **Playback and navigation**

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

#### **Playback order**

Playback is in accordance with the list order. To mix the playback order, in the normal view for the hard disk drive source, press OK/MENU and select **Shuffle**.

### Media search

There is the option to search for music in your devices. The search scans through USB, disc and the hard disk drive. Read more about the <u>search function</u>.

# Storage information

To view the capacity and usage of the hard disk drive, in the normal view for the hard disk drive source, press OK/MENU and select **Storage information**.

^[1] Depending on market.

# 9.9.2. Media player

The media player can playback audio and video from <u>CD/DVD discs</u> discs and externally connected audio sources via the <u>AUX/USB input</u> or <u>wirelessly stream audio files</u> from external devices via Bluetooth[®]. Certain media players can show <u>TV</u>* and have the option to <u>communicate with a mobile phone</u> via Bluetooth[®]. It is possible to copy music from a disc/USB^[1] to the car's <u>hard disc drive</u>.

In an <u>Internet-connected car</u> it may be possible to listen to Internet radio, audio books and use music service, see .



Controls for the media player.

For basic information on playback and navigation, read how the system is operated and menu navigation .

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

# Gracenote MusicID[®]

Gracenote MusicID[®] is the industry standard for music recognition. The technology is used to identify and deliver covers and music information for CD discs, digital music files on storage media and music services on the Internet.

* Option/accessory.

^[1] Depending on market.

# 9.9.3. CD/DVD

Media player can play back pre-recorded and burned CD/DVD discs.

The media player supports and can play the following main types of discs and files:

- Pre-recorded CD/DVD discs (CD/DVD Audio).
- Pre-recorded DVD-Video discs (DVD Video).
- Burned CD-/DVD discs with audio files.

For more information about the supported formats, see compatible file formats.

A disc may contain a maximum of 5000 files (including playlists) in order to be playable.

#### (i) Note

Some audio files that are copy-protected by record companies or privately copied audio files cannot be loaded by the player.

It is possible to copy music from disc^[1] to the car's <u>hard disk drive (HDD)</u> and then play it back from there.

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

For basic information on playback and navigation, read <u>how the system is operated and menu navigation</u>. See below for a more detailed description.

### Playback and navigation of CD/DVD Audio

In the normal view for the disc source, press OK/MENU and turn TUNE to access the disc's track structure. Navigate in the structure by turning TUNE.

Start playback of a track by pressing OK/MENU.

# Playback and navigation of burned CD/DVD discs

If a disc with audio/video files is inserted into the player then the disc's folder structure needs to be loaded. Depending on the quality of the disc and the quantity of information there may be a certain delay before playback starts.

In the normal view for the disc source, press OK/MENU and turn TUNE to access the disc's folder structure or to browse the categories. Navigate in the structure by turning TUNE, select folder using OK/MENU and go back in the structure using EXIT.

Start playback of a file by pressing OK/MENU.

When the playback of a file is finished the playback of the other files in the same folder continues. Folder change takes place automatically when all files in the current folder have been played back.

# Playback and navigation of DVD Video

To manage DVD Video, see <u>Playback and navigation of DVD video discs</u>.

### Media search

There is the option to search for music in your devices. The search scans through USB, disc and the hard disk drive. Read more about the <u>search function</u>.

^[1] Certain markets.

9.9.4. TV*

The TV picture is only shown when the car is stationary. When the car is moving at a speed over approx. 6 km/h the picture disappears, although the audio is heard during this time. The picture reappears when the car has stopped.



TV functions, control overview.

For basic information on playback and navigation, read how the system is operated and menu navigation. See below for a more detailed description.

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see Favourites.

#### (i) Note

This system only supports TV broadcasts in the countries that broadcast in MPEG-2 or MPEG-4 format and follow the DVB-T standard. The system does not support analogue broadcasts.

#### (i) Note

The TV picture is only shown when the car is stationary. The picture disappears when the car is moving at a speed above approx. 6 km/h, although the audio is heard during this time. The picture reappears when the car has stopped.

#### (i) Note

The reception is dependent both on how good the signal strength and signal quality are. The transmission may be disturbed by various factors such as tall buildings or the TV transmitter being far away. Coverage level can also vary depending on where in the country you are located.

#### (!) Important

A TV licence is required for this product in some countries.

#### Watch TV

- In the normal view for the media source, press MEDIA, turn TUNE to TV and then press OK/MENU.
- > A search starts and after a short while the most recently used channel is shown.

#### **Changing channel**

It is possible to change channel as follows:

- Turn TUNE, a list of all available channels in the area is shown. If any of these channels is already saved as a preset then its Ð preset number is shown to the right of the channel name. Turn TUNE to the required channel and press OK/MENU.
- By pressing the preset buttons (0-9).
- Via a short press on the 🔀 / 🔛 buttons the next available channel in the area is shown.

#### (i) Note

If no reception is available when a channel is selected from the preset buttons, it may be because the car is in a different location than when the last channel search was performed and the channel list was stored.

* Option/accessory.

# 9.9.5. Remote control*
The remote control can be used for all functions in the <u>audio and media system</u>. The remote control's buttons

have the same functions as the buttons in the centre console or steering wheel keypad.



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When using the remote control, first press the remote control's button  $L_{a}^{b}$  to position **F**. Then aim the remote control at the IR receiver, which is located to the right of the INFO <u>button</u> in the centre console.

#### Warning

Keep loose objects such as mobile phones, cameras, remote controls for accessories, etc. in the glove compartment or other compartments. Otherwise they may injure people in the car in the event of sudden braking or a collision.

#### (i) Note

Do not expose the remote control to direct sunlight (e.g. on the instrument panel) - otherwise problems may arise with the batteries.

* Option/accessory.

### 9.9.6. Media player - compatible file formats

The media player can play back a variety of file types and is compatible with the formats in the following tables.

### Compatible file formats for CD/DVD discs

### (i) Note

Dual format, double-sided discs (DVD Plus, CD-DVD format) are thicker than regular CD discs and therefore playback cannot be guaranteed and malfunction may arise.

If a CD contains a mixture of MP3 and CDDA tracks, all MP3s will be ignored.

Audio format	CD audio, mp3, wma, aac, m4a
Video format	DVD Video

### Compatible file formats via USB connection

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Audio and video files in the following table are supported by the system for playback via the USB connection.

Audio format	mp3, mp4, wma, aac, m4a, m4b
Video format	-

### Audio specifications for MP3 file format

Format	kHz	kbps
MPEG-1/Audio	32	32-320 ^[1]
	44.1	32-320 ^[1]
	48	32-320 ^[1]
MPEG-2/Audio	16	8–160
	22.05	8–160
	24	8–160
MPEG-2.5/Audio	8	8-64
	11.025	8-64
	12	8-64

### Audio specifications for .wma file format

For the file to be played back, the following criteria must be met:

WMA version 8.x, 9.x, 10.x, Pro	

### Audio specifications for .aac file format

For the file to be played back, the following criteria must be met:

Audio format	MPEG-2 and MPEG-4
Audio sampling rate	8-96 kHz
Audio channels (ch)	1ch and 2ch

### Audio specifications for .wav file format

For the file to be played back, the following criteria must be met:

Audio sampling rate	Up to 44.1 kHz
Audio channels (ch)	1ch and 2ch
Audio bit rate	16 kbps for 1ch

The .wav file format also supports the PCM format.

^[1] Does not apply to 144 kbps.

## 9.9.7. Media Bluetooth[®]

The car's media player is equipped with Bluetooth[®] and can wirelessly play streaming audio files from external devices with Bluetooth[®], such as mobile phones and PDAs.

The device must first be registered and connected to the car.

For basic information on playback and navigation, read <u>how the system is operated and menu navigation</u>. See below for a more detailed description.

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

### **Playback and navigation**

Navigation and control of the audio can be carried out via the centre console buttons or via the steering wheel keypad. In some external devices it is also possible to change tracks from the device.

When a mobile phone is connected to the car it is also possible to remotely control a selection of the mobile phone's functions, see <u>Bluetooth[®] handsfree phone</u>. Change between the main sources TEL and MEDIA to manage each one's functions.

#### (i) Note

The Bluetooth[®] media player must support the Audio/Video Remote Control Profile (AVRCP) and Advanced Audio Distribution Profile (A2DP). The player should use AVRCP version 1.3, A2DP 1.2. Otherwise some functions may not work.

Not all mobile phones and external media players available in the market are fully compatible with the Bluetooth[®] function in the car's media player. Volvo recommends that you contact an authorised Volvo dealer for information on compatible phones and external media players.

#### (i) Note

The car's media player can only play the audio files via the Bluetooth[®] function.

## 9.9.8. External audio source via AUX/USB input

An external audio source, e.g. an iPod[®] or MP3 player, can be <u>connected</u> to the audio system.



An iPod[®] or MP3 player with rechargeable batteries is recharged (when the ignition is on or the engine is running) if the device is plugged into the USB connection.

It is possible to copy music from USB^[1] to the car's <u>hard disk drive (HDD)</u> and then play it back from there.

For basic information on playback and navigation, read <u>how the system is operated and menu navigation</u>. See below for a more detailed description.

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

### **Playback and navigation**

An audio source connected to the USB input can be operated using the car's audio controls. A device connected via the AUX input cannot be controlled via the car.

In the normal view for the audio source, turn TUNE to enter the folder structure or to search in categories. Navigate in the structure by turning TUNE, select folder using OK/MENU and go back in the structure using EXIT.

Start playback of a file by pressing OK/MENU.

When the playback of a file is finished the playback of the other files in the same folder continues. Folder change takes place automatically when all files in the current folder have been played back.

### Media search

There is the option to search for music in your devices. The search scans through USB, disc and the hard disk drive. Read more about the <u>search function</u>.

### **USB** memory

To facilitate the use of a USB memory, 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 mobile media compliant with USB 2.0 and the FAT32 file system.

#### (i) Note

When using a longer model USB memory stick the use of a USB adapter cable is recommended. This is to avoid mechanical wear to the USB input and the connected USB memory stick.

#### Technical specifications

Maximum number of files	15000
Maximum number of folders	1000
Maximum number of folder levels	8
Maximum number of playlists	100
Maximum number of items in a playlist	1000
Subfolders	No limit

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### 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®

### (i) Note

The system only supports the playback of audio files from iPod[®].

### (i) Note

The iPod[®] source must be used (not USB) to start playback.

When an iPod[®] is used as audio source, the car's audio and media system has a menu structure that is similar to the iPod[®] player's own menu structure.

^[1] Certain markets.

# 9.9.9. Media search

There is the option to search for music in your devices. The search seeks through USB, disc and hard disc drive.

Media search is available from the normal view for the sources Disc, USB and HDD.

To start the search, in the normal view for the source, press OK/MENU and select Media search.

### Search function



Searching using the character wheel.

1 Character list.

**2** Changing the input mode (see following table).

Use the character wheel to enter search terms.

1 Turn TUNE to the desired letter, press OK/MENU to confirm. The number and letter buttons on the control panel in the centre console can also be used.

To change the input mode to numbers or special characters, or to go to the results list, turn TUNE to one of the options (see explanation in the following table) in the list for changing the input mode (2), press OK/MENU.

- **2** Continue with the next letter and so on.
- 3 When you are satisfied with your search term, select Search.
- Search is carried out. The result is shown and grouped in the following categories: artist, album, track, genre, year and composer.
- **4** Turn TUNE to a category, press OK/MENU.
- **5** Turn TUNE in order to select a media, press OK/MENU to start playback.

123/ABC	Change between letters and numbers with OK/MENU.
MORE	Change to special characters with OK/MENU.
Search	Carry out media search.
{ }	Changes from the character wheel to the Keyword: field. Move the cursor with TUNE. Delete any misspelling with EXIT. To return to the character wheel, press OK/MENU.
	Note that the digit and letter buttons on the control panel can be used for editing in the Keyword: field.

A short press on EXIT deletes an input character. A long press on EXIT will clear all entered characters.

#### Enter with the numerical keyboard



Numerical keyboard.

Another way of entering characters is to use the centre console's buttons 0-9, * and #.

When e.g. **9** is pressed, a bar appears with all characters^[1] under the buttons, e.g. **W**, **x**, **y**, **z** and **9**. Quick presses on the button move cursor through these characters.

- Stop with the cursor on the desired character in order to select it the character is shown on the enter line.
- Delete/change using EXIT.

To enter a number, hold in the corresponding number key.

^[1] The character for each button may vary depending on market/country/language.

# 9.10. Menu overview

## 9.10.1. Menu overview - DVD Video

Overview of possible options and settings for DVD Video.

DVD video menu	Read about
Play/Pause	Playback and navigation of DVD video discs
DVD disc menu	Playback and navigation of DVD video discs
Stop	Playback and navigation of DVD video discs
Subtitles	Playback and navigation of DVD video discs
Audio tracks	Playback and navigation of DVD video discs
Advanced settings	
Angles	Camera angle for playback of DVD video discs
Screen ratios	
FAV key options	Favourites
No function	
Play/Pause	Playback and navigation of DVD video discs
Next subtitle	Playback and navigation of DVD video discs
Next audio track	Playback and navigation of DVD video discs

Pop-up menu, DVD Video Press OK/MENU when a video file is being played back in order to access the pop-up menu.	
Image settings	Picture settings
Video DVD menu	Audio and media - operating the system
DVD disc menu	Playback and navigation of DVD video discs

# 9.10.2. Menu overview - USB

Overview of possible options and settings for USB.

USB menu	Read about
Play/Pause	External audio source via AUX/USB input
Media search	Media search
Shuffle	Random selection of disc track or audio file
Select USB partition	

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FAV key options	Favourites
No function	
Play/Pause	External audio source via AUX/USB input
Shuffle	Random selection of disc track or audio file

# 9.10.3. Menu overview - FM

Overview of possible options and settings for FM radio.

FM menu	Read about
ТР	Traffic information (TP)
Alternative frequency	
Show	
Radio text	Radio text
Presets	Radio stations as presets
None	
Tune station by	Radio tuning
Station list	Radio station list
Manual tuning	Manual radio tuning
FAV key options	Favourites
No function	
Toggle radio text or presets	Radio text and Radio stations as presets

# 9.10.4. Menu overview - Digital radio (DAB)*

Overview of possible options and settings for DAB radio.

DAB menu*	Read about
Programme type (PTY) filtering	Radio programme types (PTY)
Show	
Artist/Title	
Radio text	Radio text
Presets	Radio stations as presets
None	
DAB-DAB linking	DAB to DAB* link
FAV key options	Favourites
No function	

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* Option/accessory.

# 9.10.5. Menu overview - Media Bluetooth[®]

Overview of possible options and settings for Media Bluetooth  $^{\ensuremath{\scriptscriptstyle \mathbb{B}}}$  .

Bluetooth menu	Read about
Play/Pause	Media Bluetooth®
Shuffle	Random selection of disc track or audio file
Change device	Changing to another Bluetooth [®] device
Search new device	
Make car discoverable	
FAV key options	Favourites
No function	
Play/Pause	Media Bluetooth [®]
Shuffle	Random selection of disc track or audio file
Device 1 Device 2 etc.	
Connect for media	Media Bluetooth [®]
Delete device	Removing a Bluetooth [®] device

## 9.10.6. Menu overview - TV*

Overview of possible options and settings for TV.

TV menu	Read about
Presets	$\underline{TV}^{\star}$ - playback options
Audio tracks	$\underline{TV}^*$ - playback options
Subtitles	$\underline{TV}^*$ - playback options
Teletext	Teletext*
FAV key options	$\underline{TV}^*$ - playback options
No function Teletext	

Pop-up menu TV Press OK/MENU when the TV is being shown in order to access the pop-up menu.	Read about
Image settings	Picture settings
Brightness: Contrast: Colour:	
TV menu Shows "TV menu", see above.	

* Option/accessory.

# 9.10.7. Menu overview - CD/DVD Audio

Overview of possible options and settings for CD/DVD Audio.

Disc menu	Read about
Play/Pause	<u>CD/DVD</u>
Stop [1]	
Media search	Media search
Shuffle	Random selection of disc track or audio file
Gracenote [®] options	
Gracenote [®] database	
Gracenote [®] results	
FAV key options	Favourites
No function	
Play/Pause	<u>CD/DVD</u>
Shuffle	Random selection of disc track or audio file

^[1] Only applies to DVD discs.

## 9.10.8. Audio and media - menu overview

Overview of possible options and settings in the audio and media system menus.

If the text in a menu bar is light grey then it is not possible to select this option. This may be because the function is not available in the car, that the source is not active or connected, or does not contain anything.

### RADIO

- <u>AM</u>^[1]
- FM
- DAB* .

### **MEDIA**

- CD/DVD Audio Ð
- DVD Video Ð
- Hard disk drive (HDD) Ð
- iPod Ð
- USB Ð
- Media Bluetooth® Ð
- Ð <u>AUX</u>
- <u>TV</u>* Ð

### TEL

Bluetooth[®] handsfree Ð



- Web browser
- ^[1] Does not apply to the V60 Plug-in Hybrid and S60L Twin Engine.
- * Option/accessory.

# 9.10.9. Menu overview - web browser

Overview of possible options and settings for web browser.

Web browser The menu is shown in normal view for web browser if no tab is open.	Read about
Enter address	Web browser
Settings Shows "Settings menu, web browser", see below.	
Bookmark 1 Bookmark 2 etc.	Web browser

Pop-up menu, web browser Press on button number <b>5</b> in the centre console when a page is shown in the web browser in order to access the pop-up menu.	Read about
Back	Web browser
Forward	Web browser
Reload	Web browser
Stop	Web browser
New tab	Web browser
Close tab	Web browser
Zoom in or	Web browser
Zoom out	
Add bookmark	Web browser
Delete bookmark	
Settings Shows "Settings menu, web browser", see below.	

Settings menu, web browser	Read about
Press Settings in one of the two above menus to access the settings menu.	
Bookmarks	Web browser
Bookmark 1	
Bookmark 2	
etc.	
Rename	
Reorder	
Delete	
Content filtering	Web browser
Accept cookies	Web browser
Show images	
Block pop-ups	
Enable JavaScript	
Text size	Web browser
Large	
Medium	
Small	
Clear browsing data	Web browser
FAV key options	<u>Favourites</u>
No function	
Add/delete bookmark	Web browser
New tab	Web browser
Close tab	Web browser

# 9.10.10. Menu overview - AUX

Overview of possible options and settings for AUX.

AUX menu	Read about
AUX input	Setting the audio volume for external audio source
Standard	
Boost	

## 9.10.11. Menu overview - AM

Overview of possible options and settings for AM radio.

AM menu ^[1]	Read about
Show presets	Radio stations as presets
FAV key options	Favourites
No function	
Show presets	Radio stations as presets

^[1] Does not apply to the V60 Plug-in Hybrid and S60L Twin Engine.

# 9.10.12. Menu overview - Bluetooth[®] handsfree

Overview of possible options and settings for Bluetooth[®] handsfree.

Phone menu	Read about
Call list	Making and receiving calls
Contacts	Phone book
Messages	Bluetooth [®] handsfree phone
Message notifications	Bluetooth [®] handsfree phone
Change phone	Changing to another Bluetooth [®] device
Search new phone	
Make car discoverable	
Device 1	
Device 2	
etc.	
Connect for phone	Bluetooth [®] handsfree phone
Delete device	Removing a Bluetooth [®] device

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# 9.10.13. Menu overview - iPod[®]

Overview of possible options and settings for iPod[®].

iPod menu	Read about
Play/Pause	External audio source via AUX/USB input
Shuffle	Random selection of disc track or audio file
FAV key options	Favourites
No function	
Play/Pause	External audio source via AUX/USB input
Shuffle	Random selection of disc track or audio file

# 9.10.14. Menu overview - hard disk drive (HDD)

Overview of possible options and settings for hard disk drive (HDD).

HDD menu	Read about
Play/Pause	Hard disk drive (HDD)
Media search	Media search
Shuffle	Random selection of disc track or audio file
Import music	Hard disk drive (HDD)
From disc From USB	
Rename/delete files	Hard disk drive (HDD)
Enter	
Rename	
Delete	
Delete all	
Storage information	Hard disk drive (HDD)
Used space:	
Free space:	
Capacity:	
Tracks:	
Folders:	
FAV key options	Hard disk drive (HDD)
No function	
Play/Pause	Hard disk drive (HDD)

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^[1] Depending on market.

# 9.11. Radio

# 9.11.1. Radio

It is possible to listen to the AM^[1] and FM radio frequencies, and in certain cases also <u>digital radio (DAB)</u>*.

In an <u>Internet-connected car</u> it may be possible to listen to Internet radio, see .



Controls for radio functions.

For radio operation, read how the system is operated and menu navigation.

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

### AM^[1]/FM radio

- Radio tuning
- <u>Radio stations as presets</u>
- <u>RDS functions</u>

### Digital radio (DAB)*

- <u>Digital radio (DAB)</u>*
- <u>Digital radio (DAB)</u>* subchannel
- DAB to DAB* link
- Radio stations as presets
- <u>RDS functions</u>

### Internet radio

• <u>Apps</u>

^[1] Does not apply to the V60 Plug-in Hybrid and S60L Twin Engine.

* Option/accessory.

# 9.11.2. Traffic information (TP)

This function allows traffic information that is broadcast within a set radio station's RDS network to break through.

The **TP** symbol indicates that the function is activated. If any station in the list can send traffic information then this is shown by **TP** glowing brightly in the screen, otherwise **TP** will be grey.

1 To activate/deactivate, in the normal view for the FM source, press OK/MENU and select TP.

# 9.11.3. Automatic radio frequency update (AF)

The function automatically selects the strongest transmitter for the set radio station and can be activated for FM radio.

In order to find a strong transmitter the function may, in exceptional cases, need to search the entire FM wavelength.

If the set radio station is saved as <u>preset</u> then the function does not change transmitter even if automatic radio frequency update is activated.

1 To activate/deactivate, in the normal view for the FM source, press OK/MENU and select Alternative frequency.

### 9.11.4. Radio stations as presets

Frequently used radio stations are optimally saved as presets in order to facilitate simple activation.



Station presets.

### AM^[1]/FM radio

10 presets can be stored per wavelength (e.g. AM).

The stored presets are selected using the preset buttons.

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- 1 Tune into a station, see <u>Radio tuning</u>.
- 2 Hold one of the preset buttons depressed for a few seconds. The preset button can now be used.

A list of pre-selected channels can be shown in the display screen.

1 To activate/deactivate, in the normal view for the AM/FM source, press OK/MENU and select Show → Presets.

### Digital radio (DAB)*

10 presets can be stored per wavelength. Storage of presets is performed by means of a long press on the desired preset button, for more information see AM/FM radio above. The stored presets are selected using the preset buttons.

A preset contains one channel but no subchannels. If a subchannel is being played and a preset is saved then only the main channel is registered. This is because subchannels are temporary. At the next attempt to retrieve the preset, the channel which contained the subchannel will be played. The preset is not dependent on the channel list.

A list of pre-selected channels can be shown in the display screen.

1 To activate/deactivate, in the normal view for the DAB source, press OK/MENU and select Show -> Presets.

(i) Note

The audio system's DAB system does not support all functions in the DAB standard.

^[1] Does not apply to the V60 Plug-in Hybrid and S60L Twin Engine.

* Option/accessory.

## 9.11.5. Remote control*

The remote control can be used for all functions in the <u>audio and media system</u>. The remote control's buttons

have the same functions as the buttons in the centre console or steering wheel keypad.



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When using the remote control, first press the remote control's button  $L_{a}^{b}$  to position **F**. Then aim the remote control at the IR receiver, which is located to the right of the INFO <u>button</u> in the centre console.

#### ✓ Warning

Keep loose objects such as mobile phones, cameras, remote controls for accessories, etc. in the glove compartment or other compartments. Otherwise they may injure people in the car in the event of sudden braking or a collision.

#### (i) Note

Do not expose the remote control to direct sunlight (e.g. on the instrument panel) - otherwise problems may arise with the batteries.

* Option/accessory.

## 9.11.6. Radio text

Some RDS stations transmit information on programme content, artists, etc. This information may be shown on the display screen. Radio text can be shown for FM and DAB* radio.

1 To activate/deactivate, in the normal view for the FM/DAB source, press OK/MENU and select Show.

* Option/accessory.

## 9.11.7. Radio tuning

The radio automatically compiles a <u>radio station list</u> of the strongest radio stations whose signals it is currently receiving.

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An automatic radio tuning uses the station list compiled by the radio. It is also possible to carry out manual radio tuning.

Radio tuning can be set to automatic or manual when tuning is carried out.

- In the normal view for the FM source, press OK/MENU and select Tune station by. 1
- Turn TUNE to Station list or Manual tuning and select with OK/MENU. 2

#### (i)Note

The reception is dependent both on how good the signal strength and signal quality are. The transmission may be disturbed by various factors such as tall buildings or the transmitter being far away. Coverage level can also vary depending on where in the country you are located.

## 9.11.8. Manual radio tuning

The radio automatically compiles a radio station list, but it is possible to perform manual radio tuning.

If manual radio tuning is set it can be tuned in normal view and in the frequency list.

### Radio tuning in normal view

- Short press in the normal view for the FM source on **I** (**)** in the centre console (or steering wheel keypad). 1
- > Radio switches to previous/next stored station.
- Long press in the normal view for the FM source on 2
- Radio switches to previous/next available station.

### Radio tuning in the frequency list

- In the normal view for the FM source, turn TUNE, FM tuning is shown. 1
- **2** Turn TUNE to a frequency and select using OK/MENU.

Switch between manual and automatic radio tuning in the frequency list by pressing INFO in the centre console.

## 9.11.9. Radio station list

The radio automatically compiles a radio station list of the strongest radio stations whose signals it is currently receiving. This enables you to find a station when you drive into an area where you do not know the radio stations and their frequencies.

The automatic radio tuning uses the compiled station list.

#### (i) Note

The list only shows the frequencies of stations that are currently being received, **not** a complete list of all radio frequencies on the selected wavelength.

# 9.11.10. Alarms in the event of accidents and disasters

The radio function is used to warn of serious accidents and catastrophes. The message **ALARM!** appears on the display screen when an alarm message is transmitted.

The alarm can be temporarily interrupted, but not deactivated.

## 9.11.11. Automatic radio tuning

The radio automatically collates a radio station list that the automatic radio tuning uses.

If automatic radio tuning is set it can be tuned in normal view and in the station list.

### Radio tuning in normal view

- 1 Short press in the normal view for the FM source on 🗹 / 💌 in the centre console (or steering wheel keypad).
- > Radio switches to previous/next stored station.
- 2 Long press in the normal view for the FM source on 🗠 / 📂 in the centre console (or steering wheel keypad).
- > Radio switches to previous/next available station.

### Radio tuning in the station list

- 1 In the normal view for the FM source, turn TUNE, FM station list is shown.
- **2** Turn TUNE to a station and select using OK/MENU.

Switch between automatic and manual radio tuning in the station list by pressing INFO in the centre console.

# 9.11.12. Digital radio (DAB)*

DAB (Digital Audio Broadcasting) is a digital broadcasting system for <u>radio</u>. The car supports DAB, DAB+ and DMB.

#### (i) Note

Coverage for DAB is not available in all locations. If there is no coverage then the message **No reception** is shown in the display screen.

* Option/accessory.

## 9.11.13. RDS functions

With RDS the radio can automatically change to the strongest transmitter. RDS provides the facility to receive e.g. traffic information (TP) and to search for certain programme types (PTY).

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^[1].
- Search for programme category, e.g. programme types^[2] or traffic information.
- Reception of text information on current radio programme^[3].

#### (i) Note

Some radio stations do not use RDS or only selected parts 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 back at a <u>preset volume</u>. The radio returns to the previous audio source and volume when the set programme type is no longer broadcast.

The programme functions alarm, traffic information (TP) and programme types (PTY) interrupt one another in order of priority, where alarm has the highest priority and programme types has the lowest. Press OK/MENU to return to the interrupted audio

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source and still listen to the message. Press EXIT to cancel the message and return to the interrupted audio source.

- ^[1] Applies to FM radio.
- * Option/accessory.
- ^[2] Applies to DAB* radio.
- ^[3] Applies to FM and DAB* radio.

## 9.11.14. Volume control for interrupting RDS-functions

The interrupting RDS-functions, e.g. alarm or traffic information (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.

## 9.12. Voice recognition

## 9.12.1. Voice recognition - radio

<u>Voice control</u> the radio to e.g. change station.

The following dialogues are only examples; the system's response may vary depending on the situation.

### **Change station**

The following dialogue with voice commands changes the radio station.

- 1 The user starts the dialogue by saying: "Select station".
- > The system responds with: "Say the station's name".
- 2 Say the name of the radio station.
- > The system changes to the radio station's broadcast.

### **Change frequency**

The system understands numbers between 87.5 (eighty-seven-point-five) and 108.0 (hundred eight-point-zero).

The following dialogue with voice commands changes the radio frequency.

- 1 The user starts the dialogue by saying: "Frequency".
- > The system responds with: "Say the frequency".
- 2 Say a frequency between 87.5 and 108.0 megahertz.
- > The system changes to the radio frequency.

#### More commands

More commands for voice recognition control of the radio can be found in the normal view for <u>MY CAR</u> by pressing OK/MENU and then selecting Settings  $\rightarrow$  Voice control settings  $\rightarrow$  Command list  $\rightarrow$  Radio commands.

## 9.12.2. Voice recognition - settings

Several settings for the voice recognition system can be made.

- User setting Voice profile can be set in the normal view for <u>MY CAR</u> by pressing OK/MENU and then selecting Settings
   → Voice control settings → User setting. Select between Default or Trained user. Trained user can only be selected if
   voice training has been carried out.
- Synthetic voice speed The reading speed for the system's dynamic (not pre-recorded) text-to-speech voice can be changed in the normal view for MY CAR by pressing OK/MENU and then selecting Settings → Voice control settings → Read out speed. Select between Fast, Medium and Slow.
- Voice recognition volume System voice volume can be changed by pressing the SOUND button, turning TUNE to Voice control volume and pressing OK/MENU. Adjust the voice volume by turning TUNE and save the setting with OK/MENU.

## 9.12.3. Voice recognition - mobile phone

<u>Voice control</u> a Bluetooth[®]-connected mobile phone to e.g. call a contact or dial a number.

The following dialogues are only examples; the system's response may vary depending on the situation.

### Dial a number

The system understands the numbers **0** (zero) to **9** (nine). These numbers can be pronounced individually, in groups of several numbers at a time, or the whole number all at once. Numbers greater than **9** (nine) cannot be handled by the system, e.g. **10** (ten) or **11** (eleven) are not possible.

The following dialogue with voice commands dials a number.

- 1 The user starts the dialogue by saying: "Dial number".
- > The system responds with: "Say the number".
- 2 Start saying the numbers (as individual units, i.e. "Six-eight-seven" etc.) in the phone number.
- > At the pause, the system will repeat the last spoken group of numbers.
- 3 Continue to say the numbers. When the whole number has been spoken, end by saying: "OK".
- > The system dials the number.

The number can be changed the number by saying "**Correct**" (which deletes the last spoken group of numbers) or "**Erase**" (which deletes the whole spoken phone number). By saying "**Repeat**" the system will read out the whole spoken number.

### Call a contact

The following dialogue with voice commands calls a contact in the phone book.

- 1 The user starts the dialogue by saying: "Call contact".
- > The system responds with: "Say the name".
- 2 Say the name of the contact.
- If only one contact is found then the system calls the contact, otherwise the system continues to give instructions for finding the right contact.

If a contact has multiple numbers entered in the phone book then it is possible to say, for example, "Mobile" or "Work" after the name in order to help the system.

### More commands

More commands for voice recognition control of a mobile phone can be found in the normal view for <u>MY CAR</u> by pressing OK/MENU and then selecting Settings  $\rightarrow$  Voice control settings  $\rightarrow$  Command list  $\rightarrow$  Phone commands.

## 9.12.4. Language options for voice recognition

Possible language options for <u>voice recognition</u> are selected in the menu system MY CAR.

	Language	
ଜୁ German		
	🛯 Italian	
	🧟 Swedish	$\circ$
	«Հ Dutch	0
	🛯 🖞 Russian	0
	Portuguese EU	0
	Danish	
		G049104

Language list.

Voice recognition is not possible for all languages. Languages available for voice recognition are marked with an icon in the language list - 💰. Changing the language is performed in the menu system <u>MY CAR</u>.

#### (i) Note

Changing the language for voice recognition is not possible without also changing the language for whole the menu system.

# 9.12.5. Help functions for voice recognition

Help functions are available to help you become familiar with the <u>voice recognition system</u> and to give you the opportunity to teach the system your voice and your accent.

- Voice tutorial: A function that helps you get familiar with the system and the procedure for giving commands.
- Voice training: A function that enables the voice recognition system to learn to know your voice and your accent. The function provides an opportunity to voice train one user profile.
- Brief instructions: A function that reads out brief instructions about how the system works.

(i) Note

Voice recognition instructions and voice training can only be started when the car is parked.

### **Voice tutorial**

The instructions can be started in the normal view for <u>MY CAR</u> by pressing OK/MENU and then selecting Settings  $\rightarrow$  Voice control settings  $\rightarrow$  Tutorial.

The instructions are divided into 3 lessons, which take approximately 5 minutes in total to complete. The system starts with the first lesson. To skip a lesson and go to the next one, press  $\blacktriangleright$ . Go back to the previous lesson by pressing  $\blacksquare$ .

End the instructions by pressing EXIT.

#### Voice adaptation

The system displays a number of phrases for you to say. Voice adaptation can be started in the normal view for MY CAR by pressing OK/MENU and then selecting Settings  $\rightarrow$  Voice control settings  $\rightarrow$  Speaker adaptation.

After voice adaptation has been completed, remember to select the profile Trained user under User setting.

Note that if a different language option for voice recognition is selected, then new voice training is required.

### **Brief instructions**

The system reads out brief instructions for voice recognition. The instructions are started by pressing the <u>button for voice recognition</u> and saying "Brief instructions".

## 9.12.6. Voice recognition - multimedia

<u>Voice control</u> the multimedia system to e.g. change source or change track.

The following dialogues are only examples; the system's response may vary depending on the situation.

### Change source

The following dialogue with voice commands changes the media source.

- 1 The user starts the dialogue by saying: "Disc".
- > The system changes to the CD/DVD player.

Other sources are accessed by instead saying e.g. "Bluetooth", "TV" or "USB". The sources it is possible to change to depend on what is connected at the time, and whether there is any playable media in the source. If a media source is not available then the system explains why.
### Change track

The system understands the numbers **0** (zero) to **99** (ninety-nine). Numbers higher than **99** (ninety-nine) cannot be handled by the system, e.g. **100** (hundred) or **101** (hundred-and-one) are not possible.

The following dialogue with voice commands changes the track.

- 1 The user starts the dialogue by saying: "Select track".
- > The system responds with: "Say the track number".
- 2 Say the track number (as a single number, i.e. "Twenty-three" and not "Two-three").
- > The system changes to the track number for the active media source.

### Search media

The following dialogue with voice commands searches for media.

- 1 The user starts the dialogue by saying: "Media search".
- The system shows a numbered list of possible search categories and responds with: "Select a line number, or say a category for media search".
- 2 Say a line number or a search category.
- > The system gives further instructions for finding the right media.

### More commands

More commands for voice recognition control of the multimedia system can be found in the normal view for <u>MY CAR</u> by pressing OK/MENU and then selecting Settings  $\rightarrow$  Voice control settings  $\rightarrow$  Command list  $\rightarrow$  Media commands.

# 9.12.7. Voice recognition

Voice recognition allows the driver to voice-activate certain functions in the multimedia system, in the radio, in a Bluetooth[®]-connected mobile phone or in Volvo's navigation system^{*}.

Voice commands allow the driver to concentrate on driving and focus attention on the road and traffic situation.

#### /IV Warning

The driver always holds overall responsibility for driving the vehicle in a safe manner and complying with all applicable rules of the road.

The voice recognition system allows the driver to voice-activate certain functions in the multimedia system, in the radio, in a Bluetooth[®]-connected mobile phone or in Volvo's navigation system*, while the driver can keep his/her hands on the steering wheel at the same time. Voice recognition control takes place in dialogue form with spoken commands from the user and verbal response from the system. The voice recognition system uses the same microphone as the Bluetooth[®] handsfree system, see <u>Bluetooth[®] handsfree phone - overview</u>, and the voice recognition system's replies come via the car's speakers.

### Getting started with voice recognition



Steering wheel keypad.

**1** Button for voice recognition

Press the button for voice recognition (1) in order to activate the system and initiate a dialogue with voice commands. The . system will then display commonly used commands in the screen in the centre console.

Keep the following things in mind when you use the voice recognition system:

- For a command speak after the tone, with normal voice at normal speed.
- Do not speak while the system is replying (the system cannot understand commands during this time).
- Avoid background noise in the passenger compartment by keeping doors, windows and the sunroof* closed.

#### (i) Note

If the driver is unsure of which command to use, he/she can say "Help" - the system then responds with several different commands which can be used in the current situation.

Voice recognition can be disabled by:

- saying "Cancel"
- Press EXIT or another main source button (e.g. MEDIA).

#### Volume

Voice recognition system volume is adjusted using the centre console's VOL control when the system is speaking.

#### Connecting a mobile phone

Before voice commands to a mobile phone can be used the mobile phone must be registered and connected via Bluetooth[®] handsfree. If a telephone command is given and no mobile phone is connected then the system will provide information about this. For information on registering and connecting a mobile phone, see <u>Registering a Bluetooth[®] device</u>.

* Option/accessory.

# 9.12.8. Voice recognition - voice commands

It is possible to <u>voice control</u> certain functions in the multimedia system and in a Bluetooth[®]-connected mobile phone with predefined voice commands.

The driver initiates a dialogue with voice commands by pressing the button for voice recognition.

Once a dialogue has been started, commonly used commands will be shown in the screen.

When the driver becomes accustomed to the system, he/she can speed up the command dialogue and skip the prompts from the system, by briefly pressing the button for voice recognition.

#### Commands can be given in several ways

The command for searching for an audio track in the media player can be given in several stages or as a short command:

• Say "Media search", wait for the system to respond, and then go on to say e.g. "Track".

or

Say "Search for a track" in a sequence.

# 9.12.9. Voice recognition - quick commands

<u>Voice recognition</u> can be carried out using a number of predefined quick commands.

Quick commands for the multimedia system and the phone can be found in the normal view for <u>MY CAR</u> by pressing OK/MENU and then selecting Settings  $\rightarrow$  Voice control settings  $\rightarrow$  Command list  $\rightarrow$  Global commands, Phone commands, Media commands, Radio commands and Navigation commands*.

The help text for each command tells whether the command can be used in all sources or if it can only be used in one source.

# 9.13. Phone book

# 9.13.1. Phone book - quick search for contacts

In the normal view for the phone source, turn TUNE to the right to show a list of contacts.

Turn TUNE to select and press OK/MENU to call.

Under the name of the contact is the phone number that is selected by default. If the symbol ▼ appears to the right of the contact then there are several phone numbers stored for the contact. Press OK/MENU to show the numbers. Change and dial a number other than that selected by default by turning TUNE. Press OK/MENU to dial.

Search in the list of contacts by using the centre console's keypad to key in the start of the contact's name. For the function of the buttons, see <u>Phone book - searching for contacts</u>.

# 9.13.2. Phone book

The car mirrors the connected mobile phone's phone book and only shows this phone book when the mobile phone is connected.

All use of the phone book requires that the *symbol* appears at the top of the display screen and that the handsfree function is in phone mode.

If the phone book contains a ringing caller's contact information then this is shown in the display screen.

#### (i) Note

To show the connected mobile phone's phone book in the car, mirroring must be accepted in the mobile phone when it is connected. Depending on the mobile phone, this can be activated by means of the following:

- a pop-up box or a notification is shown and accepted in the phone.
- accept sharing of information in the phone's settings for the Bluetooth[®] connection to the car.

In some cases it may be a requirement that the mobile phone is disconnected and reconnected to the car in order for mirroring to be activated.

# 9.13.3. Phone book - searching for contacts

Searching for contacts in the phone book.



Searching using the character wheel.

- 1 Character list
- Changing the input mode (see following table)
- 3 Phone book

To search for a contact, in the normal view for the phone source, press OK/MENU and select Contacts.

- 1 Turn TUNE to the required letter, press OK/MENU. The number and letter buttons on the control panel in the centre console can also be used.
- 2 Continue with the next letter. The result of the search is shown in the phone book (3).
- **3** To change the input mode to numbers or special characters, or to go to the phone book, turn TUNE to one of the options (see explanation in the table below) in the list for changing the input mode (2), press OK/MENU.

123/ABC	Change between letters and numbers with OK/MENU.
MORE	Change to special characters with OK/MENU.

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=>	Leads to the phone book (3). Turn TUNE to select a contact, press OK/MENU to see the saved numbers and other information.
First name/Last name	Changes the sort order in the phone book.

A short press on EXIT deletes an input character. A long press on EXIT will clear all entered characters.

#### Enter with the numerical keyboard



Numerical keyboard.

Another way of entering characters is to use the centre console's buttons 0-9, * and #.

When e.g. **9** is pressed, a bar appears with all characters^[1] under the buttons, e.g. **W**, **x**, **y**, **z** and **9**. Quick presses on the button move cursor through these characters.

- Stop with the cursor on the desired character in order to select it the character is shown on the enter line.
- Delete/change using EXIT.

To enter a number, hold in the corresponding number key.

^[1] The character for each button may vary depending on market/country/language.

# 9.14. TV

# 9.14.1. TV*

The TV picture is only shown when the car is stationary. When the car is moving at a speed over approx. 6 km/h the picture disappears, although the audio is heard during this time. The picture reappears when the car has stopped.



TV functions, control overview.

For basic information on playback and navigation, read <u>how the system is operated and menu navigation</u>. See below for a more detailed description.

It is possible to link certain functions to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.

#### (i) Note

This system only supports TV broadcasts in the countries that broadcast in MPEG-2 or MPEG-4 format and follow the DVB-T standard. The system does not support analogue broadcasts.

#### (i) Note

The TV picture is only shown when the car is stationary. The picture disappears when the car is moving at a speed above approx. 6 km/h, although the audio is heard during this time. The picture reappears when the car has stopped.

#### (i) Note

The reception is dependent both on how good the signal strength and signal quality are. The transmission may be disturbed by various factors such as tall buildings or the TV transmitter being far away. Coverage level can also vary depending on where in the country you are located.

#### $( \ ! \ )$ Important

A TV licence is required for this product in some countries.

# Watch TV

- 1 In the normal view for the media source, press MEDIA, turn TUNE to TV and then press OK/MENU.
- > A search starts and after a short while the most recently used channel is shown.

#### **Changing channel**

It is possible to change channel as follows:

- Turn TUNE, a list of all available channels in the area is shown. If any of these channels is already saved as a <u>preset</u> then its preset number is shown to the right of the channel name. Turn TUNE to the required channel and press OK/MENU.
- By pressing the preset buttons (0-9).
- Via a short press on the 🚾 / 📂 buttons the next available channel in the area is shown.

#### (i) Note

If no reception is available when a channel is selected from the preset buttons, it may be because the car is in a different location than when the last channel search was performed and the channel list was stored.

* Option/accessory.

# 9.14.2. TV* channels/preset list

Searching of TV channels takes place automatically and continuously from the car. The available channels are saved in a channel list. The channel list search criteria can be changed, but not the order. There is also a preset list in which the order of the presets can be changed.

### Change in the preset list

You can change the order of the channels that are shown in the preset list. A TV channel can have more than one place in the preset list. The TV channel positions can also vary in the preset list.

- 1 To change the order in the preset list, in the normal view for the TV source, press OK/MENU and select Presets.
- 2 Turn TUNE to the channel you want to move in the list and confirm with OK/MENU.
- > The selected channel is highlighted.
- 3 Turn TUNE to the new location in the list and confirm with OK/MENU.
- > The channels change places with each other.

After the preset channels (max. 30) come all the other channels available in the area. It is possible to move a channel up to a place in the preset list.

* Option/accessory.

# 9.14.3. TV* - playback options

Functions in the TV can be edited.

# **Change subtitles**

- 1 To change subtitling, in the normal view for the TV source, press OK/MENU and select Subtitles.
- **2** Turn TUNE to the subtitling you want and press OK/MENU.
- > The selected subtitling will now be used.

### Changing the audio language

- 1 To change audio language, in the normal view for the TV source, press OK/MENU and select Audio tracks.
- **2** Turn TUNE to the audio track you want and press OK/MENU.
- > The selected audio track will now be used.

* Option/accessory.

# 9.14.4. Reception of TV* channel is lost.

If the reception for the TV channel that is being shown disappears then the picture will freeze. When the reception returns the display starts again.

If the reception for the TV channel that is being shown disappears then the picture will freeze. Shortly after this a message appears informing that the reception has been lost for the current TV channel, and a new search for the channel continues. When the reception returns the display of the TV channel starts immediately. It is possible to change channel at any time when the message is shown.

If the message **No reception** is shown then this is because the system has detected that there is not full reception for all TV channels.

* Option/accessory.

# 9.14.5. Teletext*

It is possible to look at Teletext.

Proceed as follows:

- 1 To watch Teletext, in TV mode go to TV menu  $\rightarrow$  Teletext.
- 2 Enter the page number (3 digits) with the number keys (0-9) to select page.
- > The page is shown automatically.

Enter a new page number or turn TUNE to go to the next page.

Return to TV screen with EXIT.

# 9.14.6. Picture settings

You can adjust the display settings (when the car is stationary) for brightness and contrast.

- In playback mode, press OK/MENU and select Image settings, confirm with OK/MENU. 1
- Turn TUNE to the adjustment option and confirm with OK/MENU. 2
- **3** Adjust the setting by turning TUNE and confirm with OK/MENU.

To return to the settings list, press the OK/MENU or EXIT.

# 9.14.7. Information about the current TV* programme

Press the INFO button in order to display information about the current programme, the next programme and its start time.

If the INFO button is pressed once more then additional information on the current programme can sometimes be displayed, such as start and end times and a brief description of the current programme.

To return to the TV picture, wait several seconds or press EXIT.

* Option/accessory.

# 9.15. Symbols in the screen

#### Overview of the symbols that can be shown in the screen's activity/status field.



Activity/status field.

The activity/status field shows what the ongoing activities are, and in some cases their status. Not all activity/status symbols are shown all the time due to the limited space in the field.

Symbol	Specification
S	Connects to the Internet via Bluetooth [®] .
*	Connected to the Internet via Bluetooth [®] .
×	Not connected to the Internet via Bluetooth [®] .
<b>C</b>	Connects to the Internet via Wi-Fi.
•1)])	Connected to the Internet via Wi-Fi.
<b>X</b>	Not connected to the Internet via Wi-Fi.
	Connects to the Internet via car modem * ^[1] . The bars show the signal strength in the mobile phone network and the type of connection is shown below the bars.
.11 3G	Connects to the Internet via car modem * ^[1] .
XI 3G	Not connected to the Internet via car modem * ^[1] .
R 3G	Car modem $*$ ^[1] connected to the Internet via roaming (for use within networks abroad).
	The symbol is shown when the car's location is transmitted.
~	Phone connected to the car.
	Missed call.
6	Call in progress.
	Unread text message.

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Symbol	Specification
×	Microphone switched off.
Ø	Audio muted (MUTE).
SOS	SOS service * ^[1] active.
ON CALL	ON CALL service * ^[1] active.

- * Option/accessory.
- ^[1] Only cars with Volvo On Call.

# 9.16. Type approval - audio and media

Type approval for radio, telecom and computer equipment.

# Wi-Fi



# Declaration of Conformity for audio and navigation unit

# Declaration of Conformity

Mitsubishi Electric Corporation Sanda Works 2-3-33, Miwa, Sanda-city, Hyogo, 669-1513 Japan

We declare, at our sole responsibility, that the following product conforms to the Essential Requirements of the Radio and Telecommunications Terminal Equipment Directive 1999/5/EC in accordance with the tests conducted to the appropriate requirements of the relevant standards, as listed herewith.

Product :	Audio Nav	vigation Unit
Model/Type Number :	NR-1V	
Directive and Stendards used :	<u>Radio :</u> <u>EMC :</u> <u>Safety :</u>	EN 300 328 V1.7.1 : 2006-10 EN 300 440-1 V1.6.1 : 2010-08 EN 300 440-2 V1.4.1 : 2010-08 EN 301 489-1 V1.9.2 : 2011-09 EN 301 489-3 V1.4.1 : 2002-08 EN 301 489-17 V2.1.1 : 2009-05 IEC 60950-1:2005 (Second Edition) + Am 1:2009 EN 60950-1 : 2006+A1:2010+A11:2009+A12:2011

The authorized signatory to this declaration :

Date:

July 2013

Signature: Name: Title:

Address:

**Kazuhito Funae** Manager, Mitsubishi Electric Corporation Sanda Works 2-3-33, Miwa, Sanda-city, Hyogo, 669-1513, Japan

The responsible person based within the EC :

Date:

Signature: Name: Jan Billig General Manager, Title: Mitsubishi Electric Automotive Europe, B.V. Swedish Branch, Technical Center Address: Ostra Eriksbergsgatan 38, SE41878 Gothenburg, Sweden

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# 9.17. Audio and media - overview

Overview of the audio and media system's different parts.



- 1 Steering wheel keypad.
- 27-inch screen. The appearance in the screen can be changed and follows the combined instrument panel's settings, see the owner's manual.
- **3** Centre console control panel.
- **4** AUX and USB inputs for <u>external audio sources</u> (e.g. iPod[®]).
- 6 A/V-AUX input.

# 9.18. Audio and media - operating the system

The audio and media system is controlled from the centre console, with steering wheel buttons, voice recognition or remote control*. The information is presented on the screen in the upper section of the centre

#### console.





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<b>1 Scroll/fast w</b> winds disc t	<b>rind/search - Short press</b> scrolls be racks or searches for the next availab	tween disc tracks, pres	set radio stations ^[1] or cha	pter ^[2] . A <b>long press</b> fast-
2 SOUND - pr	ess for access to audio settings (bas	s, treble, etc.). For mo	re information, see <u>genera</u>	<u>l audio settings</u> .
<b>3</b> VOL - raise c	r lower the volume.			
4 () - ON/OFF whole of the press to mut	F/MUTE - <b>short press</b> starts the system (including navigations are the sound (MUTE) or restore the s	tem and <b>long press</b> (u on*- and phone functi ound if it had been sw	ntil the screen is off) switc ons) starts/switches off at vitched off.	thes off. Note that the the same time. Briefly
5 Disc insert a	nd eject slot.			
<b>6</b> Main source are in a source	<b>-s</b> - press to select the main source ( ce and press the main source buttor	e.g. RADIO, MEDIA). I n, a shortcut menu is s	Last active source is show hown.	n (e.g. FM for radio). If you

- ⑦ ▲ disc eject. A disc remains in the ejected position for about 12 seconds, after which it is inserted back into the player for safety reasons.
- OK/MENU press the thumbwheel in the steering wheel or the button in the centre console to accept selections in menus. If you are in the normal view and press OK/MENU a menu is shown for the selected source (e.g. RADIO or MEDIA). Arrow to the right of the screen is shown when there are underlying menus.
- OTUNE turn the thumbwheel in the steering wheel or the knob in the centre console to scroll between disc tracks/folders, radio and TV* stations, phone contacts or navigate between the options on the display screen.
- (D EXIT **short press** leads upwards in the menu system, interrupts current function, interrupts/rejects phone calls or erases entered characters. A **long press** leads to the normal view or if already in the normal view, to the highest menu level (main source menu) which is the same as the main source buttons in the centre console (6).
- () INFO If more information than can be shown on the screen is available, press the INFO button to see the remaining information.
- Preset buttons, input of numbers and letters.
- **(B** FAV in certain sources it is possible to link a function to the FAV button. A linked function is then activated simply by pressing the FAV button, see <u>Favourites</u>.
- **Woice recognition** press in order to activate voice recognition.

# Menus



The example shows navigation to different functions when the media is played from the car's hard disc drive.

- **()** Main source button press in order to change the main source or to show the shortcut menu in the active source.
- **2** Normal view normal mode for the source.
- **3** Shortcut menu shows frequent menu selections.
- **4** Quick menu fast mode when TUNE is turned, e.g. for changing disc tracks, radio station, etc.
- **5** Source menu functions and settings in the active source.
- **6** Source selection menu^[3] shows the sources that can be selected.
- 7 main source menu displays mains sources, which can also be selected with the main source keypad (1).

Appearance depends on source, equipment in the car, settings, etc.

Select main source by pressing a main source button (1) (e.g. RADIO, MEDIA). To navigate through the source menus, use the controls TUNE, OK/MENU, EXIT or the main source button (1).

If the text in a menu bar is light grey then it is not possible to select this option. This may be because the function is not available in the car, that the source is not active or connected, or does not contain anything.

For available functions, see <u>Audio and media - menu overview</u>.

- * Option/accessory.
- ^[1] Does not apply to DAB.
- ^[2] Only applies to DVD discs.
- ^[3] Only available in those main sources that have several sources.

# 9.19. Volvo Sensus

Volvo Sensus is the heart of the personal Volvo experience and connects you with the car and outside world. Sensus provides information, entertainment and assistance when it is needed. Sensus consists of intuitive functions that both enhance the car journey and simplifies ownership of the car.

# SENSUS

An intuitive navigation structure makes it possible to receive relevant support, information and entertainment when it is necessary, without distracting the driver.

Sensus covers all the car's solutions that enable connection* to the outside world and provides you with intuitive control over all the car's capabilities.

Volvo Sensus combines and presents many functions in several of the car's systems on the centre console's display screen. With Volvo Sensus the car can be personalised by means of an intuitive user interface. Settings can be made in Car settings, Audio and media, Climate control, etc.

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

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

With a press on the respective function RADIO, MEDIA, TEL,  $\bigoplus$ *, NAV* and CAM* other sources, systems and functions can be activated, e.g. AM, FM, CD, DVD*, TV*, Bluetooth[®]*, navigation* and park assist camera*.

For more information about all functions/systems, see the relevant section in the owner's manual or its supplement.

* Option/accessory.

# 9.20. Favourites

Link a frequently used function to the FAV button. It is possible to link a function within each respective source in the main sources of radio, media, MY CAR and the web browser in an Internet-connected car. The linked function is then activated simply by pressing FAV.

# Link favourite



- **1** Select a main source (e.g. RADIO, MEDIA).
- 2 Select the source (e.g. AM, Bluetooth).
- **3** In the source's normal view, press OK/MENU and select the FAV menu. Alternatively long press on FAV button, until the menu is shown.
- 4 Select a function in the menu item to link to FAV.
- > When the source (e.g. AM, Bluetooth[®]) is active the saved function is available via a short press on FAV.

# 9.21. Licenses - audio and media

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# 9.22. Audio and media

The audio and media system consists of radio, media player, TV* and the option to communicate with the mobile phone, which in some cases can be <u>controlled with voice recognition</u>. It is possible to <u>connect the car</u> to the Internet to e.g. stream audio via apps.

Information is presented on a 7-inch screen in the upper section of the centre console. Functions can be controlled via buttons in the steering wheel, in the centre console below the screen or via remote control*.



If the audio and media system is active when the engine is switched off then it is automatically activated the next time the key is inserted into key position I or higher, and it continues with the same source (e.g. radio) as before the engine was switched off (the driver's door must be closed on cars with Keyless systems*).

The audio and media system can be used for 15 minutes at a time without the remote control key being in the ignition switch by pressing the On/Off button.

When the car is being started the audio and media system is temporarily switched off and continues when the engine has started.

#### (i) Note

Remove the remote control key from the ignition switch if the audio and media system is being used when the engine is switched off. This is to avoid discharging the battery unnecessarily.



G051246

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G050945

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* Option/accessory.

# 9.23. Media search

There is the option to search for music in your devices. The search seeks through <u>USB</u>, <u>disc</u> and <u>hard disc</u> <u>drive</u>.

Media search is available from the normal view for the sources Disc, USB and HDD.

To start the search, in the normal view for the source, press OK/MENU and select Media search.

# Search function



Searching using the character wheel.

1 Character list.

Changing the input mode (see following table).

Use the character wheel to enter search terms.

1 Turn TUNE to the desired letter, press OK/MENU to confirm. The number and letter buttons on the control panel in the centre console can also be used.

To change the input mode to numbers or special characters, or to go to the results list, turn TUNE to one of the options (see explanation in the following table) in the list for changing the input mode (2), press OK/MENU.

- **2** Continue with the next letter and so on.
- 3 When you are satisfied with your search term, select Search.
- Search is carried out. The result is shown and grouped in the following categories: artist, album, track, genre, year and composer.
- **4** Turn TUNE to a category, press OK/MENU.
- **5** Turn TUNE in order to select a media, press OK/MENU to start playback.

123/ABC	Change between letters and numbers with OK/MENU.
MORE	Change to special characters with OK/MENU.
Search	Carry out media search.
{ }	Changes from the character wheel to the Keyword: field. Move the cursor with TUNE. Delete any misspelling with EXIT. To return to the character wheel, press OK/MENU.
	Note that the digit and letter buttons on the control panel can be used for editing in the Keyword: field.

A short press on EXIT deletes an input character. A long press on EXIT will clear all entered characters.

#### Enter with the numerical keyboard



Numerical keyboard.

Another way of entering characters is to use the centre console's buttons 0-9, * and #.

When e.g. **9** is pressed, a bar appears with all characters^[1] under the buttons, e.g. **W**, **x**, **y**, **z** and **9**. Quick presses on the button move cursor through these characters.

- Stop with the cursor on the desired character in order to select it the character is shown on the enter line.
- Delete/change using EXIT. .

To enter a number, hold in the corresponding number key.

^[1] The character for each button may vary depending on market/country/language.

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# 10. Internet map

# 10.1. Internet map^[1] - scroll menu

In Scroll mode the map image is moved with the <u>centre console</u> numeric keys.



Scroll mode with crosshair^[2].

### To activate Scroll mode in normal map mode

• Press one of the numeric keys **0-9**.

#### To scroll

• Press one of the numeric number keys 1-2-3-4-6-7-8-9- a directional arrow is shown in the margins, combined with the number to be used to move the map in the desired direction.

#### To zoom

• Turn the TUNE knob.

### Numeric key "5"

**5** JKL Pressing the number **5** in Scroll mode centres the map around the car's position.

### To exit from Scroll mode

Press EXIT or NAV.
# Crosshair



Press OK once to show a menu for the point on the map, which the centre of the crosshair points to:

- Set single destination Deletes any previous destinations in the itinerary and starts guidance on the map.
- POI information shows name and address on the screen for the POI closest to the crosshair. For more information on POI, see <u>Internet map</u>^[1] points of interest (POI) symbols.
- Information Shows information available about the selected location.
- Save Allows you to store the selected location in the memory.

#### ^[1] Applies to certain markets.

^[2] Select whether the position of the crosshair/cursor should be shown with name or GPS coordinates, see <u>map options</u>.

# 10.2. Internet map^[1]

Internet map is a function that enables Internet-based map display.

The system can calculate a suitable route and indicate the position of the car in relation to the route on the map. In the event of a deviation from the planned route the system automatically adjusts the route and still guides to the destination. In addition to normal map data, the map also shows traffic information and symbols for selected points of interest (POI).

Route calculation will cease to function in the event of poor coverage or a weak signal in the Internet connection. Certain map scales may be missing depending on how much of the map data has been downloaded.

#### (i) Note

Data is transferred when using the internet (data traffic), which can have a cost.

Activation of data roaming can result in further charges.

Contact your network operator about the cost for data traffic.

Volvo offers a full-scale navigation system (Sensus Navigation) which uses hard disk-based maps, voice guidance, advanced route calculation taking into account traffic information, Internet search and the option of several waypoints. Contact your dealer to upgrade to Sensus Navigation. The Internet map is replaced during upgrading.

The Internet map provides road information which leads to a pre-selected destination. However, not all recommended route directions are reliable because situations can arise that lie outside the capacity and judgement of the system, such as sudden changes in weather, for example.

#### /I Warning

Observe the following.

- Direct all your attention to the road and make sure that all your concentration is on driving.
- Follow applicable traffic legislation and drive with good judgment.
- Due to weather conditions or time of year affecting the road conditions, some recommendations may be less reliable.

^[1] Applies to certain markets.

# 10.3. Internet map^[1] - enter destination

Plan a trip by entering destination.

To access the following options, in the normal view for the source, press OK/MENU and select Set destination.

4	Home	• 1
N	Address	► \
	Point of interest (POI)	•
	Stored location	•
	Previous destination	•
	Postcode	•
	Latitude and longitude	▶ /

# Home

The system can store any position under the Home menu option. The function is shown each time a position shall be saved:

Save location as home + OK.

To activate guidance with destination Home:

• Highlight Home + OK.

# Address

It is sufficient to only enter a city/town in order to obtain an itinerary with guidance - it guides to the centre of the city/town.

### (i) Note

The definition of city or area may vary from country to country and even within the same country. In some cases, it refers to a municipality and in others it refers to a district.

The following search criteria can be used to search for a destination by address:

- Country: Enter a country.
- City: Enter the city/town.
- Street: Enter the street address.
- Number: Select one of the street's house numbers.

# Points of interest (POI)

It is possible to search for POI options by entering any of the following menu options:

- With name
- By category
- Around the car
- Near the destination
- Around point on map

To avoid making the map image difficult to read, the number of POI options that can be viewed simultaneously on the screen is limited - zooming into an area gives the opportunity to view several POI options.

For information about display options regarding POI options, see map options.

Examples of symbols for different POI options, see Internet map^[1] - points of interest (POI) symbols.

### **Stored location**

Collected here are destinations and locations that have been stored with the "Save" menu option.

Saved destination and location respectively can be adjusted:

- Set single destination
- Edit
- Delete
- Delete all.

### **Previous destinations**

Previously used destinations are stored here. Highlight one of them + **OK** and then choose between:

- Set single destination
- Information
- Save
- Delete
- Delete all.

### Post code

Search destination by post code.

#### (i) Note

Presentation of post code may differ between different markets/areas.

### Latitude and longitude

Enter destination with GPS coordinates.

First decide which method to use to enter the GPS coordinates by highlighting **Format:** + OK. Then highlight one of the following options + OK:

- DD°MM'SS" position with Degrees, Minutes and Seconds.
- Decimal position with Decimals.

Following which, enter the GPS coordinates and then select one of the following options:

- Set single destination
- Save

### Point on the map

Shows the map with current location indicated with a cursor.

Turn TUNE to change the map scale.

- Move (scroll) the map with the numeric keys, see <u>Internet map</u>^[1] scroll menu.
- When the desired location has been found Press OK.



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Cursor position is indicated with name.

Then choose between the following options and activate with **OK**:

- Set single destination
- Save

^[1] Applies to certain markets.

# 10.4. Internet map^[1] - character wheel and keyboard

Use the character wheel or the centre console keypad for entering and selecting options. For example, enter information about an address or a facility.

	Address
1	Country: (GERMANY )
W W S S S S S S S S S S S S S S S S S S	City: <select city=""></select>
	Street: ( <select street=""></select>
	Number: <pre></pre> <pre>Sel. house no.&gt;</pre>
	Search
1	

Screen view with text field.

This system uses a "character wheel" to enter specific information, e.g. type of POI, city/town, area/country, address, street or postcode.

### Activate an option

After highlighting a desired function/menu bar using the **thumbwheel** or the TUNE knob, press the **thumbwheel**/OK to see the next level of functions/options.

# Entering text with the character wheel



the character wheel.

- Highlight a text field.
- Press OK to call up the character wheel.
- Select the characters using the **thumbwheeI**TUNE knob and enter them by pressing **thumbwheeI**OK once.

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# Enter with the numerical keyboard



Numerical keyboard.

Another way of entering characters is to use the centre console's buttons 0-9, * and #.

When e.g. **9** is pressed, a bar appears with all characters^[2] under the buttons, e.g. **W**, **x**, **y**, **z** and **9**. Quick presses on the button move cursor through these characters.

- Stop with the cursor on the desired character in order to select it the character is shown on the enter line.
- Delete/change using EXIT.

To enter a number, hold in the corresponding number key.

### More options

Additional options that, amongst other things, provide more characters as well as numbers are available in the character wheel's inset menu:

- 123/ABC + OK the character wheel switches between numbers and characters.
- MORE + OK alternative characters are shown in the wheel.
- => + OK moves the cursor to the list on the right-hand side of the screen where selections can be made with OK.

# List with options



List that matches the entered characters.

When searching for countries, available options are listed based on the letters entered. No list is shown for other search fields but instead the search is performed when search is activated.

^[1] Applies to certain markets.

^[2] The character for each button may vary depending on market/country/language.

# 10.5. Internet map^[1] - route overview

Show overview map of the route.

To show the overview map of the route, in the normal view for the source, press OK/MENU and select Route -> Map of re-

#### maining route.



Otherwise, the same functions as in the <u>scroll menu</u>.

^[1] Applies to certain markets.

# 10.6. Internet map^[1] - detailed route information

Shown here are the turning points that each route section includes, for example, exits and intersections.

To view detailed route information, in the normal view for the source, press OK/MENU and select Route  $\rightarrow$  Detailed route

#### information.



Detailed route information.

The route to the destination consists of a number of subsections containing different turning points, e.g. straight sections, exits, intersections, slip roads, etc. Scroll through the subsections with **Next/Previous**. Position on map, denomination, distance and points of interest are shown. The distance shown is the one between the two turning points and is therefore not counted down as the vehicle approaches the turning point.

^[1] Applies to certain markets.

# 10.7. Internet map^[1] - points of interest (POI) symbols

Shown here are examples of how symbols for different facilities may appear.

11	Restaurant
8	Drama
٩	Dancing Nightclub
<u>9</u> 2.	Cinema
ຊື່ມ	Casino
T	Museum
٥	Tourist attraction
$\mathbf{X}$	Airport
	Railway station

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	Ferry terminal
A	Taxi stand
	Accommodation Hotel
)je	Shopping centre
	Business activities Services
E	ATM Bank
¥	Police
	Post office
i	Tourist information
1	Petrol station
ä	Car hire
۲.	Government building Civic/community centre
2	Exhibition centre Convention
Ð	Hospital Medical facility
	Library
Ρ	Parking
419	Public toilets Rest room
<b>.</b>	Sports facility Playing field
(7 <u>6)</u>	Leisure activities Relaxation
*	Swimming baths Beach
Û.	Education University
A	Bar Pub
<b>A</b>	Mountain Mountain peak
*	Pharmacy
à	Camping

^[1] Applies to certain markets.

# 10.8. Internet map^[1] - route options

Route options contains settings for route type and options for adapting the route.

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### **Route type**



To access route type, in the normal view for the navigation source, press OK/MENU and select Settings  $\rightarrow$  Route options  $\rightarrow$  Route type.

Different types of route can be selected here. Activate the desired option with **OK**.

- Fast with traffic adaption short travel time with minimal traffic queues.
- Fast short travel time prioritised.
- Short short route prioritised. The route can also be guided via minor roads.

# Adapt the route

To adapt the route, in the normal view for the navigation source, press OK/MENU and select Settings  $\rightarrow$  Route options.

In order to avoid one or more of the screen's listed elements along the route, highlight the element + OK.

- Avoid motorways
- Avoid toll roads
- Avoid tunnels
- Avoid ferries
- Avoid car trains

#### (i) Note

- If an itinerary is entered when these selections are made then there may be a certain delay after an option has been ticked/unticked since the itinerary must be recalculated.
- If tunnels, toll roads and motorways are not selected then these are avoided as far as possible and are only used if no other reasonable alternative is available.

^[1] Applies to certain markets.

# 10.9. Internet map^[1] - operation

Proceed as follows to start the Internet map to plan your trip in order to then be guided to the specified destination.

For basic operation, read how the system is operated and menu navigation . More detailed descriptions are shown in each respective section. In order to enter and search in the Internet map, use the character wheel and numerical keyboard.

- To use the Internet map, the car must first be <u>connected to the Internet</u>. 1
- Start the Internet map by pressing the NAV button in the centre console. 2
- Accept sharing of the car's position. 3

#### (i) Note

The Internet map does not work without acceptance.

To deactivate sharing, in the normal view for the source, press OK/MENU, select Settings and uncheck the option Position sharing.

- Enter destination. Δ
- Select <u>route options</u> (e.g. road type, tunnels, ferries). 5
- Select <u>map options</u> (e.g. full screen, map type, position information). 6
- > The position of the car is shown on the Internet map with traffic information and selected points of interest (POI).

#### Show route

Show the overview map of the route, in the normal view for the source, press OK/MENU and select Route -> Map of remaining route.

Show detailed route information.

#### Change destination

To change destination: <u>enter destination</u>.

#### Cancel/resume guidance

In the normal view for the source, press OK/MENU and select Cancel/Resume guidance.

### Change of car ownership

In the event of change of ownership it is important to reset all user data and system settings to the original factory settings, see <u>Change of ownership</u>.

^[1] Applies to certain markets.

# 10.10. Internet map^[1] - text and symbols on the screen

Explanation of text and symbols that can be shown on the map.



1 Road types - size and colour vary depending on the size of the road and the selected map scale and map colour

- 2 <u>Traffic information</u> highlighted with a line in the edge of the road.
- 3 Points of interest (POI)

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^[1] Applies to certain markets.

# 10.11. Internet map^[1] - map options

Settings for different map options.

	Snow full-screen map		
W X S	Desition information		
	POI symbols	Selected V	
	Map colours	Night 🔻	
	Traffic information on n	nap 🗖	

### Full screen map

To show the map in full screen, in the normal view for the source, press OK/MENU and select Settings  $\rightarrow$  Map options  $\rightarrow$  Show full-screen map. Highlighted option + OK shows the map across the whole screen without other car-related information, such as passenger compartment temperature or active radio transmitter in the lower and upper edge of the screen.

# Map mode compass direction

To set compass direction, in the normal view for the source, press OK/MENU and select Settings  $\rightarrow$  Map options  $\rightarrow$  Map type.

This is where to select how the map should be shown on the screen. Activate the desired option with **OK**.

- North up the map is always shown with North at the top of the screen. The car symbol moves in the current compass direction on the screen.
- Map heading up the car symbol is in the centre and is always pointing upwards on the screen. The map image rotates under the car symbol in relation to how the road turns.
- **3D Heading up -** same as **Map heading up** but 3D map. Display varies depending on zoom.

### Information about current position

To set the information about current position, in the normal view for the source, press OK/MENU and select Settings  $\rightarrow$  Map options  $\rightarrow$  Position information.

Activate the desired option with **OK**.

- Current road the screen shows the name of the road/street where the car/cursor is located.
- Lat/Long the screen shows the coordinates of the location where the car/cursor is located.
- None the screen shows no information for the location where the car/cursor is located.

# Point of interest (POI) on the map

To set which POI options should be shown on the map, in the normal view for the source, press OK/MENU and select Settings  $\rightarrow$  Map options  $\rightarrow$  POI symbols.

This is where to specify which POI options should be shown on the map. Activate the desired option with **OK**.

- **Default** POI options specified with the function **Selected** are shown.
- Selected select with the TUNE knob + OK for each POI option required on the screen.
- None no POI options are shown.

For examples of POI, see <u>Internet map</u>^[1] - points of interest (POI) symbols.

### Map colours

To set map colours, in the normal view for the source, press OK/MENU and select Settings  $\rightarrow$  Map options  $\rightarrow$  Map colours.

Activate the desired option with  $\ensuremath{\mathsf{OK}}$  .

- Automatic a light sensor detects whether it is day or night and adapts the screen automatically.
- Day the colours and contrast of the screen become clear and sharp.
- Night the colours and contrast of the screen are adapted to provide the driver with optimum night vision.

### Traffic information on the map

Highlighted in green, yellow or red on the side of the roads on the map that have traffic information. Green means no disruptions, yellow means slow traffic and red means congestion/traffic jam/accident.

#### (i) Note

Traffic information is not available in all areas/countries.

The traffic information transmission areas are constantly being expanded.

To show traffic information, in the normal view for the source, press OK/MENU and select Settings -> Map options -> Traffic on map.

^[1] Applies to certain markets.

# 11.1. Changing wheels

# 11.1.1. Jack*

A jack is used to raise the car, e.g. when changing the tyres.

The original jack should only be used for changing to the spare wheel. The jack's thread must always be well greased.

#### (i) Note

The normal car jack is only designed for occasional, short-term use, such as when changing a wheel after a puncture, changing to winter/summer wheels, etc. Only the jack for the specific car model may be used to raise the car. If the car is to be jacked up more often, or for a longer time than is required just to change a wheel, use of a garage jack is recommended. In this instance, follow the instructions for use that come with the equipment.

Tools - returning into place





The white arrow must point toward the front of the car.

After use, crank the jack together and screw apart the towing eye and wheel bolt wrench. Place the wheel bolt wrench and the jack in their respective compartments in the bag. Tighten the bag's centre strap firmly and use the other strap to secure the bag in the rear load retaining eyelet on the left-hand side of the cargo area. Position the bag so it is not pinched when the tailgate is closed. The white arrow on the bag must point toward the front of the car. Refit the towing eye in the foam block on the left-hand side of the cargo area.

#### /! Warning

The bag should be secured so that the white arrow (see the inset figure) points forward in the car.

### (i) Note

If the floor hatch in the cargo area floor is not closed then privacy locking does not work.

* Option/accessory.

# 11.1.2. Wheel bolts

#### Wheel bolts are used to fasten the wheels at the hubs and are available in different versions.

(!) 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.

* Option/accessory.

# 11.1.3. Warning triangle

The warning triangle is used to warn other road users of a stationary vehicle.

# Storage and folding up







#### 1 1

Lift the floor hatch and take out the warning triangle.

#### 2 2

Take the warning triangle from the case, fold out and assemble the two loose sides.

#### 3 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.

#### (i) Note

If the car has been locked with privacy locking then the boot lid/tailgate and floor hatch cannot be opened, see Privacy locking*

* Option/accessory.

# 11.1.4. Tools

Amongst other things, the car contains towing eye, jack* and wheel wrench*.



The car's towing eye, emergency puncture repair kit and the tool for the plastic wheel bolt caps are located behind the hatch on the left-hand side of the cargo area. There is also space for the sleeve for the lockable wheel bolts. Jack* and wheel wrench* are located in a bag on the cargo area floor.

If the car is not equipped with the accessory spare wheel then the jack need not be stored in the car.

### Warning

When the towing eye and emergency puncture repair kit are stored in the foam block, they must always be strapped in with the tensioning strap.

* Option/accessory.

# 11.1.5. Changing wheels - removing wheels

The car's wheels can be changed for e.g. winter wheels/winter tyres.

# Spare wheel*

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# The following instructions only apply if a spare wheel has been purchased as an accessory for the car. If the car is not equipped with a spare wheel - see information about <u>Emergency puncture repair (TMK)</u>.

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 <u>tyre pressure table</u>.

#### Important

- Never drive faster than 80 km/h with a spare wheel on the car.
- The car must never be driven fitted with more than one "Temporary Spare" wheel.

#### The spare wheel is supplied in a bag which must be secured on the cargo area floor using straps.



Cars with four load retaining eyelets.

Turn the handle on the spare wheel bag out towards you. Attach the sewn-in tensioning strap hooks in the front load retaining eyelets. Attach the long strap into one of the front load retaining eyelets, run the strap diagonally over the spare wheel and through the upper handle. Tighten the short tensioning strap onto the long one. Attach the rear load retaining eyelet and tighten.

# Before changing a wheel

- 1 Loosen the straps, lift out the spare wheel from the cargo area and remove it from the spare wheel bag.
- **2** To access the towing eye, open the hatch on the left-hand side of the cargo area.



3 Take out the jack*, tool to remove the plastic caps on the wheel bolts and the wheel wrench* (located in a bag on the



Tool for removing the plastic caps on the wheel bolts.

### / Warning

Check that the jack is not damaged, that the threads are thoroughly lubricated and that it is free from dirt.

### (i) Note

- If the car is not equipped with the accessory spare wheel then the jack need not be stored in the car.
- Volvo recommends only using the jack* that belongs to the car model in question, which is indicated on the jack's label.
- The decal also indicates the jack's maximum lift capacity at a specified lifting height.
- **4** Set up the <u>warning triangle</u> if a wheel is replaced in a trafficked location. The car and jack* must be on a firm horizontal surface.

### Removing

1 Apply the <u>parking brake</u> and engage reverse gear, or position P if the car has an automatic gearbox.

- 2 Place chocks in front of and behind the wheels which will remain on the ground to prevent them from rolling. Use heavy wooden blocks or large stones for example.
- **3** Screw together the towing eye with the wheel wrench* until the stop position in accordance with the following figure.



The towing eye must be screwed all the way into the wheel bolt wrench.

**4** Remove the plastic caps from the wheel bolts with the intended tool.

5 Loosen the wheel bolts  $\frac{1}{2}$ -1 turn anticlockwise with the wheel wrench.

#### $\wedge$

Warning

6

Never position anything between the ground and the jack, nor between the jack and the car's jacking point.

There are two jacking points on each side of the car. Wind up the jack so that the flange in the bodywork ends up in the

notch in the head of the jack.



#### (!) Important

The ground must be firm, smooth and level.

7 Lift the car so that the wheel is free. Remove the wheel bolts and lift off the wheel.

#### ✓! 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. If a wheel must be changed in a trafficked environment, passengers must stand in a safe place.

#### (i) Note

The normal car jack is only designed for occasional, short-term use, such as when changing a wheel after a puncture, changing to winter/summer wheels, etc. Only the jack for the specific car model may be used to raise the car. If the car is to be jacked up more often, or for a longer time than is required just to change a wheel, use of a garage jack is recommended. In this instance, follow the instructions for use that come with the equipment.

* Option/accessory.

# 11.1.6. Changing wheels - fitting

It is important that the procedure for fitting the wheel is carried out correctly.

# Installation

### / 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. If a wheel must be changed in a trafficked environment, passengers must stand in a safe place.

- 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 the plastic caps on the wheel bolts.



The white arrow must point toward the front of the car.

Screw apart the towing eye and the wheel bolt wrench. Place the wheel bolt wrench and the jack in their respective compartments in the bag. Tighten the bag's centre strap firmly and use the other strap to secure the bag in the rear load retaining eyelet on the left-hand side of the cargo area. Position the bag so it is not pinched when the tailgate is closed. The white arrow on the bag must point toward the front of the car.

#### (i) Note

- After a tyre has been inflated, always refit the dust cap in order to avoid damage to the valve from gravel, dirt, etc.
- Only use plastic dust caps. Metal dust caps can rust and become difficult to unscrew.

#### /!\ Warning

The bag should be secured so that the white arrow (see the inset figure) points forward in the car.

### When changing to another tyre dimension

Applies to cars with <u>tyre pressure monitoring</u>^[1]: Contact an authorised Volvo workshop for updating the software at each change of tyre dimension. A software download may be necessary both when changing to larger and smaller dimensions, and also when switching between summer and winter wheels.

# 11.2. Tyres

# 11.2.1. Tyre pressure monitoring system (TPMS) * ^[1] - status

Tyre pressure monitoring (TPMS) (Tyre Pressure Monitoring System)* warns the driver when the pressure is too low in one or more of the car's tyres.

### System and tyre status

The current status of the system and the tyres can be checked, see MY CAR.

- 1 Select the menu system MY CAR to open the menus for tyre monitoring.
- 2 Select Tyre pressure.

The status is colour-coded for each tyre in accordance with the following:

- All-green: the system is operating normally and the tyre pressure in all tyres is slightly above the recommended level. Ð
- Yellow wheel: corresponding tyre's pressure is too low.
- Red wheel: corresponding tyre's pressure is very low. Ð
- All wheels grey: the system is temporarily unavailable. It may be necessary to drive the car for a few minutes at a speed Ð above 30 km/h before the system becomes active again.
- All wheels grey and the message Tyre pressure system Service required: an error has occurred in the system. Contact a . Volvo dealer or workshop.

# **Clearing warning messages**

If a tyre pressure message has been shown and the TPMS warning lamp has been illuminated:

- 1 Check the tyre pressure on the indicated tyre/tyres with a tyre pressure gauge.
- 2 Inflate the tyre/tyres to the correct pressure in accordance with the tyre pressure label on the driver's side door pillar (between front and rear doors).
- **3** In some cases it may be necessary to drive the car for a few minutes at a speed above 30 km/h in order to clear the warning text. At which point, the TPMS warning lamp is extinguished as well.

#### (i) Note

- The TPMS system uses a so-called compensated pressure value, based on both tyre temperature and ambient temperature. This means that the tyre pressure may differ slightly from the recommended pressures listed on the tyre pressure label on the driver's side door pillar (between front and rear doors). For this reason, it may be necessary to inflate the tyres to a slightly higher pressure in order to clear a low tyre pressure message.
- To avoid incorrect tyre pressure, the pressure should be checked on cold tyres. "Cold tyres" means the tyres are the same temperature as the ambient temperature (approx. 3 hours after the car has been driven). After a few kilometres of driving, the tyres warm up and the pressure increases.

#### / Warning

- Incorrect tyre pressure may lead to tyre failure, which could result in the driver losing control of the car.
- The system cannot indicate sudden tyre damage in advance.

#### * Option/accessory.

^[1] Standard in certain markets.

# 11.2.2. Winter tyres

Winter tyres are tyres that are adapted for winter road conditions.

### Winter tyres

Volvo recommends winter tyres with particular dimensions. Tyre dimensions are dependent on engine variant. When driving on winter tyres, the correct type of tyres must be fitted to all four wheels.

(i) Note

Volvo recommends that you consult a Volvo dealer about which wheel rim and tyre types are most suitable.

### Studded tyres

Studded winter tyres should be run in gently for 500-1000 km so the studs settle properly into the tyres. This gives the tyre, and especially the studs, a longer service life.

#### (i) Note

The legal provisions for the use of studded tyres vary from country to country.

### **Tread depth**

Road conditions with ice, slush and low temperatures place considerably higher demands on tyres than summer conditions. Volvo therefore recommends not to drive on winter tyres that have a tread depth of less than 4 mm.

### 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.

# 11.2.3. Tyres - dimensions

The car's tyres have a certain dimension, see the examples in the table below.

The dimensions are stated on all car tyres. Example of designation: 235/45R17 97W.

235	Tyre width (mm)
45	Ratio between tyre wall height and tyre width (%)
R	Radial ply
17	Rim diameter in inches (")
97	Codes for the maximum permitted tyre load, tyre load index (LI)
W	Speed rating for maximum permitted speed, speed rating (SS). (In this case 270 km/h.)

The car has an approval for the complete vehicle with certain combinations of wheel rims and tyres.

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# 11.2.4. Tyre pressure monitoring (TPMS)*^[1] - recommendations

Tyre pressure monitoring (TPMS) (Tyre Pressure Monitoring System)* warns the driver when the pressure is too low in one or more of the car's tyres.

- Volvo recommends that TPMS sensors are fitted to all wheels on the car, including winter wheels.
- Volvo recommends that sensors are not moved between different wheels.
- The spare wheel is not equipped a with TPMS sensor.
- If the spare wheel or a wheel without a TPMS sensor is used, the error message **Tyre pressure system Service required** will be shown in the combined instrument panel.
- If a wheel has been changed, or if the TPMS sensor has been moved to another wheel then the seal, nut and valve core must be replaced.
- When TPMS sensors are installed, the car should be switched off for at least 15 minutes otherwise an error message will be shown in the combined instrument panel.

### / Warning

When inflating a tyre equipped with TPMS, hold the nozzle of the pump directly against the valve to avoid damaging the valve.

#### (i) Note

- After a tyre has been inflated, always refit the dust cap in order to avoid damage to the valve from gravel, dirt, etc.
- Only use plastic dust caps. Metal dust caps can rust and become difficult to unscrew.

#### (i) Note

If you want to change the tyre dimension then the TPMS system must be reconfigured. For further information - contact a Volvo dealer.

#### * Option/accessory.

^[1] Standard in certain markets.

# 11.2.5. Tyre pressure monitoring (TPMS)*^[1] - rectifying low tyre pressure
The tyre pressure monitoring system TPMS (Tyre Pressure Monitoring System)^[2] warns the driver when the pressure is too low in one or more of the car's tyres and indicates the tyre to which it applies.

Yellow is shown at the first indication of low tyre pressure, stop and check the tyre pressure as soon as possible.

Red indicates a much lower pressure than recommended, stop and rectify the tyre pressure immediately.

If a message for low tyre pressure is shown in the display:

- 1 Check the tyre pressure on the tyre in question.
- Inflate the tyre(s) to the correct pressure. 2
- **3** Drive at least at 30 km/h for several minutes and check that the message disappears.
- * Option/accessory.
- ^[1] Standard in certain markets.
- ^[2] Option only in certain markets.

## 11.2.6. Tyres - tread wear indicators

Tread wear indicators show the status of the tyre's tread depth.



Tread wear indicators.

A tread wear indicators is a narrow elevation across the longitudinal grooves of the tyre's tread pattern. 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 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.

## 11.2.7. Tyre pressure monitoring (TPMS)*^[1] - adjust (recalibration)

Tyre pressure monitoring (TPMS) (Tyre Pressure Monitoring System)* warns the driver when the pressure is too low in one or more of the car's tyres.

TPMS can be adjusted in order to follow Volvo's tyre pressure recommendations, such as when driving with a heavy load, for example.

(i) Note

The car must be stationary when calibration is started.

Settings are made using the centre console's controls, see MY CAR.

- 1 Inflate the tyres to the desired pressure in accordance with the tyre pressure label on the driver's side door pillar (between front and rear doors).
- **2** Start the engine.
- 3 Select the menu system MY CAR to open the menus for tyre pressure.
- 4 Select Calibrate tyre pressure and press OK.
- 5 Drive for at least 10 minutes at a speed of at least 30 km/h.
- Calibration is performed automatically following initialisation by the driver. The system provides no confirmation when the calibration is complete.

The new reference values apply until steps 1-5 are carried out again.

- * Option/accessory.
- ^[1] Standard in certain markets.

# 11.2.8. Tyre pressure monitoring*^[1]

Tyre pressure monitoring warns the driver when the pressure is too low in one or more of the car's tyres. For certain markets the tyre pressure monitoring is standard in accordance with legal requirements.

The system does not replace normal tyre maintenance.

* Option/accessory.

^[1] Standard in certain markets.

# 11.2.9. Tyre pressure monitoring (TPMS) * ^[1] - activate/deactivate ^[2]

Tyre pressure monitoring (TPMS) (Tyre Pressure Monitoring System)* warns the driver when the pressure is too low in one or more of the car's tyres.

The car must be stationary when the tyre pressure monitoring is activated/deactivated.

Settings are made using the centre console's controls, see <u>MY CAR</u>.

- 1 Start the engine.
- 2 Select the menu system MY CAR to open the menus for tyre pressure.
- 3 Select Tyre pressure and press OK.
- > An X is shown in the information display if the system is activated, the option disappears if the system is deactivated.
- * Option/accessory.
- ^[1] Standard in certain markets.
- ^[2] Only in certain markets.

## 11.2.10. Tyres - speed ratings

Each tyre can withstand a certain maximum speed and therefore belongs to a particular speed rating (SS - Speed Symbol).

Tyre speed class must at least correspond with the car's top speed. The table below indicates the maximum permitted speed that applies for each speed rating (SS). The only exception to these regulations is the <u>winter tyre</u>^[1], 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.

#### (i) Note

The maximum permitted speed is specified in the table.

Q	160 km/h (used only on winter tyres)
т	190 km/h
н	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 <u>load index</u> (LI) and speed rating (SS) than specified. If a tyre with too low a load index or speed rating is used, it may overheat.

^[1] Both those with metal studs and those without.

## 11.2.11. Tyres - load index

Load index indicates a tyre's ability to carry a certain load.

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 permissible index is indicated in the load index table.

## 11.2.12. Type approval - tyre pressure monitoring (TPMS)

Type approval of the sensors in tyre pressure monitoring - TPMS (Tyre Pressure Monitoring System)* can be read in the table.



Country/Area	
Israel	Hebrew:Model name) S180052050
	Hebrew:Manufacturer and address) שם היצרן וכתובתו
	Continental AG Siemensstraße 12 93055 Regensburg
	G051354

Declaration of Conformity (Declaration of Conformity)

#### Country/Area

Countries in the EU:



Exporting country: Germany Manufacturer: Continental Automotive GmbH

Country/Area						
	Type of equipment: TPN	/IS unit				
		Contine	ntal			
		Unnit				
		Continental Automotive Gritori - Fasteon 100 153 - 50009 Resembluna Josof Lohr 1 BS PG3 CFRF WM			Josef Lohr LBS PG3 CFRF WM	
					Phone +49 (941) 790-8942 Fax +49 (941) 790-998942	
					jcsef.lohn@continental-corporation.com	n:
			second to only and			
		April 16, 2012	TG1C Volvo	CL2 KOMMPICH	T OUT DECIMINENT	
		Declaration of Con Directive)	formity in accordance	e with Directive 1	999/5/EC (R&TTE	
		Manufacturer:	Continental Auto	omotive GmbH		
		Address:	D-93055 Rogen	sburg		
			Germany			
		Product type designation	an: \$180052050			
		Intended use:	Tire Pressure M	Ionitoring Sensor		
		The product mentioned of Directive 1999/5/EC,	above complies with the a when used for its intender	essential requirement d purpose:	ts and other relevant provisions	
		Health and safety pursu	uant to Art. 3(1)(a):	Applied si	landard('s):	
	2			+ A1:2010 EN 62 47	0 + A12/2011 9 2010	
		Electromagnetic compa	at bility pursuant to Art. 3(1)	)(b): Applied a EN 301 4 EN 301 4	standard(s): 89-1 V1.3.1 (2008-04) 89-3 V1.4 1 (2002-08)	
		Efficient use of spectrui	m pursuant to Art. 3(2)	Applied si EN 300 2 EN 300 2	tandard(s): 20-1 V2.3.1 (2010-02) 20-2 V2.3.1 (2010-02)	
		The following marking a	applies to the above mention	oned product:	Œ	
		Continental Automotive Regensburg, 2012-04-1	GmbH 16		<i></i>	
		(Dear		Ad	C	
		Andreas Wolf		Norbert Miller		
		Body & Security	7	Body & Security		
		Centinental Russenblue Cintoff Seeviness 19 SUGS Repertstung Pestisch 100 953 SUG09 Repersitung	Phone +49 841 350 0 Eas +49 941 796-1959 Www.continental-colorowive.com	Registered Offica: Hansvor Registered Cout Antigevict Hanover HRD 59424	General Managaro. General Concover, Molinal Madachin Marald Stunbrooks	G05135
Czech Republic:	Continental tímto prohla 1999/5/ES.	ašuje, že tento Radio Tra	nsmitter je ve shodě se	základními požada	avky a dalšími příslušnými ustanove	ními směrnice
Denmark:	Undertegnede Continental erklærer herved, at følgende udstyr Radio Transmitter overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.			evante krav i direktiv		
Germany:	Hiermit erklärt Continental, dass sich das Gerät Radio Transmitter in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.					
Estonia:	Käesolevaga kinnitab Co teistele asjakohastele sä	ontinental seadme Radi ätetele.	o Transmitter vastavust	direktiivi 1999/5/	EÜ põhinõuetele ja nimetatud dire	ktiivist tulenevatele
UK	Hereby, Continental dec 1999/5/EC.	clares that this Radio Tra	nsmitter is in compliand	ce with the essenti	al requirements and other relevant	provisions of Directive
Spain:	Por medio de la present ables o exigibles de la D	e Continental declara qu irectiva 1999/5/CE.	ue el Radio Transmitter	cumple con los rec	quisitos esenciales y cualesquiera c	tras disposiciones aplic-

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Country/Area	
Greece:	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Continental ΔΗΛΩΝΕΙ ΟΤΙ Radio Transmitter ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
France:	Par la présente Continental déclare que l'appareil Radio Transmitter est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italy:	Con la presente Continental dichiara che questo Radio Transmitter è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latvia:	Ar šo Continental deklarē, ka Radio Transmitter atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lithuania:	Šiuo Continental deklaruoja, kad šis Radio Transmitter atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Netherlands:	Hierbij verklaart Continental dat het toestel Radio Transmitter in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malta:	Hawnhekk, Continental, jiddikjara li dan Radio Transmitter jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid- Dirrettiva 1999/5/EC.
Hungary:	Alulírott, Continental nyilatkozom, hogy a Radio Transmitter megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Poland:	Niniejszym Continental oświadcza, że Radio Transmitter jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Portugal:	Continental declara que este Radio Transmitter está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovenia:	Continental izjavlja, da je ta Radio Transmitter v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovakia:	Continental týmto vyhlasuje, že Radio Transmitter spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Finland:	Continental vakuuttaa täten että Radio Transmitter tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Sweden:	Härmed intygar Continental att denna Radio Transmitter står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Iceland:	Hér með lýsir Continental yfir því að Radio Transmitter er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.
Norway:	Continental erklærer herved at utstyret Radio Transmitter er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.

* Option/accessory.

## 11.2.13. Tyres - maintenance

Amongst other things, the function of the tyres is to carry load, provide grip on the road surface, dampen vibration and protect the wheel from wear.

### **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.

### 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 figure was manufactured in week 15 of 2010.

### Summer and winter wheels

When summer and winter wheels are changed the wheels should be marked with which side of the car they were mounted on, for example L for left and R for right.

### Wear and maintenance

Correct <u>tyre pressure</u> results in more even wear. 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 10000 km intervals.

Volvo recommends that an authorised Volvo workshop is contacted 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, then the least worn tyres must always be fitted 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.

A damaged tyre may lead to loss of control over the car.

### Storage

Wheels with tyres fitted must be stored lying down or hanging up - never standing up.

## 11.2.14. Tyres - air pressure

Tyres can have different air pressures which are measured in bar.

#### Check the air pressure in the tyres

The tyre pressures must be checked every month.

Check the tyre pressure on cold tyres. "Cold tyres" means the tyres are the same temperature as the ambient temperature. After several few 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 driving characteristics. 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 driving characteristics.

#### (i) Note

Tyre pressure decreases over time, this is a natural phenomenon. Tyre pressure also varies depending on ambient temperature.



The tyre valve is covered by a plastic cover which is equipped with a hole^[1].

#### Remove the valve cover

- Take the torx wrench (which is fitted in the foam block behind the panel on the left-hand side of the cargo area). 1
- Press the torx wrench into the hole. 2
- Prize off the cover using the torx wrench A. 3
- Remove the valve cap. 4

#### Refit the valve cover

Fit the valve cap. 1

- **2** Press one edge of the cover (without the hole) into place (nearest the tyre **B**).
- 3 Then fold the cover in toward the wheel rim and at the same time, gently press down the angled top edge in order to help it in under the edge of the wheel rim.
- 4 Check that the cover is flush with the surface of the wheel rim if not, gently press in the part that is bulging out.

#### Tyre pressure label



The tyre pressure label on the driver side's door pillar (between frame and rear door) shows the tyre pressures for the car's recommended tyre dimensions. This is also specified in the tyre pressure table, see Tyres - approved tyre pressures.

^[1] Only 17" wheel Thia

## 11.2.15. Tyres - 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 arrow shows the tyre's direction of rotation.

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

Make sure that both pairs of wheels have the same type and dimension, and also the same make.

Follow the recommended tyre pressures specified in the tyre pressure table.

## 11.2.16. Tyres - approved tyre pressures

Approved tyre pressures for each respective engine alternative can be read in the table.

Engine	Tyre size	Speed (km/h)	Load, 1-3 persons		Max. load		ECO pressure ^[1]
			Front (kPa) ^[2]	Rear (kPa)	Front (kPa)	Rear (kPa)	Front/rear (kPa)
D5 AWD (D87PHEV)	235/45 R 17 235/45 R 18	0 - 160	280	280	280	280	280
D6 AWD (D97PHEV)		160 +	280	280	320	320	-
Temporary Spare Tyre		max. 80	420	420	420	420	420

^[1] Economical driving.

^[2] In certain countries there is the "bar" unit beside the SI unit "Pascal": 1 bar = 100 kPa.

# 11.2.17. Tyre pressure monitoring system (TPMS)*^[1] - general

Tyre pressure monitoring (TPMS) (Tyre Pressure Monitoring System)* warns the driver when the pressure is too low in one or more of the car's tyres.

Tyre pressure monitoring uses sensors located inside the air valve in each wheel. When the car is driven at about 30 km/h the system detects the tyre pressure. If the pressure is too low then a warning lamp (!) illuminates in the combined instrument panel and one of the following messages is shown:

- Tyre pressure low Check front right tyre
- Tyre pressure low Check front left tyre
- Tyre pressure low Check rear right tyre
- Tyre pressure low Check rear left tyre
- Tyre needs air now Check front right tyre
- Tyre needs air now Check front left tyre
- Tyre needs air now Check rear right tyre
- Tyre needs air now Check rear left tyre
- Tyre pressure system Service required

Both factory-fitted and optional wheels can be equipped with TPMS sensors in the valves.

If wheels without TPMS sensors are used or if a sensor has failed then Tyre pressure system Service required will be shown.

Always check the system after changing a wheel in order to ensure that replacement wheels work with the system.

For information on the correct tyre pressure, see <u>Tyres - air pressure</u>.

The system does not replace normal tyre maintenance.

#### (!) Important

If a fault occurs in the TPMS system the warning lamp (!) in the combined instrument panel will flash for approx. 1 minute and then illuminate with a constant glow. A message is also shown in the combined instrument panel.

* Option/accessory.

^[1] Standard in certain markets.

## 11.3. Emergency puncture repair

## 11.3.1. Emergency puncture repair kit - sealant

The container (bottle) with the <u>emergency puncture repair kit</u> contains sealant and it can be replaced.

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.

## 11.3.2. Emergency puncture repair - rechecking

When a tyre has been sealed with the emergency puncture repair kit, Temporary Mobility Kit (TMK), a subsequent check must be made after approx. 3 kilometres of driving.

#### Check tyre pressure

- 1 Reconnect the equipment (for instructions on removing the valve cover, see <u>Emergency puncture repair operation</u>).
- 2 Read the tyre pressure on the pressure gauge.
  - If it is below 1.3 bar^[1] 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^[1], the tyre must be inflated to the pressure specified in accordance with the tyre pressure table, see <u>Tyres - approved tyre pressures</u>. Release air using the pressure reducing valve if the tyre pressure is too high.

#### 3

#### / Warning

Do not unscrew the bottle, it is equipped with a reverse catch to prevent leakage.

#### Make sure the compressor is switched off. Detach the air hose and cable.



#### Refit the valve cover^[2]

Fit the valve cap.

Press one edge of the cover (without the hole) into place (nearest the tyre - B). Then fold the cover in toward the wheel rim - and at the same time, gently press down the angled top edge in order to help it in under the edge of the wheel rim. Check that the cover is flush with the surface of the wheel rim - if not, gently press in the part that is bulging out.

#### (i) Note

- After a tyre has been inflated, always refit the dust cap in order to avoid damage to the valve from gravel, dirt, etc.
- Only use plastic dust caps. Metal dust caps can rust and become difficult to unscrew.

#### (i) 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.

#### /I Warning

Check the tyre pressure regularly.

Volvo recommends that the car is driven 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 a visit to 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.

^[1] 1 bar = 100 kPa.

^[2] Only 17" wheel Thia.

## 11.3.3. Emergency puncture repair kit - location

The emergency puncture repair kit, Temporary Mobility Kit (TMK), is used to seal a puncture and check and adjust the tyre pressure.

#### Location of the emergency puncture repair kit



The puncture repair kit is behind the hatch on the left-hand side of the cargo area.

#### (i) Note

The emergency puncture repair kit is only intended for sealing tyres with a puncture in the tread.

#### ( ! ) Important

If the compressor for emergency puncture repair is connected to one of the two <u>sockets</u> in the tunnel console then no other current consumer may be connected to the other one.

#### (i) Note

The compressor for temporary emergency puncture repair has been tested and approved by Volvo.

## 11.3.4. Emergency puncture repair - operation

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note. 740 / 962 Sealing a puncture with the emergency puncture repair kit, Temporary Mobility Kit (TMK).

## **Emergency puncture repair**



For information on the function of the parts, see Emergency puncture repair kit - overview.

1 Set up the warning triangle and activate the hazard warning lights if a tyre is being sealed in a trafficked location.

If the puncture was caused by a nail or similar, allow this to remain in the tyre. It helps to seal the hole.

Detach the label for maximum permitted speed (which is fitted on one side of the compressor) and affix it to the steering 2 wheel.

#### Warning

3

4

You should not drive faster than 80 km/h after the emergency tyre repair kit has been used. Volvo recommends that you visit an authorised Volvo workshop for inspection of the sealed tyre (maximum driving distance is 200 km). The staff there can determine whether or not the tyre can be repaired or if it needs to be replaced.

#### Warning

The sealing fluid can irritate the skin. In the case of contact with skin, wash away the fluid with soap and water.

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.

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.

#### Remove the valve cover^[1] 6

Take the torx wrench (which is fitted in the foam block behind the panel on the left-hand side of the cargo area).

Press the torx wrench into the hole.

Prize off the cover using the torx wrench (A).



Unscrew the valve cap and disconnect the hose from the compressor to the valve.

- Connect the hose from the compressor to the valve. 7
- Plug the cable into the 12 V socket and start the car. 8

#### (i) Note

If the compressor is connected to one of the two 12 V sockets in the tunnel console then no other current consumer may be connected to the other one.

#### /!\ Warning

Do not leave children in the car without supervision when the engine is running.

**9** 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.

#### 10 Inflate the tyre for 7 minutes.

#### (!) Important

Risk of overheating. The compressor must not run for more than 10 minutes.

**11** Switch off the compressor to check the pressure on the pressure gauge. Minimum pressure is 1.8 bar and maximum 3.5 bar. (Release air with the pressure reducing valve if the tyre pressure is too high.)

#### / Warning

If the pressure is below 1.8 bar then the hole in the tyre is too big. The journey should not be continued. Contacting an authorised tyre centre is recommended.

- 12 Switch off the compressor and unplug the cable from the 12 V socket.
- **13** Detach the hose from the tyre valve and fit the valve cap.

Press the cover^[2] back over the tyre valve with the hole against the wheel's hub. Two clicks confirm that the cover is fitted in place.

14 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.

#### (i) Note

Sealant will spurt out of the puncture during the first few rotations of the tyre.

#### / Warning

Make sure that nobody is standing near the car and gets the sealing fluid splashed onto them when the car is driven away. The distance should be at least two metres.

#### ^[1] Only 17" wheel Thia

^[2] Only 17" wheel Thia

## 11.3.5. Emergency puncture repair

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

The emergency puncture repair kit, Temporary Mobility Kit (TMK), is used to seal a puncture and check and adjust the tyre pressure.

The emergency puncture repair kit consists of a compressor and a bottle of sealant. The sealing 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. Connect the compressor to one of the car's 12 V sockets. Choose the socket that is nearest to the punctured tyre.

#### Important (!)

If the compressor is connected to one of the two 12 V sockets, in the tunnel console, no other current consumer must be connected to the other one.

#### (i) Note

The compressor for temporary emergency puncture repair has been tested and approved by Volvo.

## 11.3.6. Emergency puncture repair kit - overview

Overview of the component parts of the emergency puncture repair kit, Temporary Mobility Kit (TMK).



## 11.3.7. Emergency puncture repair kit - inflating the tyres

The car's original tyres can be inflated using the compressor in the <u>emergency puncture repair kit</u>.

- 1 The compressor must be switched off. Make sure that the switch is in position 0 and locate the cable and air hose.
- 2 Remove the valve cover^[1] for instructions on removing the valve cover, see <u>Emergency puncture repair operation</u>.

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note. 746 / 962 **3** Unscrew the wheel's dust cap and screw in the air hose valve connection to the bottom of the thread on the tyre's air valve.

#### 4

#### / Warning

Inhaling car exhaust fumes could result in danger to life. Never leave the engine running in sealed areas or areas that lack sufficient ventilation.

#### ∕ Warning

Do not leave children in the car without supervision when the engine is running.

Connect the cable to one of the car's 12 V sockets and start the car.

5 Start the compressor by flicking the switch to position I.

#### 6

#### ! Important

Risk of overheating. The compressor must not run for more than 10 minutes.

Inflate the tyre to the pressure specified in accordance with the tyre pressure table, see <u>Tyres - approved tyre pressures</u>. Release air using the pressure reducing valve if the tyre pressure is too high.

7 Switch off the compressor. Detach the air hose and cable.

8 Refit the dust cap.

Refit the valve cover^[1] by pressing one edge of the cover (the one without the hole) into place (nearest the tyre), see <u>Emergency puncture repair - rechecking</u>. Then fold the cover in toward the wheel rim - and at the same time, gently press down the angled top edge in order to help it in under the edge of the wheel rim. Check that the cover is flush with the surface of the wheel rim - if not, gently press in the part that is bulging out.

^[1] Only 17" wheel Thia

## 11.4. Wheel and wheel rim dimensions

Wheel and rim dimensions are designated in accordance with the examples in the table below.

The car has an approval for the complete vehicle. This means that certain combinations of wheel (wheel rim) and tyre are approved.

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)

## 12.1. Storage

## 12.1.1. Tunnel console - 12 V-sockets

The electrical sockets (12 V) are located next to the cup holder^[1] and rear of the tunnel console.





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.

#### ✓! Warning

Always leave the plug in the socket when the socket is not in use.

### i Note

Optional equipment and accessories - e.g. display screens, music players and mobile phones - which are connected to one of the passenger compartment's 12V electrical sockets, could be activated by the climate control system, even when the remote control key has been removed or when the car is locked, for example, when the parking heater is activated at a preset time.

For this reason remove the plugs from the electrical sockets for optional equipment or accessories when not in use because the battery could be drained in the event of such an occurrence!

#### ( ! ) Important

Max. socket is 10 A (120 W) if one socket is used at a time. If both sockets in the tunnel console are used simultaneously, 7.5 A (90 W) per socket is applicable.

If the compressor for emergency puncture repair is connected to one of the two sockets, no other current consumer must be connected to the other one.

(i) Note

The compressor for <u>emergency puncture repair</u> has been tested and approved by Volvo.

^[1] If ashtray and cigarette lighter are specified then there is no cup holder and adjacent 12 V socket.

## 12.1.2. Glovebox

The glovebox is located on the passenger side.



The owner's manual and maps can be kept in here for example. There are also holders for pens on the inside of the lid. The glovebox can be <u>locked</u>* using the <u>key blade</u>.

## 12.1.3. Inlay mats*

Inlay mats collect e.g. rubbish and slush. Volvo supplies specially manufactured inlay mats.

/!\ Warning

Only use one inlaid mat at each seat, and check before setting off that the mat by the driver's seat is firmly affixed and secured in the pins so that it does not get caught adjacent to and under the pedals.

* Option/accessory.

## 12.1.4. Tunnel console - cigarette lighter and ashtray*

A detachable ashtray is fitted in the cup holder under the armrest. The cigarette lighter is fitted in the 12 V socket for the front seat.

The ashtray in the <u>tunnel console</u> 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.

* Option/accessory.

## 12.1.5. Storage spaces

Overview of storage spaces in the passenger compartment.



1 Storage compartment in door panel

**2** Storage pocket* on front edge of front seat cushions

- 3 Ticket clip
- 4 <u>Glovebox</u>

**6** Storage compartment

- 6 <u>Storage compartment, cup holder</u>
- **7** Cup holder* in armrest, rear seat

#### / 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.

* Option/accessory.

## 12.1.6. Tunnel console

The tunnel console is located between the front seats.



**1** Storage compartment (e.g. for CDs) and USB*/AUX input under the armrest.

2 Includes cup holder for driver and passenger. If <u>ashtray and cigarette lighter</u> are specified, then there is a cigarette lighter in the <u>12 V socket</u> for the front seat, and a detachable ashtray in the cup holder.

* Option/accessory.

## 12.1.7. Vanity mirror

The vanity mirror is located on the rear of the sun visor.



G046285

Vanity mirror with lighting.

The light illuminates automatically when the cover is lifted.

## 12.2. Loading

## 12.2.1. Safety net* combined with cargo cover

A safety net prevents loads from being thrown forward in the passenger compartment in the event of sudden braking.



Puller-straps for raising the net.

The safety net can also be raised from the rear seat when the cargo cover is extended.

Follow the procedure described in the section <u>"Using the safety net"</u>. The straps for folding up are located by the arrows.

* Option/accessory.

## 12.2.2. Safety grille
A safety grille prevents loads or pets from being thrown forward in the passenger compartment in the event of sudden braking.



#### Folding up

Take hold of the bottom of the safety grille and pull back/up.

#### () Important

The protective grille cannot be folded up or down when a cargo cover is fitted.

### Fitting/removal

The safety grille is normally permanently installed in the car because it can easily be folded up in the roof and so be out of the way if a longer cargo area is required. However, if desired, the safety grille can be dismantled and removed from the car.

For information about the tools required and methods for fitting/removal, see the installation instructions that were included with the initial purchase.

For safety reasons, the safety grille must always be correctly fastened and secured when being refitted.

### 12.2.3. Loading

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

Payload depends on the car's kerb weight.

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 Weights.



The tailgate is opened via a button on the lighting panel or the remote control key, see Locking/unlocking - tailgate.

/ Warning

The car's driving properties change depending on the weight and positioning of the load.

### To bear in mind when loading

• Position the load firmly against the rear seat's backrest.

Note that objects must not prevent the function of the WHIPS system for the front seats if any of the rear seat's backrests is folded down, see <u>WHIPS - seating position</u>.

- Centre the load.
- Heavy objects should be placed as low as possible. Avoid placing heavy loads on lowered backrests.
- Cover sharp edges with something soft to avoid damaging the upholstery.
- Secure all loads to the load retaining eyelets with straps or web lashings.

#### ✓ Warning

A loose object weighing 20 kg can, in a frontal collision at a speed of 50 km/h, carry the impact of an item weighing 1000 kg.

#### / Warning

The protection provided by the inflatable curtain in the headlining may be compromised or eliminated by high loads.

• Never load cargo above the backrest.

#### / Warning

Always secure the load. During heavy braking the load may otherwise shift, causing injury to the car's occupants.

Cover sharp edges and sharp corners with something soft.

Switch off the engine and apply the parking brake when loading/unloading long items. Otherwise you may accidentally knock the gear lever or gear selector with the load into a drive position - and the car could then move off.

## 12.2.4. Loading - long load

To simplify <u>loading</u> in the cargo area, the rear seat backrest can be folded down. The passenger seat^[1] backrest can also be folded for an extra long load*.

#### Lowering the rear seat backrest

If the rear seat backrest needs to be lowered, see <u>Seats, rear</u>.

- ^[1] Only applies to comfort seats.
- * Option/accessory.

## 12.2.5. 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 which protrude may cause injury under violent braking.

Always secure large and heavy objects with a seatbelt or cargo retaining straps.

## 12.2.6. Safety net*

A safety net prevents loads from being thrown forward in the passenger compartment in the event of sudden braking.



Storage space, safety net cassettes.

A rollable safety net comprising two cassettes has a storage space under the cargo area floor hatch.

### Securing the net cassettes

A rollable safety net comprising two cassettes has a storage space under the cargo area floor hatch.



The two-part safety net cassette is secured on the rear of the backrest. The narrowest cassette is secured on the left-hand side (seen from the tailgate).

- Fold the rear seat's backrest forward, see Seats, rear. 1
- Align the cassette's anchor rails in front of the backrest attachment lugs 🚺. 2
- Slide the cassette into the attachment lugs 왿. 3
- Fold back and lock the backrests. 4

Ð

Removing the cassette takes place in reverse order.

### Using the safety net



Pull the net up from the cassettes. The net is self-locking after approx. one minute if the rear seat's backrests are raised.

#### **F** 1

Pull up the right-hand section of the net using its strap.

#### 2 2

Insert the rod in the mounting on the right-hand side and then press it forward - the rod locks in with a click.

#### 3 🚯

Pull out the rod's telescope section and click it in on the other side.

#### 4 4

Pull up the left-hand safety net and hook it into the rod.

Folding up takes place in reverse order. Ð

The net can also be used when the rear seat's backrests are folded forward.

#### Removing the net cassettes

- Roll the safety nets into the cassettes in accordance with the procedure in the section entitled "Using the safety net", but 1 in reverse.
- Fold the whole backrest forward. 2
- Slide the cassettes out until they loosen from the anchor rails. 3

Store the cassettes in their compartment under the cargo area floor hatch.

#### Warning

Loads in the luggage compartment must be anchored well, and also using a correctly fitted safety net.

* Option/accessory.

### 12.2.7. Roof load

The load carriers recommended for roof loads are the ones developed by Volvo. This is in order to avoid damage to the car and in order to achieve the maximum possible safety during a journey.

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 about the maximum permitted load on the roof, including load carriers and any space box, see Weights.

### 12.3. Cargo area

## 12.3.1. 12 V electrical socket - cargo area*

The electrical socket can be used for various accessories designed for 12 V, e.g. screens, music players and mobile phones.



Lower the cover to access the electrical socket.

The socket also provides voltage when the remote control key is not in the ignition switch. Ð

#### (!) Important

Max. power takeoff is 10 A (120 W).

#### (i) Note

Remember that using the electrical socket with the engine switched off involves the risk of discharging the car's starter battery.

#### (i) Note

The compressor for temporary emergency puncture repair has been tested and approved by Volvo. For information on the use of Volvo's recommended temporary emergency puncture repair (TMK), see Emergency puncture repair.

* Option/accessory.

### 12.3.2. Cargo cover



Pull the cargo cover over the load and hook it into the recesses at the cargo area's rear posts.

#### (!) Important

The protective grille cannot be folded up or down when the cargo cover is fitted.

### Attaching the cargo cover

#### EI) 1

Move one end piece of the cover into the recess on the side panel.

#### 2 🛛

Move the other end piece into the corresponding recess.

#### B 3

Press both sides in. A "click" should be audible and the red marking should disappear.

> Check that both end pieces are locked.

#### Removing the cargo cover

- 1 Press in one end piece button and lift it out.
- 2 Carefully angle the cover up/out and the other end piece loosens automatically.

#### Lowering the cargo cover's rear sealing disc

In its rolled-in position, the cargo cover's rear sealing disc protrudes horizontally into the cargo area when it is fitted.

1 Pull the sealing disc back gently, free from its support shelves, and lower.

### 12.3.3. Safety net* combined with cargo cover

A safety net prevents loads from being thrown forward in the passenger compartment in the event of sudden braking.



The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note. 767 / 962 The safety net can also be raised from the rear seat when the cargo cover is extended.

Follow the procedure described in the section <u>"Using the safety net"</u>. The straps for folding up are located by the arrows.

* Option/accessory.

### 12.3.4. Safety grille

A safety grille prevents loads or pets from being thrown forward in the passenger compartment in the event of sudden braking.



#### Folding up

Take hold of the bottom of the safety grille and pull back/up.

#### (!) Important

The protective grille cannot be folded up or down when a cargo cover is fitted.

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### Fitting/removal

The safety grille is normally permanently installed in the car because it can easily be folded up in the roof and so be out of the way if a longer cargo area is required. However, if desired, the safety grille can be dismantled and removed from the car.

For information about the tools required and methods for fitting/removal, see the installation instructions that were included with the initial purchase.

For safety reasons, the safety grille must always be correctly fastened and secured when being refitted.

### 12.3.5. First aid kit*

The first aid box contains first aid equipment.



A case with first aid equipment is located under the floor in the cargo area.

#### (i) Note

If the car has been locked with privacy locking then the boot lid/tailgate and floor hatch cannot be opened, see Privacy locking*

## 12.3.6. Safety net*

A safety net prevents loads from being thrown forward in the passenger compartment in the event of sudden braking.



Storage space, safety net cassettes.

A rollable safety net comprising two cassettes has a storage space under the cargo area floor hatch.

### Securing the net cassettes

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- Fold the rear seat's backrest forward, see Seats, rear. 1
- Align the cassette's anchor rails in front of the backrest attachment lugs 🚺. 2
- Slide the cassette into the attachment lugs 왿. 3
- Fold back and lock the backrests. 4

Ð

Removing the cassette takes place in reverse order.

### Using the safety net



Pull the net up from the cassettes. The net is self-locking after approx. one minute if the rear seat's backrests are raised.

#### **F** 1

Pull up the right-hand section of the net using its strap.

#### 2 2

Insert the rod in the mounting on the right-hand side and then press it forward - the rod locks in with a click.

#### 3 🚯

Pull out the rod's telescope section and click it in on the other side.

#### 4 4

Pull up the left-hand safety net and hook it into the rod.

Folding up takes place in reverse order. Ð

The net can also be used when the rear seat's backrests are folded forward.

#### Removing the net cassettes

- 1 Roll the safety nets into the cassettes in accordance with the procedure in the section entitled "Using the safety net", but in reverse.
- **2** Fold the whole backrest forward.
- Slide the cassettes out until they loosen from the anchor rails. 3

Store the cassettes in their compartment under the cargo area floor hatch.

#### Warning /!\

Loads in the luggage compartment must be anchored well, and also using a correctly fitted safety net.

* Option/accessory.

### 12.3.7. Warning triangle

The warning triangle is used to warn other road users of a stationary vehicle.

### Storage and folding up







#### 1 1

Lift the floor hatch and take out the warning triangle.

#### 2 2

Take the warning triangle from the case, fold out and assemble the two loose sides.

#### 3 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.

#### (i) Note

If the car has been locked with privacy locking then the boot lid/tailgate and floor hatch cannot be opened, see <u>Privacy</u> <u>locking</u>*

* Option/accessory.

### 13.1. Car care

### 13.1.1. Cleaning the interior

Only use cleaning agents and car care products recommended by Volvo. Clean regularly and treat stains at once for best results. Vacuuming is important prior to using cleaning agents.

#### () Important

- Certain items of coloured clothing (e.g. dark jeans and suede garments) may stain the upholstery. If this occurs, it is important to clean and treat these parts of the upholstery as soon as possible.
- Never use strong solvents such as washer fluid, pure petrol or white spirit to clean the interior, since this may damage the upholstery as well as other interior materials.
- Never spray the cleaning agent directly onto components that have electrical buttons and controls. Wipe them instead using a moistened cloth containing the cleaning agent.
- Sharp objects and Velcro may damage the fabric upholstery.

#### Fabric upholstery and ceiling upholstery

Volvo offers a comprehensive fabric care product for fabric upholstery and ceiling upholstery which, when used in accordance with the instructions, preserves the properties of the upholstery. The fabric care product is available for purchase from a Volvo dealer.

#### Leather upholstery

Volvo's leather upholstery is treated to preserve its original appearance.

Leather upholstery is a natural product that changes and acquires a beautiful patina over time. Regular cleaning and treatment are required in order that the properties and colours of the leather shall be preserved. Volvo offers a comprehensive product, Volvo Leather Care Kit/Wipes, for the cleaning and treatment of leather upholstery which, when used in accordance with the instructions, preserves the leather's protective coating.

To achieve best results, Volvo recommends the cleaning and application of the protective cream once to four times per year (or more if required). The Volvo Leather Care Kit/Wipes is available for purchase from a Volvo dealer.

#### Leather steering wheel

Leather needs to breathe. Never cover the leather steering wheel with protective plastic. Volvo Leather Care Kit/Wipes is recommended for cleaning the leather steering wheel.

### 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.

#### Seatbelts

Use water and a synthetic detergent. A special textile cleaning agent is available from a Volvo dealer. Ensure that the seatbelt is dry before allowing it to retract.

#### Inlay mats and floor mat

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.

Remove the inlay mat by taking hold of the inlay mat at each pin and lifting the mat straight up.

Fit the inlay mat in place by pressing it in at each pin.

#### Warning

Only use one inlaid mat at each seat, and check before setting off that the mat by the driver's seat is firmly affixed and secured in the pins so that it does not get caught adjacent to and under the pedals.

A special textile cleaner is recommended for stains on the floor mat after vacuuming. Floor mats must be cleaned with agents recommended by a Volvo dealer.

## 13.1.2. Paint damage

Paint is an important part of the car's rustproofing and should therefore be checked regularly. The most common types of paintwork damage are stone chips, scratches, and marks on the edges of wings, doors and bumpers.

#### Touching up minor paintwork damage

To avoid the onset of rust, damaged paintwork should be rectified immediately.

#### Materials that may be needed

- Primer^[1] a special adhesive primer in a spray can is available for e.g. plastic-coated bumpers.
- base coat and clear coat are available in spray cans or as touch-up pens/sticks^[2].
- Masking tape.
- fine sand paper^[1].

### Colour code

The label for colour code is located on the car's door pillar and is visible when the right-hand rear door is opened.



**1** Exterior colour code

2 Any secondary exterior colour code

It is important that the correct colour is used. For product label location, see <u>Type designations</u>.

#### Repairing minor paint damage such as stone chips and scratches



Before work is started, the car must be clean and dry as well as at a temperature above 15 °C.

1 Apply a piece of masking tape over the damaged surface. Then remove the tape to remove any loose paint.

If the damage has reached down to a metal surface (sheet steel), it is preferable to use a primer. In the event of damage to a plastic surface, an adhesive primer should be used for better results - spray into the spray can's cap and brush thinly.

- 2 Before painting, gentle polishing using a very fine polishing agent may be carried out locally if required (e.g. if there are any uneven edges). Clean the surface thoroughly and allow to dry.
- 3 Stir the primer well and apply using a fine brush, matchstick or similar. Finish with base coat and clear coat once the primer has dried.
- 4 For scratches, proceed as above, but mask around the damaged area to protect the undamaged paintwork.

#### (i) Note

If the stone chip has not penetrated down to the meal and an undamaged layer of paint remains in place, fill in with base coat and clear coat as soon as the surface has been cleaned.

^[2] Follow the instructions that are included with the package for the touch-up pen/stick.

### 13.1.3. 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

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.

#### (!) 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.

### 13.1.4. Water and dirt-repellent coating

The windows are treated with a surface coating that improves visibility in difficult weather conditions.

#### Water and dirt-repellent coating*



There is natural wear of the water-repellent coating.

Maintenance:

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.
- Treatment with a special finishing agent available from Volvo dealers is recommended in order to maintain the waterrepellent properties on the side windows. This should be used first after three years and then each year.

#### (!) Important

Do not use a metal ice scraper to remove ice from the windows. Use the heating to remove ice from the door mirrors, see <u>Windows and rearview and door mirrors - heating</u>.

* Option/accessory.

### 13.1.5. Car wash

The car should be washed as soon as it becomes dirty. Wash the car in a car wash with oil separator. Use car shampoo.

#### Handwashing



- Remove bird droppings from the paintwork as soon as possible. Bird droppings contain chemicals that affect and discolour paintwork very quickly. An authorised Volvo workshop is recommended for the removal of any discoloration.
- Hose down the underbody.
- Rinse the whole car until the loose dirt has been removed in order to reduce the risk of scratches from washing. Do not spray directly onto the locks.

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- If necessary, use cold degreasing agent on very dirty surfaces. Note that the surfaces must not then be warmed up by the sun!
- Wash using a sponge, car shampoo and plenty of lukewarm water.
- Clean the wiper blades with a lukewarm soap solution or car shampoo.
- Dry the car using a clean, soft chamois or a water scraper. If you avoid allowing water droplets to dry in strong sunlight then the risk of water stains that may need to be polished away is reduced.

#### V Warning

Always have the engine cleaned by a workshop. There is a risk of fire if the engine is hot.

#### ( ! ) Important

Dirty headlamps have impaired functionality. Clean them regularly, when refuelling for example.

Do not use any corrosive cleaning agents but use water and a non-scratching sponge instead.

#### (i) 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.

#### 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.

#### (i) Note

The car must only be washed by hand over the first few months. This is because the paint is more delicate 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 linings to warm up and dry. Do the same thing after starting in very damp or cold weather.

#### 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 to the service position, see Wiper blades.

#### (i) Note

Wash the wiper blades and windscreen regularly with lukewarm soap solution or car shampoo. Do not use any strong solvents.

#### 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.

### 13.1.6. Rustproofing

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.

#### Inspection and maintenance

The car's anti-corrosion protection does not normally need to be maintained, but keeping the car clean always helps to further reduce the risk of corrosion. Strong alkaline or acidic cleaning solutions must always be avoided on the glossy trim components. Any stone chips should be rectified as soon as they are discovered.

### 13.2. Lamps

### 13.2.1. Lamp replacement - general

Lamp replacement can be carried out for bulbs. When replacing LED and Xenon lamps, please refer to a workshop.

The bulbs are specified. The following list contains locations of bulbs and other light sources that are specialised, such as LED^[1] lamps, or are unsuitable for changing for some other reason, except at a workshop^[2]:

- Active Xenon headlamps ABL (Xenon lamps) Ð
- Daytime running lights/Position/parking lamps front
- Cornering lights
- Side direction indicators, door mirrors
- Approach lighting, door mirrors Ð
- Interior lighting apart from Courtesy lighting front Ð
- Position/parking lamps rear
- Side marker lamps
- Brake light.

#### Warning /!\

On cars with Xenon headlamps, the replacement of Xenon lamps must be carried out at a workshop - an authorised Volvo workshop is recommended. Working with Xenon lamps demands extreme caution because the headlamp is equipped with a high voltage unit.

#### Warning

The car's electrical system must be in key position 0 for bulb replacement; see Key positions - functions at different levels.

#### ( ! ) Important

Never touch the glass part of the bulbs with your fingers. Grease from your fingers is vaporised by the heat, coating the reflector and then causing damage.

#### (i) Note

If an error message remains after the broken bulb has been replaced then we recommend that you visit an authorised Volvo workshop.

#### (i) 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.

#### ^[1] LED (Light Emitting Diode)

^[2] An authorised Volvo workshop is recommended.

# 13.2.2. Lamp replacement - cover for main/dipped beam bulbs

Main/dipped beam bulbs are accessed by releasing the headlamp's larger cover.



- 1 Unscrew the cover's four screws using a Torx tool, size T20 (1). They should not be loosened completely. (3 4 turns are sufficient.)
- 2 Slide the cover to one side.
- **3** Remove the cover.

Reinstall the cover in reverse order.

### 13.2.3. Lamp replacement - extra main beam

The extra main beam bulb is fitted inside the headlamp's larger cover.

(i) Note

Applies to cars with Xenon headlamps*.



- 1 Detach the <u>headlamp</u>.
- 2 Remove the <u>cover</u>.
- **3** Detach the bulb by turning anticlockwise and then pulling straight out.
- **4** Unplug the connector from the bulb.
- 5 Replace the bulb and align it in the socket and turn clockwise in order to secure it. It can only be secured in one position.

Reinstall the parts in reverse order.

* Option/accessory.

### **13.2.4.** Lamp replacement - location of rear lamps

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

The overview shows the location of the lamps at the rear.



- 6 Reversing lamp
- 6 Fog lamp

## 13.2.5. Lamp replacement - main beam

The main beam bulb is fitted inside the headlamp's larger cover.

(i) Note

Applies to cars with halogen headlamps.



- 1 Detach the <u>headlamp</u>.
- 2 Remove the <u>cover</u>.
- **3** Detach the bulb by turning anticlockwise and then pulling straight out.
- **4** Unplug the connector from the bulb.
- 5 Replace the bulb and align it in the socket and turn clockwise in order to secure it. It can only be secured in one position.

Reinstall the parts in reverse order.

## 13.2.6. Headlamps - adjusting headlamp pattern

If the car is equipped with active Xenon headlamps and has the Active main beam function then the headlamp pattern must be reset when changing from right to left-hand traffic, and vice versa.

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### Active Xenon headlamps*

No adjustment of the headlamp pattern is necessary for cars without the Active main beam* function. The headlamp pattern is designed in such a way that oncoming traffic is not dazzled.

Adjustment of the headlamp pattern is required for cars with Active main beam. The car must be stationary with the engine running when the headlamp pattern is shifted between right and left-hand traffic.

The headlamp pattern is changed in the menu system MY CAR, see <u>MY CAR</u>.

### Halogen headlamps

No adjustment of the headlamp pattern is necessary. The headlamp pattern is designed in such a way that oncoming traffic is not dazzled.

* Option/accessory.

## 13.2.7. Lamp replacement - dipped beam

The dipped beam bulb is fitted inside the headlamp's larger cover.

(i) Note

Applies to cars with halogen headlamps.



- Detach the headlamp. 1
- Remove the cover. 2
- Unplug the connector from the bulb. 3
- Detach the bulb by pulling it straight out. 4
- The guide pin on the lamp should be straight up when it is fitted and a clicking sound should be heard when it clicks into 5 place.

Reinstall the parts in reverse order.

## 13.2.8. Lamp replacement - rear lamp

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Rear direction indicators, rear fog lamp and reversing lamp are replaced from inside the cargo area.

#### Lamp housing, rear



- 1 Open the panel.
- 2 Lift the emergency puncture repair kit.
- **3** Remove the insulation that is fitted in front of the bulb holder by pulling it straight out.
- **4** Press down the catch and pull out the bulb holder.
- 5 Remove the blown bulb by pressing it in and turning anticlockwise.
- 6 Fit a new bulb, press down and turn clockwise.
- **7** Press down the catch when the bulb holder is refitted.
- 8 Refit the insulation, emergency puncture repair kit and panel.

## 13.2.9. Lamp replacement - lighting in cargo area

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.
The cargo area lighting is located in the tailgate.



- 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.

# 13.2.10. Lamp replacement - vanity mirror lighting

The vanity mirror's lamps are fitted inside the lamp lenses.

## **Removal of lamp lens**



- 1 Insert a screwdriver under the lamp lens and gently prize up the lug on the edge.
- 2 Carefully detach and lift aside the lamp lens.
- **3** Use needle-nose pliers to pull the bulb straight out to the side and replace with a new one. Note! Do not pinch hard with the pliers. Otherwise the lamp lens could then be crushed.

## Attaching the lamp lens

- 1 Refit the lamp lens.
- 2 Press it into place.

# 13.2.11. Lamps - specifications

The specifications apply to bulbs. When replacing LED and Xenon lamps, please refer to a workshop.

Lighting	W ^[1]	Туре
Dipped beam, halogen	55	H7LL
Main beam, Halogen	65	нэ
Extra main beam, ABL	65	Н9
Front direction indicators	24	PY24W
Courtesy lighting front	3	T10 Socket W2.1x9.5d
Glovebox lighting	5	Socket SV8.5 Length 43 mm
Vanity mirror lighting	1.2	T5 Socket W2x4.6d
Cargo area lighting	5	Socket SV8.5 Length 43 mm
Number plate lighting	5	C5W LL
Direction indicators, rear	21	PY21W LL
-	-	-
Reversing lamp	21	P21WLL
Rear fog lamp	21	H21W LL

^[1] Watt

# 13.2.12. Lamp replacement - headlamps

All of the headlamp bulbs are replaced via the engine compartment. First loosen and remove the whole headlamp.

## Removing the headlamp

### Set the car's electrical system in key position 0, see <u>Key positions - functions at different levels</u>.



- Pull out the headlamp's locking pins.
- Release the headlamp by alternately tilting and pulling it out.

### (!) Important

Do not pull the electrical cable, only the connector.



B Detach the headlamp connector by pressing down the clip with your thumb.

- At the same time, guide out the connector with your other hand.
- 5. Lift out the headlamp and place it on a soft surface to avoid scratching the lens.
- 6. Replace the bulb in question.

## Securing the headlamp



- Plug in the connector, a clicking sound should be heard. 1
- Reinstall the headlamp and locking pins. The short pin is fitted closest to the radiator grille. Check that they are firmly 2 inserted.
- 3 Check the lighting.

The headlamp must be mounted and the connector firmly connected before the lighting is switched on or the remote control key is inserted into the ignition switch.

# 13.2.13. Lamp replacement - direction indicators front

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

The direction indicator lamp is fitted inside the headlamp's smaller cover.



- 1 Detach the <u>headlamp</u>.
- **2** Detach the cover by pulling it straight out.
- **3** Pull the bulb holder in order to extract the bulb.
- **4** Press and simultaneously turn the bulb anticlockwise in order to detach it.

Reinstall the parts in reverse order.

# 13.2.14. Lamp replacement - number plate lighting

The number plate lighting is located under the tailgate handle.



- 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.

# 13.3. Engine compartment

# 13.3.1. Electrical system

The electrical system is single-pole and uses the chassis and engine casing as a conductor.

The car has a voltage-regulated AC alternator.

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### (!) Important

If the starter battery is replaced, make sure you replace it with a battery with the same cold starting capacity and type as the original battery (see the label on the battery).

# 13.3.2. Engine compartment - overview

The overview shows some service-related components.

Some of the car's batteries and several of the components included in the car's electric drive system are located under the bonnet. Exercise caution in this area and only touch anything that is related to normal maintenance.

#### 

Orange-coloured cables must only be handled by qualified personnel.

## /! Warning

Several components in the car work with high-voltage current that could be dangerous in the event of incorrect intervention.

- Do not touch anything that is not clearly described in this owner's manual.
- Exercise caution when checking/refilling fluids in the engine compartment.



Normal checking points - other parts require specialist expertise.

- Checking/refilling the coolant for the cooling and climate control systems
- **2** Checking/filling the power steering fluid
- 3 Filling engine oil
- **4** Checking/filling of brake fluid (on driver's side)
- **5** Starter battery
- 6 Relay and fuse box
- **7** Filling washer fluid

## / Warning

The car's electrical system must always be in key position 0 when work is being performed in the engine compartment; see <u>Key positions - functions at different levels</u>.

# 13.3.3. Brake and clutch fluid - level

The brake fluid level should be between container's MIN and MAX marks.

## Checking the level

The level must be between the MIN and MAX marks that are visible inside the reservoir. Check the level regularly.

Change the brake fluid every other year or at every other regular service.

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.

For capacities and recommended brake fluid grade, see Brake fluid - grade and volume.

## 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.

E) 1

Turn and open the cover located on the covering.

## 2 😫

Unscrew the reservoir cap and fill the fluid. The level must be between the MIN and MAX marks, which are located on the inside of the reservoir.

(!) Important

Do not forget to refit the cap.

# 13.3.4. Power steering fluid - grade

Power steering fluid is the denomination of the medium used in the car's power steering system.

Prescribed grade: Power steering fluid recommended by Volvo.

# 13.3.5. Fuses - in engine compartment

Fuses in the engine compartment protect engine and brake functions, amongst other things.



## 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
- Engine compartment, lower

These fuses are all located in the engine compartment box. The fuses in (C) are located under (A).

On the inside of the cover is a label that shows the location of the fuses.

- Fuses 1-7 and 42-44 are of the "Midi Fuse" type and must only be replaced by a workshop^[1].
- Fuses 8-15 and 34 are of the "JCASE" type and should be replaced by a workshop^[1]
- Fuses 16-33 and 35-41 are of the "Mini Fuse" type.

	Function	[A] ^[2]
0	-	-
0	Primary fuse for the central electronic module (CEM) under the glovebox	50
8	-	-
4	Primary fuse for relay/fuse box under the glovebox	60
6	-	-
6	-	-
0	-	-

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	Function	[A] ^[2]
8	-	-
9	Windscreen wipers	30
10	Parking heater*	25
1	-	-
Ð	-	-
13	ABS pump	40
14	ABS valves	20
Ð	Headlamp washers*	20
16	Headlamp levelling*; Active Xenon headlamps - ABL*	10
Ð	Primary fuse for the central electronic module (CEM) under the glovebox	20
18	ABS	5
19	Adjustable steering force*	5
20	Engine control module; Transmission control module; Airbags	10
2)	Heated washer nozzles*	10
2	-	-
23	Headlamp control	5
24	-	-
25	-	-
26	-	-
<b>U</b>	Relay coils	5
28	Auxiliary lamps*	20
29	Horn	15
30	Relay coil in main relay for engine management system; Engine control module	10
3)	Transmission control module	15
32	-	-
<u>3</u> 3	Relay coils in central electrical unit in engine compartment cold zone	5
34	Start relay	30
35	Glow control module	10
30	Engine Control Module (ECM)	15
37		
	Mass air flow sensor; Control valves	15
<b>6</b> 8	Valves; Oil level sensor	10
39	Lambda-sonds; Control module, radiator roller cover	15
40		
	Diesel filter heater	20
4)		
	Crankcase ventilation heater	10
42	Glow plugs	70

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	Function	[A] ^[2]
<b>4</b> 3	Cooling for	80
	Bower stooring	100
•	Power steering	100

## Behind the engine



A: Left-hand drive car. B: Right-hand drive car.

## 1 Fuse

	Function	[A] ^[2]
0	Monitoring of vacuum pump for brake system	5

## ^[1] An authorised Volvo workshop is recommended.

^[2] Ampere

* Option/accessory.

# 13.3.6. Engine oil - general

An approved engine oil must be used in order that the recommended service intervals can be applied.





When driving under adverse conditions, see Engine oil - adverse driving conditions.

### (!) Important

In order to fulfil the requirements for the engine's service intervals all engines are filled with a specially adapted synthetic engine oil at the factory. The choice of oil has been made very carefully with regard to service life, starting characteristics, fuel consumption and environmental impact.

An approved engine oil must be used in order that the recommended service intervals can be applied. Only use a prescribed grade of oil for both filling and oil change, otherwise you will risk affecting service life, starting characteristics, fuel consumption and environmental impact.

Volvo Car Corporation disclaims all warranty liability if engine oil of the prescribed grade and viscosity is not used.

Volvo recommends that oil changes are carried out at an authorised Volvo workshop.

Volvo uses different systems for warning of low/high oil level or low oil pressure. Certain engine variants have an oil pressure sensor, and then the combined instrument panel's warning symbol for low oil pressure is used. Other variants have an oil level sensor, when the driver is informed via the instrument's warning symbol and display texts. Certain variants have both systems. Contact a Volvo dealer for more information.

Change the engine oil and oil filter in accordance with the intervals specified in the Service and Warranty Booklet.

Using oil of a higher than specified grade is permitted. If the car is driven in adverse conditions, Volvo recommends using an oil of a higher grade; see Engine oil - adverse driving conditions.

# 13.3.7. Washer fluid - filling

Washer fluid is used for cleaning the headlamps and windows. Washer fluid with antifreeze must be used when the temperature is below freezing point.



Topping up the washer fluid takes place by opening the blue cap.

The windscreen and headlamp washers share a common reservoir.

### (i) Note

When there is approx. 1 litre of washer fluid remaining in the reservoir, a message to top up the washer fluid will be shown in the combined instrument panel, together with the symbol a.

Prescribed grade: Washer fluid recommended by Volvo - with frost protection during cold weather and below freezing point.

### (!) Important

Use Volvo genuine washer fluid or equivalent with a recommended pH of between 6 and 8, in working dilution (e.g. 1:1 with neutral water).

## (!) Important

Use washer fluid with antifreeze when the temperature is below freezing to avoid freezing in the pump, reservoir and hoses.

### Volume:

- Cars with headlamp washing: 3.4 litres.
- Cars without headlamp washing: 3.4 litres.

# 13.3.8. Engine compartment - checking

Some oils and fluids should be checked at regular intervals.

## **Regular checking**

Check the following oils and fluids at regular intervals, e.g. when refuelling:

- Coolant
- Engine oil
- Power steering fluid
- Washer fluid

### Varning

Remember that the radiator fan (located at the front of the engine compartment, behind the radiator) may start automatically some after the engine has been switched off.

Always have the engine cleaned by a workshop - an authorised Volvo workshop is recommended. There is a risk of fire if the engine is hot.

# 13.3.9. Brake fluid - grade and volume

The medium in a hydraulic brake system is called brake fluid, and it is used to transfer pressure from e.g. a brake pedal via a master brake cylinder to one or more slave cylinders, which in turn act on a mechanical brake.

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Volume: 0.6 litres

# 13.3.10. Power steering fluid - level

The power steering fluid level must be between the reservoir's MIN and MAX marks. The fluid does not need to be changed.



### () Important

Keep the area around the power steering fluid reservoir clean when checking. The cover must not be opened.

Check the level frequently. The fluid does not require changing. The level must be between the MIN and MAX marks.

For recommended fluid grade, see <u>Power steering fluid - grade</u>.

### (i) Note

If a fault should arise in the power steering system, or if the engine is switched off and must be towed, then the car can still be steered.

# 13.3.11. Starter battery - replacement

The starter battery in the car can be replaced without the help of a workshop.

The car's traditional 12 V battery is here called "starter battery" even if the hybrid battery is often used for starting the internal combustion engine.

## Removal

First of all: Take the remote control key from the ignition switch and wait at least 5 minutes before any electrical connections

are touched - this is because the car's electrical system needs to store the necessary information to control modules.







#### 1 1

Open the clips on the front cover and remove the cover.

#### 2 2

Release the rubber moulding so that the rear cover is free.

#### 3 3

4

Remove the rear cover by screwing one quarter turn and lifting it away.

### Warning

Connect and remove the positive and negative cables in the correct order.

## 4

#### 5

Detach the black negative cable.

#### 2 6

Detach the red positive cable.

#### 3 7

Detach the ventilation hose from the battery.

#### 4 8

Loosen the screw holding the battery clamp.



10 🚺

Move the battery aside.

## Fitting



- 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.
- **3** Tighten the clamp that holds the battery.
- **4** Connect the ventilation hose.
- > Check that it is correctly connected to both battery and outlet in the body.
- **5** Connect the red positive cable.
- 6 Connect the black negative cable.
- 7 Press in the rear cover. (See earlier section "Removal".)
- 8 Fit the rubber moulding. (See "Removal".)
- **9** Align the front cover and secure it with the clips. (See "Removal".)

For more information on the car's starter battery, see <u>Jump starting with battery</u>.

# 13.3.12. Starter battery - general

The starter battery is used to drive the starter motor and other electrical equipment in the car.

The car's traditional 12 V battery is here called "starter battery" even if the hybrid battery is often used for starting the internal combustion engine.

The service life and function of the starter battery is influenced by factors such as the number of starts, discharging, driving style, driving conditions, climatic conditions, etc.

- Never disconnect the starter battery when the engine is running. Ð
- Check that the cables to the starter battery are correctly connected and properly tightened.

Voltage (V)	12
Cold start capacity ^[1] - CCA ^[2] (A)	760
Size, L×W×H (mm)	278×175×190
Capacity (Ah)	70

### (!) Important

When replacing the starter battery, a battery of AGM^[3] type must be fitted.

### (!) Important

If the starter battery is replaced, make sure you replace it with a battery with the same cold starting capacity and type as the original battery (see the label on the battery).

### (i) Note

The starter battery's container size should be consistent with the original battery's dimensions.

## Warning

- The battery can generate oxyhydrogen gas, which is highly explosive. A spark can be formed if a jump lead is connected incorrectly, and this can be enough for the battery to explode.
- The battery contains sulphuric acid, which can cause serious burns.
- If sulphuric acid comes into contact with eyes, skin or clothing, flush with large quantities of water. If acid splashes into the eyes - seek medical attention immediately.

### (!) Important

When charging the starter battery, only use a modern battery charger with controlled charging voltage. Fast charging function must not be used since it may damage the battery.

## (i) Note

If both the starter battery and the <u>hybrid battery</u> are discharged then **both** batteries must be charged. In such a case, charging only the hybrid battery first is not possible.

### (!) Important

If the following instruction is not observed then the energy saving function for infotainment system may be temporarily disengaged, and/or the message in the combined instrument panel's information display about the starter battery's state of charge may be temporarily inapplicable, following the connection of an external starter battery or battery charger:

• The negative battery terminal on the car's starter battery must **never** be used for connecting an external starter battery or battery charger - only the **car chassis** may be used as the grounding point.

See Jump starting with battery for a description of how the cable clamps must be attached.

### (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.

- ^[1] In accordance with EN standard.
- ^[2] Cold Cranking Amperes.
- ^[3] Absorbed Glass Mat.

## 13.3.13. Fuses - general

All electrical functions and components are protected by a number of fuses in order to protect the car's electrical system from damage by short circuiting or overloading.

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## ✓ Warning

Orange-coloured cables must only be handled by qualified personnel.

### /! Warning

Several components in the car work with high-voltage current that could be dangerous in the event of incorrect intervention.

Do not touch anything that is not clearly described in this owner's manual.

If an electrical component or function does not work, it may be because the component's fuse was temporarily overloaded and failed. If the same fuse fails repeatedly then there is a fault in the circuit. Volvo recommends that you visit an authorised Volvo workshop for checking.

## Changing

- 1 Look in the fuse diagram to locate the fuse.
- 2 Pull out the fuse and check from the side to see whether the curved wire has blown.
- 3 If this is the case, replace it with a new fuse of the same colour and amperage.

## /! Warning

Never use a foreign object or a fuse with an amperage higher than that specified when replacing a fuse. This could cause significant damage to the electrical system and possibly lead to fire.

## Location of central electrical units



Central electrical unit locations in a left-hand drive car. In a right-hand drive car the central electrical units under the glovebox change sides.

- Engine compartment
- 2 Under the glovebox
- 3 Under the glovebox
- 4 Cargo area
- 6 Engine compartment, cold zone

# 13.3.14. Coolant - grade and volume

Approved coolant volume for each respective engine alternative can be read in the table.

**Prescribed grade:** Coolant recommended by Volvo mixed with 50% water^[1], see the packaging.

Engine	Volume (litres)
D5 AWD	12.9
D6 AWD	12.9

## 13.3.15. Engine oil - grade and volume

Engine oil grade and volume for each respective engine alternative can be read in the table.

Volvo recommends:



Engine	Engine code ^[1]	Oil grade	Volume, incl. oil filter (litres)
D5 AWD	D87PHEV	Oil grade: ACEA A5/B5 Viscosity: SAE OW-30	approx. 5.9
D6 AWD	D97PHEV		approx. 5.9

^[1] Engine code, component and serial number can be read on the engine; see <u>Type designations</u>.

# 13.3.16. Coolant - level

The coolant cools the internal combustion engine to the correct operating temperature. The heat that is transferred from the engine to the coolant can be used to heat the passenger compartment. The coolant level must lie between the MIN and MAX marks on the expansion tank.

## Checking the level and topping up



When topping up the coolant, follow the instructions on the packaging. Never top up with water only. The risk of freezing increases with both too little and too much coolant concentrate.

## ·\ Warning

Coolant can be very hot. If the coolant requires topping up when the engine is at operating temperature, unscrew the expansion tank cap slowly to gently release the overpressure.

For capacities and for standards regarding water quality; see Coolant - grade and volume.

## Check the coolant regularly

The level must be between the MIN and MAX marks on the expansion tank. If the system is not filled sufficiently, high temperatures could occur, causing a risk of damage to the engine.

### () Important

- A high content of chlorine, chlorides and other salts may cause corrosion in the cooling system.
- Always use coolant with anti-corrosion agent as recommended by Volvo.
- Ensure that the coolant mixture is 50% water and 50% coolant. .
- Mix the coolant with approved quality tap water. In the event of any doubt about water quality, used ready-mixed coolant in accordance with Volvo recommendations.
- When changing coolant/replacing cooling system components, flush the cooling system clean with approved quality tap water or flush with ready-mixed coolant.
- The engine must only be run with a well-filled cooling system. Otherwise, temperatures that are too high may occur resulting in the risk of damage (cracks) in the cylinder head.

# 13.3.17. Engine oil - checking and filling

The oil level is detected with the electronic oil level sensor.



## Engine with electronic oil level sensor, 5-cyl. diesel



Filler pipe^[1].

No action needs to be taken on engine oil level until a message is shown in the combined instrument panel's display, see the following illustration.



Message and graphic in the display.



2 Engine oil level

The oil level is checked using the electronic oil level gauge with the thumbwheel when the engine is switched off, see <u>Menu</u> <u>navigation - combined instrument panel</u>.

### / Warning

If the message **Oil service required** is shown, visit a workshop - an authorised Volvo workshop is recommended. The oil level may be too high.

### (!) Important

In the event of the message **Oil level low Refill 0.5 litre**, only fill with 0.5 litres.

## ✓ Warning

Do not fill more oil if filling level (3) or (4) appears as shown in the illustration below. The level must never be above MAX or below MIN, as this could lead to engine damage.

## (i) Note

The oil level is only detected by the system when certain conditions are fulfilled. For this reason the system cannot always directly detect changes when the oil is filled or drained. Under certain conditions, internal combustion engine operation may be required for approx. 30 km.

## / Warning

Do not spill oil onto the hot exhaust manifold due to the risk of fire.

Measuring the oil level, 5-cyl. diesel

If the oil level needs to be checked then it should be carried out in accordance with the following sequence.

- 1 Activate key position II; see <u>Key positions functions at different levels</u>.
- 2 Rotate the thumbwheel on the left-hand stalk switch to position Oil level.
- > You will then see information displayed about the engine oil level.



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. Message and graphic in the display.

^[1] Engines with electronic oil level sensor do not have a dipstick.

# 13.3.18. Battery - symbols

There are information and warning symbols on the batteries.

## Symbols on the batteries

•	Use protective goggles.
0	Further information in the owner's manual for the car.
<b>(()</b>	Store the battery out of the reach of children.
	The battery contains corrosive acid.
8	Avoid sparks and naked flames.
	Risk of explosion.

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#### (i) Note

An expended battery must be recycled in an environmentally safe manner as it contains lead.

# 13.4. Fuses

# 13.4.1. Fuses - in engine compartment

Fuses in the engine compartment protect engine and brake functions, amongst other things.



### 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
- Engine compartment, lower

These fuses are all located in the engine compartment box. The fuses in (C) are located under (A).

On the inside of the cover is a label that shows the location of the fuses.

- Fuses 1-7 and 42-44 are of the "Midi Fuse" type and must only be replaced by a workshop^[1]. Ð
- Fuses 8-15 and 34 are of the "JCASE" type and should be replaced by a workshop  $^{\left[ 1\right] }$ Ð
- Fuses 16-33 and 35-41 are of the "Mini Fuse" type. Ð

	Function	[A] ^[2]
0	-	-
2	Primary fuse for the central electronic module (CEM) under the glovebox	50
8	-	-
4	Primary fuse for relay/fuse box under the glovebox	60
6	-	-
6	-	-
7	-	-
8	-	-
0	Windscreen wipers	30
1	Parking heater*	25
1	-	-
12	-	-
<b>B</b>	ABS pump	40
14	ABS valves	20
15	Headlamp washers*	20
16	Headlamp levelling*; Active Xenon headlamps - ABL*	10
Ð	Primary fuse for the central electronic module (CEM) under the glovebox	20
18	ABS	5
19	Adjustable steering force*	5
20	Engine control module; Transmission control module; Airbags	10
21	Heated washer nozzles*	10
2	-	-
3	Headlamp control	5
24	-	-
25	-	-
26	-	-
<b>U</b>	Relay coils	5
28	Auxiliary lamps*	20
29	Horn	15
30	Relay coil in main relay for engine management system; Engine control module	10
3)	Transmission control module	15
32	-	-
<u>3</u> 3	Relay coils in central electrical unit in engine compartment cold zone	5
34	Start relay	30

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	Function	[A] ^[2]
35	Glow control module	10
36	Engine Control Module (ECM)	15
3)	Mass air flow sensor; Control valves	15
38	Valves; Oil level sensor	10
<u>3</u> 9	Lambda-sonds; Control module, radiator roller cover	15
40		
	Diesel filter heater	20
<b>4</b> 1		
	Crankcase ventilation heater	10
42	Glow plugs	70
Æ		
	Cooling fan	80
4	Power steering	100

## Behind the engine



A: Left-hand drive car. B: Right-hand drive car.

1 Fuse

	Function	[A] ^[2]
0	Monitoring of vacuum pump for brake system	5

^[1] An authorised Volvo workshop is recommended.

- ^[2] Ampere
- * Option/accessory.

# 13.4.2. Fuses - in the control module under the glovebox

Fuses in the control module under the glovebox protect airbag and collision warning system functions, amongst other things.



## Positions

	Function	[A] ^[1]
0	Rear window wiper	15
2	-	-
3	Interior lighting; Driver's door control panel, power windows; Power seats*	7.5
4	Combined instrument panel	5
6	Adaptive cruise control, ACC*; collision warning system*	10
6	Interior lighting; Rain sensor*	7.5
7	Steering wheel module	7.5
8	Central locking system, fuel filler flap	10
9	Heated steering wheel*	15
0	Heated windscreen*	15
1	Unlocking, tailgate	10
12	Folding head restraint*	10
<b>B</b>	Fuel pump	20
4	Movement detector alarm*; Climate panel	5
6	Steering lock	15

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	Function	[A] ^[1]
16	Siren*; Data link connector OBDII	5
Ð	-	-
18	Airbags	10
19	Collision warning system*	5
20	Accelerator pedal sensor; Dimming interior rearview mirror*; Seat heating, rear*	7.5
<b>2</b> )	Infotainment control module (Performance); Audio (Performance)	15
2	Brake light	5
	Sunroof*	20
24	Immobiliser	5

### ^[1] Ampere

* Option/accessory.

# 13.4.3. Fuses - general

All electrical functions and components are protected by a number of fuses in order to protect the car's electrical system from damage by short circuiting or overloading.

### /! Warning

Orange-coloured cables must only be handled by qualified personnel.

#### Warning /!\

Several components in the car work with high-voltage current that could be dangerous in the event of incorrect intervention.

Do not touch anything that is not clearly described in this owner's manual.

If an electrical component or function does not work, it may be because the component's fuse was temporarily overloaded and failed. If the same fuse fails repeatedly then there is a fault in the circuit. Volvo recommends that you visit an authorised Volvo workshop for checking.

## Changing

- 1 Look in the fuse diagram to locate the fuse.
- 2 Pull out the fuse and check from the side to see whether the curved wire has blown.
- 3 If this is the case, replace it with a new fuse of the same colour and amperage.

### /! Warning

Never use a foreign object or a fuse with an amperage higher than that specified when replacing a fuse. This could cause significant damage to the electrical system and possibly lead to fire.

### Location of central electrical units



Central electrical unit locations in a left-hand drive car. In a right-hand drive car the central electrical units under the glovebox change sides.

- 1 Engine compartment
- 2 Under the glovebox
- Onder the glovebox
- 4 Cargo area

# 13.4.4. Fuses - in cargo area

Fuses in the cargo area protect the electric parking brake and electric operation functions, amongst other things.



The fuse box is located behind the upholstery on the left-hand side.



The emergency puncture repair kit needs to be lifted out for the central electrical unit to be accessible.

### Positions

Box A	Function	[A] ^[1]
0	Electric parking brake, left	30
2	Electric parking brake, right	30
3	Rear window defroster	30
4	Trailer socket 2 *	15
6	-	-
6	12 V socket, cargo area	15
0	-	-
8	-	-
9	-	-
0	-	-
0	Trailer socket 1*	40
®	-	-





The emergency puncture repair kit needs to be lifted out for the central electrical unit to be accessible.

Box B	Function	[A] ^[1]
0	Coolant pump 1 for hybrid battery; Valve for coolant pumps 1 and 2	10
0	Coolant pump 2 for hybrid battery	10
8	Charging unit; Voltage converter 400 V-12 V; Control module for hybrid battery	5
4	Coolant pump for the cooling system's low temperature circuit	15
6	Charging unit; Voltage converter 400 V-12 V; Control module for hybrid battery	10
6	Relay coils; High voltage converter for electric motor and integrated starter generator	10
0	Disengaging the electric motor from the rear axle	15
8	-	-
0	High voltage converter for electric motor and integrated starter generator; Control module for hybrid battery	10
10	Coolant valves for the cooling system's low temperature circuit; Electric A/C compressor; Valve for heat exchanger; Valve for climate control system	10
1	-	-
12	-	-

## ^[1] Ampere

* Option/accessory.

# 13.4.5. Fuses - in the engine compartment's cold zone

Fuses in the engine compartment's cold zone are fitted in cars with the Start/Stop function.



Fuse locations in the engine compartment's cold zone.

- Fuses A1 and A2 are of the "MEGA Fuse" type and must only be replaced by a workshop^[1].
- Fuses 1-11 are of the "Midi Fuse" type and must only be replaced by a workshop^[1].
- Fuse 12 is of the "Mini Fuse" type.

For more information on Start/Stop - see Drive system - drive modes.

### Positions

	Function	[A] ^[2]
A	Main fuse for central electrical unit in the engine compartment	175
<b>A2</b>	Main fuse for central electronic module (CEM) under the glovebox, relay/fuse box under the glovebox, central electrical units in cargo area	175
0	Vacuum pump for brake system	40
0	Primary fuse for the central electronic module (CEM) under the glovebox	50
8	Primary fuse for relay/fuse box under the glovebox	60
4	Primary fuse for central electrical unit B in cargo area	50
6	Primary fuse for central electrical unit A in cargo area	60
6	Ventilation fan	40
0	-	-
8	-	-
0	-	-
0	-	-
1	Oil pump automatic gearbox	30
12	-	-

^[1] An authorised Volvo workshop is recommended.

^[2] Ampere

# 13.4.6. Fuses - under glovebox

Fuses under the glovebox protect the infotainment system and seat functions, amongst other things.



## **Positions**

	Function	[A] ^[1]
0	Primary fuse for audio control module *; Primary fuse for fuses 16-20: Infotainment	40
2	Windscreen washers; Rear window washer	25
3	-	-
4	-	-
6	-	-
6	Door handle (Keyless*)	5
0	-	-
8	Control panel, driver's door	20
9	Control panel, front passenger door	20
10	Control panel, rear passenger door, right	20
1	Control panel, rear passenger door, left	20
Ð	Keyless*	7.5
<b>B</b>	Power seat, driver's side *	20
14	Power seat, passenger side*	20
<b>1</b> 5	-	-
16	Infotainment Control Module or Screen ^[2]	5
Ð	Audio control unit (amplifier)*; TV*; Digital radio*	10
18	Audio control module or Control module Sensus ^[2]	15
19	Telematics*; Bluetooth*	5
20	-	-
2)	Sunroof*; Interior lighting roof; Climate sensor*; Damper motors, air intake	5
2	12 V socket, tunnel console	15
	Seat heating, rear right*	15
24	Seat heating, rear left*	15

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	Function	[A] ^[1]
25	Electrically-driven heater	5
26	Seat heating, front passenger side	15
<b>U</b>	Seat heating, front driver's side	15
28	Parking assistance *; Parking camera *; BLIS *	5
29	-	-
30	-	-

^[1] Ampere

* Option/accessory.

^[2] Certain model variants.

# 13.5. Battery

# 13.5.1. Electrical system

The electrical system is single-pole and uses the chassis and engine casing as a conductor.

The car has a voltage-regulated AC alternator.

The size, type and performance of the starter battery depend on the car's equipment and function.

### (!) Important

If the starter battery is replaced, make sure you replace it with a battery with the same cold starting capacity and type as the original battery (see the label on the battery).

# 13.5.2. Starter battery - replacement

The starter battery in the car can be replaced without the help of a workshop.

The car's traditional 12 V battery is here called "starter battery" even if the hybrid battery is often used for starting the internal combustion engine.

### Removal

First of all: Take the remote control key from the ignition switch and wait at least 5 minutes before any electrical connections

are touched - this is because the car's electrical system needs to store the necessary information to control modules.







#### 1 1

Open the clips on the front cover and remove the cover.

#### 2 2

Release the rubber moulding so that the rear cover is free.

#### 3 3

4

Remove the rear cover by screwing one quarter turn and lifting it away.

### 

Connect and remove the positive and negative cables in the correct order.

### 4

5 

Detach the black negative cable.

#### 2 6

Detach the red positive cable.

#### 3 7

Detach the ventilation hose from the battery.

#### 4 8

Loosen the screw holding the battery clamp.



10 🚺

Move the battery aside.

## Fitting



- Lower the battery into the battery box. 1
- Move the battery inward and to the side until it reaches the rear edge of the box. 2
- Tighten the clamp that holds the battery. 3
- Connect the ventilation hose. 4
- Check that it is correctly connected to both battery and outlet in the body. >
- Connect the red positive cable. 5
- Connect the black negative cable. 6
- Press in the rear cover. (See earlier section "Removal".) 7
- Fit the rubber moulding. (See "Removal".) 8
- Align the front cover and secure it with the clips. (See "Removal".) 9

For more information on the car's starter battery, see <u>Jump starting with battery</u>.

# 13.5.3. Starter battery - general

The starter battery is used to drive the starter motor and other electrical equipment in the car.

The car's traditional 12 V battery is here called "starter battery" even if the hybrid battery is often used for starting the internal combustion engine.

The service life and function of the starter battery is influenced by factors such as the number of starts, discharging, driving style, driving conditions, climatic conditions, etc.

- Never disconnect the starter battery when the engine is running. Ð
- Check that the cables to the starter battery are correctly connected and properly tightened.

Voltage (V)	12
Cold start capacity ^[1] - $CCA^{[2]}$ (A)	760
Size, L×W×H (mm)	278×175×190
Capacity (Ah)	70

### (!) Important

When replacing the starter battery, a battery of AGM^[3] type must be fitted.

### (!) Important

If the starter battery is replaced, make sure you replace it with a battery with the same cold starting capacity and type as the original battery (see the label on the battery).

### (i) Note

The starter battery's container size should be consistent with the original battery's dimensions.

### Warning

- The battery can generate oxyhydrogen gas, which is highly explosive. A spark can be formed if a jump lead is connected incorrectly, and this can be enough for the battery to explode.
- The battery contains sulphuric acid, which can cause serious burns.
- If sulphuric acid comes into contact with eyes, skin or clothing, flush with large quantities of water. If acid splashes into the eyes - seek medical attention immediately.

#### (!) Important

When charging the starter battery, only use a modern battery charger with controlled charging voltage. Fast charging function must not be used since it may damage the battery.

### (i) Note

If both the starter battery and the hybrid battery are discharged then both batteries must be charged. In such a case, charging only the hybrid battery first is not possible.

#### (!) Important

If the following instruction is not observed then the energy saving function for infotainment system may be temporarily disengaged, and/or the message in the combined instrument panel's information display about the starter battery's state of charge may be temporarily inapplicable, following the connection of an external starter battery or battery charger:

The negative battery terminal on the car's starter battery must **never** be used for connecting an external starter battery or battery charger - only the car chassis may be used as the grounding point.

See Jump starting with battery for a description of how the cable clamps must be attached.

#### (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.

- ^[1] In accordance with EN standard.
- ^[2] Cold Cranking Amperes.
- ^[3] Absorbed Glass Mat.

# 13.5.4. Battery - symbols

There are information and warning symbols on the batteries.

### Symbols on the batteries

0	Use protective goggles.
0	Further information in the owner's manual for the car.
<b>(</b>	Store the battery out of the reach of children.
$\Delta$	The battery contains corrosive acid.
8	Avoid sparks and naked flames.
	Risk of explosion.
X	Must be taken for recycling.

### (i) Note

An expended battery must be recycled in an environmentally safe manner as it contains lead.

# 13.5.5. Hybrid battery

The car is equipped with a hybrid battery for electric motor operation - a maintenance-free rechargeable Lithium-ion type battery.

### ✓! Warning

The hybrid battery must only be replaced by a workshop - an authorised Volvo workshop is recommended.

## Coolant

The hybrid battery's cooling system has a separate expansion tank.



### ( ! ) Important

The hybrid battery's coolant must only be topped up by a workshop - an authorised Volvo workshop is recommended.

# 13.6. Volvo service programme

To keep the car as safe and reliable as possible, follow the Volvo service programme as specified in the Service and Warranty Booklet.

Volvo recommends engaging an authorised Volvo workshop to perform the service and maintenance work. Volvo workshops have the personnel, special tools and service literature to guarantee the highest quality of service.

#### () Important

For the Volvo warranty to apply, check and follow the instructions in the Service and Warranty Booklet.

### Service and repair

Service the car regularly. Follow Volvo's recommended service intervals.

If inspection and repair are required then only an authorised Volvo workshop may carry out the work.

#### Warning

Do not carry out any repairs of your own on this vehicle. Electrical cables and/or components that have detached must only be rectified by an authorised workshop - an authorised Volvo workshop is recommended.

### Service interval and next service, charging cable

The hour meter on the charging cable counts charging time to the next service. Volvo recommends having the control unit checked by an electrician after every 5000 operating hours.

Important (!)

Do not modify the control unit in any way.

# 13.7. Book service and repair*^[1]

Manage service, repair and booking information directly in your Internet-connected car.

This service^[1] provides a convenient way to book a service and workshop visit directly in the car. Car information is sent to your dealer, who can prepare the workshop visit. The dealer will contact you to schedule an appointment time. For certain markets, the system reminds you of a scheduled appointment time as it approaches and the navigation system^[2] can also guide you to the workshop when the time comes.

### Before the service can be used

#### Volvo ID and my profile

- Log in to the owner portal My Volvo, go to your profile and carry out the following:
- Check that the car is connected to your profile. 1
- Check that your contact information is correct. 2
- Select the Volvo dealer you want to contact for service and repair. 3
- Choose preferred communication channel (phone). Booking information is always sent to the car and to you via email. 4

Prerequisite for booking from car

- To send and receive booking information to and from the car, the car must be connected to the Internet. Ð
- Since the booking information is sent over your private phone subscription, you will be asked whether you want to send Ð the information. The question is asked once and then applies to the selected connection for a limited time.
- For the service to work and for the system to communicate via the car's screen, notifications/pop-up messages must be Ð accepted. In the normal view for the MY CAR source, press OK/MENU and then Service & repair -> Display notifications.

### Using the service

All menus and settings are accessed from the normal view in MY CAR by pressing OK/MENU and then Service & repair.

When it is time for service, and in some cases when the car is in need of repair, this is notified in the and via a pop-up menu in the screen.

11:27 _™		a,	Yuul
FM TP CO DIGITAL	Maintenance service required. Would you like the dealer to contact you? Yes No		
22.5 [°] ≣∰		≣₩	21059 2051059

Service message in the screen.

Meaning of the answer options in the screen's pop-up menu:

- Yes A booking enquiry is sent to your dealer who then comes back with a booking proposal. The service lamp and service . message in the combined instrument panel are extinguished.
- No No more pop-up messages will be shown in the screen. The message in the combined instrument panel remains. After Ð this option has been selected, it is possible to start the manual booking in the car, see below.
- Postpone The pop-up menu is shown the next time the car is started.

Book a service or repair manually^[1]

- 1 Press the MY CAR button in the centre console and select Service & repair → Dealer information → Request service or repair.
- > Vehicle data is sent automatically to your dealer.
- 2 The dealer sends a booking proposal to the car.
- **3** Accept or request a new booking proposal.

After the booking has been accepted the booking information is stored in the car, see My bookings. The car will automatically communicate with you via the screen by means of reminders about the booking and guide you to the workshop visit.

You can also book a workshop visit via My Volvo. Go to "My bookings" and select "Update" in order to gain access to bookings from My Volvo.

#### My bookings^[1]

Show booking information in the car's screen. Accept or request a new booking proposal.

1 Select Service & repair → My bookings.

#### Call the dealer^[1]

With a phone connected to the car, you can call your dealer.

**1** Select Service & repair  $\rightarrow$  Dealer information  $\rightarrow$  Call dealer.

### Using the navigation system $^{[1], [2]}$

Enter your workshop as destination or waypoint in the navigation system.

- 1 Select Service & repair  $\rightarrow$  Dealer information  $\rightarrow$  Set single destination.
- 1 Select Service & repair → Dealer information → Add as waypoint.

Sending vehicle data^[1]

Vehicle data are sent to a central Volvo database (not your dealer) from which Volvo dealers can retrieve vehicle information using the car's identification number (VIN^[3]). The number is printed in the car's service and warranty booklet, alternatively inside the windscreen's bottom left-hand corner.

1 Select Service & repair → Send car data.

### Booking information and vehicle data

When you decide to book a service from your car, the booking information and vehicle data will be sent. Vehicle data information consists of information within the following areas:

- service requirement
- function status
- fluid levels
- Meter reading
- the car's vehicle identification number (VIN^[3])
- The car's software version.
- * Option/accessory.
- ^[1] Applies to certain markets.
- ^[2] Applies to Sensus Navigation.
- ^[3] Vehicle Identification Number

# 13.8. Raising the car

When raising the car it is important that the jack or lifting arms are fitted in the intended points on the car's underbody.

#### (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 supplied with the equipment.



Jacking points (arrows) for the jack that belongs to the car and lifting points (marked in red).

If the car is raised with a front workshop jack then this must be positioned under one of the four lifting points furthest in under the car. If the car is raised with a rear workshop jack then it must be positioned under one of the lifting points. Ensure that the workshop jack is positioned so that the car cannot slide off the jack. Always use axle stands or similar.

If the car is raised with a two-pillar workshop lift then the front and rear lifting arms can be positioned under the outer lifting points (jacking points). Alternatively, the inner lifting points can be used at the front.

# 13.9. Climate control system - fault tracing and repair

The air conditioning system must only be serviced and repaired by an authorised workshop.

### Fault tracing and repair

The air conditioning system contains fluorescent tracing agents. Use ultraviolet light when looking for leaks.

Volvo recommends that you contact an authorised Volvo workshop.

#### /! Warning

The air conditioning system contains pressurised refrigerant R134a. This system must only be serviced and repaired by an authorised workshop.

# 13.10. Wiper blades

The wiper blades sweep water away from the windscreen and rear window. Together with the washer fluid they clean the windows and ensure visibility for driving.

The windscreen wiper blades must be in service position when they are to be replaced.

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### Service position



Wiper blades in service position.

In order to change, clean or lift the wiper blades (for scraping off ice from the windscreen, for example) they must be in service position.

#### () Important

Before placing the wiper blades in the service position, make sure that they are not frozen down.

- 1 Insert the remote control key in the ignition switch^[1] and briefly press the START/STOP ENGINE button to set the car's electrical system to key position I. For detailed information on key positions, see <u>Key positions functions at different levels</u>.
- 2 Briefly press the START/STOP ENGINE button again to set the car's electrical system in key position 0.
- 3 Within 3 seconds, move the right stalk switch up and hold it in position for approx. 1 second.
- > The wipers then move to standing straight up.

The wipers return to their starting position when you briefly press the START/STOP ENGINE button to set the car's electrical system to key position I (or when the car is started).

### () Important

If the wiper arms in service position have been folded up from the windscreen, they must be folded back down onto the windscreen before the wipers are allowed to return to their starting position. This is to avoid scraping the paint on the bonnet.

## Replacing the wiper blades





### 1 1

Fold up the wiper arm when it is in service position. Press the button located on the wiper blade mounting and pull straight out parallel with the wiper arm.

#### 2 2

Slide in the new wiper blade until a "click" is heard.

#### 3 3

Check that the blade is firmly installed.

Fold the wiper arm back towards the windscreen. 4

The wipers return from service position to their starting position when you briefly press the START/STOP ENGINE button to set the car's electrical system to key position I (or when the car is started).



### (i) Note

The wiper blades are different lengths. The blade on the driver's side is longer than on the passenger side.

### Replacing the wiper blades, rear window



- 1 Fold out the wiper arm.
- **2** Grip the inner section of the blade (by the arrow).
- 3 Turn anticlockwise to use the blade's end position against the wiper arm as a lever to detach the blade more easily.
- **4** Press the new wiper blade into position. Check that it is firmly installed.
- 5 Lower the wiper arm.

## Cleaning

For cleaning wiper blades and windscreen, see Car wash.

### () Important

Check the blades regularly. Neglected maintenance shortens the service life of the wiper blades.

^[1] Not necessary in cars with the Keyless function.

# 13.11. Bonnet - opening and closing

The bonnet can be opened when the handle in the passenger compartment has been turned clockwise and the lock by the radiator grille has been moved to the left.



The handle for bonnet opening is always on the left-hand side.



1 1

Turn the handle about 20-25 degrees clockwise. You will hear when the catch releases.

#### 2 2

Move the catch to the left and open the bonnet. (The catch hook is located between the headlamp and radiator grille, see illustration.)

# ✓ Warning

Check that the bonnet locks properly when closed.

# 14.1. Wheel and tyre specifications

# 14.1.1. Tyres - approved tyre pressures

Approved tyre pressures for each respective engine alternative can be read in the table.

Engine	Tyre size	Speed (km/h)	Load, 1-3 persons		Max. load		ECO pressure ^[1]
			Front (kPa) ^[2]	Rear (kPa)	Front (kPa)	Rear (kPa)	Front/rear (kPa)
D5 AWD (D87PHEV) D6 AWD (D97PHEV)	235/45 R 17 235/45 R 18	0 - 160	280	280	280	280	280
		160 +	280	280	320	320	-
Temporary Spare Tyre		max. 80	420	420	420	420	420

^[1] Economical driving.

^[2] In certain countries there is the "bar" unit beside the SI unit "Pascal": 1 bar = 100 kPa.

# 14.2. Engine

# 14.2.1. Engine specifications

Engine specifications (output etc.) for each respective engine alternative can be read in the table.

Diesel engine									
Engine	Engine code ^[1]	Output (kW/rpm)	Output (hp/rpm)	Torque (Nm/rpm)	No. of cylinders	Bore (mm)	Stroke (mm)	Swept volume (litres)	Compression ratio
D5 AWD	D87PHEV	120/4000	163/4000	420/1500-2500	5	81.0	93.2	2,400	16.5:1
D6 AWD	D97PHEV	162/4000	220/4000	440/1500-3000	5	81.0	93.2	2,400	16.5:1

^[1] Engine code, component and serial number can be read on the engine; see <u>Type designations</u>.

# 14.2.2. Motor specifications - Electric drive motor

V60 PLUG-IN HYBRID is driven both by a diesel engine and an electric drive motor (ERAD – Electric Rear Axle Drive).

Max. power output: 50 kW (70 hp).

Torque: 200 Nm.

# 14.2.3. Coolant - grade and volume

Approved coolant volume for each respective engine alternative can be read in the table.

**Prescribed grade:** Coolant recommended by Volvo mixed with 50% water^[1], see the packaging.

Engine	Volume (litres)
D5 AWD	12.9
D6 AWD	12.9

^[1] Water quality must fulfil the standard STD 1285.1.

# 14.2.4. Engine oil - adverse driving conditions

Adverse driving conditions can lead to abnormally high oil temperature or oil consumption. Below are some examples of adverse driving conditions.

Check the oil level more frequently for long journeys:

- towing a caravan or trailer
- in mountainous regions
- at high speeds
- in temperatures colder than -30 °C or hotter than +40 °C.

The above also apply to shorter driving distances at low temperatures.

Choose a fully synthetic engine oil for adverse driving conditions. It provides extra protection for the engine.


#### () Important

In order to fulfil the requirements for the engine's service intervals all engines are filled with a specially adapted synthetic engine oil at the factory. The choice of oil has been made very carefully with regard to service life, starting characteristics, fuel consumption and environmental impact.

An approved engine oil must be used in order that the recommended service intervals can be applied. Only use a prescribed grade of oil for both filling and oil change, otherwise you will risk affecting service life, starting characteristics, fuel consumption and environmental impact.

Volvo Car Corporation disclaims all warranty liability if engine oil of the prescribed grade and viscosity is not used.

Volvo recommends that oil changes are carried out at an authorised Volvo workshop.

## 14.2.5. Engine oil - grade and volume

Engine oil grade and volume for each respective engine alternative can be read in the table.



Engine	Engine code ^[1]	Oil grade	Volume, incl. oil filter (litres)
D5 AWD	D87PHEV	Oil grade: ACEA A5/B5 Viscosity: SAE 0W-30	approx. 5.9
D6 AWD	D97PHEV		approx. 5.9

^[1] Engine code, component and serial number can be read on the engine; see <u>Type designations</u>.

# 14.3. Dimensions and weights

# 14.3.1. Towing capacity and towball load

Towing capacity and towball load for driving with a trailer can be read in the tables.

### Max. weight braked trailer

Engine	Engine code ^[1]	Gearbox	Max. weight braked trailer (kg)	Max. towball load (kg)
D5 AWD	D87PHEV	Automatic, TF-80SD	1800	90
D6 AWD	D97PHEV	Automatic, TF-80SD	1800	90

### Max. weight unbraked trailer

Max. weight unbraked trailer (kg)	Max. towball load (kg)
750	50

^[1] Engine code, component and serial number can be read on the engine; see <u>Type designations</u>.

# 14.3.2. Dimensions

Measurement of car length, height, etc. can be read in the table.



	Dimensions	mm
А	Wheelbase	2776
В	Length	4635
С	Load length, floor, folded rear seat	1749
D	Load length, floor	978
E	Height	1484
F	Load height	592
G	Front track	1578
н	Rear track	1575
I	Load width, floor	1082
J	Width	1865
К	Width including door mirrors	2097
L	Width including folded-in door mirrors	1899

# 14.3.3. Weights

Max. gross vehicle weight, etc. can be read on a label in the car.

Kerb weight includes the driver, the fuel tank 90% full and all fluids.

The weight of passengers and accessories, and <u>towball load</u> (when a trailer is hitched) influence the load capacity and are 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 carrier, Space box, Audio system, Auxiliary lamps, GPS, Fuel-driven engine block 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.



The car's driving characteristics change depending on how heavily it is loaded and how the load is distributed.



For information on label location, see Type designations.

- 1 Max. gross vehicle weight
- **2** Max. train weight (car+trailer)
- 3 Max. front axle load
- 4 Max. rear axle load
- 6 Equipment level

Max. load: See registration document.

Max. roof load: 75 kg.

# 14.4. Fluids and lubricants

# 14.4.1. Power steering fluid - grade

Power steering fluid is the denomination of the medium used in the car's power steering system.

**Prescribed grade:** Power steering fluid recommended by Volvo.

# 14.4.2. Fuel tank - volume

Fuel tank volume for each respective engine alternative can be read in the table.

Engine	Volume (litres)	Prescribed grade
All	approx 45	Fuel - diesel

# 14.4.3. Washer fluid - filling

Washer fluid is used for cleaning the headlamps and windows. Washer fluid with antifreeze must be used when the temperature is below freezing point.



Topping up the washer fluid takes place by opening the blue cap.

#### (i) Note

When there is approx. 1 litre of washer fluid remaining in the reservoir, a message to top up the washer fluid will be shown in the combined instrument panel, together with the symbol  $\mathfrak{P}$ .

#### Prescribed grade: Washer fluid recommended by Volvo - with frost protection during cold weather and below freezing point.

#### (!) Important

Use Volvo genuine washer fluid or equivalent with a recommended pH of between 6 and 8, in working dilution (e.g. 1:1 with neutral water).

#### (!) Important

Use washer fluid with antifreeze when the temperature is below freezing to avoid freezing in the pump, reservoir and hoses.

#### Volume:

- Cars with headlamp washing: 3.4 litres.
- Cars without headlamp washing: 3.4 litres.

# 14.4.4. Specifications for air conditioning

Prescribed grades and volumes of fluids and lubricants in the air conditioning system can be read in the tables below.



The label is fitted on the inside of the bonnet.

### Refrigerant

Weight	Prescribed grade
880 g	R134a

#### / Warning

The air conditioning system contains pressurised refrigerant R134a. This system must only be serviced and repaired by an authorised workshop.

### **Compressor oil**

Volume	Prescribed grade
140 ml	PAG SP-A2

# 14.4.5. Brake fluid - grade and volume

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The medium in a hydraulic brake system is called brake fluid, and it is used to transfer pressure from e.g. a brake pedal via a master brake cylinder to one or more slave cylinders, which in turn act on a mechanical brake.

Prescribed grade: DOT 4

Volume: 0.6 litres

## 14.4.6. Coolant - grade and volume

Approved coolant volume for each respective engine alternative can be read in the table.

**Prescribed grade:** Coolant recommended by Volvo mixed with 50% water^[1], see the packaging.

Engine	Volume (litres)
D5 AWD	12.9
D6 AWD	12.9

^[1] Water quality must fulfil the standard STD 1285.1.

## 14.4.7. Engine oil - adverse driving conditions

Adverse driving conditions can lead to abnormally high oil temperature or oil consumption. Below are some examples of adverse driving conditions.

Check the oil level more frequently for long journeys:

- towing a caravan or trailer
- in mountainous regions
- at high speeds
- in temperatures colder than -30 °C or hotter than +40 °C.

The above also apply to shorter driving distances at low temperatures.

Choose a fully synthetic engine oil for adverse driving conditions. It provides extra protection for the engine.



#### (!) Important

In order to fulfil the requirements for the engine's service intervals all engines are filled with a specially adapted synthetic engine oil at the factory. The choice of oil has been made very carefully with regard to service life, starting characteristics, fuel consumption and environmental impact.

An approved engine oil must be used in order that the recommended service intervals can be applied. Only use a prescribed grade of oil for both filling and oil change, otherwise you will risk affecting service life, starting characteristics, fuel consumption and environmental impact.

Volvo Car Corporation disclaims all warranty liability if engine oil of the prescribed grade and viscosity is not used.

Volvo recommends that oil changes are carried out at an authorised Volvo workshop.

# 14.4.8. Transmission fluid - grade and volume

The prescribed transmission fluid and volume for each respective gearbox alternative can be read in the table.

### Automatic gearbox

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Automatic gearbox	Volume (litres)	Prescribed transmission fluid
TF-80SD	approx. 7.0	AW1

### (i) Note

The gearbox oil does not need to be changed under normal driving conditions. However, it may be necessary under adverse driving conditions.

# 14.4.9. Engine oil - grade and volume

Engine oil grade and volume for each respective engine alternative can be read in the table.

Volvo recommends:



Engine	Engine code ^[1]	Oil grade	Volume, incl. oil filter (litres)
D5 AWD	D87PHEV	Oil grade: ACEA A5/B5 Viscosity: SAE 0W-30	approx. 5.9
D6 AWD	D97PHEV		approx. 5.9

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

# 14.5. Fuel consumption and CO2 emissions

Fuel consumption in a vehicle is measured in litres per 100 km and CO2 emissions in grams per km.

Explanation		
CO2	gram/km	
Ø 🖪	litre/100 km	
¶æ.	Combined driving	
aut	Automatic gearbox	

#### (i) Note

If the consumption and emission data is missing then it is included in the enclosed supplement.



Fuel consumption and emission values in the table above are based on specific EU cycles^[1], that apply to cars with kerb weight in the basic version and without extra equipment. The car's weight may increase depending on equipment. This, as well as how heavily the car is loaded, increases fuel consumption and carbon dioxide emissions.

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There are several reasons for increased fuel consumption compared with the table's values. Examples of this are:

- The driver's driving style.
- If the customer has specified wheels larger than those fitted as standard on the model's basic version, then resistance increases.
- High speed results in increased wind resistance.
- Fuel quality, road and traffic conditions, weather and the condition of the car.

Even a combination of the above-mentioned examples can result in significantly improved consumption. For further information, please refer to the regulations referred to^[1].

Large deviations in fuel consumption may arise in a comparison with the EU driving cycles^[1] which are used in the certification of the car and on which the consumption figures in the table are based.

#### (i) 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.

^[1] Official fuel consumption figures are based on two standardised driving cycles in a laboratory environment ("EU driving cycles") all in accordance with EU Regulation no 692/2008 and 715/2007 (Euro 5 / Euro 6) and UN ECE Regulation no 101. The regulations cover the driving cycles for urban driving and extra-urban driving. - Urban driving - the measurement starts with cold starting the engine. The driving is simulated. - Extra-urban driving - the car is accelerated and braked at speeds between 0-120 km/h. The driving is simulated. - Cars with manual gearbox are started in 2nd gear (applies to cars with up to 18-inch wheels). The value for combined driving, which is reported in the table, is a combination of urban driving and extra-urban driving, in accordance with legal requirements. CO₂ emissions - the exhaust gases are collected in order to calculate the carbon dioxide emissions during the two driving cycles. These are then analysed and give the value for CO₂ emissions.

## 14.6. Type designations

Type designation, vehicle identification number, etc., i.e. information unique to the car, can be read on a label in the car.

### Label location



The illustration is schematic - details may vary depending on market and model.

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.

- በ Type designation, vehicle identification number, permissible maximum weights and code designation for exterior colour and type approval number. The decal is positioned on the door pillar, and will be visible when the right-hand rear door is opened.
- 2 Label for A/C system.
- 3 Label for parking heater.
- 4 Engine code and engine serial number.
- 5 Label for engine oil.
- 6 Gearbox type designation and serial number.
- 7 Car's identification number (VIN Vehicle Identification Number).

Further information on the car is presented in the registration document.

#### (i) Note

It is not intended that the decals illustrated in the owner's manual should be exact replicas of those in the car. They are included to show their approximate appearance and location in the car. The information that applies to your particular car can be found on the decal on the car.

# 14.7. Hybrid Battery - specification

The hybrid battery (battery for drive motor) is used to power the electric motor when driving in electric mode.

Type: Lithium-ion

Service life: Longer than 10 years.

# 14.8. Range - specification

The car's range during electric operation (drive mode PURE): up to 50 km.

## 15.1. Comfort services

# 15.1.1. Remote heater start* via SMS^[1]

Cars equipped with fuel-driven engine block heater and passenger compartment heater in combination with Volvo On Call offer the same setting options for the heater as inside the car using a normal mobile phone. It is possible to configure the timer settings by sending the desired setting using a mobile phone, see <u>remote heater start</u>.



Being able to control the heater in the car with your mobile phone means effortless operation of the heater, increasing the comfort experience at a cost of an SMS.

The heater function has two times, in the description called  $\top 1$  and  $\top 2$ . These show when the car has reached the set temperature. To ensure that only the authorised user can control the heater, the SMS message must contain the car's registration number^[2] followed by the Volvo On Call system's PIN code.

- * Option/accessory.
- ^[1] Cars with Volvo On Call*

^[2] The registration number can contain both uppercase and lowercase letters.

# 15.1.2. Comfort services with Volvo On Call*

Comfort services via phone, such as remote heater start* via SMS or communicating with the car via the mobile app.

A mobile application makes it possible for Volvo On Call users to maintain contact with their parked car via an iPhone, Windows Phone or Android phone. The mobile app can locate the car, remotely lock the car and remotely start the engine, see information about fuel level and much more.Read more about the <u>app</u>.

Cars equipped with fuel-driven engine block heater and passenger compartment heater in combination with Volvo On Call offer the same setting options for the heater as inside the car using a normal mobile phone. Read more about <u>Remote heater start via</u> <u>SMS</u>.

* Option/accessory.

# 15.1.3. Volvo On Call* mobile app

As a Volvo On Call user the car owner has access to a mobile application that enables him/her to maintain contact with the parked car via mobile phone.

Certain functions are not available on all car models.

The mobile application is continuously updated which may mean that this information does not reflect available functionality. For more information on Volvo On Call see <u>support.volvocars.com</u>.

The mobile application is available for iPhone, Windows Phones and Android phones. You can download it from the Apple AppStore, Windows Phone Store or Google Play.

A personal Volvo ID is required to use the mobile app and online services from Volvo.

Read more about Volvo ID and its advantages and how to create a .

### Locating the car

The position of the car is shown on a map and there is the option to receive directions to the car. There is also a digital compass that points the driver in the right direction. It is possible to activate the car's horn and direction indicators in order to facilitate the search.

### Send destination to car

With the mobile app, the "Send to Car" function can be used to send a destination (such as hotels, shops, cinemas, restaurants and petrol stations) to the car. Destination position is then available in the car's navigation system ^[1]. If the car's navigation system is not factory installed, the car's configuration needs to be updated by a Volvo dealer so that the VOC app knows that it can send a destination to the car. For instructions for the Send to Car function, see <u>support.volvocars.com</u>.

### The car's instrument panel

This function provides the driver with access to a range of information: fuel level, remaining mileage with existing fuel quantity, average fuel consumption, average speed, and readings from the odometer and trip meter.

### Checking the car

The mobile app carries out a "health check" of the car and displays the status of lamp bulbs, brake fluid, coolant and oil level.

### **Driving journal**

Detailed information on each journey during the last 40 days can be downloaded and saved. There is also the option to export all or selected journeys from the mobile application in spreadsheet format and send this to an email address. This is suitable for travel on official business, for example.

There is the option to deactivate the driving journal. In which case the car does not send any log information after each completed journey.

### Vehicle information

Basic data about the car such as model, registration number and VIN number are easily accessible.

## Anti-theft warning

If the car alarm is activated the driver is advised of this via the mobile.

### **Remote locking of doors**

Status for all doors and windows is shown. The driver can lock and unlock the car. For security reasons the password for the application is always required to remotely unlock the car. Your personal Volvo ID is used as password.

### Remote heater start

If the car is equipped with a parking heater then it can be started immediately or programmed to start at two different time points.

### Engine remote start^[2]

The air conditioning starts with automatic settings. A remote-started engine is activated for a maximum of 15 minutes, then it is switched off. After 2 activations of remote start the engine must be started in the normal way before remote start can be used again.

Engine remote start is only available in cars with automatic gearbox and cars that have a bonnet switch^[3] installed.

### / Warning

To remote-start the engine, the following criteria must be met:

- The car must be supervised.
- There must be no people or animals inside or around the car.
- The car must not be parked in a closed, unventilated area the exhaust gases may seriously injure humans and animals.

#### (i) Note

Follow local/national rules/regulations on idling. Also observe local/national rules and regulations on noise levels when the engine is running.

## Battery and state of charge^[4]

See how much charge the hybrid battery has and whether charging is in progress.

### Set charging for specific times^[4]

Charging does not need to be started immediately when the charging cable is connected. It is possible to use the mobile app to set the time when charging can take place.

## Reminder to plug in the charging cable^[4]

Option to activate a reminder in the mobile app to plug in the charging cable if it has been forgotten after parking the car.

## Preconditioning^[4]

Preconditioning prepares the car's drive systems and the passenger compartment before departure so that both wear and energy needs during the journey are reduced. The mobile app is used in the same way as for remote heater start.

- * Option/accessory.
- ^[1] Applies to Sensus Navigation.
- ^[2] Certain car models and markets.
- ^[3] Available in the XC60, cars with alarm, most cars with 4-cylinder engines or if ERS is selected for new construction.
- ^[4] Only applies to V60 PLUG-IN HYBRID and S60L Twin Engine.

## 15.1.4. Remote heater start* via SMS^[1]

The heater in the car is controlled via SMS.

#### (i) Note

Exercise caution with where the car is parked when remote start of the heater is used since the heater emits exhaust fumes.

#### (i) Note

Each subcommand is followed by a # character. The message should be written as a string without spaces and finished with a # character, e.g. # PIN code # 1 #

#### Phone number

The message must be sent to the following number: +46 70 903 20 40. For some mobile phones, it is possible to create a message template in order to facilitate simpler and faster operation.

#### **Direct commands**

To start the heater directly:

- Enter the car's registration number followed by # PIN code # 1 #
- Send the message.

If the heater is running and shall be deactivated immediately:

- Enter the car's registration number followed by # PIN code # 0 #
- Send the message.

#### Time commands

If a new time shall be added then the message is ended with the desired time, e.g. 1730^[2].

Change and activate T1:

- Enter the car's registration number followed by # PIN code # 11 # Time #
- Send the message.

Change and activate T2:

- Enter the car's registration number followed by # PIN code # 12 # Time #
- Send the message.

If activation of a previously entered time is required:

Activate ⊤1:

- Enter the car's registration number followed by # PIN code # 11 #
- Send the message.

#### Activate T2:

- Enter the car's registration number followed by # PIN code # 12 #
- Send the message.

To cancel a previously scheduled heater start the set time must be deactivated.

To deactivate T1:

- Enter the car's registration number followed by # PIN code # 01 #
- Send the message.

To deactivate T2:

- Enter the car's registration number followed by # PIN code # 02 #
- Send the message.

### If the heater does not start

There are situations where the heater cannot start via SMS. In which case, an SMS is sent with the text "The heater could not start!" to the mobile number that attempted to initiate the service.

- * Option/accessory.
- ^[1] Cars with Volvo On Call*
- ^[2] The time is always rounded to the nearest 5-minute interval.

# 15.2. Safety services

## 15.2.1. Call roadside assistance with Volvo On Call*

Call for help in the event of e.g. a puncture, fuel shortage or discharged battery.

- Press the <u>ON CALL button</u> for at least 2 seconds.
- The VOC Service Centre establishes verbal contact with the driver and agrees on what assistance measure is required.
- * Option/accessory.

# 15.2.2. Safety services with Volvo On Call*

Automatic and manual alarm as well as calling roadside assistance are safety services available for Volvo On Call (VOC). Safety services are used for alarms in the event of accident or emergency situation.

### Automatic alarm

When the car's safety system is triggered, e.g. in an accident in which the activation level is reached for the seatbelt tensioner or airbags, a signal will be automatically sent to VOC Service Centre. The following will occur:

- A message will be automatically sent from the car to VOC Service Centre.
- The VOC Service Centre then establishes verbal contact with the car's driver and tries to find out the extent of the collision and the need for help.
- The VOC Service Centre then contacts the necessary assistance (police, ambulance, towing, etc.).

If verbal contact cannot be established, the VOC Service Centre contacts the relevant authorities that assist with appropriate action.

### Manual alarm

Contact the VOC Service Centre to request help in emergency situations, see alarm manually.

### **Roadside assistance**

Call for help in the event of e.g. a puncture, fuel shortage or discharged battery, see Call roadside assistance.

A separate subscription may need to be taken out for the roadside assistance service.

### **Emergency number**

When the alarm service is activated the system attempts to establish contact with the VOC Service Centre. If this is not possible then the call is routed to the designated emergency number for the area where the car is located^[1].

* Option/accessory.

^[1] Applies to certain markets.

# 15.2.3. Manual safety service with Volvo On Call*

Contact the Volvo On Call (VOC) Service Centre to call for assistance in emergency situations

To alert the VOC service centre manually:

- Press the <u>SOS button</u> for at least 2 seconds to call for help in the event of illness, external threat to the car or passengers, etc.
- The VOC Service Centre receives a message on the need for assistance and information about the car's position.

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If verbal contact cannot be established, the VOC Service Centre contacts the relevant authorities that assist with appropriate action.

* Option/accessory.

## 15.3. Security services

## 15.3.1. Security services with Volvo On Call*

Volvo On Call (VOC) provides assistance in the event of break-in or theft of the car, and can remote lock the car if the keys have been lost or locked in.

Security services are designed to minimise the risk of the owner losing his/her car. If the car is stolen, it can also be traced and possibly deactivated.

If the car is de-energised then VOC's spare battery engages.

In addition to safety and security services, certain markets offer an enhanced security system as an option:

Security system certified in accordance with Stichting VbV which fulfils the requirements in accordance with Track & Tracing, TT03^{[1], [2]}.



## Theft Notification (TN)

VOC sends a signal automatically to the VOC service centre in the event of break-in or theft (if the car's alarm system has been activated).

If the car's alarm system is activated then the VOC Service Centre will be notified automatically after a certain time. If the alarm is switched off using the remote control key then the service will be interrupted.

### Stolen Vehicle Tracking (SVT)

If theft or other unauthorised use of the car has been discovered, then the car's owner along with the police and the VOC service centre agree that the car should be traced. The VOC service centre sends a message to the car to determine the car's position. Following which, the police or other authority are contacted.

#### (i) Note

This also applies if the car has been stolen using the associated remote control key.

### Remote Door Unlock (RDU)

If the car's remote control key has been lost or locked in the car, it is possible to remotely unlock the car within the next 5 days assisted by the VOC Service Centre after the required verification with PIN code has been approved. Following which, the VOC Service Centre unlocks the car remotely according to agreement.

## Remote Vehicle Immobiliser^[3]

Monitoring and deactivation of a stolen car.

If the car is stolen then the owner or authorities contact the VOC Service Centre.



This also applies if the car has been stolen using the associated remote control key.

After having been in contact with the authorities, the VOC service centre then deactivates the remote control keys in order to prevent the car from being started. A deactivated car can only be restarted by contacting the VOC Service Centre and when the required verification with PIN code has been approved. Following which, the VOC Service Centre performs activation of the car.

- * Option/accessory.
- ^[1] Only applies to the Netherlands.
- ^[2] Does not apply to the V40/V40 Cross Country.
- ^[3] Certain markets.

# 15.3.2. Unlock the car via the Volvo On Call* service centre

The car can be remotely unlocked with assistance from the VOC service centre.

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- Contact. 1
- When the VOC Service Centre has verified the car's owner or other authorised individual using the PIN code, an unlocking 2 signal is sent to the car according to agreement.
- 3 The boot lid/tailgate must be opened in order to unlock the doors. Press twice on the touch button or pull the handle.

#### (i) Note

If the boot lid/tailgate does not open within a time predefined by the VOC Service Centre, the boot lid/tailgate will be relocked.

When the doors are opened, the car's alarm system will be triggered. Switch off the alarm by pressing the unlock button on the remote control key or insert the remote control key into the ignition switch.

#### Note (i)

If, for example, the car is parked in a parking garage, the remote unlocking function may possibly be disrupted due to poor reception.

* Option/accessory.

## 15.4. Change of ownership for cars with Volvo On Call*

In the event of change of ownership of a car it is important to change the owner of the Volvo On Call (VOC) service.

### **Closing the VOC service**

Contact a Volvo dealer in the event of change of ownership in order to close the service. The dealer cancels the subscription and deletes the service history. The service can also be terminated with VOC's mobile app.

In the event of change of ownership it is important to reset personal settings and user data in the car to the original factory settings, see Change of ownership.

### Starting the VOC service

Buying a used car with VOC:

The new owner contacts his/her dealer who transfers the remaining time of the subscription to the new owner. It is important that the contact details are updated for VOC to work, and that the previous owner does not have access to perform services in the car. The new owner is given a personal four-digit PIN code, which is required to identify him/her as the owner (or another authorised person) in order to gain access to certain services.

* Option/accessory.

# 15.5. PIN code for Volvo On Call*

The PIN code is used for security purposes and to identify the individual authorised to perform Volvo On Call (VOC) services.

The four-digit PIN code that is sent to the car owner when the dealer activates the subscription is used for security reasons to identify the individual authorised to perform certain VOC services, e.g. <u>unlock the car via VOC service centre</u> or create an account for the <u>mobile app</u>.

#### Forgotten or change of PIN code

If the PIN code has been forgotten or needs to be changed (e.g. when buying a used car), contact a dealer or press on the ON CALL button in the car. The new code will be sent to the car owner.

#### Incorrect PIN code has been entered for the app repeatedly

The account will be locked after incorrectly entering the PIN code ten times in a row. A new PIN code must be selected in order to be able to use the app again, and a new app account created by following the same process as when the app account was previously created.

* Option/accessory.

## 15.6. Menu options with Volvo On Call*

Overview of possible options and settings in the Volvo On Call (VOC) system's menu.

To access the menu: Press the MY CAR button, press MY CAR again to open the shortcut menu where the VOC menu is available.

Dealer information SOS On Call Key lock Lock/Unlock SOS and On Call buttons Activate subscription Activate service

```
* Option/accessory.
```

# 15.7. Volvo On Call*

Volvo On Call (VOC)* is an additional service to which Volvo owners can subscribe. The subscription consists of safety, security and comfort services.

The VOC system is linked to the car's SRS and alarm systems and the other systems in the car (e.g. locks and climate control). The car has a built-in modem for communication between the car and VOC's services. <u>Map</u> shows the countries where the system is available. Contact a Volvo dealer for current information, since the map may change. The subscription's services/offer are dependent on the market. Contact a Volvo dealer for information about which services are applicable in a particular country.

### Availability

Once the remote control key has been removed from the car, the system's functions are available continuously for 5 days and then once per hour during the following 17 days. After a total of 22 days the system will be deactivated until the car is started.

The system uses GNSS (Global Navigation Satellite System) to locate the car. The car's built-in modem is used for contact with the VOC service centre and VOC mobile app.

### ✓ Warning

The system only works in areas where VOC's partners have mobile coverage and in markets where the service is available.

Just as with mobile phones, atmospheric disturbances or sparse transmitter coverage may lead to connection being impossible, e.g. in sparsely populated areas.

### Subscription

A subscription is initiated in connection with the purchase of the car when the system is activated. The subscription has a time limit but can be extended, and validity is market dependent.

## **Comfort services**

- Volvo On Call <u>mobile app</u>.
- <u>Remote heater start via SMS</u>.

### Safety services

- <u>Automatic alarm</u>.
- <u>Manual alarm</u>.
- Roadside Assistance

### **Security services**

- <u>Theft Notification</u>.
- <u>Stolen Vehicle Tracking</u>.

- <u>Remote Door Unlock</u>.
- <u>Remote Vehicle Immobiliser</u>^[1].

#### (i) Note

All calls with the VOC Service Centre will be recorded.

### Information on the Internet

For more information on Volvo On Call see support.volvocars.com.

* Option/accessory.

^[1] Certain markets.

## 15.8. Using Volvo On Call*

The Volvo On Call (VOC) system is enabled by pressing one of the two buttons on the roof, or by selecting from the menu source.

VOC is automatically started when the car's safety system is triggered, e.g. in an accident in which the activation level is reached for the seatbelt tensioners or airbags. Contact is established between the car and the VOC service centre, who will send appropriate assistance to the car's location.

An active service is shown by a symbol in the screen.

### SOS button - in the event of emergency situations

Press the SOS button on the roof for at least 2 seconds in order to activate the manual alarm service.

#### Alternatives to the SOS button

In the normal view for MY CAR, press OK/MENU and select Settings  $\rightarrow$  Volvo On Call  $\rightarrow$  SOS.

### ON CALL button - in the event of a problem with the car

Press the ON CALL button on the roof for at least 2 seconds in order to activate the service and establish contact with the VOC service centre, see <u>Available Volvo On Call</u>* functions.

#### Alternatives to the ON CALL button

In the normal view for MY CAR, press OK/MENU and select Settings  $\rightarrow$  Volvo On Call  $\rightarrow$  On Call.

#### (i) Note

The **SOS** button must only be used in the event of accident, illness or an external threat against the car and its passengers. The **SOS** function is only intended for emergency situations. Abuse may lead to supplementary charges.

The ON CALL button can be used for all other services, including roadside assistance.

### **Cancelling a service**

A service that has been started can be stopped within 10 seconds with one press on the EXIT button.

### Settings

Possible options and settings in the menu system.

- Key lock decide when the SOS and ON CALL buttons should be activated. The function means that the buttons are only activated if the remote control key is in position | or ||, or if the engine is running.
- Activate service Used to activate subscription and gain access to the service.

Activate subscription status shows that the VOC system needs to be activated at a Volvo workshop before the car owner can be registered for the subscription.

* Option/accessory.

# 15.9. Volvo On Call* availability

Map of areas where Volvo On Call is available. The service is being continuously expanded and the system will be offered in a large number of countries. Contact a Volvo dealer for up-to-date information.



Volvo On Call is available in the areas marked in grey.

* Option/accessory.

# 15.10. Volvo On Call* message in the display

Volvo On Call (VOC) automatically shows the information message if necessary.

- Could not find vehicle position see <u>Availability</u>.
- Service temporarily unavailable see <u>Availability</u>. The message is shown in the screen.
- Volvo On Call Service required VOC system disengaged. Contact a Volvo dealer for assistance. The message is shown in the combined instrument panel.
- Volvo On Call subscription will soon expire VOC subscription will soon expire. Contact a Volvo dealer. The message is shown in the combined instrument panel.
- * Option/accessory.

# 15.11. Available Volvo On Call* functions

Overview of available Volvo On Call (VOC) functions via the VOC service centre and VOC mobile application.

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Service	Service Centre	App ^[1]
Remote heater start		Х
Automatic alarm	Х	
Manual alarm	Х	
Roadside assistance	х	х
Theft Notification (TN)	х	Х
Stolen Vehicle Tracking (SVT)	х	
Remote Door Unlock (RDU)	х	Х
Remote locking		Х
Remote Vehicle Immobiliser ^[2]	х	
Remote engine start (ERS) ^{[2], [3]}		х
Locating the car	Х	х
The car's instrument panel		х
Driving journal		х
Vehicle information		х
Battery and charging status ^[4]	Х	х
Set charging for specific times ^[4]		х
Reminder to plug in the charging cable ^[4]		х
Preconditioning ^[4]		Х
Send destination to car ^[5]		х

* Option/accessory.

^[1] Certain functions are not available on all car models.

^[2] Certain markets.

^[3] Certain cars with automatic gearbox.

^[4] Only applies to V60 PLUG-IN HYBRID and S60L Twin Engine.

^[5] Sensus Navigation is required.

# 15.12. Overview of Volvo On Call*

Overview of buttons and displays.



* Option/accessory.

# 15.13. Personal data^[1]

Personal data that are processed in connection with the Volvo On Call (VOC) service.

Volvo's sales companies, see table below, and Volvo Personvagnar AB, are responsible for the personal data processed in connection with the service. All processing is performed in accordance with good practice and legislation in force with regard to the processing of personal data.

Country	Sales companies
Belgium	Volvo Cars NV
UΚ	Volvo Car UK Ltd
France	Volvo Automobiles France SAS
The Netherlands	Volvo Cars Nederland B.V.
Italy	Volvo Auto Italia S.p.A.
Norway	Volvo Personbiler Norge AS

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Country	Sales companies
Poland	Volvo Car Polska Sp. z o.o.
Portugal	Volvo Car Portugal S.A.
Russia	Limited Liability Company Volvo Cars
Spain	Volvo Car España S.L.
Sweden	Volvo Personbilar Sverige AB
Germany	Volvo Car Germany GmbH
Finland	Volvo Auto Oy Ab
Denmark	Volvo Personvagne Danmark A/S
Austria	Volvo Car Austria GmbH
Switzerland	Volvo Automobile (Schweiz) AG

#### Purpose of the data processing

Personal data are used by Volvo with cooperating partners, both within and outside the EU/EEA, in order to provide and develop the service.

### What personal data are processed?

The personal data processed belong mainly to the following three categories.

- Personal data that the customer provides in connection with activation of the service and in other contacts with Volvo such as name, address, phone number, type of service and its duration.
- Information is sent automatically from the vehicle when a certain event covered by the service occurs. This type of message contains vehicle ID (VIN), the time when the service is used, type of service, whether the airbags have been deployed, whether the seatbelt tensioners have been deployed, current amount of fuel, current temperature inside and outside the vehicle, whether doors and windows are locked or opened as well as the vehicle's last six locations with speed and direction.
- Other information that can be linked to the customer includes phone calls with people in the vehicle, the service centre that supplied the service and records created by the service centre operator.

#### Who may have access to the personal data?

Volvo uses subcontractors in order to provide the service. These subcontractors work on behalf of Volvo and may only process personal data to the extent required in order to provide the service. All subcontractors are bound by agreements requiring them to observe confidentiality and to treat personal data in accordance with legislation in force.

### Screening procedures

The personal data required to supply the service are stored during the agreement period and thereafter for as long as required in order for Volvo to fulfil its obligations in accordance with the law and other statutes. Data generated during the events covered by the service are deleted three months after the incident occurred.

### Correction and extracts from the register

Private individuals are entitled to request that inaccurate information be corrected and to obtain extracts from the register that show what personal data are being processed. To correct personal data, please contact Volvo's customer service. A request for an extract from the register must be made in writing and be signed by the applicant, and include information on name, address

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note. 897 / 962 and customer number. The request must be sent to Volvo Personvagnar AB, Data Protection Officer, Dept. 50090, HB3S, 405 31 Göteborg, Sweden.

### Consent to the processing of personal data

By activating the subscription in accordance with what is stated in the instructions in this document, the user agrees to the processing of personal data that is carried out in connection with the VOC service.

* Option/accessory.

^[1] Cars with Volvo On Call*

# 16.1. Itinerary and route

# 16.1.1. Navigation * - map options

Settings can be made here for how the map should be shown and what should be shown.

(h)	Show full-screen map	
	Map type	North up
	Motorway information	
w-the	Position information	Current roa 🔻
	Compass	Graphic 🔻
	POI symbols	Default 🔻
	Map colours	Automatic 🔻

### Full screen map

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Map options → Show full-screen map.
- 2 Select map size:
  - Box selected shows map across whole screen.
  - Box unselected car-related information such as e.g. passenger compartment temperature and media being played back are shown in the bottom and top of the screen.

### Map mode compass direction

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Map options → Map type.
- **2** Select how the map should be shown on the screen:
  - North up the map always shows North at the top of the screen. The car symbol moves in the relevant direction on the screen.
  - Map heading up the car symbol is in the centre and always points up on the screen. The map image rotates under the car symbol in relation to how the road bends.
  - **3D** map basic the map is viewed diagonally from above with the car symbol in the centre and direction of travel upward on the screen.
  - **3D** map enhanced same as the previous option but with different objects, buildings, etc. added into the map image.

### Information along a motorway

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Map options → Motorway information.
- 2 Select function:
  - Box selected when the car is on a motorway the three (3) next exits that have e.g. a rest area or petrol station are shown. The list is sorted with the closest exit at the bottom of the list.
  - Box unselected function switched off.

### Information about current position

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Map options → Position information.
- **2** Select position information:
  - Current road the screen shows the name of the road/street where the car/cursor is located.
  - Lat/Long the screen shows the coordinates for the location where the car/cursor is located.
  - None the screen shows no information for the location where the car/cursor is located.

#### Compass
#### There is a compass on the screen's map image that shows the direction in which the front of the car is pointing.



The red tip of the compass needle points north and the white end points south. A text-based compass direction can also be selected as an alternative to the graphic compass.

- 1 In the normal view for the navigation source, press OK/MENU and select Settings -> Map options -> Compass.
- 2 Select whether compass direction should be shown with a compass needle or with letters:
  - Graphic a compass needle indicates the compass direction.
  - Text the letters N for north, W for west, S for south or E for east indicate compass direction.

The map image's compass direction - **north** or **direction of travel** upward on the screen - can also be adjusted, see section "Map mode compass direction" above.

# Points of interest (POI) on map

1 In the normal view for the navigation source, press OK/MENU and select Settings → Map options → POI symbols.

2		Show selected POIs	
		<table-cell-rows> Airport</table-cell-rows>	X
		Golf course	Ì
	N		
	W-E	🔝 LPG	
	s	Petrol station	
	/	🖃 Hotel	
	/	🗐 Restaurant	/
		Show or hide POI on map	Connect

Marked POI options are shown on the map.

Select which POI symbols should be shown on the map.

• Default - POI specified with the function Selected is/are shown.

- Selected select with the TUNE knob + OK for each POI required on the screen.
- None no POI is/are shown.

To avoid making the map image difficult to read, the number of POI options that can be viewed simultaneously on the screen is limited - zooming into an area provides the opportunity to view several POI options.

### Map colours

- 1 In the normal view for the navigation source, press OK/MENU and select Settings  $\rightarrow$  Map options  $\rightarrow$  Map colours.
- **2** Select setting for map colours:
  - Automatic a light sensor detects whether it is day or night and adapts the screen automatically.
  - Day the colours and contrast of the screen become clear and sharp.
  - Night the colours and contrast of the screen are adapted to provide the driver with optimum night vision.

### Stored location on map

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Map options → Stored location on map.
- > All stored positions are shown.

* Option/accessory.

# 16.1.2. Navigation* - points of interest (POI) symbols

Shown here are examples of how symbols for different points of interest (POI) may appear.

#### (i) Note

- The symbol for a POI and the number of POIs varies between different markets.
- Symbols may appear and others disappear in conjunction with updating the map data you can browse through all the symbols for the relevant map system in the menu system under Settings → Map options → POI symbols → Selected.

Examples of POI symbols, grouped according to society function:			
0	Car dealer/repair		
Ð	Petrol station		
۹.	Car repair		
Ρ	Parking		
ାର୍ଭା	Tourist attraction		
<b>▶</b>	Golf		
цç	Cinema		
19	Amusement park Recreation		
11	Restaurant		
<u></u>	Bar or cafe		
<u>ا</u>	Shopping centre		
	Hotel		
Q	Railway transport Railway station Railway access		
	Airport		
<i>(</i> <del></del>	Bus station		
	Ferry terminal		
	Government or comunity facility Government office		
â	Police/emergency		
與	Library		
÷	Hospital or health care facility		
ō:-	Pharmacy		
\$	Cash dispenser ATM/Bank exchange		
	Post office		
Ċ.	Education facility		

* Option/accessory.

# 16.1.3. Navigation * - route

The route can be shown in detail or as an overview and alternative routes can be selected. It is possible to record the route in order to save it in the system's memory.

	Navigation menu	
Ŵ	Repeat voice guidance	
	Set destination	
	Itinerary	
w-the	Route	
	Traffic information	
	Cancel guidance	
4	Settings	• /
	View details or modify route	

# Route - avoid

With this function the driver can select to avoid the next approaching section of a route. The function only works where alternative streets/roads are available, otherwise the highlighting, or parts of it, is ignored.

1 In the normal view for the navigation source, press OK/MENU and select Route  $\rightarrow$  Avoid.

#### 2 Select desired action:



Highlighted subsection.

- Reroute the system calculates another route in which consideration has been taken of the section to be avoided.
- Longer subsection to avoid is extended.
- Shorter subsection to avoid is shortened.
- Delete highlighted subsections are deleted and the route is restored to the original version. .

Using the Avoid area function, a whole area can be deselected, see section Route options.

### Alternative routes

In the normal view for the navigation source, press OK/MENU and select Route --- Alternative routes to destination. 1

2 Select a suggested route or Route type:



- ECO with traffic adaption low fuel consumption^[1] prioritised. •
- Fast short travel time prioritised.
- Fast with traffic adaption short travel time with minimal traffic queues^[1].
- Short short route prioritised. The route can also be set via smaller roads.

#### **Route overview**

1 In the normal view for the navigation source, press OK/MENU and select Route → Route overview.

> Information is shown about the route's intermediate destinations and final destination.

	STENU Dist: 53 km	JNGSUND ETA: 14:09	
w w w w	● 🖩 STENU Dist: 56 km	JNGSBADEN YATCH C ETA: 14:13	

# **Detailed route information**

Shown here are the elements contained in each section between two intermediate destinations, e.g. exits and junctions.

- 1 In the normal view for the navigation source, press OK/MENU and select Route  $\rightarrow$  Detailed route information.
- > Information is shown about the route's intermediate destinations and final destination.



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- **2** Zoom in/out on the map and scroll the route:
  - Next scrolls to next subsection.
  - Previous scrolls to previous subsection.
  - Zoom inZoom out enlarges/reduces the map image of the current subsection.

### Map of the remaining route

This function shows the remaining distance for the route.

- 1 In the normal view for the navigation source, press OK/MENU and select Route → Map of remaining route.
- > A map image is shown containing the itinerary's remaining distance from the car's current position.



For functionality and available functions, see section Menus.

### **Record a route**

Record and store the route in the navigation system's memory.

- 1 In the normal view for the navigation source, press OK/MENU and select Route → Record route.
- > Recording is started. The REC symbol is shown on the screen while recording is in progress.

- 2 To stop recording, press OK/MENU and select Route  $\rightarrow$  Stop recording.
- > The recorded route is saved.



Recoded routes can be opened in the menu Set destination  $\rightarrow$  Stored location  $\rightarrow$  Routes.

Recorded files can be exported/transferred to a USB memory^[2] in order to e.g. be copied to another vehicle's GPS navigator. For more information, see <u>Importing/exporting stored locations</u>.

- * Option/accessory.
- ^[1] Coordinated with information from the Traffic radio.
- ^[2] Connected in the centre console's rear storage compartment.

# 16.1.4. Navigation* - guidance options

Settings can be made here for how guidance should be presented.



Settings -> Guidance options

## Arrival time or Remaining travel time

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Time of arrival format.
- **2** Select option for display of time:
  - ETA shows the estimated arrival time
  - **RTA** shows the remaining time until arrival.

# Street names in voice guidance^[1]

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Street names in voice guidance.
- 2 Select what voice guidance should include:
  - Box selected distance and direction, as well as names of streets and roads.
  - Box unselected distance and direction.

### Navigation with Turn-by-turn



- 1 In the normal view for the navigation source, press OK/MENU and select Settings -> Guidance options -> Turn-by-turn navigation.
- **2** Select setting for display in combined instrument panel:
  - Box selected shows next manoeuvre in the itinerary and the distance to it.
  - Box unselected no display.

# Automatic reading out of traffic

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Automatic read out of traffic.
- **2** Select setting for reading out of traffic information:
  - Box selected important traffic disruptions on the route are read out. •
  - Box unselected no reading out. •

## Automatic audio adaptation

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Audio fadeout.
- **2** Select setting for map audio adaptation:
  - Box selected Audio and media system, e.g. radio, is muted when voice guidance reads out information.
  - Box unselected no audio adaptation. •

### Voice guidance

During guidance, when the car approaches an intersection or exit, a voice message gives distance and type of next manoeuvre. At the same time a detailed map of the junction is displayed. The voice guidance message is repeated closer to the junction. To repeat a message - press twice on the OK/MENU button.

The volume can be adjusted with the audio unit's volume button (during ongoing voice message).

(i) Note

There is no voice guidance during a current call with a Bluetooth-connected mobile phone.

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Voice guidance.
- **2** Select setting for voice guidance:
  - Box selected distance and type of next manoeuvre are read out.
  - Box unselected no voice guidance. •

# Simple voice guidance

With voice guidance there are three (3) instructions given before each guidance point - one preparatory, one immediately before and then the last one when the manoeuvre should be performed. With Simple voice guidance activated there is only one (1) instruction given for each guidance point.

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Use simple voice guidance.
- **2** Select setting for voice guidance:
  - Box selected one (1) voice guidance instruction for each guidance point.
  - Box unselected no voice guidance.

# Safety camera

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Speed camera warning.
- **2** Select function:
  - Box selected warning with acoustic signal and symbol when the car approaches a safety camera.
  - Box unselected no warning.

#### (i) Note

The type of information permissible for inclusion on the map is stipulated in national legislation. For current information, see www.volvocars.com/navi.

#### (i) Note

- Pay attention that the posted maximum permissible speed may sometimes be changed and accordingly deviate from the navigator's database.
- The driver always has the responsibility that the traffic and speed regulations in force are followed.

# Signal for stored location

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Stored location notification.
- 2 Select between stored positions:

- Box selected an acoustic signal when the car approaches a user-stored location.
- Box unselected no acoustic signal.

# Speed restriction^[2]

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Show speed limits.
- **2** Select function:
  - Box selected speed limit in force is shown with a sign in the combined instrument panel^[3].
  - Box unselected no notification in the combined instrument panel.

### Signal for POI in a guided round tour

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Travel POI notification.
- 2 Select function:
  - Box selected an acoustic signal when the car approaches a POI that is included in a <u>Travel guide</u>.
  - Box unselected no acoustic signal.

## Signal for guided round tour

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Guidance options → Guided tour notification.
- 2 Select function:
  - Box selected an acoustic signal when the car approaches a <u>Travel guide</u>.
  - Box unselected no acoustic signal.
- * Option/accessory.
- ^[1] Only certain languages.
- ^[2] Only cars without the Road sign information function.
- ^[3] Only when speed information is available in map data.

# 16.1.5. Navigation* - importing/exporting stored locations

Import and/or export stored routes and locations.

For the import of POIs, the file format must be .gpx.

1 Connect the USB memory in the tunnel console's storage compartment.

M.	Import locations from USB	
	Import routes from USB	►
	Export stored locations to USB	
	Export routes to USB	•

In the normal view for the navigation source, press OK/MENU and select Settings -> Import/export stored locations.

3 Select what should be imported or exported.

#### (i) Note

- Adding POI files to the map database requires a certain amount of computer knowledge!
- File format for POI files and how the files are downloaded from the Internet are determined by the respective manufacturer/distributor. Consequently there is no standardised process for downloading POI files from the Internet and for this reason this owner's manual does not show an exact step-by-step description.
- If you have any questions contact a Volvo dealer.
- * Option/accessory.

# 16.1.6. Navigation * - specify destination

Specify destination in the navigation system.

Each time a destination is specified it is possible to save it as "stored location" or "home", which is then easily accessible when a destination shall be specified. The navigation system gives guidance to a destination, and it is possible to add four intermediate destinations in the itinerary. For many destinations, the navigation system can also give further information with the **Information** menu option.

With the car <u>connected to the Internet</u> it is possible to use the <u>app</u> "Send to Car" to send map destinations from a browser and via <u>Volvo On Call</u>* mobile app* to the navigation system, see <u>support.volvocars.com</u>.

To access the following alternative methods for specifying destinations, in the normal view for the navigation source, press OK/MENU and select **Set destination**.



## Specify destination with home

Note that the destination must have been saved previously to be specified.

- 1 In the normal view for the navigation source, press OK/MENU and select Set destination  $\rightarrow$  Home.
- ➤ Guidance starts.

## Specify destination with address

It is sufficient to only enter a city/town in order to obtain an itinerary with guidance - it guides to the centre of the city/town.

#### (i) Note

The definition of city or area may vary from country to country and even within the same country. In some cases, it refers to a municipality and in others it refers to a district.

- 1 In the normal view for the navigation source, press OK/MENU and select Set destination → Address.
- **2** Fill in one or more of the following search options:
  - Country:
  - City:
  - Street:
  - Number:
  - Junction:
- **3** If more information about the destination is required, select **Information** and then the required information:
  - Map Shows where on the map the location can be found sometimes with additional information.
  - **Call number**^[1] Calls the facility if a telephone number is given.
  - Online info.^[1] Supplementary information is downloaded from the Internet.
- **4** To store the address in the memory, select **Save** and then as **Stored location** or as **Home**.
- **5** Specify as intermediate destination or as single destination:
  - Add as waypoint adds the address to the itinerary.
  - Set single destination Deletes any previous destination in the itinerary and starts guidance to the current destination.

# Specify destination with point of interest (POI)

POI (Point of Interest) also denominated as point of interest and facility.

The map database contains a large number of searchable POI^[2] options which can be specified as destinations.

- 1 In the normal view for the navigation source, press OK/MENU and select Set destination → Point of interest (POI).
- **2** Search for point of interest using the following:
  - **By name** leads directly to the character wheel and refers to searching of POI options with their proper name, e.g. "Peppes Bodega". The search area is the whole of the current map area, e.g. EUROPE, see <u>Maps content</u>.
  - **By category** enables limited searching of POI options select to enter their category (e.g. bank/hotel/museum), proper name, country and/or city/town.
  - Near the car refers to searching of POI options around the car's current position.
  - Along the route refers to searching of POI options along the set itinerary.
  - Near the destination refers to searching of POI options in the vicinity of the destination.

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Around point on map - refers to searching of POI options with the scroll function's crosshair - see scroll menu.

If more information about the destination is required, select Information and then the required information.

- To store the address in the memory, select Save and then as Stored location or as Home. 3
- Specify as intermediate destination or as single destination: Δ
  - Add as waypoint adds the address to the itinerary.
  - Set single destination Deletes any previous destination in the itinerary and starts guidance to the current destination.

### Specify destination using previously stored location

Collected here are the destinations stored with the menu option Save  $\rightarrow$  Stored location.

Note that the destination must have been saved previously.

- In the normal view for the navigation source, press OK/MENU and select Set destination -> Stored location. 1
- 2 Open saved destination:
  - Routes e.g. recorded section of road.
  - Other e.g. saved locations. •

If more information about the destination is required, select Information and then the required information.

Here it is also possible to edit or delete a saved destination, select Edit, Delete or Delete all.

- **3** Specify as intermediate destination or as single destination:
  - Add as waypoint adds the address to the itinerary.
  - Set single destination Deletes any previous destination in the itinerary and starts guidance to the current destination.

# Specify destination using previous destination

- In the normal view for the navigation source, press OK/MENU and select Set destination -> Previous destination. 1
- Select a destination in the list. 2

If more information about the destination is required, select Information and then the required information. Here it is also possible to delete a destination, select Delete or Delete all.

- 3 Specify as intermediate destination or as single destination:
  - Add as waypoint adds the address to the itinerary.
  - Set single destination Deletes any previous destination in the itinerary and starts guidance to the current destination.

### Specify destination with Internet search

#### Requires connection to Internet.

- 1 In the normal view for the navigation source, press OK/MENU and select Set destination → Internet search.
- 2 Follow the on-screen instructions.

## Specify destination with postcode

- In the normal view for the navigation source, press OK/MENU and select Set destination  $\rightarrow$  Postcode. 1
- Type in the postcode, and country if required. 2

If more information about the destination is required, select Information and then the required information.

- To store the destination in the memory, select Save and then as Stored location or as Home. 3
- Specify as intermediate destination or as single destination: Δ
  - Add as waypoint adds the address to the itinerary.
  - Set single destination Deletes any previous destination in the itinerary and starts guidance to the current destination.

# Specify destination with latitude and longitude

	Latitude and longitude
w	Latitude: $+40.42035$ Longitude: $-00370567$
	Format:DD°MM'SS''Set single destinationDecimal
	Add as waypoint

- 1 In the normal view for the navigation source, press OK/MENU and select Set destination → Latitude and longitude.
- 2 First decide which method the GPS coordinates should be specified with, select Format::
  - DD°MM'SS" position with Degrees, Minutes and Seconds.
  - Decimal position with Decimals.
- **3** Type in the position.

If more information about the destination is required, select Information and then the required information.

- 4 To store the address in the memory, select Save and then as Stored location or as Home.
- **5** Specify as intermediate destination or as single destination:
  - Add as waypoint adds the address to the itinerary.
  - Set single destination Deletes any previous destination in the itinerary and starts guidance to the current destination.

## Specify destination using point on map



Cursor position specified with GPS coordinates. To change to showing name, select Settings -> Map options -> Position information.

- In the normal view for the navigation source, press OK/MENU and select Set destination -> Select point on map. 1
- Locate and specify desired point on map using the crosshair, see section Menus. 2
- To store the address in the memory, press OK/MENU and select Save and then as Stored location or as Home. 3
- The destination is stored as a symbol/icon on the map if the Stored location on map function is selected, see section Map > options.
- Specify as intermediate destination or as single destination: 4
  - Add as waypoint adds the address to the itinerary.
  - Set single destination Deletes any previous destination in the itinerary and starts guidance to the current destination.

### Specify destination with travel guide

Search with travel guide (Travel guide^[3]) means that prepared suggestions are available to choose from with varying themes, e.g. restaurants, scenic roads or sights and landmarks.

A travel guide is stored in a USB memory, which must be fitted in the car's USB connector in the tunnel console's rear storage compartment.

1 In the normal view for the navigation source, press OK/MENU and select Set destination → Travel guide.

If the menu option is not visible on the screen then there are no suggestions in the area the car is currently in, or a USB device is not connected.

- 2 Select travel guide via one of the following categories:
  - Restaurants
  - Tourist attractions
  - Hotels
  - **Tourist routes**
  - Other
- 3 If available in the travel guide, it is possible to view details and images, as well as to play back audio, select:
  - Details
  - Photos
  - Play audio
- 4 Set Start guidance.
- * Option/accessory.
- ^[1] Requires connected mobile phone, see owner's manual.
- ^[2] To select which POI options should be shown on the map, see section <u>Points of interest (POI) on map</u>.
- ^[3] Not available for all areas or markets.

# 16.1.7. Navigation * - itinerary

Arrange an itinerary and start guidance to navigate to desired destination.

An Itinerary is created when a destination is saved. The system handles one itinerary at a time with a maximum of 4 intermedi-

	Navigation menu	
li li	Repeat voice guidance	
	Set destination	
	Itinerary	
w	Route	
	Traffic information	
	Cancel guidance	
- I	Settings	
	View or modify itinerary	0060300

A destination must be specified for the itinerary to be activated.

- 1 In the normal view for the navigation source, press OK/MENU and select Itinerary.
- 2 If an intermediate destination is required in the itinerary, select Add another waypoint.

A maximum of 4 intermediate destinations can be added to the itinerary. The order can be adjusted, see section "Adjust itinerary" below.

- **3** If information about an intermediate destination is required, highlight the intermediate destination, press OK/MENU and select **Information**.
- 4 Set Start guidance.
- > Current itinerary is activated and guidance is started unless the <u>Route suggestion</u> function is activated.
- 5 If the Route suggestion function is activated, select route.
- > Current itinerary is activated and guidance is started.

- 1 In the normal view for the navigation source, press NAV and select Cancel guidance.
- > Guidance is interrupted.

#### Resume guidance

- 1 In the normal view for the navigation source, press NAV and select Resume guidance.
- > Guidance continues where it was stopped.

# **Adjust itinerary**



- 1 Highlight the intermediate destination and confirm with OK/MENU.
- **2** Select what shall be adjusted and make the changes:
  - Delete deletes the intermediate destination.
  - Move in list changes order in the itinerary (see next heading).
  - Save saves the intermediate destination.

#### Change the order of intermediate destinations

- 1 Select the intermediate destination to be moved and confirm with OK/MENU.
- > A pop-up menu is shown.
- 2 Highlight Move in list and confirm with OK/MENU.
- **3** Turn TUNE to move the intermediate destination up/down in the list.
- **4** When the desired location has been reached, confirm with OK/MENU.

#### Delete itinerary

- In the normal view for the navigation source, press NAV and select Itinerary  $\rightarrow$  Clear itinerary. 1
- > Current itinerary including all intermediate destinations is deleted.

* Option/accessory.

# 16.1.8. Navigation* - route options

Settings for route options include route type and number of route proposals, amongst other things.



## Route type

- In the normal view for the navigation source, press OK/MENU and select Settings  $\rightarrow$  Route options. 1
- **2** Select type of route:
  - Fast with traffic adaption short travel time with minimal traffic queues^[1].
  - Fast short travel time prioritised.
  - Short short route prioritised. The route can also be set via smaller roads.
  - ECO with traffic adaption low fuel consumption^[1] prioritised.

## **Reroute on request**

Option for recalculating route due to traffic information.

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → Route options → Reroute on request.
- **2** Select functionality:
  - Box selected recalculation of route must be confirmed with OK/MENU or ignored with EXIT.

Box unselected - automatic recalculation of route.

### **Route proposals**

In the normal view for the navigation source, press OK/MENU and select Settings  $\rightarrow$  Route options  $\rightarrow$  Route proposals. 1



Route proposals.

Select setting for use of route suggestion:

- 1 starts guidance immediately in accordance with specified itinerary.
- 3 the system suggests 3 alternative routes, of which one alternative route must be selected before guidance starts. Note that there is a slightly longer delay before guidance starts because the system has to calculate 3 suitable routes.

# Use carpool lane^[2]

Sometimes private passenger cars are allowed to use lanes normally intended for local buses, commercial vehicles and taxis this is provided that the passenger car is carrying one or more passengers. With this function activated, lanes of this type are also included in the calculation of a suitable route.

- In the normal view for the navigation source, press OK/MENU and select Settings  $\rightarrow$  Route options  $\rightarrow$  Use carpool lane. 1
- Select setting for use of carpool lane: 2
  - Never
  - For 2 persons

Over 2 persons

# Use express lane^[2]

Sometimes private passenger cars are allowed to use lanes normally intended for local buses, commercial vehicles and taxis - this is provided that the passenger car is classed as a "green car" or similar. With this function activated, lanes of this type are also included in the calculation of a suitable route.

- 1 In the normal view for the navigation source, press OK/MENU and select Settings -> Route options -> Use express lane.
- **2** Select setting for use of express lane:
  - Box selected express lane used in route calculations.
  - Box unselected express lane not used.

# Avoid area^[2]

Motorways cannot be deselected. Motorways are always used alternative route during route calculation.

- 1 In the normal view for the navigation source, press OK/MENU and select Settings  $\rightarrow$  Route options  $\rightarrow$  Avoid area.
- 2 Select area to avoid along the route (if the area is already in the list as previously specified area proceed to next step):
  - Select area on map select desired area on map, for more information see "Create restricted area" below.
  - From stored location select from saved locations.

> The selection is added in the list with areas to avoid.

A	void new area	•
	CLIFFORD TWP	
	MANHATTAN	<b></b>
		Edit
		Activate
		Delete

Highlight the area in the list you wish to avoid, press OK/MENU and select Activate.

Here it is also possible for Edit, Deactivate and Delete areas.

> The area is avoided during route calculation.

Create restricted area

An area that shall be avoided is selected by highlighting directly on the map with a square box.



- In the normal view for the navigation source, press OK/MENU and select Settings  $\rightarrow$  Route options  $\rightarrow$  Avoid area  $\rightarrow$ 1 Select area on map.
- Scroll the map until the cursor is in the desired area. 2
- Press OK/MENU. 3
- A red box is created. >
- Turn TUNE to adjust the size of the box. 4
- Press OK/MENU when the box covers the desired area. 5
- The area is stored in the list of areas to avoid. >

For the area not to be included in route calculation the area must be activated, see section "Avoid area" above.

# Avoid certain traffic interruptions^[2]

- 1
  - Avoid motorways
  - Avoid toll roads
  - Avoid tunnels

- Avoid ferries
- Avoid car trains
- Avoid vignette obligation

#### (i)Note

- If an itinerary is entered when these selections are made then there may be a certain delay after an option has been ticked/unticked since the itinerary must be recalculated.
- If tunnels, toll roads and motorways are not selected then these are avoided as far as possible and are only used if no other reasonable alternative is available.

* Option/accessory.

- ^[1] Coordinated with information from the Traffic radio.
- ^[2] The function is only available if such information is included in the map data.

# 16.2. System information

# 16.2.1. Navigation* - license agreement and copyright

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* Option/accessory.

# 16.2.2. Navigation* - map and system information

Volvo offers a number of maps that cover different parts of the world. A map consists of map data and road data with related information.

During the update, new information is transferred to the navigation system and old outdated information is deleted.

# System information

System information	
Current traffic station: E203, SR P3 , 99.4MHz Navigation memory Free space: 256 MB Percentage left: 100 % Map market: Europe Map version:	

- 1 In the normal view for the navigation source, press OK/MENU and select Settings → System information.
- > An excerpt from the current status in the navigation system is shown, e.g. current transmitter of traffic information and operative map data, as well as map version.

#### Maps - content
#### (i) Note

Map data does not have 100 percent coverage in all areas/countries.

The system's coverage area is under constant construction and updating may sometimes be necessary.

See www.volvocars.com/navi and www.volvocars.com/mapupdate for further information about maps and other information related to Sensus Navigation.

#### Map areas

The car's navigation system varies depending on market. Should you need to modify the map area - contact a Volvo dealer for information on how to proceed.

## Updating the maps

Updated map data is downloaded from the Internet^[1] to a USB memory^[2]. The transfer of the downloaded update to the car's navigation system then takes place via the car's USB connection, which is located in the tunnel console's rear storage compartment.

#### (i) Note

Before update of the car's map data is started:

First read through the information and instructions from the Internet related to the download and update of map data.

In the event of any questions about updating - contact a Volvo dealer or see www.volvocars.com/navi and www.volvocars.com/mapupdate.

#### Updating

Follow the onscreen instructions in order to update the navigation system - this shows the progress of the update process as well as approximate time remaining.

#### (i) Note

A number of the Infotainment functions are disabled or reduced during updating.

- 1 Start the engine.
- Connect the USB memory containing the update to the car's USB connector and follow the onscreen instructions. 2
- > The display screen shows Map update finished. All of the navigation system's functions can be used again.

In certain cases, updating map data may also add new functions, which are not described in this manual.

#### Continue an interrupted update

If the update is not finished when the engine is switched off then the process continues where it left off next time the engine is started, providing the USB memory is still connected. If the USB memory is not connected - start the engine and then connect the USB memory.

The screen shows Map update finished when the update is completed.

- * Option/accessory.
- ^[1] See information on www.volvocars.com/mapupdate
- ^[2] The USB memory must have at least 20 GB of space available.

## 16.2.3. Navigation* - menu overview

Overview of possible options and settings in the navigation system's menus.

Three of the menu levels are shown. There may be more submenus, which are then described in their respective section.

1 Open the menu system by pressing OK/MENU in the normal view for the navigation source.

Repeat voice guidance	Voice guidance
Set destination	Specify a destination
Home	Specify a destination
Address	Specify a destination
Country:	
City:	
Street:	
Number:	
Junction:	
Set single destination	
Add as waypoint	
Information	
Save	

Point of interest (POI) By name By category Near the car Along the route Near the destination Around point on map	Specify a destination
Stored location Set single destination Edit Delete Delete all	<u>Specify a destination</u>
Previous destination Set single destination Add as waypoint Information Save Delete Delete all	Specify a destination
Internet search	Specify a destination
Postcode Country: Postcode Street: Number: Junction: Set single destination Add as waypoint Information Save	<u>Specify a destination</u>
Latitude and longitude Format: Set single destination Add as waypoint Information Save	<u>Specify a destination</u>
Select point on map Set single destination Add as waypoint Save	<u>Specify a destination</u>
Travel guide Start guidance Details Photos Play audio Pause audio	<u>Specify a destination</u>
Itinerary	
Itinerary Start guidance Add another waypoint Clear itinerary	<u>Itinerary</u>
Route	
Avoid Reroute Longer Shorter Delete	Route

Alternative routes to destination	Route
Route overview	Route
Detailed route information Next Previous Zoom in Zoom out	Route
Map of remaining route	Route
Record route or Stop recording	Route
Traffic information	Traffic information
Cancel guidance or Resume guidance	<u>Itinerary</u>
Settings	
Route options Route type Reroute on request Route proposals Use carpool lane Use express lane Avoid area Avoid motorways Avoid toll roads Avoid tunnels Avoid ferries Avoid car trains Avoid vignette obligation	Route options
Map options Show full-screen map Map type Motorway information Position information Compass POI symbols Map colours Stored location on map	<u>Map options</u>
Guidance options Time of arrival format Street names in voice guidance Turn-by-turn navigation Automatic read out of traffic Audio fadeout Voice guidance Use simple voice guidance Speed camera warning Stored location notification Travel POI notification Guided tour notification	<u>Guiding options</u>
System information	System information
FAV key options	Favourites
Import/export stored locations	Importing/exporting stored locations

* Option/accessory.

## 16.2.4. Navigation * - fault tracing

Below are examples of what can be interpreted as the navigation system not working as it should.

## The position of the car on the map is wrong

The Navigation system shows the position of the car to an accuracy of about 20 metres.

There is a greater chance of error when driving on roads lying parallel to another road, on winding roads, on roads on several levels and after driving a long distance without making any distinctive turns.

High mountains, buildings, tunnels, viaducts, over/underpasses etc. also have a negative effect on the reception of GPS signals, which means that accuracy in calculating the position of the car may decrease.

## The system does not always calculate the fastest/shortest route

When calculating a route outline, distance, width of road, type of road, number of right or left turns, roundabouts etc. are all taken into account in order to produce the best theoretical route. A more efficient selection of route may be possible based on experience and knowledge of the area.

## The system uses toll roads, motorways and ferries even though I chose to avoid them

For technical reasons, the system can only use major roads when calculating a route outline extending over a long distance.

If you selected to avoid toll roads and motorways, then they are avoided to the greatest possible extent and are only used if there is no other reasonable alternative available.

## The position of the car on the map is incorrect after transportation

If the car is transported, for example by ferry or train, or in such a way as to impede the reception of GPS signals, it can take up to 5 minutes before the position of the car is correctly calculated.

# The position of the car on the map is incorrect after the car battery has been disconnected

If power has been cut from the GPS antenna, it can take more than 5 minutes for the GPS signals to be received correctly and the position of the car to be calculated.

## The car symbol on screen behaves erratically after a tyre change

In addition to the GPS receiver, the car's speed sensor and a gyro assist in calculating the current position and direction of travel of the car. After fitting the spare wheel or changing between summer and winter tyres the system needs to "learn" the size of the new wheels.

In order for the system to work optimally it is recommended to turn the steering wheel to full lock a few times while driving, in a suitable location.

## The map image does not correspond with the real situation

Factors such as the constant expansion and rebuilding of the road network, new traffic regulations constantly being introduced etc. mean that the map database is not always complete.

Continuous development and updating of map data is underway - a Volvo dealer can provide more information.

See also www.volvocars.com/navi and www.volvocars.com/mapupdate for further information about maps, etc.

## The scale of the map sometimes changes

There is no detailed map information in certain areas. The system then automatically changes the degree of magnification.

## The car symbol on screen jumps forwards or spins

The system may need a few seconds to sense the position and movement of the car before driving off.

Switch off both the system and the engine. Start again, but remain stationary for a while before starting to drive.

## I shall go on a long trip but do not want specify a particular route outline to the cities I plan to travel through - How do I most simply create an itinerary?

Specify the destination directly on the map using the hairline cross. The system automatically guides you to the final destination even though you are driving beside the intermediate destinations.

## My map information is not up-to-date

Contact your nearest Volvo Dealer regarding the updating of map data.

See also www.volvocars.com/navi or www.volvocars.com/mapupdate.

## How can I easily check which map version is used?

graphic area covered, see <u>Navigation</u>* - map and system information.

* Option/accessory.

## 16.3. Sensus Navigation*

Basic description and overview of Sensus Navigation.

The navigation system calculates the route, travel time and distance to the selected destination. The system gives guidance and instructions for junctions, etc.

If there is a deviation from the planned route outline during the journey then the system automatically calculates a new route outline.

942 / 962

The navigation system can be used without a destination being selected.

The system is supplied with default settings, but starts with the settings last used.

Volvo Sensus Navigation uses reference system WGS84, which gives longitude and latitude positions.

## Points to remember

The navigation system provides road information which guides to a preset destination. However, not all of the recommended guidance is always reliable, since situations may arise that lie outside the capacity and judgement of the navigation system, such as sudden changes in the weather.

### /I Warning

Observe the following.

- Direct all your attention to the road and make sure that all your concentration is on driving.
- Follow applicable traffic legislation and drive with good judgment.
- Due to weather conditions or time of year affecting the road conditions, some recommendations may be less reliable.

## System overview



**1** Keypad in the steering wheel for menus, volume and voice recognition.

Provide the screen displays maps and provides detailed information on route type, distance, menus, etc.

3 Control panel in centre console for activation of the navigation system, menus and volume.

- 4 USB connection.
- **6** Microphone for voice recognition.

Navigation system audio uses the front loudspeakers.

<u>Remote control</u>* can be used for all functions in the navigation system. The remote control's buttons have the same functions as the buttons in the centre console or steering wheel keypad.

### Map overview



Examples of map images for the current position. Itinerary, junction map and scroll mode are some of the views the screen can show. NOTE: the illustrations are schematic - details may vary depending on software version and market.

The appearance of the screen depends on geographic position and the settings made, e.g. map scale and which POI options are selected to be shown.

Explanation of text, signs and symbols that may occur, see <u>Navigation</u>* - text and symbols in the screen.

- 1 Three alternative route outlines can be calculated when an Itinerary is set, see <u>Navigation</u>* route options.
- 2 Detailed junction map the left-hand section of the screen shows a detailed enlargement of the next junction. The situation is always supplemented with a voice message, see <u>Navigation</u>* route options.
- 3 Avoid a particular area, see <u>Navigation</u>* route options.
- 4 Scroll mode, see <u>Navigation</u>* operation.
- * Option/accessory.

## 16.4. Navigation * - voice recognition

The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information, refer to the first page for the complete disclaimer note.

Example of voice recognition control of the navigation system.

For a basic description of voice recognition, see section voice recognition in the owner's manual.

The following dialogues are only examples. The system's response may vary depending on the situation.

### Start guidance

The following dialogue with voice commands starts guidance in accordance with the specified itinerary.

- 1 Say: "Start route guidance".
- > The system replies: "Starts guidance".

### Stop guidance

The following dialogue with voice commands stops guidance.

- 1 Say: "Cancel route guidance".
- > The system replies: "Are you sure you want to stop guidance?".
- Say: "Yes". 2
- > The system replies: "Stops guidance".

## Specify destination with point of interest (POI)

The following dialogue with voice commands starts guidance to the nearest filling station. The scenario also works for other points of interest such as e.g. hotels and restaurants.

- 1 Say: "Nearest filling station.".
- > The system replies: "Select a line number, or say next page.".
- 2 Say the line number where the desired filling station is specified (e.g. line 5): "5".
- > The system replies: "Number 5 accepted. Do you want to specify the destination shown as an intermediate destination?".
- 3 Say: "Yes".
- > The system replies: "Intermediate destination 5 has been specified. Do you want to start guidance?".
- 4 Say: "Yes".

> The route is calculated and guidance starts.

### More commands

More commands for voice recognition control of the navigation system can be found in the normal view for <u>MY CAR</u> by pressing OK/MENU and then selecting Settings  $\rightarrow$  Voice control settings  $\rightarrow$  Command list  $\rightarrow$  Navigation commands.

* Option/accessory.

## 16.5. Navigation* - operation

Basic operation of Sensus Navigation and examples of use.

The navigation system can be operated from the centre console, steering wheel buttons, <u>remote control</u>* and partly with <u>voice</u> <u>recognition</u>. For basic operation of the system, see section <u>Audio and media - operating the system</u> in the owner's manual.

### **Activate Sensus Navigation**

- 1 Press the NAV button in the centre console.
- > After a short time a map of the current geographic area is shown where the car is symbolised by a blue triangle.

#### / Warning

Observe the following.

- Direct all your attention to the road and make sure that all your concentration is on driving.
- Follow applicable traffic legislation and drive with good judgment.
- Due to weather conditions or time of year affecting the road conditions, some recommendations may be less reliable.

The navigation system cannot be deactivated, but instead operates in the background - it is not deactivated until the remote control key is removed from the ignition switch.

#### (i) Note

The navigation system is also available when the engine is switched off. When the battery level gets too low the system switches off.

#### Menus

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In addition to the system's normal <u>source menu and shortcut menu</u> there is a scroll menu for the navigation system.

In Scroll mode a crosshair is moved over the map image with the centre console's numerical keys.



Scroll mode with crosshair^[1].

#### Activate/deactivate scroll mode

1 Activate - press one of the numerical keys **0-9**.

1 Deactivate - press EXIT or NAV.

#### Scroll

**1** Press one of the numerical digit keys 1-2-3-4-6-7-8-9 - a directional arrow is shown in the margins combined with the number that will be used to scroll the map in the desired direction.

Zoom

1 Turn the TUNE knob.

#### Centring the map

**5** JKL Pressing the number **5** in Scroll mode centres the map around the car's position.

If an Itinerary with Waypoints is activated, the map is centred around each respective Waypoint with each additional press.

#### Scroll menu



- In scroll mode, press OK/MENU.
- > A menu opens for the point on the map to which the centre of the crosshair is pointing.

#### **2** Select function:

- Set single destination Deletes any previous destinations in the itinerary, and starts guidance on the map.
- Add as waypoint Adds the selected point to the itinerary.
- **POI information** shows name and address on the screen for the POI located closest to the crosshair. For more information on POI options, see <u>specify destination</u>.
- Traffic information on map Allows you to view traffic messages^[2] around the selected location.
- Information Shows information available about the selected location.
- Save Allows you to store the highlighted location in the memory.

## Example

Guidance to desired point of interest (POI):

- 1 If the map view is not shown press NAV.
- > The map view is shown.
- 2 Press NAV.
- > The shortcut menu is opened.
- 3 Highlight Set point of interest and confirm with OK/MENU.
- **4** Highlight e.g. Near the car and confirm with OK/MENU.
- > A list of hits is shown.
- 5 Highlight e.g. Nearest tourist attraction and confirm with OK/MENU.
- > A list of hits is shown.
- 6 Highlight the desired alternative in the list and confirm with OK/MENU.
- > A pop-up menu is shown.
- 7 Highlight Set single destination and confirm with OK/MENU.
- > Guidance starts follow the instructions.

See also examples of voice recognition control of the navigation system.

- * Option/accessory.
- ^[1] Select whether the position of the crosshair/cursor should be shown with name or GPS coordinates, see <u>map options</u>.
- ^[2] The service is not available for all areas/markets.

## 16.6. Navigation* - traffic information

Shown here are symbols for the display of existing traffic information and instructions on how to open and learn about traffic information. The navigation system continuously receives transmitted traffic information.

TMC (Traffic Message Channel) is a standardised coding system for traffic information. The receiver automatically searches for the correct frequency.

#### (i) Note

TMC is not available in all areas/countries. The system's coverage area is under constant construction and updating may sometimes be necessary.

The traffic information is presented differently depending on whether the destination is specified or not specified.



This symbol on the screen indicates that traffic information is available within the current reception area. Symbol colour indicates the importance of the information:

- RED the information is read out and the position is shown on the map.
- YELLOW no reading out, the position is shown on the map.



This symbol marks the position of a traffic problem, for more information, see section Traffic information - with specified destination > Traffic information on map.

### (i) Note

Traffic information is not available in all areas/countries.

The traffic information transmission areas are constantly being expanded.

## Traffic information - without specified destination

The function allows you to show traffic problems without the destination having been selected.

	Traffic information		
	Traffic on map	• 1	
	E45 (4)		
	40 (3)		
	155 (7) 156 (2)		
<i>#</i>	239 (2)		
	Read traffic information on map		G050567

Opens the scroll function on the map.

#### Traffic information on map

- In the normal view for the navigation source, press OK/MENU and select Traffic information  $\rightarrow$  Traffic on map. 1
- Search for traffic problems with the scroll function, see description below in the section Traffic information with 2 specified destination > Traffic information on map.

#### All traffic

- 1 In the normal view for the navigation source, press OK/MENU and select Traffic information Traffic on map.
- > A list of all traffic messages within the reception area is shown.
- 2 Select what should be shown, see description below in the section Traffic information with specified destination > All traffic.

## Traffic information - with specified destination

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The function shows traffic problems when the destination has been entered.



Listening to traffic information along the route

- 1 In the normal view for the navigation source, press OK/MENU and select Traffic information → Listen to traffic on route.
- > Current traffic messages along the itinerary will be read out.

#### All traffic

- 1 In the normal view for the navigation source, press OK/MENU and select Traffic information → All traffic.
- > A list of all traffic messages within the reception area is shown. Traffic information is first grouped according to country (in border areas), then road number and then street name.
- **2** Select a traffic problem (road/street) and confirm with OK/MENU.
- > Traffic problems are listed, with the most serious disruption at the top, e.g. total stop in a lane.
- **3** Select a traffic problem and confirm with OK/MENU.
- > Additional information about the traffic problem is shown, as well as position on map. The map image is centred around

the position of the traffic problem.



Traffic problem on map.

## Traffic information on map

- 1 In the normal view for the navigation source, press OK/MENU and select Traffic information  $\rightarrow$  Traffic on map.
- 2 Scroll the map until the traffic event/symbol for which detailed information is required is positioned in the crosshair.
- > A yellow frame around the symbol is lit.
- 3 Confirm the selection by pressing OK/MENU
- > Available information is shown, e.g.
  - street name/road number
  - country
  - nature of the problem
  - extent of the problem
  - duration of the problem.

If there are several traffic problems within the crosshair frame then the one closest to the centre of the crosshair is shown first.

Figures such as "2/5" in the upper part of the screen mean that the information shown is number 2 of a total of 5 messages within the crosshair - remaining messages are browsed to using repeated short presses on OK/MENU.

## **Direct listed information**

	Traffic information	
1	Listen to traffic on route	言
	All traffic	
	Traffic on map	
w-the ball	105km one lane closed	
	107km one lane closed	
1		/
F	Read traffic information on map	

- In the normal view for the navigation source, press OK/MENU and select Traffic information  $\rightarrow$  Traffic on map. 1
- Direct listed traffic problems (two in the previous illustration) indicate that the information affects the current itinerary. >
- Select a traffic problem and confirm with OK/MENU. 2
- > Additional information about the traffic problem is shown, as well as position on map. The map image is centred around

the position of the traffic problem.



Traffic problem on map.

## Extent of traffic problem

Certain traffic problems are not just tied to one single position, but can cover a longer section.

In addition to the symbol for the position of the traffic problem, the current distance is also highlighted with a row of red crosses "**xxxxx**".

• The length of the highlighting corresponds to the extent (distance) of the traffic problem.

Driving direction is indicated by the side of the road that is highlighted.



Traffic problem with its extent.

Ð

#### Size of area for traffic information

The map scale determines how much traffic information can be shown. The larger the map area that is shown on the screen, the greater the number of traffic disruptions that can be shown.

* Option/accessory.

## 16.7. Navigation* - character wheel and keyboard

Use the character wheel or the centre console keypad for entering text and selecting options. For example, enter information about an address or a facility.



Screen view with text field or optional text.

## Activate an option

After marking a desired function/menu bar using the TUNE knob, press OK/MENU to see the next level of functions/options.

## Enter with the character wheel



#### Character wheel.

- Mark a text field.
- Press OK/MENU to call up the character wheel.
- Select the characters using the TUNE knob and enter them by pressing OK/MENU.

## Enter with the numerical keys



Numerical keyboard^[1].

Another way of entering characters is using the centre console's buttons 0-9, * and #.

**9 WXYZ** When **9** is pressed, a bar appears with all characters^[2] under the buttons, e.g. w, x, y, z and **9**. Quick presses on the button move the cursor through these characters.

- Stop using the cursor on the desired character to select it the character is shown on the enter line.
- Delete/change using EXIT.

## More options

#### (i) Note

Faded characters cannot be selected in combination with the currently input characters.

In the character wheel's inset menu there are further options that have more characters and digits:

- 123/ABC + OK/MENU the character wheel switches between numbers and characters.
- **MORE** + OK/MENU alternative characters are shown in the wheel.
- => + OK/MENU the cursor moves to the list on the right-hand side of the screen, where selections can be made using OK/MENU.

 Postcode + OK/MENU - the cursor moves to the list on the right-hand side of the screen, where selections can be made using OK/MENU, see <u>Specify destination with postcode</u>.

## List of options



List that matches entered characters.

A search will list the possible options based on input information.

The digit "149" in the screen's top right-hand corner means that the list contains 149 possible options that match the entered letters "LON".

#### No list

An empty list and the characters "***" in the screen's top right-hand corner mean that the number of available options with current entered characters is greater than 1000 - when the amount is less, the current options are shown automatically.

To reduce the number of options in the list:

- Enter more characters on the text line.
- * Option/accessory.
- ^[1] NOTE: The figure is schematic details may vary depending on car model and market.
- ^[2] The character for each button may vary depending on market.

## 16.8. Navigation* - text and symbols in the screen

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Explanation of text and symbols that may be shown on the map.



#### Road types

- Motorway (orange) Ð
- Primary road (dark grey) .
- Smaller primary road (grey) Ð
- Ordinary road (light grey)
- Local road (white) Ð

#### Text and symbols on screen

0	Event at next guidance point
0	Distance to next guidance point
8	Name of next road/street
4	Facility/point of interest (POI)
0	Planned route waypoint
6	Symbol for destination/final destination
0	Calculated arrival time at final destination
8	Calculated remaining distance to destination
9	The car's current position
0	Map scale
0	Stored location
12	Planned route
13	Planned route final destination

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(4	Current road/street name - at car's current position (9)
6	Compass
0	Section covered by traffic information
Ū	Traffic information

* Option/accessory.