C40 Recharge 2023 (22w46) User Manual

Version 2025-05-27

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 utilizing the digital user manual app in your car's center 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 center 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 center display, the latter takes precedence.

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17.2.1 Cargo net, steel cargo grid and cargo compartment cover
17.2.1.1 Installing and removing the cargo net
17.2.2 Cargo compartment
17.2.3 Grocery bag holders
17.2.4 Removing and storing the parcel shelf

17.2.5 Folding up the cargo compartment floor
17.2.6 Cargo anchoring eyelets
17.2.7 Removing the folding cargo compartment floor
17.2.8 Unlocking the tailgate using the key button
17.2.9 Setting maximum opening height for the power tailgate
17.2.10 Operating the tailgate with a foot movement
17.2.11 Unlocking the tailgate from inside the vehicle
17.2.12 Keyless unlocking of the tailgate
17.3 Storage and passenger compartment
17.3.1 Passenger compartment interior
17.3.2 Electrical outlets
17.3.3 Using the electrical outlets
17.3.4 Using the glove compartment
17.3.5 Sun visors
17.3.6 Tunnel console
17.3.7 USB ports
17.3.8 Charging devices via USB ports
17.4 Rear seat ski hatch
18. Maintenance and service
18.1 Vehicle care
18.1.1 Interior cleaning
18.1.1.1 Cleaning the center display
18.1.1.2 Cleaning the instrument panel
18.1.1.3 Cleaning the leather steering wheel
18.1.1.4 Cleaning the seat belt
18.1.1.5 Cleaning the interior
18.1.1.6 Cleaning textile floor and inlay mats
18.1.1.7 Cleaning interior plastic, metal and wood surfaces
18.1.1.8 Cleaning leather upholstery
18.1.1.9 Cleaning Microtech upholstery
18.1.1.10 Cleaning fabric upholstery and headliner
18.1.2 Exterior cleaning
18.1.2.1 Cleaning exterior lights
18.1.2.2 Cleaning the wiper blades
18.1.2.3 Paintwork
18.1.2.4 Color codes
18.1.2.5 Touching up minor paint damage
18.1.2.6 Cleaning the exterior
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18.1.2.9 Cleaning exterior plastic, rubber and trim components
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18.1.2.12 High-pressure washing
18.1.2.13 Polishing and waxing
18.2 Wiper blades and washer fluid
18.2.1 Wiper blades and washer fluid
18.2.2 Putting the wiper blades in service position
18.2.3 Refilling washer fluid
18.2.4 Replacing windshield wiper blades
18.3 Replacing bulbs
18.3.1 Replacing the rear fog light bulb

18.3.2 Replacing bulbs
18.3.3 Location of exterior lights
18.3.4 Bulb specifications
18.3.5 Checking trailer lights
18.4 Space under hood
18.4.1 Refilling washer fluid
18.4.2 Brake fluid specifications
18.4.3 Opening and closing the hood
18.4.4 Coolant
18.5 Tools and accessories
18.5.1 Jack
18.5.2 Tire sealing system
18.5.3 Tool kit
18.6 Fuses
18.6.1 Fuses and fuseboxes
18.6.2 Replacing fuses
18.6.3 Fuses under the glove compartment
18.6.4 Fuses under the hood
18.7 Battery
18.7.1 Replacing the key's battery
18.7.2 High-voltage battery recommendations
18.7.3 Jump starting using another battery
18.7.4 Batteries and power supply
18.7.5 Recycling of batteries
18.7.6 Battery symbols
18.7.7 12 V battery
18.7.8 High-voltage battery
18.8 Service
18.8.1 Climate control system service
18.8.2 Volvo's service program
18.9 Recommended maintenance for the camera, sensor and radar units
18.10 Software Updates
18.11 Maintenance of the brake system
18.12 Data transfer between vehicle and workshop over Wi-Fi
18.13 Hoisting the vehicle
18.14 Removing panels under the hood

19. Specifications
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19.1.1 Towing capacity and tongue weight
19.1.2 Dimensions
19.1.3 Weights
19.2 Electric motor specifications
19.2.1 Electric motor specifications
19.3 Specifications for fluids and lubricants
19.3.1 Refilling washer fluid
19.3.2 Air conditioning specifications
19.3.3 Brake fluid specifications
19.4 Specifications for wheels and tires
19.4.1 Approved tire pressure
19.5 Bulb specifications
19.6 Type designations

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.

1. Owner's information

1.1. Owner's information

Owner's information is available in several different formats. The Owner's Manual is available on the vehicle's center display and on Volvo Cars' support site. There is also a digital Quick Guide[1] that can be accessed from the Owner's Manual in the center display. The glove compartment contains a supplement to the Owner's Manual with a selection of practical information that can be good to have on hand for times when it's not possible or convenient to read from the center display,such as if you need to change a tire.

Vehicle's center display

To access the Owner's Manual, tap ⊞ and then tap 🕮. This gives you access to visual navigation with exterior and interior images of the vehicle. The information is searchable and is divided into categories.

Volvo Cars support site

Volvo Cars' website and support site contain additional information about your vehicle.

Go to volvocars.com/intl/support [https://www.volvocars.com/intl/support] and select your country. The website is available on most markets.

Contact information for customer support and your nearest Volvo retailer are available on the support site.

Printed information

The glove compartment contains a printed supplement to the Owner's Manual, which contains a summary of important and practical information.

Other printed information may also be provided in the vehicle, depending on equipment level, market, etc.

> **Important**
>
> The driver is always responsible for operating the vehicle in a safe manner and adhering to all applicable laws and regulations. It is also important that the vehicle is operated, maintained and serviced according to Volvo's recommendations provided in the owner's information.
>
> If the information in the center display and other sources differs, the information in the center display applies.

> **Note**
>
> Changing languages in the center display could mean that certain owner's information will not comply with national or local laws and regulations. Do not change to a language you do not speak well, as it can be difficult to find your way back through the menu.

[1] Only available in certain markets.

1.2. Using the Owner's Manual

To get to know your new vehicle, read the Owner's Manual before driving it for the first time.

Reading your Owner's Manual is a way to familiarize yourself with new features and functions, get advice on how to handle your vehicle in different situations, and to learn how to take advantage of everything your Volvo has to offer. Pay particular attention to the safety warnings provided in the Owner's Manual.

Volvo continuously works to develop and improve our products. Modifications can mean that information, descriptions and illustrations in the Owner's Manual differ from the equipment in the vehicle. We reserve the right to make changes without prior notice.

© Volvo Car Corporation

Option/accessory

In addition to standard equipment, the Owner's Manual also describes options (factory-installed equipment) and certain accessories (extra retrofitted equipment).

All, at the time of publication known, options and accessories are marked with an asterisk: *.

The equipment described in the Owner's Manual is not available in all vehicles. Vehicles may be equipped differently depending on market requirements and national or local laws and regulations.

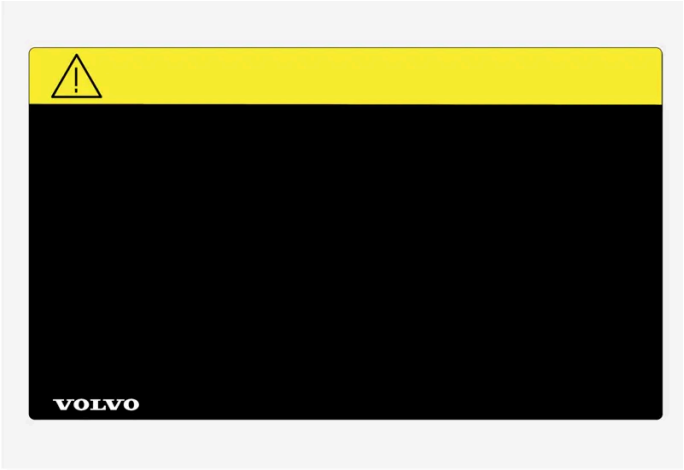
The intention of this owner's information is to explain all of the possible features, functions, options and accessories included in a Volvo vehicle. It is not intended as an indication or guarantee that all of these features, functions and options are included in every vehicle. Some terminology used may not exactly match terminology used in sales, marketing and advertising materials.

For more information on which equipment is standard and which is an option or accessory, please contact your Volvo retailer.

Decals

There are various types of decals affixed in the vehicle to communicate important information in a clear manner. The importance of these decals is explained as follows, in descending order of importance.

Risk of injury



Black ISO symbols on a yellow warning field, white text/image on a black message field. Used to indicate potential danger. Ignoring a warning of this type could result in serious injury or death.

Risk of damage

White ISO symbols and white text/image on a black or blue warning field and message field. Used to indicate potential danger. Ignoring a warning of this type could result in damage.

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

> **Note**
>
> The decals shown in the Owner's Manual do not claim to be exact reproductions of those found in the vehicle. The purpose is to show approximately how they look and about where they are located. The information that applies for your vehicle in particular is found on the decal on the vehicle.

Illustrations, images and video clips

Illustrations, images and video clips used in the Owner's Manual are sometimes generic and are intended to provide an overview or an example of a certain function or feature. They may vary depending on equipment level and market and may differ from the appearance of your vehicle.

* Option/accessory.

1.3. Complete Owner's Manual in the center display

The printed supplement only contains selected information. You can find complete and up-to-date information in the vehicle's center display.

Important

To familiarize yourself with important safety instructions and to optimize your experience, Volvo recommends reading the owner's information under each category in the center display in its entirety before driving the vehicle for the first time.

Important

The driver is always responsible for operating the vehicle in a safe manner and adhering to all applicable laws and regulations. It is also important that the vehicle is operated, maintained and serviced according to Volvo's recommendations provided in the owner's information.

Finding information in the vehicle's center display

Complete and up-to-date information for your vehicle is always available in the center display. To access the Owner's Manual, tap ⊞ and then 🕮.

Find information by:

- using the search function
- visually navigating using exterior and interior images
- clicking through categories.

> **Note**
>
> The digital Owner's Manual is not available during driving.

Changing languages in the center display could mean that some of the owner's information will not comply with national or local rules and regulations. Do not change to a language that you do not understand well, as this could make it difficult for you to navigate back through the menu.

Printed information and support site

Other printed information may also be provided in the vehicle, depending on equipment level, market, etc.

The accompanying supplement can also be ordered. Contact a Volvo retailer to order.

The Owner's Manual is also available on volvocars.com/intl/support [https://www.volvocars.com/intl/support] .

> **Note**
>
> If the information in the center display and other sources differs, the information in the center display applies.

1.4. Navigate in the Owner's Manual in the center display

The digital Owner's Manual can be accessed from the center display.

To access the Owner's Manual, tap ⊞ and then 🕮.

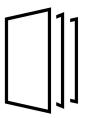
There are a number of ways to find information in the Owner's Manual.

Contents of the Owner Manual

Start page

Tap the symbol to return to the Owner's Manual start page.

Categories



The articles in the Owner's Manual are structured into main and sub-categories. The same article may appear in several relevant categories in order to help make them easier to find.

Visual navigation

Exterior and interior overviews of the vehicle. Hotspots are provided for certain functions, components, etc. Tap a hotspot to come to a relevant article.

1 Press **Exterior** or **Interior**.

> Exterior or interior images of the vehicle are shown with hotspots. The hotspots lead to articles about the corresponding function, component, etc. Swipe the screen horizontally to scroll between the images.

2 Tap a hotspot.

> The title of a relevant article will be displayed.

3 Tap the title to open the article.

To go back, tap the left arrow.

Quick guide

Useful information about the most commonly used features and functions in your vehicle.

Video

Tap the symbol to go to brief instructive videos for various functions in the vehicle.

Release notes

Read more about the current version and implemented updates.

Search function

Tap the search field at the top of the Owner's Manual to reach the search function from the start page.

Use Q at the top of the Owner's Manual to reach the search function from other pages.

2. Your Volvo

2.1. Volvo's innovation areas

2.1.1. Connection and entertainment

The vehicle has an intelligent interface and offers Internet connection to the digital world. An intuitive navigation structure offers access to relevant assistance, information and entertainment when it is needed.

It includes all of the solutions in the vehicle related to entertainment, Internet connection and navigation, and serves as the user interface between the driver and the vehicle.

Where Volvo is responsible for the provision of mobile connectivity services to enable use of certain functions, and excluding any separate contract for mobile connectivity services of the owner or any other user of the car that Volvo is not party to, each user understands and agrees that, to the extent permitted by law, it: (1) has no contractual relationship with the underlying wireless service carrier, (2) is not a third party beneficiary of any agreement between the car owner and the underlying carrier, (3) that the underlying carrier has no liability of any kind to the user, whether for breach of contract, warranty, negligence, strict liability in tort or otherwise, (4) that data transmissions and messages may be delayed, deleted or not delivered, and emergency calling may not be completed, (5) the underlying carrier cannot guarantee the security of wireless transmissions and will not be liable for any lack of security relating to the use of the services.

Fair Use Policy

Your use of connectivity services that are part of your vehicle is subject to this Fair Use Policy.

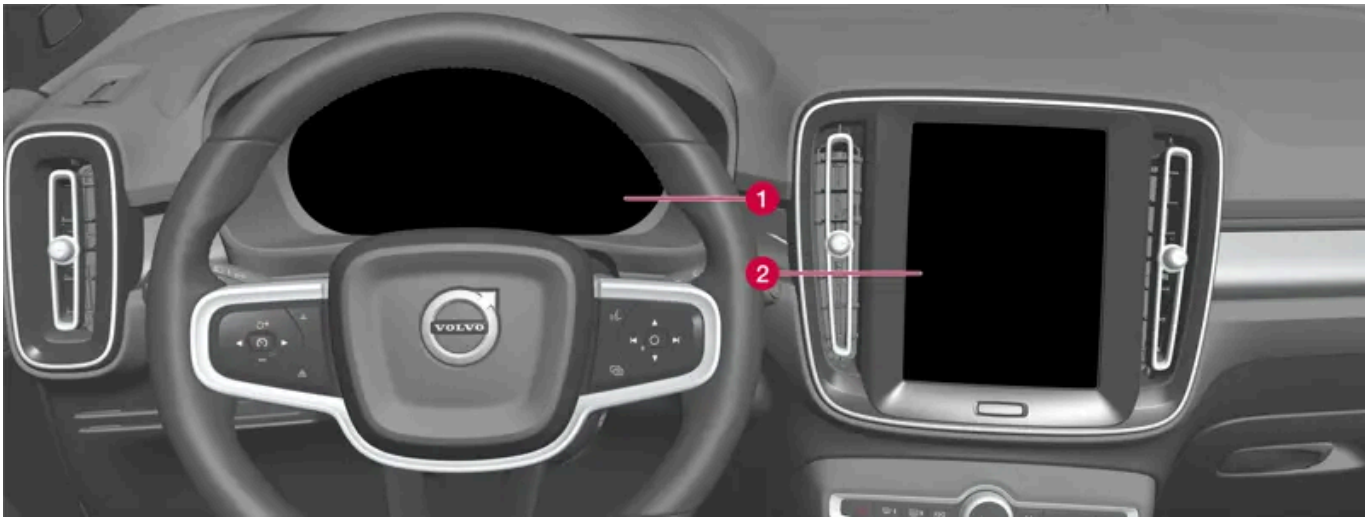
When using this Service, you agree not to

- submit content that is unlawful, obscene, libelous, threatening, harassing, hateful, racially or ethnically offensive or otherwise inappropriate
- use the Service in breach of any applicable law
- use the Service for commercial purposes.

Your access to the Service is part of a shared access. Volvo reserves the right to suspend your access to or use of the Service if your use involves very high volumes of data, disproportionate to other users. Volvo may also suspend your access for technical reasons or to protect other functions of your vehicle. Your access to the connected Service is subject to the third-party terms and conditions of the mobile network provider.

Information when it's needed, where it's needed

The vehicle's displays present the right information at the right time. Information is presented in different displays depending on how it should be prioritized by the driver.



Different types of information are shown in different displays depending on how the information should be prioritized.

1. The instrument panel shows information about speed, road sign information, warning and indicator symbols, battery status, etc. The instrument panel can also show incoming calls or information about the current song on the radio. It is controlled using the steering wheel keypads.
2. Many of the vehicle's main functions are controlled from the center display, such as the climate control system, the entertainment system and seat positions. The center display also shows navigation and road sign information. The information presented in the center display can be handled by the driver or by someone else in the vehicle.

> **Note**
>
> Wearing gloves can limit or prevent touchscreen response.

Voice control system

The voice control system enables the driver to control certain vehicle functions without taking their hands off the wheel. The system can understand natural speech. Use voice control to e.g. play a song, make a phone call, increase the temperature in the passenger compartment or have a text message read aloud.

2.2. Volvo ID

2.2.1. Volvo ID

Volvo ID is a personal ID that gives you access to a range of services using a single username and password.

One example of a service in which a Volvo ID is needed is to check the vehicle via your phone using the Volvo Cars app.

A Volvo ID can be created from the vehicle, at volvoid.eu.volvocars.com/Account [https://volvoid.eu.volvocars.com/Account/] or in the Volvo Cars app.

> **Note**
>
> The available services can vary over time and depend on equipment level and market.

2.2.2. Creating a Volvo ID

To use Volvo services connected to the vehicle, such as via the Volvo Cars app, a Volvo ID must be created.

Creating a Volvo ID with the Volvo Cars app

1. Download the latest version of the Volvo Cars app[1] to your phone.
2. Choose to create a Volvo ID.
3. The website for creating a Volvo ID will appear.
4. Enter a personal email address or cell phone number.
5. Follow the instructions that will be sent automatically to this email address/cell phone number.

> A Volvo ID is created and ready for use.

Creating a Volvo ID on the Volvo Cars website

1. Go to volvoid.eu.volvocars.com/Account [https://volvoid.eu.volvocars.com/Account/] . Choose to create a Volvo ID.
2. Enter a personal email address or cell phone number.
3. Follow the instructions that will be sent automatically to this email address/cell phone number.

> A Volvo ID is created and ready for use.

[1] Can be downloaded from e.g. the Apple App Store or Google Play.

2.2.3. Problems logging in with Volvo ID

This article describes problems that may arise when logging in with Volvo ID. For example if you have forgotten your password or your Volvo ID username.

Forgotten your password

To reset your password, follow the instructions below:

In the Volvo Cars app[1]

1. Open the Volvo Cars app.
2. Select "Log in."
3. Press "Forgot password?" and follow the instructions shown.

You can also change your password at volvoid.eu.volvocars.com/Account [https://volvoid.eu.volvocars.com/Account/] .

Login error after creating a new account

Sometimes there may be a delay in the process which can result in an account not being available directly after it has been created. Try again after 24 hours and if the problem persists contact your local Volvo retailer or Volvo Cars customer service for further assistance.

What is my Volvo ID (user name)?

Your Volvo ID is the same as the registered email address/cellular phone number.

Unlock your Volvo ID

Your account will be locked after 5 failed attempts to log in to the Volvo Cars app[1]. You can unlock your account by clicking **Forgot password?** in the login screen.

Changed email address

If you get a new email address and still have access to your previous address, you can log in using your old credentials and change your username yourself. If you no longer have access to your old email address, you should create a new Volvo ID using your new address.

Login error after changing Volvo ID (user name)

Make sure you receive a confirmation message verifying your new username. When this has been done you should be able to login using the new username. If you did not receive the confirmation message, your old username will remain. Log in and try again to change the username.

Login error after changing password

Try logging in with your previous password. If this doesn't work, try to reset your password.

Account registered to another market

An account is registered to a specific market and cannot be moved to a different market. To be able to reuse the same email address/cellular phone number, we advise you to first delete your account for the old market and then create a new account for the new market.

E-mail error

If you have entered an email address as username and did not receive a confirmation message after registration, check that you provided a valid email address and that the message was not stopped by a junk mail filter. Try to register your email address again.

Further assistance

If you have not found the solution to a problem regarding Volvo ID and need further assistance, contact your local Volvo retailer or Volvo Cars customer service.

[1] Certain markets only.

2.3. Type approval and licenses

2.3.1. Antenna type approval

Type approval for the vehicle's antenna is provided below.

Continental
Model: TCAM1NA0
FCC ID:KR5TCAM1NA0
IC:7812D–TCAM1NA0

This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This device complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The antenna should be installed and operated with minimum distance of 2.4 cm between the radiator and your body.

Le présent appareil est conforme à l'exposition aux radiations FCC / ISED définies pour un environnement non contrôlé et répond aux directives d'exposition de la fréquence de la FCC radiofréquence (RF) et RSS-102 de la fréquence radio (RF) ISED règles d'exposition. L'émetteur ne doit pas être colocalisé ni fonctionner conjointement avec à autre antenne ou autre

émetteur.L'antenne doit être installée de façon à garder une distance minimale de 2.4 centimètres entre la source de rayonnements et votre corps.

FCC Class B digital device notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Continental Automotive GmbH has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

Continental Automotive GmbH n'approuve aucune modification apportée à l'appareil par l'utilisateur, quelle qu'en soit la nature. Tout changement ou modification peuvent annuler le droit d'utilisation de l'appareil par l'utilisateur.

CAN ICES-3 (B) / NMB-3 (B)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de classe B est conforme à la norme canadienne ICES-003.

2.3.2. License agreement for instrument panel

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

1.1 List of used Open Source Components

This table contains a list of open source software (OSS) components used within the product under the terms of the respective licenses. The source code corresponding to the open source components is also provided along with the product wherever mandated by the respective OSS license

Sl No.	Name of OSS Component	Version of OSS Component	Name and Version of License (License text can be found in Appendix below)	Home Page	More Information
1	BidiReferenceCpp	26	Unicode Terms of Use	http://www.unicode.org/Public/PROGRAMS/BidiReferenceCpp/	(C) Socionext Embedded Software Austria GmbH (SESA) Copyright (C) 1999-2009, ASMUS, Inc
2	FASTCRC32	1.2.8	License of Stephan brumme/ Zlib style License	http://stephan-brumme.com/	Copyright © 2011-2013 Stephan Brumme. All rights reserved, Copyright (C) 1995-2006, 2010, 2011, 2012 Mark Adler
3	Freescale IMX6 HDMI	5.0.11	BSD 3-clause "New" or "Revised" License	https://www.nxp.com/ [https://www.nxp.com/]	Copyright © 2009-2012, Freescale Semiconductor, Inc, Copyright © 2010-2012, Freescale Semiconductor, Inc.
4	FreeType Hashing	2.6.3	MIT License	https://sourceforge.net/p/canvasdraw/cd/642/tree/trunk/freetype/include/freetype/internal/fthash.h [https://sourceforge.net/p/canvasdraw/cd/642/tree/trunk/freetype/include/freetype/internal/fthash.h]	Copyright 2000 Computing Research Labs, New Mexico State University Copyright 2001-2015 Francesco Zappa Nardelli
5	Freetype Project - BDF	2.6.3	MIT License	https://sourceforge.net/projects/freetype/files/freetype2/2.6.3/ [https://www.freetype.org/]	Copyright (C) 2001-2014 by Francesco Zappa Nardelli. Copyright 2000 Computing Research Labs, New Mexico State University
6	Freetype Project -PCF	2.6.3	MIT License	https://sourceforge.net/projects/freetype/files/freetype2/2.6.3/ [https://www.freetype.org/]	Copyright 2000-2001, 2003 by Francesco Zappa Nardelli Copyright (C) 2000, 2001, 2002, 2003, 2006, 2010 by Francesco Zappa Nardelli Copyright (C) 2000-2004, 2006-2011, 2013, 2014 by Francesco Zappa Nardelli Copyright 2000-2010, 2012-2014 by Francesco Zappa Nardelli Copyright 2003 by Francesco Zappa Nardelli
7	Freetype Project - Pcfutil	2.6.3	Open Group License	https://sourceforge.net/projects/freetype/files/freetype2/2.6.3/ [https://www.freetype.org/]	Copyright 1990, 1994, 1998 The Open Group
8	HarfBuzz	1.3.1	MIT License	http://freedesktop.org/wiki/Software/HarfBuzz	Copyright © 2007 Chris Wilson Copyright © 2009,2010 Red Hat, Inc. Copyright © 2011, 2012 Google, Inc.
9	Integrity Libnet	1.16	Internet Software Consortium-IBM License ISC License	https://github.com/lattera/glibc/blob/master/resolv/inet_pton.c [https://github.com/lattera/glibc/blob/master/resolv/inet_pton.c]	Copyright © 1996 by Internet Software Consortium. Consortium, Copyright © 1995 by International Business Machines, Inc.

Sl No.	Name of OSS Component	Version of OSS Component	Name and Version of License (License text can be found in Appendix below)	Home Page	More Information
10	Khronos EGL Headers	1.4	MIT License	http://www.khronos.org/registry/egl/	Copyright © 2007-2013 The Khronos Group Inc. Copyright 2008 VMware, Inc. Copyright © 2013-2014 The Khronos Group Inc.
11	Khronos Group - OpenGL ES	2.0	SGI Free Software License B v2.0	http://www.khronos.org/opengles/	
12	libjpeg	6b	Independent JPEG Group License	http://www.ijg.org/	Copyright (C) 1991-1998, Thomas G. Lane.
13	libpng	1.4.22	libpng License	http://github.com/coapp-packages/libpng/	Copyright © 1998-2010 Glenn Randers-Pehrson Copyright © 2007, 2009 Glenn Randers-Pehrson Version 0.96 Copyright © 1996, 1997 Andreas Dilger Version 0.88 Copyright © 1995, 1996 Guy Eric Schalnat, Group 42, Inc.
14	Libunibreak	1.2.8	zlib License	https://github.com/adah1972/libunibreak [https://github.com/adah1972/libunibreak]	Copyright (C) 2008-2011 Wu Yongwei Copyright (C) 2012 Tom Hacohen tom@stosb.com
15	lz4 Compression algorithm	1.4.0	BSD 2-clause "Simplified" License	http://github.com/Cyan4973/lz4/	Copyright (C) 2011-2014, Yann Collet
16	md5	1.6	Public Domain	https://doxygen.reactos.org/d7/d04/sdk_2lib_23rdparty_2freetype_2src_2base_2md5_8c_source.html [https://doxygen.reactos.org/d7/d04/sdk_2lib_23rdparty_2freetype_2src_2base_2md5_8c_source.html]	
17	NetBSD	1.9	HPND like license IBM License BSD-4-Clause (University of California-Specific) BSD 3-clause "New" or "Revised" License BSD One Clause License	http://www.netbsd.org/	Copyright © 1998 Manuel Bouyer Copyright © 1996 Matt Thomas. Copyright 1997 Marshall Kirk McKusick. All Rights Reserved, Copyright © 1985, 1988, 1989, 1991, 1993, 1995 The Regents of the University of California Copyright © 1989, 1993 The Regents of the University of California Copyright © 1983, 1993 The Regents of the University of California Copyright 2000-2011 Green Hills Software Copyright (c) 1996 by Internet Software Consortium. Copyright (C) 1998 WIDE Project, Portions Copyright © 1995 by International Business Machines, Inc, Copyright (C) 1994, 1995, 1997 TooLs GmbH Copyright (C) 1994, 1995, 1997 Wolfgang Solfrank Copyright © 1995, 1999 Berkeley Software Design, Inc Portions Copyright © 1993 by Digital Equipment Corporation Copyright © 1992 Henry Spencer Copyright © 1997, 1998, 1999 The NetBSD Foundation, Inc Copyright © 1996 by Internet Software Consortium.Copyright (c) 1994 James A. Jegers(c) © UNIX System Laboratories, Inc.
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Glenn Randers-Pehrson

randeg@alum.rpi.edu

April 15, 2002

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2.3.3. Type approval for HomeLink® * [1]

Type approval for HomeLink® is provided below.

Country/Area	Type approval
USA and Canada	This device complies with FCC rules part 15 and Industry Canada RSS-210. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference that may be received including interference that may cause undesired operation.

Country/Area	Type approval
Europe	Gentex Corporation hereby declares that HomeLink® Model UAHL5 complies with the Radio equipment directive 2014/53/EU. Wavelengths within which the radio equipment operates: • 433.05MHz-434.79MHz <10mW E.R.P. • 868.00MHz-868.60MHz <25mW E.R.P. • 868.70MHz-868.20MHz <25mW E.R.P. • 869.40MHz-869.65MHz <25mW E.R.P. • 869.70MHz-870.00MHz <25mW E.R.P. Certificate holder address: Gentex Corporation, 600 North Centennial Street, Zeeland MI 49464, USA

Warning

The transmitter has been tested and complies with FCC and IC rules. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device.[2]

* Option/accessory.

[1] Certain markets only.

[2] The term "IC:" before the certification/registration number only signifies that Industry Canada technical specifications were met.

2.3.4. Type approval Radio Equipment Directive

Information about the Radio Equipment Directive is available at volvocars.com/intl/support [https://www.volvocars.com/intl/support] .

2.3.5. Certificate for wireless phone charger

Country/Area	
China:	（一）符合“微功率短距离无线电发射设备目录和技术要求”的具体条款和使用场景，采用的天线类型和性能，控制、调整及开关等使用方法； （二）不得擅自改变使用场景或使用条件、扩大发射频率范围、加大发射功率（包括额外加装射频功率放大器），不得擅自更改发射天线； （三）不得对其他合法的无线电台（站）产生有害干扰，也不得提出免受有害干扰保护； （四）应当承受辐射射频能量的工业、科学及医疗（ISM）应用设备的干扰或其他合法的无线电台（站）干扰； （五）如对其他合法的无线电台（站）产生有害干扰时，应立即停止使用，并采取措施消除干扰后方可继续使用； （六）在航空器内和依据法律法规、国家有关规定、标准划设的射电天文台、气象雷达站、卫星地球站（含测控、测距、接收、导航站）等军民用无线电台（站）、机场等的电磁环境保护区域内使用微功率设备，应当遵守电磁环境保护及相关行业主管部门的规定； （七）禁止在以机场跑道中心点为圆心、半径5000米的区域内使用各类模型遥控器； （八）微功率设备使用时温度和电压的环境条件。
Mexico:	RCPVAPVO 18-1919 [https://az685612.vo.msecnd.net/pdfs/certificates/VOLVO_Mexico_57442C.pdf]
Paraguay:	CONATEL NR: 2018-11-1-000541 2018-11-1-000541 [https://az685612.vo.msecnd.net/pdfs/certificates/Volvo_Paraguay_57442C.pdf]

Country/Area	
Taiwan:	根據NCC□□率電波輻射性電機管理辦法 規定: 第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。 第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。 前項合法通信，指依電信法規定作業之無線電通信。 低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。
Ukraine:	Ци Діапазон частот: 107 кГц - 115 кГц Максимальна потужність радіосигналу: 5 Вт (сполучена), 63 Вт наномасштабів (випромінюється) Коефіцієнт викидів: N / A Модуляції: 2 кГц NFC Діапазон частот: 13,56 МГц, у межах +/- 0,01% Максимальна вихідна потужність РФ: 10 мВт – виробник: Ел-Джі Електронікс Інк.(LG Electronics Inc) 10, Магок'юнганг 10-ро, Гангсео-гу, Сеул, 07796, Корея Frequency range 111 кГц / Максимальна потужність РЧ: 42 дБмк А / м справжнім Ел-Джі Електронікс Інкзаявляє, що тип радіообладнання WC510MVV20 відповідає Технічному регламенту радіообладнання; повний текст декларації про відповідність доступний на веб-сайті за такою адресою:https://www.lg.com/global/support/cedoc/cedoc. імпортер : Віннер Імпортс Україна Вул. Дачна, 5-А, с.Капітанівка, Київська область, 08112, Україна Тел.: +38(044) 585 63 00 Контактна особа : Alla Haidai (ahaidai@winner.ua)
US/Canada	FCC ID : BEJWC510MVV20 IC : 2703H-WC510MVV20 This device complies with part 15 of the FCC rules and with RSS-Gen,RSS-216 rules of Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. Any changed or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. FCC RF Radiation Exposure Statement: This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 15cm between the radiator and your body. – IDéclaration d'avertissement ISED Son fonctionnement est soumis aux deux conditions suivantes: (1) Cet appareil ne doit pas provoquerd'interferences nuisibles, et (2) Cet appareil doit accepter toute interference recue, y compris les interferences pouvant entrainerun fonctionnement indesirable. Les changements ou modifications non expressement approuves par LG Vehicle Components Company pourraient annuler l'autorite de l'utilisateura utilizer l'equipement. Déclaration d'exposition aux radiations RF de l'ISED: Cet équipement est conforme aux limites d'exposition aux rayonnements RF de l'ISED définies pour un environnement non contrôlé. Cet appareil et son antenne ne doivent pas être situés ou fonctionner conjointement avec une autre antenne ou un autre émetteur. Cet équipement doit être installé pour fonctionner avec une distance minimale de 10cm entre le radiateuret le corps de l'utilisateur final.

2.3.6. Start and lock system type designations

The following information contains type designations for the start and lock system.

Alarm system

USA FCC ID: MAYDA 5823(3)

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canada IC: 4405A-DA 5823(3)

This device is subject to the following conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Remote keys (Passive Entry*/Passive Start)

USA

Volvo Standard Key FCC ID: YGOHUF8423MS

Volvo Tag ID FCC ID: YGOHUF8432MS

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada

Volvo Standard Key IC: 4008C-HUF8423MS

Volvo Tag ID IC: 4008C-HUF8432MS

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Immobilizer and Passive Entry*/Passive Start systems

USA-FCC ID: LTQVO3134

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canada-IC:3659A-VO3134

This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

* Option/accessory.

2.3.7. Approval of terms and conditions and data collection

Messages about different terms and conditions and data collection may be shown in the center display. Data is collected, for example, in order to provide better safety, vehicle and app functions.

The first time you use your vehicle, a guide will open in the center display to help you adjust various settings. In connection with the guide, you are also prompted to give your agreement to different types of terms and conditions and the collection of information.

You may also be asked to provide your consent in other situations, such as:

- First use of apps and services
- New user profiles
- Logging out from and deleting user profiles
- Change of ownership
- Resetting settings

To access privacy settings:

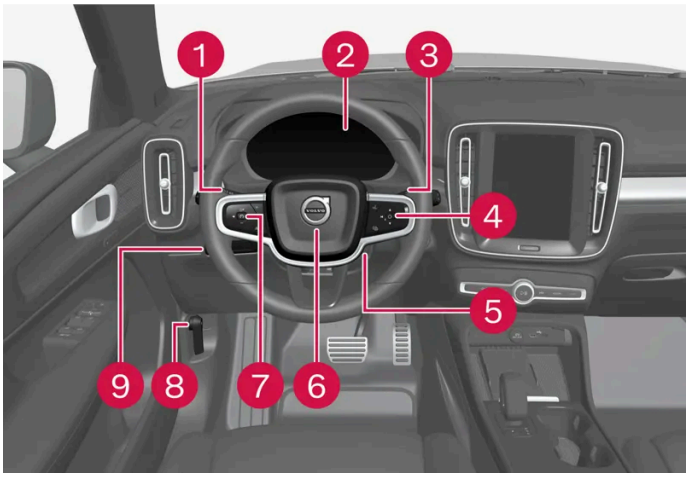
1. Tap ⚙ in the center display.
2. Tap **Privacy**.
3. Then select **Volvo privacy settings**, **Data sharing with Google** or **Legal information from Google**.

Certain settings can only be made from a profile with administrative rights.

2.4. Displays and controls by the driver in a left-hand drive vehicle

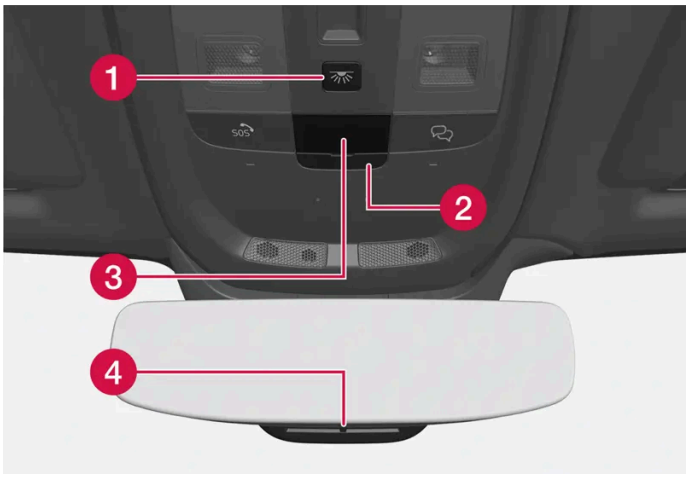
The overviews show the location of the vehicle's displays and controls.

Steering wheel and dashboard



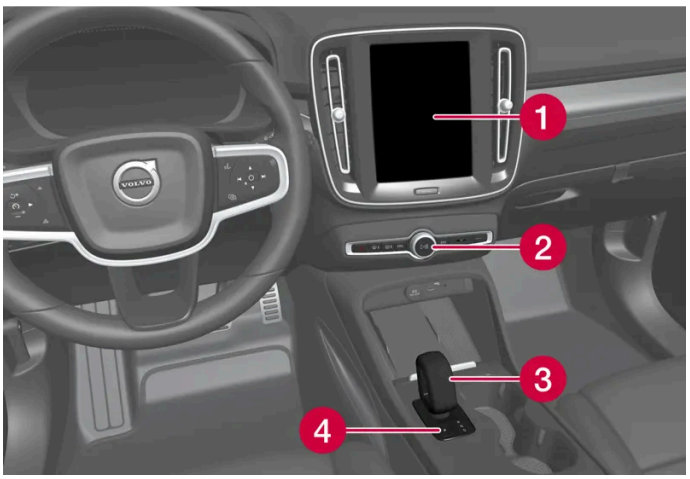
1. Parking lights, daytime running lights, low beams, high beams, turn signals, front fog lights/cornering illumination*, rear fog light, trip computer reset
2. Instrument panel
3. Wipers and washers, rain sensor*
4. Right-side steering wheel keypad
5. Steering wheel adjustment
6. Horn
7. Left-side steering wheel keypad
8. Hood open
9. Display lighting, unlocking/locking*/closing* the trunk lid/tailgate

Ceiling console



1. Front reading lights and courtesy lighting
2. SIM card slot
3. Ceiling console display button
4. HomeLink®*

Center and tunnel console



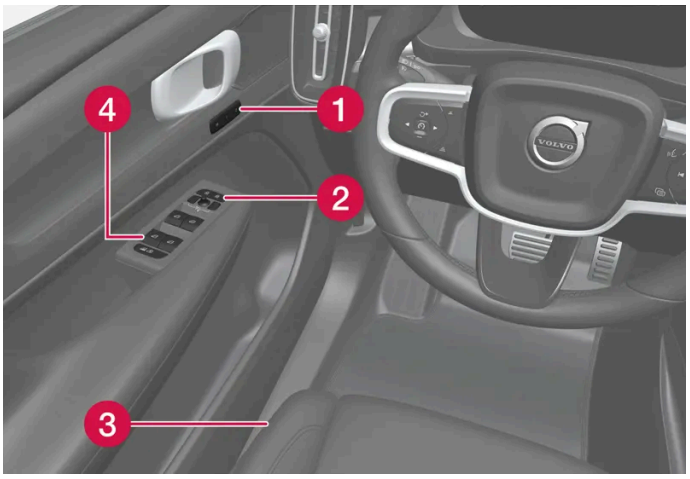
1 Center display

2 Hazard warning flashers, defrosting, media

3 Gear selector

4 Parking brake

Driver's door



1 Memory for power front seat settings

2 Central locking and power door mirrors

3 Controls for front seat

4 Power windows and child locks*

* Option/accessory.

2.5. Technician certification

In addition to Volvo factory training, Volvo supports certification by the National Institute for Automotive Service Excellence (A.S.E.).

Certified technicians have demonstrated a high degree of competence in specific areas. Besides passing exams, each technician must also have worked in the field for two or more years before a certificate is issued. These professional technicians are best able to analyze vehicle problems and perform the necessary maintenance procedures to keep your Volvo at peak operating condition.

Electrified vehicles

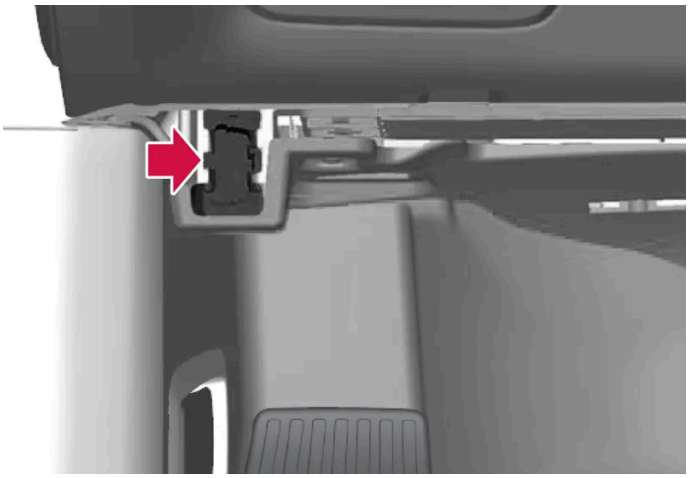
Technicians performing work on a vehicle with electrification should also have the necessary training and specialized certification required for performing repairs and/or maintenance on a vehicle with electrification.

> **Warning**
>
> A number of electrical components in electrified vehicles use high-voltage current and can be extremely dangerous if handled incorrectly. These components and any orange wiring in the vehicle may only be handled by trained and qualified Volvo service technicians.

2.6. Connecting equipment to the vehicle's data link connector

Incorrectly connected or installed software or diagnostic tools may have an adverse effect on the vehicle's electronics.

Volvo strongly recommends that Volvo owners use only genuine, Volvo-approved accessories, and that accessory installations be performed only by a trained and qualified Volvo service technician. Certain accessories only work when the associated software is installed in the vehicle's computer system.



On-board Diagnostic (OBDII) socket under the dashboard on the driver's side.

Note

Volvo Cars takes no responsibility for the consequences of connecting non-authorized equipment to the On-board Diagnostic (OBDII) socket. This socket should only be used by a trained and qualified Volvo service technician.

Type approval

USA

FCC ID: 2AGKKACUII-06

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada

IC: 20839-ACUII06

This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions:

(1) This device may not cause interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

2.7. Driver distraction

A driver has a responsibility to do everything possible to ensure his or her own safety and the safety of passengers in the vehicle and others sharing the roadway. Part of this responsibility is avoiding distractions, including performing activities that are not directly related to controlling the vehicle in the driving environment.

Your new Volvo is equipped with feature-rich entertainment and communication systems. You may also own other portable electronic devices for your own convenience. Use these systems and devices safely to avoid distraction.

For all of these systems, we want to provide the following warning that reflects the strong Volvo concern for your safety. Never use these devices or any feature of your vehicle in a way that distracts you from the task of driving safely. Distraction can lead to a serious accident. In addition to this general warning, we offer the following guidance regarding specific new features that may be found in your vehicle:

Warning

- Never use a hand-held cellular telephone while driving. Some jurisdictions prohibit cellular telephone use by a driver while the vehicle is moving.
- If your vehicle is equipped with a navigation system, set and make changes to your travel itinerary only with the vehicle parked.
- Never program your audio system while the vehicle is moving. Program radio presets with the vehicle parked, and use your programmed presets to make radio use quicker and simpler.
- Never use portable computers or personal digital assistants while the vehicle is moving.

2.8. Getting started with Google services

Connect your Google account to your user profile to get started with Google services.

Being logged in with a Google account makes Google services such as the Google Assistant and Google Maps more personalized. For Google Play to open, a Google account must be connected to that user profile.

Creating a Google account

Go to accounts.google.com/signup [https://accounts.google.com/signup] . Enter your name, create or use an existing email address and password. Enter your phone number and verify the account using the code sent to the phone.

Logging in with a Google account in the center display

1. Tap ⚙, then **Google** and then **Google Assistant**. Tap the profile symbol to log in.
2. Enter the email address connected to your Google account. Then tap **Next**.
3. Enter the password connected to your Google account. Then tap **Next**.

If the login problem persists, make sure the vehicle is connected to the Internet.

2.9. Change of market when importing or relocating

If you import a vehicle or move to another country, it is important that you register the vehicle in the new market to help ensure that online services work correctly, that the vehicle meets local laws and regulations, etc.

Visit an authorized Volvo retailer

Visit an authorized Volvo retailer for assistance registering the vehicle in the new market.

If you do not do this then you may experience that apps, Volvo Assistance[1], software downloads and other online services are affected and do not work correctly.

Creating a new Volvo ID in your new home market

When you relocate to another country you should create a Volvo ID in the new country.

If you have already created a Volvo ID in another country and want to use the same email address, you must first delete your Volvo ID in the region you originally created it. You can also create a new Volvo ID with another email address.

For vehicles with Volvo Assistance

Download the Volvo Cars app from the country the vehicle will be used in and link the app to your vehicle.

> ⓘ **Note**
>
> Visit an authorized Volvo retailer if you have imported or relocated with your vehicle to a new country.
>
> Available services may vary depending on market and car model.

> ⓘ **Note**
>
> If the vehicle is exported to another market, Volvo is not responsible for any adaptations to the vehicle in order to meet applicable requirements or laws in the country of import. For more information, see the Warranty and Service Records Information booklet or contact your Volvo workshop.

[1] Applicable only to markets that have access to Volvo Assistance.

2.10. Viewing the Vehicle Identification Number (VIN)

All vehicles have a unique identification number, a VIN [1].

1 Tap settings at the bottom of the center display.

2 Proceed to **System** and then **About**.

The VIN can also be found:

- on the first page of the Warranty and Service Records Information booklet
- on the vehicle's registration card
- by looking at the dashboard through the vehicle's windshield.

The VIN has a similar location on all models.

[1] Vehicle Identification Number

2.11. Data recording

As part of Volvo's commitment to safety and quality, certain information is recorded regarding vehicle operation, functionality and incidents.

US market only:

EDR

This vehicle is equipped with an "Event Data Recorder" (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an air bag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating;
- Whether or not the driver and passenger safety belts were buckled/fastened;
- How far (if at all) the driver was depressing the accelerator and/or brake pedal; and,
- How fast the vehicle was traveling.

This data can help provide a better understanding of the circumstances in which crashes and injuries occur. NOTE: EDR data is recorded by your vehicle only if a non-trivial crash situation occurs; no data is recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) is recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

ASDR

This vehicle is equipped with an Active Safety Data Recorder (ASDR). This data recorder can record information related to the usage of the car, functional errors and active safety actuations (e.g. auto brake). The information saved is used by technicians for service and maintenance to diagnose and repair possible faults that has occurred in the vehicle and to fulfil certain legal requirements. The registered data can also, in congregated form, be used for research and product development purposes to continuously improve the safety and quality of Volvo Cars. For more information contact your local Volvo retailer.

Canadian market only:

EDR

This vehicle is equipped with an "Event Data Recorder" (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an air bag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating;
- Whether or not the driver and passenger safety belts were buckled/fastened;
- How far (if at all) the driver was depressing the accelerator and/or brake pedal; and,
- How fast the vehicle was traveling.

This data can help provide a better understanding of the circumstances in which crashes and injuries occur. NOTE: EDR data is recorded by your vehicle only if a non-trivial crash situation occurs; no data is recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) is recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

In addition to the EDR, the vehicle is equipped with a number of computers that continuously control and monitor the vehicle's performance. These computers may record data during normal driving conditions, particularly if they detect a fault relating to the vehicle's operation and functionality or upon activation of the vehicle's active driver support functions (e.g.City Safety or the auto-brake function).

Some of this recorded data is required by technicians performing service and maintenance in order to diagnose and rectify any faults that may have occurred in the vehicle. The recorded information is also needed to enable Volvo to fulfill legal and other regulatory requirements. Information registered in the vehicle is stored in its computers until the vehicle is serviced or repaired. In addition to the above, the recorded information may be used in aggregated form for research and product development purposes in order to continuously improve the safety and quality of Volvo vehicles.

Volvo will not provide this information to any third parties without the vehicle owner's consent. However, national legislation and regulations may require Volvo to disclose this type of information to law enforcement or other authorities that can claim a legal right to the information. Special technical equipment, which Volvo and workshops that have entered agreements with Volvo have access to, is required to read and interpret the recorded data. Volvo is responsible for ensuring that information provided to Volvo in conjunction with service and maintenance is stored and handled securely and in compliance with applicable legal requirements. For more information, please contact a Volvo retailer.

TCAM

Vehicles equipped with TCAM can collect data on the vehicle's safety functions as well as other functions in the vehicle. This data is collected for product development, quality follow-up, safety work and to improve and monitor the vehicle's quality and its safety functions. Data is also collected in order to manage Volvo Cars' warranty commitments.

2.12. Accessory installation

We strongly recommend that Volvo owners install only genuine, Volvo-approved accessories, and that accessory installations be performed only by a trained and qualified Volvo service technician. Certain functions only work when the associated software is installed in the vehicle's computer system.

- Genuine Volvo accessories are tested to ensure compatibility with the performance, safety, and emission systems in your vehicle. Additionally, a trained and qualified Volvo service technician knows where accessories may and may not be safely installed in your Volvo. In all cases, please consult a trained and qualified Volvo service technician before installing any accessory in or on your vehicle.
- Accessories that have not been approved by Volvo may or may not be specifically tested for compatibility with your vehicle.
- Any of your vehicle's performance and safety systems could be adversely affected if you install accessories that Volvo has not tested, or if you allow accessories to be installed by someone unfamiliar with your vehicle.
- Damage caused by unapproved or improperly installed accessories may not be covered by your new vehicle warranty. See your Warranty and Service Records Information booklet for more warranty information. Volvo assumes no responsibility for death, injury, or expenses that may result from the installation of non-genuine accessories.

2.13. Volvo Structural Parts Statement

Volvo is one of the leading companies for car safety.

Volvo engineers and manufactures vehicles designed to help protect vehicle occupants in the event of a collision.

Volvos are designed to absorb the impact of a collision. This energy absorption system including, but not limited to, structural components such as bumper reinforcement bars, bumper energy absorbers, frames, rails, fender aprons, A-pillars, B-pillars and body panels must work together to maintain cabin integrity and protect the vehicle occupants.

The supplemental restraint system including but not limited to air bags, side curtain air bags, and deployment sensors work together with the above components to provide proper timing for air bag deployment.

Due to the above, Volvo Car USA does not support the use of aftermarket, alternative or anything other than original Volvo parts for collision repair.

Volvo Car USA also recommends using Volvo-approved replacement glass. The use of aftermarket glass, particularly a windshield, can have an adverse effect on collision avoidance and advanced lighting systems.

In addition Volvo does not support the use or re-use of structural components from an existing vehicle that has been previously damaged. Although these parts may appear equivalent, it is difficult to tell if the parts have been previously replaced with non-OE parts or if the part has been damaged as a result of a prior collision. The quality of these used parts may also have been affected due to environmental exposure.

2.14. Contacting Volvo

Use the following contact information if you would like to get in touch with Volvo in the United States or Canada.

In the USA:

Volvo Car USA

1800 Volvo Place

Mahwah, NJ 07430

Attn: Volvo Consumer Relations Center

For faster delivery of your letter, send us a fax at 1-866-631-9059.

Phone: 1-800-458-1552

volvocars.com/us

Volvo Car Financial Services

P.O. Box 91300

Mobile, AL 36691-1300

Visit Volvo Car Financial Service for questions about your existing VCF contract.

In Canada:

Volvo Car Canada Ltd.

Customer Care Centre

9130 Leslie Street, Suite 101

Richmond Hill, Ontario L4B 0B9

1-800-663-8255

volvocars.com/ca

2.15. Important information on accessories and extra equipment

Incorrectly connected or installed accessories or extra equipment may have an adverse effect on the vehicle's electronics.

Volvo strongly recommends that Volvo owners install only genuine, Volvo-approved accessories, and that accessory installations be performed only by a trained and qualified Volvo service technician. Certain functions only work when the associated software is installed in the vehicle's computer system.

The equipment described in the Owner's Manual is not available in all vehicles. Vehicles may be equipped differently depending on market requirements and national or local laws and regulations.

Optional or accessory equipment may not be available in all countries or markets. Please note that some vehicles may be equipped differently, depending on special legal requirements. For more information on which equipment is standard and which is an option or accessory, please contact your Volvo retailer.

Note

Do not export your Volvo to another country before investigating that country's applicable safety requirements. In some cases it may be difficult or impossible to comply with these requirements.

Warning

CALIFORNIA proposition 65

Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer, and birth defects or other reproductive harm. In addition, certain fluids contained in vehicles and certain products of component wear contain or emit chemicals known to the State of California to cause cancer, and birth defects or other reproductive harm.

See www.P65Warnings.ca.gov/passenger-vehicle.

Warning

Certain components of this vehicle such as air bag modules, seat belt tensioners, adaptive steering columns, and button cell batteries may contain Perchlorate material. Special handling may apply for service or vehicle end of life disposal.

See www.dtsc.ca.gov/hazardouswaste/perchlorate.

Warning

The driver is always responsible for operating the vehicle in a safe manner and for complying with current statutes and regulations.

It is also essential to maintain and service the vehicle according to Volvo's recommendations as stated in the owner's information and the Warranty and Service Records Information booklet.

If the information in the center display differs from information in other sources, the information in the center display always takes precedence.

3. Safety

3.1. Seat belts

3.1.1. Seat belts

Seat belts should always be worn by all occupants in your vehicle. Children should be properly restrained using an infant seat, adjustable child seat or booster cushion as determined by age, weight and height.

Most states and provinces make it mandatory for occupants of a vehicle to use seat belts.

Seat belt maintenance

Check periodically that the seat belts are in good condition. Use water and a mild detergent for cleaning. Check the seat belt mechanism's function as follows: attach the seat belt and pull rapidly on the strap.

Warning

- Never repair the belt yourself. Repairs should only be performed by a trained and qualified Volvo service technician.
- Any device used to induce slack into the shoulder belt portion of the three-point belt system will have a detrimental effect on the amount of protection available in the event of a collision.
- The seat back should not be tilted too far back. The shoulder belt must be taut in order to function properly.
- Do not use any type of child restraint in the front passenger seat. We recommend that children who have outgrown these devices sit in the rear seat with the seat belt properly fastened.

3.1.2. Buckling and unbuckling seat belts

Make sure that all passengers have buckled their seat belts before starting to drive.

Buckling seat belts

1 Pull out the belt slowly and make sure it is not twisted or damaged.

Note

The seat belt is equipped with a seat belt retractor that will lock up in the following situations:

- if the belt is pulled out too quickly.
- during braking and acceleration.
- if the vehicle is leaning excessively.
- when driving in sharp turns.
- if the automatic locking retractor/emergency locking retractor (ALR/ELR) is activated. Each seat belt (except for the driver's) is equipped with an ALR function, which is designed to keep the seat belt taut when installing a child restraint. ALR is activated when the seat belt is pulled out as far as possible. If this is done, a sound from the seat belt retractor will be audible, which is normal. The seat belt can now only be fed into the retractor, not pulled out. This function is automatically disabled when the seat belt is unbuckled and fully retracted.

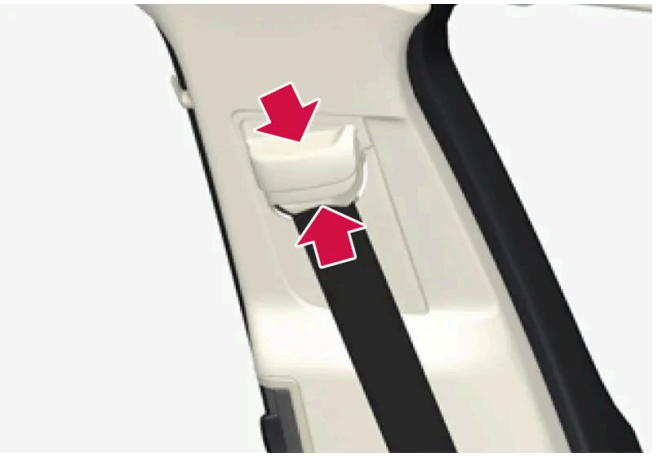
2 Buckle the seat belt by pushing the latch plate into the receptacle.

> A distinct "click" indicates that the belt is locked into place.

Warning

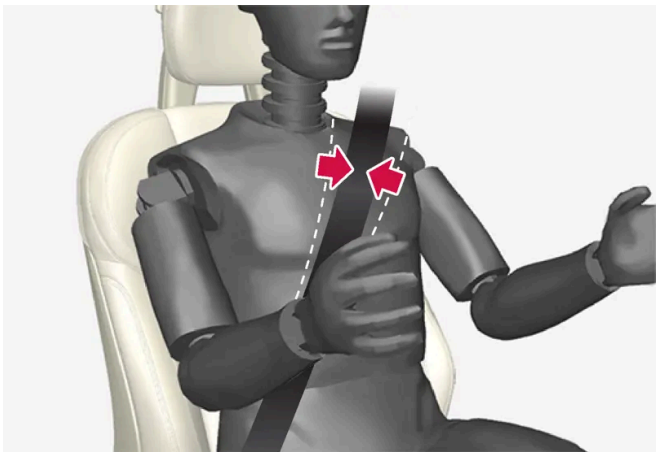
Always insert the seat belt latch plate into the belt buckle on the correct side. Failure to do so could cause the seat belts and belt buckles to malfunction in a collision. There is a risk of serious injury.

3 The height of the seat belts in the front seats can be adjusted.



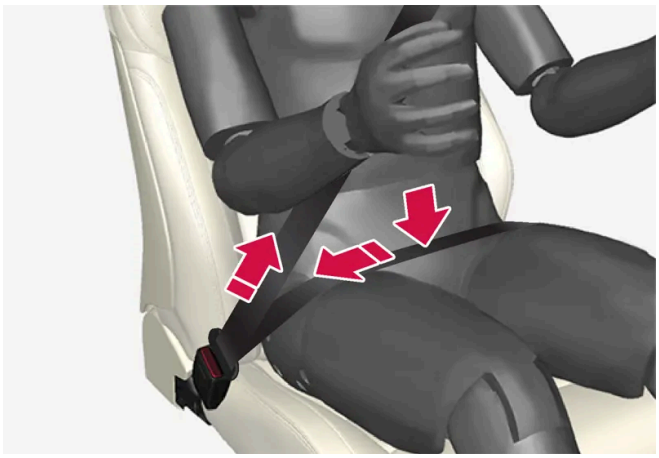
Press the button on the seat belt holder and move the belt up or down.

Position the belt as high as possible without it chafing against the neck.



The belt should be positioned closely over the shoulder (against the collarbone, not down over the arm).

4 Tighten the lap section of the seat belt over the hips by pulling the diagonal section upward toward the shoulder.



The lap section of the seat belt should be positioned low on the hips (not against the abdomen).

Warning

Never use a seat belt for more than one occupant. Never wear the shoulder portion of the belt under the arm, behind the back or otherwise out of position. Such use could cause injury in the event of an accident. As seat belts lose much of their strength when exposed to violent stretching, they should be replaced after any collision, even if they appear to be undamaged.

Warning

Do not use clips or fasten the belts around hooks or other parts of the interior. This will prevent the seat belt from fitting properly.

Warning

Never damage the seat belts and never insert any foreign objects into the belt buckle. This may cause the seat belts and belt buckles to malfunction in a collision. There is a risk of serious injury.

Unbuckling seat belts

1. Press the red button on the seat belt receptacle and make sure the seat belt retracts fully into the retractor slot.
2. If it does not fully retract, guide the belt manually into the slot and make sure it does not hang loose.

3.1.3. Seat belt tensioners

The vehicle is equipped with standard and electric* seat belt tensioners that can help tension the seat belt in a critical situation or collision.

Standard seat belt tensioners

The seat belts on the front seats and rear outboard seats are equipped with standard seat belt tensioners.

In a collision of sufficiently violent force, the seat belt tensioners will tension the seat belts in order to more effectively restrain the occupants.

Electric seat belt tensioners*

The driver's and front passenger's seat belts are equipped with electric seat belt tensioners.

The seat belt tensioners interact and can be activated in conjunction with the assistance during collision risks and Rear Collision Warning* driver support systems. In critical situations, such as if the vehicle brakes suddenly, begins to skid or runs off the road (e.g if the vehicle rolls into a ditch, lifts off the ground or hits an obstacle in the road), or if there is a risk of collision, the seat belts can be pulled taut by the seat belt tensioner's electric motor.

The electric seat belt tensioner helps to position the occupant more effectively in the seat, which reduces the risk of the occupant striking the interior of the passenger compartment and improves the effect of other safety systems such as the airbags.

When a critical situation has passed, the seat belt and the electric seat belt tensioner are reset automatically. However, they can also be reset manually.

> **Important**
>
> If the passenger airbag is deactivated, the passenger-side electric seat belt tensioner is also deactivated.

Warning

Never attempt to alter or repair the seat belt on your own. Volvo recommends contacting an authorized Volvo workshop.

If the seat belt has been exposed to extreme forces, e.g. in conjunction with a collision, the entire seat belt must be replaced. Even if the seat belt appears undamaged, some of its protective properties may have been lost. Also replace the seat belt if it is worn or damaged. The new seat belt must be type approved and intended for the same seating position as the replaced seat belt.

* Option/accessory.

3.1.4. Resetting the electric seat belt tensioners*

The electric seat belt tensioners are designed to be reset automatically, but if the seat belt remains taut it can be reset manually.

1. Stop the vehicle in a safe location.
2. Unbuckle the seat belt and then rebuckle it.

> The seat belt and the electric seat belt tensioner will be reset.

Warning

Never attempt to alter or repair the seat belt on your own. Volvo recommends contacting an authorized Volvo workshop.

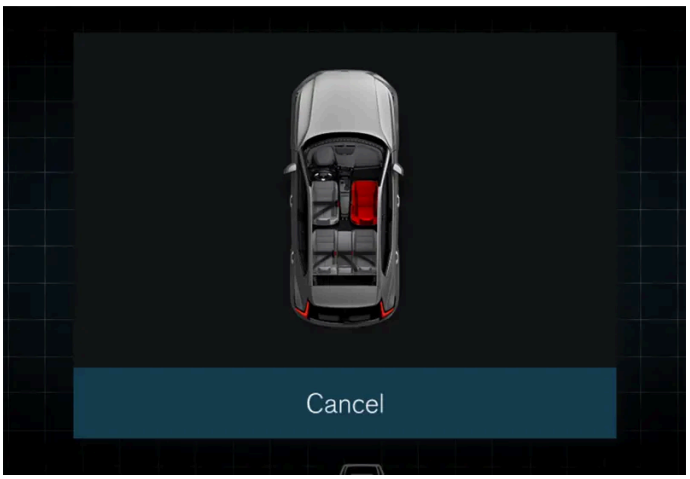
If the seat belt has been exposed to extreme forces, e.g. in conjunction with a collision, the entire seat belt must be replaced. Even if the seat belt appears undamaged, some of its protective properties may have been lost. Also replace the seat belt if it is worn or damaged. The new seat belt must be type approved and intended for the same seating position as the replaced seat belt.

* Option/accessory.

3.1.5. Door and seat belt reminders

This system is intended to remind occupants to buckle their seat belts and to alert the driver if a door, hood or other opening (trunk, sunroof, etc.) is open.

Information in the instrument panel



Graphic in the instrument panel.

Graphics in the instrument panel show the status of the seat belts, hood, tailgate and doors.

Confirm the graphic by briefly pressing the O button on the right-side steering wheel keypad.

As soon as the graphic is acknowledged, or after a short period of time if the graphic is not acknowledged, it may switch to a smaller format and be shown at the top of the instrument panel instead.

Seat belt reminder

Reminder light in overhead console.

A seat belt reminder light illuminates in the overhead console and a warning symbol is displayed in the instrument panel.

The type of visible reminder (steady or flashing) and audible reminder (different signals) provided depends on the speed of the vehicle as well as driving time and distance driven.

> **Note**
>
> The child seat's integrated seat belt is not covered by the seat belt reminder system.

Reminders or information through graphics are provided in different ways depending on the location of the seat belt.

The following is provided for the front seat:

- reminder when the driver or a passenger is not using their seat belt while driving
- reminder when a seat belt is removed while driving
- information on which seat belts are being used or not used.

The following is provided for the rear seat:

- reminder when a seat belt is removed while driving
- information on which seat belts are being used or not used.

Door, hood and tailgate reminders

If the hood, tailgate or any door is not properly closed, this will be indicated by a graphic in the instrument panel. Stop the vehicle safely and close the open door, hood, etc.

3.2. Airbags

3.2.1. Airbags

The vehicle is equipped with a number of different airbags to help protect the driver and passengers.

> **Warning**
>
> - If the airbag warning light stays on after the engine has started or if it illuminates while you are driving, have the vehicle inspected by a trained and qualified Volvo service technician as soon as possible.
> - Never attempt to alter or repair any of the vehicle's safety systems yourself. Incorrectly performed repairs to any system could impair function and lead to serious injury. All work on these systems should be performed by a trained and qualified Volvo service technician.

> **Warning**
>
> If your vehicle has become water-damaged in any way (e.g., soaked floor mats/standing water on the floor of the vehicle), do not attempt to start the engine. This may cause airbag deployment, which could result in serious injury. Volvo recommends towing the vehicle directly to an authorized Volvo workshop.
>
> Before attempting to tow the vehicle:
>
> 1. Switch off the ignition for at least 10 minutes and disconnect the battery.
> 2. Follow the instructions for manually overriding the shiftlock system.

Deployed airbags

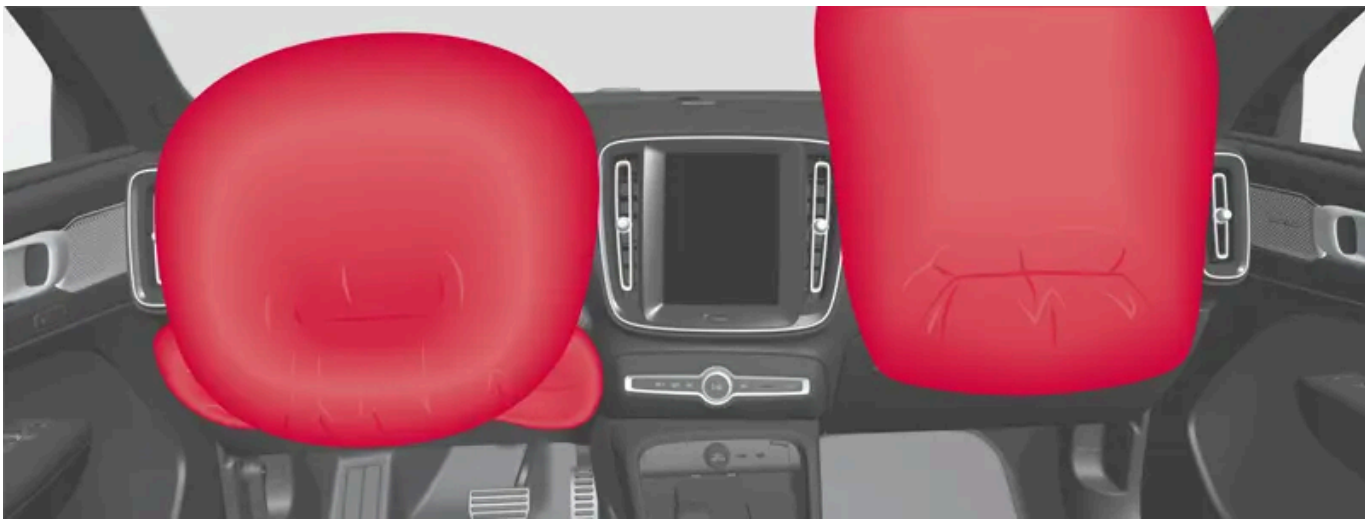
Warning

If any of the airbags have deployed:

- Do not attempt to drive the vehicle. Have it towed to an authorized workshop.
- If necessary, seek medical attention.

3.2.2. Driver/passenger side front airbags

As a supplement to the seat belts, the vehicle is equipped with driver and passenger side front airbags.



Driver/passenger side front airbags.

In a frontal collision, the airbags help protect the driver's and passenger's head, neck, face and chest and the driver's knees and legs.

A collision of a sufficiently violent force will trigger the sensors and one or more airbags will inflate. The airbag helps cushion the initial impact of the collision for the passenger. The airbag deflates when compressed by the collision. A small amount of powder will also be released from the airbag. This may appear to be smoke and is normal. The entire process, from inflation to deflation of the airbag, occurs within tenths of a second.

Note

The sensors react differently depending on the circumstances of the accident and whether or not the seat belt is used. This applies to all belt positions.

There may therefore be accident situations in which only one (or none) of the airbags are deployed. The sensors monitor the impact of the collision and react accordingly to deploy one, several or no airbags.

Warning

The seat belt and the airbag work together. If the seat belt is not used or is used incorrectly, the airbag may not provide the intended protection in a collision.

To help prevent injury in the event the airbag is deployed, passengers should sit as upright as possible, with their feet on the floor and their backs against the seat backrest.

Warning

Volvo recommends contacting an authorized Volvo workshop for repairs. Incorrectly performed repairs to the airbag system could impair function and lead to serious injury.

The front airbag system

The front airbag system includes gas generators surrounded by the airbags, and deceleration sensors that activate the gas generators, causing the airbags to be inflated with nitrogen gas.

As the movement of the seats' occupants compresses the airbags, some of the gas is expelled at a controlled rate to provide better cushioning. The belt tensioners minimize slack in the seat belts and are activated for occupants wearing their seat belts. The entire process, from inflation to deflation of the airbag, occurs within tenths of a second.

The location of the front airbags is indicated by the AIRBAG marking on the steering wheel pad and above the glove compartment, and by decals on both sun visors and on the front and far right side of the dashboard.

The **driver's side front airbag** is folded and located in the steering wheel hub.

The **knee airbag** is folded on the underside of the dashboard on the driver's side. AIRBAG is embossed on the panel.

The **passenger's side front airbag** is folded behind a panel located above the glove compartment.

Warning

- The airbags in the vehicle are designed to be a SUPPLEMENT to-not a replacement for-the three-point seat belts. For maximum protection, wear seat belts at all times. Be aware that no system can prevent all possible injuries that may occur in an accident.
- Never drive with your hands on the steering wheel pad/airbag housing.
- The front airbags are designed to help prevent serious injury. Deployment occurs very quickly and with considerable force. During normal deployment and depending on variables such as seating position, one may experience abrasions, bruises, swellings, or other injuries as a result of deployment of one or both of the airbags.
- When installing any accessory equipment, make sure that the front airbag system is not damaged. Any interference in the system could cause malfunction.

Front airbag deployment

- The front airbags are designed to deploy during certain frontal or front-angular collisions, impacts, or decelerations, depending on the crash severity, angle, speed and object impacted. The airbags may also deploy in certain non-frontal collisions where rapid deceleration occurs.

- The airbag system's sensors, which trigger the front airbags, are designed to determine if the collision is powerful enough to activate the belt tensioners and/or the airbags.

However, not all frontal collisions activate the front airbags.

- If the collision involves a nonrigid object (e.g., a snow drift or bush), or a rigid, fixed object at a low speed, the front airbags will not necessarily deploy.
- Front airbags do not normally deploy in a side impact collision, in a collision from the rear or in a rollover situation.
- The amount of damage to the bodywork does not reliably indicate if the airbags should have deployed or not.

Note

- The front airbags and seat belt tensioners may be activated in a collision. The airbags are only activated one time during an accident. Some noise occurs and a small amount of powder is released. The release of the powder may appear as smoke-like matter. This is a normal characteristic and does not indicate fire.
- Volvo's front airbags use special sensors that are integrated with the front seat buckles. The point at which the airbag deploys is determined by whether or not the seat belt is being used, as well as the severity of the collision.
- Collisions can occur where only one of the airbags deploys. If the impact is less severe, but severe enough to present a clear injury risk, the airbags are triggered at partial capacity. If the impact is more severe, the airbags are triggered at full capacity.

Warning

- Do not use child safety seats or child booster cushions/backrests in the front passenger's seat. Volvo follows NHTSA's recommendations and recommends that ALL children up to and including 12 years of age sit in the rear seat. This is very strongly recommended for children in rear-facing child seats. See also the Occupant Classification System information.
- Never drive with the airbags deployed. The fact that they hang out can impair the steering of your vehicle. Other safety systems can also be damaged.
- The smoke and dust formed when the airbags are deployed can cause skin and eye irritation in the event of prolonged exposure.

Should you have questions about any component in the SRS system, please contact a trained and qualified Volvo service technician or Volvo customer support:

In the United States

Volvo Car USA, LLC

Customer Care Center

1800 Volvo Place

Mahwah, New Jersey 07430

1-800-458-1552

www.volvocars.com/us

In Canada

Volvo Car Canada Ltd.

Customer Care Centre

9130 Leslie Street, Suite 101

Richmond Hill, Ontario L4B 0B9

1-800-663-8255

www.volvocars.com/ca

Airbag decals

Airbag decal on the outside of both sun visors.

Passenger's side airbag decal.

Warning

- Children must never be allowed in the front passenger's seat.
- Occupants in the front passenger's seat must never sit on the edge of the seat, sit leaning toward the instrument panel or otherwise sit out of position.
- The occupant's back must be as upright as comfort allows and be against the seat back with the seat belt properly fastened.
- Feet must be on the floor, e.g., not on the dash, seat or out of the window.

Warning

- No objects or accessory equipment, e.g. dashboard covers, may be placed on, attached to, or installed near the air bag cover (the area above the glove compartment) or the area affected by airbag deployment.
- There should be no loose articles, such as coffee cups on the floor, seat, or dashboard area.
- Never try to open the airbag cover on the steering wheel or the passenger's side dashboard. This should only be done by a trained and qualified Volvo service technician.
- Failure to follow these instructions can result in injury to the vehicle's occupants.

3.2.3. Occupant Classification System

The Occupant Classification System (OCS) is designed to meet the regulatory requirements of Federal Motor Vehicle Safety Standard (FMVSS) 208 and is designed to disable (will not inflate) the passenger's side front airbag under certain conditions.

OCS indicator light.

The front passenger-side airbag is either enabled or disabled depending on the classification of the passenger in the front passenger seat.

Volvo follows NHTSA's recommendations and recommends that ALL children up to and including 12 years of age sit in the rear seat and are restrained in a suitable manner appropriate to their height and weight. This is strongly recommended for children in rear-facing child seats.

Classification of passengers in front passenger seat	OCS indicator light status	Passenger's side front airbag status
The passenger is classified as an adult.	OCS indicator light is not lit.	Enabled
The passenger is classified as a small child in a front-facing child seat.	The OCS indicator light is lit or not lit depending on several parameters that determine the most suitable status.	Enabled or disabled depending on several parameters that determine the most suitable status.
The passenger is classified as a small child in a rear-facing child seat.	OCS indicator light is lit.	Disabled
The passenger seat is empty.	OCS indicator light is lit.	Disabled

Occupant Classification System function

OCS works in combination with sensors in the front passenger seat. The sensors are intended to detect the presence, and classification of, an occupant sitting correctly and determine whether the front passenger airbag should be enabled (able to be deployed) or disabled (cannot be deployed).

The OCS uses an indicator light with the text **PASSENGER AIRBAG OFF**, which will illuminate and stay on to remind you that the passenger's side front airbag is disabled. The **PASSENGER AIRBAG OFF** indicator light is located in the overhead console near the bracket for the rearview mirror.

Always pay attention that the status of the indicator light shows the correct classification both before and while driving when the front passenger seat is occupied.

Note

When the ignition is switched on, the OCS indicator light will illuminate for several seconds while the system performs a self-diagnostic test. The indicator light will then go out or remain illuminated, depending on the classification of the passenger in the front passenger seat.

If a malfunction is detected in the system, the OCS indicator light will remain illuminated and the SRS warning symbol will be shown in the instrument panel along with a text message.

Warning

If a fault in the system is detected and indicated as described, be aware that the passenger's side front airbag will not deploy in the event of a collision. If this occurs, have the airbag system and Occupant Classification System checked by a workshop as soon as possible. Volvo recommends contacting an authorized Volvo workshop.

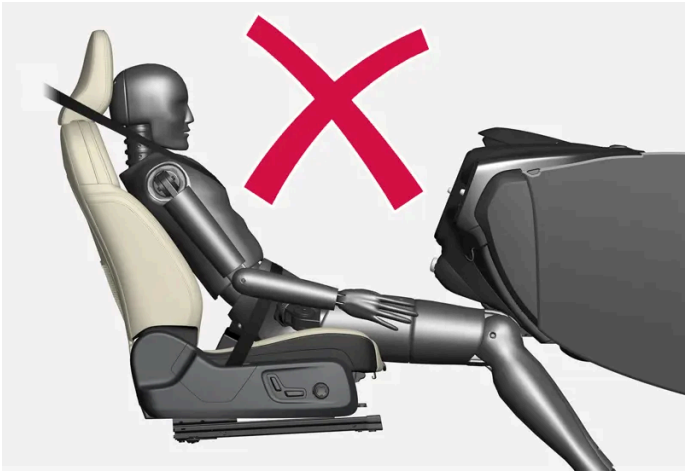
Classification of adult

To help ensure accurate classification when a person of adult size is sitting in the front passenger seat, the passenger must:

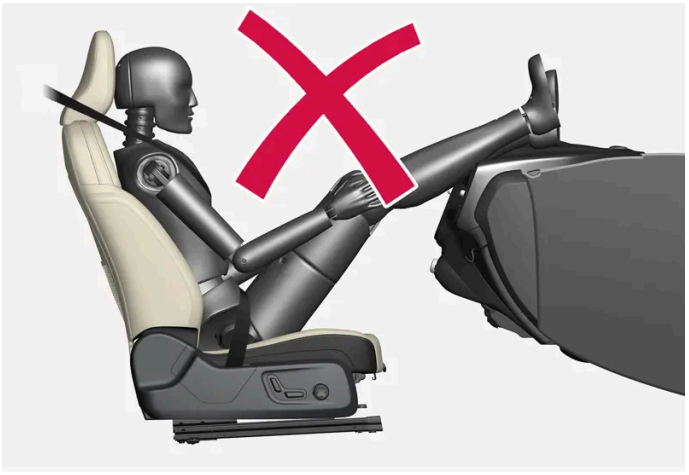
- be wearing their seat belt
- sit normally in the seat, in the center of the seat cushion
- sit upright in the seat with their shoulders against the backrest

- have their legs comfortably extended with their feet on the floor.

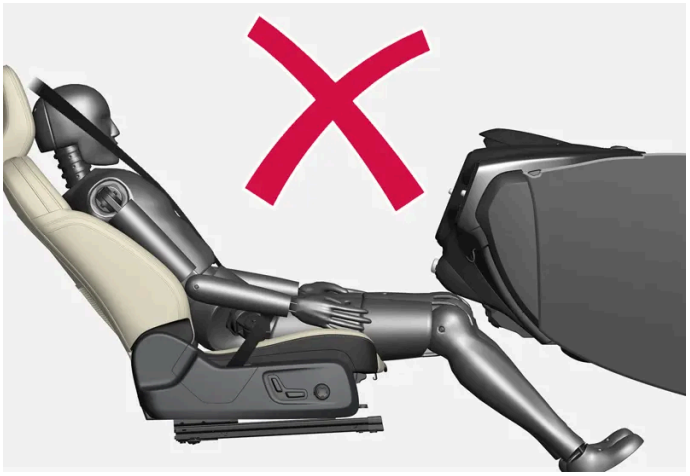
Correct seating position.



Example of incorrect seating position – the passenger must not have slid forward on the seat cushion.



Example of incorrect seating position – the passenger must be seated with their feet on the floor.



Example of incorrect seating position – the passenger must not fold the backrest to a lying position.

Remember the following when an adult sits in the front passenger seat:

- The passenger must never get up from the seat cushion using the armrest in the door or center console, by pushing their feet against the floor or by pushing against the backrest.
- The passenger must never sit on the side of the seat cushion, slide forward on the seat cushion or fold the backrest to a lying position.
- The passenger must never wear wet or thick clothing, e.g. ski wear or padded garments.
- Never place any objects between the passenger and the seat cushion, e.g. pillows, heating blankets or ordinary blankets, seat liners or mats.
- Never place a radio transmitter (e.g. hunting radio or walkie-talkie) or device that is being charged (e.g. cellular phone, tablet or computer) on or under the seat cushion. Never let anyone sitting on the passenger seat use a radio transmitter or device that is being charged.

> **Warning**
>
> Failure to follow the above instructions could adversely affect the Occupant Classification System functions and result in death or serious injury.

If a person of adult size is sitting in the front passenger's seat, but the OCS indicator lamp is on, it is possible that the person isn't sitting properly in the seat.

If this occurs, turn off the vehicle and ask the person to follow the above instructions for accurate classification. Restart the vehicle and have the person remain in this position for about two minutes. This will allow the system to detect that person and enable the passenger's frontal airbag.

If the OCS indicator lamp remains on even after this, the person should be advised to ride in the rear seat.

This may indicate restrictions in the OCS classification ability, e.g. that the person is too light to be classified as an adult. It does not need to indicate an OCS error.

Classification of child

Volvo follows NHTSA's recommendations and recommends that ALL children up to and including 12 years of age sit in the rear seat. This is strongly recommended for children in rear-facing child seats.

If a child in a child restraint is placed in the front passenger seat, the child restraint must be installed according to the manufacturer's instructions to help ensure accurate classification.

Remember the following if a child in a child seat sits in the front passenger seat:

- Never place any items or accessories on the passenger seat, between the child seat and the seat cushion or near to the seat cushion.
- Never place a radio transmitter (e.g. hunting radio or walkie-talkie) or device that is being charged (e.g. cellular phone, tablet or computer) on the seat cushion. Never let anyone sitting on the passenger seat use a radio transmitter or device that is being charged.
- Never place wet clothing or fluids on the passenger seat.
- Always correctly position the child seat so that the entire lower section of the child seat rests against the seat cushion.
- Always place a front-facing child seat as far back as possible against the seat back.

> **Warning**
>
> Failure to follow the above instructions could adversely affect the Occupant Classification System functions and result in death or serious injury.

Modifications

If you are considering modifying your vehicle in any way to accommodate a disability, for example by altering or adapting the driver's or front passenger's seat(s) and/or airbag systems, please contact Volvo at:

In the United States

Volvo Car USA, LLC

Customer Care Center

1800 Volvo Place

Mahwah, New Jersey 07430

1-800-458-1552

In Canada

Volvo Car Canada Ltd.

Customer Care Centre

9130 Leslie Street, Suite 101

Richmond Hill, Ontario L4B 0B9

1-800-663-8255

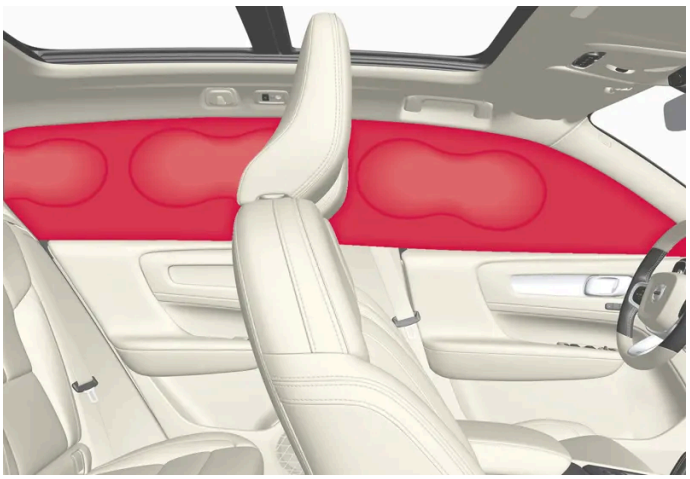
Warning

Never attempt to open, remove or repair any components in the OCS system. Volvo recommends contacting an authorized Volvo workshop. Incorrectly performed repairs to the OCS system could impair function and lead to serious injury.

The front passenger's seat should not be modified in any way. This could affect the function of the OCS system.

3.2.4. Inflatable curtain

The inflatable curtain, Inflatable Curtain (IC), helps to prevent the driver and passengers from striking their heads on the inside of the vehicle during a collision.



The inflatable curtains are installed along both sides of the inside of the roof and help protect occupants in the vehicle's outer seats. IC AIRBAG is embossed on the panels.

A collision of a sufficiently violent force will trigger the sensors and the inflatable curtain will inflate.

Warning

Volvo recommends contacting an authorized Volvo workshop for repair. Incorrectly performed repairs to the inflatable curtain system could impair function and lead to serious injury.

Warning

Never hang or attach heavy objects in the handle in the ceiling bracket. The hooks are only intended for lightweight garments (not for hard objects such as umbrellas).

Never screw or mount anything to the vehicle's headliner, door pillars or side panels. This could impair the intended protective properties. Volvo recommends only using Volvo original parts that are approved for placement in these areas.

Warning

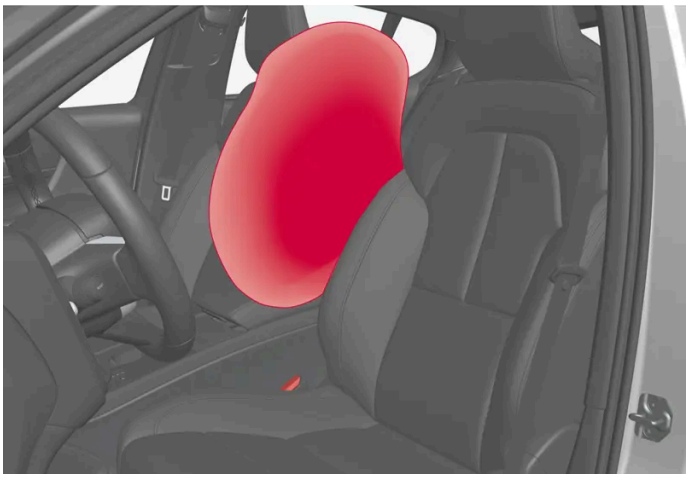
If objects are loaded higher than the upper edge of the side windows, leave a 10 cm (4 in.) space between the objects and the window. Objects placed closer to this could impede the function of the inflatable curtain concealed inside the headlining.

Warning

The inflatable curtain is a supplement to the seat belt. Always wear your seat belt.

3.2.5. Far-side airbags

The far-side airbags on the driver's and passenger sides protect the head, chest and hips in a collision.



The far-side airbags are located in the front seats' inner backrest frames and help protect the driver and front-seat passenger. AIRBAG is embossed on the seat.

A collision of a sufficiently violent force will trigger the sensors and the far-side airbag will inflate. The side airbags inflate between the seat occupant and the tunnel console to help cushion the initial impact of the collision. The far-side airbag normally only inflates for the seat on the opposite side of the impact side.

Warning

Volvo recommends contacting an authorized Volvo workshop for repairs. Incorrectly performed repairs to the side airbag system could impair function and lead to serious injury.

Warning

Do not place any objects in the area between the inner edges of the seats and the tunnel console, as this could impair the function of the side airbags.

Volvo recommends only using seat covers approved by Volvo. Other seat covers could prevent the side airbags from functioning properly.

Warning

The side airbag is a supplement to the seat belt. Always wear your seat belt.

3.2.6. Near-side airbags

The near-side airbags on the driver's and passenger sides protect the chest and hips in a collision.

The near-side airbags are located in the front seats' outer backrest frames and help protect the driver and front-seat passenger.

A collision of a sufficiently violent force will trigger the sensors and the near-side airbag will inflate. The side airbags inflate between the seat occupant and the door panel to help cushion the initial impact of the collision. The airbag deflates when compressed by the collision. The near-side airbag normally only inflates on the side of the vehicle impacted by the collision.

Warning

Volvo recommends contacting an authorized Volvo workshop for repairs. Incorrectly performed repairs to the side airbag system could impair function and lead to serious injury.

Warning

Do not place any objects in the area between the outer edges of the seats and the door panels, as this could impair the function of the side airbags.

Volvo recommends only using seat covers approved by Volvo. Other seat covers could prevent the side airbags from functioning properly.

Warning

The side airbag is a supplement to the seat belt. Always wear your seat belt.

3.3. Child safety

3.3.1. Attachment points for child seats

3.3.1.1. Lower child seat attachment points

The rear seats are equipped with lower child seat attachment points.

The lower child seat attachment points are intended for use with certain rear-facing child restraints.

Always follow the manufacturer's installation instructions when attaching a child seat to the lower child seat attachment points.

Location of child seat attachment points

Location of child seat attachment points in the rear seat.

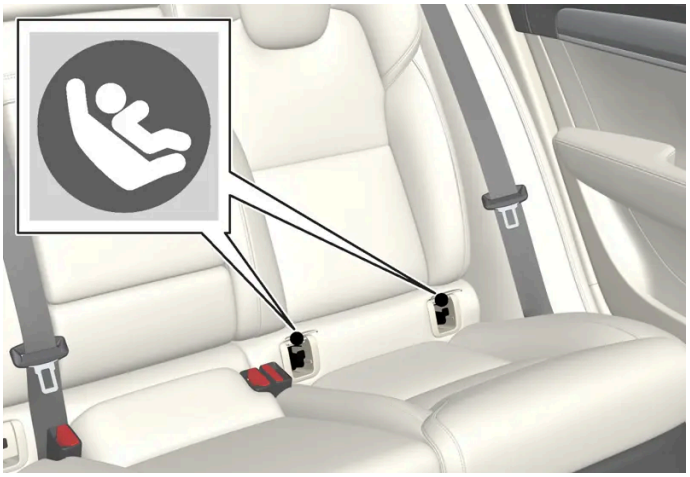
The child seat attachment points in the rear seat are located on the rear section of the front seat floor rails.

> **Note**
>
> Never store loose items around the support legs of a child seat. Make sure that the child seat's loose parts (straps, for example) are secured in accordance with the child seat's installation instructions.

3.3.1.2. ISOFIX/LATCH lower anchors

The lower anchors for ISOFIX/LATCH-equipped child seats are located in the rear outer seats, behind covers in the lower section of the backrest.

Using the ISOFIX/LATCH lower child seat anchors



Location of the ISOFIX/LATCH anchors

Symbols on the covers mark the ISOFIX/LATCH anchor positions, as shown in the illustration. The anchors are located behind covers between the backrest and the seat cushion. Always follow your child seat manufacturer's installation instructions, and use both ISOFIX/LATCH lower anchors and top tethers whenever possible.

To access the anchors

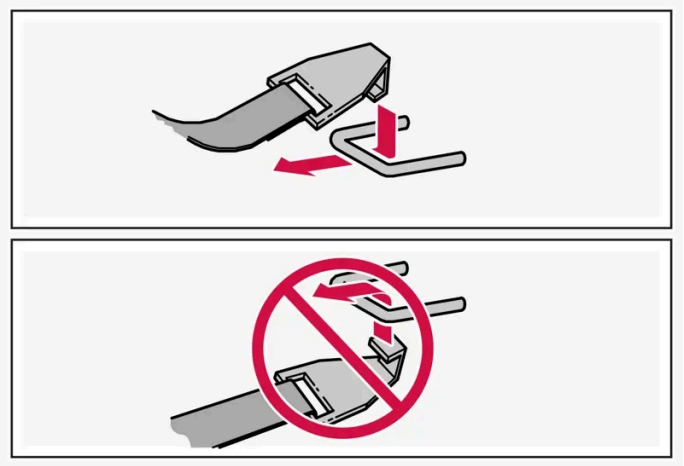
1. Put the child restraint in position.
2. Open the covers to access the anchors.
3. Fasten the attachment on the child restraint's lower straps to the ISOFIX/LATCH lower anchors.
4. Firmly tension the lower child seat straps according to the manufacturer's instructions.

Warning

Volvo's ISOFIX/LATCH anchors conform to FMVSS/CMVSS standards. Always refer to the child restraint system's manual for weight and size ratings.

Note

- The rear center seat is not equipped with ISOFIX/LATCH lower tether anchors. If a child restraint is used in this seat, attach the restraint's upper anchor strap (if equipped with these) to the top tether anchor point for this strap and secure the child restraint with the vehicle's center seat belt.
- Always follow your child seat manufacturer's installation instructions, and use both ISOFIX/LATCH lower anchors and top tethers whenever possible.



Fasten the attachment correctly to the ISOFIX/LATCH lower anchors

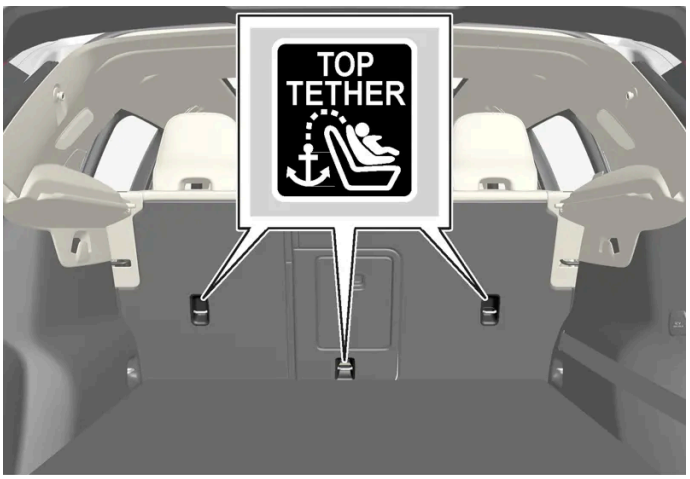
Warning

- Be sure to fasten the attachment correctly to the anchor (see the illustration). If the attachment is not correctly fastened, the child restraint may not be properly secured in the event of a collision.
- The ISOFIX/LATCH lower child restraint anchors are only intended for use with child seats positioned in the outboard seating positions. These anchors are not certified for use with any child restraint that is positioned in the center seating position. When securing a child restraint in the center seating position, use only the vehicle's center seat belt.

3.3.1.3. Top tether anchors

Your Volvo is equipped with child restraint top tether anchorages for all three seating positions in the rear seat. They are located on the rear side of the backrests.

Child restraint anchorages



Top tether anchors and symbols on the rear side of the rear seat backrests.

Securing a child seat

1. Place the child restraint on the rear seat.
2. Route the top tether strap under the head restraint and attach it to the anchor.
3. Attach the strap for the lower tether anchors in the lower ISOFIX/LATCH attachment points. If the child restraint is not equipped with straps for the lower tether anchors, or if the child restraint is used on the center seating position, follow the instructions for attaching a child restraint using the automatic locking seat belt.
4. Firmly tension all straps.

Refer also to the child seat manufacturer's instructions for information on securing the child seat.

> **Note**
>
> The parcel shelf must be removed before a child seat can be attached in the tether anchors.

Warning

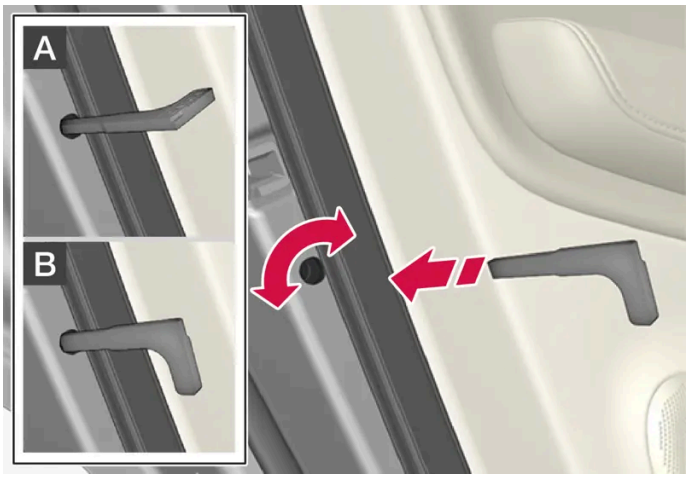
- Always refer to the recommendations made by the child restraint manufacturer.
- Volvo recommends that the top tether anchors be used when installing a forward-facing child restraint with upper tether straps.
- Never route a top tether strap over the top of the head restraint. The strap should be routed beneath the head restraint.
- Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses. The anchorages are not able to withstand excessive forces on them in the event of collision if full harness seat belts or adult seat belts are installed to them. An adult who uses a belt anchored in a child restraint anchorage runs a great risk of suffering severe injuries should a collision occur.
- Do not install rear speakers that require the removal of the top tether anchors or interfere with the proper use of the top tether strap.

3.3.2. Activating and deactivating child locks

The child locks help prevent the rear doors from being able to be opened from the inside. With the electric child lock, the power windows are also prevented from being operated from the rear seat.

The child lock can be either manual or electric*.

Manual child lock



Manual child lock. This is not the manual door lock.

1 Use the detachable key blade in the key to turn the control.

A The door cannot be opened from the inside.

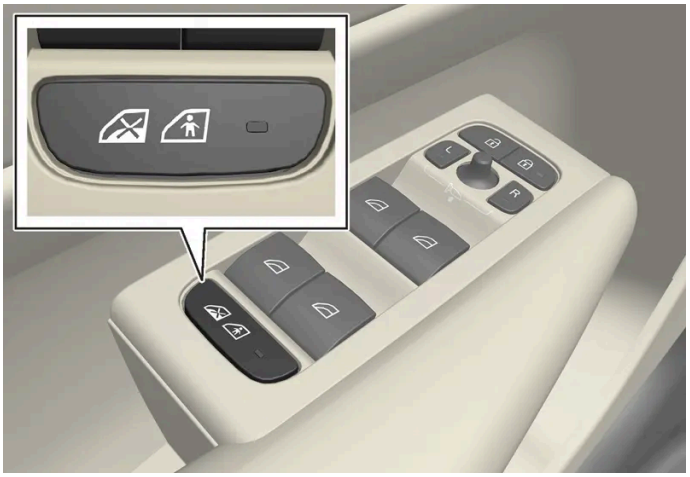
B The door can be opened from both the outside and the inside.

Note

- The door's knob control only locks that specific door, not both rear doors simultaneously.
- There are no manual child locks on models equipped with electric child locks.

Electric child lock*

The electric child lock can be activated and deactivated in any ignition mode higher than **0**. The lock can be activated and deactivated up to 2 minutes after the ignition is turned off if no door has been opened.



Button for activation and deactivation.

Rear child lock activated

When the indicator light in the button is lit, the child lock is activated.

If the child lock is activated when the vehicle is switched off, it will remain activated the next time the vehicle is started.

- Rear doors cannot be opened from the inside.
- Rear power windows can only be operated from the driver's door.

Rear child lock deactivated

When the indicator light in the button is not lit, the child lock is deactivated.

- Rear doors can be opened from the inside and power windows can be operated from the rear seat.

Symbols and messages

Symbol	Message	Meaning
	Rear child lock activated	The child lock is activated.
	Rear child lock deactivated	The child lock is deactivated.

* Option/accessory.

3.3.3. Child safety

Children should always be seated safely when traveling in the vehicle.

General information

Volvo recommends the proper use of restraint systems for all occupants including children. Remember that, regardless of age and size, a child should always be properly restrained in a vehicle.

Your vehicle is also equipped with ISOFIX/LATCH attachments, which make it more convenient to install child seats.

Some restraint systems for children are designed to be secured in the vehicle by lap belts or the lap portion of a lap-shoulder belt. Such child restraint systems can help protect children in vehicles in the event of an accident only if they are used properly. However, children could be endangered in a crash if the child restraints are not properly secured in the vehicle. Failure to follow the installation instructions for your child restraint can result in your child striking the vehicle's interior in a sudden stop.

Holding a child in your arms is NOT a suitable substitute for a child restraint system. In an accident, a child held in a person's arms can be crushed between the vehicle's interior and an unrestrained person. The child could also be injured by striking the interior, or by being ejected from the vehicle during a sudden maneuver or impact. The same can also happen if the infant or child rides unrestrained on the seat. Other occupants should also be properly restrained to help reduce the chance of injuring or increasing the injury of a child.

All states and provinces have legislation governing how and where children should be carried in a vehicle. Find out the regulations existing in your state or province. Recent accident statistics have shown that children are safer in rear seating positions than front seating positions when properly restrained. A child restraint system can help protect a child in a vehicle. Here's what to look for when selecting a child restraint system:

It should have a label certifying that it meets applicable Federal Motor Vehicle Safety Standards (FMVSS 213) - or in Canada, CMVSS 213.

Make sure the child restraint system is approved for the child's height, weight and development - the label required by the standard or regulation, or instructions for infant restraints, typically provide this information.

In using any child restraint system, we urge you to carefully look over the instructions that are provided with the restraint. Be sure you understand them and can use the device properly and safely in this vehicle. A misused child restraint system can result in increased injuries for both the infant or child and other occupants in the vehicle.

When a child has outgrown the child safety seat, you should use the rear seat with the standard seat belt fastened. The best way to help protect the child here is to place the child on a cushion so that the seat belt is properly located on the hips. Legislation in your state or province may mandate the use of a child seat or cushion in combination with the seat belt, depending on the child's age and/or size. Please check local regulations.

A specially designed and tested booster cushion and backrest can be obtained from your Volvo retailer. See also the article "Integrated booster cushion."

Warning

- Do not use child safety seats or child booster cushions/backrests in the front passenger's seat. Volvo follows NHTSA's recommendations and recommends that ALL children up to and including 12 years of age sit in the rear seat. This is very strongly recommended for children in rear-facing child seats.
- On hot days, the temperature in the vehicle interior can rise very quickly. Exposure to these high temperatures for even a short period of time can cause heat-related injury or death. Small children are particularly at risk. Never leave children unattended in a vehicle.

Child seats should always be registered with the child seat manufacturer.

Volvo's recommendations

Why does Volvo believe that no child should sit in the front seat of a vehicle? It's quite simple really. A front airbag is a very powerful device designed, by law, to help protect an adult.

Because of the size of the airbag and its speed of inflation, a child should never be placed in the front seat, even if he or she is properly belted or strapped into a child safety seat. Volvo has been an innovator in the field of safety since it was founded. And we have no intention of resting on our laurels. But we need your help. Please remember to put your children in the back seat, and buckle them up.

Warning

A child restraint should never be reused if:

- The vehicle has been involved in a collision, no matter how minor
- Its history is unknown
- It is older than the manufacturer's expiration date

Volvo has some very specific recommendations

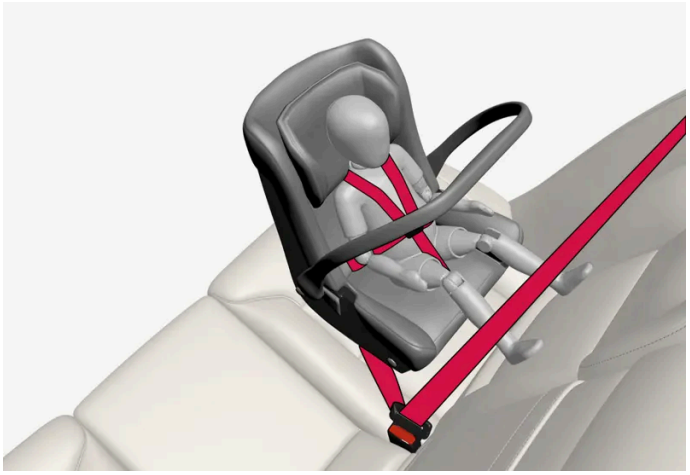
- Always wear your seat belt.

- Airbags are a SUPPLEMENTAL safety device which, when used with a three-point seat belt can help reduce serious injuries during certain types of accidents. Volvo recommends that you do not disconnect the airbag system in your vehicle.
- Volvo strongly recommends that everyone in the vehicle be properly restrained.
- Volvo follows NHTSA's recommendations and recommends that ALL children up to and including 12 years of age sit in the rear seat. This is strongly recommended for children in rear-facing child seats.
- Drive safely!

3.3.4. Child restraints

Suitable child restraints should always be used when children travel in the vehicle.

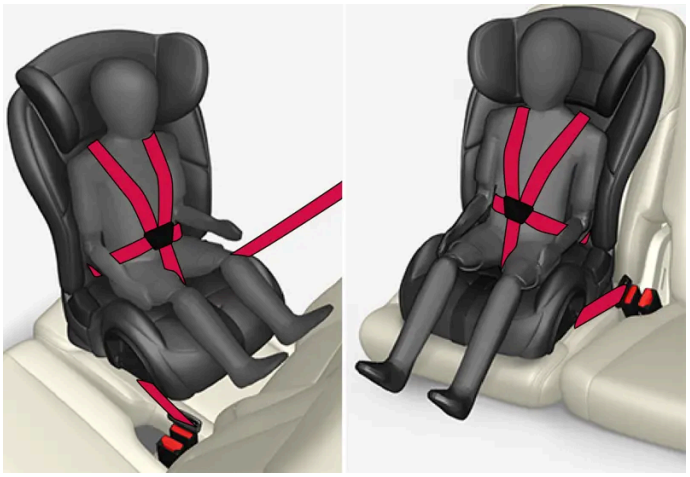
Child restraint systems



Infant seat

There are three main types of child restraint systems: infant seats, convertible seats and booster cushions. They are classified according to the child's age and size.

The child restraint should be secured using a three-point seat belt, ISOFIX/LATCH anchors or top tether anchors.



Convertible seat

Warning

A child seat should never be used in the front passenger seat of any vehicle with a front passenger airbag - not even if the "Passenger airbag off" symbol near the rear-view mirror is illuminated. If the severity of an accident were to cause the airbag to inflate, this could lead to serious injury or death to a child seated in this position.

Booster cushion

Warning

Always refer to the child restraint manufacturer's instructions for detailed information on securing the restraint.

Warning

- When not in use, keep the child restraint system secured or remove it from the passenger compartment to help prevent it from injuring passengers in the event of a sudden stop or collision.
- A small child's head represents a considerable part of its total weight and its neck is still very weak. Volvo recommends that children up to age 4 travel, properly restrained, facing rearward. In addition, Volvo recommends that children should ride rearward facing, properly restrained, as long as possible.

Note

For child seats in which the child uses one of the vehicle's integrated seat belts, read the Owner's Manual's seat belt recommendations.

Note

Use caution when installing child seats to ensure that sharp edges or protruding parts on the child seat do not damage the vehicle's interior.

Long-term installation and use of child seats could damage the vehicle's interior. Volvo recommends using the kick guard accessory to help protect the vehicle's interior.

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.

Automatic Locking Retractor/Emergency Locking Retractor (ALR/ELR)

To make child seat installation easier, each seat belt (except for the driver's belt) is equipped with a locking mechanism to help keep the seat belt taut.

When attaching the seat belt to a child seat:

1. Position the child seat and secure it using the seat belt according to the manufacturer's instructions.
2. Pull the seat belt out as far as possible.
3. Insert the seat belt latch plate into the buckle (lock) in the usual way.
4. Release the seat belt and pull it taut around the child seat.

A sound from the seat belt retractor will be audible at this time and is normal. The belt will now be locked in place. This function is automatically disabled when the seat belt is unlocked and the belt is fully retracted.

> **Warning**
>
> Do not use child safety seats or child booster cushions/backrests in the front passenger's seat. We also recommend that children who have outgrown these devices sit in the rear seat with the seat belt properly fastened.

Child restraint registration and recalls

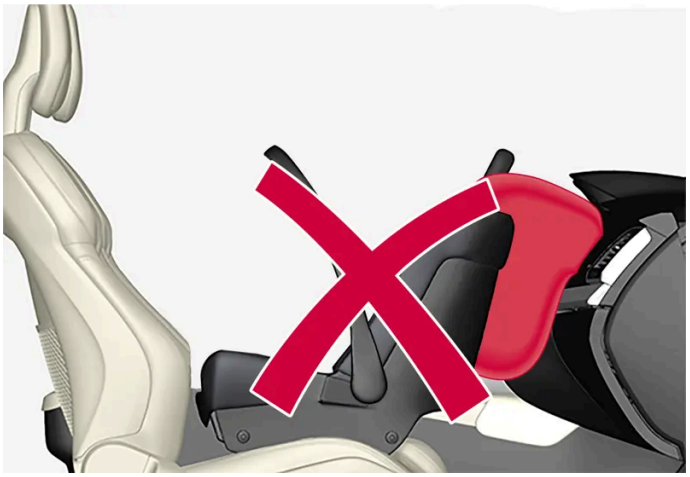
Child restraints could be recalled for safety reasons. You must register your child restraint to be reached in a recall. To stay informed about child safety seat recalls, be sure to fill out and return the registration card that comes with new child restraints.

Child restraint recall information is readily available in both the U.S. and Canada. For recall information in the U.S., call the U.S. Government's Auto Safety Hotline at 1-800-424-9393 or go to https://www-odi.nhtsa.dot.gov/owners/SearchSafetyIssues [https://www-odi.nhtsa.dot.gov/owners/SearchSafetyIssues] . In Canada, visit Transport Canada's Child Safety website at https://www.tc.gc.ca/en/services/road/child-car-seat-safety.html [https://www.tc.gc.ca/en/services/road/child-car-seat-safety.html] .

3.3.5. Infant seats

Suitable child restraints should always be used when children (depending on their age/size) are seated in the vehicle.

Securing an infant seat with a seat belt



Do not place the infant seat in the front passenger's seat

1. Place the infant seat in the rear seat of the vehicle.
2. Secure the child seat for small children using the seat belt according to the manufacturer's instructions.
3.

   Route the seat belt through the infant seat.

> **Warning**
>
> - An infant seat must be in the rear-facing position only.
> - The infant seat should not be positioned behind the driver's seat unless there is adequate space for safe installation.

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.

Warning

A child seat should never be used in the front passenger seat of any vehicle with a front passenger airbag - not even if the "Passenger airbag off" symbol near the rear-view mirror is illuminated. If the severity of an accident were to cause the airbag to inflate, this could lead to serious injury or death to a child seated in this position.

Fasten the seat belt.

Fasten the seat belt by inserting the latch plate into the buckle (lock) until a distinct click is audible.

Pull out the shoulder section of the seat belt.

4 Pull the shoulder section of the seat belt out as far as possible to activate the belt's automatic locking function.

5

Note

The locking retractor will automatically release when the seat belt is unbuckled and allowed to retract fully.

Press the infant seat firmly in place, let the seat belt retract and pull it taut. A sound from the seat belt retractor's auto-

matic locking function will be audible at this time and is normal. The seat belt should now be locked in place.

Check that the infant seat is properly secured.

6 Press and pull the infant seat along the direction of the seat belt to check that it is properly held in place by the seat belt.

> **Warning**
>
> It should not be possible to move the child restraint more than 2.5 cm (1 in.) in any direction along the seat belt path.

When installing infant seats in the rear seat, Volvo recommends maintaining a distance of at least 50 mm (2 inches) from the front-most part of the infant seat to the rearmost part of the seat in front.

The infant seat can be removed by unbuckling the seat belt and letting it retract completely.

3.3.6. Booster cushions

Suitable child restraints should always be used when children (depending on their age/size) are seated in the vehicle.

Securing a booster cushion

Position the child correctly on the booster cushion.

Booster cushions are recommended for children who have outgrown convertible seats.

1. Place the booster cushion in the rear seat of the vehicle.
2. With the child properly seated on the booster cushion, attach the seat belt to or around the cushion according to the manufacturer's instructions.
3. Fasten the seat belt by inserting the latch plate into the buckle (lock) until a distinct click is audible.

Positioning the seat belt.

4. Ensure that the seat belt is pulled taut and fits snugly around the child.

Warning

- The hip section of the three-point seat belt must fit snugly across the child's hips, not across the stomach.
- The shoulder section of the three-point seat belt should be positioned across the chest and shoulder.
- The shoulder belt must never be placed behind the child's back or under the arm.

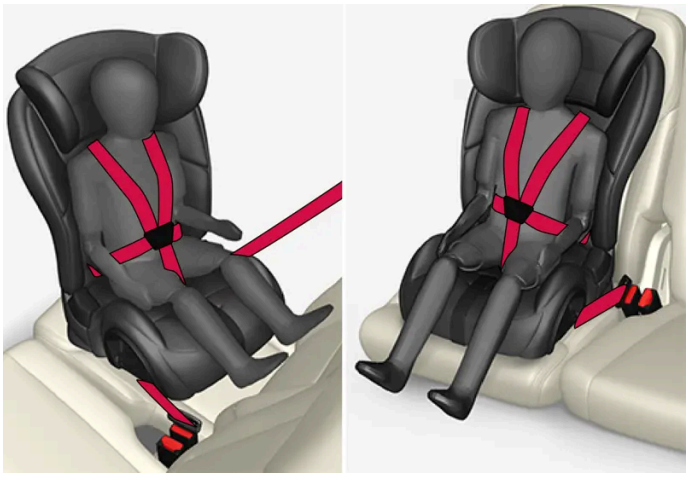
3.3.7. Convertible seats

Suitable child restraints should always be used when children (depending on their age/size) are seated in the vehicle.

Securing a convertible seat with a seat belt

Do not place the convertible seat in the front passenger's seat.

Convertible seats can be used in either a forward or rearward-facing position, depending on the age and size of the child.



Route the seat belt through the convertible seat.

> **Warning**
>
> Always use a convertible seat that is suitable for the child's age and size. See the convertible seat manufacturer's recommendations.

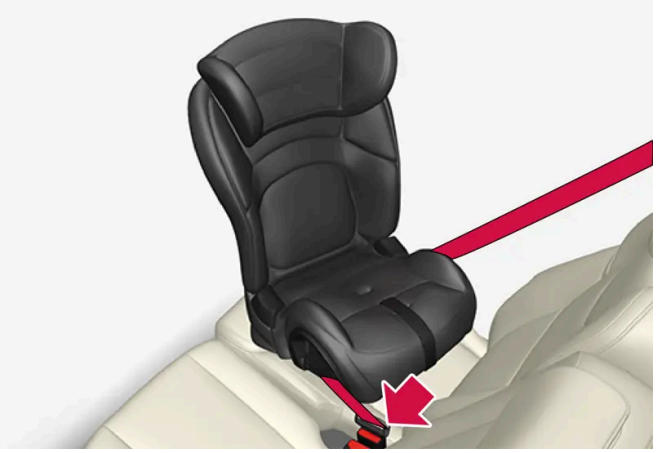
1 Place the convertible seat in the rear seat of the vehicle.

2

Warning

- A small child's head represents a considerable part of its total weight and its neck is still very weak. Volvo recommends that children up to age 4 travel, properly restrained, facing rearward. In addition, Volvo recommends that children should ride rearward facing, properly restrained, as long as possible.
- Convertible child seats should be installed in the rear seat only.
- A rear-facing convertible seat should not be positioned behind the driver's seat unless there is adequate space for safe installation.

Attach the seat belt to the convertible seat according to the child restraint manufacturer's instructions.



Fasten the seat belt.

3 Fasten the seat belt by inserting the latch plate into the buckle (lock) until a distinct click is audible.

4 Pull the shoulder section of the seat belt out as far as possible to activate the belt's automatic locking function.

5

Note

The locking retractor will automatically release when the seat belt is unbuckled and allowed to retract fully.

Press the convertible seat firmly in place, let the seat belt retract and pull it taut. A sound from the seat belt retractor's automatic locking function will be audible at this time and is normal. The seat belt should now be locked in place.

Pull out the shoulder section of the seat belt.

6 Push and pull the convertible seat along the seat belt path to ensure that it is held securely in place by the seat belt.

> **Warning**
>
> It should not be possible to move the child restraint more than 2.5 cm (1 in.) in any direction along the seat belt path.

The convertible seat can be removed by unbuckling the seat belt and letting it retract completely.

Ensure that the convertible seat is securely in place.

> **Warning**
>
> A child seat should never be used in the front passenger seat of any vehicle with a front passenger airbag - not even if the "Passenger airbag off" symbol near the rear-view mirror is illuminated. If the severity of an accident were to cause the airbag to inflate, this could lead to serious injury or death to a child seated in this position.

3.3.8. Occupant Classification System

The Occupant Classification System (OCS) is designed to meet the regulatory requirements of Federal Motor Vehicle Safety Standard (FMVSS) 208 and is designed to disable (will not inflate) the passenger's side front airbag under certain conditions.

OCS indicator light.

The front passenger-side airbag is either enabled or disabled depending on the classification of the passenger in the front passenger seat.

Volvo follows NHTSA's recommendations and recommends that ALL children up to and including 12 years of age sit in the rear seat and are restrained in a suitable manner appropriate to their height and weight. This is strongly recommended for children in rear-facing child seats.

Classification of passengers in front passenger seat	OCS indicator light status	Passenger's side front airbag status
The passenger is classified as an adult.	OCS indicator light is not lit.	Enabled
The passenger is classified as a small child in a front-facing child seat.	The OCS indicator light is lit or not lit depending on several parameters that determine the most suitable status.	Enabled or disabled depending on several parameters that determine the most suitable status.
The passenger is classified as a small child in a rear-facing child seat.	OCS indicator light is lit.	Disabled
The passenger seat is empty.	OCS indicator light is lit.	Disabled

Occupant Classification System function

OCS works in combination with sensors in the front passenger seat. The sensors are intended to detect the presence, and classification of, an occupant sitting correctly and determine whether the front passenger airbag should be enabled (able to be deployed) or disabled (cannot be deployed).

The OCS uses an indicator light with the text **PASSENGER AIRBAG OFF**, which will illuminate and stay on to remind you that the passenger's side front airbag is disabled. The **PASSENGER AIRBAG OFF** indicator light is located in the overhead console near the bracket for the rearview mirror.

Always pay attention that the status of the indicator light shows the correct classification both before and while driving when the front passenger seat is occupied.

Note

When the ignition is switched on, the OCS indicator light will illuminate for several seconds while the system performs a self-diagnostic test. The indicator light will then go out or remain illuminated, depending on the classification of the passenger in the front passenger seat.

If a malfunction is detected in the system, the OCS indicator light will remain illuminated and the SRS warning symbol will be shown in the instrument panel along with a text message.

Warning

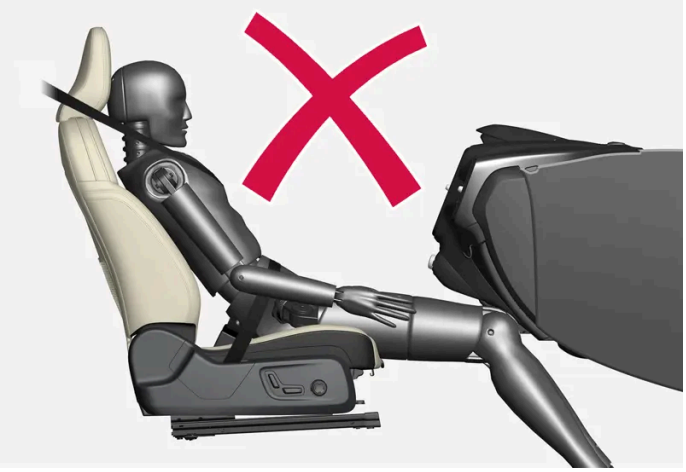
If a fault in the system is detected and indicated as described, be aware that the passenger's side front airbag will not deploy in the event of a collision. If this occurs, have the airbag system and Occupant Classification System checked by a workshop as soon as possible. Volvo recommends contacting an authorized Volvo workshop.

Classification of adult

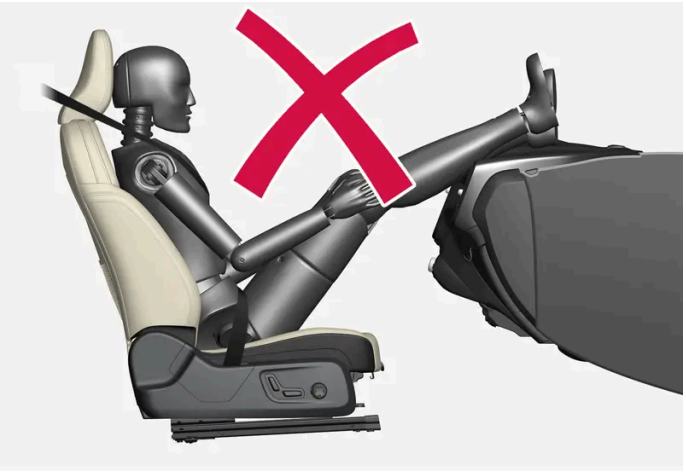
To help ensure accurate classification when a person of adult size is sitting in the front passenger seat, the passenger must:

- be wearing their seat belt
- sit normally in the seat, in the center of the seat cushion
- sit upright in the seat with their shoulders against the backrest
- have their legs comfortably extended with their feet on the floor.

Correct seating position.

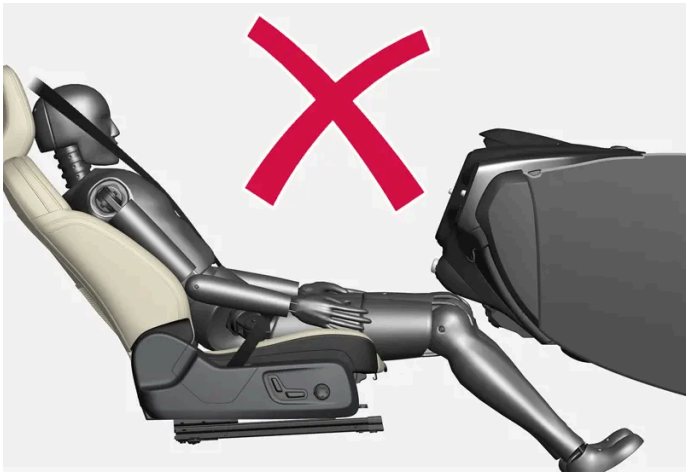


Example of incorrect seating position – the passenger must not have slid forward on the seat cushion.



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 incorrect seating position – the passenger must be seated with their feet on the floor.



Example of incorrect seating position – the passenger must not fold the backrest to a lying position.

Remember the following when an adult sits in the front passenger seat:

- The passenger must never get up from the seat cushion using the armrest in the door or center console, by pushing their feet against the floor or by pushing against the backrest.
- The passenger must never sit on the side of the seat cushion, slide forward on the seat cushion or fold the backrest to a lying position.
- The passenger must never wear wet or thick clothing, e.g. ski wear or padded garments.
- Never place any objects between the passenger and the seat cushion, e.g. pillows, heating blankets or ordinary blankets, seat liners or mats.
- Never place a radio transmitter (e.g. hunting radio or walkie-talkie) or device that is being charged (e.g. cellular phone, tablet or computer) on or under the seat cushion. Never let anyone sitting on the passenger seat use a radio transmitter or device that is being charged.

> **Warning**
>
> Failure to follow the above instructions could adversely affect the Occupant Classification System functions and result in death or serious injury.

If a person of adult size is sitting in the front passenger's seat, but the OCS indicator lamp is on, it is possible that the person isn't sitting properly in the seat.

If this occurs, turn off the vehicle and ask the person to follow the above instructions for accurate classification. Restart the vehicle and have the person remain in this position for about two minutes. This will allow the system to detect that person and enable the passenger's frontal airbag.

If the OCS indicator lamp remains on even after this, the person should be advised to ride in the rear seat.

This may indicate restrictions in the OCS classification ability, e.g. that the person is too light to be classified as an adult. It does not need to indicate an OCS error.

Classification of child

Volvo follows NHTSA's recommendations and recommends that ALL children up to and including 12 years of age sit in the rear seat. This is strongly recommended for children in rear-facing child seats.

If a child in a child restraint is placed in the front passenger seat, the child restraint must be installed according to the manufacturer's instructions to help ensure accurate classification.

Remember the following if a child in a child seat sits in the front passenger seat:

- Never place any items or accessories on the passenger seat, between the child seat and the seat cushion or near to the seat cushion.
- Never place a radio transmitter (e.g. hunting radio or walkie-talkie) or device that is being charged (e.g. cellular phone, tablet or computer) on the seat cushion. Never let anyone sitting on the passenger seat use a radio transmitter or device that is being charged.
- Never place wet clothing or fluids on the passenger seat.
- Always correctly position the child seat so that the entire lower section of the child seat rests against the seat cushion.
- Always place a front-facing child seat as far back as possible against the seat back.

> **Warning**
>
> Failure to follow the above instructions could adversely affect the Occupant Classification System functions and result in death or serious injury.

Modifications

If you are considering modifying your vehicle in any way to accommodate a disability, for example by altering or adapting the driver's or front passenger's seat(s) and/or airbag systems, please contact Volvo at:

In the United States

Volvo Car USA, LLC

Customer Care Center

1800 Volvo Place

Mahwah, New Jersey 07430

1-800-458-1552

In Canada

Volvo Car Canada Ltd.

Customer Care Centre

9130 Leslie Street, Suite 101

Richmond Hill, Ontario L4B 0B9

1-800-663-8255

Warning

Never attempt to open, remove or repair any components in the OCS system. Volvo recommends contacting an authorized Volvo workshop. Incorrectly performed repairs to the OCS system could impair function and lead to serious injury.

The front passenger's seat should not be modified in any way. This could affect the function of the OCS system.

3.4. Safety mode

3.4.1. Safety mode

Safety mode is a feature that is triggered after a collision if there is potential damage to an important function in the vehicle, such as the high-voltage system, sensors for one of the safety systems, the brake system, etc.

If the vehicle has been involved in a collision, the text **Safety mode See Owner's manual** may appear in the instrument panel along with the warning symbol if the panel is undamaged and the vehicle's electrical system is intact. The message indicates that one or more of the vehicle's functions may be reduced.

If safety mode has been set, it may be possible to reset the system in order to start and move the vehicle a short distance, for example, if it is blocking traffic.

Warning

Never attempt to perform repairs or reset electrical components on your own after the vehicle has been in safety mode. This could result in injury or prevent the vehicle from functioning properly. Volvo recommends having the vehicle inspected and reset to normal operating status by an authorized Volvo workshop after **Safety mode See Owner's manual** has been displayed.

Warning

When the vehicle is in safety mode, it should not be towed behind another vehicle. It should be towed from the site on a tow truck. Volvo recommends towing the vehicle directly to an authorized Volvo workshop.

3.4.2. Starting and moving the vehicle when it is in safety mode

If safety mode has been set, it may be possible to reset the system in order to start and move the vehicle a short distance, for example, if it is blocking traffic.

Resetting and starting the vehicle when it is in safety mode

1. Check the vehicle for damage.

   If the damage is minor, you may attempt to start the vehicle.

2. Switch off the vehicle manually.
3. Then try to start the vehicle.

> The vehicle's electrical system will perform a system check and then attempt to reset to normal operating mode. The message **Vehicle start System check, wait** will be displayed on the instrument panel during the check. This may take up to a minute.

4. When **Vehicle start System check, wait** is no longer displayed in the instrument panel, try again to start the vehicle.

> **Important**
>
> If the message **Safety mode See Owner's manual** is still displayed, the vehicle should not be driven or towed behind another vehicle. If the vehicle needs to be moved, it must be towed on a tow truck. Even if no damage is apparent, there may be hidden damage that could make the vehicle impossible to control.

Moving the vehicle when it is in safety mode

1. If the message **The car is now in normal mode** is displayed after attempting to start the vehicle, the vehicle may be moved carefully from its present position if, for example, it is blocking traffic.
2. Do not move the vehicle farther than absolutely necessary.

> **Warning**
>
> When the vehicle is in safety mode, it should not be towed behind another vehicle. It should be towed from the site on a tow truck. Volvo recommends towing the vehicle directly to an authorized Volvo workshop.

3.5. Safety

The vehicle is equipped with a number of safety systems that work together to help protect the vehicle's driver and passengers in the event of an accident.

The vehicle is equipped with a number of sensors that may react in the event of an accident and activate different safety systems, such as the airbag system and seat belt tensioners. Depending on the specific conditions of the accident, e.g. collisions

at certain angles, overturning or swerving, the systems react differently to help provide good protection.

There are also mechanical safety systems such as the Whiplash Protection System. The vehicle is also built so that a large part of the force of a collision is distributed to the vehicle's members, pillars, floor, roof and other parts of the body.

After an accident, the vehicle's safety mode may be activated if any important function in the vehicle has been damaged.

Warning symbol in the instrument panel

The warning symbol illuminates in the instrument panel when the vehicle is started. The symbol goes out after about 6 seconds if no faults are detected in the vehicle's safety systems.

> **Warning**
>
> If the warning symbol remains illuminated or switches on while driving and the message **Drive to workshop SRS airbag Service urgent** is displayed in the instrument panel, this indicates that something in the safety system is not functioning properly. Volvo recommends contacting an authorized Volvo workshop for repairs as soon as possible.

> **Warning**
>
> Never attempt to alter or repair any of the vehicle's safety systems yourself. Incorrectly performed repairs to any system could impair function and lead to serious injury. Volvo recommends contacting an authorized Volvo workshop.

If this dedicated warning symbol is not functioning, the general warning symbol will illuminate instead and the same message will be displayed in the instrument panel.

3.6. Recall information

Volvo customers in the US

On our website, click on the three lines next to "Our Cars" up at the right of the screen, then click "Help & Support" and then "Recall information". Enter the vehicle's Vehicle Identification Number (VIN) (found at the bottom of the windshield). If your vehicle has any open Recalls, they will be displayed on this page.

You can also enter the Vehicle Identification Number in the search field on the National Highway Traffic Safety Administration's (NHTSA) website at: www.nhtsa.gov [https://www.nhtsa.gov/] .

Volvo customers in Canada

For any questions regarding open recalls for your vehicle, please contact your authorized Volvo retailer. If your retailer is unable to answer your questions, please contact Volvo Customer Relations at 800-663-8255, Monday through Friday, 8:30 A.M. to 5:00 P.M. EST or volvocars.com/ca [https://volvocars.com/ca] . You may also write us at:

Volvo Car Canada Ltd.

Customer Care Centre

9130 Leslie Street, Suite 101

Richmond Hill, Ontario L4B 0B9

You can also search for manufacturer, model and model year on Transport Canada's website:

www.tc.gc.ca

3.7. Occupant safety

Safety is Volvo's cornerstone.

Volvo's concern for safety

Our concern for safety dates back to 1927 when the first Volvo rolled off the production line. Three-point seat belts (a Volvo invention), safety cages, and energy-absorbing impact zones were designed into Volvo vehicles long before it was fashionable or required by government regulation.

We will not compromise our commitment to safety. We continue to seek out new safety features and to refine those already in our vehicles. You can help. We would appreciate hearing your suggestions about improving automobile safety. We also want to know if you ever have a safety concern with your vehicle. Call us in the U.S. at: 1-800-458-1552 or in Canada at: 1-800-663-8255.

Occupant safety reminders

How safely you drive doesn't depend on how old you are but rather on:

- How well you see.
- Your ability to concentrate.
- How quickly you make decisions under stress to avoid an accident.

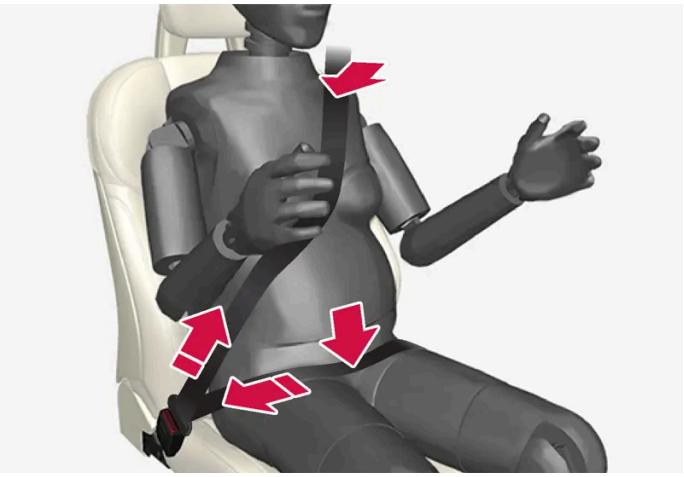
The following suggestions are intended to help you cope with the ever changing traffic environment.

- Never drink and drive.
- If you are taking any medication, consult your physician about its potential effects on your driving abilities.
- Take a driver-retraining course.
- Have your eyes checked regularly.
- Keep your windshield and headlights clean.
- Replace wiper blades when they start to leave streaks.
- Take into account the traffic, road, and weather conditions, particularly with regard to stopping distance.
- Never text while driving.
- Refrain from using or minimize the use of a cell phone while driving.

3.8. Safety during pregnancy

It is important that seat belts are worn correctly during pregnancy and that pregnant drivers adjust their seating position accordingly.

Seat belt



The seat belt should fit closely against the shoulder, with the diagonal section between the breasts and to the side of the stomach.

The lap section of the seat belt should lie flat over the thighs and as far as possible under the stomach. Never let it ride upward. Remove unnecessary slack and make sure the seat belt fits as close as possible to the body. Make sure there are no twists in the seat belt.

Seating position

As pregnancy progresses, pregnant drivers should adjust the seat and steering wheel to a position that allows them to retain full control of the vehicle (which means they should be able to easily reach the steering wheel and foot pedals). Try to maintain as much distance as possible between the stomach and the steering wheel.

3.9. Reporting safety defects

The following information will help you report any perceived safety-related defects in your vehicle.

Reporting safety defects in the U.S.

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Volvo Car USA, LLC. If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your retailer, or Volvo Car USA, LLC. To contact NHTSA, you may either call the Auto Safety Hotline tollfree at

1-888-327-4236

(TTY: 1-800-424-9153) or write to: NHTSA Headquarters, 1200 New Jersey Avenue SE., West Building, Washington D.C. 20590.

You can also obtain other information about motor vehicle safety from http://www.safercar.gov, where you can also enter your vehicle's VIN (Vehicle Identification Number) to see if it has any open recalls.

Volvo strongly recommends that if your vehicle is covered under a service campaign, safety or emission recall or similar action, it should be completed as soon as possible. Please check with your local retailer or Volvo Car USA, LLC if your vehicle is covered under these conditions.

NHTSA can be reached at:

Internet:

http://www.nhtsa.gov

Telephone:

1-888-327-4236

Reporting safety defects in Canada

If you believe your vehicle has a defect that could cause a crash or could cause injury or death, you should immediately inform Transport Canada in addition to notifying Volvo Car Canada Ltd.

Transport Canada can be contacted at:

1-866-995-9737

Teletypewriter (TTY): 1-888-675-6863

Fax: 613-954-4731

Mailing Address: Transport Canada - 330 Sparks St, Ottawa, (Ontario) K1A 0N5

www.tc.gc.ca

3.10. Whiplash Protection System

The Whiplash Protection System (WHIPS) is designed to help reduce the risk of whiplash-type injuries. The system consists of energy absorbing backrests and seat cushions as well as specially designed head restraints in the front seats.

WHIPS is activated in the event of a rear-end collision and adapted to the angle and speed of the collision and to the characteristics of the colliding vehicle.

When WHIPS is activated, the front seat backrests move rearward and the seat cushions move downward to change the seating positions of the driver and front seat passenger. This movement helps absorb some of the forces that could result in whiplash.

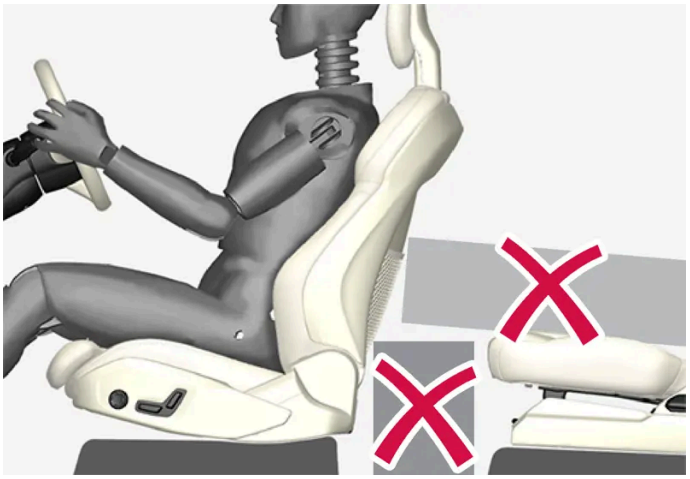
Warning

WHIPS is a supplement to the seat belt. Always wear your seat belt.

Warning

Do not attempt to alter or repair the seat or WHIPS on your own. Volvo recommends contacting an authorized Volvo workshop.

If the front seats have been subjected to severe stress, e.g. in a collision, the seats must be replaced. Even if the seats appear undamaged, some of their protective properties may have been lost.



Do not place any objects on the floor behind or under the front seats or on the rear seat that could prevent WHIPS from functioning correctly.

Warning

Do not squeeze box-like cargo between the rear seat cushion and the front seat backrest.

If the rear seat backrests are folded down, cargo must be secured to prevent it from sliding forward against the front seat backrests in the event of a collision.

Warning

If a rear seat backrest is folded down or if a rear-facing child restraint is being used in the rear seat, the seat in front must be moved forward so that it does not come into contact with the backrest or child restraint.

Seating position

For WHIPS to provide good protection, the driver and passenger must be seated correctly and the system's function must not be impeded in any way.

Set the front seat to the correct seating position before starting to drive.

The driver and the front seat passenger should sit in the center of the seat with their heads as close as possible to the head restraints.

4. Displays and voice control

4.1. Instrument panel

4.1.1. Gauges and indicators in the instrument panel

4.1.1.1. Battery gauge

The battery gauge shows how much current is left in the battery. The remaining current is shown both as a percentage of the total current and as an approximate range. The range is affected by factors such as driving style, driving settings, speed, outdoor temperature and weather.

The battery gauge at the bottom of the instrument panel shows the charge level of the high-voltage battery. When the remaining range falls below 50 km (30 miles), this will be shown next to the battery gauge. Range may be affected by factors such as driving style and ambient temperature.

4.1.1.2. Power meter

The power meter indicates the vehicle's electric propulsion, when it is recovering energy to the battery or when regeneration is limited.

The power meter is located to the right in the instrument panel.

1. Available battery power is limited.
2. The vehicle is consuming electric current.
3. Regeneration with the accelerator pedal or brake pedal.
4. Hard braking exceeds the capacity of regenerative braking and the friction brakes will be applied to stop the vehicle.

4.1.1.3. Ambient temperature sensor

The temperature outside the vehicle is displayed in the instrument panel. If the vehicle has been stationary for a prolonged period of time, the gauge may show a higher temperature than the actual temperature.

When the temperature outside the vehicle is between –5 °C(23 °F) and +2 °C (36 °F), a snowflake symbol will illuminate to alert the driver of the risk of slippery conditions.

Temperature gauge settings

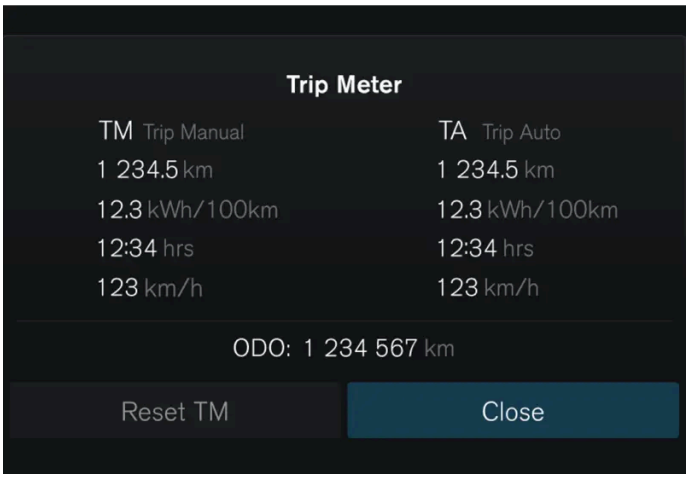
1. Tap ⚙.
2. Select **System**.
3. Tap **Units**.
4. Adjust desired settings.

4.1.2. Trip computer

4.1.2.1. Trip computer

The vehicle's trip computer registers data while driving, such as mileage, average consumption and average speed.

Information in the trip computer



The trip computer shows the following values:

- Mileage
- Average consumption
- Driving time
- Average speed

Opening the trip computer

1 Press the O button on the steering wheel.

> The trip computer opens.

Trip odometer

There are two trip odometers: TM and TA.

TM can be reset manually and TA is reset automatically if the vehicle is not used for four hours.

Odometer

The odometer records the vehicle's total mileage. This reading cannot be reset.

Trip computer settings

Settings for the trip computer are adjusted via the center display.

1 Tap ⚙.

2 Select **Controls**.

3 Adjust desired settings.

4.1.2.2. Resetting the trip odometer

The trip odometer can be reset in the instrument panel or by using the left-side steering wheel lever.

Reset all information in the trip odometer (mileage, average consumption, average speed and driving time).

Resetting in the instrument panel

1 Press the O button on the steering wheel.

2 Select **Reset TM** using the buttons on the steering wheel.

3 Confirm with the O button to reset.

> The trip odometer is reset.

Resetting using the steering wheel lever

1 Press and hold down the RESET button on the steering wheel lever.

> The trip odometer is reset.

4.1.3. Instrument panel

The instrument panel displays information related to the vehicle and driving.

The instrument panel includes gauges, driver support functions and indicator and warning symbols. What is shown in the instrument panel varies depending on the equipment, settings and functions currently active.

The instrument panel is activated as soon as a door is opened. The instrument panel will power down if it is not used but will be reactivated again if any of the doors are opened or the vehicle is started.

Warning

If the instrument panel turns off, does not activate when the ignition is switched on, or part/all of the panel cannot be read, do not drive the vehicle. Consult a workshop immediately. Volvo recommends an authorized Volvo workshop.

Warning

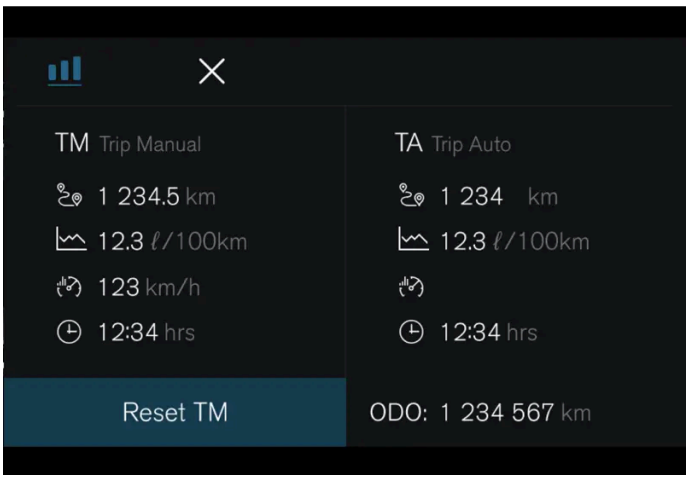
If the instrument panel is not functioning properly, information about brakes, airbags or other safety-related systems may not be displayed. The driver will then not be able to check the status of the vehicle systems or receive relevant warnings and information.

Location in the instrument panel:		
Left side	**In the center**	**Right side**
Indicator and warning symbols	Indicator and warning symbols	Indicator and warning symbols
Speedometer	Temperature	Power meter
Cruise control/speed limiter information	Messages (also graphics in some cases)	Selected direction of travel
Trip odometer	Door and seat belt status	Battery gauge
–	Driver support system	–
–	App menu (activated using steering wheel keypad)	–

4.1.4. Instrument panel settings

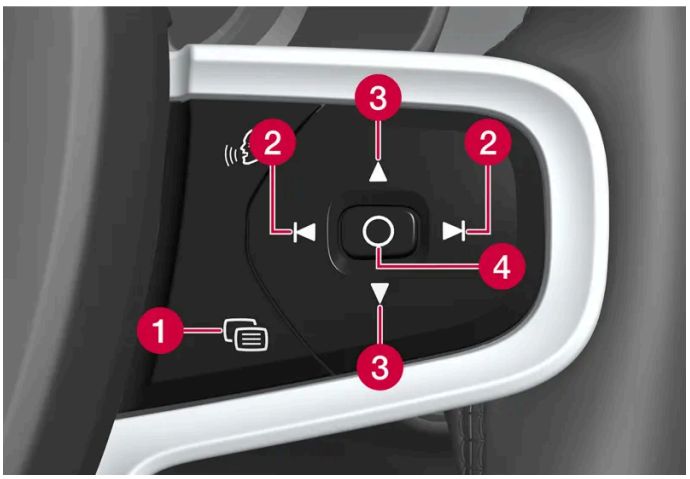
Change display mode or adjust display settings for the instrument panel.

App menu



– Information about trip odometer, odometer, etc.

Managing the App menu



1 Close menu/change display mode

2 Left/right

3 Up/down

4 Open menu/confirm

The App menu turns off after a period of inactivity or after certain selections are made.

Display modes

The instrument panel has two different display modes, which can be changed using the button on the right-side steering wheel keypad.

- Calm – the center part of the instrument panel is empty.
- Navigation* – a map is displayed over the entire instrument panel.

Center display 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.

Instrument panel settings are adjusted via the center display.

1 Tap ⚙.

2 Select **Controls**.

3 Adjust desired settings.

The settings are personal and saved in the active user profile.

Alternative speedometer

The alternative speedometer makes it easier to drive in countries where speed limit signs are shown in a different measurement unit than the one usually shown in the vehicle.

When the driver changes unit to display the speedometer in e.g. km/h a smaller speedometer is displayed digitally in mph above the standard speedometer and vice versa.

* Option/accessory.

4.1.5. License agreement for instrument panel

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

1.1 List of used Open Source Components

This table contains a list of open source software (OSS) components used within the product under the terms of the respective licenses. The source code corresponding to the open source components is also provided along with the product wherever mandated by the respective OSS license

Sl No.	Name of OSS Component	Version of OSS Component	Name and Version of License (License text can be found in Appendix below)	Home Page	More Information
1	BidiReferenceCpp	26	Unicode Terms of Use	http://www.unicode.org/Public/PROGRAMS/BidiReferenceCpp/	(C) Socionext Embedded Software Austria GmbH (SESA) Copyright (C) 1999-2009, ASMUS, Inc
2	FASTCRC32	1.2.8	License of Stephan brumme/ Zlib style License	http://stephan-brumme.com/	Copyright © 2011-2013 Stephan Brumme. All rights reserved, Copyright (C) 1995-2006, 2010, 2011, 2012 Mark Adler

Sl No.	Name of OSS Component	Version of OSS Component	Name and Version of License (License text can be found in Appendix below)	Home Page	More Information
3	Freescale IMX6 HDMI	5.0.11	BSD 3-clause "New" or "Revised" License	https://www.nxp.com/ [https://www.nxp.com/]	Copyright © 2009-2012, Freescale Semiconductor, Inc, Copyright © 2010-2012, Freescale Semiconductor, Inc.
4	FreeType Hashing	2.6.3	MIT License	https://sourceforge.net/p/canvasdraw/cd/642/tree/trunk/freetype/include/freetype/internal/fthash.h [https://sourceforge.net/p/canvasdraw/cd/642/tree/trunk/freetype/include/freetype/internal/fthash.h]	Copyright 2000 Computing Research Labs, New Mexico State University Copyright 2001-2015 Francesco Zappa Nardelli
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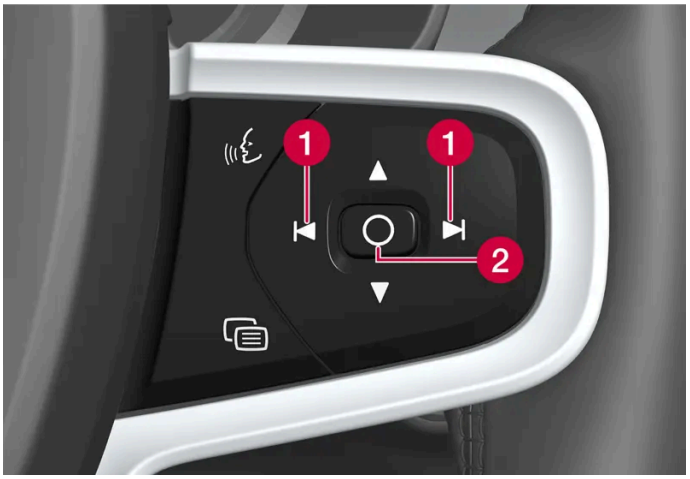
4.1.6. Messages in the instrument panel

The instrument panel shows messages in certain circumstances to inform or assist the driver.

The messages are shown in the center of the instrument panel. The layout may vary and include graphics, symbols or buttons to e.g. acknowledge the message or accept a request.

Managing messages



1 Left/right

2 Confirm

The message disappears from the instrument panel when it is acknowledged or any required action has been taken. Certain messages appear in the center display's Notifications view.

Service messages

The following table lists a selection of service messages and what they mean.

Message	Meaning
Do not drive[1]	Stop and contact a workshop. Serious risk of damage.
Book time for regular maintenance	Time for service - contact a workshop[1]. Shown before the next service date.
Time for regular maintenance	Time for service - contact a workshop[1]. Shown on the next service date.
Regular maintenance overdue	Time for service - contact a workshop[1]. Shown when the date for service has passed.

[1] Part of message, shown along with information on the location of the problem.

4.2. Center display

4.2.1. Settings

4.2.1.1. Resetting user data

User data and system settings can be reset via the center display.

Settings that can be reset to default values:

- app settings
- network settings (admin only)
- factory reset (admin only) – profiles, user data, connected keys, personal settings, etc. are deleted.

If the vehicle changes owners, all user data and system settings must be reset to factory defaults.

Resetting settings via the center display

1. Tap .
2. Go to **System**, **Reset settings** to reset the desired setting.

To reset network settings or reset the vehicle to factory default settings, the user profile must have administrative rights, which can be obtained by tapping **Become an admin** in Profile view. All of the vehicle's keys must also be in the vehicle to perform a factory reset.

4.2.1.2. Changing system units of measurement

Measurement unit settings are adjusted via the center display.

1. Tap .
2. Proceed to **System**, **Units**.
3. Select the desired unit standard for distance, speed, temperature, etc.

> The units in the instrument panel and center display are changed.

4.2.1.3. Changing system language

Language settings are adjusted via the center display.

> **Note**
>
> Changing languages in the center display could mean that certain owner's information will not comply with national or local laws and regulations. Do not change to a language you do not speak well, as it can be difficult to find your way back through the menu.

1. Tap ⚙.
2. Proceed to **System**, **Languages and input**.
3. Select the desired language.

> The language in the instrument panel and center display is changed.

When the system language is changed, the Google Assistant language will also be changed. If another language is desired for the Google Assistant, it can be selected separately in the Google Assistant menu.

4.2.1.4. Unlock settings

Several different sequences are available for unlocking.

1. Tap ⚙ in the center display.
2. Tap **Controls**.
3. Select setting for unlocking.

4.2.1.5. Setting speed limitation for Care Key

The speed limitation for the Care Key is set in the center display.

The speed limitation for the Care Key can only be set from a profile with administrative rights. To access the settings:

1. Tap ⚙ in the center display.
2. Select **Profiles**.

3 Select **Care key**.

4 Activate **Speed limit** and select the desired maximum speed[1].

> The speed limitation is activated when the vehicle is used with a Care Key.

To deactivate the function, the vehicle must be unlocked using an unrestricted key. The speed limitation for the Care Key can be deactivated via settings in the center display. The Care Key can then be used as a regular key.

Indication in the instrument panel

An active speed limitation is indicated in the instrument panel with a symbol and the message **Speed limitation cannot be exceeded Care Key in use**. A yellow dotted line on the speedometer shows the current speed limitation.

Symbol	Meaning
	Speed limitation is active.

[1] The speed can be set within the range of 50-150 km/h (30-95 mph), in increments of 10 km/h (5 mph).

4.2.1.6. Lock confirmation settings

Settings for how the vehicle confirms locking and unlocking can be adjusted in the center display's Settings menu.

1 Tap ⚙ in the center display.

2 Tap **Controls**.

3 Select to activate or deactivate confirmation for locking/unlocking.

4.2.1.7. Keyless unlock settings*

Several different sequences are available for keyless unlocking.

1 Tap ⚙ in the center display.

2 Tap **Controls**.

3 Select setting for unlocking.

* Option/accessory.

4.2.2. User profiles

4.2.2.1. User profiles

Many of the vehicle's settings can be saved in a personal user profile.

The first time the vehicle is used, or after a factory reset, the **Owner** profile is preinstalled and active in the vehicle.

The **Owner** profile has administrative rights and cannot be deleted.

Pull down Notifications view to access user profiles.

A symbol is shown in the status bar along with the initials of the active profile. When the system is logged out, no symbol/initials will be shown in the status bar.

Automatic profile selection

A key can be linked to a profile. This profile and all of its settings will then be selected every time this specific key is identified when unlocking or opening the driver's door.

The last-used profile will be activated if a key is not connected to a specific profile.

General information about settings

Changes to the vehicle's settings can be saved in different ways depending on which category the settings belong to. The settings can be personal, global or customized for one driving cycle.

Personal settings

Personal settings are saved to an active profile.

There are two sorts of personal settings:

- Vehicle function settings – settings related to driver support, driver's side climate control, the driver's seat, the power door mirrors, as well as interior and exterior lighting. These settings retain their values when a profile is added or when logging out from an active profile.
- Audio and media settings – settings related to navigation, audio and media system, apps and linked accounts. These settings go back to default values when a profile is added or when logging out from an active profile.

Global settings

The global settings are not changed when the profile is changed. They remain the same regardless of which profile is currently active. Examples of global settings are passenger-side climate control, memory function for the passenger seat, and some system settings.

Default settings for driving cycle

A number of settings revert to default settings [1] after one driving cycle.

These settings can be adjusted while driving. At the next driving cycle, the settings will revert to default values.

[1] Default settings may vary depending on market.

4.2.2.2. Connect key to user profile

A key can be linked to a profile. This profile and all of its settings will then be automatically selected every time this specific key is identified when unlocking or opening the driver's door.

The first time the key is used, it is not connected to any specific profile. The **Owner** profile or the last-used profile is automatically activated when the vehicle is started.

Connecting a key to a profile

> **Note**
>
> If the key was previously linked to another profile, the link will be moved from the previous profile to the active profile.

1. Tap ⚙.
2. Select **Profiles**.
3. Select **Connect key to profile** to connect the selected key to a profile.

A profile can only be connected to the key currently being used in the vehicle. If there are any other keys in the vehicle, the message **More than one key found. Place the key you want to connect on the backup reader.** will be displayed

Location of the backup reader in the tunnel console.

Disconnecting a key from a profile

1. Tap ⚙.
2. Select **Profiles**.
3. Select **Disconnect key from profile** to delete the active profile from the connected key.

A key can be deleted from a profile even if the key is not inside the vehicle.

4.2.2.3. Managing user profiles

It is possible to change to another profile even if the key used is connected to another profile.

Creating a profile

1. Pull down Notifications view to access user profiles.
2. Tap on an active profile.
3. Select **New profile**.
4. The profile is created.

> The profile will be set as the active profile.

You will be guided through an interactive flow to set up the new profile. From here you can select to pair a phone with the vehicle or connect different accounts, e.g. Volvo ID, to the profile. Certain steps can be skipped to be finished later.

It is possible to create up to six different profiles.

Selecting a profile

1. Pull down Notifications view to access user profiles.
2. Tap on an active profile.
3. Selectable profiles are shown.
4. Select a profile.

> The profile has now been selected and the system will load the settings stored in the selected profile.

Note

To stop the seat's movement when switching to a different profile, press any of the buttons on the front seat cushion.

Logging out of a profile

1. Pull down Notifications view to access user profiles.
2. Select **Log out**.

> You are logged out of the profile and it is no longer possible to access accounts connected to that profile.

3. The system goes into logged-out mode and changed settings are not saved to any profile.

> **Note**
>
> Creating, selecting and logging out of a user profile is only possible when the vehicle is at a standstill.

4.2.2.4. Profile settings

From profile settings, among other things, it is possible to change profile name, add and delete connected keys, connect accounts (e.g. Volvo ID), activate screen lock and delete an active profile.

Activating screen lock

When screen lock is activated, a passcode is required to use the active profile.

1. Tap ⚙.
2. Select **Profiles**.
3. Select **Screen lock**.
4. Select type of screen lock and activate.

> The screen lock will be shown on the center display when switching to a profile as well as each time the system is restarted.

Deleting a profile

Settings that have been saved for one or more profiles can only be deleted when the vehicle is stationary.

1. Tap ⚙.
2. Select **Profiles**.
3. Select **Delete this profile**.

> User information and connections linked to the profile are deleted.

4. The system goes into logged-out mode and changed settings are not saved to any profile.

Becoming an administrator

A profile can be set as administrator.

1 Tap ⚙.

2 Select **Profiles**.

3 Select **Become an admin**.

Changing a profile name

1 Tap ⚙.

2 Select **Profiles**.

3 Tap **Edit** next to the current profile name.

4 Change the profile name and confirm the change.

4.2.2.5. Connecting an account to a user profile

An account can be connected to the selected user profile. Examples of accounts that can be added are Volvo ID and Google account.

Adding an account

1 Tap ⚙.

2 Select **Profiles**.

3 Select **Accounts**.

4 Select to add an account.

> A list will appear of the accounts that can be added.

5 Select an account.

Then follow the instructions provided. The instructions depend on what type of account is selected.

4.2.3. Center display overview

Many of the vehicle's functions can be controlled from the center display. The center display and its possibilities are presented below.

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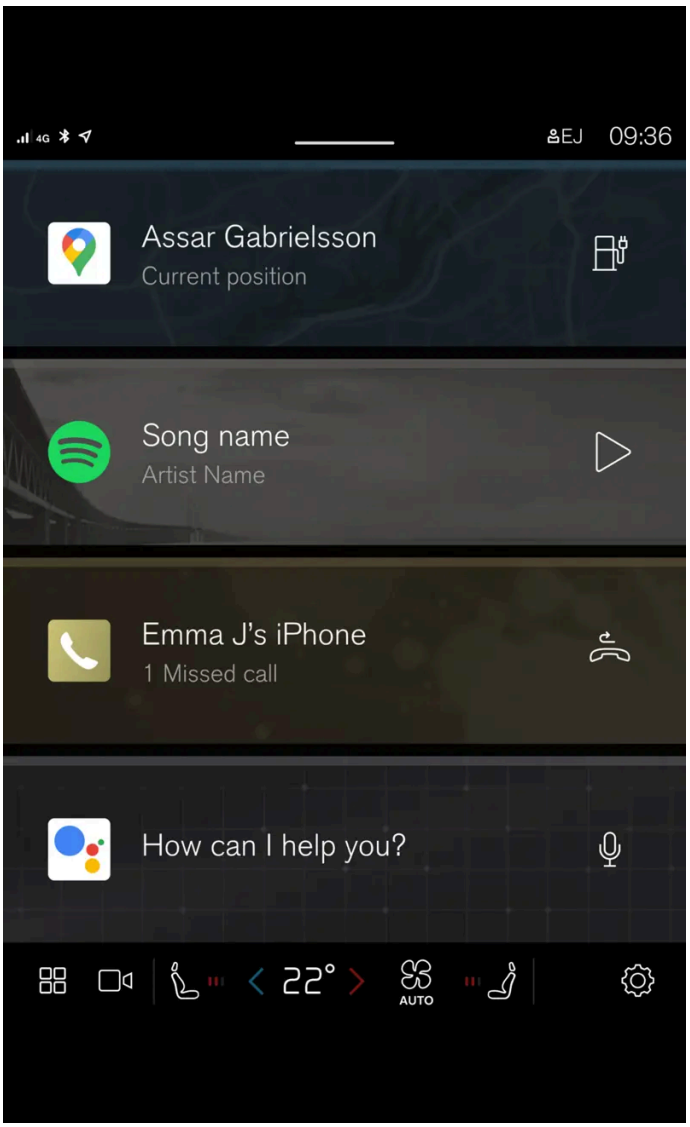
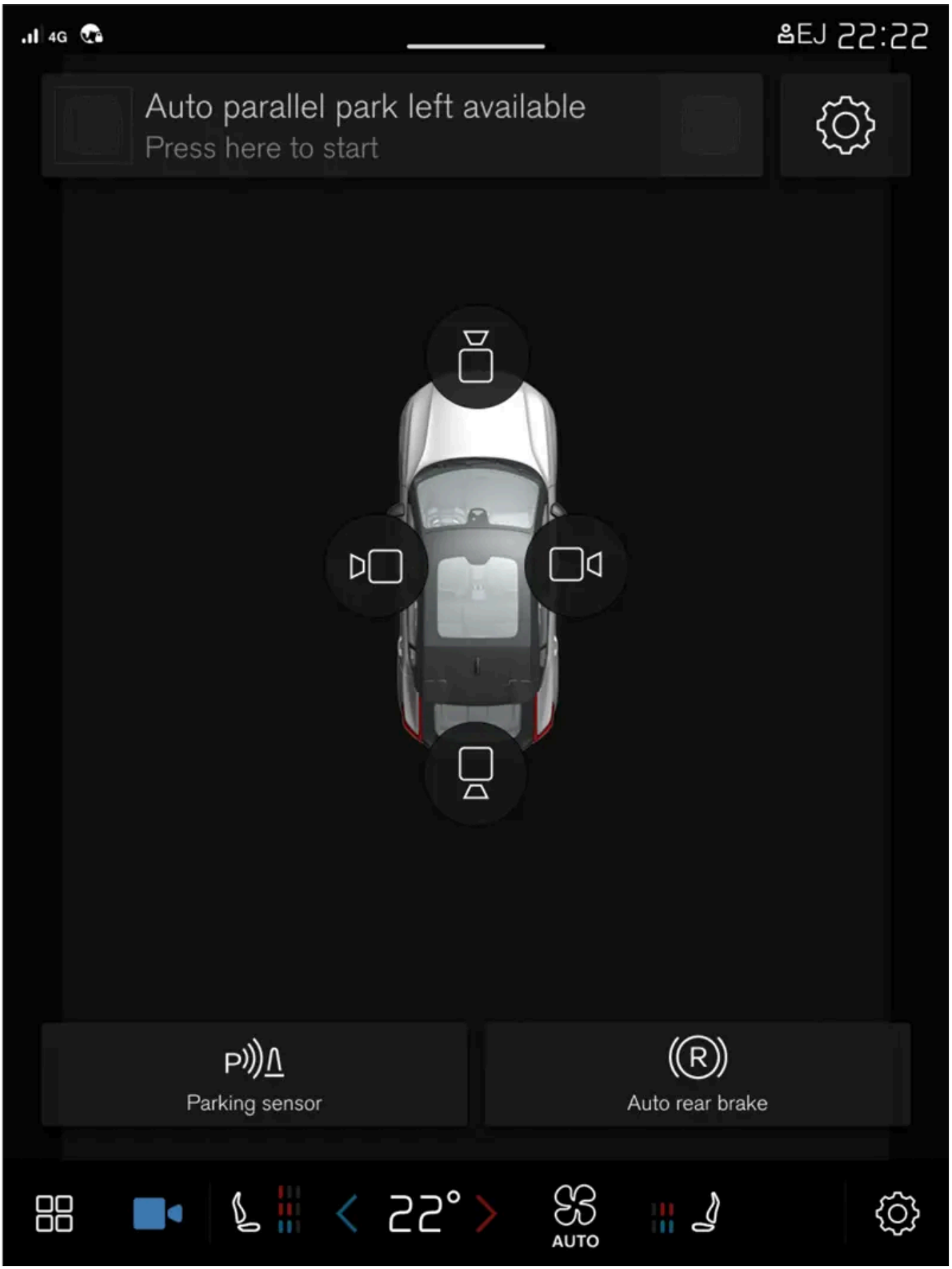
Home view



Home view is the first view displayed when the screen is activated.

Home view consists of four tiles showing the most recently used apps. Other views in the center display, such as Climate view, Camera view, App view and Notifications view, can be accessed from Home view.

Camera view



Camera view shows the Park Assist Cameras (PAC[1]), which display a 360° panoramic view as well as separate views for each of the four cameras: rear, front, left and right.

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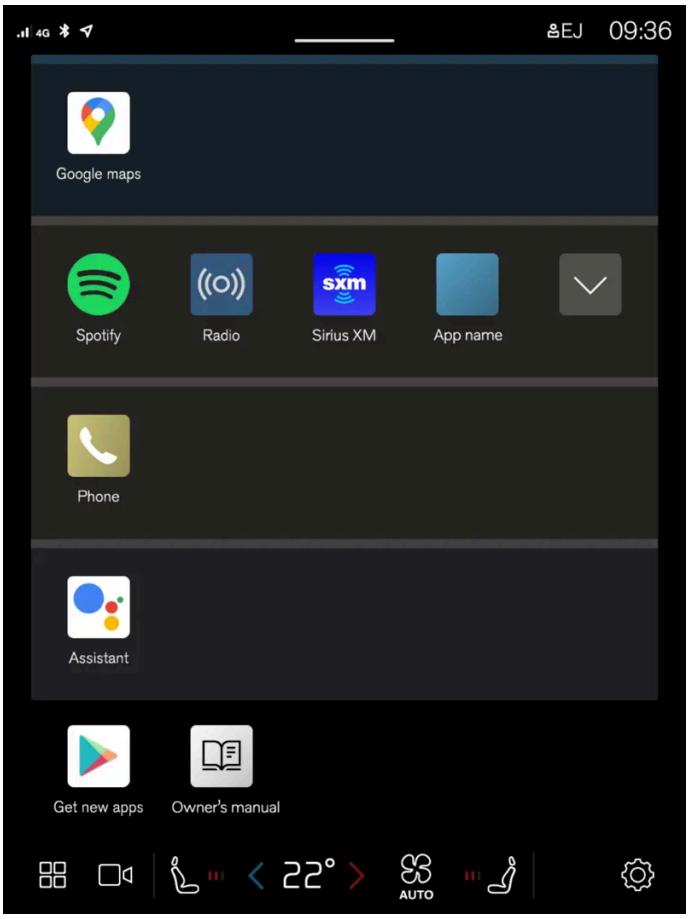
App view



View for downloaded apps (third-party apps) and apps for integrated functions.

> **Note**
>
> The climate system can be used to cool down the media system in the center display if needed. In these cases, the message **Cooling infotainment system** will be shown in the instrument panel.

[1] Park Assist Camera

4.2.4. Handling the center display

Many of the vehicle's functions and features can be controlled and adjusted from the center display. The center display is a touchscreen that reacts to taps and other gestures.

Using the center display's touchscreen

The screen reacts differently depending on whether it is touched by dragging, swiping or tapping. It is possible to e.g. move between different views, mark objects and scroll in a list by touching the screen in various ways.

The center display is an optic touchscreen.

Two people can interact with the screen at the same time, e.g. to adjust climate system settings for both the driver and passenger sides.

> **Important**
>
> Do not use sharp objects on the screen as this could cause scratches.

> **Note**
>
> Wearing gloves can limit or prevent touchscreen response.

Returning to Home view from another view

1 Briefly press the home button below the center display.

> The most recent Home view mode will be displayed.

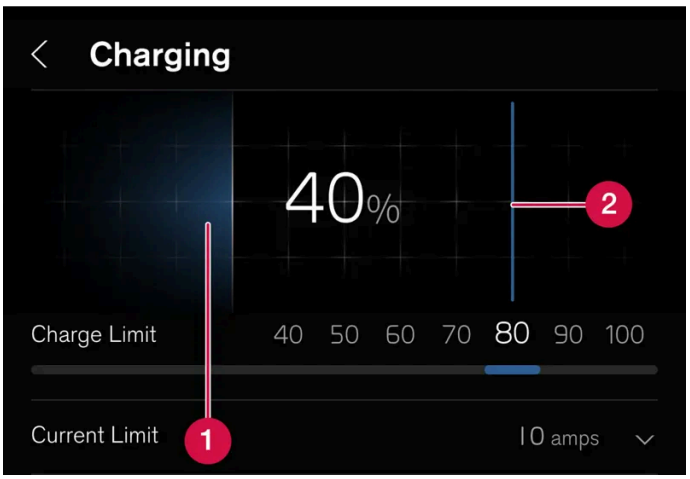
4.2.5. Charging in the vehicle's center display

The center display can be used to set charging level, unlock the charging cable, set current intensity (amperage), and schedule charging.

To access the charging view in the vehicle's center display, tap ⚙ and then **Charging**. The charging view in the center display is also activated when charging begins.

> **Important**
>
> Volvo strongly advises against charging the vehicle with alternating current of 100–120 V in combination with an amperage under 10 A.

Setting a charging limit



1 The battery's current charge level.

2 Charging limit – Swipe to set a charge level at which charging should stop. The set limit remains the same until it is changed again in the center display.

> **Important**
>
> Follow the recommendations for high-voltage battery handling to optimize its lifetime and performance.

Schedule charging

When charging using alternating current, it is possible to schedule and set start and stop times for charging.

Select **Charging** → **Set timer** in the center display and then activate the scheduled charging in **Schedule charging**. Drag the ⚡ and || controls to set start and stop times for charging.

Deactivate scheduled charging using the control next to **Schedule charging**.

Temporarily overriding scheduled charging settings

It is possible to override active scheduled charging settings without needing to deactivate the scheduled charging. This can be useful, for example, if the vehicle has a charging session scheduled during the night but you would like to charge it at another time, such as while it is parked after driving.

1 Plug the charging cable into the vehicle. The LED indicator in the vehicle's charging socket will glow blue when the vehicle is set to charge at the scheduled time. If this is done outside the scheduled time, no charging will take place.

2 Unplug the cable and then plug it in again.

> The LED indicator next to the charging socket will flash/glow steadily green and the vehicle will be charged. The scheduled charging will still be activated the next time the vehicle is plugged in for charging.

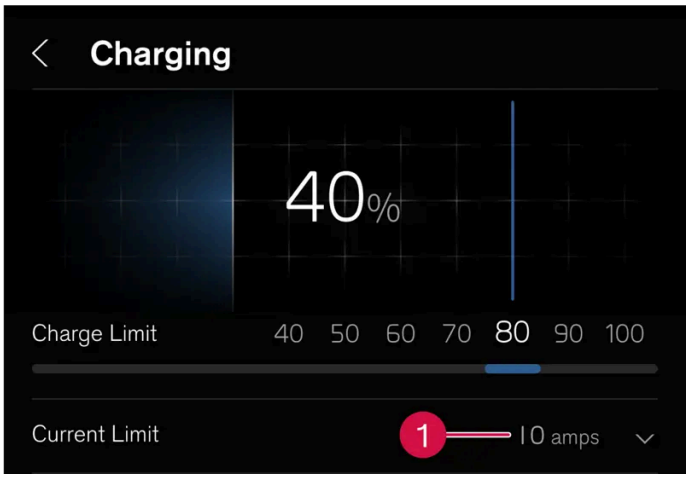
Note

The charging socket's LED light indicates the status for charging the high voltage battery and not whether the vehicle draws power, for example when the climate system is used. Even if the LED indicates that charging is complete, or that scheduled charging is activated, the vehicle can still draw current from the outlet. To avoid affecting the vehicle's range, current is first drawn from the outlet and not from the battery to supply any extra vehicle loads (parking heater, etc.).

Unlocking and locking the charging cable

Tap **Unlock cable** in the center display to unlock the charging cable and cancel charging. You can lock the cable into the charging socket by tapping **Lock cable** in the center display. When charging using a wall outlet/charging station (AC charging), charging will resume automatically. During rapid charging (DC charging), charging will not resume automatically.

Setting amperage



1 Set amperage.

When charging with alternating current[1], it is possible to limit the maximum amperage the vehicle can be charged with.

Select **Charging** and the arrow next to **Current limit (amps)**. Tap **+** to increase amperage or **-** to decrease amperage[2].

For charging with more than one phase, an average value for the set amperage will be shown in the instrument panel[3].

> **Note**
>
> The amperage may be limited by the charging station, charging cable or the vehicle's high-voltage system. It is not guaranteed that the vehicle can be charged with the specified amperage if this is higher than what the charging station or charging cable allow.

[1] Applies to charging via charging station (mode 3) and charging via wall outlet (mode 2).

[2] The set amperage applies per phase from the alternating current source.

[3] Certain markets only.

4.2.6. Center display views

The center display is automatically activated when the driver's door is opened.

Home view

Home view is the view displayed when the screen is activated. It consists of four tiles.

You can choose which apps will be shown in Home view tiles. An app that is selected from App view starts in the respective tile in Home view.

The tiles are dynamic and show the last-used apps, such as navigation, media, phone, etc. Tap an app to expand it or swipe from the left in the tile to view additional apps.

> **Note**
>
> When the vehicle is moving:
>
> - Certain applications (e.g. the Owner's Manual) may be deactivated.
> - Certain messages (e.g. those generated by apps) will be shortened.

Status bar

Current vehicle activities are shown at the top of the screen in the status bar. The status bar shows information such as active user profile, network and connection status as well as the clock.

Notifications view

The vehicle's notifications are collected at the top of the screen.

Pull the tab down to access Notifications view. Notifications shows missed calls or information about the vehicle. User profiles are also accessed from Notifications view.

To leave Notification view, tap outside of Notifications, press the Home button or swipe upwards. The views behind will become visible again and can be used.

Climate view

At the bottom of the screen are buttons for App view, settings and the most common climate settings, such as temperature and seat heating settings.

Tap the temperature button at the bottom center of the center display to open Climate view and additional settings options.

Tap the Home button to close Climate view.

Camera view

Camera view starts automatically when gear selector position R is used.

Camera view shows the Park Assist Cameras (PAC[1]), which display a 360° panoramic view as well as separate views for each of the four cameras: rear, front, left and right.

Camera view closes automatically when the vehicle reaches a certain speed or can be closed manually by tapping ▢◃ or the Home button.

App view

Tap ⊞ toward the bottom of the center display.

App view provides access to the vehicle's preinstalled and downloaded apps. From App view, you can download and install additional apps and access the Owner's Manual.

Tap an app to open it in full-screen mode.

User profiles

Pull down Notifications view to access user profiles.

Many of the vehicle's settings can be customized to the user's personal preferences and saved in different user profiles.

Settings that can be saved in a user profile include screens, mirrors, front seat, navigation, audio and media system, language and voice control.

You can add profiles, log out or switch between profiles in Notifications view.

[1] Park Assist Camera

4.2.7. Handling tiles in the center display

The center display's Home and App views contain expandable tiles.

Expanding an app in Home view

To expand an app:

1 Tap the desired app. When an app is opened, the other apps are temporarily hidden.

Opening an app provides access to its basic functions.

To close an app:

1 Press briefly on the Home button under the center display.

Expanding a tile in App view

Expanding a tile:

1 Tap ∨.

> The tile expands and provides access to additional apps.

Closing an expanded tile:

1 The tile can be closed in two ways:

- Tap ∧.
- Briefly press the Home button at the bottom of the center display.

Center display's home button.

You can always press the Home button to return to Home view.

4.2.8. Symbols in the center display status bar

Overview of symbols displayed in the center display status bar.

The status bar shows current vehicle activities and in certain cases, also their status. Due to the limited space in the status bar, not all symbols will be displayed at all times. Several examples are provided below.

Symbol	Meaning
	Connected to the network.
LTE 2G 3G 4G	Network type.
	Roaming activated.
	Bluetooth device connected.
	Information sent to and from GPS.
15:45	Clock.
	Wireless phone charging.

4.2.9. Moving apps in the center display

App view consists of four tiles in which apps can be moved and arranged according to preference. Expand a tile for access to other apps in addition to those shown.
Recently installed apps are placed in App view.

1 Open App view.

Tap .

2 Press and hold an app.

> It can then be moved.

3 Drag the app to the desired location in App view.

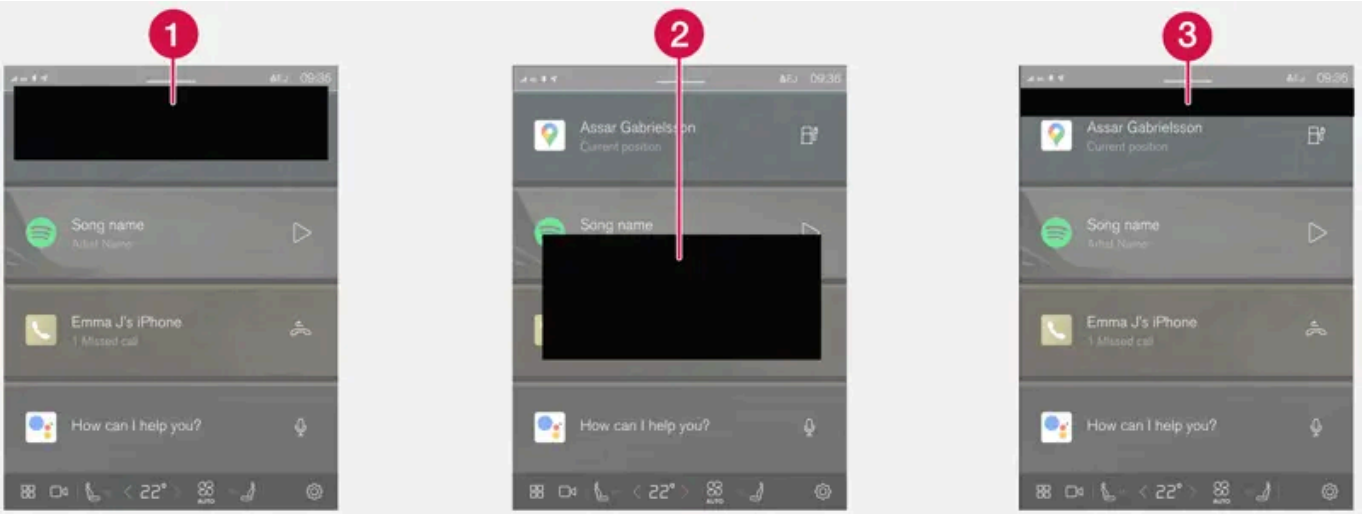
Swipe the screen to scroll up or down in the view to display information outside the view.

> **Note**
>
> There must be at least one app in every tile.

> **Note**
>
> Apps cannot be situated at spots already in use.

4.2.10. Message in the center display

The following illustration shows how messages and notifications may appear in the center display in different situations.



1. Shown at the top of the center display. Requires immediate action and may have up to three buttons allowing the user to manage the message. Dismiss by swiping right or left. The message will then be saved in Notifications view.
2. Shown as a window in the center display and requires immediate action. May have 1-3 buttons for management.
3. Shown for a few seconds at the top of the center display. It is not possible to do anything with the notification, and it is not saved anywhere.

4.2.11. Keyboard in the center display

You can use the keyboard in the center display to enter characters or to switch to handwriting mode to "write" letters and characters on the screen.

The keyboard can be used to enter characters (letters, numbers, symbols, etc.) to e.g. send text messages from the vehicle, enter passwords or search for information in the digital Owner's Manual.

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The keyboard will only appear when it is possible to enter text on the screen.

This button hides the keyboard. In cases where this is not possible, the button will not be displayed.

Used to change to handwriting mode.

Tap the confirm button over the keyboard once to confirm the text that has been entered. The button's appearance differs depending on the context.

Variants of letters or characters

Variants of a letter or character, e.g. **é** or **è**, can be entered by pressing and holding the letter or character. A box containing possible variants of the letter or character will appear. Tap the desired variant. If no variant is selected, the original letter/character will be used.

4.2.12. Entering characters, letters and words by hand in the center display

Characters, letters and words can be entered in the center display by handwriting them on the touchscreen.

Tap the button on the center display's keyboard to switch from the keyboard to handwriting mode.

Return to the standard keyboard layout.

Handwriting characters/letters/words

1 Write a character, a letter, a word or parts of a word in the field for handwritten letters. Write the word or part of the word vertically or horizontally.

> A number of suggestions for characters, letters or words will be displayed. The most likely will be shown at the top of the list.

> **Important**
>
> Do not use sharp objects on the screen as this could cause scratches.

2 The character/letter/word will be entered automatically after a short pause if no other action is taken.

> The character/letter/word at the top of the list will be used. Tap one of the other characters/letters/words in the list to use it instead.

4.2.13. Changing keyboard language in the center display

In order to toggle between keyboard languages, the languages must first be added under **Settings**.

Adding or deleting languages in Settings

The keyboard is automatically set to the same language as the system language. The keyboard language can be changed manually without affecting the system language.

1. Tap ⚙ at the bottom of the center display.
2. Tap **System**, **Languages and input**, **Keyboard**.
3. Select one or more languages in the list.

> It is now possible to toggle between the selected languages using the keyboard.

If no language has been selected under **Settings**, the keyboard will remain in the same language as the vehicle's system language.

Toggling between keyboard languages

If more than one language has been selected in **Settings**, the button in the keyboard can be used to switch between the different languages.

To toggle between keyboard languages from the list:

1. Press and hold the button.

> A list will appear.

2. Select the desired language. If more than four languages have been selected, you can browse through the list shown on the keyboard.

> The keyboard and word suggestions will be adapted to the selected language.

To change keyboard language without displaying the list:

1 Briefly press the button.

> The keyboard layout will change to the next language in the list without displaying the list.

4.2.14. Date and time

The clock is shown in the center display, where it is also possible to adjust settings for date and time.

Location of clock

The clock is located at the top right in the center display's status bar.

Settings for date and time

1 Tap ⚙ and then **System**. Then select **Date and time**.

2 Select your preferred settings.

Automatic date and time setting

By default, the date and time are already set and the time zone is automatically adjusted to the vehicle's location.

To adjust the date and time manually, switch off the setting for automatic date and time. To adjust the time zone manually, switch off the setting for automatic time zone. It is also possible to select either a 24-hour or a 12-hour clock.

4.2.15. Navigate in the Owner's Manual in the center display

The digital Owner's Manual can be accessed from the center display.

To access the Owner's Manual, tap ⊞ and then 🕮.

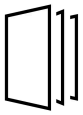
There are a number of ways to find information in the Owner's Manual.

Contents of the Owner Manual

Start page

Tap the symbol to return to the Owner's Manual start page.

Categories



The articles in the Owner's Manual are structured into main and sub-categories. The same article may appear in several relevant categories in order to help make them easier to find.

Visual navigation

Exterior and interior overviews of the vehicle. Hotspots are provided for certain functions, components, etc. Tap a hotspot to come to a relevant article.

1 Press **Exterior** or **Interior**.

> Exterior or interior images of the vehicle are shown with hotspots. The hotspots lead to articles about the corresponding function, component, etc. Swipe the screen horizontally to scroll between the images.

2 Tap a hotspot.

> The title of a relevant article will be displayed.

3 Tap the title to open the article.

To go back, tap the left arrow.

Quick guide

Useful information about the most commonly used features and functions in your vehicle.

Video

Tap the symbol to go to brief instructive videos for various functions in the vehicle.

Release notes

Read more about the current version and implemented updates.

Search function

Tap the search field at the top of the Owner's Manual to reach the search function from the start page.

Use ⌕ at the top of the Owner's Manual to reach the search function from other pages.

4.3. Symbols and messages

4.3.1. BLIS* messages

A number of messages related to BLIS[1] may be displayed in the instrument panel. Several examples are provided below.

Message	Meaning
Blind spot sensor Service required	The system is not functioning as intended. Contact a workshop[2].
Blind spot system off Trailer attached	BLIS and Cross Traffic Alert* have been deactivated because a trailer has been connected to the vehicle's electrical system.

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

* Option/accessory.

[1] Blind Spot Information

[2] An authorized Volvo workshop is recommended.

4.3.2. Electronic Stability Control symbols and messages

A number of symbols and messages related to Electronic Stability Control (ESC[1]) may be displayed in the instrument panel. Several examples are provided below.

Symbol	Message	Meaning
	Steady glow for approx. 2 seconds	System check when vehicle is started.
	Flashing light	The system is actively operating.

Symbol	Message	Meaning
–	Traction control temporarily off	Active yaw control has been temporarily reduced due to too-high brake system temperature. The function will be automatically reactivated when the brakes have cooled.
	ESC Service required	The system is not functioning properly. Stop the vehicle in a safe location. Check if the problem was temporary or if it persists by exiting the vehicle, locking the vehicle, and then unlocking and getting in again. If the problem persists, contact a workshop – an authorized Volvo workshop is recommended. The vehicle can be driven, but without ESC functionality.

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

[1] Electronic Stability Control

4.3.3. Pilot Assist* symbols and messages

A number of symbols and messages relating to Pilot Assist[1] may be displayed. Several examples are provided below.

Symbol	Message	Meaning
	The symbol is illuminated. The vehicle symbol is illuminated when the vehicle has a vehicle ahead to relate to.	The vehicle is maintaining the set speed.
	Pilot Assist Service required The symbol is extinguished	The system is not functioning as intended. Contact a workshop. Pilot Assist is in standby mode.
	Extinguished steering wheel symbol	Indicates that steering assistance is deactivated. When Pilot Assist is providing steering assistance, the steering wheel is illuminated.
	Symbol for hands on the steering wheel	The system cannot detect the driver's hands on the steering wheel. Place your hands on the steering wheel and actively steer the vehicle. The system alerts in various stages along with audible signals. The hazard warning flashers are activated if the vehicle needs to brake down to a standstill.
	Radar sensor front Sensor blocked See Owner's manual, Front radar alignment incomplete or Front camera alignment incomplete	Clean the area in front of the radar sensors.

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

* Option/accessory.

[1] Depending on market, this function can be either standard or optional.

4.3.4. Lane Keeping Aid symbols and messages

A number of symbols and messages related to Lane Keeping Aid (LKA[1]) may be displayed in the instrument panel. Several examples are provided below.

Symbol	Message	Meaning
	Driver support system Reduced functionality Service required	The system is not functioning as intended. Contact a workshop[2].
	Windscreen sensor blocked See Owner's manual	The camera's ability to detect the lane in front of the vehicle is reduced.
	Apply steering Lane Keeping Aid	Steering assistance is disabled when the driver's hands are not on the wheel. Follow the instructions and steer the vehicle.

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

[1] Lane Keeping Aid

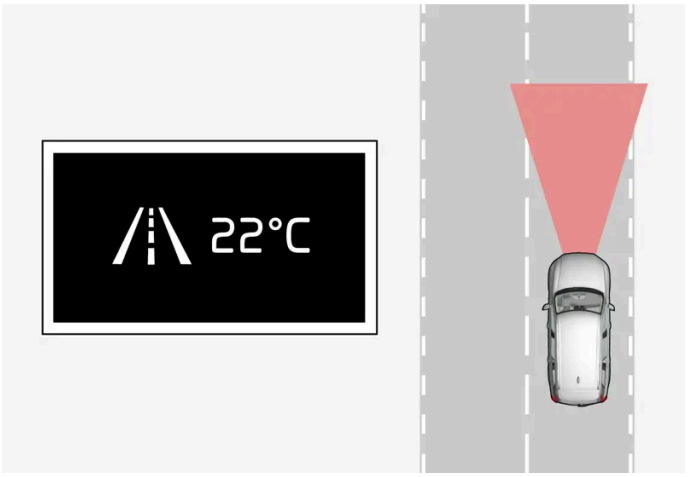
[2] An authorized Volvo workshop is recommended.

4.3.5. Lane Keeping Aid display

Lane Keeping Aid (LKA[1]) uses symbols in the instrument panel for various situations.

Some examples of symbols and descriptions of the situations in which they might appear are provided below.

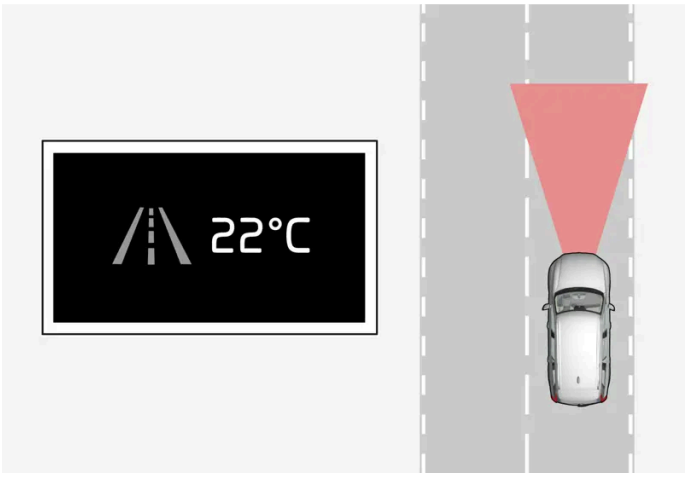
Available



Available – the marker lines in the symbol are white.

Lane Keeping Aid is able to detect one or both of the traffic lane's side marker lines.

Unavailable



Unavailable – the marker lines in the symbol are extinguished.

Lane Keeping Aid is unable to detect the lane marker lines, the vehicle's speed is too low or the road is too narrow.

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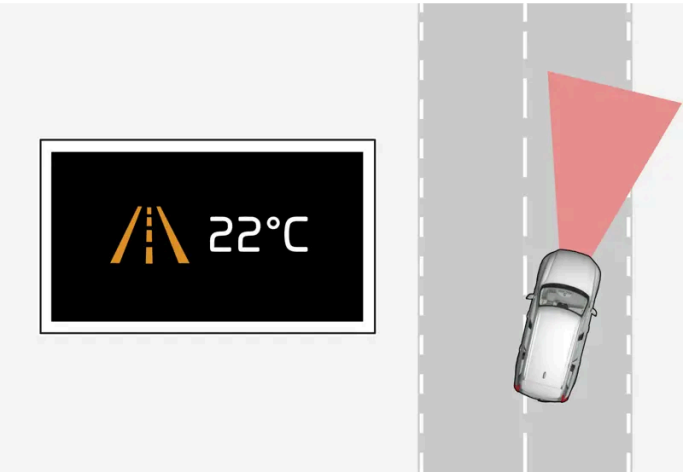
Steering/warning indicator



Steering/warning – the marker lines in the symbol are colored.

Indicates that the Lane Keeping Aid system is alerting the driver and/or attempting to steer the vehicle back into the lane.

[1] Lane Keeping Aid

4.3.6. Park Assist* and Park Assist Camera* symbols and messages

Symbols and messages for the Park Assist system and the Park Assist Camera can be displayed in the instrument panel and/or the center display. Several examples are provided below.

Symbol	Message	Meaning
	If the symbol is extinguished.	The rear Park Assist sensors are **turned off** and no acoustic warnings or field markings for obstacles/objects will be provided.
	Cleaning needed Park Assist System sensors blocked	One or more of the sensors are blocked. Check and clean/remove the obstacle as soon as possible.
	Park Assist System unavailable Service required	The system is not functioning as intended. Contact a workshop[1].

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

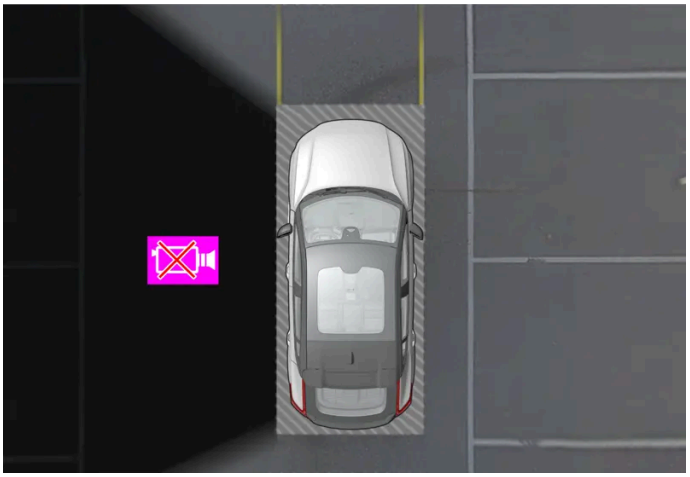
If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

Warning

Be extra cautious when reversing if this symbol is shown when a trailer, bike carrier or similar is attached and electrically connected to the vehicle.

An unlit symbol indicates that the rear parking assist sensors are **deactivated** and will not warn of any obstacles.

Defective Park Assist Camera



Example indicating that the vehicle's left camera is malfunctioning.

If a camera sector is dark, this indicates that the camera is not functioning properly.

A dark camera sector may also be displayed in the following situations, but **without** the defective camera symbol:

- a door is open
- the tailgate is open
- a rearview mirror is folded in

* Option/accessory.

[1] An authorized Volvo workshop is recommended.

4.3.7. Symbols in the center display status bar

Overview of symbols displayed in the center display status bar.

The status bar shows current vehicle activities and in certain cases, also their status. Due to the limited space in the status bar, not all symbols will be displayed at all times. Several examples are provided below.

Symbol	Meaning
	Connected to the network.
LTE 2G 3G 4G	Network type.
R	Roaming activated.
	Bluetooth device connected.
	Information sent to and from GPS.
15:45	Clock.
	Wireless phone charging.

4.3.8. Indicator and warning symbols

Indicator and warning symbols alert the driver that a function is active, that a symbol is working, or that an error or serious fault has occurred.

Red symbols

	WARNING The red warning symbol illuminates to indicate that a fault has been detected that could affect safety or driveability. An explanatory message will be simultaneously displayed in the instrument panel. The warning symbol may also illuminate in combination with other symbols.
	Seat belt reminder Lights up or flashes when a someone in the vehicle has not fastened their seat belt.
	Airbags A fault has been detected in one of the vehicle's safety systems. Read the message in the instrument panel and contact a workshop. Volvo recommends contacting an authorized Volvo workshop.
 [1] [2]	**Fault in brake system** A fault has occurred in the brake system. Read the message in the instrument panel and contact a workshop. Volvo recommends contacting an authorized Volvo workshop.
 [1] [2]	**Parking brake** Steady glow: the parking brake is activated. Flashing: a fault has occurred in the parking brake. Read the message in the instrument panel.
	Fault in electrical system A fault has occurred in the electrical system. Read the message in the instrument panel and contact a workshop. Volvo recommends contacting an authorized Volvo workshop.
	Assistance at risk of collision Warns the driver if there is a risk of a collision with another vehicle, pedestrian, cyclist or large animal.

Amber symbols

	Information A problem has occurred in one of the vehicle's systems. Read the message in the instrument panel. The information symbol may also illuminate in combination with other symbols.
 [1] [2]	**Fault in brake system** A fault has occurred in the brake system. Read the message in the instrument panel.
 [1] [2]	**Fault in ABS system** The system is not functioning properly. The vehicle's regular brakes will still work, but without the ABS function.
	Rear fog light Rear fog light on.
	Tire pressure system Tire pressure low. If there is a fault in the tire pressure system, the symbol will first flash for approximately 1 minute and then glow steadily. This may occur if the system cannot detect or alert the driver of low tire pressure as intended.
	Fault in headlight system A fault has occurred in the headlight system. Read the message in the instrument panel.
	Lane Keeping Aid Lane Keeping Aid is alerting/intervening.
	Reduced performance Temporary fault in driveline. Read the message in the instrument panel.
	Stability system Steady glow: a fault has occurred in the system. Flashing: the system is working.
	Assistance during collision risks System not available The system for assistance during collision risks is not available or is working but performance is reduced.

Blue symbols

	Active high beam Active high beam is activated and on.
	High beams High beams on.

Green symbols

	Front fog light Front fog light on.
	Parking lights Parking lights on.
 	Left/right turn signals Turn signal in use.

White/gray symbols

	Active high beam Active high beam is activated but not on.
	Hold brake when stationary Hold brake when stationary is activated.
	Driver Alert Driver Alert is activated.
	Cold battery The battery has reduced capacity due to low temperature. The battery charge could drop significantly if the vehicle is parked in cold ambient temperatures.
	Lane Keeping Aid White symbol: Lane Keeping Aid is on and lane marker lines are detected. Gray symbol: Lane Keeping Aid is on and lane marker lines are not detected.
	Rain sensor The rain sensor is activated.

[1] Canadian models.

[2] US models.

4.3.9. Parking climate symbols and messages

A number of symbols and messages related to parking climate may be displayed in the instrument panel.

Messages related to parking climate can also be displayed in a device that has the Volvo Cars* app.

Symbol	Message	Meaning
	Parking climate Service required	Parking climate is not functioning properly. Contact a workshop[1] to have the system checked as soon as possible.
	Parking climate Temporarily unavailable	Parking climate is temporarily not functioning properly.
	Parking climate unavailable Charge level too low	The parking climate cannot be activated because the high-voltage battery's charge level is too low to start the parking heater. Charge the vehicle.
	Limited parking climate Charge level too low	Parking climate will only run for a limited time when the high-voltage battery's charge level is too low. Charge the vehicle.

* Option/accessory.

[1] An authorized Volvo workshop is recommended.

4.3.10. Transmission symbols and messages

If a problem occurs with the transmission, a symbol and a message are displayed in the instrument panel.

Symbol	Meaning
	A fault has occurred in the transmission. Read the message in the instrument panel.
	Temporary fault in driveline. Read the message in the instrument panel.

4.4. Voice control

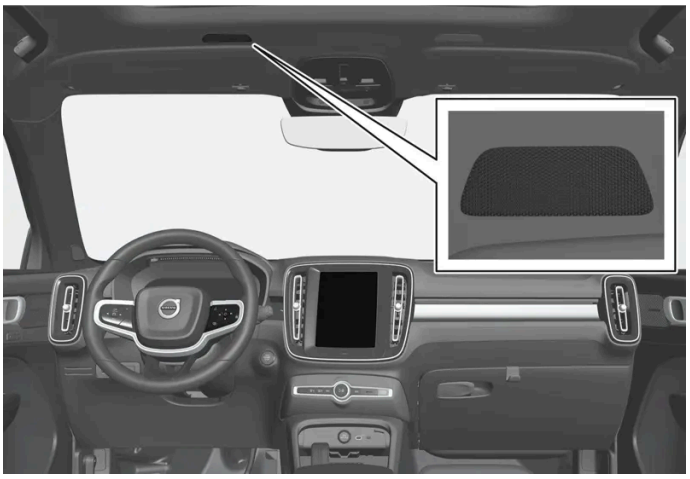
4.4.1. Voice control with the Google Assistant

The Google Assistant, which is integrated in the vehicle, makes it possible to control a number of functions, such as the climate system, Google Maps for navigation, FM radio* and phone, using your voice.

What is the Google Assistant?

The Google Assistant is a virtual assistant that enables you control various functions in the vehicle using your voice and get assistance with other things, such as searching for information, getting weather forecasts, managing your Google Calendar, etc.

The assistant understands natural speech, i.e., no knowledge of specific commands is needed to get the system to perform different tasks. Instead, the user can speak freely with the system, which will respond with answers to questions or will notify the user that it did not understand what was said.



Voice control microphone

What areas can be controlled using the Google Assistant?

In addition to asking the assistant to search for information on Google, search for weather forecasts, or manage your Google Calendar[1], you can also control a number of functions in the vehicle using your voice. These include:

- media
- FM radio*
- phone and text messages [2]
- navigation via Google Maps
- climate

> **Note**
>
> A poor Internet connection can limit the number of available functions.

> **Warning**
>
> The driver is always responsible for ensuring that the vehicle is operated in a safe manner and that all applicable traffic regulations are followed.

* Option/accessory.

[1] Requires Internet connection.

[2] Dictating text messages is only possible for phones with Android or iOS 13 or later.

4.4.2. Using voice control

The Google Assistant enables you to use your voice to control various functions in the vehicle or to ask for other information, such as a weather forecast.

Starting the Google Assistant

The Google Assistant can be started in three different ways:

- saying the voice command "**Ok Google**" or "**Hey Google**"[1]
- briefly pressing the steering wheel button for voice control
- pressing the microphone in the center display .

The system indicates that it is active and listening by emitting a brief audible signal[2] and a graphic acknowledgment in the center display.

Voice control examples

After the system starts, you can give instructions and ask questions in natural speech. Here are some examples of how to use voice control.

- "**Navigate home**" – Get route guidance to the address stored in Maps as the home address for the Google account used to log in.
- "**Read my messages**" – Have text messages sent to your phone read out loud.
- "**Raise the temperature**" – Raise the temperature in the passenger compartment.
- "**Play music**" – Play music in selected media app.

Logging in with a Google account means that the Assistant will be more personalized when the vehicle is connected to the Internet. For example, it is possible to call contacts stored in contacts.google.com [https://contacts.google.com/] or ask about information entered in Google Calendar.

Note

Google Assistant is not yet available in all languages. Read more at support.google.com [https://support.google.com/] for availability or, if possible, try another language.

Note

The above instructions provide a general description and include third-party suppliers. Availability, procedures and functionality may vary or be changed.

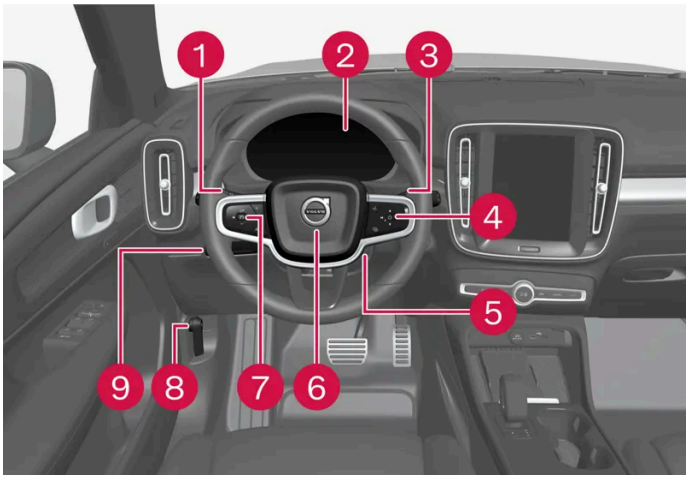
[1] "Hey Google" only works in some languages.

[2] When voice commands are used to start the system, the audible signal will only sound if you pause before continuing your instructions.

4.5. Displays and controls by the driver in a left-hand drive vehicle

The overviews show the location of the vehicle's displays and controls.

Steering wheel and dashboard

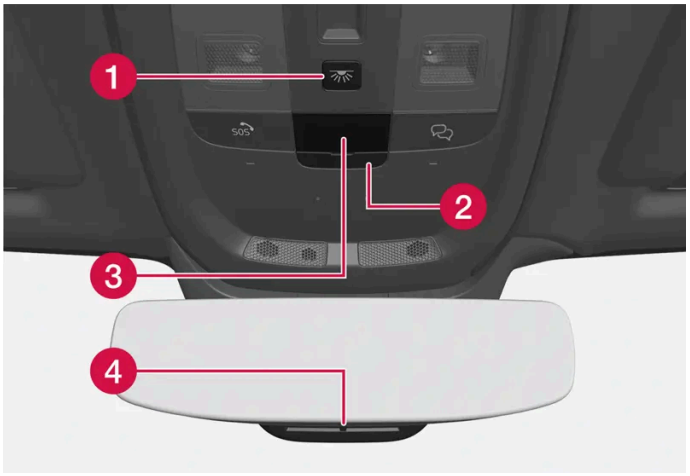


1. Parking lights, daytime running lights, low beams, high beams, turn signals, front fog lights/cornering illumination*, rear fog light, trip computer reset
2. Instrument panel
3. Wipers and washers, rain sensor*
4. Right-side steering wheel keypad
5. Steering wheel adjustment
6. Horn
7. Left-side steering wheel keypad

8 Hood open

9 Display lighting, unlocking/locking*/closing* the trunk lid/tailgate

Ceiling console



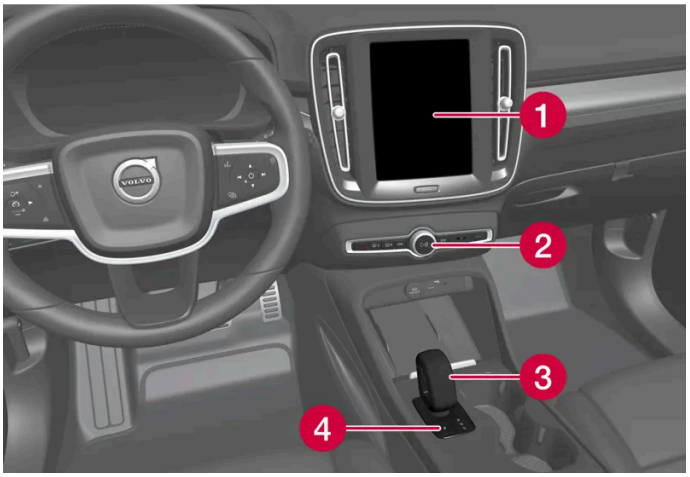
1 Front reading lights and courtesy lighting

2 SIM card slot

3 Ceiling console display button

4 HomeLink® *

Center and tunnel console



1 Center display

2 Hazard warning flashers, defrosting, media

3 Gear selector

4 Parking brake

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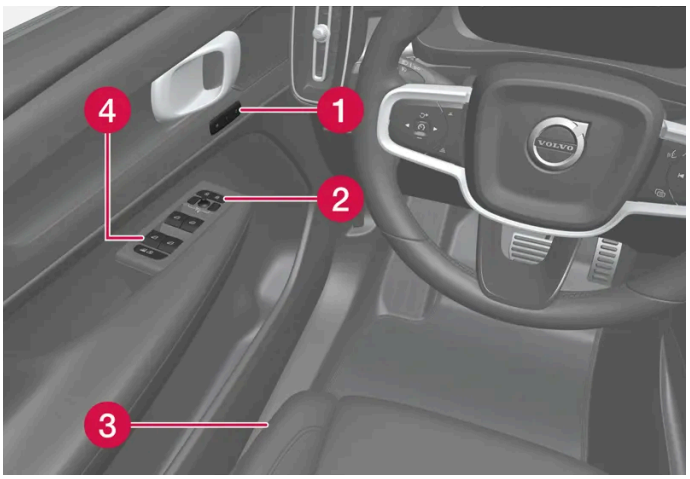
Driver's door



1 Memory for power front seat settings

2 Central locking and power door mirrors

3 Controls for front seat

4 Power windows and child locks*

* Option/accessory.

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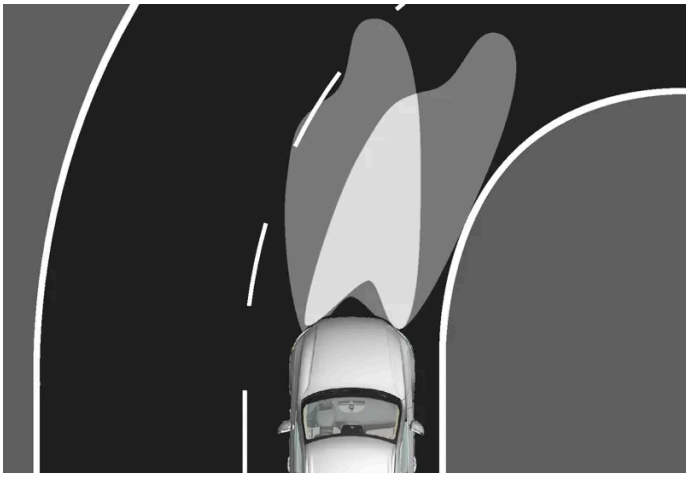
5. Lighting

5.1. Exterior lighting

5.1.1. Active Bending Lights*

Active Bending Lights (ABL) are designed to help provide extra illumination in curves and intersections. Depending on equipment level, vehicles with LED[1] headlights* may be equipped with Active Bending Lights.



Headlight pattern without Active Bending Lights (left), and with (right).

Active Bending Lights follow the movement of the steering wheel to help provide extra illumination in curves and intersections, helping to improve visibility for the driver.

If a fault is detected in the system, the symbol will illuminate in the instrument panel and a message will be displayed.

Active Bending lights are only activated in weak daylight or darkness or when the lighting ring on the steering wheel lever is in position AUTO. The vehicle must be moving with high beams or low beams on.

* Option/accessory.

[1] LED (Light Emitting Diode)

5.1.2. Active high beam

Active high beam uses the camera sensor at the top of the windshield. The camera sensor registers the headlights of oncoming vehicles or the taillights of vehicles ahead and automatically switches from high beams to low beams.

Active high beams is indicated by the symbol.

This function can be used in dark conditions when the vehicle's speed is approx. 20 km/h (approx. 12 mph) or higher. The function can also detect street lighting. When the camera sensor no longer detects an approaching vehicle or a vehicle ahead, the headlights will return to high beams after a second or two.

Activating active high beams

Active high beams can be activated and deactivated by turning the lighting ring on the left-side steering wheel lever to position . The lighting ring will then return to AUTO. When active high beams are activated, a white symbol will be displayed in the instrument panel. When high beams are on, the symbol will be blue.

If active high beams are deactivated when the high beams are on, the headlights will automatically switch to low beams.

Limitations for active high beams

The camera sensor on which the function is based has limitations.

If this symbol and the message **Active High Beam Temporarily unavailable** is displayed in the instrument panel, switching between high and low beams must be done manually.

The same applies if this symbol along with the message **Windscreen sensor blocked See Owner's manual** is displayed.

Active high beams may be temporarily unavailable in certain situations, e.g. heavy fog or rain. When active high beams become available again, or the windshield sensors are no longer blocked, the message will disappear and active high beams will be reactivated.

Warning

Automatic high beam is an aid in using the best possible light based on prevailing conditions.

The driver is always responsible for manually switching between high and low beam when traffic situations or weather conditions require this.

5.1.3. Farewell lighting

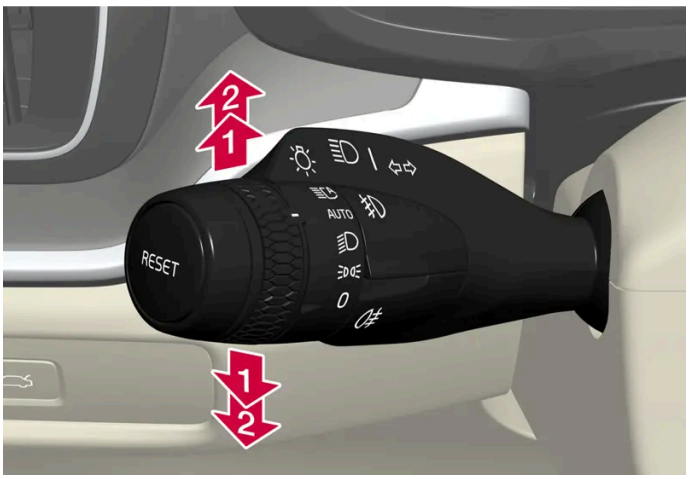
Farewell lighting is activated when the driver exits the vehicle.

When the driver exits the vehicle after driving, the parking lights and license plate lights will remain on. The lights will stay illuminated for about two minutes or until the vehicle is locked.

If the lighting ring on the steering wheel lever is in position ≡D0E, the parking lights will remain illuminated until they are switched off manually.

5.1.4. Using turn signals

The vehicle's turn signals are controlled using the left-side steering wheel lever. The turn signals flash three times or continuously, depending on how far up or down the lever is moved.



Turn signals.

Triple flash indicator

- Move the steering wheel lever up or down to the first position and release. The turn signals will flash three times.

Note

This automatic flashing sequence can be interrupted by immediately moving the lever in the opposite direction.

Continuous flashing sequence

2. Move the lever up or down as far as possible.

The lever will stop in its end position and can be moved back manually or automatically by moving the steering wheel.

> **Note**
>
> If the turn signal indicator flashes more quickly than normal, refer to the message in the instrument panel.

5.1.5. Brake lights

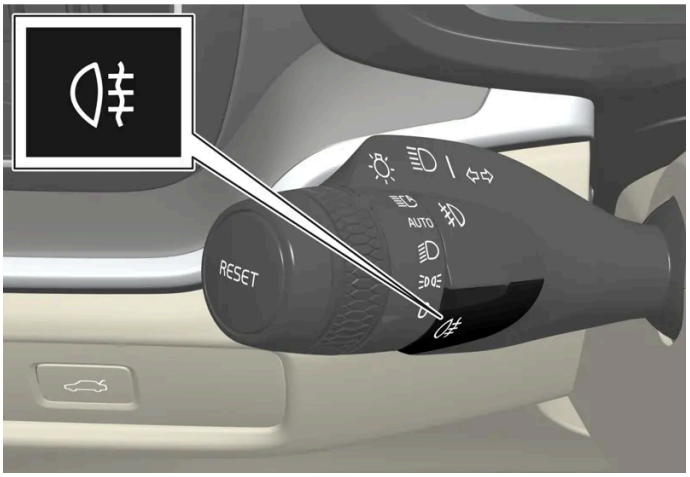
The brake lights are automatically illuminated when braking.

The brake lights are illuminated when the brake pedal is depressed and when the brakes are automatically applied by a driver support system.

The brake light also comes on during regenerative braking if the braking effect exceeds a certain level.

5.1.6. Rear fog light

The rear fog light is considerably brighter than ordinary taillights and should only be used to help other road users see the vehicle when visibility is reduced by conditions such as fog, snow, smoke or dust.



Rear fog light button.

The fog lights are located on the right and left sides of the rear of the vehicle.

The rear fog light can only be used when:

- when the vehicle is in drive mode and the lighting ring is in position AUTO or

- when the vehicle is in drive mode and the lighting ring is in position ≡D◐≡ and the fog lights are on.

Press the button to switch on/off. The ◐≠ symbol in the instrument panel illuminates when the rear fog light is on.

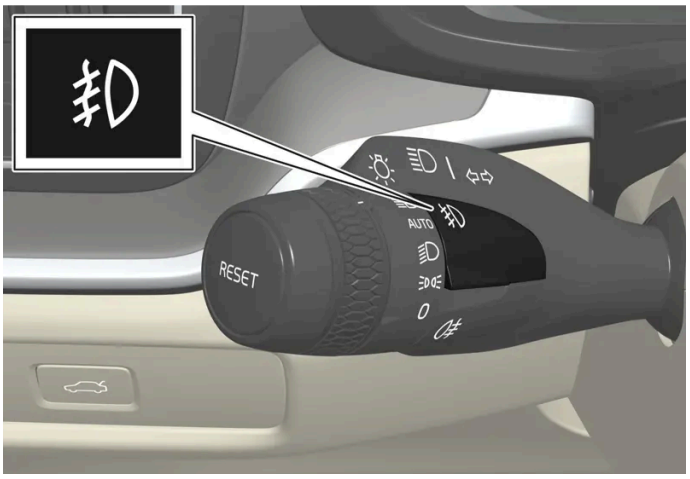
The rear fog light turns off automatically when:

- when the lighting ring is in 0 position
- the vehicle is switched off
- the lighting ring is in the ≡D◐≡ position and the front fog lights are turned off.

> **Note**
>
> Regulations concerning rear fog light use vary from country to country.

5.1.7. Front fog lights/corner illumination*

The fog lights can be activated manually when driving in fog and are activated automatically when backing up to help augment the backup light.
If the vehicle is equipped with corner illumination*, the fog lights are activated automatically in weak daylight or dark conditions to illuminate the area diagonally in front of the vehicle.



Front fog lights button.

The front fog lights can be turned on when the vehicle is in drive mode and the lighting ring is in position AUTO, ≡D or ≡D◐≡.

Tap the button to activate or deactivate the function. The ≠D symbol in the instrument panel comes on when the front fog lights are on.

The front fog lights turn off automatically when the ignition is switched off or when the lighting ring is in position 0 .

> **Note**
>
> Regulations concerning fog light use vary from country to country.

Cornering illumination*

The front fog lamps can include the cornering lights function, which temporarily illuminates the area diagonally in front of the car in the direction the steering wheel is turned on a sharp bend, or in the direction shown by the direction indicators.

The function is activated in weak daylight or dark conditions when the lighting ring is in AUTO or mode and the vehicle speed is less than about 30 km/h (about 20 mph).

Both cornering illumination are also illuminated as a complement to the taillights when reversing. They will go out when the vehicle drives forward again.

* Option/accessory.

5.1.8. Low beams

When driving with the lighting ring in the AUTO position, low beam will be automatically activated in weak daylight or dark conditions, or when the vehicle is in drive mode.

Lighting ring in AUTO position.

With the lighting ring in the AUTO position, the low beams will also be automatically activated if the rear fog light is activated.

With the lighting ring in the position, low beams will always be on when the vehicle is in drive mode.

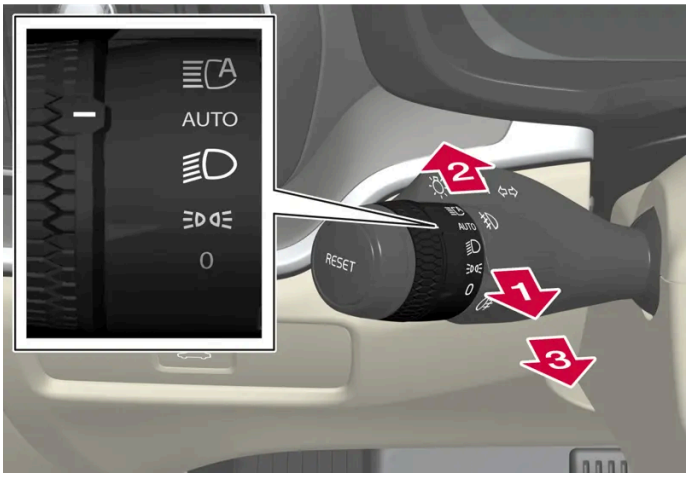
Tunnel detection

The vehicle will detect if it enters a tunnel and shift from daytime running lights to low beams.

Note that the left-hand steering wheel lever must be in AUTO position for tunnel detection to work.

5.1.9. Using high beam

High beam is operated via the left-hand steering wheel lever. High beam is the vehicle's strongest lighting and should be used when driving in dark conditions, provided it does not blind other road users, to improve visibility.



Steering wheel lever with lighting ring.

High beam flash

1. Move the steering wheel lever slightly backward to the high beam flash mode. The high beams will illuminate until the lever is released.

High beams

2. The high beams can be activated when the lighting ring is in mode AUTO[1] or . Activate high beams by moving the steering wheel lever forward.
3. Deactivate by moving the steering wheel lever backward.

> **Note**
>
> When high beams are activated, they can be deactivated by moving the steering wheel lever back to either position 1 or 3.

When the high beams are activated, the symbol will be illuminated in the instrument panel.

[1] When the low beams are on.

5.1.10. Using Guidance Light

Some of the exterior lights remain on to illuminate the area around the vehicle and work as Guidance Light after the vehicle is locked.

To activate the function:

1. Make sure the vehicle is switched off.
2. Push the left-side steering wheel lever toward the dashboard and release.
3. Exit the vehicle and lock the doors.

> The symbol illuminates in the instrument panel to indicate that the function is activated and exterior lighting switches on: Parking lights, headlights, license plate lighting and outer door handle lighting*.

The Guidance Light remains illuminated for about 60 seconds.

* Option/accessory.

5.1.11. Emergency brake lights

The emergency brake lights are activated to warn following vehicles of hard braking.
This function causes an additional taillight on each side of the vehicle to illuminate.

The emergency brake lights are activated in the event of hard braking or if the ABS system is activated and the vehicle is traveling at a high speed.

After the driver decelerates to a low speed and then releases the brake, the brake lights resume their normal function and the lights go out.

5.1.12. Parking lights

The parking lights can be used to help other road users see the vehicle if it is stopped or parked. Use the lighting ring on the steering wheel lever to turn on the parking lights.

Lighting ring in the parking light position.

Turn the lighting ring to the position to turn on the parking lights (the license plate lighting will also illuminate).

Canadian models: If the vehicle is in Drive mode, the daytime running lights will be illuminated instead of the front parking lights.

US models: When AUTO mode is selected, the daytime running lights can be deactivated in the center display. The parking lights will also be deactivated. In weak daylight or dark conditions, the parking lights and low beams will be illuminated.

In dark conditions, the rear parking lights also illuminate when the tailgate is opened to alert following traffic.

5.1.13. Welcome Light

The Welcome Light is activated when the vehicle is unlocked and can be used to provide light as you walk toward the vehicle.

The function is activated when the vehicle is unlocked. The parking lights, overhead lights, footwell lights and trunk/cargo compartment lights are activated in daylight conditions. In weak daylight or dark conditions, the license plate lighting and outer door handle lighting* will also be activated, with the light directed toward the ground.

If no door is opened, the lights will remain illuminated for approx. 2 minutes. If a door is opened while the function is activated, the interior lighting and outer door handle lighting* will remain on for a longer period of time.

This function can be activated and deactivated in the center display.

* Option/accessory.

5.1.14. Hazard warning flashers

Hazard warning flashers warn other road users by all of the vehicle's turn signals being activated at the same time. The function can be used to warn about a traffic hazard.

Hazard warning flashers button.

Press the button to activate the hazard warning flashers.

The hazard warning flashers are automatically activated in a collision.

> **Note**
>
> Regulations concerning the use of hazard warning flashers may vary from country to country.

5.1.15. Daytime running lights

The vehicle has sensors that detect ambient lighting conditions. With the lighting ring in the AUTO position, the daytime running lights will be on. In weak daylight or dark conditions, the headlights automatically switch to low beams.

Lighting ring in AUTO position.

With the steering wheel lever's lighting ring in the AUTO position, the daytime running lights (DRL[1]) will illuminate when the vehicle is driven in daylight conditions. The headlights will switch automatically from daytime running lights to low beams in weak daylight or dark conditions. The headlights will also switch to low beams if the front* and/or rear fog lights are activated.

US models: When AUTO mode is selected, the daytime running lights can be deactivated in the center display. The parking lights will also be deactivated. In weak daylight or dark conditions, the parking lights and low beams will be illuminated.

US models: With the lighting ring in the 0 or position, the daytime running lights will be **off**.

Canadian models: With the lighting ring in the 0 or position, the daytime running lights will be on.

> **Note**
>
> Volvo recommends use of Daytime Running Lights in the US. Its use is mandatory in Canada.

> **Warning**
>
> The system is an energy saving aid – it cannot in all situations determine when the daylight is too weak or not strong enough, e.g. when there is fog or rain.
>
> The driver is always responsible for driving the vehicle with lighting that is safe for the traffic conditions and as specified by applicable traffic regulations.

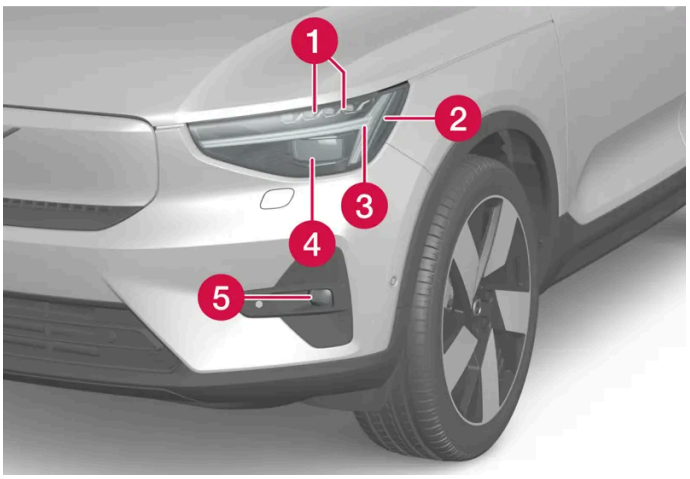
[1] Daytime Running Lights

* Option/accessory.

5.1.16. Location of exterior lights

The vehicle's exterior lighting consists of several different bulbs. LED[1] bulbs must be replaced by a workshop. An authorized Volvo workshop is recommended.

Front lights



1 High beams/low beams (LED)

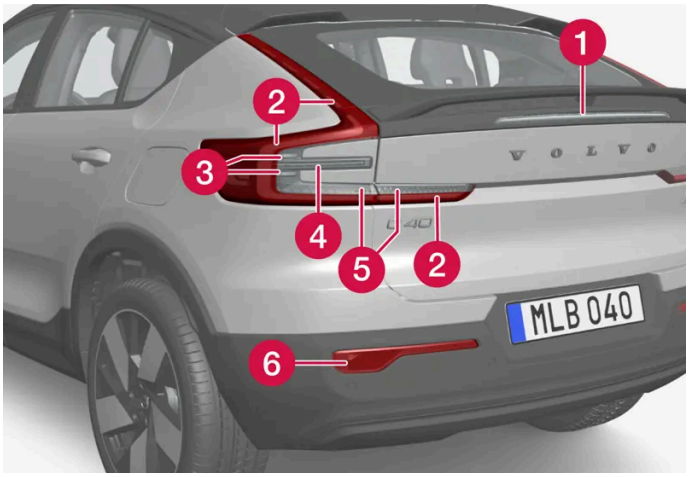
2 Side marker lights (LED)

3 Daytime running lights/position lamps/direction indicators (LED)

4 Pixel module* for high and low beams (LED)

5 Front fog light/cornering illumination* (LED)

Rear bulbs



1 Brake light – central, high-mounted (LED)

2 Parking light (LED)

3 Backup light (LED)

4 Brake light (LED)

5 Turn signals (LED)

6 Fog light

[1] LED (Light Emitting Diode)

* Option/accessory.

5.1.17. Bulb specifications

Specifications for replaceable light bulbs.

If you are experiencing problems with any lights other than light bulbs, contact a workshop[1]. If there is a problem with an LED[2] light, the entire lamp unit will normally need to be replaced.

Function	W[3]	Type
Rear fog light	21	H21W LL

[1] An authorized Volvo workshop is recommended.

[2] LED (Light Emitting Diode)

[3] Watt

5.1.18. Checking trailer lights*

When connecting a trailer, make sure that the trailer's lights are functioning before starting to drive.

Checking trailer lights*

Automatic check

When the trailer has been connected to the vehicle's electrical system, its lights can be checked by automatically activating them. This function helps the driver check that the trailer's lights are functioning correctly before starting to drive.

1. When a trailer is connected to the towbar, the message **Perform a trailer lamp check?** will appear in the instrument panel.
2. Acknowledge the message by pressing the O button on the right-side steering wheel keypad.

> The light check will begin.

3. Get out of the vehicle to perform the check.

> All of the lights on the trailer will begin flashing, and then illuminate separately one at a time.

4. Visually check that all of the trailer's lights are functioning correctly.
5. After a short time, all of the trailer's lights will start flashing again.

> The light check is completed.

Trailer rear fog light

When a trailer is connected, the vehicle's rear fog light may not illuminate and rear fog light functionality is instead transferred to only the trailer. If this is the case, check to see if the trailer is equipped with a rear fog light before activating the vehicle's rear fog light when driving with a trailer to help ensure safe operation.

Symbols and messages in the instrument panel

If one or more of the turn signals or brake lights on the trailer is not working, a symbol and message will be displayed in the instrument panel. The other lights on the trailer must be checked manually by the driver before the vehicle is driven.

Symbol	Message
	Right trailer turn indicator malfunction Left trailer turn indicator malfunction
	Trailer brake light malfunction

If any of the trailer's turn signal lights is not working, the turn signal symbol in the instrument panel will also flash more quickly than normal.

* Option/accessory.

5.2. Interior lighting

5.2.1. Interior Lighting

The passenger compartment is equipped with several different types of lighting, e.g. general lighting, adjustable interior lighting and reading lights.

Front overhead lighting

Lighting and controls in the overhead console.

1. General lighting
2. Reading light
3. Button for courtesy lighting and automatic courtesy lighting
4. Interior Mood Lighting

Reading lights

Briefly press one of the reading lights in the overhead console to turn it on or off. The light intensity can be adjusted by pressing and holding your finger on the light.

Passenger compartment lighting

Briefly press the courtesy lighting button in the overhead console to switch on or off the footwell lighting and general lighting.

Courtesy lighting auto switch

Press and hold the courtesy lighting button to activate and deactivate automatic passenger compartment lighting. When the button lights up

- white, automatic passenger compartment lighting is activated
- orange, automatic passenger compartment lighting is deactivated.

When automatic passenger compartment lighting is activated, courtesy lighting will illuminate as follows.

Courtesy lighting is switched on when

- the vehicle is unlocked
- a side door is opened.

Courtesy lighting is switched off when

- the vehicle is locked
- gear selector position D, R or N is selected
- a side door is closed
- a side door has been open for approx. 2 minutes.

Rear roof lighting*

Reading lights are located in the rear section of the vehicle and can also be used as general lighting.

Reading lights over the rear seat.

In vehicles with a panoramic roof*, there are two lighting units on each side of the roof.

Gently press the light briefly to turn on or off the reading lights. The light intensity can be adjusted by pressing and holding your finger on the light.

Glove compartment lighting

The glove compartment lighting comes on or goes off when the glove compartment is opened or closed.

Vanity mirror lighting*

The vanity mirror lighting comes on or goes off when the cover over the mirror is opened or closed.

Ground lighting*

The ground lighting comes on or goes off when a door is opened or closed.

Cargo compartment lighting

The cargo compartment lighting comes on or goes off when the cargo compartment is opened or closed.

Interior Lighting

A number of ambient light sources inside the vehicle can be adjusted via the center display.

Lighting in the door storage compartments

The lights in the door storage compartments come on when the vehicle is unlocked and go out when the vehicle is locked. The brightness can be adjusted via the center display.

Lighting in the tunnel console's front cup holder*

The lighting in front console cup holders switches on when the vehicle is unlocked and off when the vehicle is locked. The brightness can be adjusted via the center display.

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* Option/accessory.

5.2.2. Adjusting interior lighting

Illumination in the vehicle varies depending on usage mode. The interior lighting can be adjusted via the center display.

Adjusting interior lighting via the center display

1. Tap ⚙ in the center display.
2. Then press **Controls**.
3. Set a preference for interior lighting.

5.3. Adjusting light functions via the center display

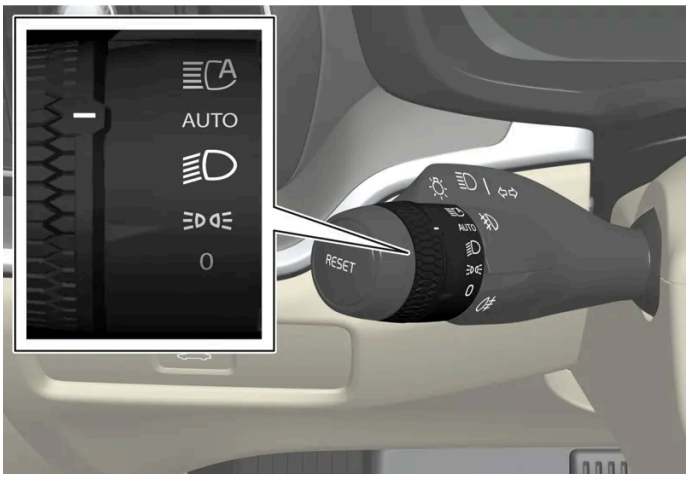
Light functions can be adjusted and activated via the center display.

1. Tap ⚙ in the center display.
2. Then press **Controls**.
3. Adjust the desired function for interior or exterior lighting.

5.4. Lighting control and panel

The lighting panel and controls can be used to adjust both exterior and interior lighting. The lighting ring on the left-side steering wheel lever can be used to activate and adjust the exterior lighting. Both exterior and interior lighting can be activated and adjusted via the center display.

Exterior Lights



Lighting ring position.

When the vehicle is started, the lighting ring positions have the following functions:

Position	Meaning
0	US: Daytime running lights and parking lights are off. Canada: Daytime running lights and parking lights are on. High beam flash can be used.
≡D◐≡	Parking lights when the vehicle is parked. US: Daytime running lights are off. Canada: Daytime running lights are on. High beam flash can be used.

Position	Meaning
	Low beams and parking lights. High beams can be activated. High beam flash can be used.
	Front daytime running lights and rear parking lights in daylight.[1] Low beams and parking lights in weak daylight or dark conditions or when the front fog lights* and/or rear fog light are activated. Active high beam can be activated. High beams can be activated when low beams are on. High beam flash can be used.
	Active high beams on/off.

Note

Volvo recommends use of Daytime Running Lights in the US. Its use is mandatory in Canada.

Volvo recommends using position AUTO when the vehicle is in motion.

Warning

The vehicle lighting system cannot in all situations determine when the daylight is too weak or not strong enough, e.g. when there is fog or rain.

The driver is always responsible for driving the vehicle with lighting that is safe for the traffic conditions and as specified by applicable traffic regulations.

Exterior and interior lighting

Both exterior and interior lighting can be adjusted via the center display.

[1] US models only: Daytime running lights and parking lights can be deactivated in the center display.

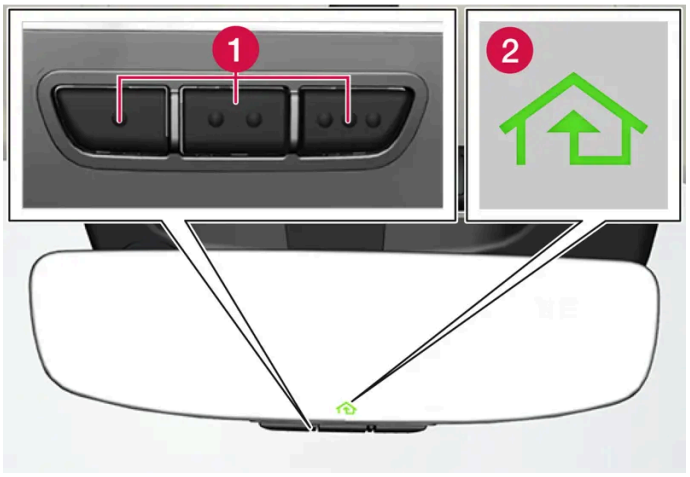
* Option/accessory.

6. Windows, glass and mirrors

6.1. Rearview and door mirrors

6.1.1. HomeLink® * [1]

HomeLink® [2] is a programmable remote control integrated in the vehicle's electrical system.
It can remotely control up to three different devices, such as garage door openers or alarm systems, and thereby replace the remote controls for these.



The illustration is generic – the design may vary.

1 Programmable buttons

2 Indicator light

HomeLink® is integrated in the rearview mirror and consists of three programmable buttons and an indicator light in the mirror.

> **Note**
>
> Save the original remote controls for future reprogramming (e.g. for use in another vehicle).
>
> It is also advisable to delete the button programming if the vehicle is sold.

More information

Visit homelink.com or call 1-800-355-3515.

* Option/accessory.

[1] Certain markets only.

[2] HomeLink and the HomeLink house symbol are registered trademarks of Gentex Corporation.

6.1.2. Rearview/door mirrors

The rearview mirror and door mirrors can be used to improve the driver's visibility behind the vehicle.

Rearview mirror

The rearview mirror is equipped with HomeLink* and automatic dimming*.

The rearview mirror can be adjusted manually.

Door mirrors

> **Warning**
>
> The door mirror on the passenger side is curved to improve visibility. Objects in the mirror may appear farther away than they actually are.

The joystick in the drivers' door control panel is used to adjust the position of the door mirrors.

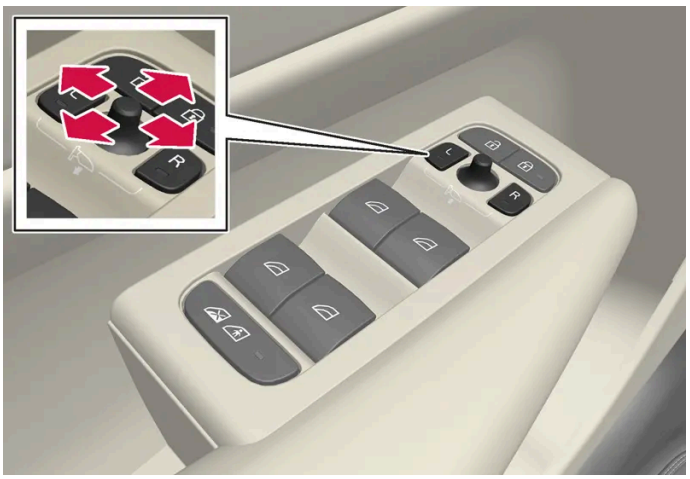
There are also several automatic settings that can also be connected to the memory function buttons for the power seat*.

* Option/accessory.

6.1.3. Adjusting the door mirrors

To improve visibility to the rear, the door mirrors need to be adjusted to the driver's height and seating position.
There are several automatic settings that can also be connected to the memory function buttons for the power seat*.

Controls used for door mirrors



Door mirror controls.

The joystick in the drivers' door control panel is used to adjust the position of the door mirrors. The vehicle must be at least in usage mode Comfort.

1. Press the L button for the left door mirror or R for the right door mirror. The button will light up.
2. Adjust the position using the joystick located between the buttons.
3. Press the L or R button again. The light in the button will go out.

Automatically folding door mirrors*

The door mirrors can be automatically folded when driving or parking in tight spaces.

1. Press the L and R buttons at the same time.
2. Release the buttons after about 1 second. The mirrors will automatically stop when they are completely folded in.

Open the mirrors by pressing L and R at the same time. The mirrors will automatically stop when they reach the last-used setting.

Resetting the mirrors' position

Mirrors that are moved from their position due to outside influence, for example, being frozen in the folded-in position and then manually moved to the folded-out position, must be electrically reset to their original position for electric folding* to function correctly.

1. Fold in the mirrors by pressing the L and R buttons at the same time.

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2 Open them again by pressing the L and R buttons at the same time.

3 Repeat the above procedure as needed.

The mirrors are reset to their neutral positions and electric folding functions again.

Tilting when parking[1]

The door mirrors can be tilted down to help give the driver a better view along the sides of the vehicle, e.g. of the curb when parking.

1 Select reverse gear and press the L or R mirror button.

Note that the button needs to be pressed twice. When the door mirror is tilted down, the light in the button will flash. When reverse gear is disengaged, the door mirrors automatically return to their original positions.

Automatically tilting when parking[1]

With this setting, the door mirrors will automatically tilt down when reverse gear is engaged. The folded position is preset and cannot be adjusted.

1 Tap ⚙ in the center display.

2 Tap **Controls**.

3 Choose a setting under **Exterior mirrors tilt at reverse**.

To immediately return the door mirrors to their original position, press the L or R button twice.

Automatic folding when the vehicle is locked*

The door mirrors fold in or out automatically when the vehicle is locked/unlocked using the key. The function can be switched off via the center display.

> **Note**
>
> If the mirrors are folded in manually using the L and R buttons and the vehicle is then locked, the mirrors will not fold out automatically when the vehicle is unlocked, even if this preference has been set. The door mirrors must be folded out manually using the L and R buttons.

* Option/accessory.

[1] Only on models equipped with a power driver's seat with memory buttons*.

6.1.4. Adjusting the rearview mirror dimming function

Bright light entering the vehicle from behind, e.g. from the headlights of following vehicles, could reflect in the rearview mirror and door mirrors and cause a glare. Use the dimming function when light from behind is distracting.

Auto-dim

The rearview mirror and door mirrors automatically dim when driving in the dark. A brighter dimming level is used for city driving in the dark.

Auto-dim can be set in the center display to be active or not active while driving.

1. Tap ⚙ in the center display.
2. Tap **Controls**.
3. Choose a setting under **Mirror auto-dimming**.

> **Note**
>
> If the sensors are obstructed by e.g. a parking permit, transponder, sunshade or objects on the seats or in the cargo compartment in a way that prevents light from reaching the sensors, the auto-dim function in the door and rearview mirrors will be reduced.

6.1.5. Using stored positions for seats and mirrors

If the positions for the power* seat and door mirrors have been stored, they can be activated using the memory buttons.

Using a stored position

A stored position can be used with the front door open or closed:

Front door open

1 Briefly press one of the memory buttons 1 (2) or 2 (3). The power seats and door mirrors will move and stop at the positions stored in that button.

Front door closed

1 Press and hold one of the memory buttons (1 (2) or 2 (3) until the seat and door mirrors stop in the positions stored in that memory button.

If the memory button is released, the seat and door mirrors will stop moving.

Warning

- This list point needs to be translated exactly to: "Because the driver's seat can be adjusted with the ignition off, children should never be left unattended in the vehicle.
- Movement of the seat can be STOPPED at any time by pressing any button on the power seat control panel.
- Do not adjust the seat while driving.
- The seat should be adjusted so that the brake pedal can be depressed fully. In addition, position the seat as far rearward as comfort and control allow.
- The seat rails on the floor must not be obstructed in any way when the seat is in motion.

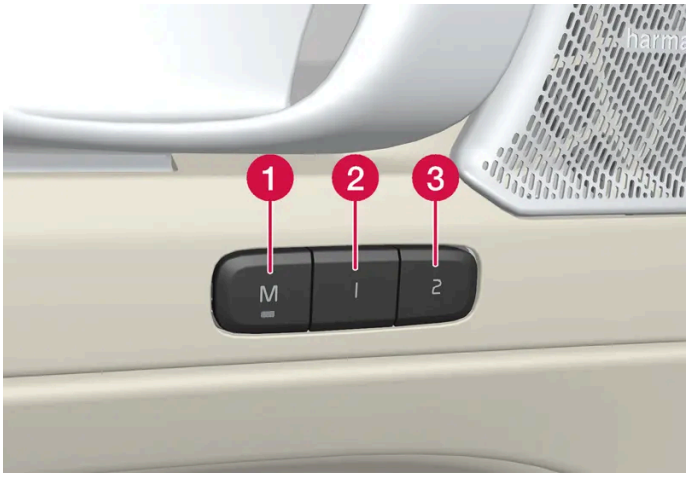
* Option/accessory.

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.

6.1.6. Storing positions for seats and mirrors

Adjustment settings for the power* seat and door mirrors can be stored in the memory buttons.

Two different positions for the power* seat and the door mirrors can be stored using the memory buttons. The buttons are located on the inside of either one or both* front doors.



1. Button **M** for storing a setting.
2. Memory button 1.
3. Memory button 2.

Storing positions

1. Adjust the seat and door mirrors to the desired position.
2. Press and hold the M button. The indicator light in the button will illuminate.
3. Within three seconds, press and hold the 1 or 2 button.

> When the position has been stored in the memory button, an audio signal will sound and the indicator light in the M button will go out.

If none of the memory buttons are pressed within three seconds, the M button will go out and no position will be stored.

The seats or door mirrors must be readjusted before a new memory position can be set.

* Option/accessory.

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.

6.1.7. Activating and deactivating the heated rear window and door mirrors

The heated rear window and door mirrors are used to quickly remove condensation and ice from the glass.

Activating and deactivating the heated rear window and door mirrors from the center console

A button in the center console offers quick access to the heated rear window and door mirrors functions.

Button in center console.

1 Tap the button.

> Heated windows and door mirrors are activated and the button lights up/goes out.

Activating and deactivating the heated rear window and door mirrors from the center display

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2

Tap the button for heated rear window and door mirrors.

> Heated windows and door mirrors are activated and the button lights up/goes out.

6.1.8. Automatically activating and deactivating the heated rear window and door mirrors

The heated rear window and door mirrors are used to quickly remove condensation and ice from the glass.

Automatic start of heated rear window and door mirrors can be set to be activated/deactivated when the driver gets into the vehicle.[1] With automatic start activated, heating will be turned on when there is a risk of ice or condensation on the windows or mirrors. Heating is automatically switched off when the window or door mirror is sufficiently warm and the condensation or ice is gone.

1. Tap the temperature button in the middle at the bottom of the center display to open Climate view.
2. Press •••
3. Choose a setting under **Auto rear defroster** to activate/deactivate automatic start of heated rear window and door mirrors.

[1] Usage mode Comfort

6.2. Windshield and rear window

6.2.1. Damaged windshield

It is important to repair a damaged windshield as soon as possible. Minor damage due to e.g. stone chips can often be repaired without replacing the entire windshield. Volvo recommends contacting an authorized Volvo workshop if the windshield is damaged.

Minor glass damage

If possible, repair the damage within 24 hours to help prevent it from worsening. If the windshield has minor damage, a windshield stone chip sticker can help protect the damaged area from dust and dirt until it can be repaired.

Major glass damage

In the event of major damage to the windshield, the entire windshield must be replaced.

> **Warning**
>
> Do not drive the vehicle if there is major damage to the windshield. The damage can quickly worsen, obscuring the driver's view and preventing the vehicle from being driven safely.

Replacing a windshield

It is important that the new windshield and its installation comply with Volvo's specifications for safety and compatibility with the vehicle's functions. Volvo recommends contacting an authorized Volvo workshop for windshield replacements.

6.2.2. Wiper blades and washer fluid

The wipers and the washer fluid are designed to improve visibility and the headlight pattern.

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

When there is approximately 1 liter (1 qt) of washer fluid remaining, a message to refill will appear in the instrument panel.

* Option/accessory.

6.2.3. Using the rain sensor

The rain sensor monitors the amount of water on the windshield and automatically starts the windshield wipers. Rain sensor sensitivity can be adjusted using the thumb wheel on the right-hand steering wheel lever.

Right-hand steering wheel lever.

1 Rain sensor button

2 Thumb wheel, sensitivity/interval wiper speed

When the rain sensor is activated, the rain sensor symbol will be displayed in the instrument panel.

The rain sensor is automatically off or on when the vehicle starts depending on the rain sensor position when the vehicle is switched off.

Activating the rain sensor

When the rain sensor is activated, the windshield wipers must be in 0 position or in the single sweep position.

Activate the rain sensor by pressing the rain sensor button .

Move the lever downward for an extra wiper sweep.

Turn the thumb wheel upward for increased sensitivity and downward for decreased sensitivity. The wipers will make one extra sweep when the thumb wheel is turned upward.

Deactivate the rain sensor

Deactivate the rain sensor by pressing the rain sensor button or moving the lever upward to another wiper mode.

The rain sensor is automatically deactivated when the vehicle is switched off.

The rain sensor is also automatically deactivated when the wiper blades are put in the service position. The rain sensor will reactivate when service mode is switched off.

> **Important**
>
> The windshield wipers may start inadvertently and be damaged in automatic car washes. Switch off the rain sensor before washing the vehicle. The symbol in the instrument panel will go out.

6.2.4. Using the windshield and headlight washers

The windshield and headlight washers are designed to clean the windshield and headlights. Use the right-side steering wheel lever to start the windshield and headlight washers.

Starting the windshield and headlight washers

Washing function, right-hand steering wheel lever.

1 Move the right-hand steering wheel lever toward the steering wheel to start the windshield and headlight washers.

> After the lever is released, the wipers make several extra sweeps.

> **Important**
>
> Avoid activating the washer system when it is frozen or the fluid reservoir is empty. Otherwise, there is a risk of damaging the pump.

Headlight washer*

When the windshield washers are activated and the headlights are on, the headlights are also washed automatically according to a defined interval.

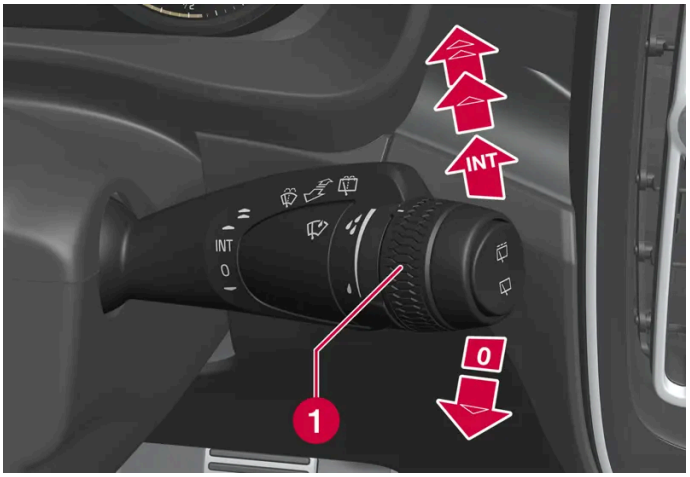
Reduced washing

When there is about 1 liter (1 qt) of washer fluid left in the reservoir and the message Washer fluid **Refill washer fluid, level low** is displayed in the instrument panel together with the symbol, the washer fluid supply to the headlights is cut off. This is to prioritize windshield cleaning and visibility through it. The headlights are only washed if high or low beam is on.

* Option/accessory.

6.2.5. Using the windshield wipers

The windshield wipers are designed to clean the windshield. The right-side steering wheel lever is used to adjust windshield wiper settings.



Right-hand steering wheel lever.

1 The thumb wheel is used to set rain sensor sensitivity and interval wiper speed.

Single sweep

▼ Move the lever down and release for a single sweep.

Wipers off

0 Move the lever to position 0 to turn off the windshield wipers.

Interval wipers

INT Move the lever upward to put the wipers in interval wiping mode. Set the number of sweeps per time unit with the thumb wheel when interval wipers are selected.

Continuous wipers

▲ Move the lever upward for the wipers to operate at normal speed.

▲▲ Move the lever upward again for the wipers to operate at high speed.

> ! **Important**
>
> Before activating the wipers, make sure that the wiper blades are not frozen in place and that any snow or ice on the windshield and rear window has been scraped away.

6.2.6. Activating and deactivating the heated rear window and door mirrors

The heated rear window and door mirrors are used to quickly remove condensation and ice from the glass.

Activating and deactivating the heated rear window and door mirrors from the center console

A button in the center console offers quick access to the heated rear window and door mirrors functions.

Button in center console.

1 Tap the button.

> Heated windows and door mirrors are activated and the button lights up/goes out.

Activating and deactivating the heated rear window and door mirrors from the center display

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2

Tap the button for heated rear window and door mirrors.

> Heated windows and door mirrors are activated and the button lights up/goes out.

6.2.7. Automatically activating and deactivating the heated rear window and door mirrors

The heated rear window and door mirrors are used to quickly remove condensation and ice from the glass.

Automatic start of heated rear window and door mirrors can be set to be activated/deactivated when the driver gets into the vehicle.[1] With automatic start activated, heating will be turned on when there is a risk of ice or condensation on the windows or mirrors. Heating is automatically switched off when the window or door mirror is sufficiently warm and the condensation or ice is gone.

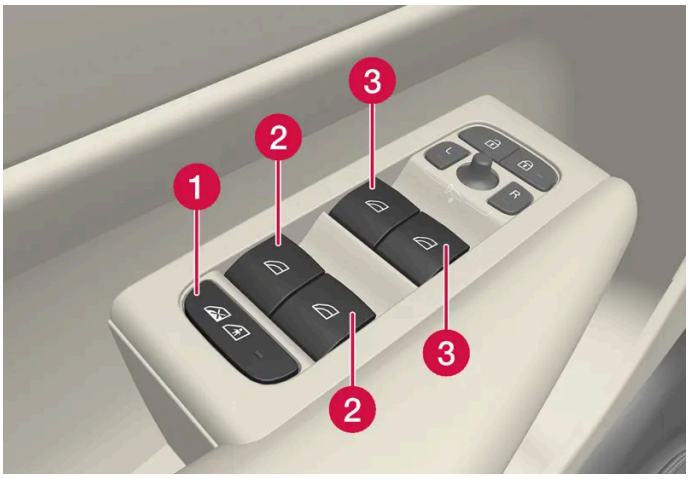
1. Tap the temperature button in the middle at the bottom of the center display to open Climate view.
2. Press •••
3. Choose a setting under **Auto rear defroster** to activate/deactivate automatic start of heated rear window and door mirrors.

[1] Usage mode Comfort

6.3. Door windows and panoramic roof

6.3.1. Power windows

Every door has a control panel for the power windows. The driver's door has controls for operating all windows and for activating the child safety locks.



Driver's door control panel.

1. Electric child safety locks* that deactivate the controls in the rear doors to prevent the doors or windows from being opened from the inside.
2. Rear window controls.

3 Front window controls.

> **Warning**
>
> Children, other passengers or objects can be trapped by the moving parts.
>
> - Always operate the windows with caution.
> - Do not allow children to play with the operating controls.
> - Never leave a child alone in the vehicle.
> - Remember to always cut the current to the power windows by setting the vehicle's electrical system to ignition mode 0 and then taking the key with you when leaving the vehicle.
> - Never stick objects or body parts out through the windows, even if the vehicle electrical system is completely turned off.

* Option/accessory.

6.3.2. Operating the power windows

All power windows can be operated using the control panel in the driver's door. The control panels in the other doors can be used to operate that particular door.

The power windows have pinch protection. If there is any problem with the pinch protection, a reset procedure can be tested.

Warning

Children, other passengers or objects can be trapped by the moving parts.

- Always operate the windows with caution.
- Do not allow children to play with the operating controls.
- Never leave a child alone in the vehicle.
- Remember to always cut the current to the power windows by setting the vehicle's electrical system to ignition mode 0 and then taking the key with you when leaving the vehicle.
- Never stick objects or body parts out through the windows, even if the vehicle electrical system is completely turned off.

Operating the power windows.

1. Operating manually. Move one of the controls slightly up or down. The power windows go up or down while the control is held in position.
2. Operating with automatic controls. Move one of the controls up or down to its end position and release it. The window moves automatically to its fully closed/open position.

The power windows can be operated as long as the seat sensor detects that the driver seat is occupied and a key is in the vehicle. Only one control can be operated at a time.

It can also be operated using keyless opening* with the door handle.

Warning

Make sure that no child or other passenger comes into contact with the windows as they are closing with keyless closing*.

Note

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

Note

The windows cannot be opened at speeds over approx. 180 km/h (ca 112 mph), but they can be closed.

The driver is always responsible for following applicable traffic regulations.

Note

It may not be possible to operate the windows in low temperatures.

* Option/accessory.

6.3.3. Panoramic roof*

The vehicle has a full panoramic window in tinted glass to reduce incoming light, heat and ultraviolet rays.

The panoramic roof is made of laminated glass.

* Option/accessory.

6.4. Windows, glass and mirrors

The vehicle is equipped with several different types of windows, glass and mirrors. Some of the windows in the car are laminated.

The windshield has laminated glass. Laminated glass is also available as on option for some other glass surfaces[1]. Laminated glass is reinforced, which provides better protection against break-ins and improved soundproofing in the passenger compartment.

The panoramic roof* also has laminated glass.

The symbol shows the windows containing laminated glass.[2]

[1] Certain models only.

* Option/accessory.

[2] Does not apply to windshield and panoramic roof*, which are always laminated and therefore do not have this symbol.

6.5. Pinch protection for windows and sun curtains

All power windows and sun curtains* have a pinch protection function that is triggered if anything blocks them while they are opening or closing.

If pinch protection is activated, movement will stop and then retract automatically to approx. 50 mm (2 inches) from the point at which it was blocked (or to full ventilation position).

It is still possible to override pinch protection when closing is interrupted (e.g. due to ice) by pressing and holding down the control in the same direction.

If there is any problem with the pinch protection, a reset procedure can be tested.

> **Warning**
>
> If the 12 V battery is disconnected, the function for automatic opening and closing must be reset to function correctly. A reset is required in order for the pinch protection to work.

* Option/accessory.

6.6. Reset procedure for pinch protection

If you experience any problems with the electrical functions for the power windows, you can try to perform a reset.

> **Warning**
>
> If the 12 V battery is disconnected, the function for automatic opening and closing must be reset to function correctly. A reset is required in order for the pinch protection to work.

Consult a workshop[1] if you experience any problems with the panoramic roof.

Resetting a power window

1. Start with the window in the closed position.
2. Then move the control in manual mode three times upward toward the closed position.

> The system will be automatically activated.

If the problem persists, contact a workshop.

[1] An authorized Volvo workshop is recommended.

6.7. Activating and deactivating max defroster

Max defroster is used to quickly remove condensation and ice from windows.

Max defroster deactivates automatic climate control and air recirculation, activates the air conditioning, and changes blower speed to **5** and temperature to **HI**.

> **Note**
>
> The volume increases when the blower speed is changed to **5**.

When max defroster is deactivated, the climate system reverts to the previous settings.

Activating and deactivating max defroster from the center console

A button in the center console offers quick access to the max defroster.

Button in center console.

1 Tap the button.

> Max defroster is activated/deactivated and the button lights up/goes out. While max defroster is activated, the temperature in the different climate zones is not synchronized.

Activating and deactivating max defroster from the center display

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2

Tap the max defroster button.

> Max defroster is activated/deactivated and the button lights up/goes out. While max defroster is activated, the temperature in the different climate zones is not synchronized.

7. Seats and steering wheel

7.1. Front seat

7.1.1. Climate controls for front seat

7.1.1.1. Activating and deactivating power front seats*

The seats can be heated for added comfort for the driver and passengers in cold weather.

1

Tap the seat button for the driver's or passenger's side at the bottom of the center display to open the control for seat heating.

2

Tap the seat heating button repeatedly to turn on/off heating and to switch between the three heat levels.

> The level is changed and the set level is displayed in the button.

Warning

Heated seats should not be used by people who have difficulty detecting temperature increases due to nerve damage or numbness or who for another reason may have difficulty operating the controls for seat heating.

* Option/accessory.

7.1.1.2. Activating and deactivating the heated front seat*

The seats can be heated for added comfort for the driver and passengers in cold weather.

Automatic start of heated seats can be set to be activated/deactivated when the driver gets into the vehicle.[1] With automatic start activated, heating will be turned on at an ambient temperature of 10 °C (50 °F) or lower.

1. Tap the temperature button in the middle at the bottom of the center display to open Climate view.
2. Press •••
3. Choose a setting under **Auto driver seat heat** and **Auto passenger seat heat** to activate/deactivate automatic start of heated driver's and passenger's seat.

* Option/accessory.

[1] Usage mode Comfort

7.1.1.3. Setting the blower speed for the front seats[1]

The blower can be set to several different automatically controlled speeds for the front seat.

1. Tap the temperature button in the middle at the bottom of the center display to open Climate view.
2. Tap the desired blower speed: **OFF**, **1-5** or **Max**.

> The blower speed will be changed and the set speed will light up.

Important

The air conditioning will not engage if the blower is turned off completely, which may cause fogging on the inside of the windows.

Note

The climate system automatically adapts airflow as needed within the set blower speed, which means that airflow speed may vary slightly within the same blower speed.

High blower speed in the rear seat can cause increased sound volume in the front seat.

[1] The same setting applies to the rear seats with the 2-zone climate system.

7.1.1.4. Setting the temperature for the front seats [1]

The temperature can be set to the desired number of degrees for the front seat climate zones.

1. Tap the temperature button at the bottom in the middle of the center display to open the control. [2]
2. Tap the arrows next to the temperature to raise or lower the temperature. When the temperature is synchronized, you can also tap directly on the arrows without having to press the temperature button first.

> The temperature will be set and the button will display the new temperature.

> **Note**
>
> Heating/cooling cannot be accelerated by choosing a higher/lower temperature than the desired temperature.

[1] The same setting applies to the rear seats with the 2-zone climate system.

[2] If temperature synchronization has been deactivated, the current temperature for both the driver's and passenger sides will be shown.

7.1.1.5. Synchronize temperature

By default, the temperature in the vehicle's various climate zones is synchronized with the set temperature for the driver's side, but it is possible to deactivate the synchronization and set the temperature separately for the different climate zones.

Deactivating temperature synchronization

1. Tap the temperature button at the bottom in the middle of the center display to open the control.
2.

   Tap the synchronization button between the temperature controls.

> The temperature can now be set separately for the individual climate zones. The set temperature is now shown separately on the driver's and passenger's sides in the climate bar instead of only in the middle.

Temperature synchronization can also be deactivated by changing the temperature on the passenger side.

Resetting synchronized temperature

1 Tap the temperature button for the driver's or passenger's side at the bottom of the center display to open the control.

2

Tap the synchronization button between the temperature controls.

> The temperature for all zones in the vehicle is synchronized with the set temperature on the driver's side.

7.1.2. Memory function for front seat

7.1.2.1. Using stored positions for seats and mirrors

If the positions for the power* seat and door mirrors have been stored, they can be activated using the memory buttons.

Using a stored position

A stored position can be used with the front door open or closed:

Front door open

1 Briefly press one of the memory buttons 1 (2) or 2 (3). The power seats and door mirrors will move and stop at the positions stored in that button.

Front door closed

1 Press and hold one of the memory buttons (1 (2) or 2 (3) until the seat and door mirrors stop in the positions stored in that memory button.

If the memory button is released, the seat and door mirrors will stop moving.

Warning

- This list point needs to be translated exactly to: "Because the driver's seat can be adjusted with the ignition off, children should never be left unattended in the vehicle.
- Movement of the seat can be STOPPED at any time by pressing any button on the power seat control panel.
- Do not adjust the seat while driving.
- The seat should be adjusted so that the brake pedal can be depressed fully. In addition, position the seat as far rearward as comfort and control allow.
- The seat rails on the floor must not be obstructed in any way when the seat is in motion.

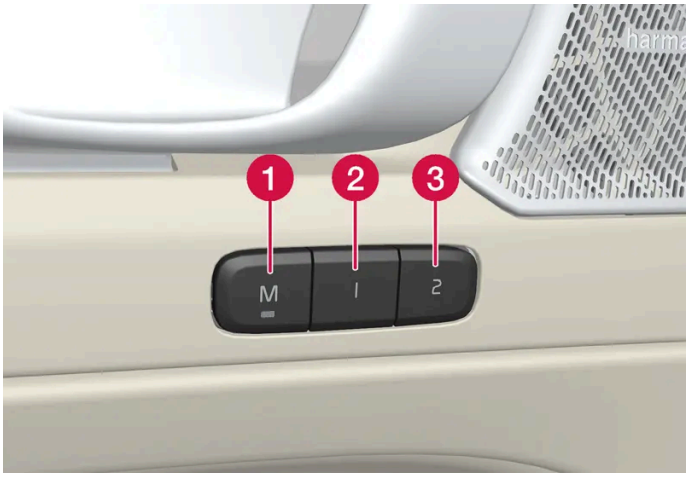
* Option/accessory.

7.1.2.2. Storing positions for seats and mirrors

Adjustment settings for the power* seat and door mirrors can be stored in the memory buttons.

Two different positions for the power* seat and the door mirrors can be stored using the memory buttons. The buttons are lo-

cated on the inside of either one or both* front doors.



1 Button **M** for storing a setting.

2 Memory button 1.

3 Memory button 2.

Storing positions

1. Adjust the seat and door mirrors to the desired position.
2. Press and hold the M button. The indicator light in the button will illuminate.
3. Within three seconds, press and hold the 1 or 2 button.

> When the position has been stored in the memory button, an audio signal will sound and the indicator light in the M button will go out.

If none of the memory buttons are pressed within three seconds, the M button will go out and no position will be stored.

The seats or door mirrors must be readjusted before a new memory position can be set.

* Option/accessory.

7.1.3. Front seats

The seat has a number of setting options to increase comfort.

7.1.4. Power* front seats

The front seats can be adjusted in a number of different ways to help enhance your seating comfort. The power seat can be moved forward/backward and up/down. The front edge of the seat cushion can be raised/lowered and the tilt of the backrest can be adjusted. Lumbar support* can be adjusted up/down/forward/rearward. The length of the seat cushion can be adjusted manually*.

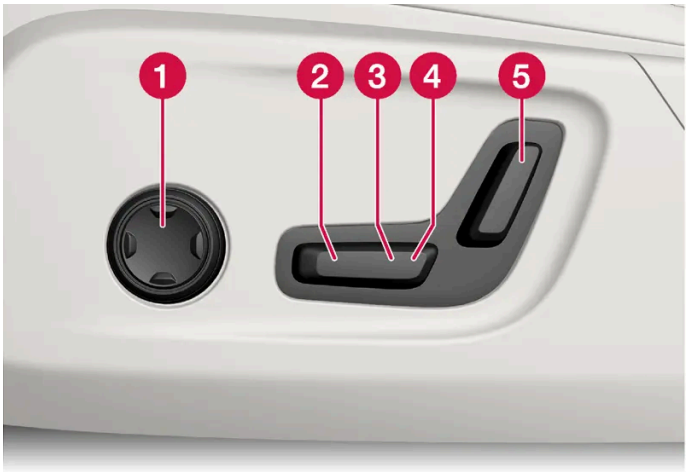
The seats can be adjusted when the vehicle is running and for a certain period of time after the door has been unlocked without the vehicle running. They can also be adjusted for a short period after the vehicle is turned off.

> **Important**
>
> The power seats have an overload protector that is triggered if a seat is blocked by any object. If this occurs, remove the object and attempt to adjust the seat again.

* Option/accessory.

7.1.5. Adjusting the power* front seats

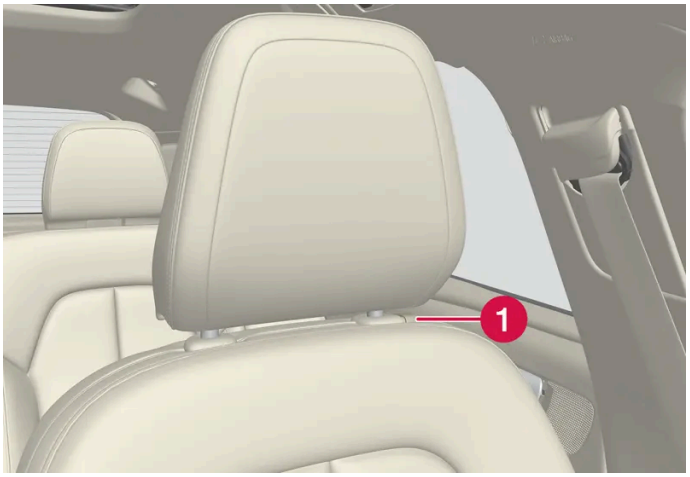
Set the desired seating position using the controls on the front seat cushion. Activate lumbar support* by pressing the four-way control.



1. Activate and use the lumbar support control by pressing the four-way control upwards/downwards/forwards/backwards.
2. Raise/lower the front edge of the seat cushion by moving the control up/down.
3. Raise/lower the seat by moving the control up/down.
4. Move the seat forward/rearward by moving the control forward/rearward.
5. Change the backrest tilt by moving the control forward/backward.

Only one movement (forward/rearward/up/down) can be performed at a time.

The front seat backrests cannot be folded down completely.



1 The head restraint can be adjusted up or down by pressing the button and manually moving the head restraint to the desired position.

* Option/accessory.

7.1.6. Manual front seats

The front seats can be adjusted in a number of different ways to help enhance your seating comfort.

1 Move the seat forward/backing by lifting the handle and moving the seat to a suitable distance from the steering wheel and pedals. Check to make sure the seat is securely locked into place after its setting has been changed.

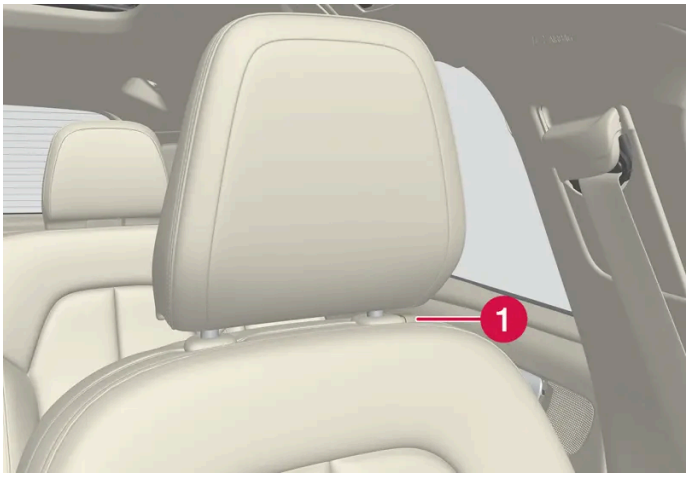
2 Change the length of the seat cushion* by pulling up the lever and moving the cushion forward/backward.

3 Raise/lower the front edge of the seat cushion* by moving the control up/down.[1]

4 Adjust lumbar support* by pressing the button up/down/forward/rearward.

5 Raise/lower the seat by moving the lever up/down.

6 Change the backrest tilt by turning the knob on the backrest.



1 The head restraint can be adjusted up or down by pressing the button and manually moving the head restraint to the desired position.

> **Warning**
>
> - Do not adjust the seat while driving. The seat should be adjusted so that the brake pedal can be depressed fully. In addition, position the seat as far rearward as comfort and control allow.
> - Check that the seat is securely locked into position after adjusting.

* Option/accessory.

[1] Only applies to the driver's seat.

7.1.7. Adjusting front seat cushion length*

The length of the seat cushion can be adjusted to increase comfort.

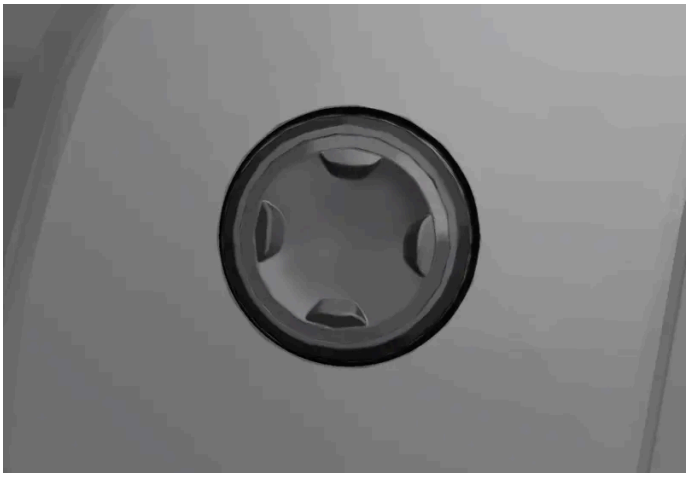
Control for adjusting seat cushion.

1. Grasp the 1 handle on the front of the seat and pull upward.
2. Adjust the length of the seat cushion.
3. Release the handle and make sure the seat cushion locks into position.

* Option/accessory.

7.1.8. Adjusting front seat lumbar support*

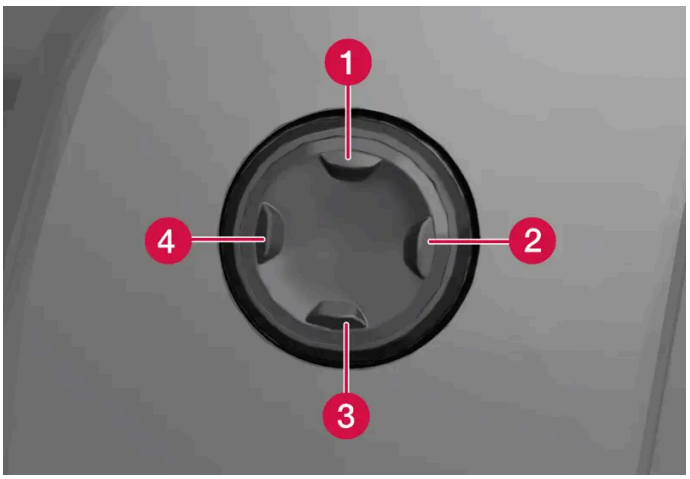
Use the control on the side of the seat cushion to adjust the lumbar support.



The four-way button is located on the side of the seat cushion.

Four-way lumbar support is adjusted using the four-way button (the round one) located on the side of the seat cushion. The lumbar support can be adjusted forward/backward and up/down.

Adjusting lumbar support



- Press the four-way button up 1/down 3 to move the lumbar support upward/downward.
- Press the front part 4 of the four-way button to increase lumbar support.
- Press the rear part 2 of the four-way button to decrease lumbar support.

* Option/accessory.

7.2. Rear seat

7.2.1. Climate controls for rear seat

7.2.1.1. Activating and deactivating the heated rear seats*

The seats can be heated for added comfort for the passengers in cold weather.

With 2-zone system:

1

Buttons for seat heating on the rear side of the tunnel console.

Press the left or right seat heating buttons on the back of the tunnel console to turn on/off seat heating and switch between the three heating levels.

> The level is changed and the indicator lights in the button display the level.

Warning

Heated seats should not be used by people who have difficulty detecting temperature increases due to nerve damage or numbness or who for another reason may have difficulty operating the controls for seat heating.

* Option/accessory.

7.2.2. Rear seat

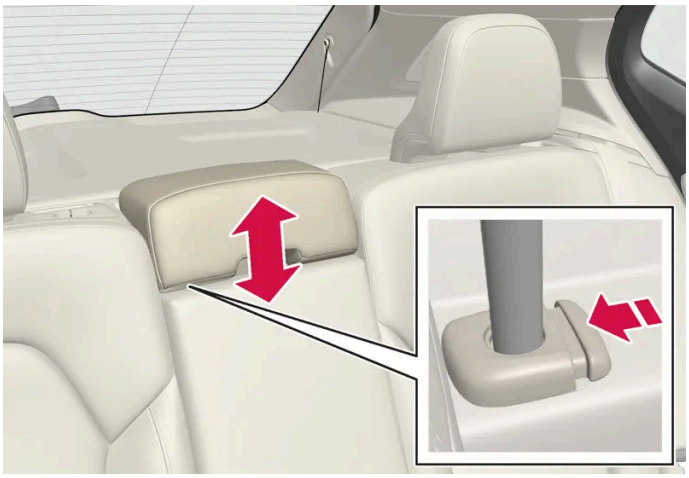
The vehicle has five seats. The rear seat is divided into two folding sections. One section has two seating positions and the other has one seating position.

7.2.3. Adjusting the rear seat head restraints

Adjust the center head restraint in the rear seat to the seat occupant's height. Fold down the outboard head restraints* to improve rear visibility.

Adjusting the center seat head restraint

The center head restraint should be adjusted to suit the passenger's height. The entire back of the head should be covered if possible. Manually move the restraint up or down as needed.



To lower the restraint, push and hold the button (see illustration) while carefully lowering the head restraint.

> **Warning**
>
> The center seat head restraint must be in its lowest position when the seat is not occupied. When the center seat is occupied, the head restraint must be correctly adjusted to the passenger's height, covering the entire back of the head if possible.

Folding the rear seat outboard head restraints using the center display*

The outer head restraints can be folded via the center display. The head restraint can be folded down when the vehicle is in Passive usage mode.

1 Tap ⚙ in the center display.

2 Tap **Controls**.

3 Choose a setting under **Headrest fold**.

Manually push the head restraint until it clicks into position.

> ⚠ **Warning**
>
> Do not lower the head restraint if there are passengers in any of the rear seats.

> ⚠ **Warning**
>
> The head restraint must be locked in the upright position after it has been folded up.

* Option/accessory.

7.2.4. Folding down the rear seat backrests

The rear seat backrest is split into two sections. The two sections can be folded forward individually.

Warning

- Adjust the seat and ensure it locks into position before driving. Use caution when adjusting the seat. Uncontrolled or careless adjustments could lead to injury.
- Long objects must always be securely tied down to help prevent injury or damage in the event of sudden braking.
- Always turn off the vehicle and apply the parking brake when loading or unloading the vehicle.
- Put the gear selector in P to help prevent the gear selector from being inadvertently moved.

Important

When the backrest is folded down, make sure there are no objects in the rear seat, and the seat belts are not buckled. Otherwise there is a risk of damage to the upholstery.

Important

The armrest* in the center seat must be raised before the seat backrest is folded down.

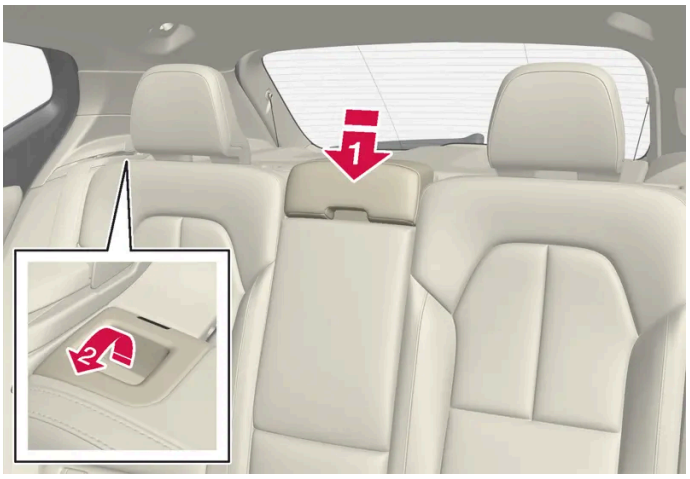
The ski hatch* must be closed before the seat backrest is folded down.

Note

The front seats may need to be pushed forward and the backrest adjusted so that the rear seat backrests can be fully lowered.

Folding down the backrests

The vehicle must be stationary and at least one of the rear doors must be open before a backrest can be folded down.



Make sure that the rear seat is unoccupied and that there are no objects on the seat.

1 1

Fold down the center seat's head restraint manually.

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.

2 Pull the handle in the vehicle's left or right rear seat backrest forward to fold down the left or right section of the rear seat.

3 The backrest lock will release and the backrest will automatically fold down to the horizontal position.

Folding up the backrest

To fold up the backrest to the upright position manually:

1 Move the backrest upward/rearward.

2 Press the backrest until it locks into position.

3 Fold up the head restraints manually.

4 Adjust the center head restraint if necessary.

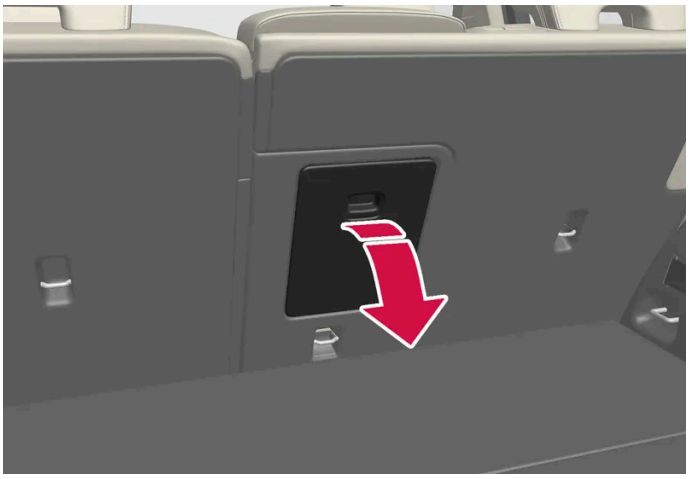
> **Warning**
>
> When the backrest is restored to an upright position, the red indicator should no longer be visible. If it is still visible, the backrest is not locked in place.

> **Warning**
>
> Make sure that the rear seat backrest and head restraint are locked securely in place after the seat is folded up.
>
> The head restraints at the outer seats must always be raised when there is a passenger in one of these spots of the rear seat.

* Option/accessory.

7.2.5. Rear seat ski hatch*

The hatch in the rear seat backrest can be opened to transport long, narrow objects such as skis.



1 In the cargo compartment, grasp the ski hatch handle and pull it down.

2 Fold down the armrest in the rear seat.

3 Adjust the center seat head restraint upwards so the steel tubes do not block the opening.

* Option/accessory.

7.3. Steering wheel

7.3.1. Speed-dependent steering wheel resistance

Speed-dependent power steering increases the steering wheel resistance in pace with the vehicle's speed, which can help give the driver an enhanced feeling of control and stability. Steering is stiffer on highways. When parking and at low speeds, it will be easier to move the steering wheel.

Reduced power

In rare situations, the power steering may need to work at reduced power and the steering wheel may then feel more difficult to move. This may happen when the power steering becomes too hot and needs to be temporarily cooled. It can also happen if there is a disturbance in power supply.

If there is reduced power, the message **Power steering assistance Temporarily reduced** and this symbol are shown in the 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.

While the power steering is working at reduced power, the driver support functions and systems with steering assistance are not available.

> **Warning**
>
> If the temperature rises too high, the power steering may be forced to switch off completely. In such a situation, the driver display shows the message **Stop safely Power steering failure** along with a symbol.

Changing the level of steering wheel resistance

1. Tap ⚙ in the center display.
2. Then press **Driving**.
3. Activate or deactivate **Steering feel firm**.

Steering wheel resistance settings can only be accessed if the vehicle is stationary or is moving straight ahead at a low speed.

7.3.2. Steering wheel controls and horn

The steering wheel has a horn and controls for e.g. driver support systems and voice control.

Keypad in the steering wheel.

1 Driver support system controls.[1]

2 Controls for voice control, accessing menus and messages, and handling phone calls.

Horn

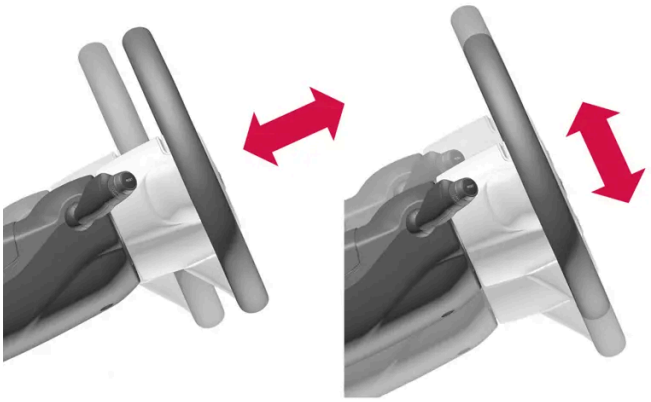
The horn is located in the center of the steering wheel.

* Option/accessory.

[1] Cruise Control, Adaptive Cruise Control*, Distance Alert* and Pilot Assist.

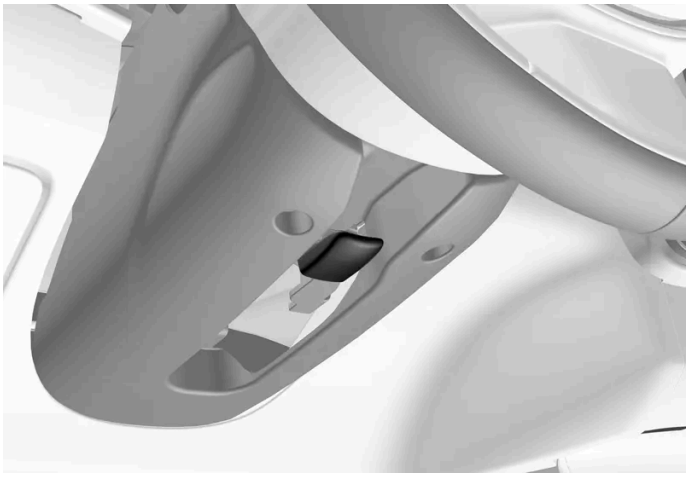
7.3.3. Adjusting the steering wheel

The steering wheel can be adjusted to various positions.



The steering wheel's reach and height can be adjusted.

> **Warning**
>
> Adjust the steering wheel and ensure it locks into position before driving. Never adjust the steering wheel while driving.



Steering wheel adjuster lever.

1. Move the lever forward to release the steering wheel.
2. Adjust the steering wheel to the desired position.
3. Pull the lever back to lock the steering wheel into place. If the lever is difficult to move, press or lift the steering wheel lightly while pulling the lever.

7.3.4. Activating and deactivating the heated steering wheel*

The steering wheel can be heated for added comfort in cold weather.

1

Tap the driver's side seat button at the bottom of the center display to show the control for steering wheel heating.

2

Tap the steering wheel heating button repeatedly to turn on/off heating and to switch between the three heat levels.

> The level is changed and the set level is displayed in the button.

* Option/accessory.

7.3.5. Activating and deactivating automatic steering wheel heating*

The steering wheel can be heated for added comfort in cold weather.

Automatic start of heated steering wheel can be set to be activated/deactivated when the driver gets into the vehicle.[1] With automatic start activated, heating will be turned on at an ambient temperature of 10°C (50°F) or lower.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2 Press •••

3 Choose a setting under **Auto steering wheel heat** to activate/deactivate automatic start of heated steering wheel.

* Option/accessory.

[1] Usage mode Comfort

---

8. Climate control

8.1. Climate controls

8.1.1. Climate controls for passenger compartment

8.1.1.1. Activating auto climate control

If auto climate control is activated, several climate system functions are controlled automatically.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2 Tap or press and hold **AUTO**.

- Tap - air recirculation, air conditioning and air distribution are controlled automatically.
- Press and hold - air recirculation, air conditioning and air distribution are controlled automatically. Temperature and blower speed are changed to standard settings: 22 °C (72 °F) and speed **3**.

> Auto climate mode is activated and the button lights up.

> **Note**
>
> It is possible to change the temperature and blower speed without deactivating automatic climate control. Automatic climate control is deactivated when the air distribution is changed manually or when the max defroster is activated.

8.1.1.2. Setting the blower speed for the front seats [1]

The blower can be set to several different automatically controlled speeds for the front seat.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2 Tap the desired blower speed: **OFF**, **1-5** or **Max**.

> The blower speed will be changed and the set speed will light up.

Important

The air conditioning will not engage if the blower is turned off completely, which may cause fogging on the inside of the windows.

Note

The climate system automatically adapts airflow as needed within the set blower speed, which means that airflow speed may vary slightly within the same blower speed.

High blower speed in the rear seat can cause increased sound volume in the front seat.

[1] The same setting applies to the rear seats with the 2-zone climate system.

8.1.1.3. Activating and deactivating air conditioning

The air conditioning cools and dehumidifies incoming air as needed.

When the air conditioning is activated, it will be switched on and off automatically by the climate system as needed.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2

Tap the air conditioning button.

> Air conditioning is activated/deactivated and the button lights up/goes out.

Note

For optimal air conditioning function, close all the side windows and the panoramic roof*.

> **Note**
>
> The air conditioning cannot be activated when the fan speed is set to **Off**.

* Option/accessory.

8.1.1.4. Activating and deactivating recirculation

The climate system's recirculation function helps shut out smog, smoke, exhaust fumes, etc. by reusing the air in the passenger compartment.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2

Tap the air recirculation button.

> Air recirculation is activated/deactivated and the button lights up/goes out.

> **Important**
>
> If the air in the vehicle is recirculated too long, there is a risk of fogging on the inside of the windows.

> **Note**
>
> Recirculation cannot be activated when the max defroster is on.

> **Note**
>
> If the system's air quality sensors detect contaminants in the outside air, the air intake closes and air circulation activates automatically.

8.1.1.5. Activating and deactivating the recirculation timer setting

The climate system's recirculation function helps shut out smog, smoke, exhaust fumes, etc. by reusing the air in the passenger compartment.

When the recirculation timer is activated, air recirculation will switch off automatically after 20 minutes.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2 Press •••

3 Choose a setting under **Recirculation timer** to activate/deactivate the air recirculation timer.

8.1.1.6. Setting the temperature for the front seats [1]

The temperature can be set to the desired number of degrees for the front seat climate zones.

1 Tap the temperature button at the bottom in the middle of the center display to open the control. [2]

2 Tap the arrows next to the temperature to raise or lower the temperature. When the temperature is synchronized, you can also tap directly on the arrows without having to press the temperature button first.

> The temperature will be set and the button will display the new temperature.

> **Note**
>
> Heating/cooling cannot be accelerated by choosing a higher/lower temperature than the desired temperature.

[1] The same setting applies to the rear seats with the 2-zone climate system.

[2] If temperature synchronization has been deactivated, the current temperature for both the driver's and passenger sides will be shown.

8.1.1.7. Synchronize temperature

By default, the temperature in the vehicle's various climate zones is synchronized with the set temperature for the driver's side, but it is possible to deactivate the synchronization and set the temperature separately for the different climate zones.

Deactivating temperature synchronization

1 Tap the temperature button at the bottom in the middle of the center display to open the control.

2

Tap the synchronization button between the temperature controls.

> The temperature can now be set separately for the individual climate zones. The set temperature is now shown separately on the driver's and passenger's sides in the climate bar instead of only in the middle.

Temperature synchronization can also be deactivated by changing the temperature on the passenger side.

Resetting synchronized temperature

1 Tap the temperature button for the driver's or passenger's side at the bottom of the center display to open the control.

2

Tap the synchronization button between the temperature controls.

> The temperature for all zones in the vehicle is synchronized with the set temperature on the driver's side.

8.1.1.8. Adjusting air distribution

Air distribution can be adjusted manually if needed.

1 Tap the temperature symbol in the middle at the bottom of the center display to open Climate view.

2 The air distribution buttons in the Climate view are located in the middle around the **AUTO** button, from top to bottom:

- Air distribution - windshield defrost vents
- Air distribution - dashboard and center console air vents
- Air distribution - floor air vents

Tap one or more air distribution buttons to open/close the airflow for that vent.

> The air distribution changes and the buttons will light up or go out.

If all air distribution buttons are deselected in manual mode, the climate control system will revert to automatic mode.

8.1.2. Climate controls for seats and steering wheel

8.1.2.1. Activating and deactivating the heated steering wheel*

The steering wheel can be heated for added comfort in cold weather.

1

Tap the driver's side seat button at the bottom of the center display to show the control for steering wheel heating.

2

Tap the steering wheel heating button repeatedly to turn on/off heating and to switch between the three heat levels.

> The level is changed and the set level is displayed in the button.

* Option/accessory.

8.1.2.2. Activating and deactivating automatic steering wheel heating*

The steering wheel can be heated for added comfort in cold weather.

Automatic start of heated steering wheel can be set to be activated/deactivated when the driver gets into the vehicle.[1] With automatic start activated, heating will be turned on at an ambient temperature of 10°C (50°F) or lower.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2 Press •••

3 Choose a setting under **Auto steering wheel heat** to activate/deactivate automatic start of heated steering wheel.

* Option/accessory.

[1] Usage mode Comfort

8.1.2.3. Activating and deactivating the heated rear seats*

The seats can be heated for added comfort for the passengers in cold weather.

With 2-zone system:

1

Buttons for seat heating on the rear side of the tunnel console.

Press the left or right seat heating buttons on the back of the tunnel console to turn on/off seat heating and switch between the three heating levels.

> The level is changed and the indicator lights in the button display the level.

Warning

Heated seats should not be used by people who have difficulty detecting temperature increases due to nerve damage or numbness or who for another reason may have difficulty operating the controls for seat heating.

* Option/accessory.

8.1.2.4. Activating and deactivating power front seats*

The seats can be heated for added comfort for the driver and passengers in cold weather.

1

Tap the seat button for the driver's or passenger's side at the bottom of the center display to open the control for seat heating.

2

Tap the seat heating button repeatedly to turn on/off heating and to switch between the three heat levels.

> The level is changed and the set level is displayed in the button.

Warning

Heated seats should not be used by people who have difficulty detecting temperature increases due to nerve damage or numbness or who for another reason may have difficulty operating the controls for seat heating.

* Option/accessory.

8.1.2.5. Activating and deactivating the heated front seat*

The seats can be heated for added comfort for the driver and passengers in cold weather.

Automatic start of heated seats can be set to be activated/deactivated when the driver gets into the vehicle.[1] With automatic start activated, heating will be turned on at an ambient temperature of 10 °C (50 °F) or lower.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2 Press •••

3 Choose a setting under **Auto driver seat heat** and **Auto passenger seat heat** to activate/deactivate automatic start of heated driver's and passenger's seat.

* Option/accessory.

[1] Usage mode Comfort

8.1.3. Climate controls for windows and mirrors

8.1.3.1. Activating and deactivating the heated rear window and door mirrors

The heated rear window and door mirrors are used to quickly remove condensation and ice from the glass.

Activating and deactivating the heated rear window and door mirrors from the center console

A button in the center console offers quick access to the heated rear window and door mirrors functions.

Button in center console.

1 Tap the button.

> Heated windows and door mirrors are activated and the button lights up/goes out.

Activating and deactivating the heated rear window and door mirrors from the center display

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2

Tap the button for heated rear window and door mirrors.

> Heated windows and door mirrors are activated and the button lights up/goes out.

8.1.3.2. Automatically activating and deactivating the heated rear window and door mirrors

The heated rear window and door mirrors are used to quickly remove condensation and ice from the glass.

Automatic start of heated rear window and door mirrors can be set to be activated/deactivated when the driver gets into the vehicle.[1] With automatic start activated, heating will be turned on when there is a risk of ice or condensation on the windows or mirrors. Heating is automatically switched off when the window or door mirror is sufficiently warm and the condensation or ice is gone.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2 Press •••

3 Choose a setting under **Auto rear defroster** to activate/deactivate automatic start of heated rear window and door mirrors.

[1] Usage mode Comfort

8.1.3.3. Activating and deactivating max defroster

Max defroster is used to quickly remove condensation and ice from windows.

Max defroster deactivates automatic climate control and air recirculation, activates the air conditioning, and changes blower speed to **5** and temperature to **HI**.

> **Note**
>
> The volume increases when the blower speed is changed to **5**.

When max defroster is deactivated, the climate system reverts to the previous settings.

Activating and deactivating max defroster from the center console

A button in the center console offers quick access to the max defroster.

Button in center console.

1 Tap the button.

> Max defroster is activated/deactivated and the button lights up/goes out. While max defroster is activated, the temperature in the different climate zones is not synchronized.

Activating and deactivating max defroster from the center display

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2

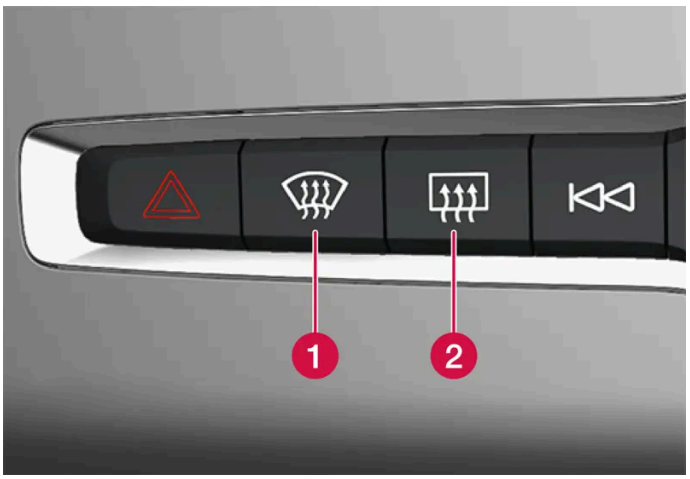
Tap the max defroster button.

> Max defroster is activated/deactivated and the button lights up/goes out. While max defroster is activated, the temperature in the different climate zones is not synchronized.

8.1.4. Climate system controls

The climate system functions are controlled from physical buttons on the center console, the center display, and the climate panel on the rear side of the tunnel console*.

Physical buttons in the center console

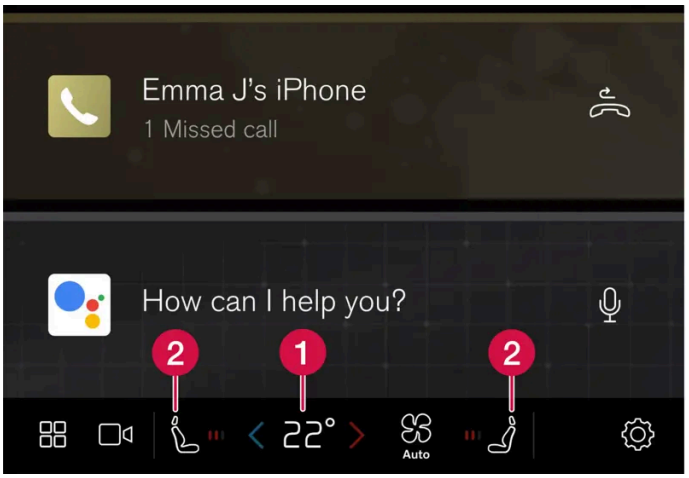


1 Button for max defroster.

2 Button for heated rear window and door mirrors.

Climate buttons in the center display

The most common climate functions are always available at the bottom of the center display.



1 Temperature controls for driver and passenger side.[1]

2 Controls for heated* driver and front passenger seat, as well as heated steering wheel*.

Climate view in the center display

Tap the fan symbol or the temperature button in the middle at the bottom of the center display to open Climate view.

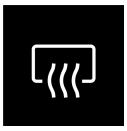
Main climate

In addition to the climate functions that can always be accessed in the center display, other main climate functions can also be controlled under **Main climate**.

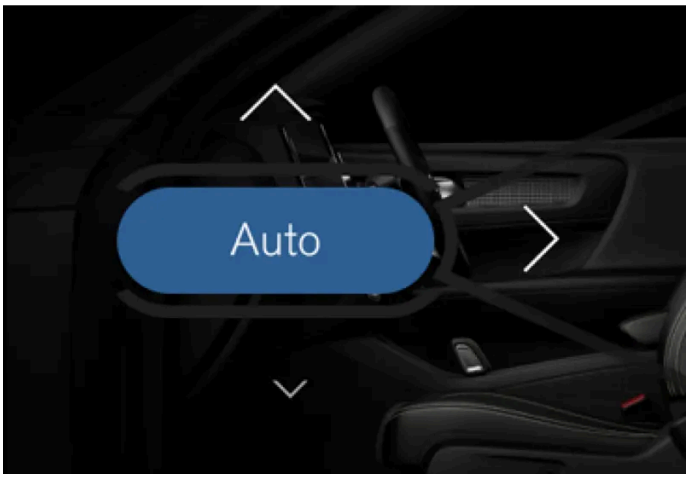
Control for max defroster.

Air conditioning controls.

Air recirculation controls.



Control for heated rear window and door mirrors.



Button for auto-regulation of climate control and arrows for air distribution.

Parking climate

The vehicle's parking climate can be controlled under **Parking**.

Settings

Additional climate settings can be adjusted under •••.

Physical buttons at the rear of the tunnel console*

There are physical buttons on the rear side of the tunnel console for adjusting rear seat heating.

* Option/accessory.

[1] If temperature synchronization has been deactivated, the current temperature for both the driver's and passenger sides will be shown.

8.2. Air distribution

8.2.1. Activating and deactivating recirculation

The climate system's recirculation function helps shut out smog, smoke, exhaust fumes, etc. by reusing the air in the passenger compartment.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2

Tap the air recirculation button.

> Air recirculation is activated/deactivated and the button lights up/goes out.

Important

If the air in the vehicle is recirculated too long, there is a risk of fogging on the inside of the windows.

Note

Recirculation cannot be activated when the max defroster is on.

Note

If the system's air quality sensors detect contaminants in the outside air, the air intake closes and air circulation activates automatically.

8.2.2. Activating and deactivating the recirculation timer setting

The climate system's recirculation function helps shut out smog, smoke, exhaust fumes, etc. by reusing the air in the passenger compartment.

When the recirculation timer is activated, air recirculation will switch off automatically after 20 minutes.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2 Press •••

3 Choose a setting under **Recirculation timer** to activate/deactivate the air recirculation timer.

8.2.3. Activating and deactivating max defroster

Max defroster is used to quickly remove condensation and ice from windows.

Max defroster deactivates automatic climate control and air recirculation, activates the air conditioning, and changes blower speed to **5** and temperature to **HI**.

> **Note**
>
> The volume increases when the blower speed is changed to **5**.

When max defroster is deactivated, the climate system reverts to the previous settings.

Activating and deactivating max defroster from the center console

A button in the center console offers quick access to the max defroster.

Button in center console.

1 Tap the button.

> Max defroster is activated/deactivated and the button lights up/goes out. While max defroster is activated, the temperature in the different climate zones is not synchronized.

Activating and deactivating max defroster from the center display

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2

Tap the max defroster button.

> Max defroster is activated/deactivated and the button lights up/goes out. While max defroster is activated, the temperature in the different climate zones is not synchronized.

8.2.4. Air distribution

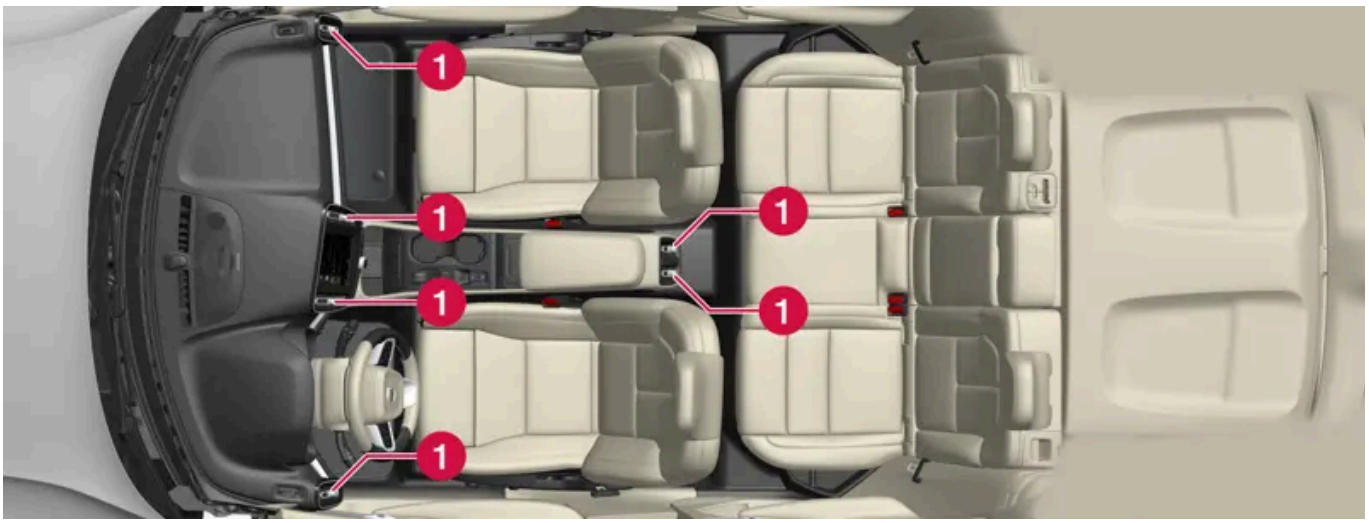
The climate system distributes incoming air through a number of vents in the passenger compartment.

Automatic and manual air distribution

When the auto-climate feature is on, air distribution is regulated automatically. Air distribution can also be controlled manually.

Adjustable air vents

Certain air vents in the vehicle are adjustable, which means they can be opened/closed and the direction of the air flow from the vent can be adjusted.



Location of adjustable air vents in the passenger compartment.

1 Four on the dashboard and two on the rear side of the tunnel console.

> **Note**
>
> At low ambient temperatures, no air is distributed from the adjustable air vent nozzles at the rear of the tunnel console.

8.2.5. Adjusting air distribution

Air distribution can be adjusted manually if needed.

1 Tap the temperature symbol in the middle at the bottom of the center display to open Climate view.

2 The air distribution buttons in the Climate view are located in the middle around the **AUTO** button, from top to bottom:

- Air distribution - windshield defrost vents
- Air distribution - dashboard and center console air vents
- Air distribution - floor air vents

Tap one or more air distribution buttons to open/close the airflow for that vent.

> The air distribution changes and the buttons will light up or go out.
If all air distribution buttons are deselected in manual mode, the climate control system will revert to automatic mode.

8.2.6. Opening, closing and directing air vents

Some of the air vents in the passenger compartment can be individually opened, closed and directed.

Misting can be eliminated by directing the outer air vents towards the door windows.

Direct the outer air vents into the passenger compartment to maintain a comfortable temperature in warm weather.

Opening and closing the air vents

1 Turn the knob in the center of the air vent to open/close airflow from the vent.

When the mark on the knob is vertical, the airflow is strongest.

Directing air flow

1 Move the lever in the center of the air vent horizontally or vertically to direct the airflow from the vent.

8.3. Air quality

8.3.1. Air quality

The materials used in the passenger compartment and air purification system have been selected to ensure a high level of air quality in the passenger compartment.

Materials used in the passenger compartment

The materials in the passenger compartment are designed to be pleasant and comfortable, even for people with asthma or allergies.

The materials have been developed and tested to reduce dust in the passenger compartment and make it easier to keep clean.

The mats in both the passenger compartment and cargo compartment can be easily removed for cleaning.

Use Volvo-recommended cleaning agents and car care products to clean the interior.

Air purification system

In addition to the passenger compartment air filter, the vehicle is also equipped with an air purification system that helps you maintain high air quality in the passenger compartment.

8.3.2. CleanZone*

The CleanZone function monitors the conditions affecting good air quality in the passenger compartment and indicates whether they are fulfilled or not.

If the conditions are not met, the text **CleanZone** will be shown in white in Climate view.

When all the conditions are met, the text will change to blue.

The following conditions must be met:

- All doors and tailgate are closed.
- All side windows and panoramic roof* are closed.

- The Interior Air Quality System* is activated.
- The blower is activated.
- Air recirculation is deactivated.

> **Note**
>
> CleanZone does not indicate that the air quality is good, but only that the conditions for good air quality have been met.

* Option/accessory.

8.3.3. Clean Zone Interior Package*

Clean Zone Interior Package (CZIP) is a series of modifications that filters even more allergy and asthma-inducing substances and other pollutants from the passenger compartment.

CZIP includes the following:

- An enhanced function that starts the blower when the vehicle is unlocked using the key. The blower will then fill the passenger compartment with fresh air. The function starts when required and switches off automatically after a period of time or when one of the passenger compartment doors is opened. The amount of time the blower runs gradually decreases due to reduced need up until the vehicle is 4 years old.
- The fully automatic Interior Air Quality System (IAQS).

* Option/accessory.

8.3.4. Interior Air Quality System*

Interior Air Quality System (IAQS) is a fully automatic air quality system that removes gases and particles to reduce odors and contaminants in the passenger compartment.

IAQS is part of the Clean Zone Interior Package (CZIP) and removes air contaminants such as particles, hydrocarbons, nitric oxides and ground-level ozone.

If the system's air quality sensors detect contaminants in the outside air, the air intake closes and air recirculation is activated.

Note

The air quality sensor should always be connected so that it can help improve the air quality in the passenger compartment.

Recirculation is limited in cold weather to prevent fogging.

In the event of fogging, use the defroster functions for the windshield, side windows and rear window.

* Option/accessory.

8.3.5. Activating and deactivating the air quality sensor*

The air quality sensor is part of the fully automated Interior Air Quality System (IAQS).

The air quality sensor can be switched on or off.

1. Tap the temperature button in the middle at the bottom of the center display to open Climate view.
2. Tap ••• in Climate view.
3. Choose a setting under **Air quality sensor** to activate/deactivate the air quality sensor.

* Option/accessory.

8.3.6. Passenger compartment air filter

All air entering the passenger compartment through the climate control system intake is filtered.

Replacing the passenger compartment filter

To maintain the high performance of the climate control system, the filter must be replaced regularly. Follow Volvo's service schedule for recommended replacement intervals. When driving in areas with a lot of smog, dust, etc., the filter may need to be changed more frequently.

Note

There are two types of passenger compartment filters. Make sure that the correct filter is installed.

8.3.7. Air purification*

Air purification is used to improve the air quality in the passenger compartment before driving.

It is possible to activate air purification manually from the center display, but the function is also started automatically when preconditioning has finished.

The function uses the ventilation system to blow fresh air into the passenger compartment and then circulates the air through the climate system's passenger compartment air filter.

The amount of small particulates ($PM_{2.5}$) in the passenger compartment can be monitored in the Volvo Cars app during the pre-cleaning cycle.

* Option/accessory.

8.3.8. Starting and stopping air purification*

Air purification improves the air quality in the passenger compartment before driving.
The function can be started directly from the center display or the Volvo Cars app.

1. Tap the temperature button in the middle at the bottom of the center display to open Climate view.
2. Tap **Parking**.
3. Tap **Start air purification** to start air purification immediately.

> **Note**
>
> Air purification* starts automatically when preconditioning is complete.
>
> Windows and doors must be closed for air purification to be performed.

* Option/accessory.

8.3.9. Air Quality app

The Air Quality app is a service that visualizes the measured concentration of airborne particulate matter inside and outside the vehicle over time.

A climate sensor measures the concentration of $PM_{2.5}$ particles (particles smaller than 2.5 µm) in the passenger compartment[1]. Measurements of pollutants outside the vehicle are provided by an external service and based on modeled data.

[1] Availability of pollen data depends on market.

8.4. Parking climate

8.4.1. Preconditioning

8.4.1.1. Preconditioning

Preconditioning is a climate function that, if possible, attempts to achieve a comfortable temperature in the passenger compartment before driving.

Preconditioning can be started immediately, or started at a preset time using a timer, from the center display. It can also be started from a device that has the Volvo Cars app*.

The function utilizes several of the vehicle's systems:

- In cold weather, the parking heater heats the passenger compartment to a comfortable temperature.
- In warm weather, air conditioning cools the passenger compartment to a comfortable temperature.
- The electrically heated steering wheel* and electrically heated driver and passenger sets* can be activated automatically at low ambient temperatures.
- Heating for the rear window and door mirrors is automatically activated as needed.

During preconditioning in a hot climate, condensation from the air conditions may drip under the vehicle. This is normal.

Note

Preconditioning is available when the high-voltage battery is sufficiently charged, but the vehicle's range will be affected considerably if preconditioning is carried out when the vehicle is not plugged in for charging.

Note

During preconditioning of the passenger compartment, the vehicle works to reach a comfortable temperature and not the temperature set in the climate system.

Note

Air purification* starts automatically when preconditioning is complete.

Windows and doors must be closed for air purification to be performed.

* Option/accessory.

8.4.1.2. Starting and stopping preconditioning

Preconditioning heats or cools the passenger compartment, if possible, before driving. The function can be started directly from the center display or the Volvo Cars app.

1. Tap the temperature button in the middle at the bottom of the center display to open Climate view.
2. Tap **Parking**.
3. Tap **Start heating/cooling** to start preconditioning immediately.

Note

Preconditioning is available when the high-voltage battery is sufficiently charged, but the vehicle's range will be affected considerably if preconditioning is carried out when the vehicle is not plugged in for charging.

Note

The vehicle doors and windows should be closed during preconditioning of the passenger compartment.

Note

Air purification* starts automatically when preconditioning is complete.

Windows and doors must be closed for air purification to be performed.

Note

When someone sits in the driver's seat[1], preconditioning is paused and regular climate control starts.

When the vehicle starts driving[2], preconditioning is switched off.

* Option/accessory.

[1] Usage mode Comfort

[2] Usage mode Drive

8.4.1.3. Preconditioning timer

The timer can be set to finish preconditioning at a predetermined time.

The timer can store up to 8 preset times for

- a time on one or more days of the week, with or without the repeat function.

8.4.1.4. Activating and deactivating preconditioning timer

Timer settings in the preconditioning timer can be activated or deactivated as needed.

1. Open Climate view in the center display.
2. Select the **Parking** tab.
3. Activate/deactivate a timer setting by tapping the button to the right of the setting.

> The timer is activated/deactivated and the button lights up/goes out.

8.4.1.5. Deleting preconditioning timer settings

A preconditioning timer setting that is no longer needed can be deleted.

1. Open Climate view in the center display.
2. Select the **Parking** tab.
3. Tap the timer setting you would like to delete.
4. Press **Delete timer**.

> The timer setting is deleted.

8.4.1.6. Adding and editing timer settings for preconditioning

The preconditioning timer can store up to 8 preset timer settings.

Adding a timer setting

1. Open Climate view in the center display.
2. Select the **Parking** tab.
3. Tap **Timers**.
4. Tap **Add new timer**.

> **Note**
>
> It is not possible to add a time setting if there are already 8 settings for the timer. Delete a time setting to be able to add a new one.

5. Set a time for one or more days of the week. Activate/deactivate repeat by tapping to **Repeat weekly**.
6. Tap **Set timer**.

> The timer setting will be added to the list and activated.

Editing the timer setting

1. Open Climate view in the center display.
2. Select the **Parking** tab.
3. Tap the timer setting you would like to change.

> A pop-up window will appear.

4 To edit a timer setting, follow the procedures described under the heading "Adding a timer setting" above.

8.4.2. Pre-cleaning

8.4.2.1. Air purification*

Air purification is used to improve the air quality in the passenger compartment before driving.

It is possible to activate air purification manually from the center display, but the function is also started automatically when preconditioning has finished.

The function uses the ventilation system to blow fresh air into the passenger compartment and then circulates the air through the climate system's passenger compartment air filter.

The amount of small particulates ($PM_{2.5}$) in the passenger compartment can be monitored in the Volvo Cars app during the pre-cleaning cycle.

* Option/accessory.

8.4.2.2. Starting and stopping air purification*

Air purification improves the air quality in the passenger compartment before driving.
The function can be started directly from the center display or the Volvo Cars app.

1 Tap the temperature button in the middle at the bottom of the center display to open Climate view.

2 Tap **Parking**.

3 Tap **Start air purification** to start air purification immediately.

Note

Air purification* starts automatically when preconditioning is complete.

Windows and doors must be closed for air purification to be performed.

* Option/accessory.

8.4.3. Parking climate*

Parking climate is an umbrella term for various functions that improve the passenger compartment climate when the vehicle is parked, e.g. preconditioning.

Parking climate functions are controlled from the **Parking** tab in the center display's Climate view. Tap the temperature symbol in the middle at the bottom of the center display to open Climate view.

* Option/accessory.

8.4.4. Parking climate symbols and messages

A number of symbols and messages related to parking climate may be displayed in the instrument panel.

Messages related to parking climate can also be displayed in a device that has the Volvo Cars* app.

Symbol	Message	Meaning
	Parking climate Service required	Parking climate is not functioning properly. Contact a workshop[1] to have the system checked as soon as possible.
	Parking climate Temporarily unavailable	Parking climate is temporarily not functioning properly.
	Parking climate unavailable Charge level too low	The parking climate cannot be activated because the high-voltage battery's charge level is too low to start the parking heater. Charge the vehicle.
	Limited parking climate Charge level too low	Parking climate will only run for a limited time when the high-voltage battery's charge level is too low. Charge the vehicle.

* Option/accessory.

[1] An authorized Volvo workshop is recommended.

8.4.5. Parking heater

The parking heater heats the passenger compartment and battery as needed before driving if preconditioning is activated.

The parking heater is a high-voltage heater. It starts automatically if the parking climate's preconditioning is activated and the passenger compartment needs to be heated.

Preconditioning switches off automatically when the vehicle is started.

Battery and charging

The heater is powered by the vehicle's high-voltage battery. If the charge level in the high-voltage battery is too low, the heater will switch off automatically and a message will be displayed in the instrument panel.

> **Note**
>
> Make sure that the high-voltage battery has sufficient charge if the parking heater must be used.

8.5. Heater

8.5.1. Parking heater

The parking heater heats the passenger compartment and battery as needed before driving if preconditioning is activated.

The parking heater is a high-voltage heater. It starts automatically if the parking climate's preconditioning is activated and the passenger compartment needs to be heated.

Preconditioning switches off automatically when the vehicle is started.

Battery and charging

The heater is powered by the vehicle's high-voltage battery. If the charge level in the high-voltage battery is too low, the heater will switch off automatically and a message will be displayed in the instrument panel.

> **Note**
>
> Make sure that the high-voltage battery has sufficient charge if the parking heater must be used.

8.6. Climate

The vehicle is equipped with electronic climate control. The climate system cools, heats and dehumidifies the air in the passenger compartment.

All of the climate system functions are controlled from the center display and the buttons on the center console.

Certain rear seat functions can also be controlled from the climate controls* on the rear of the tunnel console.

Most climate functions can also be controlled via voice control. Certain functions require an internet connection to be voice controlled.

> **Note**
>
> The climate system can be used to cool down the media system in the center display if needed. In these cases, the message **Cooling infotainment system** will be shown in the instrument panel.

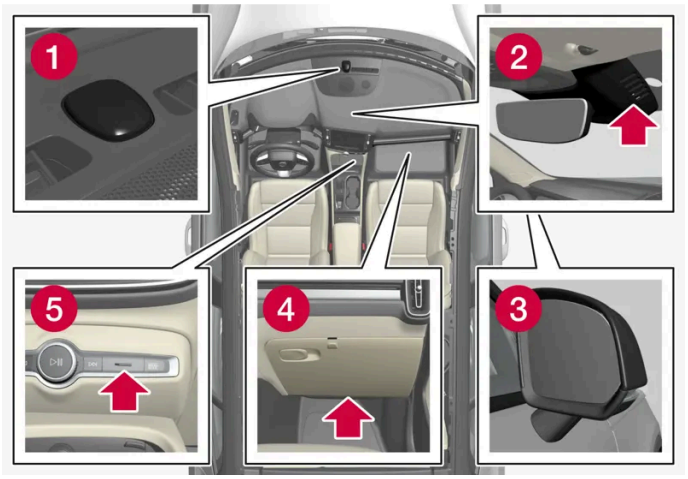
> **Note**
>
> If the battery charge drops below 3%, the climate system will be switched off to save energy.

* Option/accessory.

8.7. Climate control sensors

The climate system has a number of sensors to help regulate the climate settings in the vehicle. Do not cover or block the sensors with clothing or other objects.

Location of the sensors



1 Sunlight sensors - on the upper side of the dashboard.

2 Humidity sensor - in the rearview mirror console.

3 Ambient temperature sensor - in the right-side door mirror.

4 Airborne particulate matter sensor* – on the underside of the glove compartment.

5 Passenger compartment temperature sensor - near the buttons in the center console.

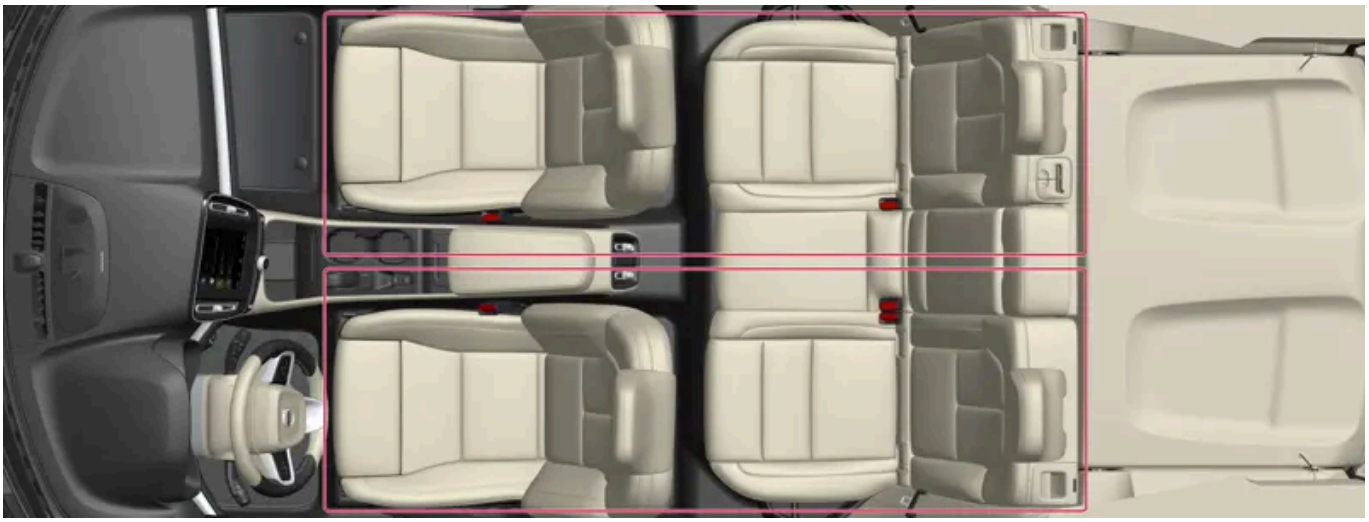
On vehicles equipped with the Interior Air Quality System*, there is also an air quality sensor in the climate system's air intake.

* Option/accessory.

8.8. Climate zones

The vehicle is divided into climate zones to make it possible to set different temperatures for different parts of the passenger compartment.

2-zone climate system



Climate zones with 2-zone climate system.

In 2-zone climate systems, the passenger compartment temperature can be set separately for the left and right sides of the vehicle.

8.9. Perceived temperature

The climate control system regulates the climate in the passenger compartment based on perceived temperature, not actual temperature.

The selected passenger compartment temperature is based on the physical perception of the current ambient temperature, air-flow speed, humidity, sunlight in the passenger compartment, etc.

The system has a sunlight sensor that detects which side of the vehicle the sunlight is shining on and adjusts the temperature accordingly. This means that the temperature of the air coming out of the vents may be different for the left and right sides, even if the temperature setting is the same for both sides.

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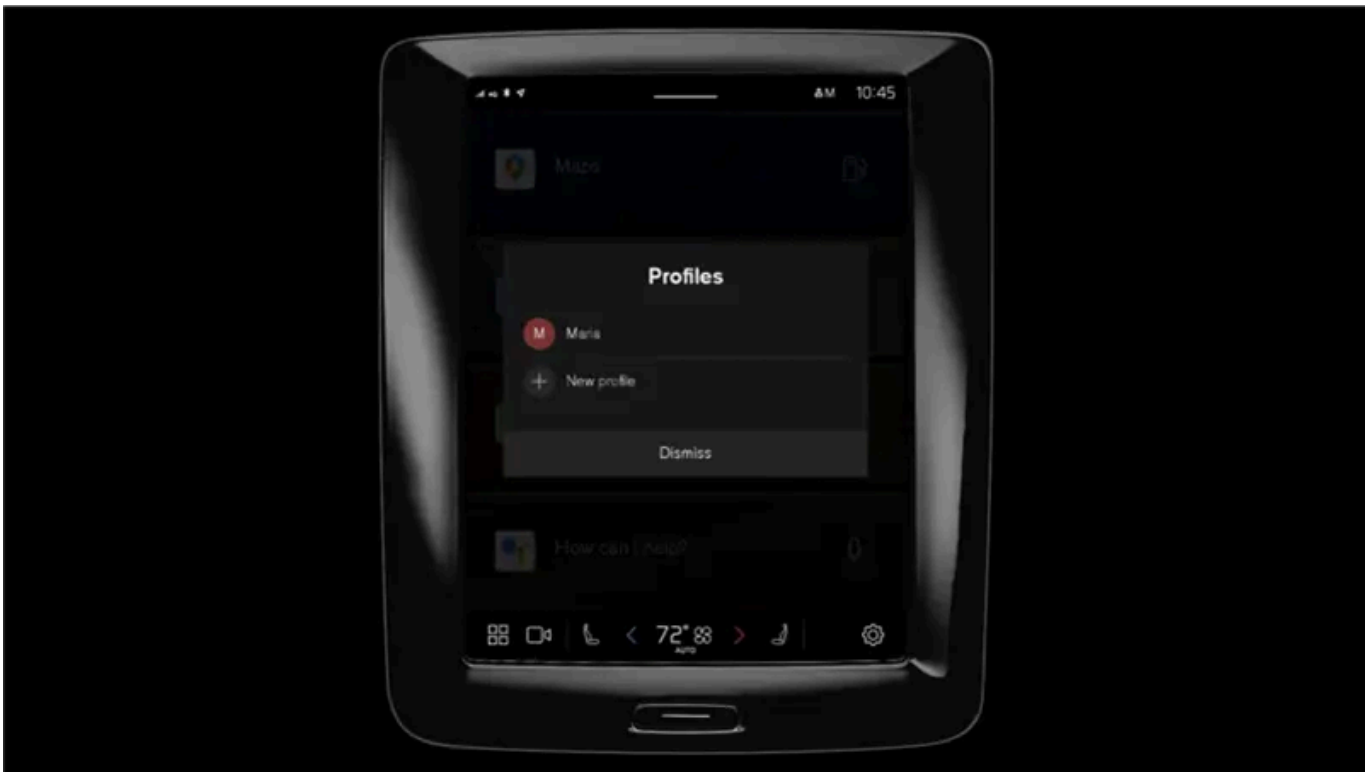
9. Key, locks and alarm

9.1. Key

9.1.1. User profiles

9.1.1.1. User profiles

Many of the vehicle's settings can be saved in a personal user profile.



The first time the vehicle is used, or after a factory reset, the **Owner** profile is preinstalled and active in the vehicle.

The **Owner** profile has administrative rights and cannot be deleted.

Pull down Notifications view to access user profiles.

A symbol is shown in the status bar along with the initials of the active profile. When the system is logged out, no symbol/initials will be shown in the status bar.

Automatic profile selection

A key can be linked to a profile. This profile and all of its settings will then be selected every time this specific key is identified when unlocking or opening the driver's door.

The last-used profile will be activated if a key is not connected to a specific profile.

General information about settings

Changes to the vehicle's settings can be saved in different ways depending on which category the settings belong to. The settings can be personal, global or customized for one driving cycle.

Personal settings

Personal settings are saved to an active profile.

There are two sorts of personal settings:

- Vehicle function settings – settings related to driver support, driver's side climate control, the driver's seat, the power door mirrors, as well as interior and exterior lighting. These settings retain their values when a profile is added or when logging out from an active profile.
- Audio and media settings – settings related to navigation, audio and media system, apps and linked accounts. These settings go back to default values when a profile is added or when logging out from an active profile.

Global settings

The global settings are not changed when the profile is changed. They remain the same regardless of which profile is currently active. Examples of global settings are passenger-side climate control, memory function for the passenger seat, and some system settings.

Default settings for driving cycle

A number of settings revert to default settings [1] after one driving cycle.

These settings can be adjusted while driving. At the next driving cycle, the settings will revert to default values.

[1] Default settings may vary depending on market.

9.1.1.2. Connect key to user profile

A key can be linked to a profile. This profile and all of its settings will then be automatically selected every time this specific key is identified when unlocking or opening the driver's door.

The first time the key is used, it is not connected to any specific profile. The **Owner** profile or the last-used profile is automatically activated when the vehicle is started.

Connecting a key to a profile

> **Note**
>
> If the key was previously linked to another profile, the link will be moved from the previous profile to the active profile.

1. Tap .
2. Select **Profiles**.
3. Select **Connect key to profile** to connect the selected key to a profile.

A profile can only be connected to the key currently being used in the vehicle. If there are any other keys in the vehicle, the message **More than one key found. Place the key you want to connect on the backup reader.** will be displayed

Location of the backup reader in the tunnel console.

Disconnecting a key from a profile

1. Tap .
2. Select **Profiles**.
3. Select **Disconnect key from profile** to delete the active profile from the connected key.

A key can be deleted from a profile even if the key is not inside the vehicle.

9.1.1.3. Managing user profiles

It is possible to change to another profile even if the key used is connected to another profile.

Creating a profile

1. Pull down Notifications view to access user profiles.
2. Tap on an active profile.
3. Select **New profile**.
4. The profile is created.

> The profile will be set as the active profile.

You will be guided through an interactive flow to set up the new profile. From here you can select to pair a phone with the vehicle or connect different accounts, e.g. Volvo ID, to the profile. Certain steps can be skipped to be finished later.

It is possible to create up to six different profiles.

Selecting a profile

1. Pull down Notifications view to access user profiles.
2. Tap on an active profile.
3. Selectable profiles are shown.
4. Select a profile.

> The profile has now been selected and the system will load the settings stored in the selected profile.

Note

To stop the seat's movement when switching to a different profile, press any of the buttons on the front seat cushion.

Logging out of a profile

1. Pull down Notifications view to access user profiles.
2. Select **Log out**.

> You are logged out of the profile and it is no longer possible to access accounts connected to that profile.

3. The system goes into logged-out mode and changed settings are not saved to any profile.

> **Note**
>
> Creating, selecting and logging out of a user profile is only possible when the vehicle is at a standstill.

9.1.1.4. Profile settings

From profile settings, among other things, it is possible to change profile name, add and delete connected keys, connect accounts (e.g. Volvo ID), activate screen lock and delete an active profile.

Activating screen lock

When screen lock is activated, a passcode is required to use the active profile.

1. Tap ⚙.
2. Select **Profiles**.
3. Select **Screen lock**.
4. Select type of screen lock and activate.

> The screen lock will be shown on the center display when switching to a profile as well as each time the system is restarted.

Deleting a profile

Settings that have been saved for one or more profiles can only be deleted when the vehicle is stationary.

1. Tap ⚙.
2. Select **Profiles**.
3. Select **Delete this profile**.

> User information and connections linked to the profile are deleted.

4. The system goes into logged-out mode and changed settings are not saved to any profile.

Becoming an administrator

A profile can be set as administrator.

1 Tap ⚙.

2 Select **Profiles**.

3 Select **Become an admin**.

Changing a profile name

1 Tap ⚙.

2 Select **Profiles**.

3 Tap **Edit** next to the current profile name.

4 Change the profile name and confirm the change.

9.1.1.5. Connecting an account to a user profile

An account can be connected to the selected user profile. Examples of accounts that can be added are Volvo ID and Google account.

Adding an account

1 Tap ⚙.

2 Select **Profiles**.

3 Select **Accounts**.

4 Select to add an account.

> A list will appear of the accounts that can be added.

5 Select an account.

Then follow the instructions provided. The instructions depend on what type of account is selected.

9.1.2. Electronic immobilizer

The electronic immobilizer is a start inhibitor that helps prevent the vehicle from being started by an unauthorized person.

The vehicle can only be started with the right key.

The following instrument panel error messages are related to the electronic immobilizer:

Symbol	Message	Meaning
	The car key is not detected. See Owner's Manual for more information.	Key not recognized during start. Place the key on the key symbol in the tunnel console's storage compartment and try to start the vehicle again.

9.1.3. Keys

The vehicle's physical keys are available in different variants. The vehicle detects when a key is inside the front part of the passenger compartment, and can then be started.

Available key types are the standard key, the buttonless key (Key Tag)*, and Care Key. [1]

The standard key and the Care Key are equipped with buttons. Additional keys than those included as standard can be ordered. For vehicles equipped with keyless locking and unlocking*, a smaller, lighter and buttonless key (Key Tag) can be purchased as an accessory.

To start the vehicle, a key must be in the front section of the passenger compartment.

For vehicles equipped with keyless locking and unlocking (Passive Entry)*, the engine can be started with the key anywhere in the vehicle.

The keys can be linked to different user profiles to store personal settings in the vehicle.

Warning

The key contains a button cell battery. Keep new and used batteries out of the reach of children. If batteries are swallowed, they can cause serious injury.

If any damage is detected, e.g. if the battery cover cannot be closed properly, do not use the product. Keep defective products out of the reach of children.

Standard key and its buttons

The key has four buttons, one on the left side and three on the right.

Locking

Press the button once to lock the vehicle and arm the alarm.

Press and hold to close all windows.

Unlocking

Press the button once to unlock the vehicle and disarm the alarm. Press and hold to open all windows at the same time. This can be used, for example, to quickly air out a hot passenger compartment before getting in.

Tailgate

Press the button once to disarm* and unlock the tailgate. On vehicles with power tailgates*, press and hold to open or close the tailgate. A warning signal will sound when the tailgate is opening or closing.

Panic alarm

The panic alarm is used to attract attention in emergency situations. Press and hold the button for at least 3 seconds or press twice within 3 seconds to activate the vehicle's turn signals and horn. The function can be switched off with the unlocking button after it has been activated for at least 5 seconds. Otherwise it switches off automatically after 2 minutes and 45 seconds.

Warning

Be aware of the risk of injury when opening and closing.

- Always operate with caution.
- Do not allow children to play with the operating controls.
- Never leave a child alone in the vehicle.
- Keep in mind that the power windows can be operated even if the key has been removed from the vehicle, as long as the seat sensor detects an occupant in the driver's seat. To cut the power supply to the power windows, the driver's door must be open and no one may be sitting in the driver's seat. The power windows can be reactivated in the center display, even if the key has been removed from the vehicle and the seat sensor doesn't detect any occupant in the driver's seat.
- Never stick objects or body parts out through the windows, even if the vehicle electrical system is completely turned off.

Note

A key that has been locked in the vehicle is temporarily deactivated and cannot be used until the vehicle is unlocked using another valid key.

Button-less key (Key Tag)*

A buttonless key[2] can be ordered as an accessory for vehicles equipped with the keyless locking and unlocking function. Start and keyless locking and unlocking function in the same way as with the standard key. The key is waterproof up to a depth of approx. 10 meters (30 feet) for up to 60 minutes. It does not have a key blade and the battery cannot be replaced.

Care Key

It is possible to set a speed limitation that will be active when Care Key is used. This limit is intended to promote safe use of the vehicle, e.g. when it is loaned out.

If the active key is removed from the vehicle

If the key is removed from the vehicle while the engine is running, the warning message **The car key is not detected. See Owner's Manual for more information.** will be displayed in the instrument panel and an audible signal will sound when the last door is closed.

The message will disappear when the key is returned to the vehicle and the O button on the right-side steering wheel keypad is pressed or when all doors are closed.

Interference

Electromagnetic fields or obstructing objects may interfere with the key's functions for keyless start and keyless locking and unlocking*.

Note

Do not store the vehicle's keys near metal objects or electronic devices (phones, tablets, laptops, chargers, etc.). Keep a distance between them of at least 10-15 cm (4-6 inches).

If you experience interference, use the key's detachable blade to unlock the vehicle. Then place the key in the backup reader in the tunnel console storage compartment to disarm the alarm and start the vehicle.

Note

To help ensure that the key can be detected by the backup reader, make sure there are no other vehicle keys, metal objects or electronic devices (phones, tablets, laptops, chargers, etc.) in the area. These objects can interfere with its functioning.

Warning

California Proposition 65

Operating, servicing and maintaining a passenger vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle [https://www.p65warnings.ca.gov/products/passenger-vehicle] .

* Option/accessory.

[1] The illustration is generic - details may vary according to vehicle model.

[2] Also called sport key.

9.1.4. Ordering additional keys

If more keys than the standard number supplied with the vehicle are needed, or if any key is lost, new keys can be ordered. If the vehicle is equipped with keyless locking and unlocking*, a buttonless key (Key Tag) can also be ordered.

A total of 12 keys can be programmed and used for the same vehicle. An additional driver profile will be added for each new key. This also applies to the key tag.

Lost key

If a key is lost, a replacement key can be ordered through a Volvo retailer or an authorized Volvo workshop. As an anti-theft measure, the code of the lost remote key must be erased from the system. All remaining keys must be brought to the workshop.

Note

Volvo recommends that you order a new or duplicate key from an authorized Volvo workshop.

You can also obtain additional or duplicate keys from certain independent repair facilities and locksmiths that are qualified to make keys. Each key must be programmed to work with your vehicle.

A list of independent repair facilities and/or locksmiths known to Volvo that can cut and code replacement keys can be found:

- at volvocars.com
- by calling Volvo Customer Care 1-800-458-1552.

* Option/accessory.

9.1.5. Replacing the key's battery

The battery in the key can be replaced when it is discharged. Battery life depends on how much the key is used. The battery for the buttonless key (Key Tag)* cannot be replaced.

Note

All batteries have a limited service life and must eventually be replaced (does not apply for Key Tag). The battery's service life varies depending on how often the vehicle/key is used.

When the information icon illuminates and the message **The car key battery is low. See Owner's Manual for replacement.** appears in the instrument panel, the key's battery needs to be replaced.

Reduced key range is another sign that the battery level is low.

The battery in the buttonless key (Key Tag)* cannot be replaced. When the battery is discharged, a new buttonless key can be ordered from an authorized Volvo workshop.

Important

Hand in used Key Tags to an authorized Volvo workshop, where the key can be deleted from the vehicle's system. The key can still be used even if the battery is discharged to start the vehicle via a back-up start.

Opening the key and replacing its battery

> **Important**
>
> Do not touch the contact surfaces of new batteries. This impairs the battery's function.

Hold the key with the front side (with the Volvo logo) facing up, and the key ring bracket facing you.

There should be a catch to the left of the key ring bracket. If this catch is on the wrong side, the front and back sides have been switched during a previous battery change.

1 **1**

Move the catch next to the key ring bracket to the side and slide the front cover away from the bracket.

> The cover comes loose and can be lifted off.
> There is an additional catch under the front cover for removing the back cover.

2 **2**

Move the catch behind the front cover to the side and slide the rear cover away from the key ring bracket.

> The cover comes loose and can be lifted off.
> Under the rear cover is a battery cover.

3 **3**

Turn the battery cover counterclockwise to the OPEN position. Use a screwdriver, coin or similar.

Remove the battery cover. If it is difficult to remove, use a narrow object to carefully pry it up.

4 4

The battery's positive side (+) faces upward. Remove the battery by pressing its edge and then lifting it out.

5 5

Insert a new battery with the positive side (+) facing upward. Do not touch the contact surfaces of the key battery.

Place the edge of the battery under the two lower plastic catches.

Then push the battery down so that it is held in place by the upper plastic catch.

> **Note**
>
> Use batteries with the designation CR2032, 3 V.

> **Note**
>
> Volvo recommends that replacement batteries for the key meet the UN Manual of Test and Criteria, Part III, sub-section 38.3. The supplied batteries or batteries replaced by an authorized Volvo workshop meet the same criteria.

6 6

Put the battery cover back into place and turn it clockwise to the CLOSE position.

7 7

Put the back cover on in the reverse order it was removed. The back cover does not have a logo. Press the cover down until it clicks and then push it the last few millimeters back to its original position.

> A second click indicates that the cover is correctly positioned and locked into place.
There should not be any gaps.

8 8

Turn the key and put the front cover back on in the same way as the back cover.

Warning

Make sure the battery is positioned correctly with the right polarity. If the key will not be used for a prolonged period of time, remove the battery to avoid battery leakage and damage. Wear protective gloves when handling damaged batteries, as batteries that are damaged or leaking can cause corrosive damage in contact with the skin.

- Keep batteries out of the reach of children.
- Do not leave batteries lying out where they could be swallowed by children or pets.
- Never disassemble, short-circuit or place a battery into open fire.
- Do not charge non-chargeable batteries. They could explode.
- Check products with batteries regularly for signs of damage.

Do not use the key if there is anything to suggest that the key or its battery has been damaged or is beginning to leak. Keep defective products out of the reach of children.

Important

Batteries must be recycled in an environmentally sound manner at the end of their service life.

Warning

California Proposition 65

Operating, servicing and maintaining a passenger vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle [https://www.p65warnings.ca.gov/products/passenger-vehicle] .

* Option/accessory.

9.1.6. Locking and unlocking using the key buttons

The buttons on the key can be used to lock or unlock the entire vehicle.

Locking with the key's buttons

1 Press the button to lock the vehicle.

To activate the locking sequence, the driver's door must be closed[1]. If any of the other doors or the tailgate are open, they will be locked and the alarm will be armed once they are closed.

Note

A key that has been locked in the vehicle is temporarily deactivated and cannot be used until the vehicle is unlocked using another valid key.

Locking when the tailgate is open

Note

If the vehicle is locked and the tailgate is still open, make sure that the key is not left in the cargo compartment when the tailgate is closed[1].

Unlocking with the key's buttons

1 Press the button to unlock the vehicle.

Automatic relocking

If none of the doors or tailgate are opened within two minutes after being unlocked, they will automatically relock. This function reduces the risk of inadvertently leaving the vehicle unlocked.

If the key doesn't work

If the key's buttons are not working, its battery may be discharged. Replace the battery or use the detachable key blade.

* Option/accessory.

[1] If the vehicle is equipped with keyless locking/unlocking*, all side doors must be closed.

9.1.7. Care Key – speed-restricted key

A Care Key enables the vehicle owner to set a maximum speed limit for the vehicle. This speed limit is intended to promote safe use of the vehicle, e.g. when it is loaned out.

The button functions for the Care Key are the same as for the regular key. If no speed limit has been set, the vehicle and the key work as normal. Like other keys, the Care Key can be linked to a user profile to save personal settings in the vehicle.

The speed limitation can be set by the user profile who is the administrator. The speed limitation is activated when the vehicle is unlocked with a Care Key, or when the driver's door is opened and the vehicle detects a Care Key on the driver's side.

The ability to set a maximum speed for use with a specific key is intended to give the vehicle owner increased peace of mind when handing over the vehicle to a young or inexperienced driver, a valet, a workshop, etc.

9.1.8. Setting speed limitation for Care Key

The speed limitation for the Care Key is set in the center display.

The speed limitation for the Care Key can only be set from a profile with administrative rights. To access the settings:

1. Tap ⚙ in the center display.
2. Select **Profiles**.
3. Select **Care key**.
4. Activate **Speed limit** and select the desired maximum speed[1].

> The speed limitation is activated when the vehicle is used with a Care Key.

To deactivate the function, the vehicle must be unlocked using an unrestricted key. The speed limitation for the Care Key can be deactivated via settings in the center display. The Care Key can then be used as a regular key.

Indication in the instrument panel

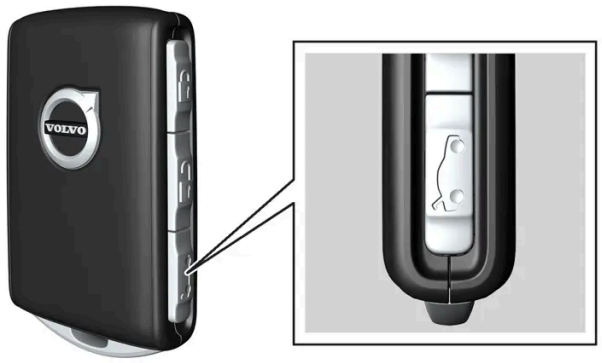
An active speed limitation is indicated in the instrument panel with a symbol and the message **Speed limitation cannot be exceeded Care Key in use**. A yellow dotted line on the speedometer shows the current speed limitation.

Symbol	Meaning
	Speed limitation is active.

[1] The speed can be set within the range of 50-150 km/h (30-95 mph), in increments of 10 km/h (5 mph).

9.1.9. Unlocking the tailgate using the key button

There is a button on the key for unlocking only the tailgate.



1 Press the button on the key.

> The tailgate will be unlocked but remain closed.
The side doors remain locked and armed. The lock and alarm indicator on the dashboard will go out to indicate that the vehicle is no longer fully locked.
The tailgate can be opened by grasping the rubberized button under the lower edge of the trunk lid.
If the tailgate is not opened within 2 minutes, it will be relocked and the alarm armed.

Power tailgate*

1 Press and hold the key's button for a few seconds.

> The tailgate will unlock and open. However, the side doors will remain locked and armed.

Note

If the power tailgate system* has been working continuously for too long, it will be switched off to help prevent overheating. It can be used again after a few minutes.

* Option/accessory.

9.1.10. Detachable key blade

The standard key contains a detachable metal key blade that has several different functions.

A Volvo workshop can provide you with the key blade's unique code, which is recommended in case you need to order a new key blade.

Using the detachable key blade

The detachable key blade can be used to:

- manually open the left-side front door if central locking cannot be activated by pushing a button
- emergency lock all doors
- activate/deactivate the rear door mechanical child locks.

If the key blade has been used to unlock the vehicle, the alarm can be disabled and the vehicle started by placing the key in the backup reader in the tunnel console storage compartment.

The optional buttonless key (Key Tag) does not have a detachable key blade.

Removing the key blade

Hold the key with the front side (with the Volvo logo) facing up, and the key ring bracket facing you.

There should be a catch to the left of the key ring bracket. If this catch is on the wrong side, the front and back sides have been switched at some point when the key was disassembled.

1 1

Move the catch next to the key ring bracket to the side and slide the front cover away from the bracket.

> The cover comes loose and can be lifted off.

2 2

Remove the key blade.

3 3

Put the front cover on in the reverse order it was removed. Press the cover down until it clicks and then push it the last few millimeters back to its original position.

> A second click indicates that the cover is correctly positioned and locked into place.
There should not be any gaps.

9.1.11. Locking and unlocking with detachable key blade

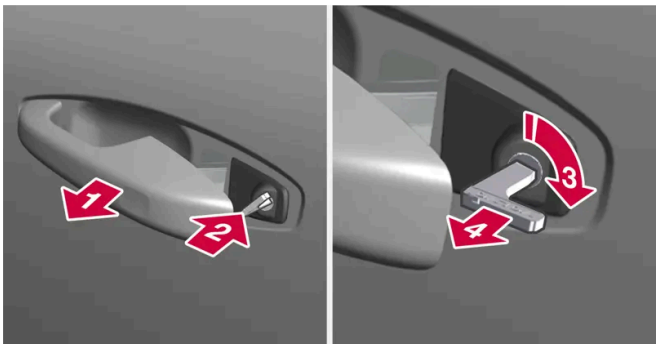
The detachable key blade can be used to unlock one of the vehicle's doors from the outside, for example if the key's battery is discharged.

Unlocking using the key blade

Note

When the door is unlocked using the detachable key blade and then opened, the alarm will be triggered. The alarm must be deactivated manually – it can be a good idea to read the section about this before opening the vehicle.

1



1

Pull the handle on the left-side front door to its end position.

2 2

Insert the key.

3 3

Turn the key clockwise 45 degrees so that the key is pointing straight rearward.

4 4

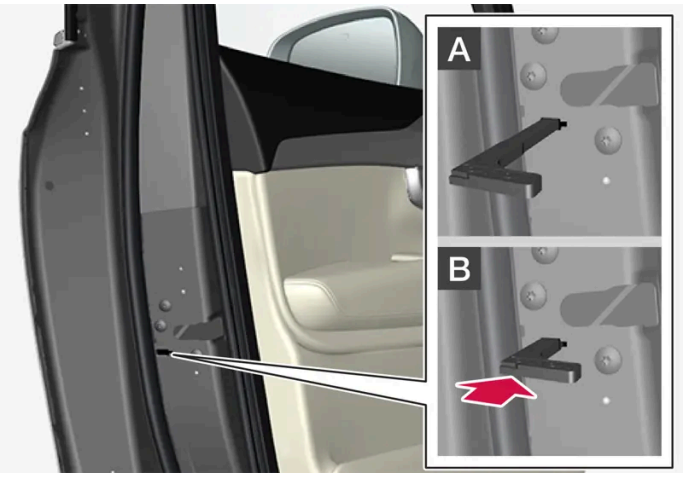
Turn the key back 45 degrees to the original position and remove it.

> The door can be opened using the handle.

Locking using the key blade

The front left door can also be locked using the detachable key blade.

The other doors have a lock mechanism in the side of the door that must be pushed in using the key blade. The doors will then be mechanically locked and cannot be opened from the outside. The doors can still be opened from inside the vehicle.



Manual door lock. This is not the child lock.

1. Remove the detachable key blade from the key with buttons.
2. Insert the key blade into the opening for the lock mechanism.
3. Push in the key until it stops, about 12 mm (0.5 inch).

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

B The door cannot be opened from the outside. To return to position A, open the door using the inside door handle.

Note

- The door's lock controls only lock that specific door, not all doors simultaneously.
- A manually locked rear door with an activated child lock cannot be opened from either the outside or the inside. It can be unlocked using the key buttons, central locking button, keyless locking system* or through the Volvo Cars app.

* Option/accessory.

9.1.12. Key range

In order to function correctly, the key must be within a certain distance from the vehicle.

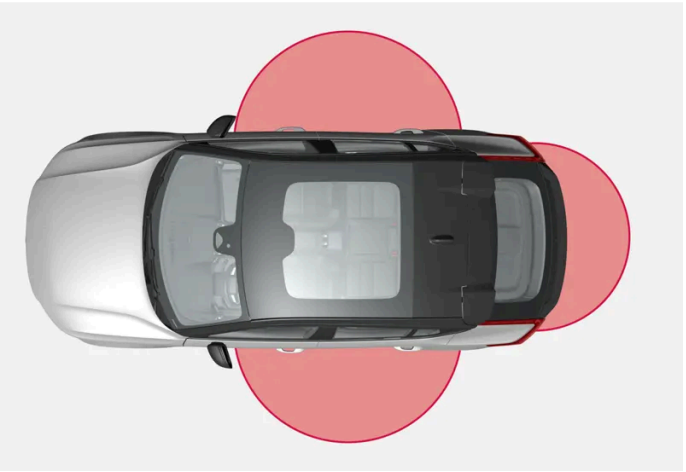
Physical barriers between the key and the vehicle may adversely affect the range or obstruct the signal completely.

When using the key buttons

The key's functions that are controlled by the buttons have a range of about 20 meters (65 feet) from the vehicle.

If the vehicle's locks do not react, move closer and try again.

Keyless* use



For keyless operation to be possible, the key must be within a distance of about 1 to 1.5 meters (3 to 5 feet) from the vehicle's doors or tailgate.

> **Note**
>
> The functions of the key can be disrupted by ambient radio waves, buildings, topographical conditions, etc. The vehicle can always be locked/unlocked using the key blade.

* Option/accessory.

9.1.13. Start and lock system type designations

The following information contains type designations for the start and lock system.

Alarm system

USA FCC ID: MAYDA 5823(3)

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canada IC: 4405A-DA 5823(3)

This device is subject to the following conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Remote keys (Passive Entry*/Passive Start)

USA

Volvo Standard Key FCC ID: YGOHUF8423MS

Volvo Tag ID FCC ID: YGOHUF8432MS

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada

Volvo Standard Key IC: 4008C-HUF8423MS

Volvo Tag ID IC: 4008C-HUF8432MS

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Immobilizer and Passive Entry*/Passive Start systems

USA-FCC ID: LTQVO3134

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canada-IC:3659A-VO3134

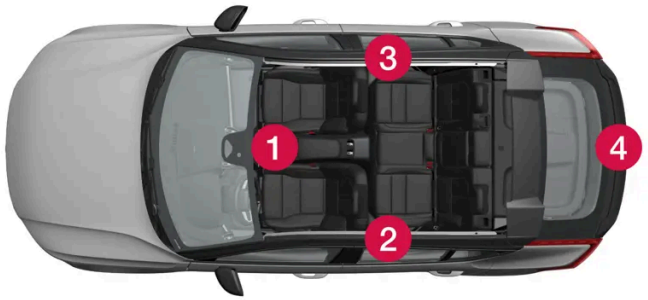
This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

* Option/accessory.

9.1.14. Antenna locations for the start and lock system

The antennas for the keyless start system and keyless locking system* are integrated in the vehicle.



Location of the antennas:

1. In the storage compartment in the tunnel console
2. In the upper front section of the left-side rear door[1]
3. In the upper front section of the right-side rear door[1]
4. In the cargo compartment[1]

> **Warning**
>
> People with a pacemaker should keep a distance of at least 22 cm (9 inches) from the antennas to prevent interference between the pacemaker and the key system.

* Option/accessory.

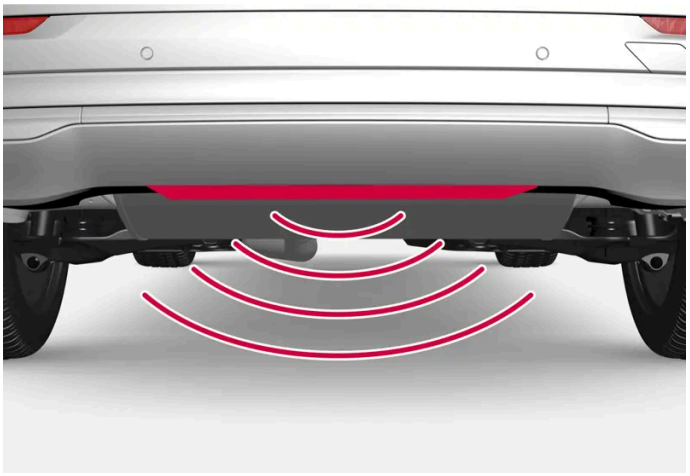
[1] Only in vehicles equipped with keyless locking and unlocking*.

9.2. Locking and unlocking

9.2.1. Keyless locking and unlocking

9.2.1.1. Operating the tailgate with a foot movement*

The tailgate can be opened and closed by making a foot movement* under the rear bumper. This function makes it easy to access the cargo compartment when your hands are full.



The sensor is located in the center under the bumper.

One of the vehicle's keys must be within range behind the vehicle, approx. 1 meter (3 feet) for opening and closing to be possible. This applies even if the vehicle is unlocked in order to prevent the trunk lid from inadvertently opening e.g. at a car wash.

Foot movement operation

1

Make **one** forward kicking motion with your foot under the sensor area under the rear bumper. Then take a step back. Do not touch the bumper.

> A brief audible signal will be heard when opening or closing is activated - the tailgate will open/close.

If several opening attempts have been made without a key in range behind the vehicle, foot movement operation will not be available for a short period of time.

Do not hold your foot under the vehicle in a kicking motion – this can cause the activation to fail.

Interrupting opening or closing with a foot movement

1 Make **one** forward kicking motion during opening or closing.

> The tailgate will stop opening or closing.

The key does not need to be within range of the vehicle to interrupt opening or closing of the tailgate.

If the tailgate stops near the closed position, it will open the next time it is activated.

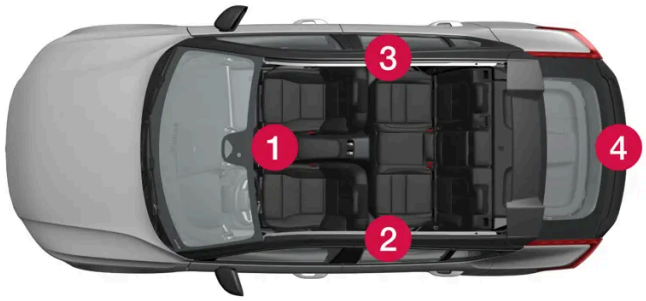
> **Note**
>
> Keep the area around the foot movement sensor clean. The accumulation of dirt, ice or snow may interfere with its functioning.

> **Note**
>
> Please note that the system could be inadvertently activated in a car wash if the key is within range.

* Option/accessory.

9.2.1.2. Antenna locations for the start and lock system

The antennas for the keyless start system and keyless locking system* are integrated in the vehicle.



Location of the antennas:

1. In the storage compartment in the tunnel console
2. In the upper front section of the left-side rear door[1]
3. In the upper front section of the right-side rear door[1]
4. In the cargo compartment[1]

Warning

People with a pacemaker should keep a distance of at least 22 cm (9 inches) from the antennas to prevent interference between the pacemaker and the key system.

* Option/accessory.

[1] Only in vehicles equipped with keyless locking and unlocking*.

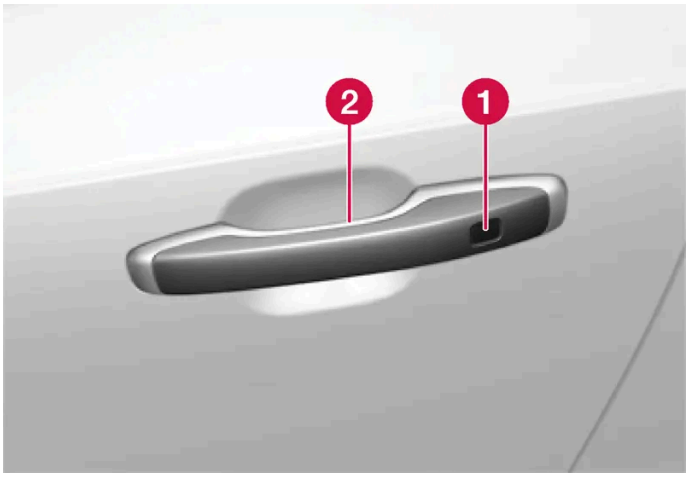
9.2.1.3. Keyless locking and unlocking with touch-sensitive surfaces*

With keyless locking and unlocking, the key's buttons do not need to be used – the key only needs to be near the vehicle. The vehicle can then be locked or unlocked by touching the pressure-sensitive surface on the door handle.

Pressure-sensitive surfaces

Door handle

There are indentations on the outside of the outer door handles for locking, and pressure-sensitive surfaces on the inside of the handles for unlocking.



1 Pressure-sensitive indentation for locking

2 Pressure-sensitive surface for unlocking

Note

It is important that only one pressure-sensitive surface is activated at a time. If the handle is grasped at the same time as the lock area is pressed, there is a risk that double commands may be sent. This may cause the requested action (locking/unlocking) to be delayed or not performed at all.

Tailgate handle

The tailgate handle has a rubberized button underneath that can only be used for unlocking.

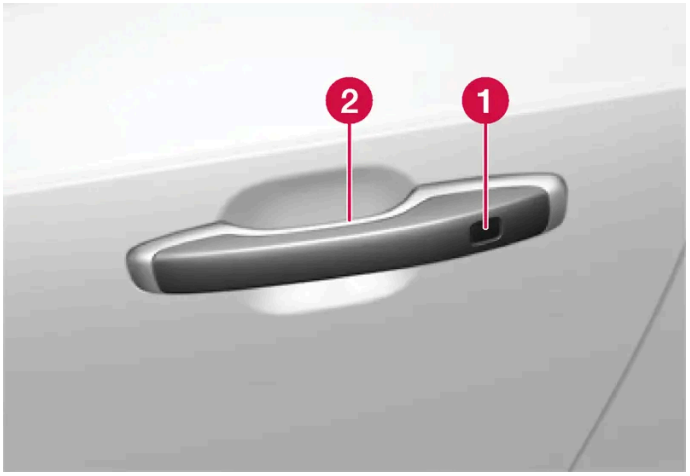
> **Note**
>
> Please be aware that the system could be activated in a car wash if the key is within range.

* Option/accessory.

9.2.1.4. Keyless locking and unlocking*

With keyless locking and unlocking, touching the pressure-sensitive surfaces on the door handle will lock or unlock the vehicle. A key must be detected near the vehicle.

> **Note**
>
> One of the vehicle's keys must be within range for locking and unlocking to be possible.



1 Pressure-sensitive indentation for locking

2 Pressure-sensitive surface for unlocking

> **Note**
>
> Please be aware that the system could be activated in a car wash if the key is within range.

Keyless locking

Keyless locking can be performed by touching the vehicle's handle when it is completely closed.

It is also possible to lock using one of the side door handles when the tailgate is open. In this case, the tailgate will lock after it has been closed.

1 Touch the marked area on the outside of a door handle after the door is closed.

It is also possible to lock the vehicle without a key by pressing the button on the bottom edge of the tailgate and then closing it.

> The lock indicator light on the dashboard will flash to confirm locking.

Closing the windows with keyless locking

To close all side windows at the same time, press and hold the touch-sensitive indentation on the outside of the door handle until the windows close.

Locking when the tailgate is open

If the vehicle is locked and the tailgate is still open, make sure that the key is not left in the cargo compartment when the tailgate is closed.

> **Note**
>
> If the key is detected in the vehicle, the tailgate will not lock when it is closed.

Keyless unlocking

1 To unlock, grasp a door handle or lightly press the rubberized button on the underside of the tailgate handle.

> The lock indicator light on the dashboard will stop flashing to confirm that the vehicle is unlocked.

Automatic relocking

If the vehicle is not opened again within 2 minutes after unlocking, it will automatically lock again. This function reduces the risk of inadvertently leaving the vehicle unlocked.

* Option/accessory.

9.2.1.5. Keyless unlock settings*

Several different sequences are available for keyless unlocking.

1 Tap ⚙ in the center display.

2 Tap **Controls**.

3 Select setting for unlocking.

* Option/accessory.

9.2.1.6. Closing and locking the tailgate using the buttons*

The buttons underneath the tailgate can be used to close and lock the vehicle automatically.

Location of button(s) on underside of tailgate.

> ! **Important**
>
> When operating the tailgate manually, open and close it slowly. If you encounter resistance, do not use force. This could damage the tailgate and lead to loss of function.

Closing[1]

1 Press the button on the underside of the tailgate.

> The tailgate will close automatically and remain unlocked.

> **Note**
>
> - The button remains active 24 hours after the tailgate was opened. After this time, the tailgate must be closed manually.
> - If the tailgate has been open for more than 30 minutes, it will automatically close slowly.

Closing and locking[2]

1 Press the button on the underside of the tailgate.

> The tailgate closes automatically and the vehicle locks[3].

> **Note**
>
> - One of the vehicle's keys must be within range for locking and unlocking to be possible.
> - When the keyless locking or closing* functions are used, three audible signals will sound if the key is not close enough to the tailgate.

Interrupting closing

- Press the button on the dashboard.
- Press the button on the key.
- Press the close button on the underside of the tailgate[1].
- Press the rubberized pressure plate on the underside of the tailgate's outer handle.
- Using a foot movement*.

Tailgate movement is interrupted and stops. Pressing the rubberized button again will open the tailgate. If any of the other options is used, it will instead continue closing. The tailgate can also be opened or closed manually.

If the tailgate stops near the closed position, it will open the next time it is activated.

Pinch protection

If anything obstructs the tailgate with enough force to prevent it from opening or closing, pinch protection will be activated.

- When opening - the tailgate will stop moving and an audible signal will sound.
- When closing - the tailgate will stop, a long audible signal will sound and the tailgate will return to the programmed maximum opening position.

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.

Warning

Be aware of the risk of injury when opening and closing.

Before opening or closing, make sure that no one is near the tailgate's range of motion. Serious injury could occur.

Always operate the tailgate with caution.

Preloaded springs

Preloaded springs for the power tailgate.

Warning

Do not attempt to open or access the preloaded springs in the power tailgate struts. They are preloaded with high pressure and can cause injury if opened.

* Option/accessory.

[1] Vehicles with power-operated trunk lid.

[2] Vehicles with keyless locking/unlocking and power-operated tailgate.

[3] All doors must be closed for the vehicle to lock.

9.2.1.7. Keyless unlocking of the tailgate*

With keyless locking and unlocking, the tailgate can be unlocked by lightly touching the rubberized button under the tailgate handle.

Note

One of the vehicle's keys must be within range behind the vehicle for unlocking to be possible.

The tailgate is held closed by an electronic locking mechanism.

To open:

1 Lightly press the rubberized pressure plate on the underside of the tailgate handle.

> The lock will disengage.

2 Lift the outer handle to open the tailgate.

> **Important**
>
> - Handle the rubber plate carefully to help prevent damage to its electrical connections. Very little force is needed for activation.
> - Use the handle to lift – do not apply force to the rubberized pressure plate.

The tailgate can also be unlocked by making a foot movement* under the rear bumper; see the separate section.

* Option/accessory.

9.2.2. Keys

The vehicle's physical keys are available in different variants. The vehicle detects when a key is inside the front part of the passenger compartment, and can then be started.

Available key types are the standard key, the buttonless key (Key Tag)*, and Care Key. [1]

The standard key and the Care Key are equipped with buttons. Additional keys than those included as standard can be ordered. For vehicles equipped with keyless locking and unlocking*, a smaller, lighter and buttonless key (Key Tag) can be purchased as an accessory.

To start the vehicle, a key must be in the front section of the passenger compartment.

For vehicles equipped with keyless locking and unlocking (Passive Entry)*, the engine can be started with the key anywhere in the vehicle.

The keys can be linked to different user profiles to store personal settings in the vehicle.

Warning

The key contains a button cell battery. Keep new and used batteries out of the reach of children. If batteries are swallowed, they can cause serious injury.

If any damage is detected, e.g. if the battery cover cannot be closed properly, do not use the product. Keep defective products out of the reach of children.

Standard key and its buttons

The key has four buttons, one on the left side and three on the right.

Locking

Press the button once to lock the vehicle and arm the alarm.

Press and hold to close all windows.

Unlocking

Press the button once to unlock the vehicle and disarm the alarm. Press and hold to open all windows at the same time. This can be used, for example, to quickly air out a hot passenger compartment before getting in.

Tailgate

Press the button once to disarm* and unlock the tailgate. On vehicles with power tailgates*, press and hold to open or close the tailgate. A warning signal will sound when the tailgate is opening or closing.

Panic alarm

The panic alarm is used to attract attention in emergency situations. Press and hold the button for at least 3 seconds or press twice within 3 seconds to activate the vehicle's turn signals and horn. The function can be switched off with the unlocking button after it has been activated for at least 5 seconds. Otherwise it switches off automatically after 2 minutes and 45 seconds.

Warning

Be aware of the risk of injury when opening and closing.

- Always operate with caution.
- Do not allow children to play with the operating controls.
- Never leave a child alone in the vehicle.
- Keep in mind that the power windows can be operated even if the key has been removed from the vehicle, as long as the seat sensor detects an occupant in the driver's seat. To cut the power supply to the power windows, the driver's door must be open and no one may be sitting in the driver's seat. The power windows can be reactivated in the center display, even if the key has been removed from the vehicle and the seat sensor doesn't detect any occupant in the driver's seat.
- Never stick objects or body parts out through the windows, even if the vehicle electrical system is completely turned off.

Note

A key that has been locked in the vehicle is temporarily deactivated and cannot be used until the vehicle is unlocked using another valid key.

Button-less key (Key Tag)*

A buttonless key[2] can be ordered as an accessory for vehicles equipped with the keyless locking and unlocking function. Start and keyless locking and unlocking function in the same way as with the standard key. The key is waterproof up to a depth of approx. 10 meters (30 feet) for up to 60 minutes. It does not have a key blade and the battery cannot be replaced.

Care Key

It is possible to set a speed limitation that will be active when Care Key is used. This limit is intended to promote safe use of the vehicle, e.g. when it is loaned out.

If the active key is removed from the vehicle

If the key is removed from the vehicle while the engine is running, the warning message **The car key is not detected. See Owner's Manual for more information.** will be displayed in the instrument panel and an audible signal will sound when the last door is closed.

The message will disappear when the key is returned to the vehicle and the O button on the right-side steering wheel keypad is pressed or when all doors are closed.

Interference

Electromagnetic fields or obstructing objects may interfere with the key's functions for keyless start and keyless locking and unlocking*.

Note

Do not store the vehicle's keys near metal objects or electronic devices (phones, tablets, laptops, chargers, etc.). Keep a distance between them of at least 10-15 cm (4-6 inches).

If you experience interference, use the key's detachable blade to unlock the vehicle. Then place the key in the backup reader in the tunnel console storage compartment to disarm the alarm and start the vehicle.

Note

To help ensure that the key can be detected by the backup reader, make sure there are no other vehicle keys, metal objects or electronic devices (phones, tablets, laptops, chargers, etc.) in the area. These objects can interfere with its functioning.

Warning

California Proposition 65

Operating, servicing and maintaining a passenger vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle [https://www.p65warnings.ca.gov/products/passenger-vehicle] .

* Option/accessory.

[1] The illustration is generic - details may vary according to vehicle model.

[2] Also called sport key.

9.2.3. Locking and unlocking using the key buttons

The buttons on the key can be used to lock or unlock the entire vehicle.

Locking with the key's buttons

1 Press the button to lock the vehicle.

To activate the locking sequence, the driver's door must be closed[1]. If any of the other doors or the tailgate are open, they will be locked and the alarm will be armed once they are closed.

> **Note**
>
> A key that has been locked in the vehicle is temporarily deactivated and cannot be used until the vehicle is unlocked using another valid key.

Locking when the tailgate is open

> **Note**
>
> If the vehicle is locked and the tailgate is still open, make sure that the key is not left in the cargo compartment when the tailgate is closed[1].

Unlocking with the key's buttons

1 Press the button to unlock the vehicle.

Automatic relocking

If none of the doors or tailgate are opened within two minutes after being unlocked, they will automatically relock. This function reduces the risk of inadvertently leaving the vehicle unlocked.

If the key doesn't work

If the key's buttons are not working, its battery may be discharged. Replace the battery or use the detachable key blade.

* Option/accessory.

[1] If the vehicle is equipped with keyless locking/unlocking*, all side doors must be closed.

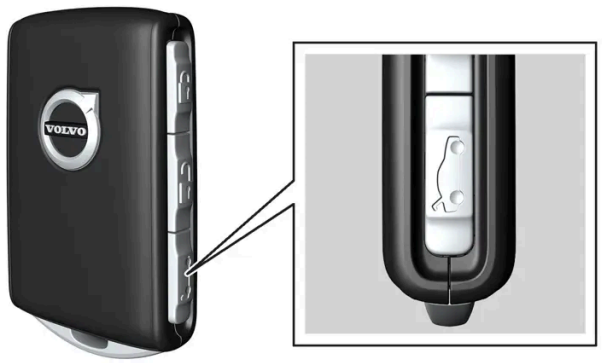
9.2.4. Unlock settings

Several different sequences are available for unlocking.

1. Tap ⚙ in the center display.
2. Tap **Controls**.
3. Select setting for unlocking.

9.2.5. Unlocking the tailgate using the key button

There is a button on the key for unlocking only the tailgate.



1 Press the button on the key.

> The tailgate will be unlocked but remain closed.
The side doors remain locked and armed. The lock and alarm indicator on the dashboard will go out to indicate that the vehicle is no longer fully locked.
The tailgate can be opened by grasping the rubberized button under the lower edge of the trunk lid.
If the tailgate is not opened within 2 minutes, it will be relocked and the alarm armed.

Power tailgate*

1 Press and hold the key's button for a few seconds.

> The tailgate will unlock and open. However, the side doors will remain locked and armed.

Note

If the power tailgate system* has been working continuously for too long, it will be switched off to help prevent overheating. It can be used again after a few minutes.

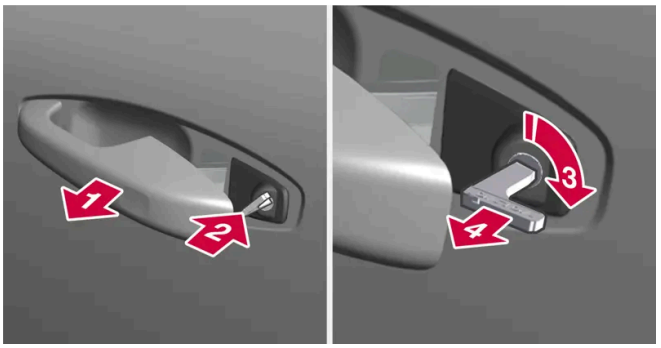
* Option/accessory.

9.2.6. Locking and unlocking with detachable key blade

The detachable key blade can be used to unlock one of the vehicle's doors from the outside, for example if the key's battery is discharged.

Unlocking using the key blade

> **Note**
>
> When the door is unlocked using the detachable key blade and then opened, the alarm will be triggered. The alarm must be deactivated manually – it can be a good idea to read the section about this before opening the vehicle.

1 

1
Pull the handle on the left-side front door to its end position.

2 2
Insert the key.

3 3
Turn the key clockwise 45 degrees so that the key is pointing straight rearward.

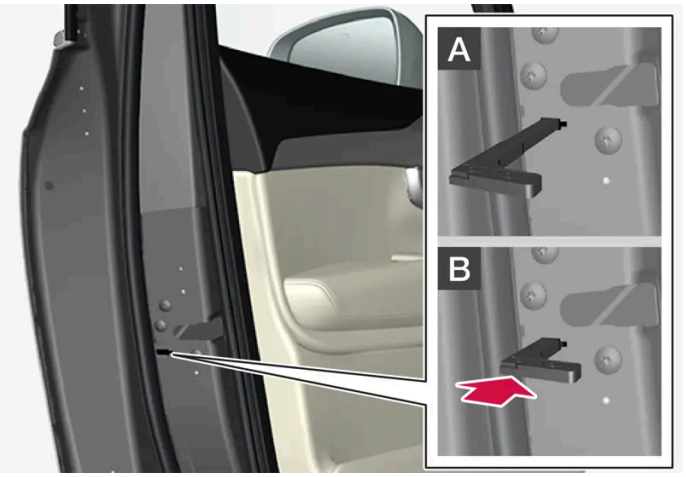
4 4
Turn the key back 45 degrees to the original position and remove it.

> The door can be opened using the handle.

Locking using the key blade

The front left door can also be locked using the detachable key blade.

The other doors have a lock mechanism in the side of the door that must be pushed in using the key blade. The doors will then be mechanically locked and cannot be opened from the outside. The doors can still be opened from inside the vehicle.



Manual door lock. This is not the child lock.

1. Remove the detachable key blade from the key with buttons.
2. Insert the key blade into the opening for the lock mechanism.
3. Push in the key until it stops, about 12 mm (0.5 inch).

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

B The door cannot be opened from the outside. To return to position A, open the door using the inside door handle.

Note

- The door's lock controls only lock that specific door, not all doors simultaneously.
- A manually locked rear door with an activated child lock cannot be opened from either the outside or the inside. It can be unlocked using the key buttons, central locking button, keyless locking system* or through the Volvo Cars app.

* Option/accessory.

9.2.7. Automatic locking when driving

For safety reasons, the doors and tailgate automatically lock when the vehicle starts driving.

The doors can still be opened from the inside during automatic locking when driving. Depending on lock settings, either all doors will be unlocked or only the door being opened.

Note

The child lock should be used to help prevent a rear door from being opened from the inside.

Note

For safety reasons, all of the vehicle's doors will unlock in the event of a collision. This will only happen if one of the safety systems has been triggered.

9.2.8. Setting maximum opening height for the power tailgate*

The tailgate can be set to stop opening at a certain height, for example if the vehicle is parked in a garage with a low ceiling.

Setting maximum opening height

1. Open the tailgate manually to the desired opening height.
2. Press the button on the lower edge of the tailgate and hold it for about 3 seconds.

> Two audio signals will sound to indicate that the position has been stored.

Note

It is not possible to program an opening position lower than half-open tailgate.

Resetting maximum opening position

1. Open the tailgate manually to the fully open position.
2. Press the button on the lower edge of the tailgate and hold it for about 3 seconds.

> Two audio signals will sound to indicate that the stored position has been erased.

* Option/accessory.

9.2.9. Locking and unlocking from inside the vehicle

There are several lock buttons inside the vehicle. The inner door handles can also be used to unlock the vehicle from the inside.

Central locking

The central locking buttons in the front door lock or unlock the entire vehicle.

Unlocking using the front door buttons

1 Press the button to unlock all side doors and the tailgate.

Unlocking using the front door handle

1 Pull one of the front side door's inner handles and release.

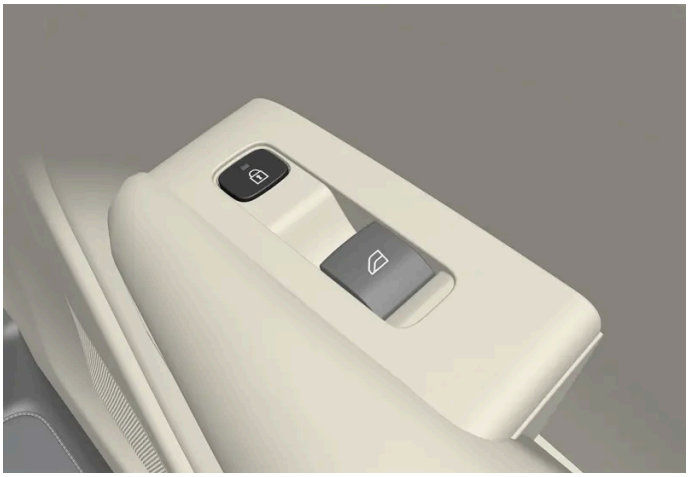
> The vehicle is unlocked. Depending on settings, either only the selected door is unlocked or all doors are unlocked.

Locking using the front door buttons

1 Press the button (both front doors must be closed).

> All doors and the tailgate will lock.

Locking using the rear door button*



Button with indicator light for locking/unlocking in rear door.

The lock buttons in the rear doors lock/unlock that particular door.

Unlocking a rear door using the door handle

1 Pull the opening handle to unlock the rear door.

2 Pull the opening handle again to open the rear door[1].

* Option/accessory.

[1] If the child lock is not activated.

9.2.10. Unlocking the tailgate from inside the vehicle

The tailgate can be unlocked from inside the vehicle by pressing the button on the dashboard, to the side of the steering wheel.

1 Press the button on the dashboard.

> The tailgate is unlocked and can be opened from the outside.

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With the optional power tailgate*:

1 Press and hold the button on the dashboard for a few seconds.

> The tailgate will open.
The same button can then be used to close the tailgate.

Note

If the power tailgate system* has been working continuously for too long, it will be switched off to help prevent overheating. It can be used again after a few minutes.

* Option/accessory.

9.2.11. Locking and unlocking

The vehicle can be locked and unlocked in several different ways.

These are:

- with the key buttons
- with the detachable key blade (if the battery in the key is discharged)
- keyless* (the vehicle detects when a key is within range)
- from the inside of the vehicle with the door handles and lock buttons
- with the Volvo Cars app
- automatic locking when the vehicle is driving.

Note

For safety reasons, all of the vehicle's doors will unlock in the event of a collision. This will only happen if one of the safety systems has been triggered.

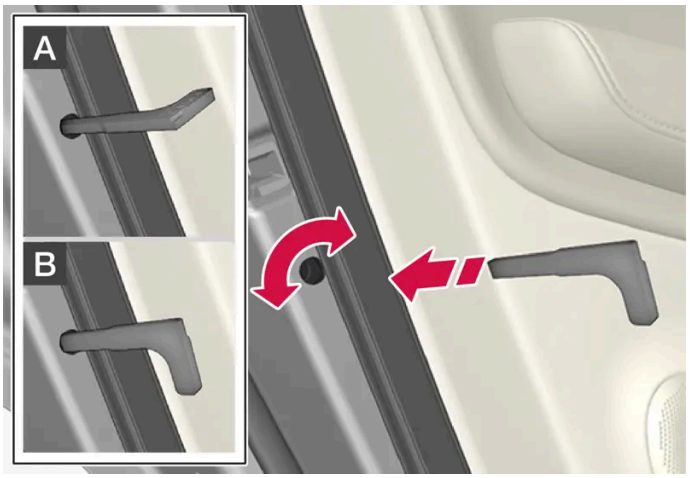
* Option/accessory.

9.2.12. Activating and deactivating child locks

The child locks help prevent the rear doors from being able to be opened from the inside. With the electric child lock, the power windows are also prevented from being operated from the rear seat.

The child lock can be either manual or electric*.

Manual child lock



Manual child lock. This is not the manual door lock.

1 Use the detachable key blade in the key to turn the control.

A The door cannot be opened from the inside.

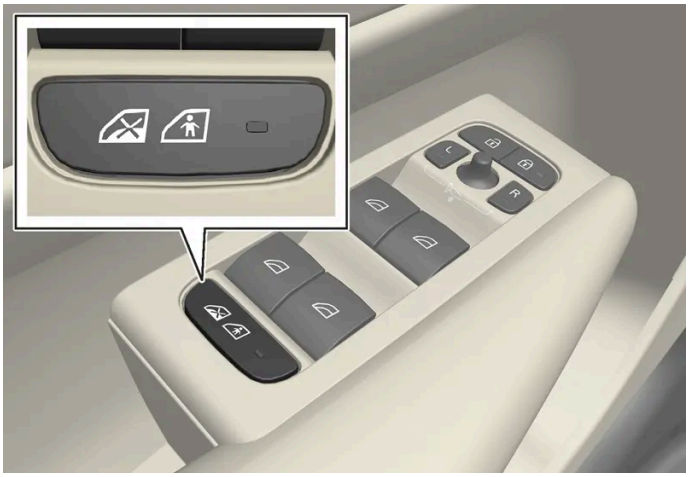
B The door can be opened from both the outside and the inside.

Note

- The door's knob control only locks that specific door, not both rear doors simultaneously.
- There are no manual child locks on models equipped with electric child locks.

Electric child lock*

The electric child lock can be activated and deactivated in any ignition mode higher than **0**. The lock can be activated and deactivated up to 2 minutes after the ignition is turned off if no door has been opened.



Button for activation and deactivation.

Rear child lock activated

When the indicator light in the button is lit, the child lock is activated.

If the child lock is activated when the vehicle is switched off, it will remain activated the next time the vehicle is started.

- Rear doors cannot be opened from the inside.
- Rear power windows can only be operated from the driver's door.

Rear child lock deactivated

When the indicator light in the button is not lit, the child lock is deactivated.

- Rear doors can be opened from the inside and power windows can be operated from the rear seat.

Symbols and messages

Symbol	Message	Meaning
	Rear child lock activated	The child lock is activated.
	Rear child lock deactivated	The child lock is deactivated.

* Option/accessory.

9.2.13. Lock indication

The vehicle can indicate locking and unlocking in different ways. You can adjust how the vehicle confirms locking and unlocking through settings for lock indication and door mirrors.

Exterior confirmation

Locking

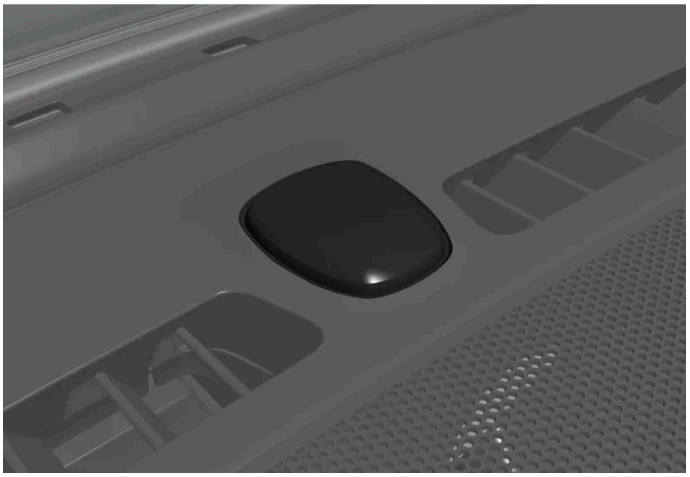
- The turn signals will flash once and the door mirrors will fold in[1] to confirm the vehicle is locked.

Unlocking

- The turn signals will flash twice and the door mirrors will fold out[1] to confirm the vehicle is unlocked.

The tailgate, hood and all doors must be closed for confirmation to be given. If only the driver's door is closed when the vehicle is locked[2], the vehicle will be locked but the turn signals will only flash to indicate locking when all doors and the tailgate and hood have been closed.

Lock and alarm indicators on the dashboard



The locks and alarm indicator is located in the center of the dashboard, near the windshield.

The locks and alarm indicator will display the status of the locking system:

- One long flash indicates locking.
- When the vehicle is locked, this will be indicated by short, pulsating flashes.
- Rapid flashing after disabling the alarm indicates that the alarm has been triggered.

Indicators in the doors' lock buttons

There are lock buttons inside the vehicle with lock symbols and lock indicator lights.

When the front doors' indicator lights are lit, all doors are locked. The lights go out if any of the vehicle's doors are opened.

The rear doors' indicator lights* go out if the relevant door is unlocked and opened.

Other indicators

Depending on the vehicle's settings, functions such as home safe lighting, Guidance Light and automatic folding in or out of the door mirrors can indicate locking or unlocking.

[1] Only vehicles with power folding mirrors.

* Option/accessory.

[2] Not possible with keyless locking*.

9.2.14. Lock confirmation settings

Settings for how the vehicle confirms locking and unlocking can be adjusted in the center display's Settings menu.

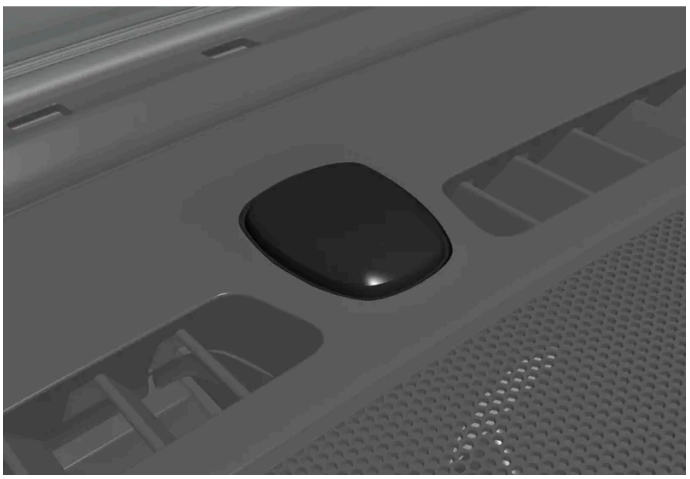
1. Tap ⚙ in the center display.
2. Tap **Controls**.
3. Select to activate or deactivate confirmation for locking/unlocking.

9.3. Alarm

9.3.1. Alarm

The alarm emits sound and light signals if anyone without a valid key attempts to break into the vehicle, attempts to tow away the vehicle, or interferes with the vehicle's battery or alarm siren.

Alarm indicator



The locks and alarm indicator is located in the center of the dashboard, near the windshield.

A red indicator light shows the status of the alarm system:

- Indicator off – the alarm is disarmed.
- Indicator flashes once every two seconds – the alarm is armed.
- The indicator flashes quickly after the alarm has been disabled for up to 30 seconds or until the ignition is put in I mode – the alarm has been triggered.

When armed, the alarm will be triggered if:

- the hood, tailgate or any door is opened [1].
- the battery is disconnected
- the alarm siren is disconnected.

Alarm signals

The following occurs if the alarm is triggered:

- A siren will sound for 30 seconds or until the alarm is turned off.
- The hazard warning flashers will flash for 5 minutes or until the alarm is turned off.

If the reason the alarm was triggered is not rectified, the alarm cycle will repeat up to 10 times [1].

Symbols and messages

Symbol	Message	Meaning
	Alarm system failure Service required	Contact a workshop – an authorized Volvo workshop is recommended.

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Note

Do not attempt to repair or alter any of the components in the alarm system yourself. Any such attempts can affect the terms of insurance and the performance of the alarm.

[1] Certain markets only.

9.3.2. Arming and disarming the alarm

The alarm is armed when the vehicle is locked and disarmed when the vehicle is unlocked. The alarm can also be disarmed without a functioning key.

Arming and disarming the alarm

The alarm is armed when the vehicle is locked and disarmed when the vehicle is unlocked.

Note

It is not possible to lock the vehicle without activating the alarm.

Disarming the alarm without a functioning key

The vehicle can be unlocked and disarmed even if the key is not functioning, e.g. if its battery is discharged.

1 Open the driver's door using the detachable key blade.

> This will trigger the alarm.

2

Place the key on the key symbol in the backup reader in the tunnel console's storage compartment.

3 Depress the brake pedal and select a gear.

> The alarm will be disarmed.

Note

To help ensure that the key can be detected by the backup reader, make sure there are no other vehicle keys, metal objects or electronic devices (phones, tablets, laptops, chargers, etc.) in the area. These objects can interfere with its functioning.

Turning off a triggered alarm

A triggered alarm can be turned off by pushing the key's unlock button or by starting the vehicle, provided that an authorized key is on the key symbol in the backup reader in the tunnel console's storage compartment.

1 Press the unlock button on the key or depress the brake pedal and select a gear.

10. Driver support

10.1. Cruise Control functions

10.1.1. Cruise control

10.1.1.1. Cruise control

Cruise Control (CC[1]) can help the driver maintain an even speed to provide a more relaxing driving experience on highways and long, straight roads with even traffic flows.
Cruise control is not available in vehicles equipped with Pilot Assist.

Using engine braking instead of applying the brakes

Cruise Control regulates speed by lightly applying the brakes. On downgrades, it can sometimes be desirable to roll a bit faster and let speed be reduced instead by engine braking alone. The driver can temporarily disengage the Cruise Control braking function.

To disengage CC:

1 Press the accelerator pedal about halfway down and then release it.

> Cruise Control will automatically disengage the automatic brake function and speed will only be reduced using the engine braking function.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

[1] Cruise Control

10.1.1.2. Cruise control standby mode

Cruise control (CC[1]) can be deactivated and put in standby mode. This can take place automatically or be due to driver intervention.

Standby mode means that the function is selected in the instrument panel but not activated. The symbol in the instrument panel is not illuminated and cruise control is not regulating the speed.

Standby mode due to action by the driver

Cruise control will be deactivated and put in standby mode if any of the following occurs:

- The brakes are applied.
- The gear selector is moved to **N**.
- The vehicle is driven faster than the set speed for more than 1 minute.

The driver must then control the vehicle's speed.

Temporarily increasing speed using the accelerator pedal, e.g. when passing another vehicle, will not affect the setting. The vehicle will return to the set speed when the accelerator pedal is released.

Automatic standby mode

The function may automatically go into standby mode if one of the following occurs:

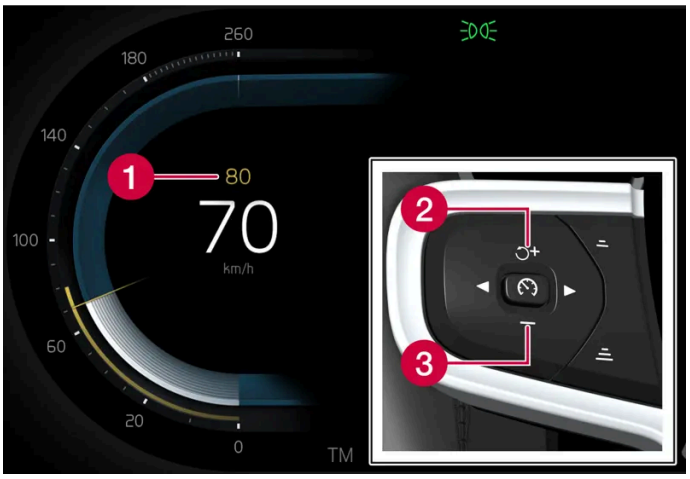
- The wheels lose traction.
- The engine speed (rpm) is too low/high.
- The temperature in the brake system becomes too high.
- The vehicle's speed goes below 30 km/h (20 mph).

The driver must then control the vehicle's speed.

[1] Cruise Control

10.1.1.3. Adjusting set speed for speed-controlling functions

It is possible to adjust set speeds for cruise control and Pilot Assist* functions.



1. Set speed
2. + : Increases the set speed
3. − : Reduces the set speed

1 Change a set speed by pressing the + (1) or − (2) buttons briefly or by pressing and holding them:

- **Brief** press: Each press changes the speed in +/- 5 km/h (+/- 5 mph) increments.
- **Press** and **hold**: Release the button when the set speed indicator (3) has moved to the desired speed.

> The most recently set speed will be stored.

Note

For vehicles without Pilot Assist, speed instead increases by +/- 1 km/h (+/- 1 mph) each time the button is pressed.

Pressing the accelerator pedal

If speed is increased by depressing the accelerator pedal while pressing the + (1) button on the steering wheel, the vehicle's speed when the button is pressed will be stored as the set speed.

Temporarily increasing speed using the accelerator pedal, e.g. when passing another vehicle, will not affect the setting. The vehicle will return to the set speed when the accelerator pedal is released.

Possible speed

Automatic transmission

The driver support functions can follow another vehicle at speeds from a standstill up to the vehicle's maximum speed.

Pilot Assist can provide steering assistance from near-stationary speeds up to 140 km/h (87 mph).

The lowest speed that can be set is 30 km/h (20 mph). When following another vehicle, ACC can monitor that vehicle's speed and slow your own vehicle down to a standstill, but it is not possible to set speeds lower than 30 km/h (20 mph).

* Option/accessory.

10.1.2. Pilot Assist

10.1.2.1. Auto-hold braking with speed-controlling functions

The driver support function Pilot Assist* has a special braking function in slow traffic and at a standstill. In certain situations, the parking brake will be applied to keep the vehicle at a standstill.

Braking function in slow traffic and at a standstill

In slow-moving, stop-and-go traffic or when stopped at a traffic light, driving will resume automatically if the vehicle is stopped for less than approx. 3 seconds. If it takes more than 3 seconds for the vehicle ahead to begin moving again, the driver support function will go into standby mode and the auto-hold brake function will activate.

1 The function can be reactivated by:
   - Pressing the button on the steering wheel keypad.
   - Pressing the accelerator pedal.

> The function will resume following the vehicle ahead if it begins to move within approx. 6 seconds.

Warning

A noticeable increase in speed may follow when the speed is resumed with the steering wheel button.

Warning

The driver support system only issues a warning for obstacles detected by its radar sensor – thus, a warning may come after a delay or not at all.

- Never wait for a warning or assistance. Apply the brakes when necessary.

> **Note**
>
> Driver support can keep the vehicle stationary for no more than 10 minutes – after that time the parking brake is applied and the function is deactivated.
>
> The parking brake must be released before driver support can be reactivated.

Deactivation of the Auto-hold brake function

In certain situations, auto-hold will be deactivated when the vehicle is at a standstill and the function will go into standby mode. This means that the brakes will be released and the vehicle could begin to roll. The driver must actively apply the brakes to keep the vehicle stationary.

This can occur if:

- The driver depresses the brake pedal.
- The parking brake is applied.
- The gear selector is moved to the P, N or R position.
- The driver puts Pilot Assist in standby mode.

Auto Activate Parking Brake

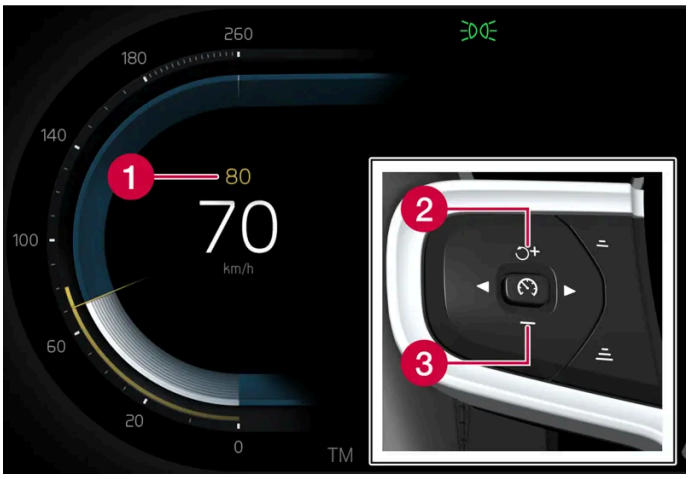
The parking brake will be applied if the function is keeping the vehicle stationary using the brakes and:

- The driver opens the door or unbuckles his/her seat belt.
- The function has kept the vehicle at a standstill for more than approx. 10 minutes.
- The brakes overheat.
- The driver switches off the engine.

* Option/accessory.

10.1.2.2. Adjusting set speed for speed-controlling functions

It is possible to adjust set speeds for cruise control and Pilot Assist* functions.



1. Set speed
2. + : Increases the set speed
3. − : Reduces the set speed

1 Change a set speed by pressing the + (1) or − (2) buttons briefly or by pressing and holding them:

- **Brief** press: Each press changes the speed in +/- 5 km/h (+/- 5 mph) increments.
- **Press** and **hold**: Release the button when the set speed indicator (3) has moved to the desired speed.

> The most recently set speed will be stored.

> **Note**
>
> For vehicles without Pilot Assist, speed instead increases by +/- 1 km/h (+/- 1 mph) each time the button is pressed.

Pressing the accelerator pedal

If speed is increased by depressing the accelerator pedal while pressing the + (1) button on the steering wheel, the vehicle's speed when the button is pressed will be stored as the set speed.

Temporarily increasing speed using the accelerator pedal, e.g. when passing another vehicle, will not affect the setting. The vehicle will return to the set speed when the accelerator pedal is released.

Possible speed

Automatic transmission

The driver support functions can follow another vehicle at speeds from a standstill up to the vehicle's maximum speed.

Pilot Assist can provide steering assistance from near-stationary speeds up to 140 km/h (87 mph).

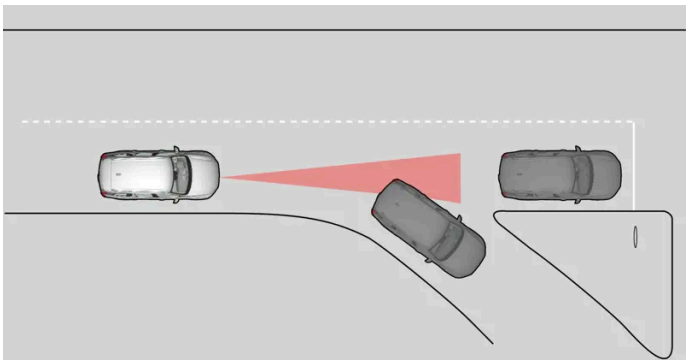
The lowest speed that can be set is 30 km/h (20 mph). When following another vehicle, ACC can monitor that vehicle's speed and slow your own vehicle down to a standstill, but it is not possible to set speeds lower than 30 km/h (20 mph).

* Option/accessory.

10.1.2.3. Switching target vehicles with speed-controlling functions

At certain speeds, models with automatic transmissions and the Pilot Assist* driver support function can switch target vehicles.

Switching target vehicles



If the target vehicle ahead turns suddenly, there may be stationary traffic ahead.

When Pilot Assist is actively following another vehicle at speeds **under** 30 km/h (20 mph) and switches target vehicles – from a moving to a stationary vehicle – Pilot Assist will brake for the stationary vehicle.

> **Warning**
>
> When Pilot Assist is following another vehicle at speeds **over** approx. 30 km/h (20 mph) and changes target vehicle – from a moving vehicle to a stationary one – Pilot Assist will **ignore** the stationary vehicle and instead accelerate to the stored speed.
>
> - The driver must then intervene and apply the brakes.

Automatic standby mode when switching targets

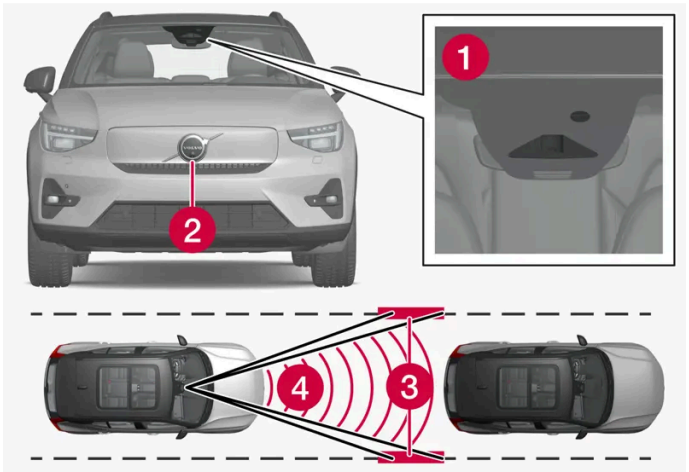
Pilot Assist disengages and goes into standby mode if:

- your vehicle's speed goes below 5 km/h (3 mph) and Pilot Assist cannot determine if the target object is a stationary vehicle or another object, e.g. a speed bump.
- your vehicle's speed goes under 5 km/h (3 mph) and the vehicle ahead turns so that Pilot Assist no longer has a vehicle to follow.

* Option/accessory.

10.1.2.4. Pilot Assist*

Pilot Assist[1] can help the driver to maintain a constant speed, combined with a preset time interval to the vehicle ahead. Pilot Assist can also help the driver keep the vehicle within the lane markings.



The camera and radar units monitor the distance to the vehicle ahead and detect lane markings.

1. Camera
2. Radar sensor
3. Lane marking detection
4. Distance detection

Get to know Pilot Assist

Pilot Assist helps to steer the vehicle, and you may need to drive a few miles with Pilot Assist before you feel completely at home with the function. It is important to be familiar with all of the function's applications and limitations in order to take advantage of all it has to offer.

The Pilot Assist function is primarily intended for use on highways and other major roads where it can help provide a more comfortable and relaxing driving experience.

The driver sets the desired speed and distance to the vehicle ahead. Pilot Assist monitors the distance to the vehicle ahead and the traffic lane's side markers using the camera. The system maintains the set time interval to the vehicle ahead by automatically adjusting your vehicle's speed and keeps your vehicle in its lane by providing steering assistance.

Pilot Assist regulates speed by accelerating and braking. It is normal for the brakes to emit a slight sound when they are being used to adjust speed.

Pilot Assist is designed to:

- smoothly regulate speed. The driver must apply the brakes in situations requiring immediate braking. For example, when there are great differences in speed between vehicles or if the vehicle ahead brakes suddenly. Due to limitations in the camera and radar sensor, braking may occur unexpectedly or not at all.
- follow a vehicle ahead in the same lane and maintain a time interval to that vehicle set by the driver. If the radar unit does not detect a vehicle ahead, it will instead maintain the maximum speed selected by the driver. This will also happen if the speed of the vehicle ahead exceeds the selected maximum speed for your vehicle.

The vehicle's position in the traffic lane*

When Pilot Assist helps to steer, it attempts to position the vehicle halfway between the visible lane marking lines. For a smoother drive, it is a good idea to allow the vehicle to find a good position. The driver can always adjust the position him/herself by increasing steering input. It is important for the driver to make sure the vehicle is positioned safely in the lane.

If Pilot Assist does not position the vehicle appropriately in the lane, the driver should turn off Pilot Assist or switch to Adaptive Cruise Control. This is done by pressing the right-facing arrow on the steering wheel.

Steering assistance*

The color of the steering wheel symbol indicates the current status of steering assistance:

• Illuminated indicates that steering assistance is active

• Extinguished (as shown in illustration) indicates that steering assistance is deactivated.

Pilot Assist's steering assistance is based on monitoring the direction of the vehicle ahead and the traffic lane's side marker lines. The driver can adjust steering assistance from Pilot Assist at any time and steer in another direction, e.g. to change lanes or avoid obstacles on the road. Resistance will be felt in the steering wheel as long as steering assistance is active.

Temporarily deactivating steering assistance

> **Warning**
>
> Pilot Assist is deactivated automatically and resumes working without prior notice.

When the turn signals are used, Pilot Assist's steering assistance will be temporarily deactivated. When the direction indicator is turned off, steering assistance is reactivated automatically if the lane's edge markings can still be detected.

If Pilot Assist cannot clearly interpret the lane's side marker lines and if the camera is unable for some other reason to clearly interpret the lane, Pilot Assist will temporarily deactivate steering assistance. Adaptive Cruise Control will remain active. Steering assistance will resume when the side marker lines can once again be interpreted. In these situations, the driver may be alerted through slight vibrations in the steering wheel that steering assistance is temporarily deactivated.

In curves and forks in the road

Pilot Assist is designed to interact with the driver. The driver should never wait for steering assistance from Pilot Assist, but instead should always be ready to increase his or her own steering efforts, particularly in curves.

When the vehicle is approaching an off-ramp or a fork in the road, the driver should steer toward the desired lane so that Pilot Assist can detect the desired direction of travel.

Hands on the steering wheel [2]

Pilot Assist only functions if the driver's hands are on the steering wheel. It is also important for the driver to always continue to be active and alert when driving since Pilot Assist is unable to read all situations and may toggle between off and on without prior warning.

> **Warning**
>
> Act immediately if any warning signal is triggered – do not wait for all levels of warnings and assistance from the systems to be provided.

1. If Pilot Assist detects that the driver's hands are not on the steering wheel, the system will provide a symbol and a text message in the instrument panel to instruct the driver to actively steer the vehicle.
2. If the driver's hands are still detected on the steering wheel after a few seconds have passed the instructions to actively steer the vehicle will be repeated accompanied by an audible signal.
3. If Pilot Assist still does not detect the driver's hands on the steering wheel after a few more seconds have passed, the audible signal will become intense and the steering function will switch off. Pilot Assist must then be reactivated by pressing the button on the steering wheel.
4. When Pilot Assist is switched off, additional sound and light signals will be given, and the vehicle's systems will begin braking the vehicle. This braking takes place intermittently in order to attract the driver's attention. [3] [2]
5. The system continues to brake the vehicle to a standstill in its own lane and activates the hazard warning flashers [4]. [2]

Steep roads and/or heavy loads

Pilot Assist is primarily intended to be driven on flat roads. The function may not be able to maintain the correct time interval to the vehicle ahead when driving down steep downgrades. The driver should be extra attentive and prepared to apply the brakes.

Do not use Pilot Assist if the vehicle is carrying a heavy load or towing a trailer.

Pilot Assist will not provide steering assistance if anything is connected in the towbar connector.

> **Note**
>
> Pilot Assist will not provide steering assistance if anything is connected to the towbar connector, for example a trailer or bicycle holder.

Read all warnings before use

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

Note

The function uses the vehicle's camera and radar sensor, which has certain general limitations.

Important

Only a workshop may perform maintenance on driver support components – an authorized Volvo workshop is recommended.

Warning

In some situations, steering assistance may have trouble helping the driver properly or may be deactivated automatically – we advise against using steering assistance in such cases. Examples of such situations include:

- the lane markings are unclear, worn, missing, cross each other, or there are multiple sets of road markings.
- the lane division changes, e.g. when lanes split or merge, and at off-ramps.
- when there is road construction and sudden changes to the road surface, e.g. when the lines may no longer mark the correct route.
- edges or other lines than lane markings are present on or near the road, e.g. curbs, joints or repairs to the road surface, edges of barriers, roadside edges or strong shadows.
- the lane is narrow or winding.
- the lane contains ridges or holes.
- weather conditions are poor, e.g. rain, snow or fog or slush or reduced visibility with poor light conditions, backlighting, wet road surface, etc.

The driver should also note that Pilot Assist has the following limitations:

- High curbs, roadside barriers, temporary obstacles (traffic cones, safety barriers, etc.) are not detected. Alternatively, they may be detected incorrectly as lane markings, with a subsequent risk of contact between the vehicle and such obstacles. The driver is responsible for ensuring that the vehicle maintains a suitable distance from such obstacles.
- The camera and radar units do not have the capacity to detect all oncoming objects and obstacles in traffic environments, e.g. potholes, stationary obstacles or objects that completely or partially block the route.
- Pilot Assist does not "see" pedestrians, animals, etc.
- The steering assistance is limited in force, which means that Pilot Assist cannot always help the driver to steer and keep the vehicle within the lane.
- In vehicles equipped with map data, the function is able to use information from map data, which could cause variations in performance.
- Pilot Assist will be switched off if the speed-dependent power steering wheel resistance is working at reduced power, e.g. during cooling due to overheating.

Warning

Steering assistance should only be used if there are clear lane lines painted on each side of the lane. All other use will increase the risk of contact with nearby obstacles that cannot be detected by the functions.

Warning

- This is not a collision avoidance system. The driver is always responsible and must intervene if the system fails to detect a vehicle ahead.
- The function does not brake consistently for people or animals and does not brake for small vehicles, such as bicycles and motorcycles. Similarly, it does not brake for low trailers, oncoming, slow-moving or stationary vehicles and objects.
- Do not use the function in demanding situations, such as in city traffic, at intersections, 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 on/off ramps.

* Option/accessory.

[1] Depending on market, this function can be either standard or optional.

[2] The function is available in certain markets.

[3] The function can vary between countries.

[4] Regulations for using hazard warning flashers may vary from country to country.

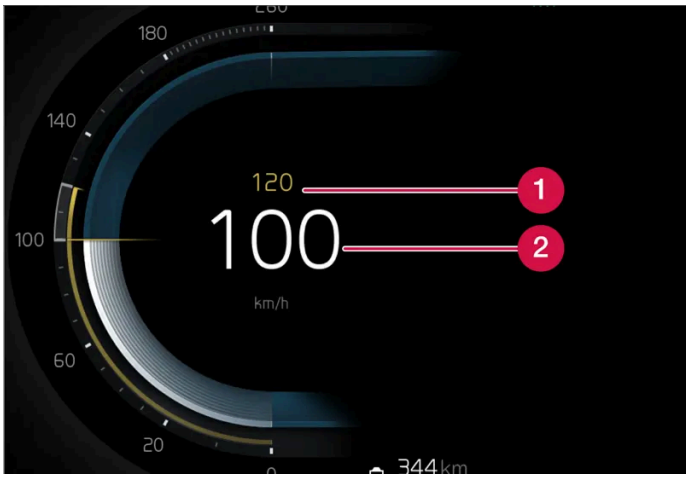
10.1.2.5. Pilot Assist* displays

The following illustrations show how Pilot Assist* and Adaptive Cruise Control[1] may be displayed in the instrument panel.

Symbol indication

	Adaptive Cruise Control is active. Pilot Assist is selected but not available. The conditions for the function are not met.
	Pilot Assist is active.

Speed



Speed indicators.

1 Set speed

2 The current speed of your vehicle

Time interval

	When the symbol in the instrument panel shows a vehicle, the time interval to the vehicle ahead is being regulated.
	When no vehicle is shown, the functions are following the saved speed.

* Option/accessory.

[1] Depending on market, these functions can be either standard or optional.

10.1.2.6. Pilot Assist* symbols and messages

A number of symbols and messages relating to Pilot Assist[1] may be displayed. Several examples are provided below.

Symbol	Message	Meaning
	The symbol is illuminated. The vehicle symbol is illuminated when the vehicle has a vehicle ahead to relate to.	The vehicle is maintaining the set speed.
	Pilot Assist Service required The symbol is extinguished	The system is not functioning as intended. Contact a workshop. Pilot Assist is in standby mode.
	Extinguished steering wheel symbol	Indicates that steering assistance is deactivated. When Pilot Assist is providing steering assistance, the steering wheel is illuminated.
	Symbol for hands on the steering wheel	The system cannot detect the driver's hands on the steering wheel. Place your hands on the steering wheel and actively steer the vehicle. The system alerts in various stages along with audible signals. The hazard warning flashers are activated if the vehicle needs to brake down to a standstill.
	Radar sensor front Sensor blocked See Owner's manual, **Front radar alignment incomplete** or **Front camera alignment incomplete**	Clean the area in front of the radar sensors.

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

* Option/accessory.

[1] Depending on market, this function can be either standard or optional.

10.1.2.7. Pilot Assist* standby mode

Pilot Assist and Adaptive Cruise Control[1] can be deactivated and put in standby mode. This can take place automatically or be due to driver intervention.

Standby mode means that the function is selected in the instrument panel but not activated. The functions will then not regulate speed or distance to the vehicle ahead, or provide steering assistance.

Standby mode due to action by the driver

Pilot Assist will be deactivated and put in standby mode if any of the following occurs:

- The brakes are applied.
- The gear selector is moved to **N**.
- A turn signal is used for more than 1 minute.
- The vehicle is driven faster than the set speed for more than 1 minute.

Temporarily increasing speed using the accelerator pedal, e.g. when passing another vehicle, will not affect the setting. The vehicle will return to the set speed when the accelerator pedal is released.

> **Warning**
>
> - With Adaptive Cruise Control in standby mode, the driver must intervene and regulate both speed and distance to the vehicle ahead.
> - If the vehicle comes too close to a vehicle ahead when Adaptive Cruise Control is in standby mode, the driver can be warned of the short distance by the Distance Alert* function instead.

Automatic standby mode

> **Warning**
>
> With automatic standby mode, the driver is warned by an audible signal and a message in the instrument panel.
>
> - The driver must then regulate vehicle speed, apply the brakes if necessary, steer the vehicle and maintain a safe distance to other vehicles.

The function may automatically go into standby mode if one of the following occurs.

- One of the systems that Pilot Assist is dependent on stops working, such as Electronic Stability Control [2].
- The driver opens the door.
- The driver unbuckles the seat belt.
- The engine speed (rpm) is too low/high.
- One or more of the wheels lose traction.
- The brake temperature is high.
- The parking brake is applied.
- The camera and radar units are covered by snow or heavy rain (the camera lens/radar waves are blocked).
- Your vehicle's speed goes below 5 km/h(3 mph) and Pilot Assist cannot determine if the vehicle ahead is stationary or if it is another object, e.g. a speed bump.

- Your vehicle's speed goes below 5 km/h(3 mph) and the vehicle ahead turns so that Pilot Assist no longer has a vehicle to follow.

* Option/accessory.

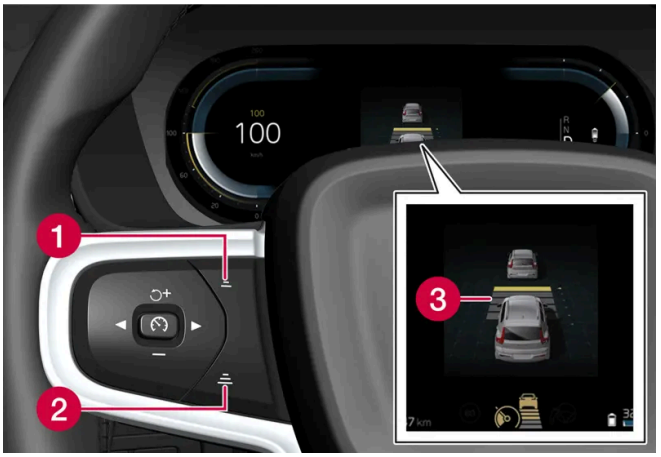
[1] Depending on market, this function can be either standard or optional.

[2] Electronic Stability Control

10.1.2.8. Setting time interval to the vehicle ahead

The time interval to the vehicle ahead can be set for Pilot Assist*.

1



Controls for setting a time interval.

1 Reduce the time interval

2 Increase the time interval

3 Distance indicator

Press the (1) or (2) button to decrease or increase the time interval.

> The distance indicator (3) shows the current time interval.

Different time intervals to the vehicle ahead can be selected and are shown in the instrument panel as 1–5 horizontal bars. The more bars, the longer the time interval. One bar represents an interval of approx. 1 second to the vehicle ahead. 5 bars represents approx. 3 seconds.

In order to help your vehicle follow the vehicle ahead as smoothly and comfortably as possible, Pilot Assist allows the time interval to vary noticeably in certain situations. At low speeds, when the distance to the vehicle ahead is short, Pilot Assist increases the time interval slightly.

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.

Note

When the symbol in the instrument panel shows a vehicle and a steering wheel, Pilot Assist follows a vehicle ahead at a preset time interval.

When only a steering wheel is shown, there is no vehicle ahead within a reasonable distance.

Note

- The greater the vehicles' speed, the greater the distance between them for a set time interval.
- Only use the time intervals permitted by local traffic regulations.
- If driver support does not seem to respond with a speed increase when activated, it may be because the time interval to the vehicle ahead is shorter than the set time interval.

Warning

- Only use a time interval suitable for the current traffic conditions.
- The driver should be aware that short time intervals give them limited time to react and act to any unforeseen traffic situation.

* Option/accessory.

10.1.2.9. Differences between Pilot Assist* and Lane Keeping Aid

Pilot Assist is a comfort function that can help keep the vehicle in its own lane and maintain the distance to the vehicle in front of you. Lane Keeping Aid[1] is a function that similarly helps in certain situations to reduce the risk of the vehicle unintentionally veering out of its lane.

Pilot Assist

Pilot Assist can help you to steer your vehicle between the lane markings, as well as maintain a preset speed and distance to the vehicle ahead. The function can also use the lane marking lines to help the driver maintain a favorable position in the lane.

What does Pilot Assist do?

- Can help to keep the vehicle within its lane by assisting steering in some cases.
- Can help to maintain a preset speed or the distance to the vehicle ahead by means of acceleration and braking operations.

How do I know that Pilot Assist is on?

Symbols in the vehicle's instrument panel let you know when Pilot Assist is on.

	Adaptive Cruise Control is active. Pilot Assist is selected but not available. The conditions for the function are not met.
	Pilot Assist is active.

Lane Keeping Aid

Lane Keeping Aid can provide steering assistance and/or a warning to the driver when the vehicle is about to leave its lane unintentionally. The function is active between 65-180 km/h (40-112 mph) on roads with clearly visible side markings.

What does Lane Keeping Aid do?

- Lane Keeping Aid can provide the driver with steering assistance, steering the vehicle back into its lane and/or providing warnings using steering wheel vibration.

How do I know that Lane Keeping Aid is on?

Symbols in the vehicle's instrument panel show the function status.

An extinguished symbol in the instrument panel means that the function is on but that the conditions for LKA have not been met.

White symbol in the instrument panel means that the conditions for LKA have been met and that the function is available.

An orange symbol in the instrument panel means that LKA is providing steering assistance back into the lane and/or giving a warning with vibration in the steering wheel.

Warning

The driver is always responsible for ensuring that the vehicle is operated in a safe manner. The driver is advised to read all of the sections in the Owner's Manual about this function before using the function.

Warning

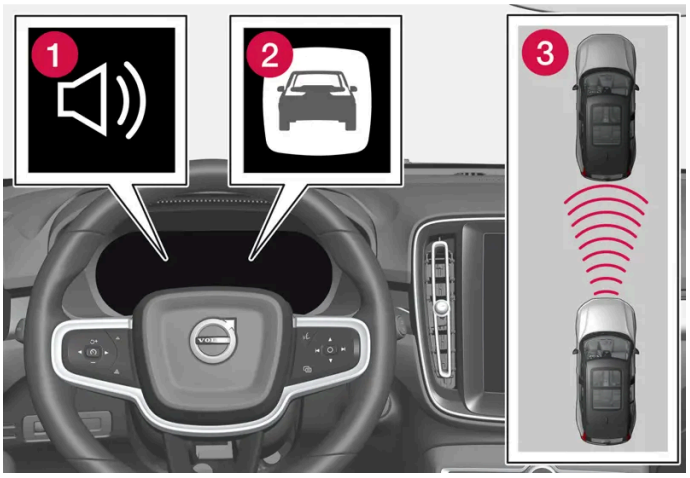
- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

* Option/accessory.

[1] Lane Keeping Aid(LKA)

10.1.2.10. Collision risk warning from speed-controlling functions

The driver support system Pilot Assist* can alert the driver if the distance to the vehicle ahead suddenly decreases to an unsafe distance.



Collision warning audible signal and symbol

1. Audible signal at risk of collision
2. Collision warning symbol
3. Camera and radar unit distance monitoring

Pilot Assist uses approx. 40% of the vehicle's braking capacity. If a situation requires more braking force than driver support can provide, and if the driver does not apply the brakes, a warning light and audible warning signal will be activated to alert the driver that immediate action is required.

> **Warning**
>
> The driver support system only issues a warning for vehicles detected by its radar unit – thus, a warning may come after a delay or not at all. Never wait for a warning. Apply the brakes when necessary.

* Option/accessory.

10.1.3. Passing assistance

10.1.3.1. Passing assistance*

Passing assistance can assist the driver when passing other vehicles. The function can be used with Pilot Assist*.

When Pilot Assist is following another vehicle and you indicate that you intend to pass that vehicle by using the turn signal[1], the system can assist by beginning to accelerate toward the vehicle ahead **before** your vehicle has moved into the passing lane.

The function will then delay a speed reduction to avoid early braking as your vehicle approaches a slower-moving vehicle.

The function remains active until your vehicle has passed the other vehicle.

> **Warning**
>
> Please note that this function can be activated in more situations than just passing another vehicle, such as when a direction indicator is used to indicate a lane change or before exiting to another road – the vehicle will then briefly accelerate.

> **Warning**
>
> - The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
> - The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
> - Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

* Option/accessory.

[1] Only the left-hand turn signal for left-hand drive vehicles, or right-hand turn signal for right-hand drive vehicles.

10.1.3.2. Using passing assistance*

Passing assistance can be used with Pilot Assist* and Adaptive Cruise Control. Several conditions must be met for passing assistance to be possible.

In order to activate passing assistance:

- your vehicle must be following a vehicle ahead (target vehicle)
- your vehicle's **current speed** must be at least 70 km/h (43 mph)
- **the selected speed** must be high enough to safely pass another vehicle.

To start passing assistance:

1 Turn on the left turn signal.

> Passing assistance begins accelerating and shortens the time interval to the vehicle ahead for a short period of time to facilitate passing. If the passing maneuver is not completed, the time interval will revert to the preset value.

Warning

The driver should be aware that if conditions suddenly change when using Passing Assistance, the function may implement an undesired acceleration in certain conditions.

Some situations should be avoided, e.g. if:

- the vehicle is approaching an exit in the same direction as passing would normally occur
- the vehicle ahead slows before your vehicle has had time to switch to the passing lane
- traffic in the passing lane slows down

Situations of this type can be avoided by temporarily putting Pilot Assist in standby mode.

* Option/accessory.

10.1.4. Cruise control functions

There are several driver support systems that can assist you while driving in order to maintain a suitable speed depending on situation. Here is a summary to make them more easily distinguishable.

We recommend that you read all of the sections in the Owner's Manual that relate to a function in order to learn about factors such as its limitations and what the driver should be aware of before using the system.

	Cruise control[1]	Adaptive Cruise Control[2]	Pilot Assist* [2]
Symbol in the instrument panel			
Brief description	Cruise control can help the driver maintain an even speed to provide a more relaxing driving experience on e.g. highways and long, straight roads with even traffic flows.	Adaptive Cruise Control can help the driver to maintain a constant speed, combined with a preset time interval to the vehicle in front.	Pilot Assist can help the driver keep the vehicle in the current traffic lane by providing steering assistance and maintaining an even speed and a set time interval to the vehicle ahead.

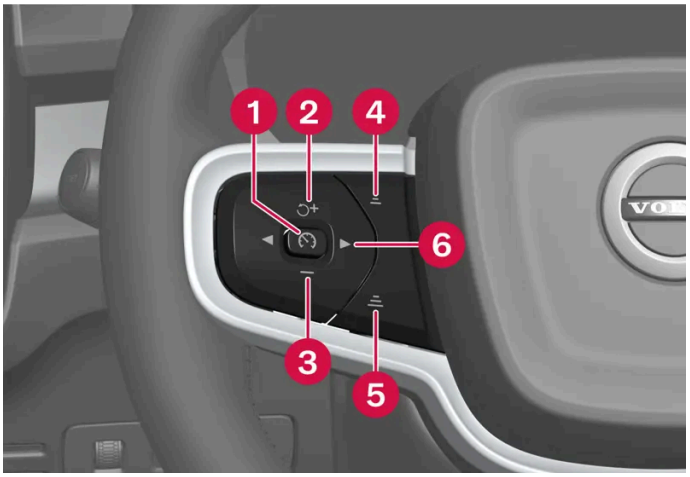
[1] Cruise Control

[2] Depending on market, this function can be either standard or optional.

* Option/accessory.

10.1.5. Steering wheel buttons for speed-controlling functions

In the center display, the selected speed-controlling function can be controlled via the left steering wheel key-pad. This applies for cruise control (CC [1]), Pilot Assist* and Adaptive Cruise Control*.



Buttons for speed-controlling functions

1. : **From standby mode** – Activates the selected function and sets the current speed. : **From active mode** – Puts the function in standby mode.
2. : **From standby mode** – Activates the selected function and resumes the stored speed. + : **From active mode** – Increases the stored speed.
3. − : Reduces the set speed.
4. : Reduces the time interval to the vehicle ahead.
5. : Increases the time interval to the vehicle ahead.
6. ▶ : Switches between Pilot Assist* and Adaptive Cruise Control*.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

[1] Cruise Control

* Option/accessory.

10.1.6. Selecting and activating speed-controlling functions

When a particular speed-controlling function is preferred, it can be selected in the center display before being activated with the steering wheel button. This applies for cruise control (CC[1]), Pilot Assist* and Adaptive Cruise Control*.

1 Tap in the center display.

2 Tap **Driving** and activate your preferred function.

3 When the desired function is selected, press on the steering wheel keypad to activate.

> The symbol in the instrument panel lights up – the function starts and the current speed is stored as the maximum speed.

4 If the function goes into standby mode – press the button on the steering wheel to reactivate.

> The speed-controlling markings in the instrument panel illuminate and the vehicle will then return to the most recently set speed.

To always get Pilot Assist when activating speed-controlling functions at each new driving cycle:

1 Tap in the center display.

2 Tap **Driving**.

3 Activate **Pilot Assist as default**.

> **Warning**
>
> A noticeable increase in speed may follow when the speed is resumed with the steering wheel button.

Requirements

Certain conditions must be met in order to start any of the functions.

Cruise control

- In order to start Cruise Control from standby mode, the vehicle's current speed must be 30 km/h (20 mph) or higher.

Adaptive Cruise Control

- The driver's seat belt must be buckled and the driver's door must be closed.
- There must be a vehicle ahead (target vehicle) within a reasonable distance or your vehicle's current speed must be at least 15 km/h (9 mph).

Pilot Assist

- The driver's seat belt must be buckled and the driver's door must be closed.
- The side markings of the lane must be clearly visible and detected by the vehicle.
- There must be a vehicle ahead (target vehicle) within a reasonable distance or your vehicle's current speed must be at least 15 km/h (9 mph).
- The speed must not exceed 140 km/h (87 mph).
- The driver must keep their hands on the steering wheel.

[1] Cruise Control

* Option/accessory.

10.1.7. Deactivating speed-controlling functions

The speed-controlling functions can be deactivated using the button on the steering wheel. The relevant function will then go into standby mode. This applies for cruise control (CC [1]) and Pilot Assist*.

1 Pressing the button on the steering wheel keypad.

> The symbol and the markings in the instrument panel are extinguished – the selected speed-controlling functions are in standby mode.

When another function is selected in the center display, the instrument panel's symbol and marking for the previously selected function are hidden, and the set/stored maximum speed is deleted.

> **Warning**
>
> When speed-controlling functions are in standby mode, the driver must intervene and regulate both speed and distance to the vehicle ahead.

[1] Cruise Control

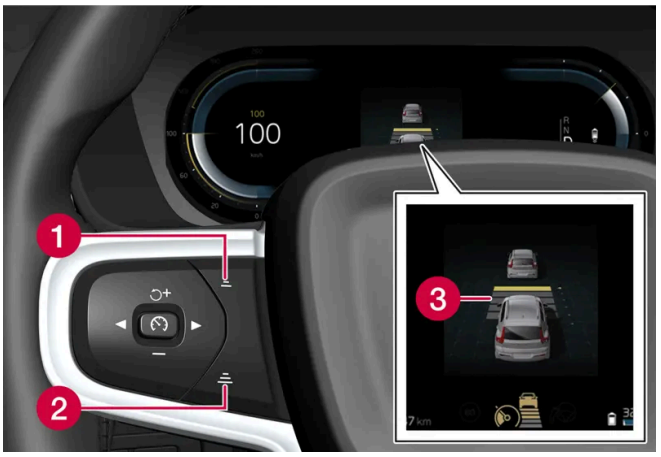
* Option/accessory.

10.2. Distance Alert

10.2.1. Setting time interval to the vehicle ahead

The time interval to the vehicle ahead can be set for Pilot Assist*.

1



Controls for setting a time interval.

1. Reduce the time interval
2. Increase the time interval
3. Distance indicator

Press the (1) or (2) button to decrease or increase the time interval.

> The distance indicator (3) shows the current time interval.

Different time intervals to the vehicle ahead can be selected and are shown in the instrument panel as 1–5 horizontal bars. The more bars, the longer the time interval. One bar represents an interval of approx. 1 second to the vehicle ahead. 5 bars represents approx. 3 seconds.

In order to help your vehicle follow the vehicle ahead as smoothly and comfortably as possible, Pilot Assist allows the time interval to vary noticeably in certain situations. At low speeds, when the distance to the vehicle ahead is short, Pilot Assist increases the time interval slightly.

Note

When the symbol in the instrument panel shows a vehicle and a steering wheel, Pilot Assist follows a vehicle ahead at a preset time interval.

When only a steering wheel is shown, there is no vehicle ahead within a reasonable distance.

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Note

- The greater the vehicles' speed, the greater the distance between them for a set time interval.
- Only use the time intervals permitted by local traffic regulations.
- If driver support does not seem to respond with a speed increase when activated, it may be because the time interval to the vehicle ahead is shorter than the set time interval.

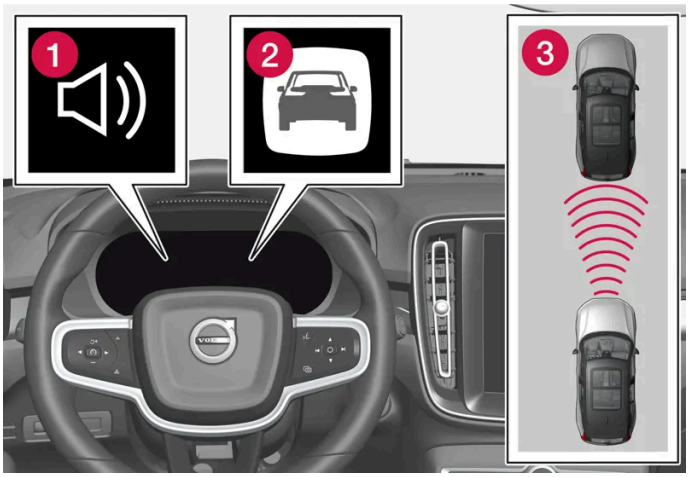
Warning

- Only use a time interval suitable for the current traffic conditions.
- The driver should be aware that short time intervals give them limited time to react and act to any unforeseen traffic situation.

* Option/accessory.

10.2.2. Collision risk warning from speed-controlling functions

The driver support system Pilot Assist* can alert the driver if the distance to the vehicle ahead suddenly decreases to an unsafe distance.



Collision warning audible signal and symbol

1 Audible signal at risk of collision

2 Collision warning symbol

3 Camera and radar unit distance monitoring

Pilot Assist uses approx. 40% of the vehicle's braking capacity. If a situation requires more braking force than driver support can provide, and if the driver does not apply the brakes, a warning light and audible warning signal will be activated to alert the driver that immediate action is required.

> **Warning**
>
> The driver support system only issues a warning for vehicles detected by its radar unit – thus, a warning may come after a delay or not at all. Never wait for a warning. Apply the brakes when necessary.

* Option/accessory.

10.3. Blind Spot Information

10.3.1. BLIS*

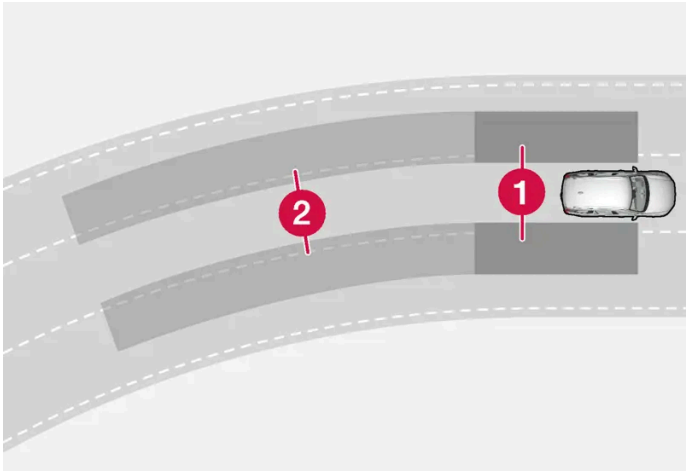
The BLIS[1] function is designed to help provide assistance in heavy traffic with several lanes moving in the same direction by helping the driver to detect the presence of vehicles in the "blind spot" area behind and to the side of the vehicle.

Location of BLIS indicator light

BLIS is a driver support system designed to alert the driver of:

- vehicles in your "blind spot"

- vehicles approaching rapidly in adjacent lanes.



BLIS overview

1 Blind spot zone

2 Rapidly approaching vehicle zone

The system is designed to react to:

- vehicles passing your vehicle
- another vehicle is rapidly approaching your vehicle.

When BLIS detects a vehicle in zone 1 or a rapidly approaching vehicle in zone 2, an indicator light will illuminate in the right or left rearview mirror and glow steadily. If the driver then uses the turn signal on the side in which the warning has been given, the indicator light will become brighter and begin flashing.

BLIS is active when your vehicle is traveling at a speed over 12 km/h (7 mph).

BLIS reacts to passing vehicles traveling up to 100 km/h (62 mph) faster than your vehicle.

Note

The light illuminates on the side of the vehicle where the system has detected the vehicle. If the vehicle is passed on both sides simultaneously, both lights come on.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

* Option/accessory.

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[1] Blind Spot Information

10.3.2. BLIS* messages

A number of messages related to BLIS[1] may be displayed in the instrument panel. Several examples are provided below.

Message	Meaning
Blind spot sensor Service required	The system is not functioning as intended. Contact a workshop[2].
Blind spot system off Trailer attached	BLIS and Cross Traffic Alert* have been deactivated because a trailer has been connected to the vehicle's electrical system.

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

* Option/accessory.

[1] Blind Spot Information

[2] An authorized Volvo workshop is recommended.

10.3.3. BLIS* limitations

BLIS[1] functionality may be reduced in certain situations.

Keep the marked area clean (on both the left and right sides of the vehicle).

Examples of limitations:

- Dirt, ice and snow covering the sensors may reduce functionality and prevent the system from providing warnings.

- The BLIS function is automatically deactivated if a trailer, bicycle holder or similar is connected to the vehicle's electrical system.
- For BLIS to function effectively, bicycle holders, luggage racks or similar should not be mounted on the vehicle's towbar.

> **Warning**
>
> - BLIS does not work in sharp curves.
> - BLIS does not work when the vehicle is being reversed.

> **Note**
>
> The function uses the vehicle's radar sensors, which have certain general limitations.

* Option/accessory.

[1] Blind Spot Information

10.4. Cross Traffic Alert

10.4.1. Warning and auto-braking while backing up*

There are systems in the vehicle that can help the driver detect obstacles when backing up and even automatically brake the vehicle if the driver does not react in time.

The Rear Auto Brake (RAB) and Cross Traffic Alert (CTA)* functions are only active when the vehicle is moving backward or if reverse gear is engaged.

If an obstacle is detected:

1. A warning signal and the Park Assist graphic illuminate to indicate the location of the obstacle.
2. If the driver does not react to the warning and a collision is unavoidable, the vehicle may automatically brake, and a message will appear explaining why the brakes were applied.

If the accelerator pedal is depressed forcibly, the vehicle will back up even after auto-braking.

Warning

- The functions are supplementary driver support intended to facilitate driving and help make it safer – they cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about these functions to learn of their limitations, which the driver must be aware of before using the functions.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

Note

The functions use the vehicle's sensors and radar units, which have certain general limitations.

Obstacles directly behind the vehicle

Rear Auto Brake is designed to help the driver detect stationary obstacles directly behind the vehicle when backing up.

This function is primarily designed to detect stationary objects that are taller than the rear bumper and not, for example, moving vehicles.

Braking intervention with Rear Auto Brake is active at speeds under 10 km/h (6 mph).

The auto brake needs to be deactivated before entering automatic car washes and may also need to be deactivated to avoid undesirable interventions, e.g. when backing up in tall grass.

Obstacles from the side

Cross Traffic Alert is intended to help the driver detect vehicles crossing behind the vehicle while backing up.

This function is primarily designed to detect larger moving vehicles, but in certain cases can also detect pedestrians or smaller objects such as bicycles.

Braking intervention with Cross Traffic Alert is active at speeds under 15 km/h (9 mph).

The auto brake needs to be deactivated before entering automatic car washes and may also need to be deactivated to avoid undesirable interventions, e.g. when backing up in tall grass.

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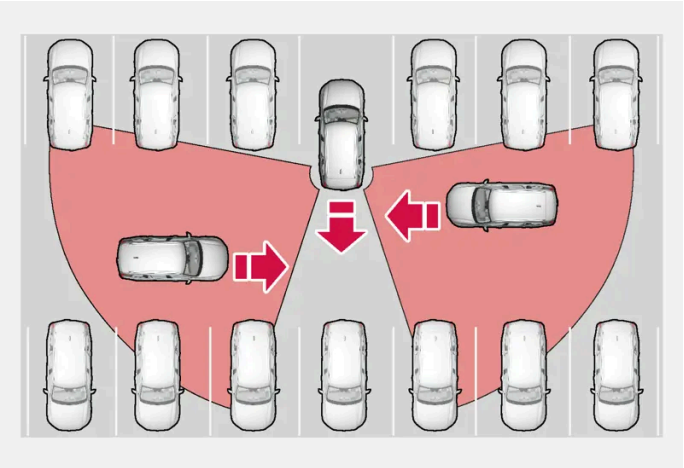
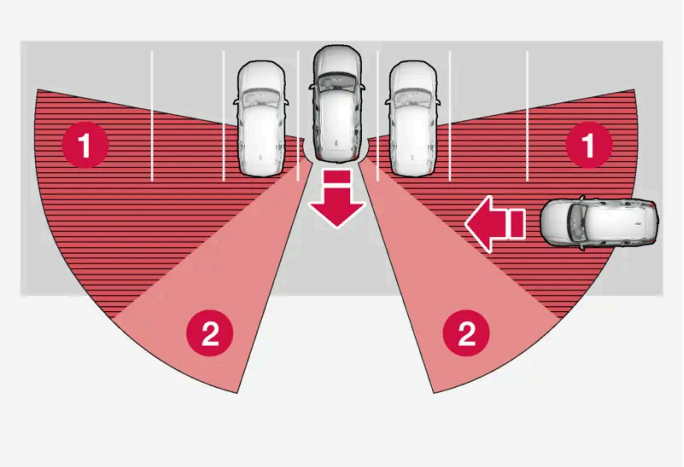
Examples of detection and limitations

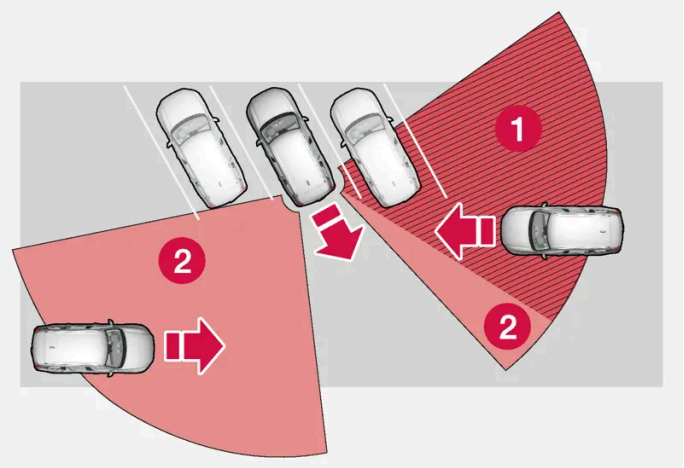


Examples of areas in which the function can help the driver detect obstacles while backing up.

The function's sensors cannot detect movements in traffic through other parked vehicles or objects blocking the vehicle. Here are some examples of when approaching vehicles can therefore not be detected until they are very close.



The vehicle is parked very far into a parking space.



In a diagonal parking space, the sensors may be completely blocked on one side of your vehicle.

1 Blind zone

2 The function's detection sectors

However, as you back your vehicle slowly out of a parking space, CTA's field of vision changes in relation to the obstructing vehicle/object and its blind zone is reduced.

Backing up with equipment connected to the towbar

RAB and CTA are automatically deactivated when a trailer, bicycle holder or similar is connected to the trailer contact. If the connected equipment does not have an electrical connection, RAB and CTA must be deactivated manually via the button in the center display.

* Option/accessory.

10.4.2. Activating and deactivating warning and auto-braking when backing up*

The driver can choose to disable auto-braking with Rear Auto Brake (RAB) and Cross Traffic Alert (CTA)*. The warning signal can be deactivated separately.

Warning signal

Activate or deactivate warning signals using this button in Park Assist Camera view.

Auto-brake

Activate or deactivate automatic braking using this button in Park Assist Camera view.

- Illuminated button – the function is activated.
- Extinguished button – the function is deactivated.

The functions are automatically activated each time the vehicle is started.

* Option/accessory.

10.5. Rear Collision Warning

10.5.1. Rear Collision Warning*

The Rear Collision Warning[1] (RCW) function can help the driver avoid rear-end collisions from vehicles approaching from behind.

If, at a speed below 30 km/h (20 mph), the function detects that the vehicle is in danger of being hit from behind, the seat belt tensioners may tension the front seat belts. The Whiplash Protection System will also be activated in a collision.

Immediately before a collision from behind, the function may also activate the brakes in order to reduce the forward acceleration of the vehicle during the collision. However, the brakes will only be applied if your vehicle is stationary. The brakes will be immediately released if the accelerator pedal is depressed.

The function is automatically activated each time the engine is started.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

* Option/accessory.

[1] This function is not available on all markets.

10.5.2. Rear Collision Warning* limitations

In some situations, it may be difficult for Rear Collision Warning (RCW)[1] to warn the driver of a collision risk.

This may be the case if:

- the vehicle approaching from the rear is detected at a late stage
- the vehicle approaching from the rear changes lanes at a late stage
- a trailer, bicycle holder or similar is connected to the vehicle's electrical system - the function will then be automatically deactivated.

Note

In certain markets RCW does **not** warn with the direction indicators due to local traffic regulations – in such cases, that part of the function is deactivated.

> **Note**
>
> The function uses the vehicle's radar sensors, which have certain general limitations.

* Option/accessory.

[1] Warning of collision from the rear.

10.6. Connected Safety

10.6.1. Connected Safety

Connected Safety[1] communicates information between your vehicle and other vehicles via a cloud service[2]. The function is designed to notify the driver of any hazardous road conditions ahead.

The function can notify the driver if another vehicle further down the road has activated its hazard warning flashers or detected slippery road conditions. You will also be notified if your own vehicle detects slippery road conditions.

Connected Safety can assist the driver with the following:

- Hazard warning flashers alert
- Slippery road alerts

Connected Safety communication between vehicles only works for vehicles equipped with this function. Connected Safety also needs to be approved via **Volvo privacy settings**.

Hazard warning flashers alert

If your vehicle's hazard warning flashers are activated, information on this can be sent to other vehicles approaching your location.

When your vehicle approaches a vehicle with its hazard warning flashers on, this symbol will appear in the instrument panel.

Slippery road alerts

If your vehicle detects reduced friction between the tires and the road, this symbol will be shown in the instrument panel. This information can then be forwarded to vehicles approaching your vehicle's location.

If your vehicle receives information about slippery conditions from another vehicle, this symbol will be shown in the instrument panel.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

[1] Not available in all markets.

[2] There may be a charge for transmitting data over the cloud service, depending on your service plan.

10.6.2. Activating and deactivating Connected Safety

For Connected Safety to be able to share information about road conditions with other drivers, the function must be approved in **Volvo privacy**.

1. Tap ⚙ in the center display.
2. Press **Privacy** or **Profiles**. The menu path depends on whether or not you are logged in to a Google account.
3. Then tap **Privacy settings** and approve Connected Safety.

Even when your vehicle is not connected to the Internet, you will still be notified if the system in your own vehicle detects slippery road conditions. For Connected Safety to function at full capacity, your vehicle needs to be connected to the Internet.

10.6.3. Connected Safety limitations

Information on vehicles with activated hazard warning flashers or which have detected slippery road conditions is not always communicated between all vehicles in the affected area.

This may be the case if:

- No or insufficient Internet connection.
- The maneuvers (steering wheel movements, acceleration or braking) made by the vehicles on slippery surfaces are too weak for friction between the tires and road to be detected.

- Vehicles that have detected slippery road conditions, or have turned on their hazard warning flashers, do not have the function active.
- Vehicles that have detected slippery road conditions or activated hazard warning flashers are not equipped with the function.
- Insufficient GPS/satellite navigation may prevent warnings.
- Slippery road conditions were detected or hazard warning flashers were activated on a road that is not registered in the Volvo Cars database.
- Connected Safety is not developed on all markets and does not cover all areas. Consult a Volvo retailer for more information on covered areas.

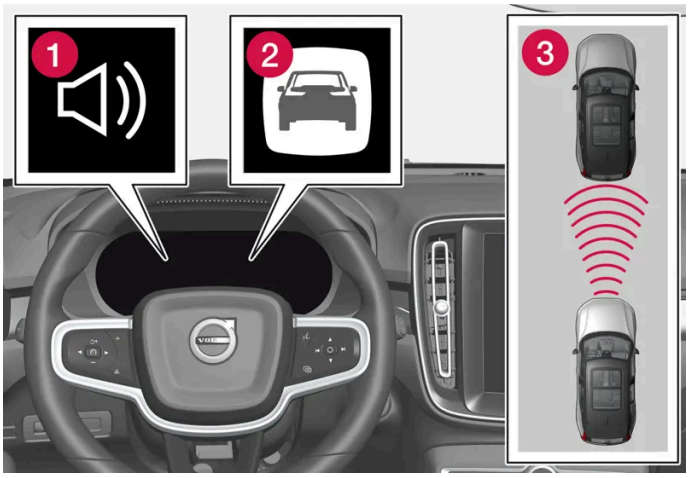
Warning

- In certain situations, the function may give false warnings of slippery road conditions.
- The function cannot always detect other vehicles with activated hazard warning factors or detect all stretches of road with slippery conditions.

10.7. Collision Assistance

10.7.1. Assistance during collision risks [1]

Assistance during collision risks [2] can help the driver avoid or mitigate a collision by providing warnings, automatic braking and steering assistance.



Collision warning audible signal and symbol

1 Audible signal at risk of collision

2 Collision warning symbol

3 Camera and radar unit distance monitoring

Normally, the occupants of the vehicle will not be aware of the function except when the system intervenes when a collision is imminent.

can help the driver avoid a collision when e.g. driving in stop-and-go traffic, when changes in the traffic ahead and driver distraction could lead to an incident. The function then activates a brief, forceful braking in an attempt to stop your vehicle immediately behind the vehicle or object ahead.

The function is always active and cannot be switched off.

Sub-functions

Assistance during collision risks can, if necessary, provide the following:

- Collision warning
- Assisted braking
- Auto-hold brakes
- Steering assistance

Step 1 – Collision warning

In the event of a collision with a pedestrian, cyclist, larger animal or vehicle, this is brought to the driver's attention with a warning symbol as well as sound and brake pulse warnings. During hard braking or if the accelerator pedal is pressed, the brake pedal pulsation warning will not be given. The intensity of the brake pedal pulsations varies according to the vehicle's speed.

Step 2 – Assisted braking

If the system determines that the pressure the driver is exerting on the brake pedal is insufficient to prevent the collision, assisted braking will increase pressure.

Step 3 – Auto-hold brakes

If the driver has not taken evasive action and a collision is imminent, the automatic braking function will be triggered. This occurs whether or not the driver is pressing the brake pedal. Full braking force will be applied to reduce the speed at impact or reduced braking effect will be applied if this is sufficient to avoid the collision.

The seat belt tensioner may be activated when the automatic braking function is triggered.

The function is designed to be activated as late as possible to help avoid unnecessary intervention. Automatic braking will only be applied after or during a collision warning.

If braking assistance has prevented a collision, the vehicle will be kept at a standstill until the driver takes action. If the vehicle has slowed to avoid colliding with a slower-moving vehicle ahead your speed will be reduced to that vehicle's speed.

Auto-braking can always be cancelled if the driver presses hard on the accelerator pedal.

When the function is activated and braking, the brake light will illuminate. A message will be displayed in the instrument panel saying that the function is or has been active.

> **Warning**
>
> The function must not be used to change how the driver operates the vehicle. The driver must not only rely on the function to brake the vehicle.

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Steering assistance

The function can help the driver reduce the risk of the vehicle leaving its lane unintentionally or colliding with another vehicle or obstacle by actively steering the vehicle back into its lane or swerving. Steering assistance is not provided sequentially, but instead can occur regardless of when the other steps take place.

After the system has automatically intervened, this text message will appear in the instrument panel.

> **Note**
>
> It is always the driver who must decide how much the vehicle should be in control – the vehicle can never take command.

> **Warning**
>
> - The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
> - The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
> - Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

[1] This function is not available on all markets.

[2] Collision Avoidance

10.7.2. Detecting obstacles with assistance during collision risks

Assistance during collision risks[1] can help the driver detect different types of obstacles.

The function can detect pedestrians, cyclists or vehicles that are stationary or ahead and moving in the same direction as your vehicle. The function can also detect pedestrians, cyclists or large animals crossing the road in front of your vehicle.

> **Warning**
>
> Warnings and brake interventions may occur late or not at all. The driver is always responsible for ensuring that the vehicle is driven correctly and with a safety distance suitable for the speed.

Vehicles

For the function to be able to detect a vehicle in the dark, its headlights and taillights must be on and clearly visible.

Cyclists

Examples of what the function would interpret to be a cyclist: clear body and bicycle shapes.

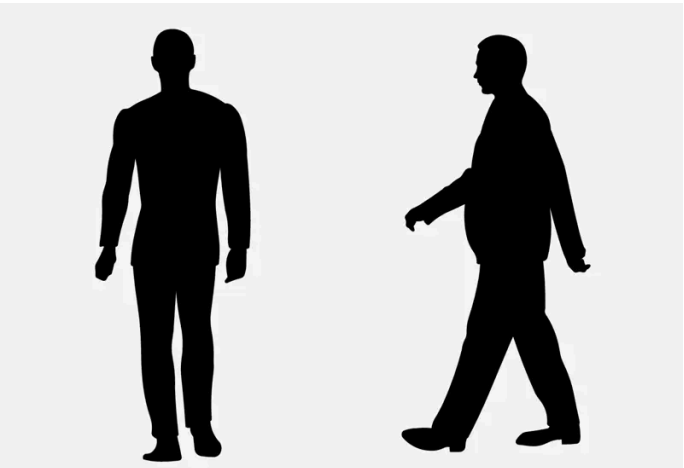
For good performance, the system's camera and radar units for cyclist detection need the clearest possible information about the contours of the bicycle and of the cyclist's head, arm, shoulders, legs, torso and lower body in combination with normal human movements.

If large portions of the cyclist's body or the bicycle itself are not visible to the function's camera, it will not be able to detect a cyclist.

The system can only detect adult cyclists riding on bicycles intended for adults.

> **Warning**
>
> The function is supplementary driver support, but it cannot detect all cyclists in all situations and, for example, cannot see:
>
> - partially obscured cyclists.
> - cyclists if the contrast to the cyclist's background is poor.
> - cyclists in clothing that hides their body contour.
> - bikes loaded with large objects.

Pedestrians



Examples of what the function considers to be a pedestrian: clear body contours.

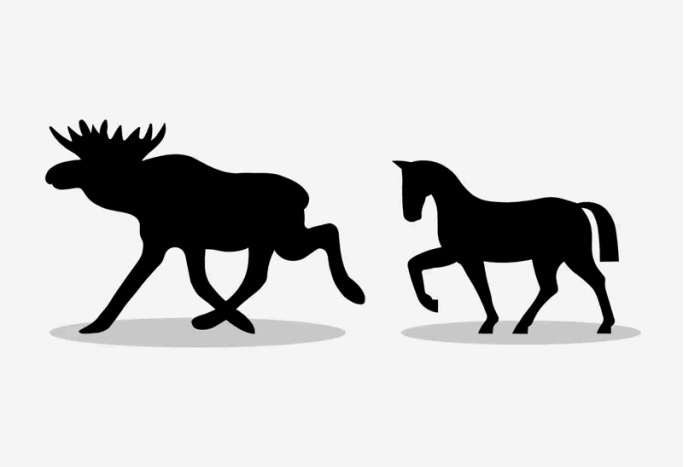
For good performance, the system's camera and radar units for pedestrian detection need the clearest possible information about the contours of the pedestrian's head, arm, shoulders, legs, torso and lower body in combination with normal human movements.

In order to detect a pedestrian, there must be a contrast to the background, which could depend on clothing, weather conditions, etc. If there is little contrast, the person may be detected late or not at all, which may result in a delayed reaction from the system or no reaction at all.

The function can detect pedestrians even in dark conditions if they are illuminated by the vehicle's headlights.

> **Warning**
>
> The function is supplementary driver support, but it cannot detect all pedestrians in all situations and, for example, cannot see:
>
> - partially obscured pedestrians, people in clothing that hides their body contour or pedestrians shorter than 80 cm (32 tum).
> - pedestrians if the contrast to the pedestrian's background is poor.
> - pedestrians who are carrying large objects.

Large animals



Examples of what the function would interpret as a large animal: stationary or moving slowly and with clear body contours.

For good performance, the system's function for detecting large animals (e.g. moose, horses, etc.) needs the clearest possible information about body contours. This entails being able to detect the animal straight from the side in combination with normal movements for that animal.

If parts of the animal's body are not visible to the function's camera, the system will not be able to detect the animal.

The function can detect large animals even in dark conditions if they are illuminated by the vehicle's headlights.

Warning

The function is supplementary driver support, but it cannot detect all large animals in all situations and, for example, cannot see:

- partially obscured larger animals.
- larger animals seen from the front or from behind.
- running or fast moving larger animals.
- larger animals if the contrast to the animal's background is poor.
- smaller animals such as cats and dogs.

Warnings and brake interventions may occur late or not at all. The driver is always responsible for ensuring that the vehicle is driven correctly and with a safety distance suitable for the speed.

[1] Collision Avoidance

10.7.3. Opportunity to reduce speed with assistance during collision risks

Assistance during collision risks[1] can help prevent a collision or lower the vehicle's speed at the point of impact.

If the difference in speed between your vehicle and the obstacle is greater than the speeds specified below, the automatic brake function cannot prevent a collision, but it can help mitigate its effects.

Vehicles

Braking assistance can help prevent a collision with a vehicle ahead by reducing your vehicle's speed by up to 60 km/h (37 mph).

Cyclists

Braking assistance can help prevent a collision with a cyclist ahead by reducing your vehicle's speed by up to 50 km/h (30 mph).

Pedestrians

Braking assistance can help prevent a collision with a pedestrian ahead by reducing your vehicle's speed by up to 45 km/h (28 mph).

Large animals

If there is a risk of colliding with a large animal, braking assistance can help reduce your vehicle's speed by up to 15 km/h (9 mph).

The braking function for large animals is primarily intended to mitigate the force of a collision at higher speeds. Braking is most effective at speeds above 70 km/h (43 mph) and less effective at lower speeds.

[1] Collision Avoidance

10.7.4. Symbols and messages for assistance during collision risks

A number of symbols and messages related to assistance during collision risks[1] may be displayed in the instrument panel. Several examples are provided below.

Symbol	Message	Meaning
	Automatic intervention Collision Avoidance	When the function is activated, a message will appear to alert the driver.
	Collision Avoidance system unavailable	The system is temporarily malfunctioning or working with reduced performance.
	Collision Avoidance Reduced functionality Service required	The system is not functioning as intended. Contact workshop.
	Windscreen sensor blocked See Owner's manual	The camera's ability to detect the lane in front of the vehicle is reduced.

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

[1] Collision Avoidance

10.7.5. Assistance during collision risks limitations

Assistance during collision risks[1] has certain limitations that a driver needs to be aware of.

Braking assistance limitations

Extra equipment

Hanging objects, such as a flag or streamer to signal an over-sized load, or accessories such as auxiliary lights or front protective grids that extend beyond the height of the vehicle's hood, may obstruct the camera or radar unit.

Slippery road conditions

The extended braking distance on slippery roads may reduce the function's capacity to help avoid a collision. In these types of situations, the Anti-lock Braking System and Electronic Stability Control (ESC[2]) are designed for optimal braking power with maintained stability.

Low speed

The function is not activated at very low speeds under 4 km/h (3 mph). The system will therefore not intervene in situations in which your vehicle is approaching another vehicle very slowly, such as when parking.

Active driver

The driver's commands are always prioritized. In situations in which the driver is clearly steering and applying the accelerator pedal, the function will not intervene, even if a collision is unavoidable. An active and aware driving style may therefore delay collision warnings and intervention in order to minimize unnecessary warnings.

Steering assistance limitations

The function may have limited functionality in certain situations and not intervene, e.g.:

- for smaller vehicles such as motorcycles
- if more than half of your vehicle has moved into the adjacent lane
- on roads/lanes with indistinct or no side lane markings
- outside the speed range 60-140 km/h (37-87 mph)
- when speed-dependent power steering wheel resistance is working at reduced power – e.g. during cooling due to overheating.

Functionality may also be reduced in other situations, such as:

- road work
- winter driving conditions
- narrow roads
- poor road surfaces
- a very sporty driving style
- bad weather with reduced visibility.

In these demanding driving conditions, the function may not be able to properly assist the driver.

Important warnings

Warning

The driver support system only issues a warning for obstacles detected by its radar sensor – thus, a warning may come after a delay or not at all.

- Never wait for a warning or assistance. Apply the brakes when necessary.

Warning

- Automatic braking can prevent a collision or reduce collision speed, but to ensure full brake performance the driver should always depress the brake pedal – even when the vehicle brakes automatically.
- The warning and steering assistance are only activated if there is a high risk of collision – you must therefore never wait for the collision warning or the function to intervene.
- The function does not activate automatic braking intervention during heavy acceleration.

Warning

- Warnings and brake interventions can be triggered late or not at all if the traffic situation or external influences prevent the camera and radar units from properly detecting pedestrians, cyclists, large animals or vehicles ahead of the vehicle.
- To be able to detect vehicles at night, its front and rear lights must work and illuminate clearly.
- Warnings for stationary and slow-moving vehicles, as well as large animals, can be disengaged due to darkness or poor visibility.
- Warnings and brake interventions for pedestrians and cyclists are disengaged at vehicle speeds over 80 km/h (50 mph).
- The system can provide effective warnings and brake intervention if the relative speed is lower than 50 km/h (30 mph).
- For stationary or slow-moving vehicles, warnings and brake interventions are effective at vehicle speeds of up to 70 km/h (43 mph).
- Speed reduction for large animals is less than 15 km/h (9 mph) and can be achieved at vehicle speeds over 70 km/h (43 mph). At lower speeds, the warning and brake intervention for large animals is less effective.
- Do not place, affix or mount anything on the inside or outside of the windshield, or in front of or around the camera – this could disrupt camera-based functions.
- Objects, snow, ice or dirt in the area of the camera and radar units can reduce the function, disengage it completely or give an improper function response.

Note

The function uses the vehicle's camera and radar sensor, which has certain general limitations.

Important

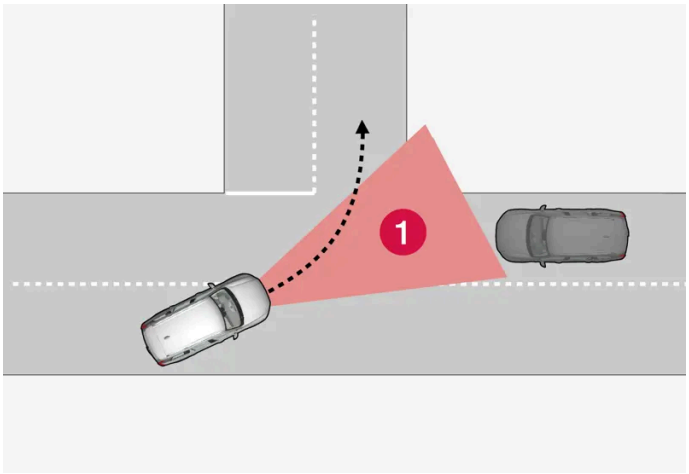
Only a workshop may perform maintenance on driver support components – an authorized Volvo workshop is recommended.

[1] Collision Avoidance

[2] Electronic Stability Control

10.7.6. Assistance during collision risks in crossing traffic

Assistance during collision risks[1] can assist the driver when turning in the path of an oncoming vehicle in an intersection.



1 Sector in which the function can detect an oncoming vehicle in crossing traffic.

In order for the function to detect an oncoming vehicle in situations where there is a risk of a collision, that vehicle must be within the sector in which the function can analyze the situation.

The following conditions must also be met:

- your vehicle's speed must be at least 4 km/h (3 mph).
- your vehicle must be making a left turn.
- the oncoming vehicle's headlights must be on.

The function may be unable to assist the driver if, for example:

- the road is slippery and Electronic Stability Control[2] is intervening.
- the approaching vehicle is detected at a late stage.
- the oncoming vehicle is partially obstructed by another vehicle or object.
- the oncoming vehicle's headlights are off.
- the oncoming vehicle is moving erratically and e.g. suddenly changes lanes at a late stage.

Warning

Warnings and steering assistance due to an imminent collision with an oncoming vehicle always come very late.

Note

The function uses the vehicle's camera and radar sensor, which has certain general limitations.

[1] Collision Avoidance

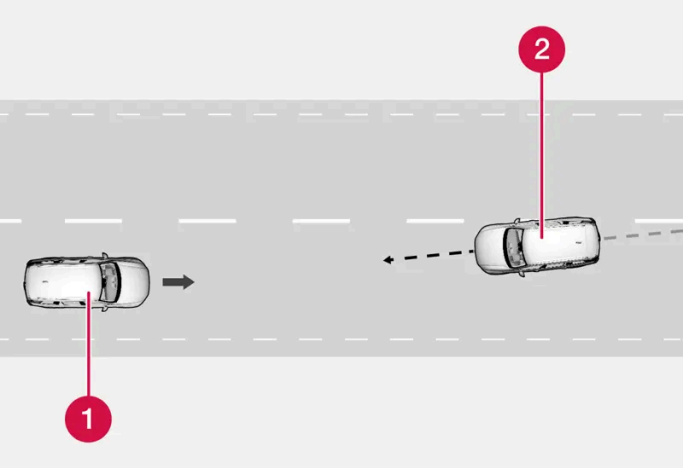
[2] Electronic Stability Control (ESC)

10.7.7. Assistance during collision risks in oncoming traffic

Assistance during collision risks [1] can help the driver by providing steering assistance to help prevent collisions with vehicles in oncoming lanes. The function can also reduce your vehicle's speed when an oncoming vehicle is approaching in your lane to attempt to mitigate the force of the impact.

Oncoming vehicles in your own lane

If an oncoming vehicle veers into your lane and a collision is unavoidable, the function can help reduce your vehicle's speed to attempt to mitigate the force of the collision.



1 Own vehicle

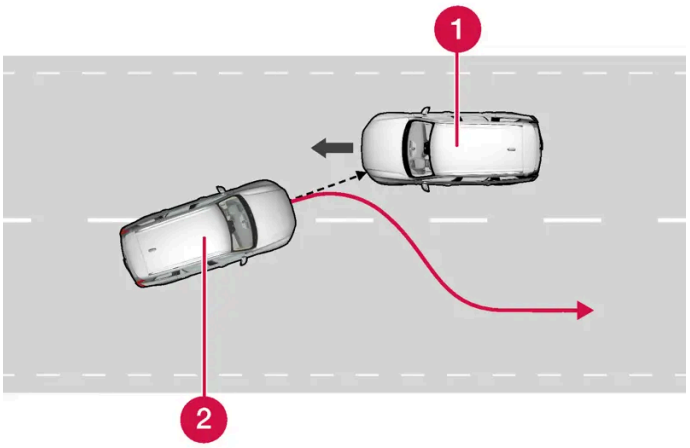
2 Oncoming vehicles

The following criteria must be met for the function to work:

- your vehicle's speed must be above 4 km/h (3 mph)
- the road must be straight
- your lane must have clear side lane markings
- your vehicle must be positioned straight in your lane
- the oncoming vehicle must be positioned within your vehicle's lane markings
- the oncoming vehicle's headlights must be on
- the function can only handle “front-to-front” collisions
- the function can only detect vehicles with four wheels.

When the vehicle veers into oncoming traffic

This function can help assist a distracted driver who has not noticed that the vehicle is veering into oncoming traffic.



The function provides assistance by swerving your vehicle back into your own lane.

1 Oncoming vehicles

2 Own vehicle

The function is active at speeds between 60-140 km/h (37-87 mph) on roads with clearly visible traffic lane markings/lines.

If your vehicle is starting to veer from your own lane and a vehicle is approaching from the opposite direction, this function can help the driver steer the vehicle back into its own lane.

However, the function will **not** provide steering assistance if the turn signal is used. The function will also not be activated if it detects that the driver is actively operating the vehicle.

When the function is intervening, a symbol and a message will appear in the instrument panel and an audible signal will sound.

Warning

Warnings and steering assistance due to an imminent collision with an oncoming vehicle always come very late.

Note

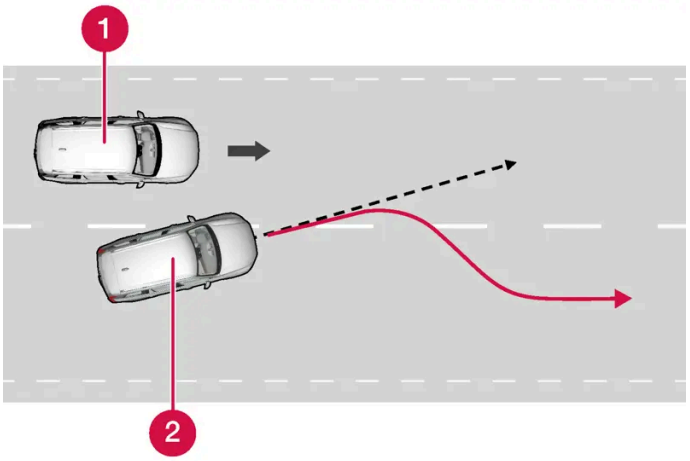
The function uses the vehicle's camera and radar sensor, which has certain general limitations.

[1] Collision Avoidance

10.7.8. Assistance during collision risks with vehicles in your blind spot*

If you become distracted and do not notice your vehicle starting to veer out of the lane while another vehicle is approaching from behind or is in your vehicle's blind spot, assistance during collision risks[1] can help

provide assistance.



The function provides assistance by steering your vehicle back into your own lane.

1 Another vehicle in blind spot zone

2 Own vehicle

Even if the driver intentionally changes lanes using a turn signal without noticing another vehicle approaching, the function can provide assistance.

The function is active at speeds between 60-140 km/h (37-87 mph) on roads with clearly visible traffic lane markings/lines.

The lights in the door mirrors will flash and steering assistance will be provided. An audible signal will also sound.

When the function is intervening, a message is displayed in the instrument panel.

> **Warning**
>
> Warnings and steering assistance due to an imminent collision always come very late.

> **Note**
>
> The function uses the vehicle's camera and radar sensor, which has certain general limitations.

* Option/accessory.

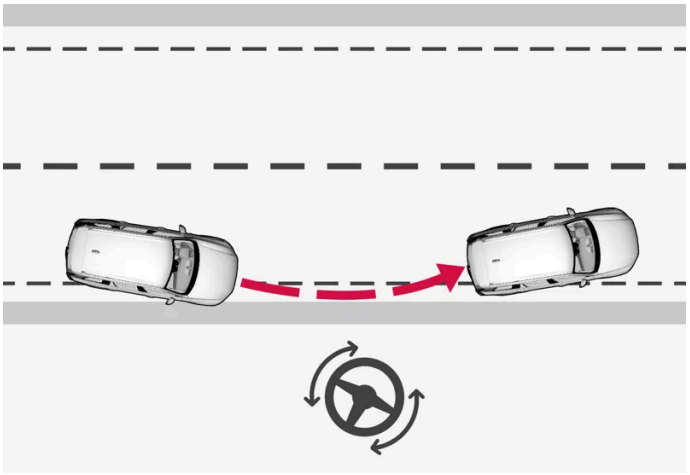
[1] Collision Avoidance

10.7.9. Assistance during risk of run-off

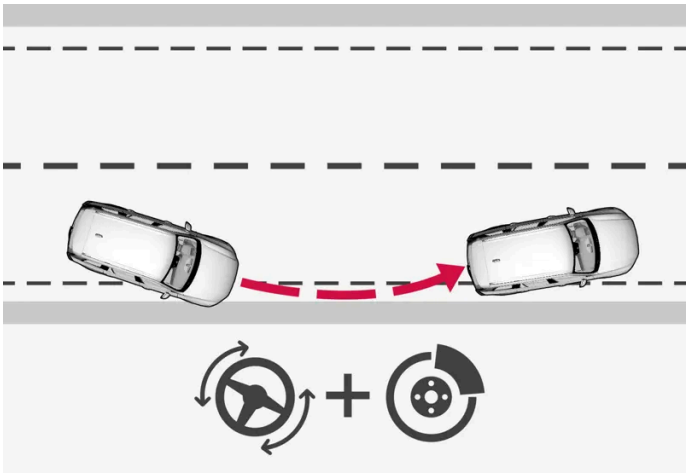
Assistance during collision risks [1] can help the driver and reduce the risk of the vehicle inadvertently running off the road by actively steering the vehicle back onto the road.

This function has two levels for intervention:

- Steering assistance only
- Steering assistance with braking



Intervention with steering assistance



Intervention with steering assistance and braking

Braking intervention assists in situations where steering assistance alone is not sufficient. Braking force is automatically adapted according to the situation at the moment the vehicle begins to run off the road.

The function is active at speeds between 65-140 km/h (40-87 mph) on roads with clearly visible traffic lane markings/lines.

The vehicle's camera unit monitors the edges of the road and the painted side marker lines. If the vehicle is about to cross the edge of the road, the function may attempt to steer the vehicle back onto the road. If this is not sufficient to keep the vehicle on the road, the brakes will also be applied.

However, the function will not provide either steering assistance or braking if a direction indicator is used. The function will also not be activated if it detects that the driver is actively operating the vehicle.

When the function is intervening, a message is displayed in the instrument panel.

> **Warning**
>
> Warnings and steering assistance due to an imminent collision with an oncoming vehicle always come very late.

Note

The function uses the vehicle's camera and radar sensor, which has certain general limitations.

[1] Collision Avoidance

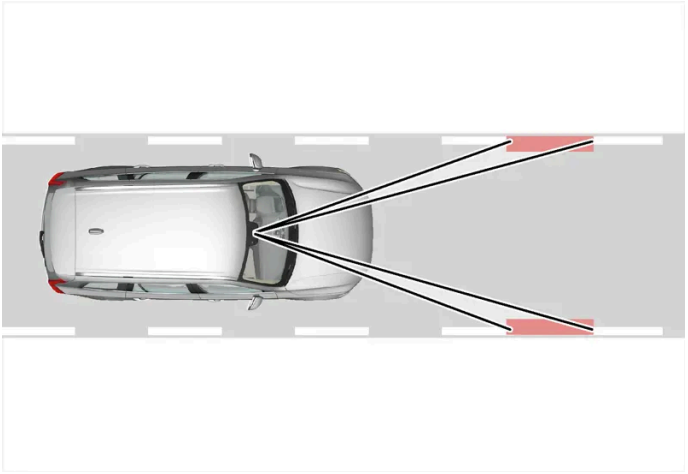
10.8. Driver Alert Control

10.8.1. Driver Alert

The Driver Alert function is designed to help alert the driver to erratic behavior, e.g. if the driver is distracted or showing signs of fatigue.

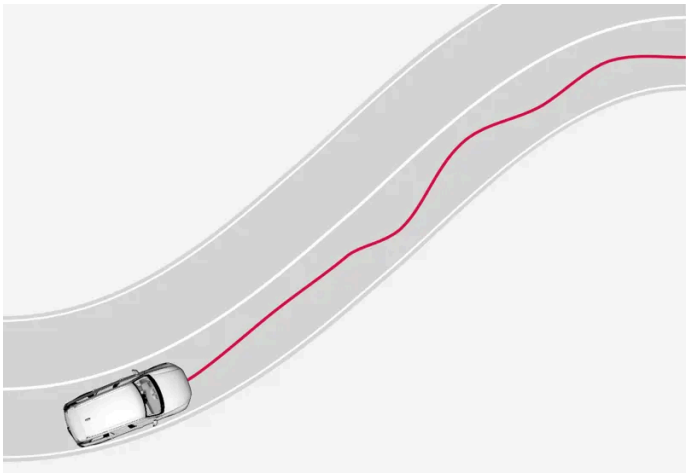
The objective of the function is to detect slowly deteriorating driving behavior and is primarily intended to be used on major roads. The function is not intended for use in city traffic.

DAC is activated when the vehicle's speed exceeds 65 km/h (40 mph) and remains active as long as speeds are above 60 km/h (37 mph).



Driver Alert detects the vehicle's position in the traffic lane.

A camera monitors the traffic lane's marker lines and compares the direction of the road with the driver's movements of the steering wheel.



The vehicle is moving erratically in the lane.

If driving behavior becomes considerably erratic, the driver will be alerted by this symbol in the instrument panel, an audible signal and the message **Time for a break Driver Alert**.

The warning will be repeated after a short time if driving behavior does not improve.

Warning

Driver Alert must not be used to extend a period of driving. The driver should plan in breaks at regular intervals and make sure they are well rested.

Warning

An alarm from Driver Alert should be taken very seriously since a sleepy driver is often not aware of their own condition.

If the alarm sounds or you feel fatigued:

- Stop the vehicle safely as soon as possible and rest.

Studies have shown that it is just as dangerous to drive while tired as it is to drive under the influence of alcohol or other stimulants.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

10.8.2. Driver Alert limitations

Driver Alert functionality may be reduced in certain situations.

In certain situations, the system may provide a warning even if it has not detected a change in driving behavior, e.g.:

- in strong crosswinds
- on grooved road surfaces.

> **Warning**
>
> In certain cases, driving behavior might not be affected despite the driver's fatigue – when using the Pilot Assist* function – resulting in the driver not getting a warning from Driver Alert.

> **Note**
>
> The function uses the vehicle's camera and radar sensor, which has certain general limitations.

* Option/accessory.

10.9. Lane Keeping Aid

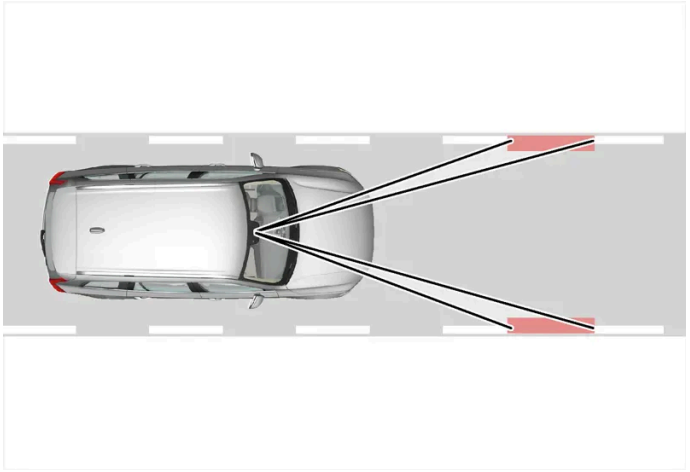
10.9.1. Lane Keeping Aid

Lane Keeping Aid (LKA[1]) is designed to actively steer the vehicle on freeways, highways and other major roads to help the driver reduce the risk of the vehicle unintentionally veering out of the lane.

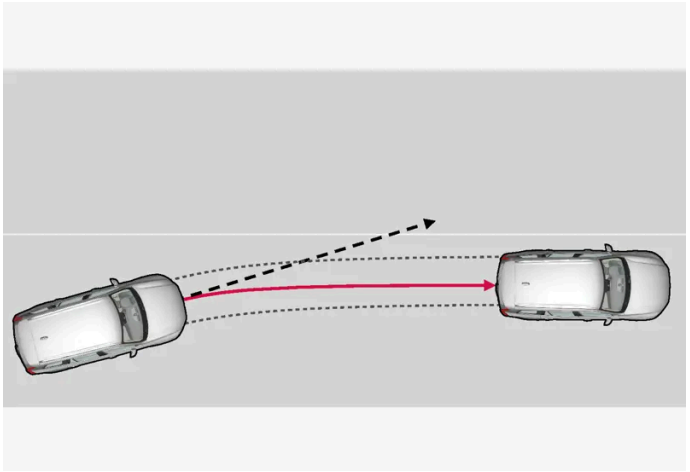
Lake Keeping Aid steers the vehicle back into the lane and/or alerts the driver using vibrations in the steering wheel.

Lane Keeping Aid is active at speeds between 65–200 km/h (40–125 mph) on roads with clearly visible traffic lane marker lines.

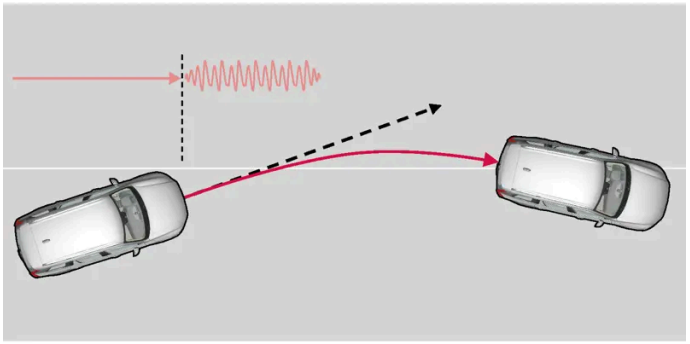
On narrow roads, the function may be unavailable and go into standby mode. The function will become available again when the road becomes sufficiently wide.



A camera monitors the road/traffic lane's marker lines.



Lane Keeping Aid steers the vehicle back into its lane.



Lane Keeping Aid alerts the driver using vibrations in the steering wheel.

Lane Keeping Aid functions as follows:

- When the vehicle approaches a lane marker line, the function will actively steer the vehicle back into the lane using light pressure on the steering wheel.
- If the vehicle is about to move over a lane marker line, the driver will be alerted by vibrations in the steering wheel.

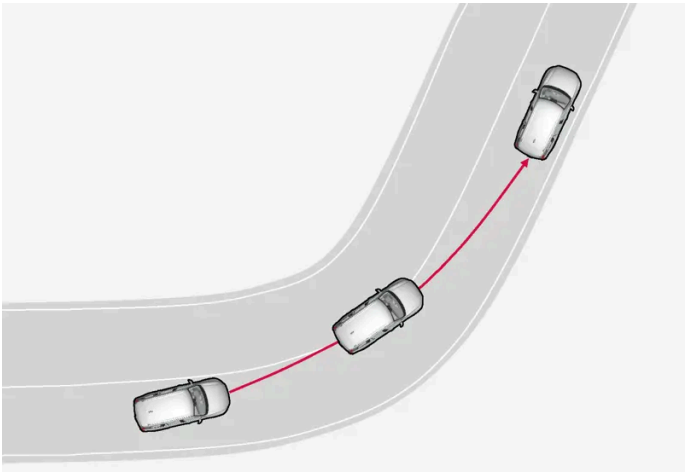
Note

When the direction indicators/turn signals are activated, the Lane Keeping Aid does not provide any warning or intervene with steering.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

Lane Keeping Aid does not intervene



Lane Keeping Aid does not intervene in sharp inside curves.

In certain cases, such as when a turn signal is used or when "straightening out" an inside curve, Lane Keeping Aid will not provide steering assistance or alerts.

Hands on the steering wheel

Steering assistance with Lane Keeping Aid only functions if the driver's hands are on the steering wheel, which the system continuously monitors.

If the driver's hands are not on the steering wheel, an audible signal will be given and a message will instruct the driver to actively steer the vehicle:

- **Apply steering Lane Keeping Aid**

If the driver does not follow the recommendations and begin actively steering the vehicle, a warning signal will sound until the driver begins steering the vehicle again.

[1] Lane Keeping Aid

10.9.2. Activating and deactivating Lane Keeping Aid

The Lane Keeping Aid (LKA[1]) function is optional – the driver can choose to have the function activated or deactivated. However, steering assistance for solid lines is always on.

Activate or deactivate the function under settings.

1 Tap ⚙ in the center display.

2 Tap **Driving** and activate your preferred function.

[1] Lane Keeping Aid

10.9.3. Differences between Pilot Assist* and Lane Keeping Aid

Pilot Assist is a comfort function that can help keep the vehicle in its own lane and maintain the distance to the vehicle in front of you. Lane Keeping Aid[1] is a function that similarly helps in certain situations to reduce the risk of the vehicle unintentionally veering out of its lane.

Pilot Assist

Pilot Assist can help you to steer your vehicle between the lane markings, as well as maintain a preset speed and distance to the vehicle ahead. The function can also use the lane marking lines to help the driver maintain a favorable position in the lane.

What does Pilot Assist do?

- Can help to keep the vehicle within its lane by assisting steering in some cases.
- Can help to maintain a preset speed or the distance to the vehicle ahead by means of acceleration and braking operations.

How do I know that Pilot Assist is on?

Symbols in the vehicle's instrument panel let you know when Pilot Assist is on.

	Adaptive Cruise Control is active. Pilot Assist is selected but not available. The conditions for the function are not met.
	Pilot Assist is active.

Lane Keeping Aid

Lane Keeping Aid can provide steering assistance and/or a warning to the driver when the vehicle is about to leave its lane unintentionally. The function is active between 65-180 km/h (40-112 mph) on roads with clearly visible side markings.

What does Lane Keeping Aid do?

- Lane Keeping Aid can provide the driver with steering assistance, steering the vehicle back into its lane and/or providing warnings using steering wheel vibration.

How do I know that Lane Keeping Aid is on?

Symbols in the vehicle's instrument panel show the function status.

An extinguished symbol in the instrument panel means that the function is on but that the conditions for LKA have not been met.

White symbol in the instrument panel means that the conditions for LKA have been met and that the function is available.

An orange symbol in the instrument panel means that LKA is providing steering assistance back into the lane and/or giving a warning with vibration in the steering wheel.

Warning

The driver is always responsible for ensuring that the vehicle is operated in a safe manner. The driver is advised to read all of the sections in the Owner's Manual about this function before using the function.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

* Option/accessory.

[1] Lane Keeping Aid(LKA)

10.9.4. Lane Keeping Aid symbols and messages

A number of symbols and messages related to Lane Keeping Aid (LKA[1]) may be displayed in the instrument panel. Several examples are provided below.

Symbol	Message	Meaning
	Driver support system Reduced functionality Service required	The system is not functioning as intended. Contact a workshop[2].
	Windscreen sensor blocked See Owner's manual	The camera's ability to detect the lane in front of the vehicle is reduced.
	Apply steering Lane Keeping Aid	Steering assistance is disabled when the driver's hands are not on the wheel. Follow the instructions and steer the vehicle.

A text message can be erased by briefly pressing the ◯ button in the center of the right-side steering wheel keypad.

If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

[1] Lane Keeping Aid

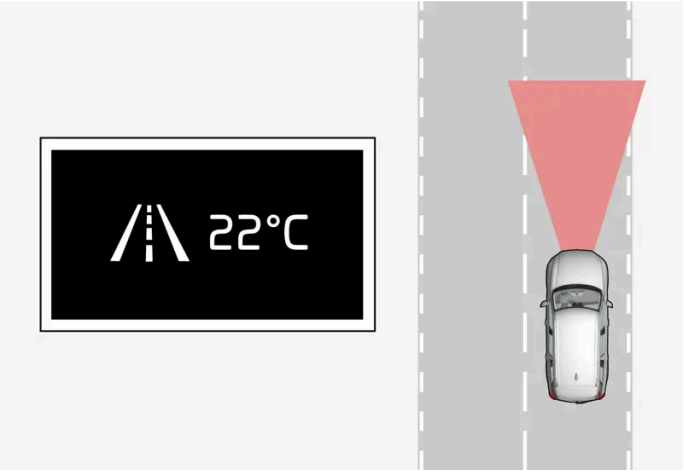
[2] An authorized Volvo workshop is recommended.

10.9.5. Lane Keeping Aid display

Lane Keeping Aid (LKA[1]) uses symbols in the instrument panel for various situations.

Some examples of symbols and descriptions of the situations in which they might appear are provided below.

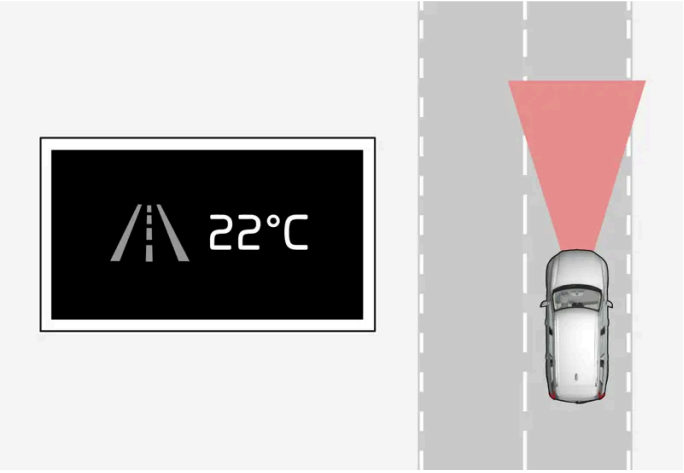
Available



Available – the marker lines in the symbol are white.

Lane Keeping Aid is able to detect one or both of the traffic lane's side marker lines.

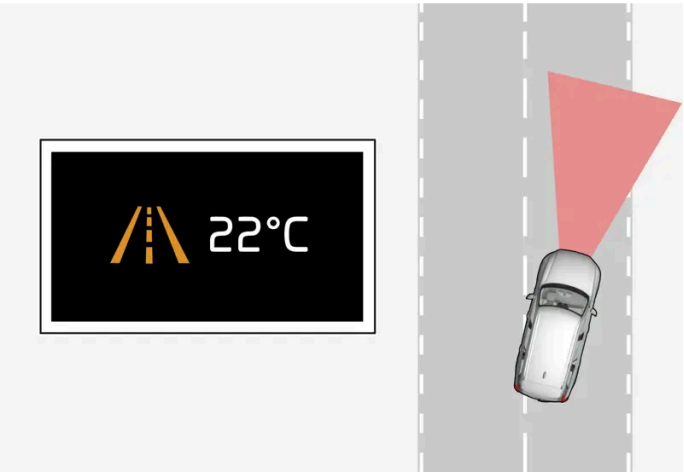
Unavailable



Unavailable – the marker lines in the symbol are extinguished.

Lane Keeping Aid is unable to detect the lane marker lines, the vehicle's speed is too low or the road is too narrow.

Steering/warning indicator



Steering/warning – the marker lines in the symbol are colored.

Indicates that the Lane Keeping Aid system is alerting the driver and/or attempting to steer the vehicle back into the lane.

[1] Lane Keeping Aid

10.9.6. Lane Keeping Aid limitations

In certain demanding driving conditions, Lane Keeping Aid (LKA[1]) may not be able to properly assist the driver. In these situations, it is recommended that the function be deactivated.

Examples of such situations include:

- road work
- winter driving conditions
- poor road surfaces
- a very sporty driving style
- bad weather with reduced visibility
- roads with indistinct or no lane markings
- sharp edges or lines other than the lane's side markings
- when speed-dependent power steering wheel resistance is working at reduced power – e.g. during cooling due to overheating.

The function cannot detect barriers, railings or similar obstacles at the side of the lane.

> **Note**
>
> The function uses the vehicle's camera and radar sensor, which has certain general limitations.

[1] Lane Keeping Aid

10.10. Electronic Stability Control

10.10.1. Electronic Stability Control

The Electronic Stability Control (ESC [1]) function helps the driver avoid skidding and improves the vehicle's directional stability.

This symbol will be displayed in the instrument panel when the system is intervening.

When the system has intervened to apply the brakes, a pulsing sound may be heard and the vehicle may accelerate more slowly than expected when the accelerator pedal is depressed.

The system consists of the following sub-functions:

- Stability control [2]
- Spin control and active yaw control
- Engine drag control
- Trailer Stability Assist

> **Warning**
>
> - The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
> - The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
> - Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

Stability control [2]

This function helps control the driving and braking force of each individual wheel in an attempt to stabilize the vehicle.

Spin control and active yaw control

Spin control is active at all speeds and prevents the wheels from spinning while the vehicle is accelerating.

Active yaw control is active at low speeds and can brake the wheels that are spinning in order to increase power to the wheel on the opposite side.

Electric motor drag control

Electric motor drag control (EDC [3]) can help prevent involuntary wheel locking, such as after electric motor braking on slippery roads. Inadvertent wheel lock while driving could impair the driver's ability to steer the vehicle.

Trailer Stability Assist* [4]

Trailer Stability Assist (TSA [5]) is designed to help stabilize a vehicle that is towing a trailer if the vehicle and trailer have begun to sway.

[1] Electronic Stability Control

[2] Also called traction control.

[3] Engine Drag Control

* Option/accessory.

[4] Trailer Stability Assist is included if the vehicle is equipped with a Volvo original towbar.

[5] Trailer Stability Assist

10.10.2. Electronic Stability Control symbols and messages

A number of symbols and messages related to Electronic Stability Control (ESC[1]) may be displayed in the instrument panel. Several examples are provided below.

Symbol	Message	Meaning
	Steady glow for approx. 2 seconds	System check when vehicle is started.
	Flashing light	The system is actively operating.
–	Traction control temporarily off	Active yaw control has been temporarily reduced due to too-high brake system temperature. The function will be automatically reactivated when the brakes have cooled.
	ESC Service required	The system is not functioning properly. Stop the vehicle in a safe location. Check if the problem was temporary or if it persists by exiting the vehicle, locking the vehicle, and then unlocking and getting in again. If the problem persists, contact a workshop – an authorized Volvo workshop is recommended. The vehicle can be driven, but without ESC functionality.

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

[1] Electronic Stability Control

10.11. Road Sign Information

10.11.1. Road Sign Information*

The Road Sign Information function can help the driver observe speed-related road signs[1].

The function is available in certain markets.

Examples of signs that can be detected[2].

If the vehicle passes a speed limit sign, it will be displayed in the instrument panel.

There are also subfunctions for Road Sign Information that can alert the driver if the speed limit has been exceeded or if there are speed cameras nearby.

Note

In certain markets, the Road Sign Information function is only available in combination with map data. Google Maps[3] settings may need to be changed.

Note

In certain markets, the Road Sign Information function is only available in combination with map data.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

* Option/accessory.

[1] An Internet connection is needed for Road Sign Information to work.

[2] Road signs differ according to market – the illustrations shown here are just some examples.

[3] Read more at Maps Privacy center.

10.11.2. Road Sign Information* limitations

Road Sign Information functionality may be reduced in certain situations.
The function is available in certain markets.

The function could have reduced functionality due to e.g.:

- faded road signs
- signs located in a curve in the road
- twisted or damaged signs
- signs positioned high above the road
- fully/partially obstructed or poorly positioned signs
- signs partially or fully covered by frost, snow and/or dirt
- digital map data with outdated, incorrect or missing speed information[1]
- no Internet connection
- approval for Google Maps[2].

> **Note**
>
> In certain markets, the Road Sign Information function is only available in combination with map data.

> **Note**
>
> The function uses the vehicle's camera and radar sensor, which has certain general limitations.

* Option/accessory.

[1] Map data and speed information is not available for all areas.

[2] Read more at Maps Privacy center.

10.11.3. Speed limit and speed camera warnings from Road Sign Information*

There are subfunctions for Road Sign Information that can alert the driver if the speed limit has been exceeded or if there are speed cameras nearby[1].
The function is available in certain markets.

Speed limit warning

The symbol[2] in the instrument panel will flash when the speed limit is exceeded by 5 km/h(3 mph).

The warning will be repeated once after about 30 seconds if the speed is not reduced.

After this, new warnings will only be provided if the speed is reduced by at least 5 km/h(3 mph) under the speed limit and then exceeded again. A new warning may also be provided if the vehicle enters a new speed limit zone.

The driver can be alerted if the vehicle is exceeding a detected speed limit and is approaching a speed camera.[1]

Speed camera warning

Vehicles equipped with Road Sign Information and map data[1] can provide information about upcoming speed cameras in the instrument panel, provided that the navigation map for the relevant area contains information on speed cameras.

* Option/accessory.

[1] Information on speed cameras on the navigation map is not available for all markets/areas.

[2] Road signs differ by market – the illustration shown here is just an example.

10.11.4. Activating and deactivating warnings from Road Sign Information*

Road Sign Information can be deactivated on some markets.
The function is available in certain markets.

Activate or deactivate the function under settings.

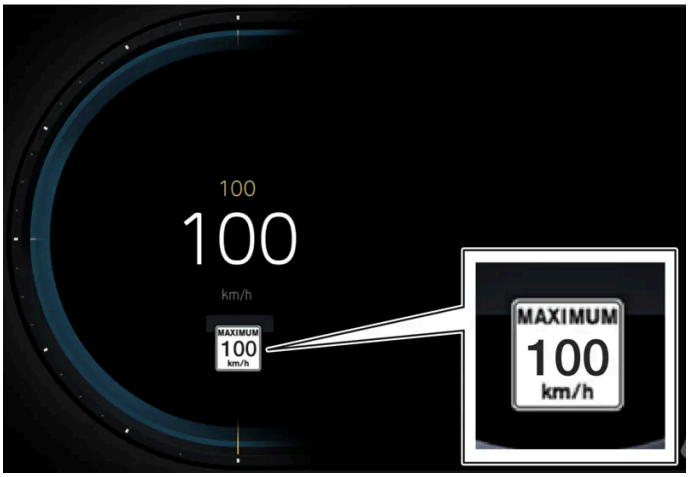
1 Tap ⚙ in the center display.

2 Tap **Privacy settings** and select settings for Road Sign Information.

* Option/accessory.

10.11.5. Road Sign Information* display

Road Sign Information displays road signs in different ways depending on the sign and situation. The following illustrations are examples.
The function is available in certain markets.



Example[1] of registered speed information.

When the function has registered a speed limit sign, the instrument panel will display the sign as a symbol.

If the vehicle is equipped with map data*, speed-related information will also be retrieved from map data, which means that the instrument panel can display or change information about speed limits even if the vehicle has not passed a speed-related sign.

Signs for "School" and "Children playing"

The instrument panel can display signs for "School" or "Children playing" if this data is available.

* Option/accessory.

[1] Road signs differ according to market – the illustrations shown here are just examples.

10.12. Parking functions

10.12.1. Parking Assist

10.12.1.1. Park Assist*

The Park Assist function uses sensors to help the driver when maneuvering in tight spaces by indicating distances to obstacles using audible signals and graphics in the center display.

Example of display view showing obstacle zones and sensor sectors.

The center display shows an overview of the vehicle in relation to objects that have been detected.

The marked sector indicates where the obstacle is located. The closer the vehicle symbol is to a marked sector forward/rearward, the closer the detected obstacle is to your vehicle.

The side sectors change color as the distance between the vehicle and an object decreases.

The audible signals will also speed up the closer the obstacle is to the vehicle. The volume of the audio system will be automatically lowered.

Audible signals for obstacles in front and to the sides of the vehicle are active when the vehicle is moving but will cease after the vehicle has been stationary for approx. 2 seconds. Audible signals for obstacles behind the vehicle will remain active even when the vehicle is stationary.

If a detected obstacle is within approx. 30 cm (1 foot) from the front or rear of the vehicle, the tone will become constant and the active sensor field closest to the vehicle symbol will be filled in.

At distances within approx. 25 cm (0.8 foot) from an obstacle to the sides of the vehicle, a rapid pulsing signal will be given and the active sector fields will change color from orange to red.

The volume of the Park Assist audible signals can be adjusted while the signal is being given using the >II knob or in Park Assist settings.

> **Note**
>
> Besides in the sector closest to the vehicle symbol, audible warnings are only provided for objects located directly in the vehicle's path.

Warning

- The Park Assist sensors are a complement to the driver's attention to the surroundings around the vehicle. Their ability to detect obstacles at certain angles may be affected by the conditions during use.
- Pay particular attention to people and animals near the vehicle.
- Bear in mind that the front end of the vehicle may swing out towards oncoming traffic during the parking maneuver.
- Objects/obstacles may be closer to the vehicle than they appear on the screen.

Warning

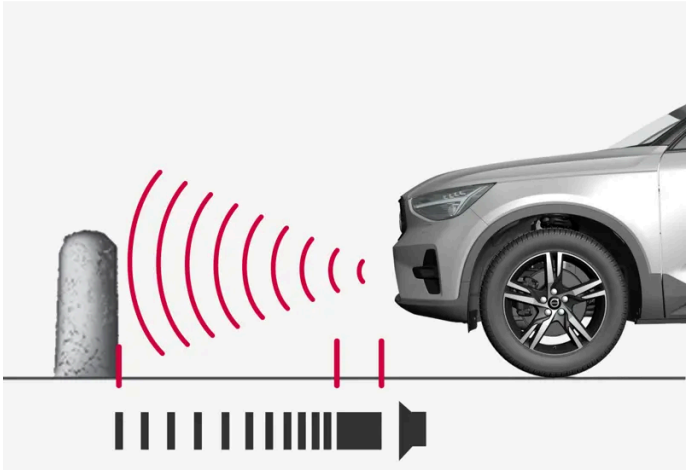
- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

* Option/accessory.

10.12.1.2. Park Assist front, rear and sides*

Park Assist behaves differently depending on which part of the vehicle is approaching an obstacle.

Front camera



The warning signal has a continuous audible tone when the obstacle is less than approx. 30 cm (1 foot) from the vehicle.

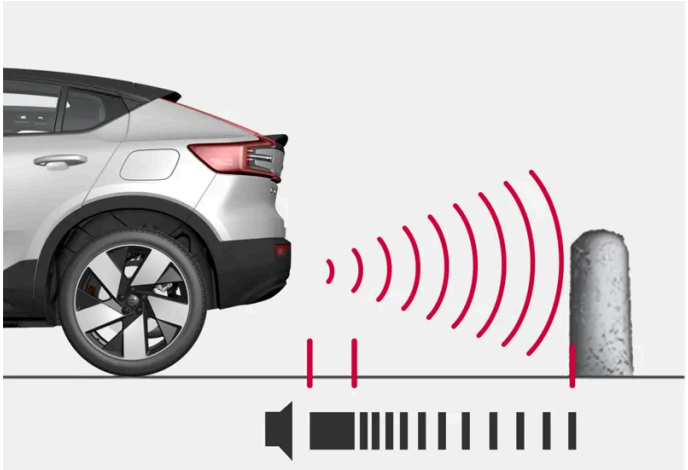
The Park Assist system's front sensors are automatically activated when the engine is started. They are active at speeds below 10 km/h (6 mph).

The distance monitored extends approx. 80 cm (2.5 feet) in front of the vehicle.

> **Note**
>
> The Park Assist system is deactivated when the parking brake is used or when **P** is selected on vehicles with automatic transmission.

> **Important**
>
> When installing auxiliary lights: Make sure these do not obscure the sensors – the auxiliary lights could be perceived as an obstacle.

Back



The warning signal has a continuous tone when the obstacle is less than approx. 30 cm (1 foot) from the vehicle.

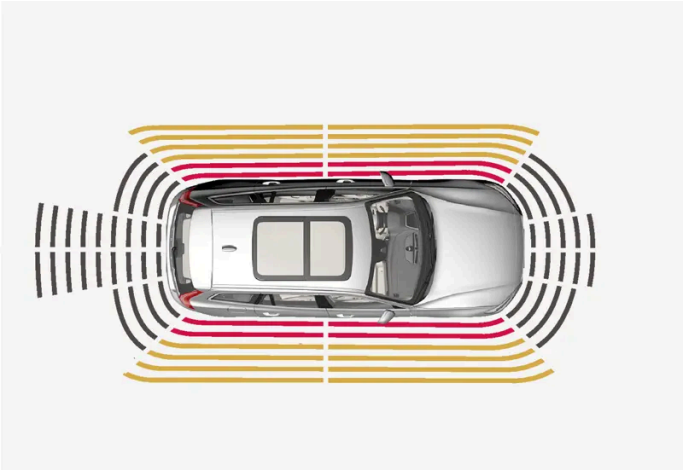
The rear sensors will be activated if the vehicle begins rolling backward or if reverse gear is engaged.

The distance monitored extends approx. 1.5 meter (5 feet) behind the vehicle.

The Park Assist system's rear sensors will be automatically deactivated if the vehicle is backing up with a trailer connected to the vehicle's electrical system.

> **Note**
>
> When reversing with e.g. a trailer or bike carrier on the trailer hitch – without Volvo original trailer cables – the Parking Assist system may have to be turned off manually to prevent the sensors from reacting to these.

Side sensors



The warning signal pulsates rapidly when the obstacle is less than approx. 25 cm (0.8 foot) from the vehicle.

Park Assist's side sensors are automatically activated when the engine is started. They are active at speeds below 10 km/h (6 mph).

The distance monitored is approx. 25 cm (0.8 foot) out from the sides.

The detection area of the side sensors increases significantly, however, when the steering angle of the front wheel increases and depending on the position of the steering wheel, obstacles up to approx. 90 cm (3 feet) diagonally behind or in front of the vehicle can be detected.

* Option/accessory.

10.12.1.3. Activating and deactivating the Park Assist system*

The Park Assist function can be activated or deactivated.

Park Assist's front and side sensors are automatically activated when the engine is started. The rear sensors are activated if the vehicle is moving backward or reverse gear is engaged.

Activate or deactivate the function using this button in Park Assist Camera view.

- Illuminated button – the function is activated.
- Extinguished button – the function is deactivated.

In vehicles equipped with Park Assist Camera*, Park Assist can also be activated or deactivated from the relevant camera view.

* Option/accessory.

10.12.1.4. Park Assist limitations*

Park Assist may not be able to detect all conditions in all situations and functionality may therefore be limited in certain cases.

The driver should be aware of the following limitations for Park Assist:

Warning

- The Park Assist Cameras' ability to clearly reproduce the surroundings in all zones around the vehicle may be affected by the conditions during use.
- Pay particular attention to people and animals near the vehicle.
- Bear in mind that the front end of the vehicle may swing out towards oncoming traffic during the parking maneuver.
- Objects/obstacles may be closer to the vehicle than they appear on the screen.

Warning

Be extra cautious when reversing if this symbol is shown when a trailer, bike carrier or similar is attached and electrically connected to the vehicle.

An unlit symbol indicates that the rear parking assist sensors are **deactivated** and will not warn of any obstacles.

Important

Objects such as chains, thin and glossy poles or low obstacles may end up in the "signal shadow" and then go temporarily undetected by the sensors – the pulsating tone may then unexpectedly stop instead of becoming a constant tone as expected.

The sensors cannot detect high objects, such as protruding ramps.

- In such situations, pay extra attention and maneuver/drive the vehicle very slowly or stop the current parking maneuver – there may be a high risk of damage to the vehicle or other objects since information from the sensors is not always reliable in such situations.

Important

In some circumstances, the Park Assist System may produce false warnings due to external sound sources with the same ultrasonic frequencies as those the system works with.

Examples of such sources are horns, wet tires on asphalt, pneumatic brakes, exhaust noise from motorcycles, etc.

Note

When a trailer hitch is configured with the vehicle electrical system, the trailer hitch protrusion is included when the function measures the distance to objects behind the vehicle.

* Option/accessory.

10.12.1.5. Park Assist* and Park Assist Camera* symbols and messages

Symbols and messages for the Park Assist system and the Park Assist Camera can be displayed in the instrument panel and/or the center display. Several examples are provided below.

Symbol	Message	Meaning
	If the symbol is extinguished.	The rear Park Assist sensors are **turned off** and no acoustic warnings or field markings for obstacles/objects will be provided.
	Cleaning needed Park Assist System sensors blocked	One or more of the sensors are blocked. Check and clean/remove the obstacle as soon as possible.
	Park Assist System unavailable Service required	The system is not functioning as intended. Contact a workshop[1].

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

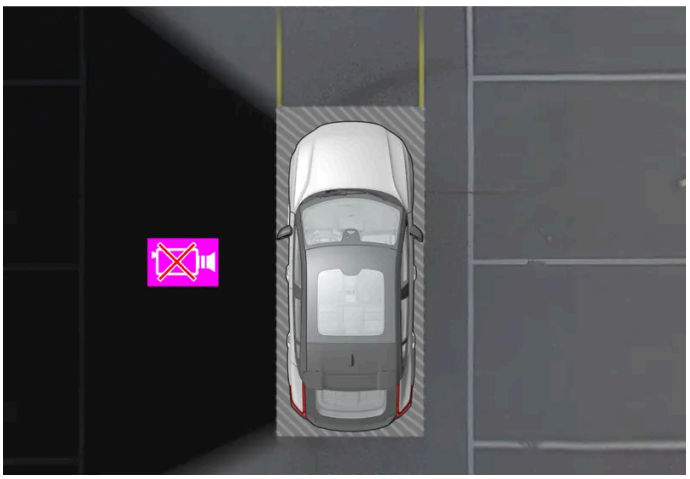
If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

Warning

Be extra cautious when reversing if this symbol is shown when a trailer, bike carrier or similar is attached and electrically connected to the vehicle.

An unlit symbol indicates that the rear parking assist sensors are **deactivated** and will not warn of any obstacles.

Defective Park Assist Camera



Example indicating that the vehicle's left camera is malfunctioning.

If a camera sector is dark, this indicates that the camera is not functioning properly.

A dark camera sector may also be displayed in the following situations, but **without** the defective camera symbol:

- a door is open
- the tailgate is open
- a rearview mirror is folded in

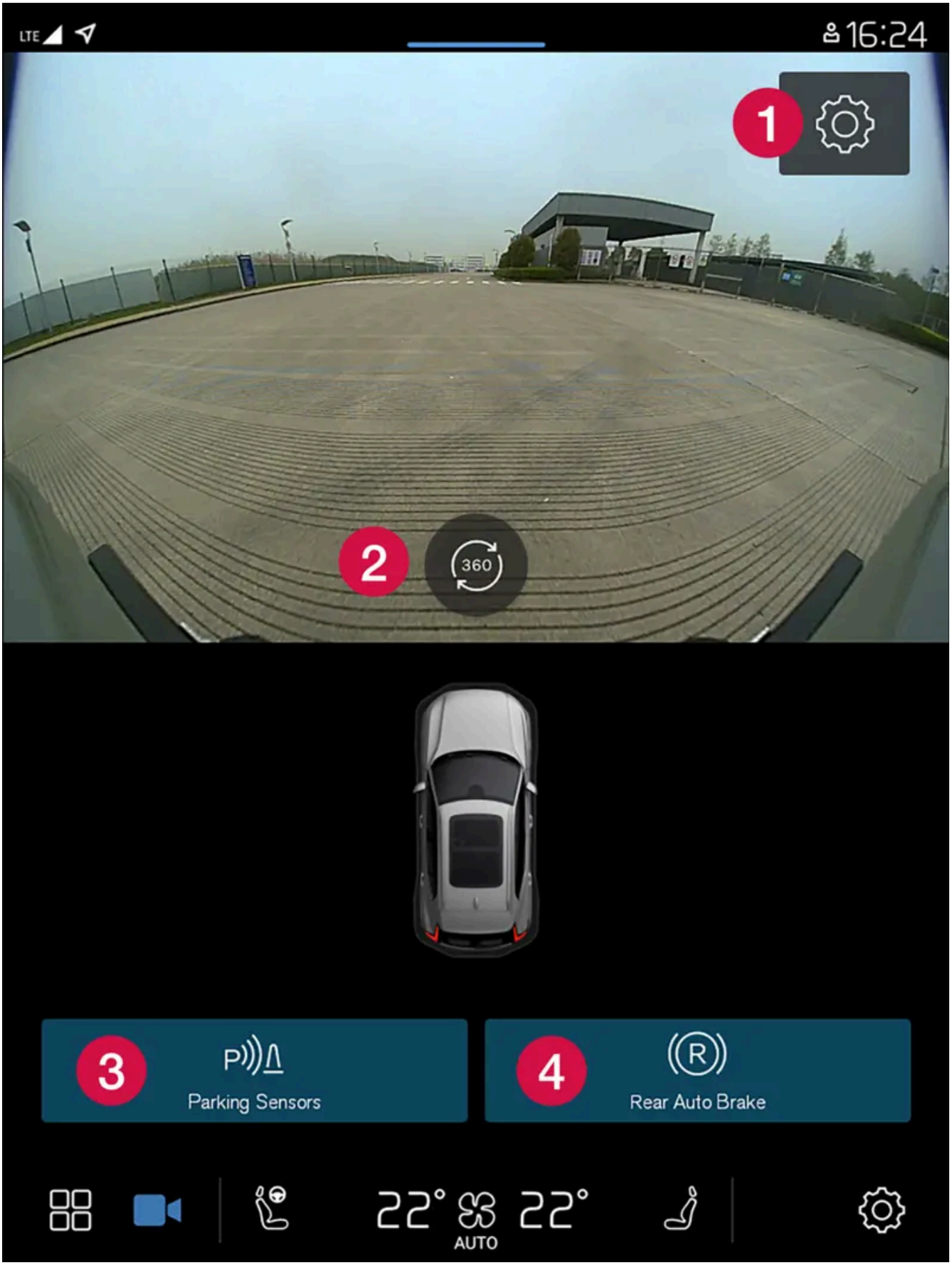
* Option/accessory.

[1] An authorized Volvo workshop is recommended.

10.12.2. Park Assist Camera

10.12.2.1. Park Assist Camera*

The Park Assist Camera can assist the driver when maneuvering in tight spaces by indicating obstacles using the camera screen and graphics in the center display.



Example camera view.

1. Settings
2. Activates all cameras to provide a 360° view
3. Activates/deactivates Park Assist system sensors
4. Activates and deactivates auto-braking when backing up*

The Park Assist Camera is a support function that is automatically activated when reverse gear is engaged. It can also be started manually in the center display.

Warning

- The Park Assist Cameras' ability to clearly reproduce the surroundings in all zones around the vehicle may be affected by the conditions during use.
- Pay particular attention to people and animals near the vehicle.
- Bear in mind that the front end of the vehicle may swing out towards oncoming traffic during the parking maneuver.
- Objects/obstacles may be closer to the vehicle than they appear on the screen.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

* Option/accessory.

10.12.2.2. Activating Park Assist Camera*

The Park Assist Camera is automatically activated when reverse gear is engaged or can be started manually using one of the center display's function buttons.

Camera view when backing up

When reverse gear is selected, rear view will be shown on the screen.

Camera view when manually activating the camera

Activate the Park Assist Camera using this button in the center display. The screen will first show the most recently used camera view. But every time the engine is started, the previously shown side view will be replaced by the 360° view.

- Illuminated button – the function is activated.
- Extinguished button – the function is deactivated.

Automatically deactivating the camera

Front view switches off when the vehicle's speed reaches 25 km/h (16 mph) to help avoid distracting the driver. It will be automatically reactivated if the vehicle's speed falls below 22 km/h (14 mph) within 1 minute as long as the vehicle's speed has not exceeded 50 km/h (31 mph).

Other camera views switch off at 15 km/h (9 mph) and are not reactivated.

* Option/accessory.

10.12.2.3. Park Assist* and Park Assist Camera* symbols and messages

Symbols and messages for the Park Assist system and the Park Assist Camera can be displayed in the instrument panel and/or the center display. Several examples are provided below.

Symbol	Message	Meaning
	If the symbol is extinguished.	The rear Park Assist sensors are **turned off** and no acoustic warnings or field markings for obstacles/objects will be provided.
	Cleaning needed Park Assist System sensors blocked	One or more of the sensors are blocked. Check and clean/remove the obstacle as soon as possible.
	Park Assist System unavailable Service required	The system is not functioning as intended. Contact a workshop[1].

A text message can be erased by briefly pressing the ○ button in the center of the right-side steering wheel keypad.

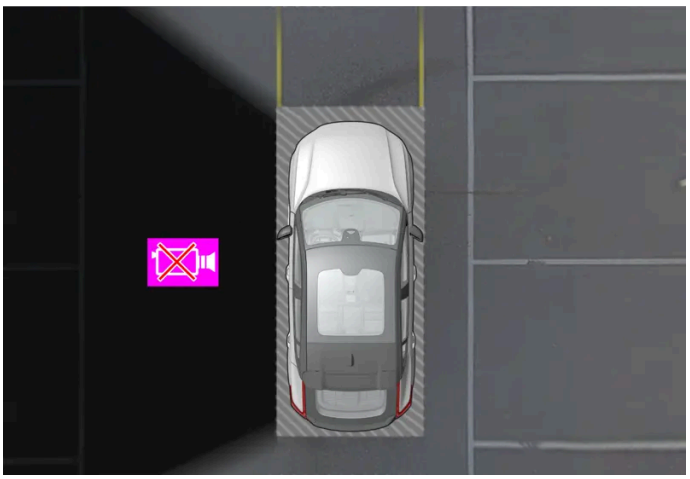
If the message persists, contact a workshop. An authorized Volvo workshop is recommended.

Warning

Be extra cautious when reversing if this symbol is shown when a trailer, bike carrier or similar is attached and electrically connected to the vehicle.

An unlit symbol indicates that the rear parking assist sensors are **deactivated** and will not warn of any obstacles.

Defective Park Assist Camera



Example indicating that the vehicle's left camera is malfunctioning.

If a camera sector is dark, this indicates that the camera is not functioning properly.

A dark camera sector may also be displayed in the following situations, but **without** the defective camera symbol:

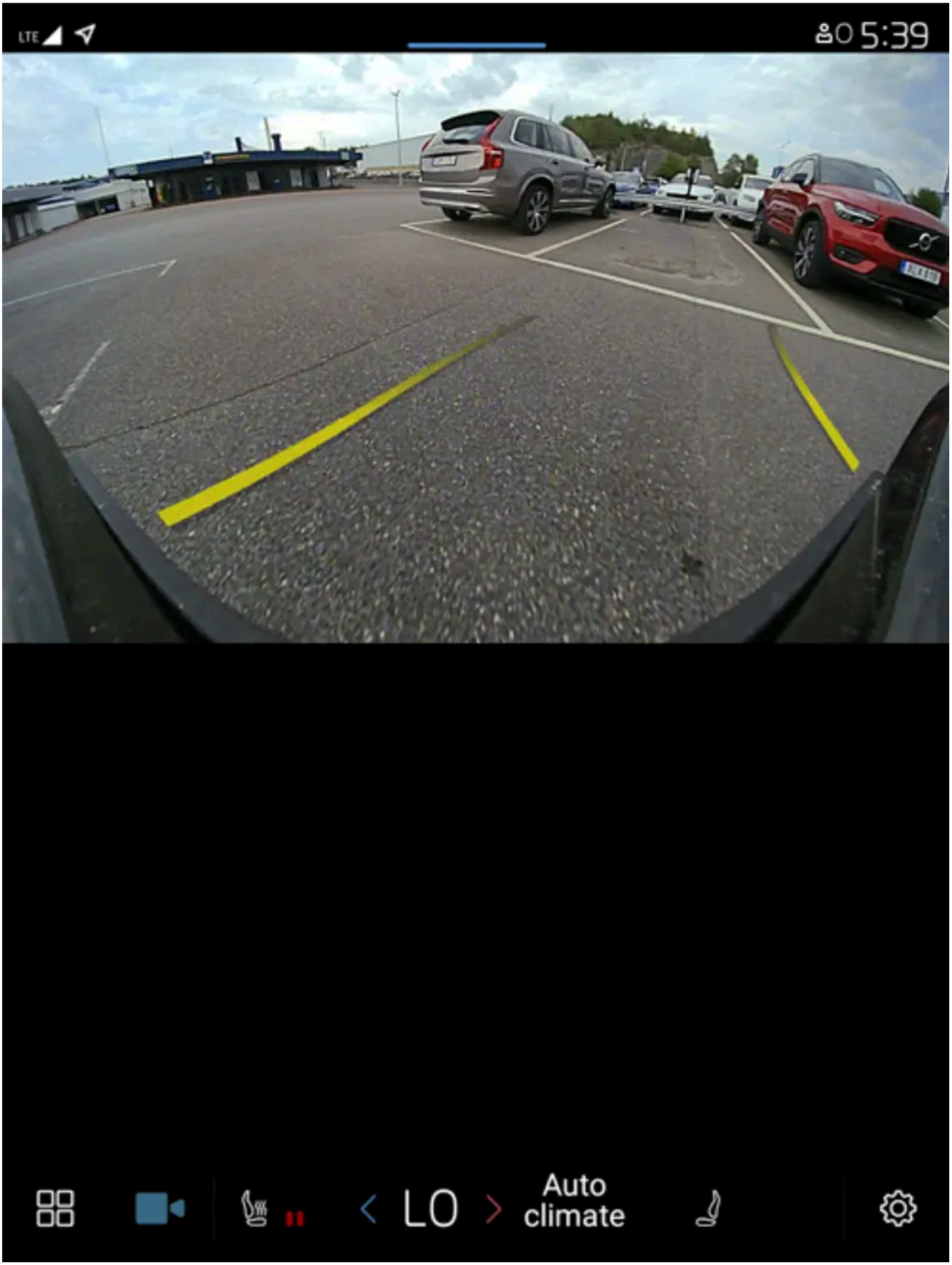
- a door is open
- the tailgate is open
- a rearview mirror is folded in

* Option/accessory.

[1] An authorized Volvo workshop is recommended.

10.12.2.4. Park Assist Camera trajectory lines*

The Park Assist Camera uses trajectory lines and fields on the screen to indicate the vehicle's position in relation to its immediate surroundings.



Example of trajectory lines

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 trajectory lines show the anticipated trajectory for the vehicle's outermost dimensions based on the current position of the steering wheel and can help simplify parallel parking, backing into tight spaces or attaching a trailer.

The lines on the screen are projected as if they were painted lines on the ground behind the vehicle and are directly affected by the way in which the steering wheel is turned. This makes it possible for the driver to see path the vehicle will take, even if he/she turns the steering wheel.

These lines also indicate the outermost limits that any object (towbar, rearview mirrors, corners of the body, etc.) extends out from the vehicle.

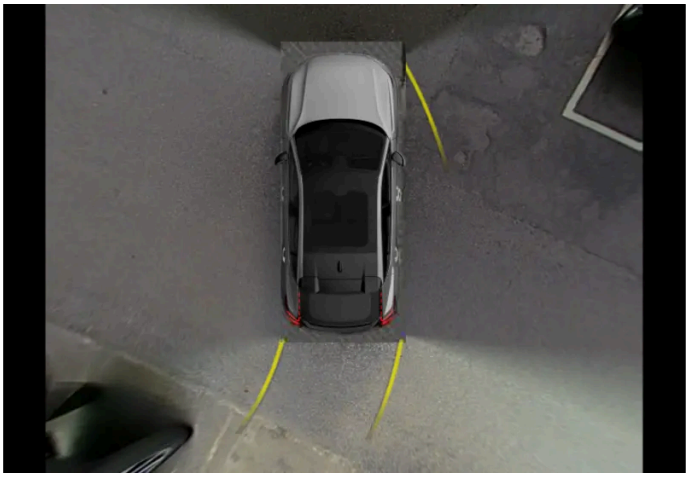
Note

- When backing up with a trailer that is not electrically connected to the vehicle, the trajectory lines on the screen show the path the **vehicle** will take – not the trailer.
- The screen does not show guide lines when a trailer is electrically connected to the vehicle's electrical system.

Important

- Bear in mind that when the rearward camera view is selected, the screen only shows the area behind the vehicle – pay attention to the sides and front of the vehicle when steering while reversing.
- The same applies to the reverse – pay attention to what is happening with the rear parts of the vehicle when the front camera view is selected.
- Note that the guide lines show the **shortest** path – pay extra attention to ensure that the vehicle sides do not come in contact with/travel over anything when steering while driving forward or that the vehicle front moves toward/over anything when steering while reversing.

Trajectory lines in 360° view*



360° view with trajectory lines

In the 360° view, trajectory lines are shown behind, in front of, or to the sides of the vehicle, depending on the direction of travel.

- When driving forward: Front lines
- When backing up: Side lines and rear lines

When the front or rear camera is selected, the trajectory lines will be shown regardless of the vehicle's direction of travel.

With a side camera selected, the trajectory lines will only be shown if the vehicle is backing up.

Trajectory lines for a towbar

A trajectory line for the towbar's intended direction of travel can be shown to assist when hitching a trailer. The function is activated under the Park Assist Camera settings.

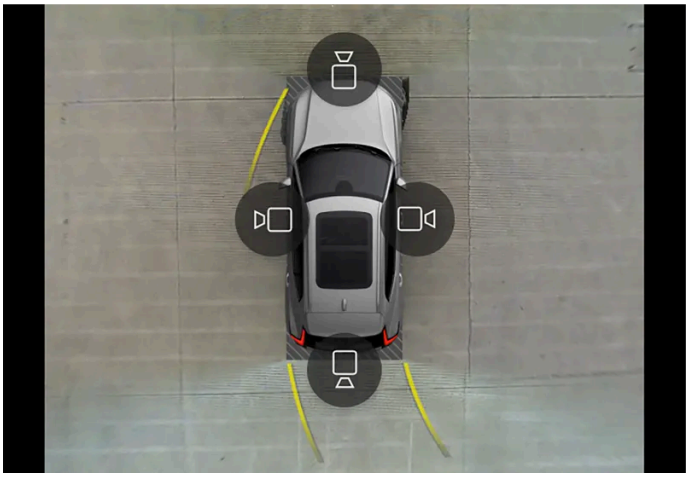
Trajectory lines cannot be displayed for the towbar and the entire vehicle at the same time.

* Option/accessory.

10.12.2.5. Location and field of vision of Park Assist Cameras*

The Park Assist Cameras can individually show rear, front, left or right camera views. You can also get a combined 360° view showing the views from all sides of the vehicle.

360° view*



Example of how all camera symbols are displayed in 360° view.

The 360° view function activates all Park Assist Cameras and all four sides of the vehicle are shown in the center display at once to help the driver see what is around the vehicle while maneuvering at low speeds. From the 360° view, each camera view can be activated separately. Tap the screen to display the camera symbols and select a view. These camera symbols disappear after a moment if the screen is not touched.

The cameras can be activated automatically or manually.

Back

The rear camera is located above the license plate.

The rear camera shows a wide area behind the vehicle. On certain models, part of the bumper and the towbar (if installed) may be visible.

Objects in the center display may appear to be leaning slightly. This is normal.

Front camera

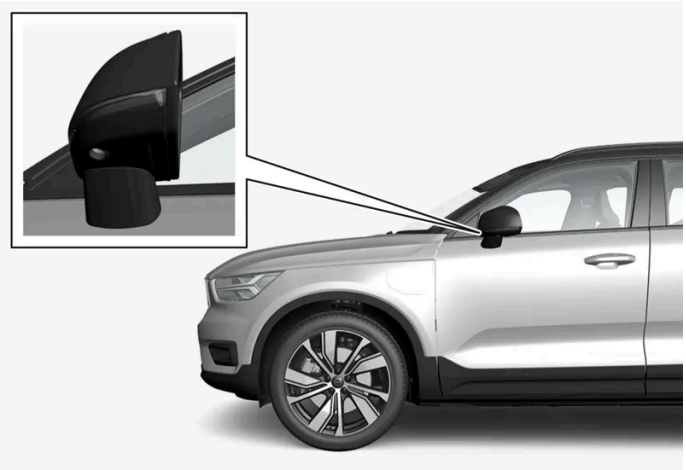
The front Park Assist Camera is located in the grille.

The front camera can be useful when pulling out from areas with limited visibility, such as when pulling out of a garage. The front camera is active at speeds up to 25 km/h (16 mph) and is automatically turned off when the vehicle exceeds this speed.

If the vehicle does not reach a speed of 50 km/h (30 mph) and speed falls below 22 km/h (14 mph) within 1 minute after the front camera turns off, the camera will be reactivated.

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.

Side cameras



The side cameras are located in the rearview mirrors.

The side cameras can show views along each side of the vehicle.

* Option/accessory.

10.12.2.6. Park Assist sensor field*

If the vehicle is equipped with Park Assist, distances will be shown in the Park Assist Camera's 360° view with colored fields for each sensor that has detected an obstacle.

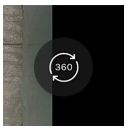
Front and rear sensors

The front and rear fields change colors (from yellow to orange to red) as the vehicle moves closer to an obstacle.	
Field color rearward	**Distance in meters (feet)**
Yellow	0.6-1.5 (2.0-4.9)
Orange	0.3–0.6 (1.0–2.0)
Red	0-0.3 (0-1.0)

Field color forward	**Distance in meters (feet)**
Yellow	0.6–0.8 (2.0–2.6)
Orange	0.3–0.6 (1.0–2.0)
Red	0-0.3 (0-1.0)

When the sensor field color is red, the audible pulsing sounds will change to a continuous tone.

Warning



The sensor fields on the 360° symbol only show in which direction an obstacle is located. It does not show the distance to the obstacle.

* Option/accessory.

10.13. Camera and radar sensor

10.13.1. Recommended maintenance for the camera, sensor and radar units

In order for the cameras, parking sensors and radar units to function properly, they must be kept free of dirt, ice, snow, etc. and should be washed regularly with water and car washing detergent.

- Do not attach any items, tape or decals in the areas described below.
- Clean the camera lenses regularly using lukewarm water and car washing detergent. Wash gently to avoid scratching the lens.
- Avoid mounting extra lights or similar in the grille, as this could affect the front radar unit's performance.
- To help ensure proper functioning of the front radar unit, use only the Volvo original emblem in the grille in front of the front radar unit.

Location of the radar units

Location of the front radar sensor

Location of rear radar sensors

Location of the Park Assist sensors

Location of the parking sensors around the vehicle

Note

Dirt, ice and snow covering the sensors could cause false warnings, reduced function, or no function.

Location of the camera

Location of the camera

> **Important**
>
> Only a workshop may perform maintenance on driver support components – an authorized Volvo workshop is recommended.

10.13.2. Camera and radar unit symbols and messages

Here are examples of some of the messages and symbols related to the camera and radar units that may be displayed in the instrument panel.

Sensor blocked

If this symbol and a message are displayed in the instrument panel, it means that the camera and radar units are unable to detect other vehicles, cyclists, pedestrians and large animals in front of the vehicle and that the vehicle's camera and radar-based functions may be obstructed.

The following table shows some of the situations that can cause the message to be displayed, and suggested actions:

Cause	Action
The area in front of the radar unit is dirty or covered by ice or snow.	Clean the area in front of the radar unit to remove dirt, ice and snow.
The area of the windshield in front of the camera is dirty or covered by ice or snow.	Clean the windshield in front of the camera and remove dirt, ice and snow.
Thick fog, heavy rain or snow is blocking the radar signals or the camera's range of visibility.	No action. Heavy precipitation may sometimes prevent the camera/radar sensor from functioning.
Water or snow is spraying/swirling up and blocking the radar signals or the camera's range of visibility.	No action. Very wet or snow-covered roads may sometimes prevent the camera/radar sensor from functioning.
Bright sunlight.	No action. The camera/radar sensor will reset automatically when lighting conditions improve.

10.13.3. Camera and radar unit limitations

The camera and radar used by several of the driver support functions have certain limitations, which also affect the functions using the camera and radar units. The driver should be aware of the following limitations:

Common camera and radar limitations

Cameras and radar are aids for intelligent driving that cannot be called upon to achieve intelligent driving, and necessary safety management must be implemented to avoid traffic safety risks or accidents caused by the driver's incorrect use of cameras and radar.

Obstructed camera

Do not place, affix or mount anything in front of or around the camera and radar units – this could disrupt camera- and radar-based functions. It could cause functions to be reduced, deactivated completely or to produce an incorrect function response.

Damaged windshield

When a camera is mounted in the windshield, the following also applies:

- If there are cracks, scratches or stone chips in front of the unit covering an area of about 0.5 × 3.0 mm (0.02 × 0.12 in.) or more, contact a workshop[1] to have the windshield replaced.
- Volvo advises **against** repairing cracks, scratches or stone chips in the area in front of the unit – the entire windshield should instead be replaced.
- Before replacing the windshield, contact a workshop[1] to verify that the right windshield has been ordered and installed.
- The same type of windshield wipers or wipers approved by Volvo should be used for replacement.
- If the windshield is replaced, the camera must be recalibrated by a workshop[1] to help ensure proper functioning of all of the vehicle's camera-based systems.

> **Note**
>
> Failure to take action could result in reduced performance for the driver support systems that use the camera and/or radar units. It could cause functions to be reduced, deactivated completely or to produce an incorrect function response.

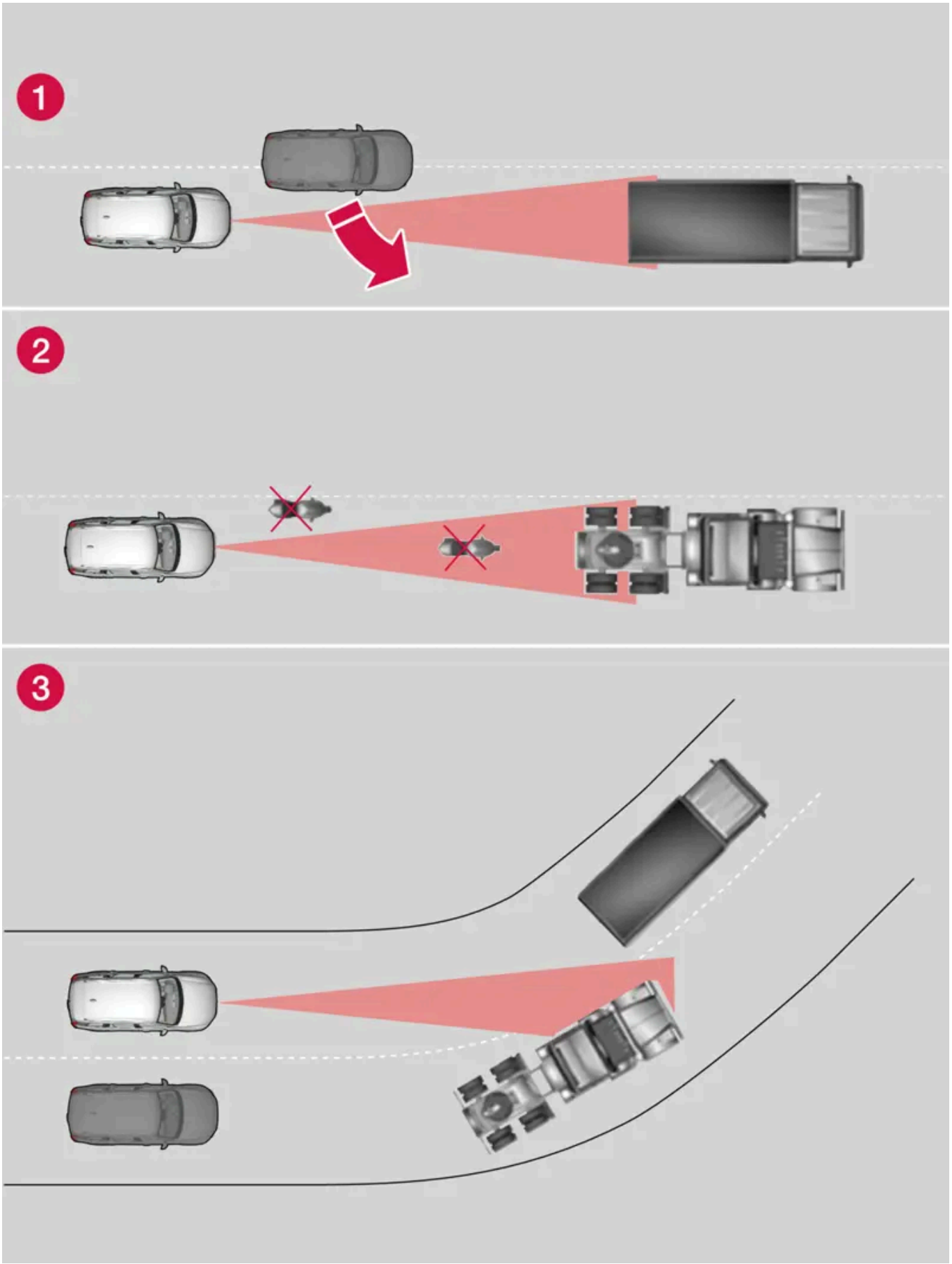
Additional radar limitations

Vehicle speed

The radar sensor's ability to detect a vehicle ahead is significantly reduced if the speed of the vehicle ahead differs greatly from your vehicle's speed.

Limited field of vision

The radar sensor has a limited field of vision. In some situations, it may detect a vehicle later than expected or not at all.



The radar sensor's field of vision

1. The radar sensor's detection of vehicles very close to your vehicle may be delayed in certain situations, e.g. if a vehicle pulls in between your vehicle and the vehicle directly ahead.
2. Small vehicles, such as motorcycles, or vehicles that are not driving in the center of the lane may remain undetected.
3. In curves, the radar may detect the a different vehicle than intended or lose sight of a target vehicle.

Reduced functionality

In heavy rain or if there is wet snow or ice on the emblem, the radar's functions may be reduced, completely disabled or provide inaccurate responses.

Additional camera limitations

Reduced visibility

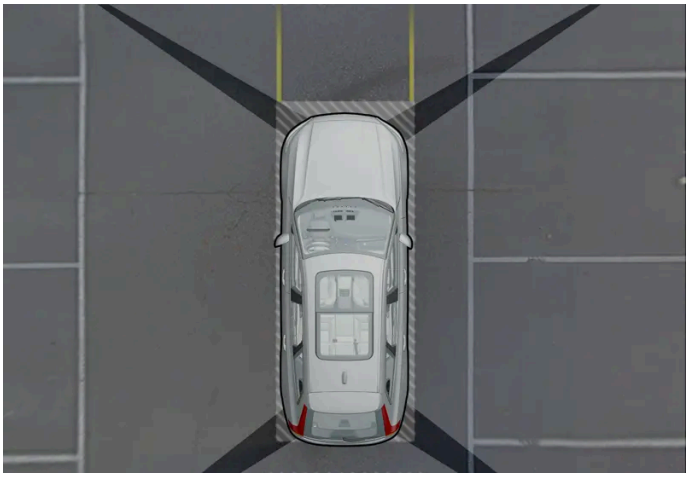
Cameras have the same limitations as the human eye. In other words, their “vision" is impaired by adverse weather conditions such as heavy snowfall/rain, dense fog, swirling dust/snow, etc. These conditions may reduce the function of systems that depend on the camera or cause these systems to temporarily stop functioning.

Strong sunlight, reflections from the road surface, ice or snow covering the road, a dirty road surface, or unclear lane marker lines may drastically reduce the camera’s ability to detect the side of a lane, a pedestrian, a cyclist, a large animal or another vehicle.

Bicycle holders or other accessories mounted behind the vehicle may obstruct the camera's view.

Additional Park Assist Camera* limitations

Blind sectors



There are "blind" sectors between the cameras' fields of vision.

With the Park Assist Camera's 360° view* selected, objects/obstacles may not be detected if they are located in the "joints" where the edges of the individual camera views meet.

> **Warning**
>
> Even if it seems as though only a fairly small section of the screen image is obstructed, this may mean that a relatively large sector is hidden and obstacles there may not be detected until they are very near the vehicle.

Lighting conditions

The camera image is automatically adjusted according to the current lighting conditions. This means that the brightness and quality of the image may vary slightly. Poor lighting conditions may result in reduced image quality.

[1] An authorized Volvo workshop is recommended.

* Option/accessory.

10.13.4. Camera

The camera is used by several driver support systems to e.g. detect lane marker lines or road signs.

Location of the camera

The camera is used by the following functions:

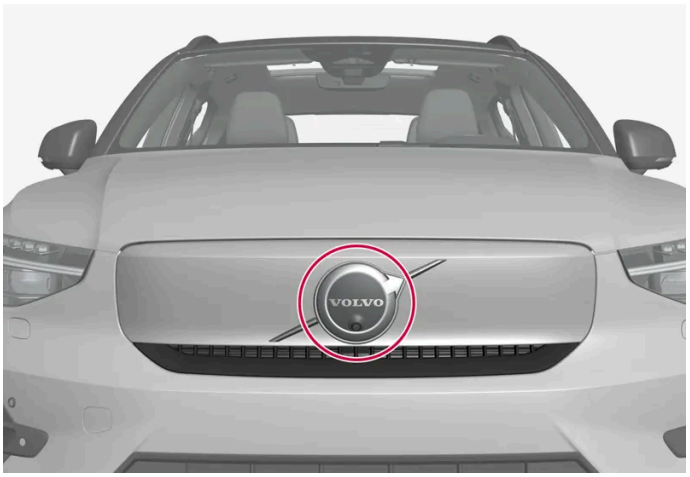
- Pilot Assist*
- Lane Keeping Aid*
- Assistance at risk of collision
- Driver Alert*
- Road Sign Information*
- Active high beams*
- Park Assist*
- Ready to Drive notification

> **Important**
>
> Do not attempt to access the camera with sharp or foreign objects through the ventilation openings as this could damage the equipment.

* Option/accessory.

10.13.5. Radar units

The radar units are used by several driver support systems and detect different areas around the vehicle.



Location of the front radar sensor

Location of rear radar sensors

Modifying the radar units can make them illegal to use.

Avoid mounting extra lights or similar in front of the grille, as this could affect the radar unit's function.

To help ensure proper functioning of the front radar unit, use only the Volvo original emblem in the grille in front of the front radar unit.

10.13.6. Radar sensor type approval

The type approval for the vehicle's radar units for Pilot Assist* and BLIS* [1].

Market	PA	BLIS	Type approval
Canada	✓		IC: 8436B-77V12FLR
		✓	IC:2694A-RS4
USA	✓		FCC ID: WU877V12FLR
		✓	FCC ID: NBG01RS4

Canada

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'emetteur/recepteur exempt de licence contenu dans le present appareil est conforme aux CNR d'Innovation, Sciences et Developpement economique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisee aux deux conditions suivantes :

1) L'appareil ne doit pas produire de brouillage;

2) L'appareil doit accepter tout brouillage radioelectrique subi, meme si le brouillage est susceptible d'en compromettre le fonctionnement.

USA

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION TO USERS

Changes or modifications not expressly approved by the party responsible for compliance could void the user`s authority to operate the equipment.

For detailed information about type approval, go to volvocars.com/intl/support [https://www.volvocars.com/intl/support] .

* Option/accessory.

[1] Blind Spot Information

10.14. Driver support systems

The vehicle is equipped with a number of driver support systems that can provide the driver with active or passive assistance in various situations.

The systems can, for example, help the driver:

- with steering assistance to reduce the risk of inadvertently veering from your own lane or colliding with another vehicle
- maintain a set speed
- maintain a set time interval to the vehicle ahead
- help prevent a collision by warning the driver and applying the brakes
- park.

Some of the systems are standard and others are options. This also varies from market to market.

Some of the systems have improved functionality when Google Maps is in use.

> **Warning**
>
> The driver support systems are only supplementary aids – they cannot manage all situations in all conditions.
>
> The driver is always responsible for ensuring that the vehicle is driven in a safe manner and in accordance with applicable traffic rules and regulations.

10.15. Driver support warnings

If you find that the vehicle is acting in a way that you did not expect, it may be that one of the vehicle's safety-related functions has been activated.

What is happening in your vehicle?

There are a number of functions in your vehicle that can actively help to improve safety in traffic, both for you and for other road users. To help prepare you in the event any of the functions is suddenly activated, an overview is provided here of some of the functions and how they might react. If a function is activated, you can also be notified of this via a text message in the instrument panel.

> **Note**
>
> Read the individual parts about each system to fully understand the functions and be notified of important warnings.

Warning with symbols, sounds, lights or vibration

The driver support functions in your vehicle can alert you in different ways. They can provide alerts through e.g. vibrations in the steering wheel, brake pulsations, visible or audible signals, or through symbols in the instrument panel.

Assistance at risk of collision

Assistance during collision risks[1] can help the driver avoid or mitigate a collision by providing warnings, automatic braking and steering assistance.

How the function is experienced can therefore differ depending on which subfunction is activated.

Assistance during collision risks can, if necessary, provide the following:

- Collision warning
- Assisted braking
- Auto-hold brakes
- Steering assistance

Lane Keeping Aid (LKA [2])

Lane Keeping Aid can help you reduce the risk of the vehicle inadvertently veering out of its own lane.

- Assist: If the function detects that the vehicle is approaching a lane marker line, you will feel light pressure applied to the steering wheel. Both hands must be on the steering wheel for this function to work.
- Warning: If the function detects that the vehicle is approaching a lane marker line, you will be alerted through vibrations in the steering wheel.
- Both: You are alerted with vibrations and light pressure on the steering wheel.

Rear Collision Warning (RCW) *

Rear Collision Warning is a system that can help you avoid being hit from behind by an approaching vehicle. If the system detects a collision risk from behind, it can alert you and provide the following types of assistance depending on the situation.

- Intense flashes of the direction indicators.
- At lower speeds, the function can tension the seat belts by activating the seat belt tensioners and the Whiplash Protection System.
- If the vehicle is stationary, the brakes can be applied.

Blind Spot Information (BLIS)

BLIS is designed to help provide assistance in heavy traffic with several lanes moving in the same direction by alerting the driver to rapidly approaching vehicles and to the presence of vehicles in the "blind spot" area behind and to the side of your vehicle.

- Warning with an indicator light in the door mirror, with steady and flashing lights.

Driver Alert

The function is designed to catch the driver's attention if he/she starts driving inconsistently, for example, if the driver is distracted or starts to fall asleep.

- Audible signal combined with a symbol in the instrument panel and a message.

Warning and auto-braking while backing up

There are two functions that can help the driver avoid a collision while backing up.

- Cross Traffic Alert (CTA)* is designed to alert the driver of crossing traffic when the vehicle is backing up.
- Rear Auto Brake (RAB) is designed to help the driver detect stationary obstacles directly behind the vehicle when backing up.

If an obstacle is detected:

1. A warning signal and graphic for Park Assist illuminate to indicate the location of the obstacle.
2. If the driver does not react to the warning and a collision is unavoidable, the vehicle will automatically brake, and a message will appear explaining why the brakes were applied.

Electronic Stability Control (ESC)

The Electronic Stability Control (ESC[3]) function helps the driver avoid skidding and improves the vehicle's directional stability. When the system engages, the symbol flashes in the instrument panel. If an error has occurred and the system is not available, the symbol lights with a steady glow together with a text message.

> **Warning**
>
> The functions described here are supplementary aids - they cannot manage all situations in all conditions.
>
> The driver is always responsible for ensuring that the vehicle is driven in a safe manner and in accordance with applicable traffic rules and regulations.

[1] Collision Avoidance

[2] Lane Keeping Aid

* Option/accessory.

[3] Electronic Stability Control

10.16. Speed-dependent steering wheel resistance

Speed-dependent power steering increases the steering wheel resistance in pace with the vehicle's speed, which can help give the driver an enhanced feeling of control and stability. Steering is stiffer on highways. When parking and at low speeds, it will be easier to move the steering wheel.

Reduced power

In rare situations, the power steering may need to work at reduced power and the steering wheel may then feel more difficult to move. This may happen when the power steering becomes too hot and needs to be temporarily cooled. It can also happen if there is a disturbance in power supply.

If there is reduced power, the message **Power steering assistance Temporarily reduced** and this symbol are shown in the instrument panel.

While the power steering is working at reduced power, the driver support functions and systems with steering assistance are not available.

> **Warning**
>
> If the temperature rises too high, the power steering may be forced to switch off completely. In such a situation, the driver display shows the message **Stop safely Power steering failure** along with a symbol.

Changing the level of steering wheel resistance

1. Tap ⚙ in the center display.
2. Then press **Driving**.
3. Activate or deactivate **Steering feel firm**.

Steering wheel resistance settings can only be accessed if the vehicle is stationary or is moving straight ahead at a low speed.

10.17. Ready to Drive notification

The vehicle's system can help alert the driver when the vehicle ahead starts driving again.

To help prevent the vehicle from remaining stationary too long and causing traffic disturbances, the **Ready to drive notification** function can provide an audible signal and display a symbol and message in the instrument panel. If the system detects pedestrians or cyclists near the vehicle, it might not provide a notification.

> **Warning**
>
> However, the system cannot detect pedestrians and cyclists in all situations. The driver is always responsible for ensuring that the vehicle is operated in a safe manner.

To activate or deactivate the function:

1. Tap ⚙ in the center display.
2. Tap **Driving** and change the setting.

> **Warning**
>
> - The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
> - The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
> - Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

> **Note**
>
> This function uses the vehicle's radar and/or camera units, which have some general limitations.

10.18. Braking assist after a collision

In a collision in which the activation level is reached for the pyrotechnic seat belt tensioners or airbags, or if a collision with a large animal is detected, the vehicle's brakes will be automatically activated. This function is intended to help prevent or reduce the effects of any subsequent collision.

After a serious collision, it may no longer be possible to control and steer the vehicle. In order to avoid or mitigate a possible further collision with a vehicle or an object in the vehicle's path, the brake assist system is activated automatically to help stop the vehicle safely.

The brake lights and hazard warning flashers are activated during braking. When the vehicle has stopped, the hazard warning flashers will continue to flash and the parking brake will be applied.

If braking is not appropriate, e.g. if there is a risk of being hit by passing traffic, the driver can override the system by depressing the accelerator pedal.

This function assumes that the brake system is intact after a collision.

---

11. Electric motor and charging

11.1. Charging the high-voltage battery

11.1.1. Charging status in the instrument panel

Charging status is indicated in the instrument panel using both graphics and messages. This information is displayed as long as the instrument panel is active.

Color	Status	Meaning
Pulsating green	The instrument panel frame will appear with a green, pulsating light.	Charging is in progress and the approximate time at which the vehicle will be fully charged is displayed.
Green	The instrument panel frame will appear with a steady green light.	The vehicle is fully charged.
Red	The instrument panel frame will appear with a steady red light.	Malfunction. Check the charging cable's connection to the vehicle's charging socket and the power source. Then restart charging by following these steps: 1. Unplug the charging cable from the charging socket. 2. Wait a few seconds. 3. Plug the charging cable back into the charging socket. 4. If the problem persists, contact your Volvo retailer.
Blue	The instrument panel frame will appear with a steady blue light.	Scheduled charging activated.
Yellow	The instrument panel frame will appear with a steady yellow light.	Charging is waiting to start or has been paused.

In addition to charging status and other information, the instrument panel also shows:

- current amperage and set amperage as well as number of phases [1]
- charging output
- battery percentage
- time until the vehicle is fully charged.

> **Note**
>
> If the instrument panel is not used, it will go dark after a period of time. Reactivate the display by opening one of the doors.
>
> Read more in the instrument panel section.

[1] Current amperage and set amperage applies per phase from the alternating current source.

11.1.2. Charging status in the vehicle's charging socket

The LED indicator light in the vehicle's charging socket shows the current charging status. The different colors of the LED indicator light are explained in the table below.

LED indicator light's color	Meaning
White	Welcome lighting
Flashing yellow	The charging process is being stopped.
Yellow	Wait mode [1] – waiting for charging to start.
Flashing green	Charging is in progress [2].
Green	Charging completed [3]
Red	Malfunction. Check the charging cable's connection to the vehicle's charging socket and the power source. Then restart charging by following these steps: 1. Unplug the charging cable from the charging socket. 2. Wait a few seconds. 3. Plug the charging cable back into the charging socket. 4. If the problem persists, contact your Volvo retailer.
Flashing red	The vehicle is locked and does not detect any key when the charging cable is unlocked via the button next to the charging socket.
Blue	Scheduled charging activated.

Note

The charging socket's LED light indicates the status for charging the high voltage battery and not whether the vehicle draws power, for example when the climate system is used. Even if the LED indicates that charging is complete, or that scheduled charging is activated, the vehicle can still draw current from the outlet. To avoid affecting the vehicle's range, current is first drawn from the outlet and not from the battery to supply any extra vehicle loads (parking heater, etc.).

[1] E.g. after a door has been opened or if the charging cable handle is not locked in place.

[2] The more slowly the light flashes, the closer the battery is to being fully charged.

[3] The light will go out after a short time.

11.1.3. General information about charging cables

A mode 3 charging cable is used when charging at a charging station. Some charging stations have a permanent charging cable that is used instead.

Note

The information in this section applies only to charging using a mode 3 charging cable or charging station with a permanent charging cable.

Warning

Only use the charging cable provided with your vehicle or a replacement cable purchased from a Volvo retailer.

Charging with permanent charging cable in accordance with mode 3 [1]

In certain places, the charging cable is permanently installed within a charging station connected to an electrical outlet. You must therefore use the charging station's charging cable and follow the instructions on the charging station.

Specifications, charging cable	
Enclosure class Compliance	IP67 SAE J1772
Ambient temperature	-32 °C to 50 °C(-25 °F till 122 °F)

Warning

- Children should be supervised when in the vicinity of the charging cable when it is plugged in.
- High voltage is present in your electric meter housing and power distribution service panel. Contact with high voltage can cause death or serious personal injury.
- Do not use the charging cable if it is damaged in any way. A damaged or malfunctioning charging cable may only be repaired by a workshop – an authorized Volvo workshop is recommended.
- Always position the charging cable so that it will not be driven over, stepped on, tripped over or otherwise damaged, or cause personal injury.
- Never connect adapters of any kind between the charging cable and the vehicle.

Also, refer to the manufacturer's instructions for using the charging cable and its components.

Important

Always interrupt charging first and then disconnect the charging cable – first from the vehicle's charging socket and then from the charging station.

Important

Wipe the charging cable with a clean cloth lightly moistened with water or a mild detergent. Do not use chemicals or solvents.

> **Warning**
>
> The charging cable and its components must not be rinsed or immersed in water.

[1] **European standard - EN 61851-1.**

11.1.4. Residual current device in charging cable

The charging cable[1] has a circuit breaker that helps protect against current overloads and thermal overheating.

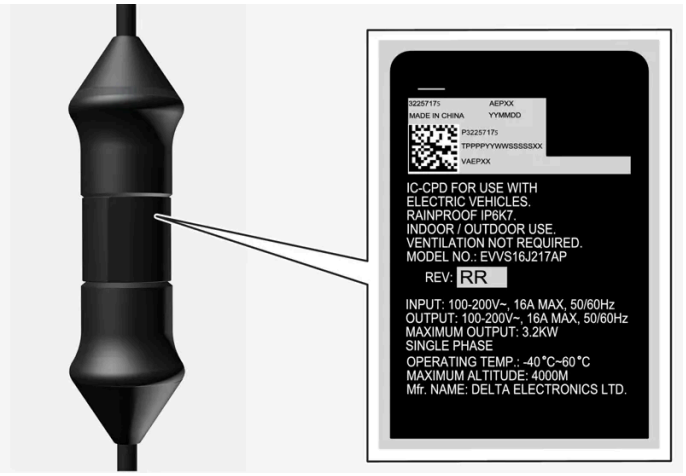
> **Warning**
>
> Only charge the vehicle using approved, grounded wall outlets. If the electrical circuit or electrical socket's capacity is not known, let a licensed electrician inspect the electrical circuit's capacity. Using a charge level that exceeds the electrical circuit's or electrical outlet's capacity may start a fire or damage the electrical circuit.

> **Warning**
>
> - The charging cable's residual current breaker helps protect the vehicle's charging system but cannot ensure that an current overload will never occur.

Control module's LED[2] indicator.

1 LED indicator

If the control module's built-in residual current device is triggered, the LED indicator will light up red. Check the wall outlet. Have the outlet checked by a licensed electrician or try using another wall outlet.



Important

- Check the capacity of the socket.
- Other electronic equipment connected on the same fuse circuit must be disconnected if the total load is exceeded.
- Do not plug in the charging cable if the outlet is damaged, worn or defective.

[1] For charging with a mode 2 charging cable.

[2] LED (Light Emitting Diode)

11.1.5. Charging status in the charging cable's control module

The LED indicator light on the charging cable's control module shows the status of charging in progress and completed charging[1].

Control module's LED[2] indicator.

1 LED indicator

> **Important**
>
> Read the accompanying instructions to ensure that the charging cable is handled in accordance with recommendations and instructions.

LED	Status	Meaning	Recommended action
Off	Charging is not possible.	No power supply to the charging cable.	1. Unplug the charging cable from the wall outlet. 2. Plug the charging cable back into the wall outlet or use another wall outlet. 3. If the problem persists, contact your Volvo retailer.
White light	Charging possible.	The charging cable is ready to be plugged into the vehicle.	If the LED indicator is white but charging is not possible: 1. Unplug the charging cable from the charging socket. 2. Plug the charging cable back into the charging socket. 3. If the indicator does not begin flashing white within about 10 seconds, first unplug the charging cable from the charging socket and then unplug it from the wall outlet. 4. Plug the charging cable back into the wall outlet and then plug the charging socket into the vehicle. 5. If the problem persists, contact your Volvo retailer.
Flashing white	Charging is in progress.	The vehicle's electronic system has initiated charging Charging is in progress.	Wait until the vehicle is fully charged.
Steady red light	Charging is not possible.	Temporary error.	1. Unplug the charging cable from the charging socket. 2. Wait a few seconds. 3. Plug the charging cable back into the charging socket. 4. If the problem persists, contact your Volvo retailer.
Flashing red light	Charging is not possible.	Serious error.	1. Unplug the charging cable from the charging socket and then from the wall outlet. 2. Wait a few seconds. 3. Plug the charging cable back into the wall outlet and then plug the charging socket into the vehicle. 4. If the problem persists, contact your Volvo retailer.

[1] For charging with a mode 2 charging cable.

[2] LED (Light Emitting Diode)

11.1.6. Charging cable temperature monitoring

To help ensure the vehicle's battery is reliably charged each time[1] it is connected, the charging cable's control module and plug have integrated temperature monitoring devices.

The temperature in both the control module and the plug is monitored.

Temperature monitoring in the control module

To help protect the vehicle's electronics, charging is stopped if the temperature in the control module becomes too high. This may occur due to e.g. high ambient temperatures or strong sunlight directly on the control module.

Monitoring in the plug

The charging current is reduced if the temperature in the plug becomes too high. If the temperature exceeds a critical limit, charging is stopped completely.

> **Warning**
>
> Monitoring of the charging cable's temperature helps protect the vehicle's charging system but cannot ensure that overheating will never occur.

> **Important**
>
> Avoid exposing the control unit and its plug to direct sunlight. This could cause the overheating protection in the plug to reduce or cancel charging of the vehicle.

> **Important**
>
> If charging is often inadvertently interrupted, the charging cable and the vehicle's charging system should be checked by a trained and qualified Volvo service technician. The wall outlet should also be checked by a licensed electrician.

[1] For charging with a mode 2 charging cable.

11.1.7. Electric vehicle charging via wall outlet

If no other charging options are available, the vehicle can be charged via a wall outlet.

> **Note**
>
> The information in this section applies to charging via a wall outlet and a mode 2 charging cable.

Charging cable (mode 2)

When charging via a wall outlet, use a charging cable with a control module that can limit the amperage (mode 2).

> **Warning**
>
> Only use the charging cable provided with your vehicle or a replacement cable purchased from a Volvo retailer.

Warning

The charging cable and its components must not be rinsed or immersed in water.

Warning

- The charging cable must be grounded when in use. It is equipped with a cord with a grounding conductor and a grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances and is not damaged in any way.
- Children should be supervised when in the vicinity of the charging cable when it is plugged in.
- High voltage is present in your electric meter housing and power distribution service panel. Contact with high voltage can cause death or serious personal injury.
- Do not use the charging cable if it is damaged in any way. A damaged or malfunctioning charging cable may only be repaired by a workshop – an authorized Volvo workshop is recommended.
- Always position the charging cable so that it will not be driven over, stepped on, tripped over or otherwise damaged, or cause personal injury.
- Disconnect the charger from the wall outlet before cleaning it.
- Never connect the charging cable to an extension cord or a multiple plug socket.
- Do not use one or more adapters between the charging cable and the electric outlet.
- Never connect adapters of any kind between the charging cable and the vehicle.
- Do not use an external timer between the charging cable and the electrical outlet.

Also, refer to the manufacturer's instructions for using the charging cable and its components.

Important

Avoid exposing the control unit and its plug to direct sunlight. In such cases, the overheating protection in the plug could reduce or cut off charging of the high-voltage battery.

Important

Do not use a charging cable that is more than 30 meters (approx. 1180 inches) long.

Starting charging

Always park the vehicle before starting to charge it.

1 Plug the charging cable into a 120/240 V outlet.

2 Open the charger door.

Remove the charging handle cover and plug the handle all the way into the vehicle's charging socket.

3
4 The charging cable's charging handle is locked into place and charging begins within 5 seconds.

Note

Read more about how charging is started in the "Electric vehicle charging" section.

Important

If the power capacity of the wall outlet's fuse is too low, the fuse could blow while the vehicle is charging. Set the lowest amperage for charging in the vehicle's center display before reconnecting the vehicle for charging. If the problem persists, contact a qualified electrician for further investigation.

Warning

- The electric vehicle must only be charged at maximum permitted charging current or lower in accordance with applicable local and national recommendations for charging from wall outlets/plugs.
- Only charge the electric vehicle from approved, grounded wall outlets.
- Avoid visibly worn, defective or damaged electrical outlets since they may lead to fire damage and/or personal injury if used.

Important

Never connect the charging cable if there is a risk of a thunderstorm or there is lightning.

Stopping charging

To stop charging, press the button next to the charging socket or tap the button in the center display. Then unplug the charging cable from the vehicle's charging socket and then from the 120/240 V wall outlet.

Note

Read more about how charging is stopped in the "Stopping electric vehicle charging" section.

Important

Charging must be stopped before the charging cable is removed from the vehicle's charging socket. Failing to stop charging before unplugging the charging cable could damage the charging cable or the system.

Important

- Never unplug the charging cable from the wall outlet while charging is in progress – the wall outlet could be damaged in such circumstances.
- Note that the charging cable must be disconnected from the vehicle's charging socket before it is disconnected from the wall outlet, partly to prevent damage to the system and party to prevent unintentional interruption of charging.

Fuse

Charging an electric vehicle via a wall outlet corresponds to a high load on the fuse.

Important

Make sure that the fuse to the wall outlet can handle the current specified for the charging cable.

There are normally several 120/240 V power consumers in one fuse circuit, which means that more than one power consumer (e.g. lighting, vacuum cleaner, electric drill, etc.) may use the same fuse.

Important

Make sure that the 120/240 V outlet has sufficient amperage for charging electric vehicles. If you are uncertain of the capacity, have the outlet checked by a licensed electrician. If you are unsure of the power capacity of the outlet, set the lowest amperage shown in the center display.

Example 1

If the vehicle is connected to a wall outlet (10 A) and the charging current is set to 16 A, the vehicle will attempt to draw 16 A from the power grid. After a short time, the overloaded 10 A fuse for the outlet will be tripped and battery charging will be stopped.

Reset the fuse for the outlet and select a lower charging current in the center display.

Example 2

If the vehicle is connected to a wall outlet (10 A) and the charging current is set to 10 A, the vehicle will draw 10 A from the power grid. If another power consumer is connected to the same outlet (or another outlet in the same fuse circuit), the 10 A fuse for the outlet/fuse circuit could be overloaded and tripped, which would stop battery charging.

Reset the fuse for the outlet/fuse circuit and select a lower charging current in the center display, or disconnect the other power consumer from the outlet/fuse circuit.

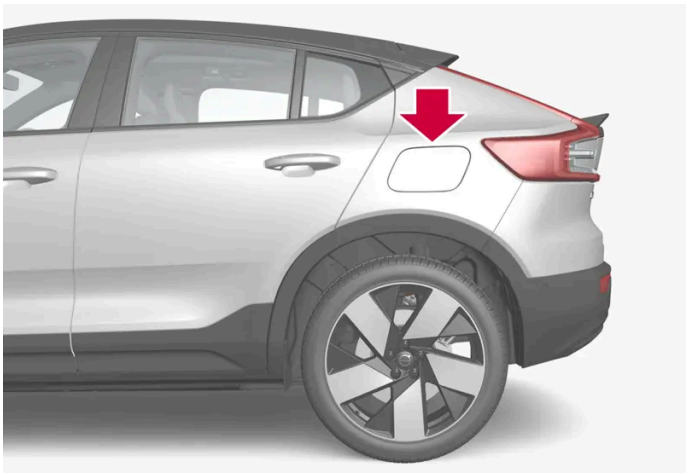
Example 3

If the vehicle is connected to a wall outlet (10 A) and the charging current is set to 6 A, the vehicle will only draw 6 A from the power grid. It will take longer to charge the battery, but additional power consumers can be connected simultaneously to the same outlet/fuse circuit as long as the combined load does not exceed the capacity of the outlet/fuse circuit.

11.1.8. Electric vehicle charging

You can charge the vehicle at a home charging station or a public charging station.

Location of charging socket



Charging via charging station (mode 3) [1]

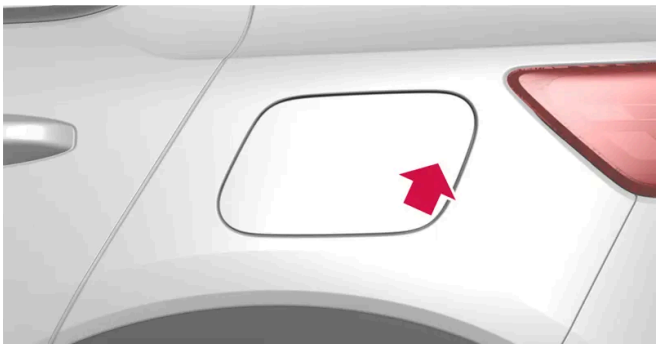
1 Pull out the cable from the charging station's storage socket or take out the charging cable.

2 Plug the charging cable into the charging station. If the charging station has a permanent charging cable, proceed to step 3.

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.

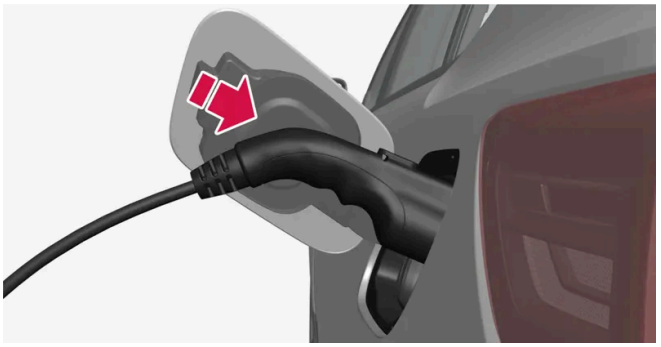
> **Important**
>
> Do not plug in the charging cable if there is a risk of thunder or lightning.

3



Press the rear edge of the charger door to open the charging socket[2].

4



Remove the charging handle's protective cover and push the charging handle all the way into the charging socket.

> **Important**
>
> To prevent paintwork damage, e.g. in strong winds, position the protective cover of the charging handle so that it does not touch the vehicle.

5 The charging cable handle will lock into place and charging will begin within 5 seconds.

> When charging starts, the green LED light in the charging socket will begin to flash.

The approximate remaining charging time or the charging status will be displayed in the instrument panel and center display.

During charging, condensation from the air conditioning may form under the vehicle. This is due to cooling of the high-voltage battery.

Warning

- Children should be supervised when in the vicinity of the charging cable when it is plugged in.
- High voltage is present in your electric meter housing and power distribution service panel. Contact with high voltage can cause death or serious personal injury.
- Do not use the charging cable if it is damaged in any way. A damaged or malfunctioning charging cable may only be repaired by a workshop – an authorized Volvo workshop is recommended.
- Always position the charging cable so that it will not be driven over, stepped on, tripped over or otherwise damaged, or cause personal injury.
- Do not use one or more adapters between the charging cable and the electric outlet.
- Never connect adapters of any kind between the charging cable and the vehicle.

Also, refer to the manufacturer's instructions for using the charging cable and its components.

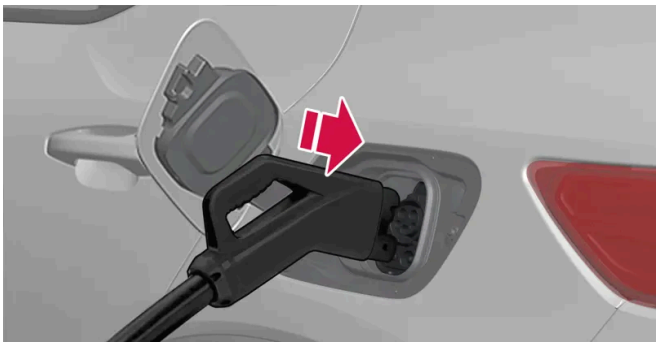
Important

Do not wash the vehicle while the charging cable is plugged in or the charging door is open.

Rapid charging (direct current)

1 Remove the charging cable from the charging station's storage socket. Note that the ignition must be switched off completely before charging.

2 Open the charger door and remove the charging socket's protective cover.

3 

Grasp the charging cable with both hands and push the charging cable all the way into the vehicle's charging socket. Hold the charging handle up for a few seconds. The charging cable automatically locks into the charging socket after a few seconds. Make sure that the charging cable locks fully into place so that charging can start.

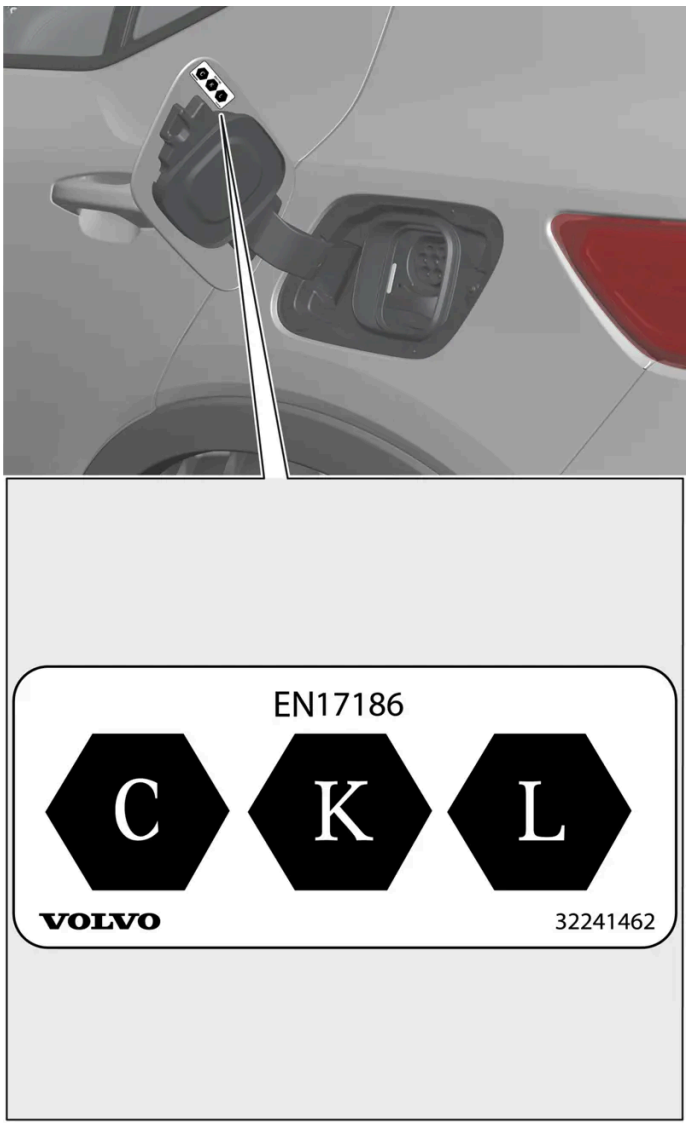
4 Follow the instructions in the charging station's user interface to authorize the charging. Charging will begin after the charging station completes an insulation test. This may take a minute or so.

> When charging starts, the green LED light in the charging socket will begin to flash. The approximate remaining charging time or the charging status will be displayed in the instrument panel and center display.

Note

Charging stations supporting CCS are usually clearly marked CCS or Combo.

Decal on inside of charger cover



CEN standard EN 17186 identifiers are shown on the inside of the charger cover.

- C: Type 2 charging with alternating current (AC)
- K and L: Charging with direct current (DC), including Combined Charging System (CCS)

[1] Applies to charging using a mode 3 charging cable or charging station with a permanent charging cable.

[2] The illustration is generic - details may vary according to model.

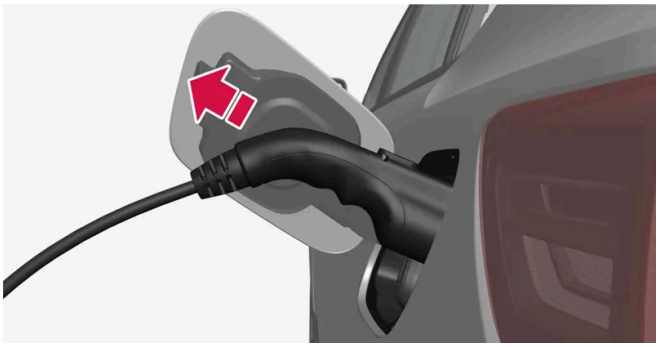
11.1.9. Stopping electric vehicle charging

Stop charging at any time by pressing the button next to the charging socket or tapping the button in the center display.

Stopping charging (alternating current/AC) [1]

1 Press the button next to the charging socket or tap the button in the center display.

> **Important**
>
> Charging must be stopped before the charging cable is removed from the vehicle's charging socket. Failing to stop charging before unplugging the charging cable could damage the charging cable or the system.

2 

Press the lock button on the charging cable's handle. The handle will be released/unlocked. Unplug the cable from the vehicle's charging socket and close the charger door.

3 Remove the charging cable from the charging station, or plug the permanent charging cable into the charging station's storage socket.

Charging cable automatically locks

If the charging cable is not removed from the charging socket, it will automatically lock back into place a short time after unlocking to maximize charging. The charging cable can be released again by pressing the button next to the charging socket or the button in the center display.

Stopping rapid charging (direct current/DC)

> **Important**
>
> Never try to unplug the charging cable from the vehicle while it is charging. Always stop charging first and then unplug the charging cable after the charging socket lock automatically unlocks.

1. To stop rapid charging, press the button next to the vehicle's charging socket, tap the button in the center display, or use the charging station's user interface.

> Charging will stop and the charging socket will automatically unlock. This may take a few seconds.

2. Unplug the charging cable from the vehicle's charging socket and close the cover.
3. Plug the charging cable into the charging station's storage socket or hang it back in the designated location.

Unlocking the vehicle during rapid charging

Rapid charging will not normally be interrupted if the vehicle is unlocked. If rapid charging is stopped, it will not resume automatically because the charging station requires reauthorization of charging via the user interface. If rapid charging is stopped, the charging cable will not automatically lock into place again. To restart interrupted rapid charging, remove the charging cable from the vehicle's charging socket, then plug it in again and follow the instructions in the charging station's user interface.

In the event of problems removing the charging handle

If the charging handle is left in the charging socket for a while after charging has stopped, the charging cable will automatically lock into place again. To release it, first try again to stop the charging. If the charging handle still does not release automatically, the following measures can be taken:

- Make sure that the key is within range and that the vehicle is unlocked.
- Safely cut the power supply to the charging station. When charging at a charging station, contact the charging station's customer care for assistance with stopping charging.
- Move the charging handle gently from side to side.
- Lock and unlock the vehicle.
- Lock the vehicle and wait until the LED light by the vehicle's charging socket goes out. This can take up to 7 minutes. Then unlock the vehicle.

If the problem persists, contact your Volvo retailer.

> **Important**
>
> Never try to unplug the charging cable from the vehicle while it is charging. Always stop charging first by unlocking the vehicle using the key or by tapping the button in the center display. Then unplug the charging cable after the charging socket lock automatically unlocks.

[1] Applies to charging using a mode 3 charging cable or charging station with a permanent charging cable.

11.1.10. Charging time

The following charging times are approximate and apply when charging is not affected by current being drawn from the climate system or any other function. Charging time can also vary depending on battery size. If charging seems to be taking much more time than shown in the table, this should be investigated.

> **Important**
>
> Volvo strongly advises against charging the vehicle with alternating current of 100–120 V in combination with an amperage under 10 A.

Charging time (alternating current/AC)

Single-phase charging from a 200–240 V outlet [1]			
Current (A) [2]	Charging output (kW) [3]	Charging time (hours) [4]	
		Single motor [5]	Twin motor [6]
6 [7]	1,3	64	72

Current (A)[2]	Charging output (kW)[3]	Charging time (hours)[4]	
		Single motor[5]	Twin motor[6]
10	2.2	36	40
16	3.6	22	24
32	7.2	11	12
48	11	8	8

Charging time for rapid charging (direct current/DC)

Charging output (kW)[8]	Charing time[9] (minutes)
50	60
150	37

> **Note**
>
> To improve charging performance during rapid charging, the battery is preconditioned when a rapid charging station is set as the destination in Google Maps.

> **Note**
>
> - In cold or hot weather, it may take longer to charge the high-voltage battery. Some of the charging current is then used to heat up/cool down the high-voltage battery.
> - Selecting preconditioning can affect the charging time.
> - Rapid charging with up to 150 kW output is possible under favorable conditions for the high-voltage battery and charging station. Charging output is limited toward the end of rapid charging.

[1] **At lower voltages, charging takes longer than indicated in the table.**

[2] Maximum charging current may vary from market to market.

[3] The highest charging output that the vehicle can achieve is 11 kW.

[4] From 0-100%

[5] Standard range.

[6] Extended range.

[7] Only possible in some markets.

[8] Maximum output that the charging station can supply.

[9] Applies at 10-80% charge level when the battery's temperature is around 35 °C (95 °F).

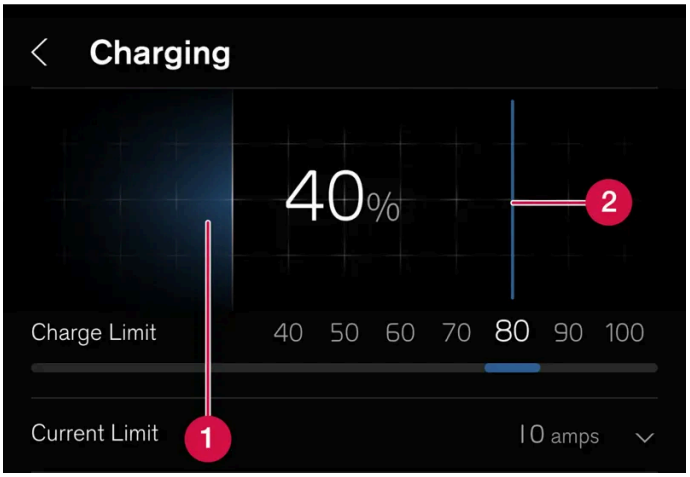
11.2. Charging in the vehicle's center display

The center display can be used to set charging level, unlock the charging cable, set current intensity (amperage), and schedule charging.

To access the charging view in the vehicle's center display, tap and then **Charging**. The charging view in the center display is also activated when charging begins.

> **Important**
>
> Volvo strongly advises against charging the vehicle with alternating current of 100–120 V in combination with an amperage under 10 A.

Setting a charging limit



1. The battery's current charge level.
2. Charging limit – Swipe to set a charge level at which charging should stop. The set limit remains the same until it is changed again in the center display.

> **Important**
>
> Follow the recommendations for high-voltage battery handling to optimize its lifetime and performance.

Schedule charging

When charging using alternating current, it is possible to schedule and set start and stop times for charging.

Select **Charging** → **Set timer** in the center display and then activate the scheduled charging in **Schedule charging**. Drag the ϟ and || controls to set start and stop times for charging.

Deactivate scheduled charging using the control next to **Schedule charging**.

Temporarily overriding scheduled charging settings

It is possible to override active scheduled charging settings without needing to deactivate the scheduled charging. This can be useful, for example, if the vehicle has a charging session scheduled during the night but you would like to charge it at another time, such as while it is parked after driving.

1. Plug the charging cable into the vehicle. The LED indicator in the vehicle's charging socket will glow blue when the vehicle is set to charge at the scheduled time. If this is done outside the scheduled time, no charging will take place.
2. Unplug the cable and then plug it in again.

> The LED indicator next to the charging socket will flash/glow steadily green and the vehicle will be charged. The scheduled charging will still be activated the next time the vehicle is plugged in for charging.

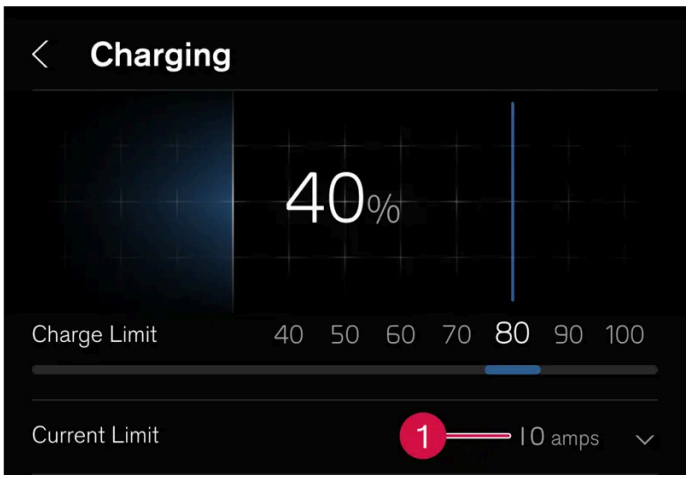
Note

The charging socket's LED light indicates the status for charging the high voltage battery and not whether the vehicle draws power, for example when the climate system is used. Even if the LED indicates that charging is complete, or that scheduled charging is activated, the vehicle can still draw current from the outlet. To avoid affecting the vehicle's range, current is first drawn from the outlet and not from the battery to supply any extra vehicle loads (parking heater, etc.).

Unlocking and locking the charging cable

Tap **Unlock cable** in the center display to unlock the charging cable and cancel charging. You can lock the cable into the charging socket by tapping **Lock cable** in the center display. When charging using a wall outlet/charging station (AC charging), charging will resume automatically. During rapid charging (DC charging), charging will not resume automatically.

Setting amperage



1 Set amperage.

When charging with alternating current[1], it is possible to limit the maximum amperage the vehicle can be charged with.

Select **Charging** and the arrow next to **Current limit (amps)**. Tap **+** to increase amperage or **-** to decrease amperage[2].

For charging with more than one phase, an average value for the set amperage will be shown in the instrument panel[3].

> **Note**
>
> The amperage may be limited by the charging station, charging cable or the vehicle's high-voltage system. It is not guaranteed that the vehicle can be charged with the specified amperage if this is higher than what the charging station or charging cable allow.

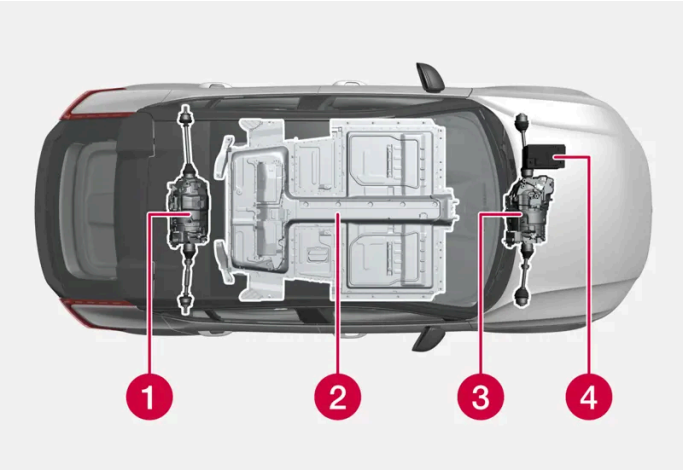
[1] Applies to charging via charging station (mode 3) and charging via wall outlet (mode 2).

[2] The set amperage applies per phase from the alternating current source.

[3] Certain markets only.

11.3. Drive systems

The vehicle is powered by the electric motor.



1 Electric motor[1] – The vehicle contains two electric motors that power the vehicle and regenerate braking energy into electrical current.

2 High-voltage battery – The vehicle contains a high-voltage battery. The function of the high-voltage battery is to store energy. This current is provided by plugging the charging cable into an electrical outlet and through regenerative braking.

3 Electric motor – The vehicle's electric motor powers the vehicle and regenerates braking energy into electric current.

4 12 V battery – The vehicle contains a 12 V battery that starts up the vehicle's electrical system and powers the electrical equipment in the vehicle.

[1] Applies to vehicles with two electric motors.

11.4. General information about charging

An electric car is driven in the same way as a car with a gasoline engine, but certain functions differ. The vehicle is equipped with a rechargeable high-voltage lithium-ion battery.

Different types of charging

The hybrid battery's charging time depends on the amperage used. The 12V battery is also charged when the vehicle is charged.

Charging via wall outlet (AC charging)

The vehicle can be charged via a regular wall outlet. This type of charging is suitable as extra charging for electric vehicles but is not recommended for regular charging.

Charging via charging station (AC charging)

The charging station may be equipped with either a permanent charging cable or with a socket where a mode 3 charging cable can be plugged in. This type of charging is recommended for regular charging.

Rapid charging via charging station (DC charging)

The vehicle supports rapid charging with direct current (DC) at charging stations supporting the CCS (Combined Charging System) standard. Charging with direct current usually enables higher charging output and thereby shorter charging times. The highest charging output is normally achieved when the charge level of the battery is 0–30%, after which the charging output gradually decreases.

Effect of temperature

The hybrid battery with associated electrical drive system as well as gasoline engine and its drive system, work better when they are at the correct operating temperature.

The high-voltage battery may have reduced performance if the temperature in the battery is too low or too high.

Important

Leaving the vehicle for prolonged periods at temperatures under –10 °C (14 °F) or over 40 °C (104 °F) may reduce the performance of the high-voltage battery. Charging the vehicle can help prevent the battery from becoming too hot or too cold.

Important

Note

The capacity of the high-voltage battery decreases somewhat with age and use.

Warning

California Proposition 65

Operating, servicing and maintaining a passenger vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle [https://www.p65warnings.ca.gov/products/passenger-vehicle] .

Warning

Charging the vehicle can affect the function of an implanted pacemaker or other medical equipment. People with an implanted pacemaker are recommended to consult a doctor before starting charging.

Warning

If the high-voltage battery needs to be replaced, this may only be done by Volvo retailer or authorized Volvo workshop.

Exterior engine noise

Note

When the electric motor is in use, an artificial exterior sound will play in the background. This sound is intended to help warn children, pedestrians, cyclists, animals, etc. outside the vehicle of the vehicle's approach.

High-voltage electrical current

Warning

The electrical system in your vehicle uses high-voltage electrical current. Any damage to this system or to the high-voltage battery may result in the danger of overheating, fire, or serious injury. If the vehicle is involved in a collision or subjected to flooding, fire, etc., have it inspected by a trained and qualified Volvo service technician. Prior to this inspection, the vehicle should be parked outdoors at a safe distance from any building or potentially flammable materials.

Warning

A number of electrical components in the vehicle use high-voltage current and can be extremely dangerous if handled incorrectly. These components and any orange wiring in the vehicle may only be handled by trained and qualified Volvo service technicians.

Do not touch anything that is not clearly described in this Owner's Manual.

11.5. Problems detaching the charging cable

If there is a problem with the key, charging can be cancelled using the detachable key blade.

Manual release of charging cable if key is unresponsive

1. Use the key to unlock the vehicle. Carefully read the article on how to lock and unlock the vehicle with a removable key blade and follow the instructions to unlock the vehicle.
2. After the vehicle has been unlocked with the key blade, the alarm will be triggered when the door is opened. Carefully read the article on how to activate and deactivate the alarm and follow the instructions to deactivate the alarm.
3. Tap **Unlock cable** in the center display.

> Detach the charging cable. In case of problems, repeat steps **2** to **3**.

11.6. Electric propulsion symbols and messages in the instrument panel

If a problem occurs with the vehicle's electric propulsion system, a symbol and a message are displayed in the instrument panel. Several examples are provided below.

Symbol	Meaning
	Fault in 12 V battery. Read the message in the instrument panel. Contact a workshop [1].
	Fault in drive system. Read the message in the instrument panel. Contact a workshop [1].
	Temporary performance limitation. Read the message in the instrument panel.
	Information about the high-voltage battery's charge level Read the message in the instrument panel.
	Remove charging cable before start.

[1] An authorized Volvo workshop is recommended.

11.7. High-voltage battery recommendations

Some circumstances can lead to damage to the high-voltage battery and shorten its lifetime. These recommendations are designed to help ensure a long lifetime for the high-voltage battery and good performance when driving.

Charging

When time and opportunity allow, choose AC charging [1] rather than DC rapid charging [2]. AC charging is gentler on the high-voltage battery, particularly in the case of regular charging.

High charge level

Avoid charging the vehicle to 100% unless the entire range is needed for the trip.

The battery can be damaged by maintaining a very high charge level for a long period of time. To help prevent damage, avoid leaving the vehicle plugged in for charging to more than the recommended charge level, which is shown in the center display.

Low charge level

> **Important**
>
> The high-voltage battery could be severely damaged if it is not recharged after becoming completely discharged. Because some consumption and natural battery discharge occur even when the vehicle is not being used, the charge level can drop to 0% if the vehicle is left unplugged with a low charge level.

If the charge level is under 20%, charging is always recommended so as to not risk discharging the battery completely.

Long-term parking

To minimize the risk of battery damage during long-term parking (longer than one month), a charge level of 40-60% is recommended.

- If the charge level is higher – drive the vehicle until the charge level is lower.
- If the charge level is lower – charge the vehicle.

If you plan to park the vehicle for longer than three months, continuous charging is recommended.

Check the charge level of the vehicle regularly and ensure that it is charging properly.

Parking in warm climates

> **Important**
>
> Avoid exposing the vehicle to extreme temperatures. If there is a risk of temperatures reaching about 55 °C (131 °F), parking for longer than 24 hours should be avoided completely as this could seriously damage the battery.

High temperatures can damage the high-voltage battery, especially if it is exposed to these temperatures for a long period of time. If possible, always plug in the vehicle for charging in temperatures higher than 30 °C (86 °F). The vehicle can actively cool the battery while it is parked, but this consumes current and causes the charge level to drop. If the vehicle is charged while it is parked, the battery can be cooled without being discharged.

If possible, park in the shade if the outdoor temperature is high. Strong sunlight in combination with high outdoor temperatures can cause the vehicle and the high-voltage battery to become very warm.

Parking in cold climates

If the temperature of the high-voltage battery is low, its performance is temporarily reduced until the battery warms up again. Plug in the vehicle for charging and use preconditioning to avoid driving with reduced performance. The vehicle can then warm up the battery before driving without the charge level and range being decreased.

Plug in the vehicle for charging if you plan to park it for longer than 24 hours when the ambient temperature is under -30 °C (-22 °F).

It is not harmful to drive the vehicle when it indicates that performance is reduced due to low temperatures.

[1] AC is also called alternating current.

[2] DC is also called direct current.

11.8. Range

A number of factors can affect vehicle range. The ability to achieve a long driving range varies according to the outside conditions and to how the vehicle is driven.

The certified value for the vehicle's range should not be considered an expected driving range. The certified value is obtained during special test cycles and is primarily intended to be used for comparisons between different vehicles.

> **Note**
>
> The driving journal calculates electricity consumption based on pure consumption during a trip. Because electrical regeneration is also included in the calculation, this value may differ from what you see in the trip odometer.

Range in the instrument panel

When the vehicle is delivered from the factory, the range is based on the certified value. Once the vehicle has been driven for a while, range is instead based on historical driving patterns.

The amount of history used depends on the battery's charge level. The lower the charge level of the battery, the more quickly the range adapts to changed driving patterns.

Short range

When the battery's charge level drops, the vehicle's estimated range will also be shorter. As the range becomes shorter, a number of messages and symbols will be shown in the instrument panel.

Symbol	Message/meaning
	When the vehicle's range drops to 50 km (31 miles), the color of the battery symbol next to the battery gauge will change to orange and the message **Low rangeDo you want to find a charging station?** will be shown in the instrument panel. If a destination has been set in the navigation system, the message will not be shown.
	When the vehicle's range drops to 20 km (12 miles), the color of the battery symbol next to the battery gauge will change to red and the message **Low rangeDo you want to find a charging station?** will be shown in the instrument panel.
	When the battery level is low, an orange turtle will be shown in the upper section of the instrument panel.
	The message **Reduced power due to low battery charge** will be displayed along with an orange battery symbol. If the turtle was not shown earlier, it will be visible in the instrument panel when this message is displayed.
	The message **Empty battery. Charge battery.** will be displayed along with an empty battery symbol.

Factors affecting driving range

There are a number of other factors in addition to historical trip data that affect range. The longest range is achieved under very favorable conditions when all factors positively influence range.

Factors affecting range include:

- speed
- climate control settings
- topography

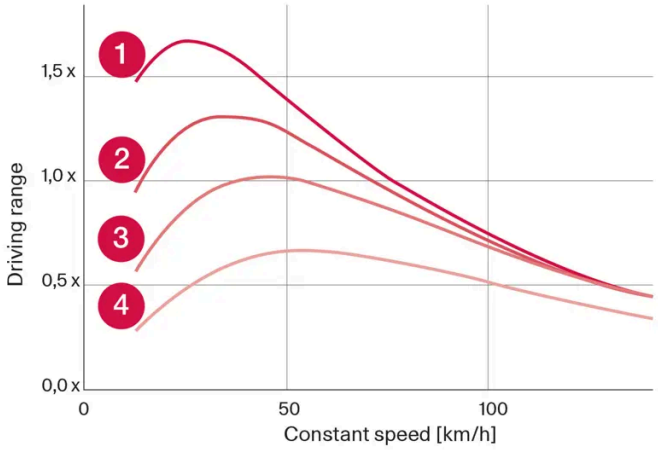
The content of this manual represents the status of the user manual at the time of printing and may not be completely valid in future instances. For more information refer to the first page for the complete disclaimer note.

- preconditioning
- tires and tire pressure
- the current traffic situation
- temperature and weather
- road conditions.

Range in cold temperatures

In cold ambient temperatures, the battery may become cold, which will adversely affect range. If the battery drops to a critically low temperature, this symbol is shown in the instrument panel. If the vehicle is parked in cold ambient temperatures, the range could be drastically reduced. To avoid extremely reduced range after parking in cold ambient temperatures, the vehicle should be charged while it is parked.

Range based on speed and ambient temperature



1 20 °C (68 °F) ambient temperature and passenger compartment climate control off.

2 20 °C (68 °F) ambient temperature and passenger compartment climate control on.

3 35 °C (95 °F) ambient temperature and passenger compartment climate control on.

4 -10 °C (14 °F) ambient temperature and passenger compartment climate control on.

The graph shows the approximate ratio between constant speed and range.

The graph shows that a lower speed gives a longer range. The ambient temperature also affects the range, so that very cold or very warm ambient temperatures give a shorter range.

Lines 1 and 2 show the approximate difference in range that is affected by the climate functions. Turning off the climate system is more favorable for the range.

11.9. Range assistant

The range assistant supplies the driver with general information and assistance to facilitate more economical driving.

The main factors that the driver can influence to extend the range are speed, driving style and climatization settings. Each factor has a meter that indicates the energy use. When the meter changes color from blue to orange the driver should check their energy use for more economical driving.

Speed: The vehicle's average speed during the last minute.

Driving style: The acceleration and braking behavior during the last few minutes.

Climate control: The estimated average consumption based on the current climatization settings.

Next to the estimated range, there are two numbers that indicate expected short and long range based on high and low consumption, respectively. These values are defined as:

Long range: Assumes typical city driving with climate system off.

Short range: Assumes highway driving at high speed with the climate system on.

Consumption is shown in kWh/100 km when the vehicle is in motion and as kW (kWh/h) when stationary. The value is instantaneous and will therefore indicate high values during accelerations and up hills.

Optimize range

The range optimization function adjusts the climate settings to save energy and thus extend the vehicle's range.

Activate or deactivate range optimization via the center display

1. Tap ⊞.
2. Select **Range assistant**.
3. Activate or deactivate range optimization.

> **Note**
>
> When the charge level is 50% or higher, a message is displayed that allows the driver to deactivate range optimization.

Note

Heater power is reduced in cold ambient temperatures. If the passenger compartment climate feels too cool, deactivate range optimization.

Cooling is limited in warm ambient temperatures. If the passenger compartment climate feels too warm, deactivate range optimization.

Problems with misting may occur because the AC function that adjusts air humidity is limited.

Because the AC function is limited, air recirculation increases, which could cause the air quality to be perceived as less comfortable, especially in the rear seat.

11.10. Recycling of batteries

Batteries must be recycled in an environmentally sound manner at the end of their service life.

Consult a workshop if you are uncertain of how to dispose of this type of waste – an authorized Volvo workshop is recommended. Only authorized workshop personnel may handle high-voltage batteries.

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12. Starting and driving

12.1. Starting and switching off vehicle

12.1.1. Electronic immobilizer

The electronic immobilizer is a start inhibitor that helps prevent the vehicle from being started by an unauthorized person.

The vehicle can only be started with the right key.

The following instrument panel error messages are related to the electronic immobilizer:

Symbol	Message	Meaning
	The car key is not detected. See Owner's Manual for more information.	Key not recognized during start. Place the key on the key symbol in the tunnel console's storage compartment and try to start the vehicle again.

12.1.2. Starting the vehicle

To start the vehicle, one of its keys must be inside the vehicle.

> **Warning**
>
> Before starting:
>
> - Buckle your seat belt.
> - Adjust the seat, steering wheel and mirrors.
> - Make sure you can fully depress the brake pedal.

Make sure the key is in the vehicle.

1. Fasten your seat belt.
2. Depress the brake pedal.
3. Put the gear selector in position D or R.

> The vehicle is now in drive mode.

4 Release the brake pedal.

> If **One Pedal Drive** is activated, the vehicle will not move forward, but could begin rolling away if the ground is leaning in the same direction as the selected gear position.
If **One Pedal Drive** is deactivated, the vehicle will drive slowly in the selected direction if the accelerator pedal is pressed lightly.

Warning

- Never use more than one inlay mat at a time on the driver's floor. If any other type of floor mat is used, remove the original mat from the driver's seat floor before driving. All types of mats must be securely anchored in the attachment points in the floor. Make sure the floor mat does not impede the movement of the brake pedal or accelerator pedal in any way, as this could be a serious safety hazard.
- Volvo's floor mats are specially manufactured for your vehicle. They must be properly secured in the attachment points in the floor to help ensure they cannot slide and become trapped under the pedals.

Important

The vehicle cannot be started if the charging cable is still plugged in. Make sure that the charging cable is removed and the charger cover is closed before starting the vehicle.

12.1.3. Jump starting using another battery

If the vehicle doesn't start, it could be because the 12 V battery is discharged. It can then be charged using another vehicle's 12 V battery or an external charger.

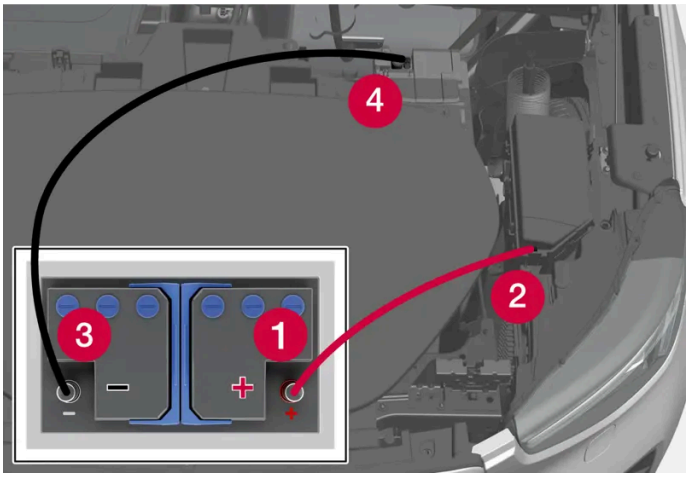
Under normal conditions, the 12 V battery is charged when the vehicle is charged, and through electrical current transfer directly from the high-voltage battery when the vehicle is not plugged in for charging.

If the 12 V battery becomes discharged for any reason, it can be jump-started. There are several reasons why a battery may become discharged, such as the vehicle not being used for a long period of time, a temporary malfunction or a blown fuse in the vehicle's charging circuit. A discharged 12 V battery needs to be charged in order to start the vehicle and power its electrical systems. After startup, it is possible to start charging of the vehicle using a charging cable, which is necessary when the high-voltage battery is also discharged. If the vehicle is out of range for charging, it must be towed.

To jump-start the vehicle, jumper cables must be connected to the vehicle's charging points for the 12 V battery.

To access the charging points, a number of panels under the hood must be removed.

> **Important**
>
> The charging points of the vehicle are only intended for jump-starting the vehicle in question. The charging points are not intended for jump-starting another vehicle. Using the charging points to start another vehicle could cause a fuse to blow, which would cause the charging points to stop working.
>
> If the message **12 V battery fuse failure Service required** is displayed in the instrument panel, a fuse has blown and needs to be replaced. Volvo recommends contacting an authorized Volvo workshop.



A number of the panels around the storage compartment need to be removed to access the charging points under the hood.

To avoid short circuits or other damage, the following steps are recommended when jump starting the battery using another battery:

1. Put the vehicle's electrical system in Passive usage mode.
2. Make sure that the assisting battery has a voltage of 12 V.
3. If the battery is in another vehicle, turn off that vehicle's engine and make sure that the vehicles are not touching each other.
4. Attach one end of the red jumper cable to the assisting battery's positive terminal (1).

   > **Important**
   >
   > Handle jumper cables carefully. A short circuit can occur if the ends come in contact with any other surface than the charging points.

5. Open the cover over the positive charging point (2) by pressing in its side to release the catch while lifting the cover upward. There are two connecting points under the cover. Use the one closest to the center of the vehicle.
6. Clamp the other end of the red jumper cable to your vehicle's positive charging point (2).
7. Clamp one end of the black jumper cable to the assisting battery's negative terminal (3).
8. Clamp the other end of the black jumper cable to your vehicle's negative charging point (4).

9 Make sure the jumper cable's clamps are securely attached. Poor contact can cause sparks or the clamps to loosen during the start attempt.

10 Start the motor of the assisting vehicle.

11 Start the vehicle with the discharged battery by depressing the brake pedal and selecting gear position D or R.

> **Important**
>
> Do not touch the connections between the cable and the vehicle during the start attempt. Risk of sparking.

> **Note**
>
> Full startup is indicated by the indicator lights on the instrument panel going out and its preselected theme illuminating.

12 If the high-voltage battery is also discharged, begin charging of the vehicle using the charging cable.

13 Remove the jumper cables in the reverse order – first the black cables and then the red cables.

Make sure that the clamps of the black jumper cables do not come into contact with the vehicle's positive charging point, the assisting vehicle's battery's positive terminal, or the red jumper cable's clamps.

> **Note**
>
> A discharged 12 V battery must be charged for a while in order to power the vehicle's electrical systems. At an ambient temperature of about +15 °C (about 60 °F), the battery must be charged by the vehicle for at least 30 minutes. At lower ambient temperatures, the charging time can increase to 3-4 hours. If possible, the battery should be charged using an external battery charger.

> **Warning**
>
> **PROPOSITION 65 WARNING!** Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

> **Warning**
>
> - The 12 V battery can generate oxyhydrogen gas, which is very explosive. A spark caused by an incorrectly connected jumper cable could be enough to make the battery explode.
> - The 12 V battery contains sulfuric acid, which could cause serious burn injuries.
> - If contact with eyes, skin or clothing occurs, flush the affected area immediately with water. Obtain medical help immediately if eyes are affected.
> - Never smoke near the battery.

12.1.4. Switching off the vehicle

The vehicle switches off automatically from drive mode when the driver leaves the vehicle and it is parked.

Automatic deactivation

1 Put the gear selector in P.

2 Open the driver's door.

> The vehicle is now not in drive mode.

Switching off manually via the center display

The vehicle can be switched off manually.

1 Put the gear selector in P.

2 Tap ⚙.

3 Select **Controls**.

4 Tap **Power off vehicle**.

5 Follow the instructions in the screen.

> The vehicle is now not in drive mode.

12.1.5. Usage mode

The vehicle has three different usage modes that make different functions in the vehicle available.

The vehicle automatically goes into different modes: passive, comfort and drive. The table shows which functions are available in the different modes.

Position	Functions
Passive	When the vehicle is unlocked, the following functions are available: • The instrument panel shows e.g. charging information. • The power seats can be adjusted. In this mode, the functions are available for a limited time and then switch off automatically.

Position	Functions
Comfort	When someone sits in the driver's seat or when the center display is used or started via the media button in the tunnel console[1]: • The center display can be used. • The infotainment system starts automatically (same as while driving). • The climate system starts automatically (same as while driving). • The power seats can be adjusted. • Power windows, Bluetooth, navigation, phone and windshield wipers can be used. • The 12-volt electrical socket in the cargo compartment can be used. • USB ports can be used.
Drive	When the driver is sitting in the driver's seat and a gear position is selected: All functions are available and the vehicle can be driven.

[1] Comfort mode switches off when the driver's seat is unoccupied. Use the center display to put the vehicle back into comfort mode. Comfort mode will switch off again when the front passenger door opens.

12.2. Transmission

12.2.1. Gear selector positions

Select a suitable gear selector position for the direction of travel.

Selecting gears

Select gears by moving the spring-loaded, non-locking lever forward or backward. The brake pedal must be depressed to change gear position.

Gear selector positions

The instrument panel shows the gear currently in use.

The vehicle has three different gear selector positions and a button for the parking brake:

R, N, D or P button for the parking brake.

Parking brake – P

1 Tap the button.

> The symbol in the instrument panel will illuminate when the parking brake is activated.

Important

Make sure that the parking brake symbol is illuminated when leaving the vehicle.

Note

The parking brake must be activated in order to lock the vehicle and arm the alarm.

In an emergency, the parking brake can be activated when the vehicle is moving by pushing and holding down the button.

The brakes will then be applied with force in order to brake the vehicle. The braking process is canceled when the button is released or if the accelerator pedal is depressed.

Note

In case of emergency braking at high speeds, a signal sounds during the brake procedure.

Reverse - R

1 Fasten your seat belt.

2 Depress the brake pedal.

3 Move the lever all the way forward.

> You can now back up the vehicle.

Neutral - N

1 Fasten your seat belt.

2 Depress the brake pedal.

3 Move the lever one step forward or one step backward.

> The vehicle now rolls freely when the brake pedal is not depressed.

D drive mode

1 Fasten your seat belt.

2 Depress the brake pedal.

3 Move the lever all the way backward.

> You can now drive the vehicle.

> **Important**
>
> The vehicle cannot be started if the charging cable is still plugged in. Make sure that the charging cable is removed and the charger cover is closed before starting the vehicle.

12.2.2. Transmission symbols and messages

If a problem occurs with the transmission, a symbol and a message are displayed in the instrument panel.

Symbol	Meaning
	A fault has occurred in the transmission. Read the message in the instrument panel.
	Temporary fault in driveline. Read the message in the instrument panel.

12.2.3. Shiftlock

The automatic transmission's shiftlock function helps prevent inadvertently moving the gear selector between different positions.

The brake pedal must be depressed in order to move to another gear selector position.

The gear selector can always be moved forward and rearward, but to change to a new gear selector position, the brake pedal must be depressed.

Messages in the instrument panel

If the gear selector is locked in position, a message will appear in the instrument panel, e.g. **Press brake pedal to activate gear lever**.

There is no mechanical shiftlock function.[1]

[1] Applies for vehicles with the small gear selector

12.3. Brakes

12.3.1. Foot brake

12.3.1.1. Brake Assist System

The brake enhancing system, (BAS[1]), helps increase braking force and can thereby reduce braking distance.

The system monitors the driver's braking habits and increases braking force when necessary. Braking force can be increased up to the point at which the ABS intervenes.

[1] Brake Assist System

12.3.1.2. Braking on salted roads

When driving on salted roads, a layer of salt may form on the brake discs and brake pads.

This could increase stopping distance. Maintain an extra large safety distance to the vehicle ahead. Make sure to also:

- Apply the brakes from time to time to help remove salt. Make sure braking does not pose a risk to any other road users.
- Gently apply the brakes when you have finished driving and before driving again.

12.3.1.3. Braking on wet roads

Prolonged driving in heavy rain without braking may cause braking effect to be slightly delayed the first time the brakes are applied.

This may also occur after washing the vehicle. It will then be necessary to apply greater pressure to the brake pedal. You should therefore maintain a greater distance to the vehicle ahead.

Firmly apply the brakes after washing the vehicle or driving on wet roads. This helps warm up the brake discs, enabling them to dry more quickly and protecting them against corrosion. Consider the current traffic situation when braking.

12.3.1.4. Brakes

The brake pedal is used to apply the vehicle's regular brakes, which are part of the brake system.

The vehicle is equipped with two brake circuits. If one brake circuit is damaged, the brake pedal may go down further when depressed. More pressure will then be required from the driver for normal braking effect.

If the brake pedal is used when the vehicle is not activated, greater pressure must be applied to brake the vehicle.

Anti-lock brakes

The vehicle is equipped with an Anti-lock Braking System (ABS [1]), which helps prevent the wheels from locking and helps maintain steering control when braking.

After the vehicle is activated, a brief test of the ABS system is automatically performed. Another automatic test of the system may be performed at low speed.

Symbols in the instrument panel

Symbol	Meaning
[2] [3]	Check the brake fluid level. If the level is low, fill brake fluid and check to determine the reason for the loss of brake fluid.
[2] [3]	Fault in pedal sensor.
[2] [3]	Steady glow for 2 seconds after the vehicle is started: Automatic function check. Steady glow for more than 2 seconds: Fault in ABS system. The vehicle's regular brakes will still work, but without the ABS function.
	In the event of the message: **Brake pedal characteristics changed Service required** The brake pedal must be depressed with greater pressure, past the normal braking position, in order to brake the vehicle.

Warning

If the warning symbols for both brake fault and ABS fault are lit simultaneously, there may be a fault in the brake system.

- If the brake fluid reservoir level is normal when this occurs, drive carefully to the nearest workshop to have the brake system checked - an authorized Volvo workshop is recommended.
- If the brake fluid has fallen below the MIN level in the brake fluid reservoir, the vehicle should not be driven until the brake fluid has been filled. The reason for the brake fluid loss must be checked.

[1] Anti-lock Braking System

[2] In Canada.

[3] In the US.

12.3.1.5. Maintenance of the brake system

Regularly check the brake system components for wear.

To keep the vehicle as safe and reliable as possible, follow the Volvo service schedule specified in the Warranty and Maintenance Records Information booklet. After replacing brake pads and brake discs, braking effect is not adapted until they are "broken in" by driving a few hundred kilometers (miles). Compensate for the reduced braking effect by applying greater pressure to the brake pedal. Volvo recommends only using brake pads approved for your Volvo.

Important

The brake system's components should be regularly checked for wear.

Contact a workshop for advice on how to do this or let a workshop perform the inspection - an authorized Volvo workshop is recommended.

12.3.2. Parking brake

12.3.2.1. Parking brake

The parking brake helps keep the vehicle stationary by mechanically locking the rear wheels.

When the electric parking brake is being applied, a faint sound can be heard from the brake's electric motor. This sound can also be heard during the automatic function check of the parking brake.

If the vehicle is stationary when the parking brake is activated, it will only be applied to the rear wheels. If it is activated while the vehicle is moving, the normal brakes will be used on all four wheels. Braking will be transferred to only the rear wheels when the vehicle is almost stopped.

Note

The driver is always responsible for ensuring that the vehicle is parked in a safe manner. Always check that the parking brake symbol lights up continuously when parking.

12.3.2.2. Activating and deactivating the parking brake

Use the parking brake to help keep the vehicle stationary when it is parked. When the parking brake is activated, both rear wheels are locked.

Activating the parking brake

The button for the parking brake is located next to the gear selector.

1 Tap the button.

> The symbol in the instrument panel will illuminate when the parking brake is activated.

Automatic activation

The parking brake is applied automatically

- if the vehicle is switched off.
- when the driver removes their seat belt and/or opens the driver's door.
- if the Hold (automatic braking at a standstill) function is activated and the vehicle has been stationary for a long period of time (about 5-10 minutes).

> **Important**
>
> Make sure that the parking brake symbol is illuminated when leaving the vehicle.

Emergency braking

In an emergency, the parking brake can be activated when the vehicle is moving by pushing and holding down the button.

The brakes will then be applied with force in order to brake the vehicle. The braking process is canceled when the button is released or if the accelerator pedal is depressed.

> **Note**
>
> In case of emergency braking at high speeds, a signal sounds during the brake procedure.

Deactivating the parking brake

The parking brake is deactivated automatically when a gear position is selected.

1 Fasten your seat belt.

2 Depress the brake pedal.

3 Select gear selector position D or R

> The parking brake will release automatically and the symbol in the instrument panel will go out.

4 Release the brake pedal.

> If **One Pedal Drive** is activated, the vehicle will not move forward, but could begin rolling away if the ground is leaning in the same direction as the selected gear position.
If **One Pedal Drive** is deactivated, the vehicle will drive slowly in the selected direction if the accelerator pedal is pressed lightly.

> **Note**
>
> For automatic deactivation to be possible, the driver's seat belt must be buckled or the driver's door closed.

Symbol in the instrument panel

Symbol	Meaning
[1] [2]	Steady glow: the parking brake is activated. Flashing: a fault has occurred in the parking brake. Read the message in the instrument panel.

[1] Canadian models.

[2] US models.

12.3.2.3. Parking on a hill

Always activate the parking brake when parking on a hill.

If the vehicle is pointing uphill:

- Turn the front wheels so they are pointing **away from** the curb.

If the vehicle is pointing downhill:

- Turn the front wheels so they are pointing **toward** the curb.

> **Warning**
>
> Avoid parking on hills in winter road conditions as there is a risk of the vehicle sliding.

12.3.2.4. Parking brake malfunction

If you are unable to deactivate or activate the parking brake after several attempts, contact an authorized Volvo workshop.

A audible warning signal will sound if the parking brake is activated while the vehicle is being driven.

If the vehicle must be parked before the problem is rectified, secure the vehicle so that it cannot roll away.

To secure the vehicle, make sure it is parked on level ground and:

- Block one or more wheels using chocks or another suitable object.
- Angle the front wheels toward the curb or similar.

Replacing brake pads

Due to the design of the electric parking brake, the rear brake pads must be replaced by a workshop. An authorized Volvo workshop is recommended.

Symbols in the instrument panel

Symbol	Meaning
[1] [2]	A flashing symbol indicates that a fault has been detected. See the message in the instrument panel.
[1] [2]	Fault in the brake system. See the message in the instrument panel.
	Information message in the instrument panel.

[1] Canadian models.

[2] US models.

12.3.3. Brake fluid specifications

The medium in the hydraulic brake system is called brake fluid and is used to transfer pressure from e.g. a brake pedal via a master brake cylinder, which in turn actuates the brake calipers.

Recommended grade: Volvo Original or similar fluid that meets a combination of Dot 4, 5.1 and ISO 4925 class 6.

> **Note**
>
> Changing or filling brake fluid should be entrusted to an authorized Volvo workshop.

12.3.4. Brake functions

The vehicle's brakes are used to reduce speed or prevent the vehicle from rolling.

In addition to the wheel brakes and parking brakes, the vehicle is also equipped with a number of automatic brake assist functions. These systems provide assistance by e.g. the driver not needing to depress the brake pedal at a traffic light or when starting up a hill.

Depending on how the vehicle is equipped, the following brake assist functions may be included:

- Automatic braking at a standstill (Hold)
- Braking assist after a collision
- Regenerative braking
- Warning and auto-braking while backing up
- Assistance at risk of collision
- Off-road mode

12.3.5. Braking assist after a collision

In a collision in which the activation level is reached for the pyrotechnic seat belt tensioners or airbags, or if a collision with a large animal is detected, the vehicle's brakes will be automatically activated. This function is intended to help prevent or reduce the effects of any subsequent collision.

After a serious collision, it may no longer be possible to control and steer the vehicle. In order to avoid or mitigate a possible further collision with a vehicle or an object in the vehicle's path, the brake assist system is activated automatically to help stop the vehicle safely.

The brake lights and hazard warning flashers are activated during braking. When the vehicle has stopped, the hazard warning flashers will continue to flash and the parking brake will be applied.

If braking is not appropriate, e.g. if there is a risk of being hit by passing traffic, the driver can override the system by depressing the accelerator pedal.

This function assumes that the brake system is intact after a collision.

12.3.6. Brake assist at standstill

Brake assist can be activated automatically to keep the vehicle stationary in certain situations.

Brake assist is also available when Hold is deactivated.

Brake assist is activated:

- When stationary if gear selector position D or R is selected and the vehicle is at risk of rolling in the opposite direction to the selected direction of travel
- When stationary if creep mode is deactivated

Brake assist is deactivated:

- When gear selector position D or R is selected and the driver depresses the accelerator pedal
- When the driver selects gear selector position N

The parking brake is applied automatically

- if the vehicle is switched off.
- when the driver removes their seat belt and/or opens the driver's door.
- if the Hold (automatic braking at a standstill) function is activated and the vehicle has been stationary for a long period of time (about 5-10 minutes).

12.3.7. Automatic braking at a standstill (Hold)

With the automatic braking at a standstill function (Hold), the driver can release the brake pedal and the brakes will remain applied, for example, when the vehicle has stopped at a traffic light.

Activating braking at a standstill (Hold)

The function is activated automatically at a standstill if gear position D or R is selected and

- **One Pedal Drive** is activated

- the vehicle is at risk of starting to roll.

or

- **One Pedal Drive** is deactivated
- the vehicle is stationary and the brake pedal is fully depressed and then released.

Deactivating braking at a standstill (Hold)

The function is released when the driver presses the accelerator pedal with a gear position selected.

> **Note**
>
> Auto-hold brakes are also deactivated when the driver moves the gear selector to Neutral position.

The parking brake is applied automatically

- if the vehicle is switched off.
- when the driver removes their seat belt and/or opens the driver's door.
- if the function is active and the vehicle has been stationary for a long period of time (about 5-10 minutes).

Automatic braking at a standstill (Hold) can also switch over to the parking brake in other situations.

Symbols in the instrument panel

Symbol	Meaning
	The symbol is illuminated when automatic braking at a standstill (Hold) is activated and is keeping the vehicle stationary. Note that automatic braking at a standstill (Hold) may be activated even when the symbol is not illuminated.
[1] [2]	This symbol illuminates when the function is using the parking brake to keep the vehicle stationary.

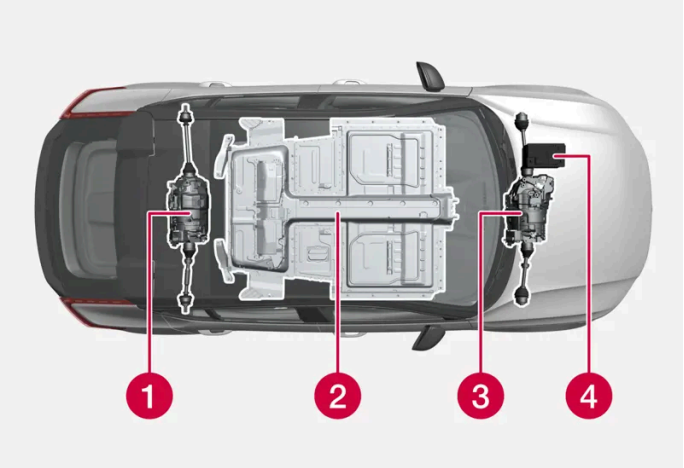
[1] Canadian models.

[2] US models.

12.4. Drive systems

12.4.1. Drive systems

The vehicle is powered by the electric motor.



1 Electric motor[1] – The vehicle contains two electric motors that power the vehicle and regenerate braking energy into electrical current.

2 High-voltage battery – The vehicle contains a high-voltage battery. The function of the high-voltage battery is to store energy. This current is provided by plugging the charging cable into an electrical outlet and through regenerative braking.

3 Electric motor – The vehicle's electric motor powers the vehicle and regenerates braking energy into electric current.

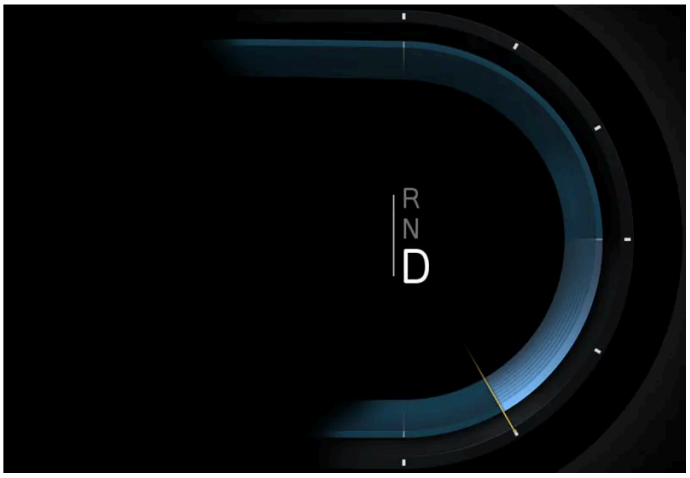
4 12 V battery – The vehicle contains a 12 V battery that starts up the vehicle's electrical system and powers the electrical equipment in the vehicle.

[1] Applies to vehicles with two electric motors.

12.5. Drive modes

12.5.1. Regenerative braking

The vehicle uses braking energy and regenerates current to the battery when the driver releases the accelerator pedal or when the brake pedal is used.



Indication in the instrument panel during regenerative braking.

Regeneration using the accelerator pedal

1 Release the accelerator pedal.

> The vehicle brakes and charging is indicated in the instrument panel.

> **Note**
>
> If the braking effect exceeds a certain level, the brake light will come on.

Regeneration using the brake pedal

1 Depress the brake pedal.

> The vehicle brakes and charging is indicated in the instrument panel.

12.5.2. One Pedal Drive

One Pedal Drive is well suited to urban driving. With One Pedal Drive the vehicle can be conveniently driven by simply depressing and releasing the accelerator pedal without needing to use the brake pedal.

Important

The driver is responsible for using the brake pedal as necessary even when One Pedal Drive is enabled.

Important

One Pedal Drive is not recommended on slippery roads.

Activating or deactivating One Pedal Drive

1. Tap ⚙ in the center display.
2. Select **Driving**.
3. Activate or deactivate **One Pedal Drive**.

Note

- One Pedal Drive cannot be activated when drive mode **Off-road** is active and the button is grayed out.
- When **Off-road** is activated, One Pedal Drive is automatically set to **Off** and Creep is changed to **On**.
- When **Off-road** is deactivated, the One Pedal Drive settings will reset to those used before **Off-road** was activated.

12.5.3. Creep

Creep mode can simplify driving at lower speeds, such as in stop-and-go traffic or in parking lots.

When the function is active, the vehicle will move slowly in the selected direction of travel without the accelerator pedal being used.

Activating creep mode

1. Tap ⚙ in the center display.
2. Select **Driving**.
3. Deactivate **One Pedal Drive**.

> Creep is now activated.

Deactivating creep mode

1 Tap ⚙ in the center display.

2 Select **Driving**.

3 Activate **One Pedal Drive**.

> Creep is now deactivated.

12.5.4. Off-road mode

An adapted mode for low speeds that improves the vehicle's traction and handling in difficult terrain and on steep gradients and poor roads.

Drive mode **Off-road** gives a high ground clearance*, light steering, extended four wheel drive* as well as activated low speed function with downhill assistance. This gives increased engine braking that makes it possible to increase or reduce the vehicle's speed on steep gradients with only the accelerator pedal, without using the normal brakes.

The speed is regulated using the accelerator pedal. When the accelerator pedal is released, the vehicle brakes to a very low speed regardless of how steep the hill is and without the brakes needing to be applied.

The brake lights illuminate when the vehicle is braking/speed is reduced. The driver can also depress the brake pedal to reduce creep speed or to stop the vehicle.

Keep in mind that:

- The mode is only available at low speeds, up to 40 km/h (25 mph). If this speed is exceeded, Off-road drive mode switches off.

> ⓘ **Note**
>
> Off-road mode is not designed to be used for normal street driving.

Activating or deactivating Off-road

1 Tap ⚙ in the center display.

2 Select **Driving**.

3 Activate or deactivate **Off-road mode**.

The function is deactivated when the vehicle is switched off.

* Option/accessory.

12.5.5. Range

A number of factors can affect vehicle range. The ability to achieve a long driving range varies according to the outside conditions and to how the vehicle is driven.

The certified value for the vehicle's range should not be considered an expected driving range. The certified value is obtained during special test cycles and is primarily intended to be used for comparisons between different vehicles.

> **Note**
>
> The driving journal calculates electricity consumption based on pure consumption during a trip. Because electrical regeneration is also included in the calculation, this value may differ from what you see in the trip odometer.

Range in the instrument panel

When the vehicle is delivered from the factory, the range is based on the certified value. Once the vehicle has been driven for a while, range is instead based on historical driving patterns.

The amount of history used depends on the battery's charge level. The lower the charge level of the battery, the more quickly the range adapts to changed driving patterns.

Short range

When the battery's charge level drops, the vehicle's estimated range will also be shorter. As the range becomes shorter, a number of messages and symbols will be shown in the instrument panel.

Symbol	Message/meaning
	When the vehicle's range drops to 50 km (31 miles), the color of the battery symbol next to the battery gauge will change to orange and the message **Low rangeDo you want to find a charging station?** will be shown in the instrument panel. If a destination has been set in the navigation system, the message will not be shown.
	When the vehicle's range drops to 20 km (12 miles), the color of the battery symbol next to the battery gauge will change to red and the message **Low rangeDo you want to find a charging station?** will be shown in the instrument panel.
	When the battery level is low, an orange turtle will be shown in the upper section of the instrument panel.
	The message **Reduced power due to low battery charge** will be displayed along with an orange battery symbol. If the turtle was not shown earlier, it will be visible in the instrument panel when this message is displayed.
	The message **Empty battery. Charge battery.** will be displayed along with an empty battery symbol.

Factors affecting driving range

There are a number of other factors in addition to historical trip data that affect range. The longest range is achieved under very favorable conditions when all factors positively influence range.

Factors affecting range include:

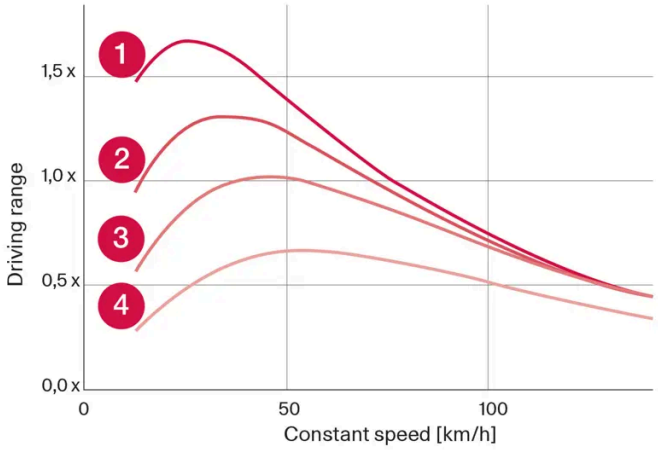
- speed
- climate control settings
- topography

- preconditioning
- tires and tire pressure
- the current traffic situation
- temperature and weather
- road conditions.

Range in cold temperatures

In cold ambient temperatures, the battery may become cold, which will adversely affect range. If the battery drops to a critically low temperature, this symbol is shown in the instrument panel. If the vehicle is parked in cold ambient temperatures, the range could be drastically reduced. To avoid extremely reduced range after parking in cold ambient temperatures, the vehicle should be charged while it is parked.

Range based on speed and ambient temperature



1 20 °C (68 °F) ambient temperature and passenger compartment climate control off.

2 20 °C (68 °F) ambient temperature and passenger compartment climate control on.

3 35 °C (95 °F) ambient temperature and passenger compartment climate control on.

4 -10 °C (14 °F) ambient temperature and passenger compartment climate control on.

The graph shows the approximate ratio between constant speed and range.

The graph shows that a lower speed gives a longer range. The ambient temperature also affects the range, so that very cold or very warm ambient temperatures give a shorter range.

Lines 1 and 2 show the approximate difference in range that is affected by the climate functions. Turning off the climate system is more favorable for the range.

12.5.6. Range assistant

The range assistant supplies the driver with general information and assistance to facilitate more economical driving.

The main factors that the driver can influence to extend the range are speed, driving style and climatization settings. Each factor has a meter that indicates the energy use. When the meter changes color from blue to orange the driver should check their energy use for more economical driving.

Speed: The vehicle's average speed during the last minute.

Driving style: The acceleration and braking behavior during the last few minutes.

Climate control: The estimated average consumption based on the current climatization settings.

Next to the estimated range, there are two numbers that indicate expected short and long range based on high and low consumption, respectively. These values are defined as:

Long range: Assumes typical city driving with climate system off.

Short range: Assumes highway driving at high speed with the climate system on.

Consumption is shown in kWh/100 km when the vehicle is in motion and as kW (kWh/h) when stationary. The value is instantaneous and will therefore indicate high values during accelerations and up hills.

Optimize range

The range optimization function adjusts the climate settings to save energy and thus extend the vehicle's range.

Activate or deactivate range optimization via the center display

1. Tap ⊞.
2. Select **Range assistant**.
3. Activate or deactivate range optimization.

> **Note**
>
> When the charge level is 50% or higher, a message is displayed that allows the driver to deactivate range optimization.

Note

Heater power is reduced in cold ambient temperatures. If the passenger compartment climate feels too cool, deactivate range optimization.

Cooling is limited in warm ambient temperatures. If the passenger compartment climate feels too warm, deactivate range optimization.

Problems with misting may occur because the AC function that adjusts air humidity is limited.

Because the AC function is limited, air recirculation increases, which could cause the air quality to be perceived as less comfortable, especially in the rear seat.

12.5.7. All Wheel Drive (AWD)*

All-wheel drive (AWD[1]), also called four-wheel drive, means that power is distributed to all four wheels, which improves traction.

The electric motor that powers the rear wheels enables electric all-wheel drive functionality.

* Option/accessory.

[1] All-wheel drive

12.6. Driving recommendations

12.6.1. Brake assist at standstill

Brake assist can be activated automatically to keep the vehicle stationary in certain situations.

Brake assist is also available when Hold is deactivated.

Brake assist is activated:

- When stationary if gear selector position D or R is selected and the vehicle is at risk of rolling in the opposite direction to the selected direction of travel
- When stationary if creep mode is deactivated

Brake assist is deactivated:

- When gear selector position D or R is selected and the driver depresses the accelerator pedal
- When the driver selects gear selector position N

The parking brake is applied automatically

- if the vehicle is switched off.
- when the driver removes their seat belt and/or opens the driver's door.
- if the Hold (automatic braking at a standstill) function is activated and the vehicle has been stationary for a long period of time (about 5-10 minutes).

12.6.2. Braking on salted roads

When driving on salted roads, a layer of salt may form on the brake discs and brake pads.

This could increase stopping distance. Maintain an extra large safety distance to the vehicle ahead. Make sure to also:

- Apply the brakes from time to time to help remove salt. Make sure braking does not pose a risk to any other road users.
- Gently apply the brakes when you have finished driving and before driving again.

12.6.3. Braking on wet roads

Prolonged driving in heavy rain without braking may cause braking effect to be slightly delayed the first time the brakes are applied.

This may also occur after washing the vehicle. It will then be necessary to apply greater pressure to the brake pedal. You should therefore maintain a greater distance to the vehicle ahead.

Firmly apply the brakes after washing the vehicle or driving on wet roads. This helps warm up the brake discs, enabling them to dry more quickly and protecting them against corrosion. Consider the current traffic situation when braking.

12.6.4. Parking on a hill

Always activate the parking brake when parking on a hill.

If the vehicle is pointing uphill:

- Turn the front wheels so they are pointing **away from** the curb.

If the vehicle is pointing downhill:

- Turn the front wheels so they are pointing **toward** the curb.

> **Warning**
>
> Avoid parking on hills in winter road conditions as there is a risk of the vehicle sliding.

12.6.5. Range

A number of factors can affect vehicle range. The ability to achieve a long driving range varies according to the outside conditions and to how the vehicle is driven.

The certified value for the vehicle's range should not be considered an expected driving range. The certified value is obtained during special test cycles and is primarily intended to be used for comparisons between different vehicles.

> **Note**
>
> The driving journal calculates electricity consumption based on pure consumption during a trip. Because electrical regeneration is also included in the calculation, this value may differ from what you see in the trip odometer.

Range in the instrument panel

When the vehicle is delivered from the factory, the range is based on the certified value. Once the vehicle has been driven for a while, range is instead based on historical driving patterns.

The amount of history used depends on the battery's charge level. The lower the charge level of the battery, the more quickly the range adapts to changed driving patterns.

Short range

When the battery's charge level drops, the vehicle's estimated range will also be shorter. As the range becomes shorter, a number of messages and symbols will be shown in the instrument panel.

Symbol	Message/meaning
	When the vehicle's range drops to 50 km (31 miles), the color of the battery symbol next to the battery gauge will change to orange and the message **Low rangeDo you want to find a charging station?** will be shown in the instrument panel. If a destination has been set in the navigation system, the message will not be shown.
	When the vehicle's range drops to 20 km (12 miles), the color of the battery symbol next to the battery gauge will change to red and the message **Low rangeDo you want to find a charging station?** will be shown in the instrument panel.
	When the battery level is low, an orange turtle will be shown in the upper section of the instrument panel.
	The message **Reduced power due to low battery charge** will be displayed along with an orange battery symbol. If the turtle was not shown earlier, it will be visible in the instrument panel when this message is displayed.
	The message **Empty battery. Charge battery.** will be displayed along with an empty battery symbol.

Factors affecting driving range

There are a number of other factors in addition to historical trip data that affect range. The longest range is achieved under very favorable conditions when all factors positively influence range.

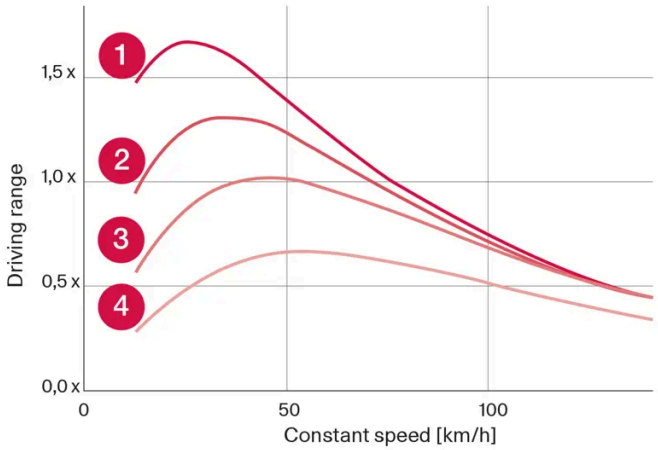
Factors affecting range include:

- speed
- climate control settings
- topography
- preconditioning
- tires and tire pressure
- the current traffic situation
- temperature and weather
- road conditions.

Range in cold temperatures

In cold ambient temperatures, the battery may become cold, which will adversely affect range. If the battery drops to a critically low temperature, this symbol is shown in the instrument panel. If the vehicle is parked in cold ambient temperatures, the range could be drastically reduced. To avoid extremely reduced range after parking in cold ambient temperatures, the vehicle should be charged while it is parked.

Range based on speed and ambient temperature



1 20 °C (68 °F) ambient temperature and passenger compartment climate control off.

2 20 °C (68 °F) ambient temperature and passenger compartment climate control on.

3 35 °C (95 °F) ambient temperature and passenger compartment climate control on.

4 -10 °C (14 °F) ambient temperature and passenger compartment climate control on.

The graph shows the approximate ratio between constant speed and range.

The graph shows that a lower speed gives a longer range. The ambient temperature also affects the range, so that very cold or very warm ambient temperatures give a shorter range.

Lines 1 and 2 show the approximate difference in range that is affected by the climate functions. Turning off the climate system is more favorable for the range.

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.

12.6.6. Economical driving

To achieve the longest possible driving range, the driver should plan the trip and adapt driving style and speed to the current situation.

Before driving

- Whenever possible, precondition the vehicle before driving by connecting the charging cable to an electrical outlet.
- If preconditioning is not possible when it is cold outside, use seat and steering wheel heating first. Avoid heating the entire passenger compartment to reduce the amount of current being taken from the battery.
- The type of tires and inflation pressure used could affect energy consumption – consult an authorized Volvo workshop for advice on suitable tires.
- Remove unnecessary items from the vehicle - the heavier the load, the higher the fuel consumption.

While driving

- Maintain a steady speed and a generous following distance to traffic ahead to minimize braking.
- When braking, the battery is charged by:
  - braking lightly using the brake pedal.
  - release the accelerator pedal and let the regenerative braking system operate.
- Higher speeds increase energy consumption because air resistance increases with speed.
- In a cold climate, reduce heating of the windshield/rear window, mirrors, seats and the steering wheel.
- Avoid driving with the windows open.
- Do not use the accelerator pedal to keep the vehicle stationary on an uphill gradient. Instead, activate the auto-hold brake function at a standstill.
- If possible, turn off the climate system when driving shorter distances after preconditioning.

After driving

- If possible, park in a climate-controlled garage with vehicle charging outlets or stations.

12.6.7. Range assistant

The range assistant supplies the driver with general information and assistance to facilitate more economical driving.

The main factors that the driver can influence to extend the range are speed, driving style and climatization settings. Each factor has a meter that indicates the energy use. When the meter changes color from blue to orange the driver should check their en-

ergy use for more economical driving.

Speed: The vehicle's average speed during the last minute.

Driving style: The acceleration and braking behavior during the last few minutes.

Climate control: The estimated average consumption based on the current climatization settings.

Next to the estimated range, there are two numbers that indicate expected short and long range based on high and low consumption, respectively. These values are defined as:

Long range: Assumes typical city driving with climate system off.

Short range: Assumes highway driving at high speed with the climate system on.

Consumption is shown in kWh/100 km when the vehicle is in motion and as kW (kWh/h) when stationary. The value is instantaneous and will therefore indicate high values during accelerations and up hills.

Optimize range

The range optimization function adjusts the climate settings to save energy and thus extend the vehicle's range.

Activate or deactivate range optimization via the center display

1. Tap ⊞.
2. Select **Range assistant**.
3. Activate or deactivate range optimization.

> **Note**
>
> When the charge level is 50% or higher, a message is displayed that allows the driver to deactivate range optimization.

Note

Heater power is reduced in cold ambient temperatures. If the passenger compartment climate feels too cool, deactivate range optimization.

Cooling is limited in warm ambient temperatures. If the passenger compartment climate feels too warm, deactivate range optimization.

Problems with misting may occur because the AC function that adjusts air humidity is limited.

Because the AC function is limited, air recirculation increases, which could cause the air quality to be perceived as less comfortable, especially in the rear seat.

12.6.8. Preparing for a long trip

It is important to have the vehicle's systems and equipment checked carefully before driving long distances.

Check that

- the brake pedal is functioning properly
- all lights work
- tire tread depth and air pressure are at correct levels. Change to snow tires when driving in areas where there is a risk of snowy or icy roads
- the battery is sufficiently charged
- the wiper blades are in good condition

12.6.9. Driving through standing water

It may be necessary to drive the vehicle through standing water e.g. deep puddles or flooding on the road. This must be done with great caution.

When driving through standing water

To help prevent damage to the vehicle when driving through water:

- The vehicle can be driven through water up to a depth of 45 cm (17 in).
- Do not drive faster than walking speed.
- Do not stop the vehicle in the water. Drive carefully forward or back the vehicle out of the water.
- Be particularly careful when driving through flowing water.
- Do not allow the vehicle to stand in water up to the sills any longer than absolutely necessary. This could result in electrical malfunctions.

> **Important**
>
> Because it can be difficult to determine the water depth, Volvo recommends not driving through standing or running water. The driver is always responsible for operating the vehicle in a safe manner and adhering to all applicable laws and regulations.

After driving through standing water

When you have passed the water, press lightly on the brake pedal and check that the brakes are functioning properly. Water, mud, slush, etc. can make the brake linings slippery, resulting in delayed braking effect.

If the vehicle is equipped with contacts for an electric heater or trailer coupling, clean these after driving in water or mud.

12.6.10. Winter driving

It is important to check the vehicle before driving in cold/snowy conditions to make sure it can be driven safely.

Before the cold season arrives:

- Check the condition and charge level of the battery. Cold weather places greater demands on the battery and reduces its capacity.
- Use washer fluid containing antifreeze to help prevent ice from forming in the washer fluid reservoir.

Slippery driving conditions

Volvo recommends that **One Pedal Drive** is deactivated when driving on slippery or icy roads.

To help optimize traction and roadholding, Volvo recommends using snow tires on all wheels whenever there is a risk of snow or ice on the road.

> **Note**
>
> Certain countries require use of winter tires by law. Not all countries permit the use of studded tires.

Practice driving on slippery surfaces under controlled conditions to learn how the vehicle reacts.

12.7. Trailer hitch and trailer

12.7.1. Towing capacity and tongue weight

Towing capacity and tongue weight are shown in the table.

Category		USA (lbs)	Canada (kg)
Max. trailer weights	Without brakes:	1650	750
	With brakes:	2000	900
Max. tongue weight	–	200	90

12.7.2. Driving with a trailer

There are a number of things to consider when towing a trailer, such as the towbar, the trailer and how the load is distributed in the trailer.

Load-carrying capacity is determined by the vehicle's curb weight. The total weight of all passengers and any installed accessories, e.g. towbar, reduces the vehicle's load-carrying capacity by the corresponding amount.

- Towbars used on the vehicle must be approved for the applicable use.
- Distribute the load on the trailer so that the weight on the towbar complies with the specified maximum towball weight. The tongue weight is calculated as part of the vehicle's payload.
- Increase the tire pressure to the recommended pressure for a full load.
- The electric motor is subjected to more load than usual when towing a trailer.
- Towing a trailer affects the vehicle's handling, durability and driving economy.
- Do not drive with a heavy trailer when the vehicle is very new. Wait until the mileage has reached at least 1000 km (620 miles).
- Follow applicable regulations regarding permitted speed and weight.
- Drive slowly when towing a trailer up a long and steep incline.
- Avoid driving with a trailer on inclines of more than 12%.

- Avoid overloading and other incorrect use.
- The trailer's brakes must be balanced with the vehicle's brakes to help ensure safe stops (follow applicable local regulations).

- Rear Auto Brake should be deactivated before driving with a trailer.

Important

- Bumper-attached trailer hitches must not be used on Volvos, nor should safety chains be attached to the bumper.
- Trailer hitches attaching to the vehicle rear axle must not be used.
- Never connect a trailer's hydraulic brake system directly to the vehicle brake system, nor a trailer's lighting system directly to the vehicle lighting system. Consult your nearest authorized Volvo retailer for correct installation.
- When towing a trailer, the trailer's safety chains or wire must be correctly fastened to the attachment points provided in the trailer hitch on the vehicle. The safety chain or wire must never be fastened to or wound around the towing ball.

Note

The optional detachable trailer hitch may not be available in all markets or on all models. Consult your Volvo retailer.

Trailer weights

Warning

Please adhere to the recommendations provided for trailer weight. If the recommendations are not followed, the vehicle and trailer may be difficult to control during evasive maneuvers and braking.

Note

The specified maximum trailer weights are those permitted by Volvo. National vehicle regulations may set additional restrictions on trailer weight and speed. The trailer hitches may be certified for higher towing weights than the vehicle is permitted to tow.

Driving in mountainous areas

In certain conditions, there is a risk of overheating when driving with a trailer. If overheating of the electric motor and drive system is detected, a warning symbol will illuminate in the instrument panel and a message will appear.

Parking on a hill

1. Depress the brake pedal.
2. Apply the parking brake.
3. Release the brake pedal.

Put chocks behind the wheels when the vehicle is parked on a hill with a trailer attached.

Starting on a hill

1. Depress the brake pedal.
2. Select gear position D or R and press the accelerator pedal.

> The parking brake will release and the symbol in the instrument panel will go out. You can now drive the vehicle.

12.7.3. Trailer Stability Assist*

Trailer Stability Assist (TSA[1]) is part of the ESC[2] stability system and is a function designed to help stabilize a vehicle that is towing a trailer when the vehicle and trailer have begun to sway. The function is added when installing a towbar. Contact a Volvo retailer for more information.

Reasons for swaying

A vehicle towing a trailer may begin to sway for various reasons. Normally this only occurs at high speeds. However, if the trailer is overloaded or unevenly distributed, e.g. too far back, there is a risk of swaying even at low speeds.

Swaying may be caused by factors such as:

- The vehicle and trailer are hit by a sudden, strong crosswind.
- The vehicle and trailer are traveling on an uneven road or over a bump.
- Sudden movements of the steering wheel.

Once swaying has begun, it can be difficult or impossible to stop it. This makes the vehicle and trailer difficult to control and there is a risk of swerving into oncoming traffic or driving off the road.

Trailer Stability Assist function

Trailer Stability Assist continuously monitors the vehicle's movements, particularly lateral movements. If swaying is detected, the brakes are applied individually on the front wheels, which has a stabilizing effect on the vehicle and trailer. This is often enough to enable the driver to regain control of the vehicle.

If the Trailer Stability Assist function's first attempt is not adequate to stop the swaying motion, the brakes are applied on all wheels and vehicle power is temporarily reduced. As the swaying motion begins to decrease and the vehicle and trailer have once again become stable, TSA stops regulating the brakes/engine power and the driver regains control of the vehicle.

Trailer Stability Assist may not intervene if the driver tries to compensate for the swaying motion by moving the steering wheel rapidly, because the system will then not be able to determine if it is the trailer or the driver causing the swaying.

When Trailer Stability Assist is activated, the ESC symbol is displayed in the instrument panel.

> **Note**
>
> A vehicle software update is required when a towbar is retrofitted. Contact a Volvo retailer.

* Option/accessory.

[1] Trailer Stability Assist

[2] Electronic Stability Control

12.7.4. Checking trailer lights*

When connecting a trailer, make sure that the trailer's lights are functioning before starting to drive.

Checking trailer lights*

Automatic check

When the trailer has been connected to the vehicle's electrical system, its lights can be checked by automatically activating them. This function helps the driver check that the trailer's lights are functioning correctly before starting to drive.

1. When a trailer is connected to the towbar, the message **Perform a trailer lamp check?** will appear in the instrument panel.
2. Acknowledge the message by pressing the O button on the right-side steering wheel keypad.

> The light check will begin.

3. Get out of the vehicle to perform the check.

> All of the lights on the trailer will begin flashing, and then illuminate separately one at a time.

4. Visually check that all of the trailer's lights are functioning correctly.
5. After a short time, all of the trailer's lights will start flashing again.

> The light check is completed.

Trailer rear fog light

When a trailer is connected, the vehicle's rear fog light may not illuminate and rear fog light functionality is instead transferred to only the trailer. If this is the case, check to see if the trailer is equipped with a rear fog light before activating the vehicle's rear fog light when driving with a trailer to help ensure safe operation.

Symbols and messages in the instrument panel

If one or more of the turn signals or brake lights on the trailer is not working, a symbol and message will be displayed in the instrument panel. The other lights on the trailer must be checked manually by the driver before the vehicle is driven.

Symbol	Message
	Right trailer turn indicator malfunction Left trailer turn indicator malfunction
	Trailer brake light malfunction

If any of the trailer's turn signal lights is not working, the turn signal symbol in the instrument panel will also flash more quickly than normal.

* Option/accessory.

12.8. Electric motor and charging

12.8.1. Charging the high-voltage battery

12.8.1.1. Charging status in the instrument panel

Charging status is indicated in the instrument panel using both graphics and messages. This information is displayed as long as the instrument panel is active.

Color	Status	Meaning
Pulsating green	The instrument panel frame will appear with a green, pulsating light.	Charging is in progress and the approximate time at which the vehicle will be fully charged is displayed.
Green	The instrument panel frame will appear with a steady green light.	The vehicle is fully charged.
Red	The instrument panel frame will appear with a steady red light.	Malfunction. Check the charging cable's connection to the vehicle's charging socket and the power source. Then restart charging by following these steps: 1. Unplug the charging cable from the charging socket. 2. Wait a few seconds. 3. Plug the charging cable back into the charging socket. 4. If the problem persists, contact your Volvo retailer.
Blue	The instrument panel frame will appear with a steady blue light.	Scheduled charging activated.
Yellow	The instrument panel frame will appear with a steady yellow light.	Charging is waiting to start or has been paused.

In addition to charging status and other information, the instrument panel also shows:

- current amperage and set amperage as well as number of phases [1]
- charging output
- battery percentage
- time until the vehicle is fully charged.

> **Note**
>
> If the instrument panel is not used, it will go dark after a period of time. Reactivate the display by opening one of the doors.
>
> Read more in the instrument panel section.

[1] Current amperage and set amperage applies per phase from the alternating current source.

12.8.1.2. Charging status in the vehicle's charging socket

The LED indicator light in the vehicle's charging socket shows the current charging status. The different colors of the LED indicator light are explained in the table below.

LED indicator light's color	Meaning
White	Welcome lighting
Flashing yellow	The charging process is being stopped.
Yellow	Wait mode [1] – waiting for charging to start.
Flashing green	Charging is in progress [2].
Green	Charging completed [3]
Red	Malfunction. Check the charging cable's connection to the vehicle's charging socket and the power source. Then restart charging by following these steps: 1. Unplug the charging cable from the charging socket. 2. Wait a few seconds. 3. Plug the charging cable back into the charging socket. 4. If the problem persists, contact your Volvo retailer.
Flashing red	The vehicle is locked and does not detect any key when the charging cable is unlocked via the button next to the charging socket.
Blue	Scheduled charging activated.

Note

The charging socket's LED light indicates the status for charging the high voltage battery and not whether the vehicle draws power, for example when the climate system is used. Even if the LED indicates that charging is complete, or that scheduled charging is activated, the vehicle can still draw current from the outlet. To avoid affecting the vehicle's range, current is first drawn from the outlet and not from the battery to supply any extra vehicle loads (parking heater, etc.).

[1] E.g. after a door has been opened or if the charging cable handle is not locked in place.

[2] The more slowly the light flashes, the closer the battery is to being fully charged.

[3] The light will go out after a short time.

12.8.1.3. General information about charging cables

A mode 3 charging cable is used when charging at a charging station. Some charging stations have a permanent charging cable that is used instead.

Note

The information in this section applies only to charging using a mode 3 charging cable or charging station with a permanent charging cable.

Warning

Only use the charging cable provided with your vehicle or a replacement cable purchased from a Volvo retailer.

Charging with permanent charging cable in accordance with mode 3 [1]

In certain places, the charging cable is permanently installed within a charging station connected to an electrical outlet. You must therefore use the charging station's charging cable and follow the instructions on the charging station.

Specifications, charging cable	
Enclosure class Compliance	IP67 SAE J1772
Ambient temperature	-32 °C to 50 °C(-25 °F till 122 °F)

Warning

- Children should be supervised when in the vicinity of the charging cable when it is plugged in.
- High voltage is present in your electric meter housing and power distribution service panel. Contact with high voltage can cause death or serious personal injury.
- Do not use the charging cable if it is damaged in any way. A damaged or malfunctioning charging cable may only be repaired by a workshop – an authorized Volvo workshop is recommended.
- Always position the charging cable so that it will not be driven over, stepped on, tripped over or otherwise damaged, or cause personal injury.
- Never connect adapters of any kind between the charging cable and the vehicle.

Also, refer to the manufacturer's instructions for using the charging cable and its components.

Important

Always interrupt charging first and then disconnect the charging cable – first from the vehicle's charging socket and then from the charging station.

Important

Wipe the charging cable with a clean cloth lightly moistened with water or a mild detergent. Do not use chemicals or solvents.

Warning

The charging cable and its components must not be rinsed or immersed in water.

[1] **European standard - EN 61851-1.**

12.8.1.4. Residual current device in charging cable

The charging cable[1] has a circuit breaker that helps protect against current overloads and thermal overheating.

Warning

Only charge the vehicle using approved, grounded wall outlets. If the electrical circuit or electrical socket's capacity is not known, let a licensed electrician inspect the electrical circuit's capacity. Using a charge level that exceeds the electrical circuit's or electrical outlet's capacity may start a fire or damage the electrical circuit.

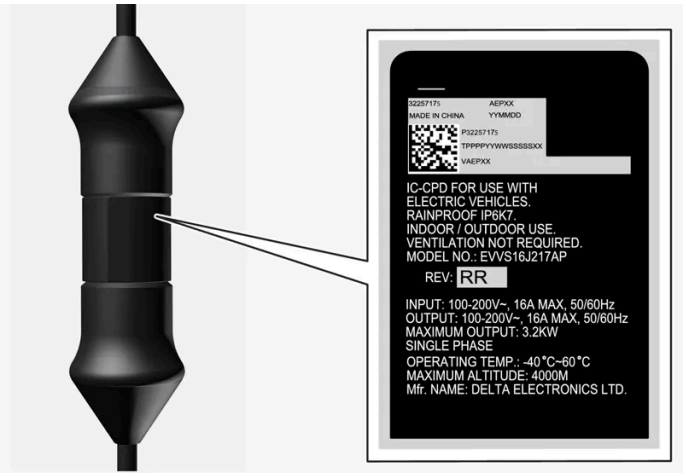
Warning

- The charging cable's residual current breaker helps protect the vehicle's charging system but cannot ensure that an current overload will never occur.

Control module's LED[2] indicator.

1 LED indicator

If the control module's built-in residual current device is triggered, the LED indicator will light up red. Check the wall outlet. Have the outlet checked by a licensed electrician or try using another wall outlet.



Important

- Check the capacity of the socket.
- Other electronic equipment connected on the same fuse circuit must be disconnected if the total load is exceeded.
- Do not plug in the charging cable if the outlet is damaged, worn or defective.

[1] For charging with a mode 2 charging cable.

[2] LED (Light Emitting Diode)

12.8.1.5. Charging status in the charging cable's control module

The LED indicator light on the charging cable's control module shows the status of charging in progress and completed charging[1].

Control module's LED[2] indicator.

1 LED indicator

> **Important**
>
> Read the accompanying instructions to ensure that the charging cable is handled in accordance with recommendations and instructions.

LED	Status	Meaning	Recommended action
Off	Charging is not possible.	No power supply to the charging cable.	1. Unplug the charging cable from the wall outlet. 2. Plug the charging cable back into the wall outlet or use another wall outlet. 3. If the problem persists, contact your Volvo retailer.
White light	Charging possible.	The charging cable is ready to be plugged into the vehicle.	If the LED indicator is white but charging is not possible: 1. Unplug the charging cable from the charging socket. 2. Plug the charging cable back into the charging socket. 3. If the indicator does not begin flashing white within about 10 seconds, first unplug the charging cable from the charging socket and then unplug it from the wall outlet. 4. Plug the charging cable back into the wall outlet and then plug the charging socket into the vehicle. 5. If the problem persists, contact your Volvo retailer.
Flashing white	Charging is in progress.	The vehicle's electronic system has initiated charging Charging is in progress.	Wait until the vehicle is fully charged.
Steady red light	Charging is not possible.	Temporary error.	1. Unplug the charging cable from the charging socket. 2. Wait a few seconds. 3. Plug the charging cable back into the charging socket. 4. If the problem persists, contact your Volvo retailer.
Flashing red light	Charging is not possible.	Serious error.	1. Unplug the charging cable from the charging socket and then from the wall outlet. 2. Wait a few seconds. 3. Plug the charging cable back into the wall outlet and then plug the charging socket into the vehicle. 4. If the problem persists, contact your Volvo retailer.

[1] For charging with a mode 2 charging cable.

[2] LED (Light Emitting Diode)

12.8.1.6. Charging cable temperature monitoring

To help ensure the vehicle's battery is reliably charged each time[1] it is connected, the charging cable's control module and plug have integrated temperature monitoring devices.

The temperature in both the control module and the plug is monitored.

Temperature monitoring in the control module

To help protect the vehicle's electronics, charging is stopped if the temperature in the control module becomes too high. This may occur due to e.g. high ambient temperatures or strong sunlight directly on the control module.

Monitoring in the plug

The charging current is reduced if the temperature in the plug becomes too high. If the temperature exceeds a critical limit, charging is stopped completely.

> **Warning**
>
> Monitoring of the charging cable's temperature helps protect the vehicle's charging system but cannot ensure that overheating will never occur.

> **Important**
>
> Avoid exposing the control unit and its plug to direct sunlight. This could cause the overheating protection in the plug to reduce or cancel charging of the vehicle.

> **Important**
>
> If charging is often inadvertently interrupted, the charging cable and the vehicle's charging system should be checked by a trained and qualified Volvo service technician. The wall outlet should also be checked by a licensed electrician.

[1] For charging with a mode 2 charging cable.

12.8.1.7. Electric vehicle charging via wall outlet

If no other charging options are available, the vehicle can be charged via a wall outlet.

> **Note**
>
> The information in this section applies to charging via a wall outlet and a mode 2 charging cable.

Charging cable (mode 2)

When charging via a wall outlet, use a charging cable with a control module that can limit the amperage (mode 2).

> **Warning**
>
> Only use the charging cable provided with your vehicle or a replacement cable purchased from a Volvo retailer.

Warning

The charging cable and its components must not be rinsed or immersed in water.

Warning

- The charging cable must be grounded when in use. It is equipped with a cord with a grounding conductor and a grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances and is not damaged in any way.
- Children should be supervised when in the vicinity of the charging cable when it is plugged in.
- High voltage is present in your electric meter housing and power distribution service panel. Contact with high voltage can cause death or serious personal injury.
- Do not use the charging cable if it is damaged in any way. A damaged or malfunctioning charging cable may only be repaired by a workshop – an authorized Volvo workshop is recommended.
- Always position the charging cable so that it will not be driven over, stepped on, tripped over or otherwise damaged, or cause personal injury.
- Disconnect the charger from the wall outlet before cleaning it.
- Never connect the charging cable to an extension cord or a multiple plug socket.
- Do not use one or more adapters between the charging cable and the electric outlet.
- Never connect adapters of any kind between the charging cable and the vehicle.
- Do not use an external timer between the charging cable and the electrical outlet.

Also, refer to the manufacturer's instructions for using the charging cable and its components.

Important

Avoid exposing the control unit and its plug to direct sunlight. In such cases, the overheating protection in the plug could reduce or cut off charging of the high-voltage battery.

Important

Do not use a charging cable that is more than 30 meters (approx. 1180 inches) long.

Starting charging

Always park the vehicle before starting to charge it.

1 Plug the charging cable into a 120/240 V outlet.

2 Open the charger door.

Remove the charging handle cover and plug the handle all the way into the vehicle's charging socket.

3
4 The charging cable's charging handle is locked into place and charging begins within 5 seconds.

Note

Read more about how charging is started in the "Electric vehicle charging" section.

Important

If the power capacity of the wall outlet's fuse is too low, the fuse could blow while the vehicle is charging. Set the lowest amperage for charging in the vehicle's center display before reconnecting the vehicle for charging. If the problem persists, contact a qualified electrician for further investigation.

Warning

- The electric vehicle must only be charged at maximum permitted charging current or lower in accordance with applicable local and national recommendations for charging from wall outlets/plugs.
- Only charge the electric vehicle from approved, grounded wall outlets.
- Avoid visibly worn, defective or damaged electrical outlets since they may lead to fire damage and/or personal injury if used.

Important

Never connect the charging cable if there is a risk of a thunderstorm or there is lightning.

Stopping charging

To stop charging, press the button next to the charging socket or tap the button in the center display. Then unplug the charging cable from the vehicle's charging socket and then from the 120/240 V wall outlet.

Note

Read more about how charging is stopped in the "Stopping electric vehicle charging" section.

Important

Charging must be stopped before the charging cable is removed from the vehicle's charging socket. Failing to stop charging before unplugging the charging cable could damage the charging cable or the system.

Important

- Never unplug the charging cable from the wall outlet while charging is in progress – the wall outlet could be damaged in such circumstances.
- Note that the charging cable must be disconnected from the vehicle's charging socket before it is disconnected from the wall outlet, partly to prevent damage to the system and party to prevent unintentional interruption of charging.

Fuse

Charging an electric vehicle via a wall outlet corresponds to a high load on the fuse.

Important

Make sure that the fuse to the wall outlet can handle the current specified for the charging cable.

There are normally several 120/240 V power consumers in one fuse circuit, which means that more than one power consumer (e.g. lighting, vacuum cleaner, electric drill, etc.) may use the same fuse.

Important

Make sure that the 120/240 V outlet has sufficient amperage for charging electric vehicles. If you are uncertain of the capacity, have the outlet checked by a licensed electrician. If you are unsure of the power capacity of the outlet, set the lowest amperage shown in the center display.

Example 1

If the vehicle is connected to a wall outlet (10 A) and the charging current is set to 16 A, the vehicle will attempt to draw 16 A from the power grid. After a short time, the overloaded 10 A fuse for the outlet will be tripped and battery charging will be stopped.

Reset the fuse for the outlet and select a lower charging current in the center display.

Example 2

If the vehicle is connected to a wall outlet (10 A) and the charging current is set to 10 A, the vehicle will draw 10 A from the power grid. If another power consumer is connected to the same outlet (or another outlet in the same fuse circuit), the 10 A fuse for the outlet/fuse circuit could be overloaded and tripped, which would stop battery charging.

Reset the fuse for the outlet/fuse circuit and select a lower charging current in the center display, or disconnect the other power consumer from the outlet/fuse circuit.

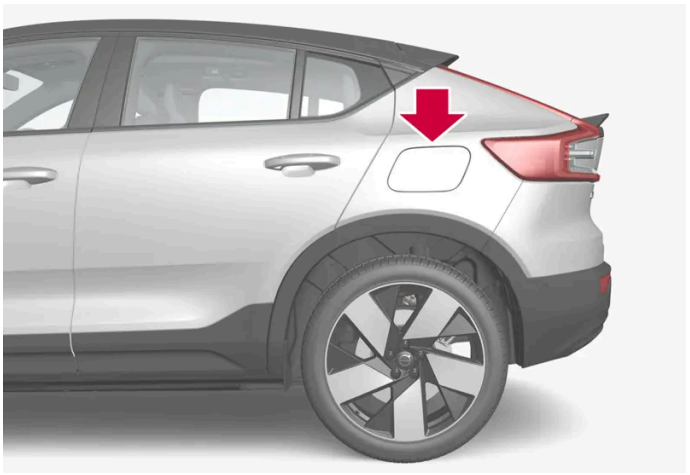
Example 3

If the vehicle is connected to a wall outlet (10 A) and the charging current is set to 6 A, the vehicle will only draw 6 A from the power grid. It will take longer to charge the battery, but additional power consumers can be connected simultaneously to the same outlet/fuse circuit as long as the combined load does not exceed the capacity of the outlet/fuse circuit.

12.8.1.8. Electric vehicle charging

You can charge the vehicle at a home charging station or a public charging station.

Location of charging socket



Charging via charging station (mode 3) [1]

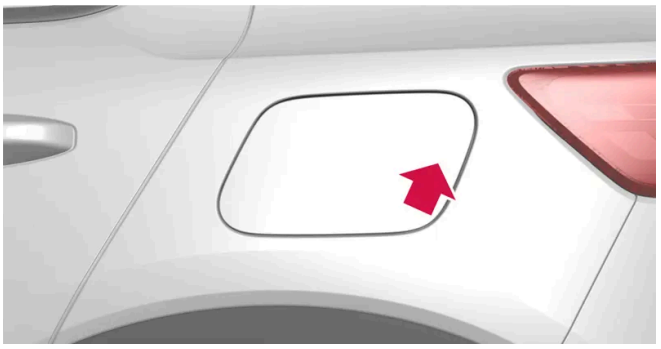
1 Pull out the cable from the charging station's storage socket or take out the charging cable.

2 Plug the charging cable into the charging station. If the charging station has a permanent charging cable, proceed to step 3.

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.

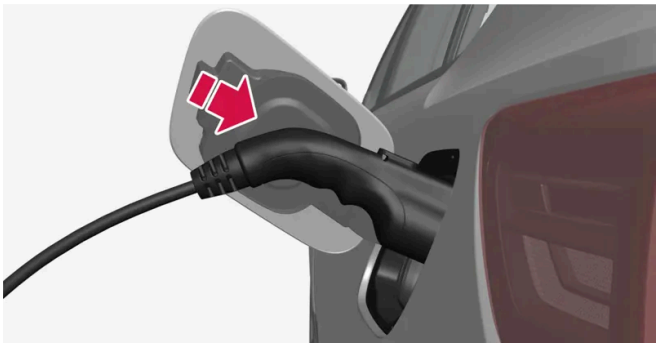
> **Important**
>
> Do not plug in the charging cable if there is a risk of thunder or lightning.

3



Press the rear edge of the charger door to open the charging socket[2].

4



Remove the charging handle's protective cover and push the charging handle all the way into the charging socket.

> **Important**
>
> To prevent paintwork damage, e.g. in strong winds, position the protective cover of the charging handle so that it does not touch the vehicle.

5 The charging cable handle will lock into place and charging will begin within 5 seconds.

> When charging starts, the green LED light in the charging socket will begin to flash.

The approximate remaining charging time or the charging status will be displayed in the instrument panel and center display.

During charging, condensation from the air conditioning may form under the vehicle. This is due to cooling of the high-voltage battery.

Warning

- Children should be supervised when in the vicinity of the charging cable when it is plugged in.
- High voltage is present in your electric meter housing and power distribution service panel. Contact with high voltage can cause death or serious personal injury.
- Do not use the charging cable if it is damaged in any way. A damaged or malfunctioning charging cable may only be repaired by a workshop – an authorized Volvo workshop is recommended.
- Always position the charging cable so that it will not be driven over, stepped on, tripped over or otherwise damaged, or cause personal injury.
- Do not use one or more adapters between the charging cable and the electric outlet.
- Never connect adapters of any kind between the charging cable and the vehicle.

Also, refer to the manufacturer's instructions for using the charging cable and its components.

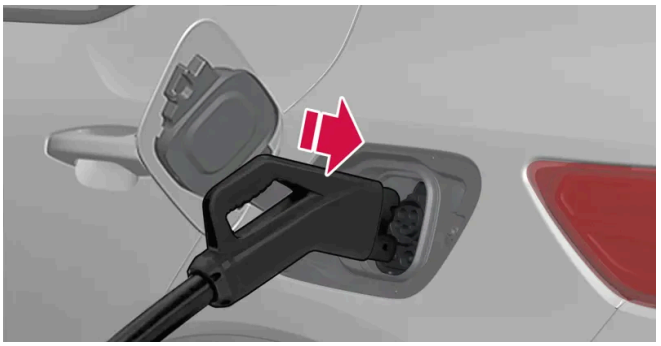
Important

Do not wash the vehicle while the charging cable is plugged in or the charging door is open.

Rapid charging (direct current)

1 Remove the charging cable from the charging station's storage socket. Note that the ignition must be switched off completely before charging.

2 Open the charger door and remove the charging socket's protective cover.

3 

Grasp the charging cable with both hands and push the charging cable all the way into the vehicle's charging socket. Hold the charging handle up for a few seconds. The charging cable automatically locks into the charging socket after a few seconds. Make sure that the charging cable locks fully into place so that charging can start.

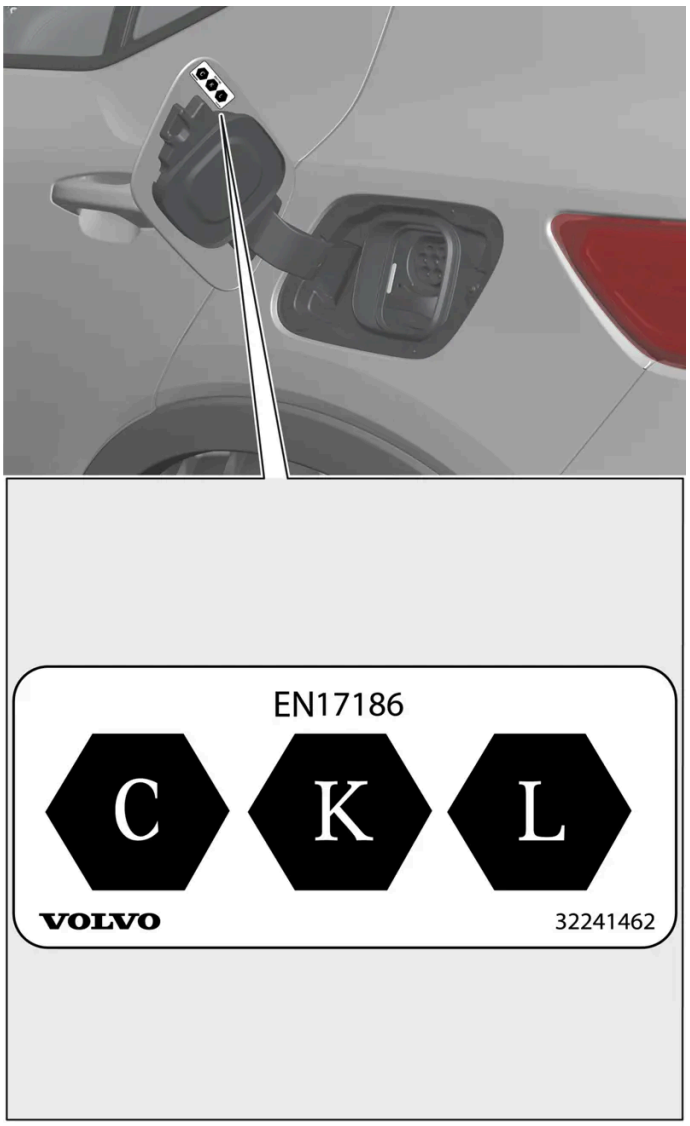
4 Follow the instructions in the charging station's user interface to authorize the charging. Charging will begin after the charging station completes an insulation test. This may take a minute or so.

> When charging starts, the green LED light in the charging socket will begin to flash. The approximate remaining charging time or the charging status will be displayed in the instrument panel and center display.

Note

Charging stations supporting CCS are usually clearly marked CCS or Combo.

Decal on inside of charger cover



CEN standard EN 17186 identifiers are shown on the inside of the charger cover.

- C: Type 2 charging with alternating current (AC)
- K and L: Charging with direct current (DC), including Combined Charging System (CCS)

[1] Applies to charging using a mode 3 charging cable or charging station with a permanent charging cable.

[2] The illustration is generic - details may vary according to model.

12.8.1.9. Stopping electric vehicle charging

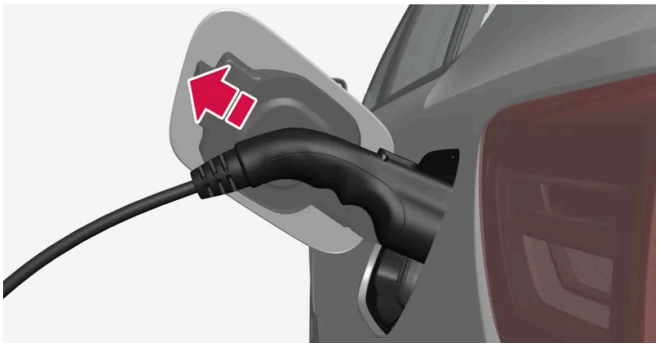
Stop charging at any time by pressing the button next to the charging socket or tapping the button in the center display.

Stopping charging (alternating current/AC) [1]

1 Press the button next to the charging socket or tap the button in the center display.

> **Important**
>
> Charging must be stopped before the charging cable is removed from the vehicle's charging socket. Failing to stop charging before unplugging the charging cable could damage the charging cable or the system.

2



Press the lock button on the charging cable's handle. The handle will be released/unlocked. Unplug the cable from the vehicle's charging socket and close the charger door.

3 Remove the charging cable from the charging station, or plug the permanent charging cable into the charging station's storage socket.

Charging cable automatically locks

If the charging cable is not removed from the charging socket, it will automatically lock back into place a short time after unlocking to maximize charging. The charging cable can be released again by pressing the button next to the charging socket or the button in the center display.

Stopping rapid charging (direct current/DC)

> **Important**
>
> Never try to unplug the charging cable from the vehicle while it is charging. Always stop charging first and then unplug the charging cable after the charging socket lock automatically unlocks.

1. To stop rapid charging, press the button next to the vehicle's charging socket, tap the button in the center display, or use the charging station's user interface.

> Charging will stop and the charging socket will automatically unlock. This may take a few seconds.

2. Unplug the charging cable from the vehicle's charging socket and close the cover.
3. Plug the charging cable into the charging station's storage socket or hang it back in the designated location.

Unlocking the vehicle during rapid charging

Rapid charging will not normally be interrupted if the vehicle is unlocked. If rapid charging is stopped, it will not resume automatically because the charging station requires reauthorization of charging via the user interface. If rapid charging is stopped, the charging cable will not automatically lock into place again. To restart interrupted rapid charging, remove the charging cable from the vehicle's charging socket, then plug it in again and follow the instructions in the charging station's user interface.

In the event of problems removing the charging handle

If the charging handle is left in the charging socket for a while after charging has stopped, the charging cable will automatically lock into place again. To release it, first try again to stop the charging. If the charging handle still does not release automatically, the following measures can be taken:

- Make sure that the key is within range and that the vehicle is unlocked.
- Safely cut the power supply to the charging station. When charging at a charging station, contact the charging station's customer care for assistance with stopping charging.
- Move the charging handle gently from side to side.
- Lock and unlock the vehicle.
- Lock the vehicle and wait until the LED light by the vehicle's charging socket goes out. This can take up to 7 minutes. Then unlock the vehicle.

If the problem persists, contact your Volvo retailer.

> **Important**
>
> Never try to unplug the charging cable from the vehicle while it is charging. Always stop charging first by unlocking the vehicle using the key or by tapping the button in the center display. Then unplug the charging cable after the charging socket lock automatically unlocks.

[1] Applies to charging using a mode 3 charging cable or charging station with a permanent charging cable.

12.8.1.10. Charging time

The following charging times are approximate and apply when charging is not affected by current being drawn from the climate system or any other function. Charging time can also vary depending on battery size. If charging seems to be taking much more time than shown in the table, this should be investigated.

> **Important**
>
> Volvo strongly advises against charging the vehicle with alternating current of 100–120 V in combination with an amperage under 10 A.

Charging time (alternating current/AC)

Single-phase charging from a 200–240 V outlet [1]			
Current (A) [2]	Charging output (kW) [3]	Charging time (hours) [4]	
		Single motor [5]	Twin motor [6]
6 [7]	1,3	64	72

Current (A)[2]	Charging output (kW)[3]	Charging time (hours)[4]	
		Single motor[5]	Twin motor[6]
10	2.2	36	40
16	3.6	22	24
32	7.2	11	12
48	11	8	8

Charging time for rapid charging (direct current/DC)

Charging output (kW)[8]	Charing time[9] (minutes)
50	60
150	37

> **Note**
>
> To improve charging performance during rapid charging, the battery is preconditioned when a rapid charging station is set as the destination in Google Maps.

> **Note**
>
> - In cold or hot weather, it may take longer to charge the high-voltage battery. Some of the charging current is then used to heat up/cool down the high-voltage battery.
> - Selecting preconditioning can affect the charging time.
> - Rapid charging with up to 150 kW output is possible under favorable conditions for the high-voltage battery and charging station. Charging output is limited toward the end of rapid charging.

[1] **At lower voltages, charging takes longer than indicated in the table.**

[2] Maximum charging current may vary from market to market.

[3] The highest charging output that the vehicle can achieve is 11 kW.

[4] From 0-100%

[5] Standard range.

[6] Extended range.

[7] Only possible in some markets.

[8] Maximum output that the charging station can supply.

[9] Applies at 10-80% charge level when the battery's temperature is around 35 °C (95 °F).

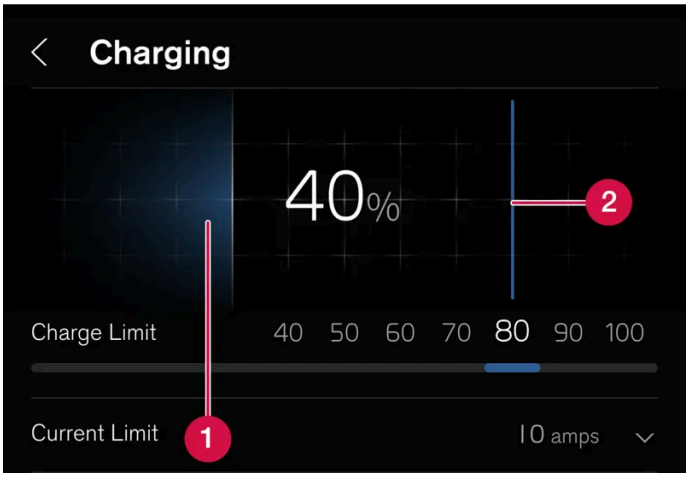
12.8.2. Charging in the vehicle's center display

The center display can be used to set charging level, unlock the charging cable, set current intensity (amperage), and schedule charging.

To access the charging view in the vehicle's center display, tap and then **Charging**. The charging view in the center display is also activated when charging begins.

> **Important**
>
> Volvo strongly advises against charging the vehicle with alternating current of 100–120 V in combination with an amperage under 10 A.

Setting a charging limit



1. The battery's current charge level.
2. Charging limit – Swipe to set a charge level at which charging should stop. The set limit remains the same until it is changed again in the center display.

> **Important**
>
> Follow the recommendations for high-voltage battery handling to optimize its lifetime and performance.

Schedule charging

When charging using alternating current, it is possible to schedule and set start and stop times for charging.

Select **Charging** → **Set timer** in the center display and then activate the scheduled charging in **Schedule charging**. Drag the ϟ and || controls to set start and stop times for charging.

Deactivate scheduled charging using the control next to **Schedule charging**.

Temporarily overriding scheduled charging settings

It is possible to override active scheduled charging settings without needing to deactivate the scheduled charging. This can be useful, for example, if the vehicle has a charging session scheduled during the night but you would like to charge it at another time, such as while it is parked after driving.

1. Plug the charging cable into the vehicle. The LED indicator in the vehicle's charging socket will glow blue when the vehicle is set to charge at the scheduled time. If this is done outside the scheduled time, no charging will take place.
2. Unplug the cable and then plug it in again.

> The LED indicator next to the charging socket will flash/glow steadily green and the vehicle will be charged. The scheduled charging will still be activated the next time the vehicle is plugged in for charging.

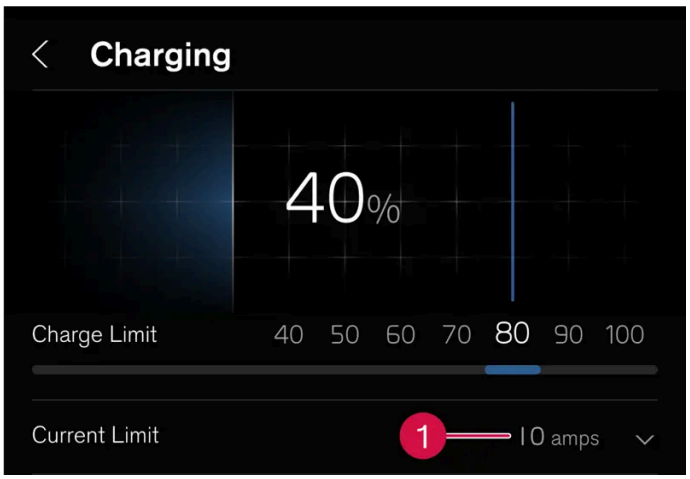
Note

The charging socket's LED light indicates the status for charging the high voltage battery and not whether the vehicle draws power, for example when the climate system is used. Even if the LED indicates that charging is complete, or that scheduled charging is activated, the vehicle can still draw current from the outlet. To avoid affecting the vehicle's range, current is first drawn from the outlet and not from the battery to supply any extra vehicle loads (parking heater, etc.).

Unlocking and locking the charging cable

Tap **Unlock cable** in the center display to unlock the charging cable and cancel charging. You can lock the cable into the charging socket by tapping **Lock cable** in the center display. When charging using a wall outlet/charging station (AC charging), charging will resume automatically. During rapid charging (DC charging), charging will not resume automatically.

Setting amperage



1 Set amperage.

When charging with alternating current[1], it is possible to limit the maximum amperage the vehicle can be charged with.

Select **Charging** and the arrow next to **Current limit (amps)**. Tap **+** to increase amperage or **-** to decrease amperage[2].

For charging with more than one phase, an average value for the set amperage will be shown in the instrument panel[3].

> **Note**
>
> The amperage may be limited by the charging station, charging cable or the vehicle's high-voltage system. It is not guaranteed that the vehicle can be charged with the specified amperage if this is higher than what the charging station or charging cable allow.

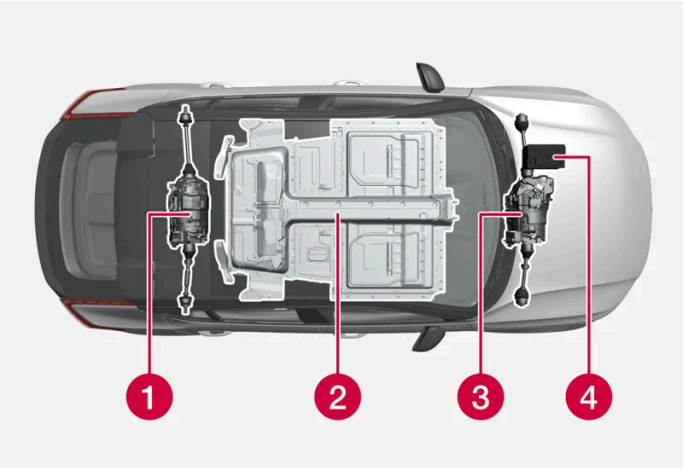
[1] Applies to charging via charging station (mode 3) and charging via wall outlet (mode 2).

[2] The set amperage applies per phase from the alternating current source.

[3] Certain markets only.

12.8.3. Drive systems

The vehicle is powered by the electric motor.



1 Electric motor[1] – The vehicle contains two electric motors that power the vehicle and regenerate braking energy into electrical current.

2 High-voltage battery – The vehicle contains a high-voltage battery. The function of the high-voltage battery is to store energy. This current is provided by plugging the charging cable into an electrical outlet and through regenerative braking.

3 Electric motor – The vehicle's electric motor powers the vehicle and regenerates braking energy into electric current.

4 12 V battery – The vehicle contains a 12 V battery that starts up the vehicle's electrical system and powers the electrical equipment in the vehicle.

[1] Applies to vehicles with two electric motors.

12.8.4. General information about charging

An electric car is driven in the same way as a car with a gasoline engine, but certain functions differ. The vehicle is equipped with a rechargeable high-voltage lithium-ion battery.

Different types of charging

The hybrid battery's charging time depends on the amperage used. The 12V battery is also charged when the vehicle is charged.

Charging via wall outlet (AC charging)

The vehicle can be charged via a regular wall outlet. This type of charging is suitable as extra charging for electric vehicles but is not recommended for regular charging.

Charging via charging station (AC charging)

The charging station may be equipped with either a permanent charging cable or with a socket where a mode 3 charging cable can be plugged in. This type of charging is recommended for regular charging.

Rapid charging via charging station (DC charging)

The vehicle supports rapid charging with direct current (DC) at charging stations supporting the CCS (Combined Charging System) standard. Charging with direct current usually enables higher charging output and thereby shorter charging times. The highest charging output is normally achieved when the charge level of the battery is 0–30%, after which the charging output gradually decreases.

Effect of temperature

The hybrid battery with associated electrical drive system as well as gasoline engine and its drive system, work better when they are at the correct operating temperature.

The high-voltage battery may have reduced performance if the temperature in the battery is too low or too high.

Important

Leaving the vehicle for prolonged periods at temperatures under –10 °C (14 °F) or over 40 °C (104 °F) may reduce the performance of the high-voltage battery. Charging the vehicle can help prevent the battery from becoming too hot or too cold.

Important

Note

The capacity of the high-voltage battery decreases somewhat with age and use.

Warning

California Proposition 65

Operating, servicing and maintaining a passenger vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle [https://www.p65warnings.ca.gov/products/passenger-vehicle] .

Warning

Charging the vehicle can affect the function of an implanted pacemaker or other medical equipment. People with an implanted pacemaker are recommended to consult a doctor before starting charging.

Warning

If the high-voltage battery needs to be replaced, this may only be done by Volvo retailer or authorized Volvo workshop.

Exterior engine noise

Note

When the electric motor is in use, an artificial exterior sound will play in the background. This sound is intended to help warn children, pedestrians, cyclists, animals, etc. outside the vehicle of the vehicle's approach.

High-voltage electrical current

Warning

The electrical system in your vehicle uses high-voltage electrical current. Any damage to this system or to the high-voltage battery may result in the danger of overheating, fire, or serious injury. If the vehicle is involved in a collision or subjected to flooding, fire, etc., have it inspected by a trained and qualified Volvo service technician. Prior to this inspection, the vehicle should be parked outdoors at a safe distance from any building or potentially flammable materials.

Warning

A number of electrical components in the vehicle use high-voltage current and can be extremely dangerous if handled incorrectly. These components and any orange wiring in the vehicle may only be handled by trained and qualified Volvo service technicians.

Do not touch anything that is not clearly described in this Owner's Manual.

12.8.5. Problems detaching the charging cable

If there is a problem with the key, charging can be cancelled using the detachable key blade.

Manual release of charging cable if key is unresponsive

1. Use the key to unlock the vehicle. Carefully read the article on how to lock and unlock the vehicle with a removable key blade and follow the instructions to unlock the vehicle.
2. After the vehicle has been unlocked with the key blade, the alarm will be triggered when the door is opened. Carefully read the article on how to activate and deactivate the alarm and follow the instructions to deactivate the alarm.
3. Tap **Unlock cable** in the center display.

> Detach the charging cable. In case of problems, repeat steps **2** to **3**.

12.8.6. Electric propulsion symbols and messages in the instrument panel

If a problem occurs with the vehicle's electric propulsion system, a symbol and a message are displayed in the instrument panel. Several examples are provided below.

Symbol	Meaning
	Fault in 12 V battery. Read the message in the instrument panel. Contact a workshop [1].
	Fault in drive system. Read the message in the instrument panel. Contact a workshop [1].
	Temporary performance limitation. Read the message in the instrument panel.
	Information about the high-voltage battery's charge level Read the message in the instrument panel.
	Remove charging cable before start.

[1] An authorized Volvo workshop is recommended.

12.8.7. High-voltage battery recommendations

Some circumstances can lead to damage to the high-voltage battery and shorten its lifetime. These recommendations are designed to help ensure a long lifetime for the high-voltage battery and good performance when driving.

Charging

When time and opportunity allow, choose AC charging [1] rather than DC rapid charging [2]. AC charging is gentler on the high-voltage battery, particularly in the case of regular charging.

High charge level

Avoid charging the vehicle to 100% unless the entire range is needed for the trip.

The battery can be damaged by maintaining a very high charge level for a long period of time. To help prevent damage, avoid leaving the vehicle plugged in for charging to more than the recommended charge level, which is shown in the center display.

Low charge level

> **Important**
>
> The high-voltage battery could be severely damaged if it is not recharged after becoming completely discharged. Because some consumption and natural battery discharge occur even when the vehicle is not being used, the charge level can drop to 0% if the vehicle is left unplugged with a low charge level.

If the charge level is under 20%, charging is always recommended so as to not risk discharging the battery completely.

Long-term parking

To minimize the risk of battery damage during long-term parking (longer than one month), a charge level of 40-60% is recommended.

- If the charge level is higher – drive the vehicle until the charge level is lower.
- If the charge level is lower – charge the vehicle.

If you plan to park the vehicle for longer than three months, continuous charging is recommended.

Check the charge level of the vehicle regularly and ensure that it is charging properly.

Parking in warm climates

> **Important**
>
> Avoid exposing the vehicle to extreme temperatures. If there is a risk of temperatures reaching about 55 °C (131 °F), parking for longer than 24 hours should be avoided completely as this could seriously damage the battery.

High temperatures can damage the high-voltage battery, especially if it is exposed to these temperatures for a long period of time. If possible, always plug in the vehicle for charging in temperatures higher than 30 °C (86 °F). The vehicle can actively cool the battery while it is parked, but this consumes current and causes the charge level to drop. If the vehicle is charged while it is parked, the battery can be cooled without being discharged.

If possible, park in the shade if the outdoor temperature is high. Strong sunlight in combination with high outdoor temperatures can cause the vehicle and the high-voltage battery to become very warm.

Parking in cold climates

If the temperature of the high-voltage battery is low, its performance is temporarily reduced until the battery warms up again. Plug in the vehicle for charging and use preconditioning to avoid driving with reduced performance. The vehicle can then warm up the battery before driving without the charge level and range being decreased.

Plug in the vehicle for charging if you plan to park it for longer than 24 hours when the ambient temperature is under -30 °C (-22 °F).

It is not harmful to drive the vehicle when it indicates that performance is reduced due to low temperatures.

[1] AC is also called alternating current.

[2] DC is also called direct current.

12.8.8. Range

A number of factors can affect vehicle range. The ability to achieve a long driving range varies according to the outside conditions and to how the vehicle is driven.

The certified value for the vehicle's range should not be considered an expected driving range. The certified value is obtained during special test cycles and is primarily intended to be used for comparisons between different vehicles.

> **Note**
>
> The driving journal calculates electricity consumption based on pure consumption during a trip. Because electrical regeneration is also included in the calculation, this value may differ from what you see in the trip odometer.

Range in the instrument panel

When the vehicle is delivered from the factory, the range is based on the certified value. Once the vehicle has been driven for a while, range is instead based on historical driving patterns.

The amount of history used depends on the battery's charge level. The lower the charge level of the battery, the more quickly the range adapts to changed driving patterns.

Short range

When the battery's charge level drops, the vehicle's estimated range will also be shorter. As the range becomes shorter, a number of messages and symbols will be shown in the instrument panel.

Symbol	Message/meaning
	When the vehicle's range drops to 50 km (31 miles), the color of the battery symbol next to the battery gauge will change to orange and the message **Low rangeDo you want to find a charging station?** will be shown in the instrument panel. If a destination has been set in the navigation system, the message will not be shown.
	When the vehicle's range drops to 20 km (12 miles), the color of the battery symbol next to the battery gauge will change to red and the message **Low rangeDo you want to find a charging station?** will be shown in the instrument panel.
	When the battery level is low, an orange turtle will be shown in the upper section of the instrument panel.
	The message **Reduced power due to low battery charge** will be displayed along with an orange battery symbol. If the turtle was not shown earlier, it will be visible in the instrument panel when this message is displayed.
	The message **Empty battery. Charge battery.** will be displayed along with an empty battery symbol.

Factors affecting driving range

There are a number of other factors in addition to historical trip data that affect range. The longest range is achieved under very favorable conditions when all factors positively influence range.

Factors affecting range include:

- speed
- climate control settings
- topography

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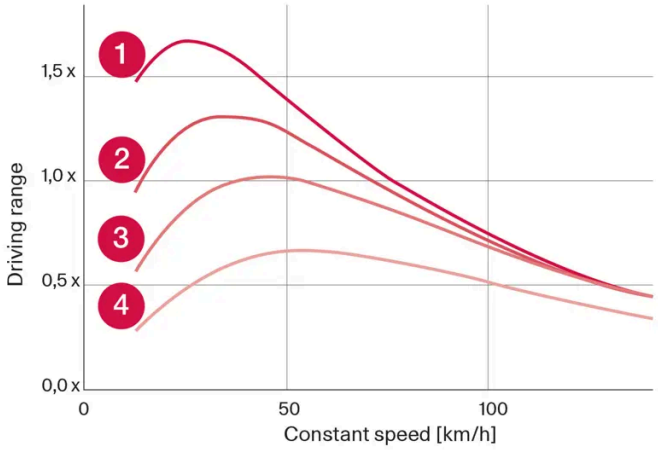
- preconditioning
- tires and tire pressure
- the current traffic situation
- temperature and weather
- road conditions.

Range in cold temperatures

In cold ambient temperatures, the battery may become cold, which will adversely affect range. If the battery drops to a critically low temperature, this symbol is shown in the instrument panel. If the vehicle is parked in cold ambient temperatures, the range could be drastically reduced. To avoid extremely reduced range after parking in cold ambient temperatures, the vehicle should be charged while it is parked.

Range based on speed and ambient temperature



1 20 °C (68 °F) ambient temperature and passenger compartment climate control off.

2 20 °C (68 °F) ambient temperature and passenger compartment climate control on.

3 35 °C (95 °F) ambient temperature and passenger compartment climate control on.

4 -10 °C (14 °F) ambient temperature and passenger compartment climate control on.

The graph shows the approximate ratio between constant speed and range.

The graph shows that a lower speed gives a longer range. The ambient temperature also affects the range, so that very cold or very warm ambient temperatures give a shorter range.

Lines 1 and 2 show the approximate difference in range that is affected by the climate functions. Turning off the climate system is more favorable for the range.

12.8.9. Range assistant

The range assistant supplies the driver with general information and assistance to facilitate more economical driving.

The main factors that the driver can influence to extend the range are speed, driving style and climatization settings. Each factor has a meter that indicates the energy use. When the meter changes color from blue to orange the driver should check their energy use for more economical driving.

Speed: The vehicle's average speed during the last minute.

Driving style: The acceleration and braking behavior during the last few minutes.

Climate control: The estimated average consumption based on the current climatization settings.

Next to the estimated range, there are two numbers that indicate expected short and long range based on high and low consumption, respectively. These values are defined as:

Long range: Assumes typical city driving with climate system off.

Short range: Assumes highway driving at high speed with the climate system on.

Consumption is shown in kWh/100 km when the vehicle is in motion and as kW (kWh/h) when stationary. The value is instantaneous and will therefore indicate high values during accelerations and up hills.

Optimize range

The range optimization function adjusts the climate settings to save energy and thus extend the vehicle's range.

Activate or deactivate range optimization via the center display

1. Tap ⊞.
2. Select **Range assistant**.
3. Activate or deactivate range optimization.

> **Note**
>
> When the charge level is 50% or higher, a message is displayed that allows the driver to deactivate range optimization.

Note

Heater power is reduced in cold ambient temperatures. If the passenger compartment climate feels too cool, deactivate range optimization.

Cooling is limited in warm ambient temperatures. If the passenger compartment climate feels too warm, deactivate range optimization.

Problems with misting may occur because the AC function that adjusts air humidity is limited.

Because the AC function is limited, air recirculation increases, which could cause the air quality to be perceived as less comfortable, especially in the rear seat.

12.8.10. Recycling of batteries

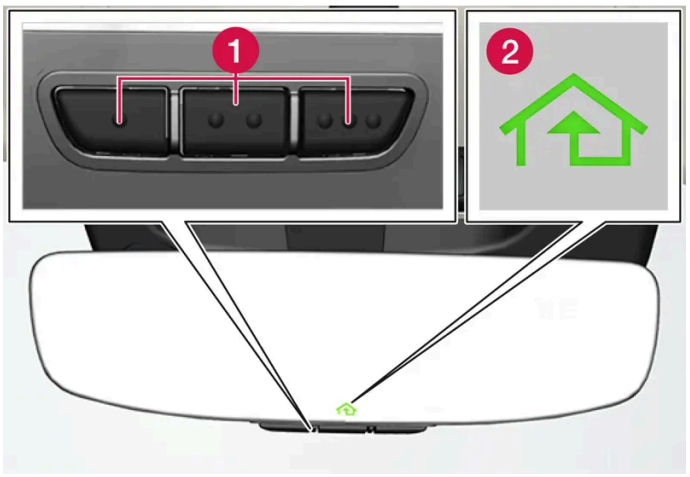
Batteries must be recycled in an environmentally sound manner at the end of their service life.

Consult a workshop if you are uncertain of how to dispose of this type of waste – an authorized Volvo workshop is recommended. Only authorized workshop personnel may handle high-voltage batteries.

12.9. HomeLink

12.9.1. HomeLink® * [1]

HomeLink® [2] is a programmable remote control integrated in the vehicle's electrical system.
It can remotely control up to three different devices, such as garage door openers or alarm systems, and thereby replace the remote controls for these.



The illustration is generic – the design may vary.

1 Programmable buttons

2 Indicator light

HomeLink® is integrated in the rearview mirror and consists of three programmable buttons and an indicator light in the mirror.

> **Note**
>
> Save the original remote controls for future reprogramming (e.g. for use in another vehicle).
>
> It is also advisable to delete the button programming if the vehicle is sold.

More information

Visit homelink.com or call 1-800-355-3515.

* Option/accessory.

[1] Certain markets only.

[2] HomeLink and the HomeLink house symbol are registered trademarks of Gentex Corporation.

12.9.2. Using HomeLink® * [1]

Once HomeLink® is programmed, it can be used instead of the separate remote controls.

Press and hold the programming button. The garage door, gate, alarm system, etc. will be activated (this may take several seconds). If the button is held down for more than 20 seconds, reprogramming will begin. The indicator light will glow steadily or flash when the button has been pressed. The original remote controls may be used concurrently with HomeLink® if desired.

> **Note**
>
> When the ignition is switched off, HomeLink® will be active for at least 7 minutes.

> **Note**
>
> HomeLink® cannot be used if the vehicle is locked and the alarm is armed* from the outside.

> **Warning**
>
> - If you use HomeLink® to open a garage door or gate, be sure no one is near the gate or door while it is in motion.
> - Do not use HomeLink® with any garage door opener that lacks safety stop and reverse features as required by U.S. federal safety standards (this includes any garage door opener model manufactured before April 1, 1982). A garage door that cannot detect an object - signaling the door to stop and reverse - does not meet current U.S. federal safety standards. For more information, contact HomeLink at: homelink.com.

* Option/accessory.

[1] Certain markets only.

12.9.3. Programming HomeLink® * [1]

Program HomeLink®, reset programming or reprogram individual buttons.

Programming

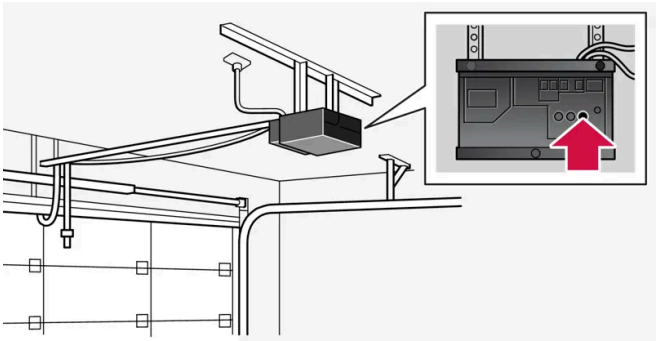
1 Point the remote control at the HomeLink® button to be programmed and hold it about 2-8 cm (1-3 inches) from the button. Do not obstruct the HomeLink® indicator light.

2 Press and hold both the remote control button and the HomeLink® button to be programmed.

3 Do not release the buttons until the indicator light has stopped flashing slowly (about once a second) and either flashes quickly (about 10 times a second) or glows steadily.

> **If the indicator light glows steadily:** Indication that programming is complete.
> Press the programmed button twice to activate.
> **If the indicator light flashes quickly:** The device being programmed with HomeLink® may have a security function that requires an extra step.
> Try pressing the programmed button twice to see whether the programming works. Otherwise, continue with the following steps.

4



Locate the "training" button [2] on the receiver for the e.g. garage door opener. It is usually located near the antenna bracket on the receiver.

5 Press and release the "training" button once.

Programming must be completed within 30 seconds after pressing the button.

6 Press and release the HomeLink® button to be programmed. Repeat the press/hold/release sequence a second time. For some receivers, the sequence may need to be repeated a third time.

> Programming is complete.

> **Note**
>
> Some remote controls are more effective at programming HomeLink® from a distance of about 15-20 cm (6-12 inches).

Programming individual buttons

1. Press and hold the desired button for about 20 seconds.
2. When the indicator light on HomeLink® starts flashing slowly, it is possible to program as usual.

> **Note**
>
> If the button you are reprogramming does not program with a new device, it will return to the previously saved programming.

Resetting the HomeLink® buttons

It is only possible to reset all HomeLink® buttons at once. Individual buttons can only be reprogrammed.

1. Press and hold the outer buttons on HomeLink® for about 10 seconds.

> When the indicator light goes from a steady glow to flashing, the buttons have been reset and are ready for reprogramming.

Problems programming

Visit homelink.com or call 1-800-355-3515.

* Option/accessory.

[1] Certain markets only.

[2] The name and color of the button varies depending on the manufacturer.

12.9.4. Type approval for HomeLink® * [1]

Type approval for HomeLink® is provided below.

Country/Area	Type approval
USA and Canada	This device complies with FCC rules part 15 and Industry Canada RSS-210. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference that may be received including interference that may cause undesired operation.
Europe	Gentex Corporation hereby declares that HomeLink® Model UAHL5 complies with the Radio equipment directive 2014/53/EU. Wavelengths within which the radio equipment operates: • 433.05MHz-434.79MHz <10mW E.R.P. • 868.00MHz-868.60MHz <25mW E.R.P. • 868.70MHz-868.20MHz <25mW E.R.P. • 869.40MHz-869.65MHz <25mW E.R.P. • 869.70MHz-870.00MHz <25mW E.R.P. Certificate holder address: Gentex Corporation, 600 North Centennial Street, Zeeland MI 49464, USA

Warning

The transmitter has been tested and complies with FCC and IC rules. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device.[2]

* Option/accessory.

[1] Certain markets only.

[2] The term "IC:" before the certification/registration number only signifies that Industry Canada technical specifications were met.

12.10. Towing

12.10.1. Towing using a towline

The vehicle can only be towed using a towline to pull it up onto the bed of a tow truck.

For towing to be possible, the vehicle must be in Tow mode, which is set via the center display.

Important

Towing should only take place when Tow mode is activated. If Tow mode is not activated, the vehicle may start charging and there is considerable risk that the vehicle's systems could be damaged.

> **Important**
>
> The vehicle may only be transported on a flatbed tow truck, with all four wheels on the bed. Never tow the vehicle with any of the vehicle's wheels rolling on the ground.

Types of towing

When activating Tow mode, the type of towing must be selected.

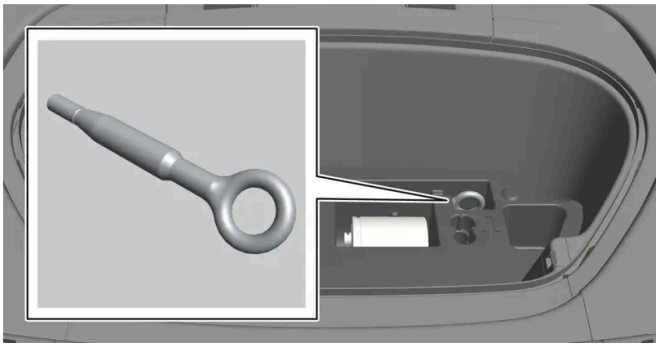
Towing using a tow truck

The vehicle is transported with all four wheels on the bed of a tow truck, without any of the vehicle's wheels rolling.

12.10.2. Attaching and removing the towing eyelet

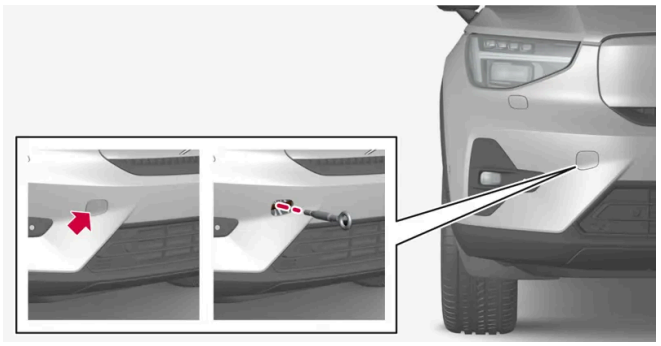
Use the towing eyelet when towing. Screw the towing eyelet securely into place in the threaded outlet behind the cover on the right-hand side of the front and rear bumpers.

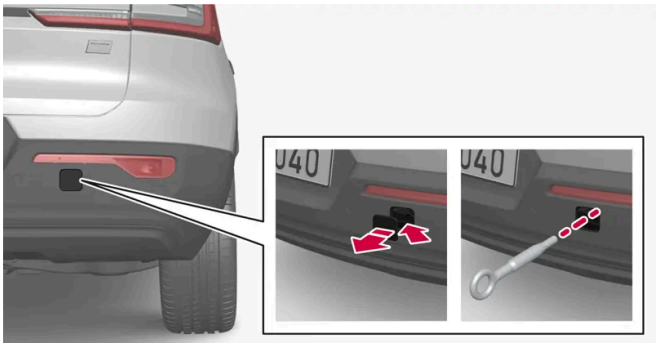
Attaching the towing eyelet

1 

Take out the towing eyelet, which is stored in a foam block under the hood.

2





Front: Remove the cover by pressing the cover. The cover turns along its center line and can then be removed.

Rear: Remove the cover by placing a coin, key or similar at the mark and prying out the cover. Fold out the cover completely and remove.

3 Screw the towing eyelet in as far as possible.

Fasten the eyelet securing by, for example, inserting a lug wrench* through it and using this as a lever.

> **Important**
>
> It is important that the towing eye is screwed in securely as far as possible.

Removing the towing eyelet

1 Unscrew the towing eyelet after use and return it to the foam block.

Replace the cover on the bumper.

* Option/accessory.

12.10.3. Activating and deactivating Tow mode

Tow mode is used when the vehicle needs to be able to roll freely, for example, to pull it up onto the bed of a tow truck.

Activating Tow mode

1. Tap ⊞ in the center display.
2. Tap **Car status**.
3. Select **Service**.
4. Tap **Activate Tow Mode**.
5. Follow the instructions in the screen.

> The vehicle is now in Tow mode and can roll freely.

> **Important**
>
> The vehicle may only be transported on a flatbed tow truck, with all four wheels on the bed. Never tow the vehicle with any of the vehicle's wheels rolling on the ground.

Deactivating Tow mode

1. Make sure the vehicle is stationary.
2. Apply the parking brake.

> Tow mode is now deactivated.

12.10.4. Recovery

This section refers to transporting the vehicle with a tow truck or similar vehicle.

Call a professional towing service for assistance.

The vehicle can be pulled up onto the bed of a tow truck if the vehicle is in Tow mode. Otherwise, it should be hoisted up onto the bed of the tow truck.

Important

Note that the vehicle must always be towed raised with all wheels on the tow truck.

Warning

No person or object should be behind the tow truck when the vehicle is lifted onto the bed of the truck.

12.10.5. Safety mode

Safety mode is a feature that is triggered after a collision if there is potential damage to an important function in the vehicle, such as the high-voltage system, sensors for one of the safety systems, the brake system, etc.

If the vehicle has been involved in a collision, the text **Safety mode See Owner's manual** may appear in the instrument panel along with the warning symbol if the panel is undamaged and the vehicle's electrical system is intact. The message indicates that one or more of the vehicle's functions may be reduced.

If safety mode has been set, it may be possible to reset the system in order to start and move the vehicle a short distance, for example, if it is blocking traffic.

Warning

Never attempt to perform repairs or reset electrical components on your own after the vehicle has been in safety mode. This could result in injury or prevent the vehicle from functioning properly. Volvo recommends having the vehicle inspected and reset to normal operating status by an authorized Volvo workshop after **Safety mode See Owner's manual** has been displayed.

Warning

When the vehicle is in safety mode, it should not be towed behind another vehicle. It should be towed from the site on a tow truck. Volvo recommends towing the vehicle directly to an authorized Volvo workshop.

12.10.6. Starting and moving the vehicle when it is in safety mode

If safety mode has been set, it may be possible to reset the system in order to start and move the vehicle a short distance, for example, if it is blocking traffic.

Resetting and starting the vehicle when it is in safety mode

1. Check the vehicle for damage.

   If the damage is minor, you may attempt to start the vehicle.

2. Switch off the vehicle manually.

3. Then try to start the vehicle.

> The vehicle's electrical system will perform a system check and then attempt to reset to normal operating mode. The message **Vehicle start System check, wait** will be displayed on the instrument panel during the check. This may take up to a minute.

4. When **Vehicle start System check, wait** is no longer displayed in the instrument panel, try again to start the vehicle.

> **Important**
>
> If the message **Safety mode See Owner's manual** is still displayed, the vehicle should not be driven or towed behind another vehicle. If the vehicle needs to be moved, it must be towed on a tow truck. Even if no damage is apparent, there may be hidden damage that could make the vehicle impossible to control.

Moving the vehicle when it is in safety mode

1. If the message **The car is now in normal mode** is displayed after attempting to start the vehicle, the vehicle may be moved carefully from its present position if, for example, it is blocking traffic.

2. Do not move the vehicle farther than absolutely necessary.

> **Warning**
>
> When the vehicle is in safety mode, it should not be towed behind another vehicle. It should be towed from the site on a tow truck. Volvo recommends towing the vehicle directly to an authorized Volvo workshop.

13. Audio, media and Internet

13.1. Radio

13.1.1. Sirius XM satellite radio

13.1.1.1. SiriusXM® Satellite radio*

The SiriusXM® Satellite system broadcasts from of a number of high elevation satellites in geosynchronous orbit.

Starting SiriusXM

The SiriusXM app can be started via the center display or via voice control.

Via the center display:

1

Start the SiriusXM app from Home view[1] or App view.

2 Select the desired station from the list of available stations, favorites or categories.

If no subscription is activated, press station 0 which shows your radio ID. The Now Playing view prompts you to make a call SiriusXM on the screen to activate the subscription you want. The Radio ID can also be found on the settings page for SiriusXM, which also contains subscription status information.

When the subscription has been activated, you can choose to listen to a desired station in the SiriusXM app.

* Option/accessory.

[1] The app is available from Home view if it is among the most recently used apps.

13.1.1.2. Using SiriusXM® Satellite radio*

SiriusXM Satellite radio offers several features for finding and listening to music, news, sporting events, etc. being broadcast on satellite radio stations.

Setting favorites

A SiriusXM station can be added to the list of favorites, which has its own tab in the SiriusXM app.

To save a stations as a favorite:

1. Open the SiriusXM app from Home view or app view.
2. Tap the star ☆ next to the station you want to add to the list of favorites. The star becomes solid blue to indicate that the selection has been confirmed.

> The station is added to the list of favorites.

The stations are placed in numerical order.

To remove a station from the list of favorites, tap the star again. The blue color will disappear to confirm that the station has been removed from the list of favorites.

It is also possible to add and remove favorites from the Now-playing view, which can be accessed by expanding the Now-playing field to full-screen view.

SiriusXM® Satellite radio functions

Search

Tapping the magnifying glass brings up a search view where you can enter digits using the center display's keyboard and search for a station.

Settings

Pressing the gear wheel displays settings for SiriusXM. Here you will find information about your subscription, radio ID and setting for hiding or showing stations in the station list that you can no longer subscribe to.

Stations

Tap the station tab to display a complete list of the stations included in your subscription. Tap a station name to listen. If a subscription to a station has expired, its name will be grayed-out on the screen. For quick access to a station that you often listen to, tap the star to the right of the station's name. It will then be added to your list of favorites.

Favorites

Tap on the favorites tab to display the stations that you have added to this list. Tap a station to listen.

Categories

Tap on the categories tab to display the categories available. Tap a category to display the stations that it contains and then tap a station to listen.

* Option/accessory.

13.1.2. Radio*

It is possible to listen to FM stations.

The radio can be controlled from the center display or the steering wheel keypad, or by using voice control.

Additional radio apps can be downloaded from Google Play.

Shortcuts

When the app is in use, it can also be controlled via shortcuts in Home view.

Radio messages[1]

Different types of radio messages, such as traffic news and important public announcements, can be adjusted under settings in the radio app.

* Option/accessory.

[1] Certain markets only.

13.1.3. Starting the radio*

The radio app can be started via the center display or by using voice control.

Starting from the center display

1

Start the radio app from Home view[1] or App view.

2 Select the desired radio station from the list of available radio stations or from favorites.

Starting using voice control

FM radio can also be started using voice control by saying a frequency[2].

* Option/accessory.

[1] The app is available from Home view if it is among the most recently used apps.

[2] Only FM frequencies can be specified using voice control, not names of radio stations.

13.1.4. RBDS*

RBDS radio

RBDS (Radio Broadcast Data System) enables certain functionality[1], such as:

- Searches for program types or new broadcasts
- Text information about currently broadcast programs

* Option/accessory.

[1] Certain stations only.

13.1.5. Storing radio favorites*

A radio station can be added to the list of favorite radio stations, which has its own tab in the radio app.

Radio favorites

To save a radio station as a favorite:

1 Open the radio app from Home view or App view.

2 Tap the star ☆ next to the radio station you want to add to the list of favorite stations. The star becomes solid blue to indicate that the selection has been confirmed.

> The radio station is added to the list of favorites.

To remove a radio station from the list of favorites, tap the star again. The blue color will disappear to confirm that the radio station has been removed from the list of favorites.

It is also possible to add and remove favorites from the Now-playing view, which can be accessed by expanding the Now-playing field to full-screen view.

* Option/accessory.

13.2. Media player

13.2.1. Bluetooth Media Player

If a phone or another device is connected to the vehicle via Bluetooth, media from the devices can be played in Bluetooth Media Player.

Start the Bluetooth Media Player app from Home view or App view ⊞. When the app is in use, it can also be controlled via shortcuts in Home view.

> **Note**
>
> To stream media from a phone via Bluetooth, you must first start Bluetooth Media Player.

Other third-party apps for media playback can also be downloaded to the vehicle.

Start Bluetooth Media Player via voice control

It is also possible to control the media player using voice control.

13.3. Phone

13.3.1. Connecting a phone

13.3.1.1. Connecting a phone to the vehicle

Use Bluetooth to pair a phone with the vehicle to make calls, send and receive text messages and play media.

Searching for the phone from the vehicle

Activate Bluetooth in the phone and verify in the settings that the phone is visible to other devices.

1 If no phone is already paired, tap +. Otherwise, go to settings at the bottom of the center display, and then tap **Connectivity** and **Bluetooth**. If the phone is not already listed under [1], select **Pair new device**.

> A list of available Bluetooth devices will be displayed. The list will be updated as new devices are discovered.

2 Tap the name of the phone you would like to connect.

3 Make sure that the code displayed in the vehicle matches the one in the phone and confirm.

4 In the phone, accept or cancel the options for selecting the phone's contacts and text messages.

> By default, the phone is connected for use as both phone and media device[2].

5 Tap **Done**.

Note

- The message function must be activated in certain phones.
- If contacts and messages are not shown in the vehicle even when the function is activated, try unplugging the phone and plugging it in again.
- Not all phones are fully compatible and may not be able to display contacts and messages in the vehicle.

Note

If the phone's operating system is being updated, it is possible that the connection will be interrupted. Delete the phone from the car and reconnect.

[1] Previously paired phones will be visible under Bluetooth and can be selected from there.

[2] Which device should be used for phone and/or media can be selected later on, for example if a passenger wants to use their phone as media device to play media.

13.3.1.2. Disconnecting a Bluetooth-connected phone

A Bluetooth-connected phone can be disconnected from the vehicle.

- When the phone is out of range of the vehicle, it will be automatically disconnected. If a call is in progress when the phone is disconnected from the vehicle, the call will be transferred from the vehicle's speakers and microphone to the cellular phone.
- The phone can also be disconnected by manually deactivating Bluetooth.

Disconnecting via the center display

1. Tap ⚙ at the bottom of the display.
2. Tap **Connectivity**.
3. Under **Bluetooth**, tap the row containing the name of the phone to disconnect both phone and media.

> The phone is no longer connected to the vehicle.

You can also select whether the phone should be connected as only phone or only media device by pressing the relevant icon.

13.3.1.3. Switch between phones connected via Bluetooth

It is possible to switch between Bluetooth-connected phones.

You can do this by opening the phone app and tapping .

You can also switch between phones by following the steps below.

1. Tap ⚙ at the bottom of the display.
2. Tap **Connectivity**.
3. Under **Bluetooth**, tap the name of the phone you would like to connect.
4. Select if it should be used as phone, media device, or both.

13.3.1.4. Disconnecting Bluetooth-connected devices

Phones or other devices in the list of registered Bluetooth devices can be removed.

1. Tap ⚙ at the bottom of the display.

2 Tap **Connectivity**.

3 Under **Bluetooth**, tap the arrow after the name of the phone.

4 Tap **Forget device**.

> The phone is no longer registered in the vehicle.

13.3.2. Apple CarPlay

13.3.2.1. Apple® CarPlay® *

With CarPlay[1], you can listen to music, make phone calls, get driving instructions, send/receive messages and use Siri®, all while remaining focused on driving.

CarPlay works with select iPhone®[2] models. If the vehicle does not already have support for CarPlay, it can be retrofitted. Contact a Volvo retailer to install CarPlay.

Information on supported apps and compatible iPhones can be found on Apple's website: www.apple.com/ios/carplay/ [https://www.apple.com/ios/carplay/] . Please note that Volvo is not responsible for the content in CarPlay.

When using map navigation via CarPlay, guidance is shown in the instrument panel. A route description must be active for the map to be shown.

When navigation is started through Apple CarPlay, any current route guidance from the vehicle's own systems will be discontinued.

The CarPlay apps can be controlled via the center display, your iPhone or with the right-side steering wheel keypad. The apps can be voice-controlled using Siri. Press and hold the button on the steering wheel to start voice control with Siri. Press briefly to activate the vehicle's own voice control system. If Siri cuts off too soon, press and hold the button on the steering wheel.

* Option/accessory.

[1] Availability may vary depending on market.

[2] Apple, CarPlay, iPhone and Siri are registered trademarks of Apple Inc.

13.3.2.2. Using Apple® CarPlay® *

To use CarPlay[1], the Siri® voice control must be activated in your iPhone®[2]. The device also needs to have an Internet connection for all functions to work.

Connecting an iPhone and starting CarPlay

> **Note**
>
> CarPlay can only be used if Bluetooth is disabled in the vehicle. A cell phone or media player connected to the vehicle via Bluetooth will therefore not be available when CarPlay is active.

1. Plug an iPhone with support for CarPlay into the USB port with the white frame[3]. If CarPlay has been previously used from the phone, CarPlay will open automatically.
2. If this is the first time the phone is connected, read and approve the terms and conditions to connect.

> CarPlay opens and compatible apps are shown.

3. Tap the desired app.

> The app will start up.

CarPlay will run in the background if another app is started. To display CarPlay again, tap the CarPlay app in App view.

* Option/accessory.

[1] Availability may vary depending on market.

[2] Apple, CarPlay, iPhone and Siri are registered trademarks of Apple Inc.

[3] USB-C to lightning cable required.

13.3.2.3. Tips for using Apple® CarPlay® *

Here are some useful tips for when you use CarPlay®[1].

- Update your iPhone®[2] with the latest version of the iOS operating system and ensure that the apps have been updated.
- In the event of a problem with CarPlay, unplug your iPhone from the USB port and plug it in again. Otherwise, try to close the app on the device that is not working and then restart the app, or try closing all apps and restart your device.
- You can use Siri® to write or dictate messages or have them read aloud. Messages are read aloud and dictated in the language selected in the Siri settings. When a message is written/dictated, it will be displayed in your iPhone, but not in the center display.
- If the device is connected to the vehicle through Bluetooth, the connection will be broken when CarPlay is used.
- CarPlay only works with iPhone.

Note

Availability and functionality can vary depending on market.

* Option/accessory.

[1] Availability may vary depending on market.

[2] Apple, CarPlay, iPhone and Siri are registered trademarks of Apple Inc.

13.3.3. Connecting to the Internet via Bluetooth

Set up an Internet connection via Bluetooth through tethering (personal/portable hotspot) from a phone.

1. Make sure that the phone supports Internet sharing (tethering) and that the function is activated.
2. Connect the phone to the vehicle via Bluetooth. Go to settings at the bottom of the center display and then tap **Connectivity** and select **Bluetooth**.
3. If the phone was previously connected, tap the icon for tethering via Bluetooth for the phone you want to use. Otherwise, select **Pair new device** first.
4. Accept, via the message shown, that connection should be made.

> The vehicle is connected to the Internet.

Note

The cellular phone and network operator must support tethering (sharing of Internet connection) and the subscription must include data traffic.

13.3.4. Phone

A phone equipped with Bluetooth can be wirelessly connected to the vehicle.

When a phone has been paired and connected to the vehicle, it is possible to make calls, send and receive text messages and play media wirelessly through the vehicle's audio system.

The phone is controlled from the center display and certain functions can also be voice-controlled.

13.3.5. Managing contacts

When a phone is connected to the vehicle, contacts can be managed directly in the center display.

When a phone is connected to the vehicle with Bluetooth and selected as phone device, contacts in the phone app will be shown under a separate tab.

Contact sharing must first be accepted in the phone before the contacts can be shown in the vehicle.

Scroll through contacts by swiping up or down.

It is possible to display a phone's favorites in the vehicle.[1]

Contacts not displayed

It may take a moment for the contacts to load. If the contacts are still not shown after a prolonged period of time, try unplugging the phone and plugging it back in.

> **Note**
>
> Not all phones are fully compatible with the vehicle. If the phone is not compatible, contacts cannot be displayed in the vehicle.

[1] Some phones are unable to sync favorites. In that case, you can manually add favorites in the vehicle.

13.3.6. Handling phone calls

You can make and receive calls over the vehicle's speakers when your phone is connected to the vehicle via Bluetooth. The phone must be paired as a phone device.

Making a call from the phone app

1. Open the phone app from Home view or App view.
2. Select a contact from **Favorites**, **Recents** or **Contacts**. You can also enter a phone number using the keypad.
3. Tap the contact to make a call.
4. Tap to end the call.

It is also possible to make calls using voice control.

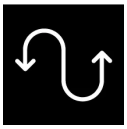
Answering calls

Incoming phone calls are shown and managed via the center display.

1 Tap or to answer or decline a call.

2 Tap to end the call.

Answering a call while another call is in progress



If a new call comes in while you are on another call, you can answer the new call via the center display. The original call will be parked (put on hold) while you answer the incoming call. Switch between the calls by pressing the symbol for that.

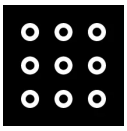
Turning off the microphone

Tap the microphone symbol to turn off the microphone. The person on the phone call will not hear what is said in the vehicle.

Switching between the vehicle's and phone's speakers

Tap **Car**/**Phone** to switch the sound between the vehicle's and the phone's speakers.

Using the keypad during a call



If you need to use the keypad during a call, you can open it by pressing the keypad symbol in the center display. To exit Keypad view and return to Call view, tap the same symbol again.

Missed calls

Missed calls are shown in Home view, where it is also possible to call back. Missed calls are also shown in Notification view at the top of the center display.

13.3.7. Handling text messages

SMS text messages can be received and sent via the vehicle when the phone is paired with the vehicle.

To manage text messages in the vehicle, the phone must be connected via Bluetooth [1] as phone device and the user must have accepted notification display in the phone's Bluetooth settings.

Sending text messages

It is possible to dictate a new message by asking the voice control system to send a message to a named contact or phone number.

Receiving text messages

When the phone is paired with the vehicle, a notification will be displayed at the top of the center display when a new text message comes in. Select whether to play the message by tapping the screen or using voice control.

You can also choose to mute the conversation. In this case, no further notifications for this conversation will be shown during the current trip.

Answering text messages

When a text message is read aloud, it is possible to dictate a reply[2]. Follow the instructions given by the voice control system.

Text messages are not displayed

If new text messages are shown on the phone but not in the center display, try unplugging the phone and plugging it back in.

[1] Text messages can only be handled in the vehicle if the phone is compatible.

[2] Only phones with Android or iOS 13 or later.

13.3.8. Wireless phone charger*

A charging pad for wireless phone charging is located in the tunnel console.

To be able to charge, the phone must have wireless charging (Qi) capability. Phones not equipped with a wireless charging receiver can often be supplemented with a shell that enables wireless charging.

> **Warning**
>
> Wireless charging can affect the operation of an implanted pacemaker or other medical devices. If you have one, it is recommended to consult with your doctor before using the wireless charging system.

* Option/accessory.

13.3.9. Using the wireless phone charger*

The rubber pad below the center display can be used to charge a phone without having to connect its cord.

Activating and deactivating the wireless charger

The factory default setting for the wireless charger is activated. Sometimes it can be helpful to deactivate the charger if, for example, you would like to lay your phone on the rubber pad without charging it. To deactivate and activate:

1 Go to settings at the bottom of the center display and then tap **Controls**.

2 Adjust the control next to **Wireless phone charger**.

Charging a device using the wireless charger

Wireless phone charger in front of gear selector

> **Warning**
>
> Wireless charging can affect the operation of an implanted pacemaker or other medical devices. If you have one, it is recommended to consult with your doctor before using the wireless charging system.

1 Make sure that the charger is activated.

2 Remove all other objects from the charger.

3 Place the device to be charged in the center of the charger.

> The device will begin charging and the symbol will appear at the top of the center display.

> **Important**
>
> Do not store cards or other objects with near-field communication (NFC), e.g. debit cards for contactless payment, together with the device to be charged. This interferes with the charging and could damage these types of objects.

> **Note**
>
> - The charging process may vary depending on the type of device being charged. For example, the amount of time before charging starts or before the device is fully charged may vary.
> - Devices may become warm during charging. This is normal.

If the phone is not charging:

- Check in the center display that the charger is activated.
- Make sure there are no other objects on the charging pad.
- Make sure the phone supports wireless charging (Qi).
- If the phone has a phone case, remove it.
- Lift up the phone and then put it back on the center of the charging pad.
- Make sure the ignition is on.
- Make sure the phone hasn't slid off the charging pad while driving.
- If the temperature of the battery becomes too high while charging, the charging function will be switched off.
- If any of the doors are opened, charging will stop for a few seconds.

If an object is preventing charging on the charge pad, a message will be shown in the center display.

> **Important**
>
> Keep cellular phones and charger stations away from other objects while charging to help avoid overheating.

* Option/accessory.

13.3.10. Certificate for wireless phone charger

Country/Area	
China:	（一）符合“微功率短距离无线电发射设备目录和技术要求”的具体条款和使用场景，采用的天线类型和性能，控制、调整及开关等使用方法； （二）不得擅自改变使用场景或使用条件、扩大发射频率范围、加大发射功率（包括额外加装射频功率放大器），不得擅自更改发射天线； （三）不得对其他合法的无线电台（站）产生有害干扰，也不得提出免受有害干扰保护； （四）应当承受辐射射频能量的工业、科学及医疗（ISM）应用设备的干扰或其他合法的无线电台（站）干扰； （五）如对其他合法的无线电台（站）产生有害干扰时，应立即停止使用，并采取措施消除干扰后方可继续使用； （六）在航空器内和依据法律法规、国家有关规定、标准划设的射电天文台、气象雷达站、卫星地球站（含测控、测距、接收、导航站）等军民用无线电台（站）、机场等的电磁环境保护区域内使用微功率设备，应当遵守电磁环境保护及相关行业主管部门的规定； （七）禁止在以机场跑道中心点为圆心、半径5000米的区域内使用各类模型遥控器； （八）微功率设备使用时温度和电压的环境条件。

Country/Area	
Mexico:	RCPVAPVO 18-1919 [https://az685612.vo.msecnd.net/pdfs/certificates/VOLVO_Mexico_57442C.pdf]
Paraguay:	 2018-11-1-000541 [https://az685612.vo.msecnd.net/pdfs/certificates/Volvo_Paraguay_57442C.pdf]
Taiwan:	根據NCC□□率電波輻射性電機管理辦法 規定: 第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。 第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。 前項合法通信，指依電信法規定作業之無線電通信。 低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。
Ukraine:	Ци Діапазон частот: 107 кГц - 115 кГц Максимальна потужність радіосигналу: 5 Вт (сполучена), 63 Вт наномасштабів (випромінюється) Коефіцієнт викидів: N / A Модуляції: 2 кГц NFC Діапазон частот: 13,56 МГц, у межах +/- 0,01% Максимальна вихідна потужність РФ: 10 мВт – виробник: Ел-Джі Електронікс Інк.(LG Electronics Inc) 10, Магок'юнганг 10-ро, Гангсео-гу, Сеул, 07796, Корея Frequency range 111 кГц / Максимальна потужність РЧ: 42 дБмк А / м справжнім Ел-Джі Електронікс Інкзаявляє, що тип радіообладнання WC510MVV20 відповідає Технічному регламенту радіообладнання; повний текст декларації про відповідність доступний на веб-сайті за такою адресою:https://www.lg.com/global/support/cedoc/cedoc. імпортер : Віннер Імпортс Україна Вул. Дачна, 5-А, с.Капітанівка, Київська область, 08112, Україна Тел.: +38(044) 585 63 00 Контактна особа : Alla Haidai (ahaidai@winner.ua)
US/Canada	FCC ID : BEJWC510MVV20 IC : 2703H-WC510MVV20 This device complies with part 15 of the FCC rules and with RSS-Gen,RSS-216 rules of Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. Any changed or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. FCC RF Radiation Exposure Statement: This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 15cm between the radiator and your body. – IDéclaration d'avertissement ISED Son fonctionnement est soumis aux deux conditions suivantes: (1) Cet appareil ne doit pas provoquerd'interferences nuisibles, et (2) Cet appareil doit accepter toute interference recue, y compris les interferences pouvant entrainerun fonctionnement indesirable. Les changements ou modifications non expressement approuves par LG Vehicle Components Company pourraient annuler l'autorite de l'utilisateura utiliser l'equipement. Déclaration d'exposition aux radiations RF de l'ISED: Cet équipement est conforme aux limites d'exposition aux rayonnements RF de l'ISED définies pour un environnement non contrôlé. Cet appareil et son antenne ne doivent pas être situés ou fonctionner conjointement avec une autre antenne ou un autre émetteur. Cet équipement doit être installé pour fonctionner avec une distance minimale de 10cm entre le radiateuret le corps de l'utilisateur final.

13.4. Apps

13.4.1. Apps

App view provides access to the vehicle's preinstalled and downloaded apps.

Tap the icon for App view at the bottom of the center display to go to App view and start the radio*, navigation system, phone or another app[1].

Several basic apps are always available. More apps such as web radio and music services can be downloaded when the car is connected to the Internet.

Some apps can only be used when the vehicle is connected to the Internet.

All apps used should be updated to the latest version. This provides access to the latest updates and functions.

Apps close down

If an app closes down unexpectedly, try the following:

- open the app again
- check to see if an app update is available:
  - Open App view and tap Google Play. Press and select your apps to see if any need to be updated. Update to the latest version.
- restart the system by pressing the home button for approx. 20 seconds
- uninstall and reinstall the app.

* Option/accessory.

[1] The most recently used apps are always available from Home view.

13.4.2. Download apps

New apps can be downloaded and installed when the vehicle is connected to the Internet.

Google Play contains a number of different apps customized for use in the vehicle.

To download apps, the vehicle must be stationary, i.e. it must be in usage mode Comfort:

1. Open App view.
2. Tap Google Play.

> A Google account must be connected to the current user profile in order to open Google Play.

3. Search for and select the desired app[1].
4. Tap **Install**.

5 Follow the instructions on the screen to complete the installation.

> **Note**
>
> The app sometimes requires access to certain things, such as the address book or the vehicle's location, in order for the app to function as intended. When such access is required, you will be prompted to accept this.

[1] Only vehicle-adapted apps are available.

13.4.3. Deleting apps

Installed apps[1] can be deleted in various ways.

Deleting apps via App view

1 Open App view.

2 Press and hold the app you wish to remove until a recycling bin appears at the bottom of the screen.

3 Pull the app to the recycling bin and release.

4 Confirm the deletion.

Deleting apps via settings

1 Go to settings at the bottom of the center display.

2 Go to **Applications**.

3 Select to display all installed apps and then select the app you want to delete.

4 Select to uninstall the app and confirm its deletion.

> **Note**
>
> If the app you want to delete is the only app in a tile, it must be uninstalled via settings.

* Option/accessory.

[1] The vehicle's "native" default apps, such as the phone or radio* apps, cannot be deleted.

13.4.4. Volvo ID

Volvo ID is a personal ID that gives you access to a range of services using a single username and password.

One example of a service in which a Volvo ID is needed is to check the vehicle via your phone using the Volvo Cars app.

A Volvo ID can be created from the vehicle, at volvoid.eu.volvocars.com/Account [https://volvoid.eu.volvocars.com/Account/] or in the Volvo Cars app.

> **Note**
>
> The available services can vary over time and depend on equipment level and market.

13.4.5. Creating a Volvo ID

To use Volvo services connected to the vehicle, such as via the Volvo Cars app, a Volvo ID must be created.

Creating a Volvo ID with the Volvo Cars app

1. Download the latest version of the Volvo Cars app[1] to your phone.
2. Choose to create a Volvo ID.
3. The website for creating a Volvo ID will appear.
4. Enter a personal email address or cell phone number.
5. Follow the instructions that will be sent automatically to this email address/cell phone number.

> A Volvo ID is created and ready for use.

Creating a Volvo ID on the Volvo Cars website

1. Go to volvoid.eu.volvocars.com/Account [https://volvoid.eu.volvocars.com/Account/] . Choose to create a Volvo ID.
2. Enter a personal email address or cell phone number.

3 Follow the instructions that will be sent automatically to this email address/cell phone number.

> A Volvo ID is created and ready for use.

[1] Can be downloaded from e.g. the Apple App Store or Google Play.

13.5. Internet connection

13.5.1. Internet-based services

13.5.1.1. Connected Safety

Connected Safety[1] communicates information between your vehicle and other vehicles via a cloud service[2]. The function is designed to notify the driver of any hazardous road conditions ahead.

The function can notify the driver if another vehicle further down the road has activated its hazard warning flashers or detected slippery road conditions. You will also be notified if your own vehicle detects slippery road conditions.

Connected Safety can assist the driver with the following:

- Hazard warning flashers alert
- Slippery road alerts

Connected Safety communication between vehicles only works for vehicles equipped with this function. Connected Safety also needs to be approved via **Volvo privacy settings**.

Hazard warning flashers alert

If your vehicle's hazard warning flashers are activated, information on this can be sent to other vehicles approaching your location.

When your vehicle approaches a vehicle with its hazard warning flashers on, this symbol will appear in the instrument panel.

Slippery road alerts

If your vehicle detects reduced friction between the tires and the road, this symbol will be shown in the instrument panel. This information can then be forwarded to vehicles approaching your vehicle's location.

If your vehicle receives information about slippery conditions from another vehicle, this symbol will be shown in the instrument panel.

Warning

- The function is supplementary driver support intended to facilitate driving and help make it safer – it cannot handle all situations in all traffic, weather and road conditions.
- The driver is advised to read all sections in the Owner's Manual about this function to learn of its limitations, which the driver must be aware of before using the function.
- Driver support functions are not a substitute for the driver's attention and judgment. The driver is always responsible for ensuring the vehicle is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vehicles, and in accordance with current traffic rules and regulations.

[1] Not available in all markets.

[2] There may be a charge for transmitting data over the cloud service, depending on your service plan.

13.5.1.2. Apps

App view provides access to the vehicle's preinstalled and downloaded apps.

Tap the icon for App view at the bottom of the center display to go to App view and start the radio*, navigation system, phone or another app[1].

Several basic apps are always available. More apps such as web radio and music services can be downloaded when the car is connected to the Internet.

Some apps can only be used when the vehicle is connected to the Internet.

All apps used should be updated to the latest version. This provides access to the latest updates and functions.

Apps close down

If an app closes down unexpectedly, try the following:

- open the app again
- check to see if an app update is available:
  - Open App view and tap Google Play. Press and select your apps to see if any need to be updated. Update to the latest version.

- restart the system by pressing the home button for approx. 20 seconds
- uninstall and reinstall the app.

* Option/accessory.

[1] The most recently used apps are always available from Home view.

13.5.1.3. Volvo ID

Volvo ID is a personal ID that gives you access to a range of services using a single username and password.

One example of a service in which a Volvo ID is needed is to check the vehicle via your phone using the Volvo Cars app.

A Volvo ID can be created from the vehicle, at volvoid.eu.volvocars.com/Account [https://volvoid.eu.volvocars.com/Account/] or in the Volvo Cars app.

> **Note**
>
> The available services can vary over time and depend on equipment level and market.

13.5.1.4. Creating a Volvo ID

To use Volvo services connected to the vehicle, such as via the Volvo Cars app, a Volvo ID must be created.

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1. Download the latest version of the Volvo Cars app[1] to your phone.
2. Choose to create a Volvo ID.
3. The website for creating a Volvo ID will appear.
4. Enter a personal email address or cell phone number.
5. Follow the instructions that will be sent automatically to this email address/cell phone number.

> A Volvo ID is created and ready for use.

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2. Enter a personal email address or cell phone number.
3. Follow the instructions that will be sent automatically to this email address/cell phone number.

> A Volvo ID is created and ready for use.

[1] Can be downloaded from e.g. the Apple App Store or Google Play.

13.5.2. Connecting to the Internet via Bluetooth

Set up an Internet connection via Bluetooth through tethering (personal/portable hotspot) from a phone.

1. Make sure that the phone supports Internet sharing (tethering) and that the function is activated.
2. Connect the phone to the vehicle via Bluetooth. Go to settings at the bottom of the center display and then tap **Connectivity** and select **Bluetooth**.
3. If the phone was previously connected, tap the icon for tethering via Bluetooth for the phone you want to use. Otherwise, select **Pair new device** first.
4. Accept, via the message shown, that connection should be made.

> The vehicle is connected to the Internet.

> **Note**
>
> The cellular phone and network operator must support tethering (sharing of Internet connection) and the subscription must include data traffic.

13.5.3. Internet connection

When the vehicle is connected to the Internet, you can use apps to listen to web radio, music services, etc.

The vehicle can be connected to the Internet via a Bluetooth-connected phone or a Wi-Fi network. In some markets, the vehicle can also be connected via the vehicle's built-in modem [1]. If the vehicle has Internet connections to several different sources at the same time, it will first attempt to connect over Wi-Fi, then Bluetooth and finally via the vehicle's integrated modem.

[1] On certain markets, approval of conditions is required for Internet connection via modem.

13.5.4. Internet connection problems

If the vehicle loses its Internet connection, you can try the following.

Switching cellular data on and off

If the vehicle's Internet connection suddenly and inexplicably disappears, it may help to switch cellular data off and then on again.

1. Go to settings at the bottom of the center display and then tap **Connectivity**.
2. Switch **Vehicle SIM data**, **Wi-Fi** and **Bluetooth** off and then on again to restart the connection.

Restarting the system

Restart the system by pressing and holding down the Home button for 20 seconds.

Restarting the modem

Restart the vehicle's modem by pressing down the max defroster button for 20 seconds.

> **Note**
>
> It may take up to two minutes for the Internet connection to be restored after the modem has been restarted.

> **Warning**
>
> Because the automatic collision alarm is temporarily disabled while the vehicle's modem is restarting, the vehicle should be parked during the restart.

Problems connecting via a Bluetooth-connected phone

If you are having difficulty connecting a phone to the vehicle via Bluetooth

- Make sure the phone is switched on and that the battery has sufficient charge.
- Make sure Bluetooth is enabled in both the phone and in the vehicle.
- Make sure you have established a Bluetooth connection and connected the vehicle to the phone you want to use.

- If possible, try connecting another phone to the vehicle through Bluetooth to check if the problem is with the device or in the vehicle.

If the problem persists:

1. Delete all previously added phones under the Bluetooth settings in the vehicle.
2. Restart the phone you want to connect.
3. Try connecting the phone again.

Problems connecting via the vehicle's integrated modem [1]

If connection via the vehicle's integrated modem is not working well, e.g. due to poor coverage, try connecting via a Wi-Fi network or Bluetooth-connected phone instead.

> **Note**
>
> If multiple Internet connection sources are used at the same time, for example, if the vehicle has Internet via integrated modem and simultaneously has Internet switched on via a Bluetooth-connected phone, these sources are used according to the following order of priority. First, connection will be attempted via Wi-Fi network, second, via the Bluetooth-connected phone and third, via the vehicle's integrated modem.

[1] Connection via integrated modem is only available on some markets.

13.5.5. Connecting to the Internet via Wi-Fi

The vehicle can be connected to a Wi-Fi network.

If the vehicle is parked outside a building with a Wi-Fi network, for example, or if you are sharing an Internet connection via a cellular phone, you can connect the vehicle to that network.

If you are sharing your phone's Internet connection, remember to first enable tethering (personal/portable hotspot) on the phone.

To connect the vehicle to an external Wi-Fi network:

1 Go to settings at the bottom of the center display and then tap **Connectivity**.

2 Tap the **Wi-Fi** row to display a list of available networks. Connection is not permitted for all networks. If the network you want to connect to is not shown in the list of available networks, see details below.

3 Choose a network, enter the password, and connect.

Note

Here are the known requirements for making the Wi-Fi access points available for use with Android:

- WPA2 with password (CCMP).
  - A password is required.
- Not permitted/possible:
  - Network without encryption (open network).
  - WPA3.
  - WEP.
  - WPA (with TKIP).
  - WPS (Wi-Fi Protected Setup)-enabled routers. Also applies for WPA2 connections (most home routers are WPS-enabled). If your home router has WPS functionality enabled, it will not be available due to the limited security in WPS access management. To connect to a WPA2 network with WPS, disable WPS in the router.

13.5.6. Markets with Internet via vehicle modem

Markets offering Internet via the vehicle's integrated modem are listed here.

The markets listed here offer Internet via the vehicle's integrated modem for four years[1] from the purchase date of the vehicle. Data roaming works within the EU.

Country
Australia
Belgium
Denmark
Finland
France
Greece
Hong Kong
India
Indonesia
Ireland
Iceland
Italy
Japan
Canada
China
Korea
Luxembourg
Malaysia

Country
Mexico
Netherlands
Norway
New Zealand
Poland
Portugal
Puerto Rico
Romania
Switzerland
Singapore
Slovakia
Spain
United Kingdom
Sweden
Taiwan[2]
Thailand[2]
Czech Republic
Germany
Hungary
USA
Austria

[1] This time may vary depending on market and vehicle model.

[2] The Volvo XC40 Recharge Pure Electric model years 2022 and 2023 and the C40 Recharge Pure Electric model year 2023 come with connected services free of charge for four years. For other vehicle models, one year of free connected services is included.

13.6. Audio and media

The vehicle's sound system takes into account factors such as listener position and vehicle speed. The center display provides access to radio* and music apps, and additional third-party music and media apps can be downloaded via Google Play.

Connect a phone or other device via Bluetooth. Select if you would like to use this as media device to play music and/or as

phone device to make calls, display contacts, etc.

Audio and media overview

The functions can be controlled using voice commands, the steering wheel keypad or the center display.

Charge devices via the USB ports.

* Option/accessory.

13.7. Hard disk storage space

It is possible to view how much space is remaining on the vehicle's hard disk.

To check available space:

1. Tap settings at the bottom of the display.
2. Select **System**.
3. Proceed to **Storage**.

13.8. Sound settings

Sound reproduction quality is preset but can also be adjusted.

Volume

The system's volume is normally adjusted using the volume control below the center display or the right-side steering wheel keypad. This applies, for example, when playing music or the radio* or during phone calls and active traffic messages.

When the volume is adjusted, an expandable menu will appear in the center display. This menu can be used to change volume settings for incoming phone calls, notifications, the media player and other functions.

For additional sound settings, go to settings and tap **Sound**.

Sound reproduction

The audio system is precalibrated using digital signal processing. This calibration takes into account speakers, amplifiers, passenger compartment acoustics, listener location, etc. There is also a dynamic calibration that takes into account the volume control's position and the vehicle's speed.

* Option/accessory.

13.9. Playing media

Regardless of which media app is used, a Now-playing field will be shown in the center display.

In the Now-playing field, you can perform operations such as pause, change track, etc. Expand the Now-playing field to full-screen mode to access additional settings.

Opening the Now-playing view

Tap the arrow in the Now-playing field to expand the field to Now-playing view. This view provides access to additional settings, which could vary depending on which app is used. Minimize the Now-playing view by tapping the arrow again.

13.10. Connection and entertainment

The vehicle has an intelligent interface and offers Internet connection to the digital world. An intuitive navigation structure offers access to relevant assistance, information and entertainment when it is needed.

It includes all of the solutions in the vehicle related to entertainment, Internet connection and navigation, and serves as the user interface between the driver and the vehicle.

Where Volvo is responsible for the provision of mobile connectivity services to enable use of certain functions, and excluding any separate contract for mobile connectivity services of the owner or any other user of the car that Volvo is not party to, each user understands and agrees that, to the extent permitted by law, it: (1) has no contractual relationship with the underlying wireless service carrier, (2) is not a third party beneficiary of any agreement between the car owner and the underlying carrier, (3) that the underlying carrier has no liability of any kind to the user, whether for breach of contract, warranty, negligence, strict liability in tort or otherwise, (4) that data transmissions and messages may be delayed, deleted or not delivered, and emergency calling may not be completed, (5) the underlying carrier cannot guarantee the security of wireless transmissions and will not be liable for any lack of security relating to the use of the services.

Fair Use Policy

Your use of connectivity services that are part of your vehicle is subject to this Fair Use Policy.

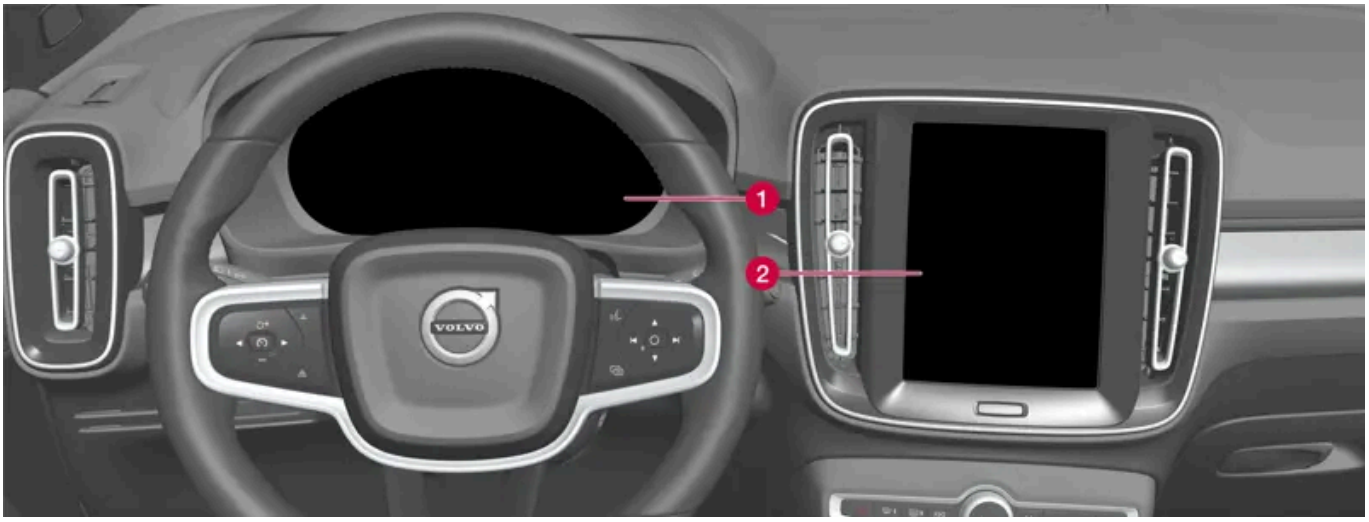
When using this Service, you agree not to

- submit content that is unlawful, obscene, libelous, threatening, harassing, hateful, racially or ethnically offensive or otherwise inappropriate
- use the Service in breach of any applicable law
- use the Service for commercial purposes.

Your access to the Service is part of a shared access. Volvo reserves the right to suspend your access to or use of the Service if your use involves very high volumes of data, disproportionate to other users. Volvo may also suspend your access for technical reasons or to protect other functions of your vehicle. Your access to the connected Service is subject to the third-party terms and conditions of the mobile network provider.

Information when it's needed, where it's needed

The vehicle's displays present the right information at the right time. Information is presented in different displays depending on how it should be prioritized by the driver.



Different types of information are shown in different displays depending on how the information should be prioritized.

1. The instrument panel shows information about speed, road sign information, warning and indicator symbols, battery status, etc. The instrument panel can also show incoming calls or information about the current song on the radio. It is controlled using the steering wheel keypads.
2. Many of the vehicle's main functions are controlled from the center display, such as the climate control system, the entertainment system and seat positions. The center display also shows navigation and road sign information. The information presented in the center display can be handled by the driver or by someone else in the vehicle.

> **Note**
>
> Wearing gloves can limit or prevent touchscreen response.

Voice control system

The voice control system enables the driver to control certain vehicle functions without taking their hands off the wheel. The system can understand natural speech. Use voice control to e.g. play a song, make a phone call, increase the temperature in the passenger compartment or have a text message read aloud.

13.11. Approval of terms and conditions and data collection

Messages about different terms and conditions and data collection may be shown in the center display. Data is collected, for example, in order to provide better safety, vehicle and app functions.

The first time you use your vehicle, a guide will open in the center display to help you adjust various settings. In connection with the guide, you are also prompted to give your agreement to different types of terms and conditions and the collection of information.

You may also be asked to provide your consent in other situations, such as:

- First use of apps and services
- New user profiles
- Logging out from and deleting user profiles
- Change of ownership
- Resetting settings

To access privacy settings:

1. Tap ⚙ in the center display.
2. Tap **Privacy**.
3. Then select **Volvo privacy settings**, **Data sharing with Google** or **Legal information from Google**.

Certain settings can only be made from a profile with administrative rights.

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14. Volvo Assistance and the Volvo Cars app

14.1. Volvo Assistance

14.1.1. Volvo Assistance

The and SOS buttons in the overhead console can provide extra security and assistance if the vehicle won't start or in the event of a flat tire, accident, etc.

The functions are available via and the SOS buttons in the overhead console.

In the event of an accident, emergency assistance (ambulance, police, etc.) can be summoned to the vehicle. In less critical situations, e.g. a flat tire, roadside assistance can be called out.

> **Note**
>
> The SOS button should only be used in case of accident, illness or if there is an external threat to the vehicle and its passengers. The SOS function is only intended for emergency situations. Misuse could incur extra charges.
>
> The button can be used for other assistance, e.g. questions about vehicle use or if roadside assistance is needed.

The Volvo Assistance system

The buttons in the overhead console are connected to the vehicle's safety and alarm systems and to other systems in the vehicle, such as lock and climate systems. The vehicle has an integrated modem for communication with Volvo Assistance and the Volvo Cars app. GNSS (Global Navigation Satellite System) is used to locate the vehicle.

Personal data processing

In order to provide you with all the functions of the service, certain information, including personal data, must be processed. Read more about terms and conditions and privacy at volvocars.com/intl//legal [https://www.volvocars.com/intl/legal] .

Contacting Volvo Assistance

To contact Volvo Assistance, use the vehicle's button or the Volvo Cars app.

> **Note**
>
> All calls to Volvo Assistance may be recorded.

14.1.2. Emergency assistance with Volvo Assistance

In the event of an emergency, press the SOS button to contact Volvo Assistance or an emergency service center.

Volvo Assistance

To summon assistance in the event of an illness or an external threat to the vehicle or passengers, Volvo Assistance can be alerted manually by pressing and holding the SOS button for at least 2 seconds. The vehicle will contact Volvo Assistance and a message will be sent containing information such as the vehicle's location.

1. Volvo Assistance will then attempt to establish voice contact with the driver to determine the extent of the emergency and the need for assistance.
2. Volvo Assistance will then contact the appropriate emergency service (police, ambulance, tow truck, etc.).

If voice contact cannot be established, Volvo Assistance will contact emergency services for appropriate action.

> **Note**
>
> The SOS button should only be used in case of accident, illness or if there is an external threat to the vehicle and its passengers. The SOS function is only intended for emergency situations. Misuse could incur extra charges.
>
> The button can be used for other assistance, e.g. questions about vehicle use or if roadside assistance is needed.

> **Note**
>
> If the SOS indicator light is flashing even if you have not pushed the button, this indicates that the vehicle is attempting to find and connect to a cellular network. The flashing will continue until the vehicle has made a connection.

14.1.3. Automatic Crash Notification with Volvo Assistance

In the event of a collision, the vehicle can automatically notify Volvo Assistance, or an emergency service center, which can then summon emergency assistance.

Volvo Assistance

If any of the vehicle's safety systems are triggered, for example in an accident in which the activation level is reached for seat belt tensioners or airbags, the vehicle will automatically contact Volvo Assistance and a message will be sent containing the vehicle's location and other information.

1. Volvo Assistance will then attempt to establish voice contact with the driver to determine the extent of the accident and the need for assistance.
2. Volvo Assistance will then contact the appropriate emergency service (police, ambulance, tow truck, etc.).

If voice contact cannot be established, Volvo Assistance will contact emergency services for appropriate action.

14.1.4. Stolen Vehicle Tracking (SVT) with Volvo Assistance

If you suspect the vehicle has been stolen, you can contact Volvo Assistance using the Volvo Cars app for assistance locating the vehicle. [1]

If the vehicle has been stolen or otherwise used without permission, the vehicle's owner, police and Volvo Assistance can agree to track the vehicle.

> **Note**
>
> This applies even if the vehicle has been opened and stolen using the associated remote key.

The following needs to be done:

1. Contact Volvo Assistance and say that you need help tracking the vehicle. Tracking begins.
2. File a police report.
3. Contact Volvo Assistance again and give them the police case number.
4. Volvo Assistance notifies the police of the vehicle's location.

Note

For the vehicle to be tracked, a police report must be made. Volvo Assistance only gives information to the police.

[1] Available services vary depending on market.

14.1.5. Volvo Assistance help during a trip

If you e.g. get a flat tire or have a dead battery, you can summon assistance using the button or the Volvo Cars app.

Hold the button in the overhead console depressed for at least 2 seconds to establish voice contact with Volvo Assistance. They will consult with you to determine what type of assistance is needed. If data sharing for the overhead buttons is activated, a message with the vehicle's position is sent to Volvo Assistance.

Note

The SOS button should only be used in case of accident, illness or if there is an external threat to the vehicle and its passengers. The SOS function is only intended for emergency situations. Misuse could incur extra charges.

The button can be used for other assistance, e.g. questions about vehicle use or if roadside assistance is needed.

Roadside Assistance costs

Roadside Assistance costs are included in the first X[1] years when buying a new Volvo. After this time has passed, in most of the markets, Roadside Assistance is offered for free providing the car has been serviced regularly at an authorized Volvo workshop. A Volvo retailer can inform you of the status of your Roadside Assistance agreement.

You can get help you get back on the road even if your Roadside Assistance agreement has expired. If this is the case, you will be asked to pay the cost for the service that is sent out to you.

Note

If you do not have a valid roadside assistance agreement, additional recovery costs may apply.

[1] Varies depending on market.

14.1.6. Customer service via Volvo Assistance

The button can be used to contact Volvo Assistance for questions concerning vehicle usage.

Operators are available for assistance 24 hours a day.

You can also reach Volvo Assistance via the 💬 tab in the Volvo Cars app.

14.1.7. Backup battery for Volvo Assistance

If the main battery has no electrical current, a backup battery will take over so that Volvo Assistance can still be used.

The backup battery has a limited lifespan. When the battery requires servicing or replacement, a message (**eCall Service required**) is shown in the instrument panel.

If the message persists, contact an authorized Volvo workshop.

14.1.8. Volvo Assistance abroad

The assistance services may vary when driving in other countries.

When you push the SOS button, you will always be connected to Volvo Assistance or an emergency service center for the market in which the vehicle is currently located.

When you press the 💬 button, you will always be connected to your home country's Volvo Assistance.

For more information, please contact a Volvo retailer.

14.2. Volvo Cars app

14.2.1. Getting started with the Volvo Cars app

Some preparations are needed before using the Volvo Cars app.

Exploring the Volvo Cars app

Before picking up the vehicle from the retailer, you should download the free Volvo Cars app and test it in demo mode. Demo mode gives the driver the chance to explore most of the functions and learn how the app is used.

Volvo ID and connecting the Volvo Cars app to the vehicle

A Volvo ID is required to use the Volvo Cars app. Once you have created a Volvo ID, the app needs to be connected to the vehicle.

Purchasing a pre-owned vehicle with digital services

If you have purchased a pre-owned vehicle with digital services, it is important to delete the data from the previous owner and add you own details for the service to work. Visit a Volvo retailer for assistance.

14.2.2. Devices compatible with the Volvo Cars app

The Volvo Cars app is compatible with a number of mobile devices and operating systems.

The Volvo Cars app is available for iPhone, iPad and Apple Watch as well as Android phones. You can download the app free of charge from Apple App Store or Google Play.

For the Volvo Cars app to work as well as possible, ensure that you have updated the app to the latest version available for your device. More information on technical requirements concerning version as well as operating systems and compatibility for device models is available when downloading apps.

> **Note**
>
> Volvo reserves the right to end the maintenance of older versions of apps and remove them from existing app stores at any time.

Internet connection

Because the app communicates with the vehicle via the Internet, your mobile device must have an Internet connection [1] to perform your commands.

[1] There may be a charge for transmitting data over the Internet, depending on your service plan.

14.2.3. Contact between the Volvo Cars app and the vehicle

The vehicle's systems that have contact with the Volvo Cars app are programmed to shut down when the vehicle is not used for extended periods of time.

After a few days, the system switches off to save the battery. Some of the app's functions cannot be used during this time. The system resumes full availability once the vehicle has been started.

Warning

The system's services only work in areas in which Volvo Assistance partners have cellular coverage and where the technology allows.

Just as with cellular phones, atmospheric disturbances or areas with fewer transmitters, e.g. sparsely populated rural areas, can make connection impossible.

14.2.4. Volvo Cars app

With the Volvo Cars app, you can maintain contact with your vehicle through a number of app functions. [1]

You can, for example, lock or unlock the vehicle and start the climate system in the vehicle before departure. [2]

Downloading the Volvo Cars app

The Volvo Cars app can be downloaded free of charge from Apple App Store or Google Play. You can test most of the app functions without connecting to a vehicle by running the app in demo mode.

Internet connection required

When using the Volvo Cars app, your mobile device will send and receive data via the internet. If you do not have a data plan, then your cell phone carrier may charge you for that data. If you use your app abroad you may incur data roaming charges. For further information, contact your cell phone operator.

Note

Data sharing for the overhead buttons must be activated for remote control of vehicle functions, such as climate and locking, to work.

[1] Both the vehicle and the mobile device must have cellular coverage or another Internet connection.

[2] Available functions may vary depending on market and vehicle model.

14.2.5. Connecting the Volvo Cars app to the vehicle

To use the Volvo Cars app's services, the app must first be connected to the vehicle.

Once a main user (administrator) has connected their app to the vehicle, additional vehicle users can be added.

Connect the Volvo Cars app to the vehicle

Make sure your vehicle is positioned in an area with cellular coverage and that your mobile device has an Internet connection.

Make sure you have your Volvo ID and the vehicle's identification number (VIN). The Volvo ID can be created by logging in to the Volvo Cars app, and the vehicle identification number can be found in the windshield or in the center display.

If you are a main user (administrator), you must have all of the vehicle's keys with you. For other users, one key is sufficient. The first user to link their app with the vehicle must be logged in on the Owner profile and have all of the vehicle's keys with them.

1 Sit in the vehicle.

2 Log in to the Volvo Cars app using your Volvo ID and follow the instructions in the app. If you already have a connected vehicle in the app and would like to add another, select , **Connected vehicles** and **Add a vehicle**.

> **Note**
>
> For a more customized experience and support, it is recommended that every user create a personal Volvo ID.

3 Make sure that data sharing for the Volvo Cars app is activated. In the center display, tap , select **Privacy**, **Volvo privacy settings** and then **Volvo Cars app**.

4 Go to , select **Profiles** and then **Volvo Cars app devices** to access the menu for connecting the app to the vehicle.

5 Follow the instructions in the center display and the Volvo Cars app.

Difference between administrator and non-administrator in the Volvo Cars app

The vehicle's **Owner** profile must be linked with the app before any other profile can be linked. To be allocated the role of administrator, all of the vehicle's keys must be in the vehicle when the app is linked.

A user who is administrator in the app can

- see which phones and other devices are linked with the vehicle
- remove their own and other linked phones/devices from the vehicle

A user who is not administrator in the app can

- see if their own phone/device is linked with the vehicle
- remove their own phone/device.

Switching between connected vehicles in the Volvo Cars app

If you have multiple vehicles connected to the Volvo Cars app, you can switch between these. To do this:

1. Go to the tab.
2. Select **Connected vehicles**.
3. Mark the vehicle you want to switch to and select **Switch to this vehicle**.

Tips when using the Volvo Cars app

If you experience disruptions with the Volvo Cars app, ensure that the vehicle the app is connected to is outdoors in an open area with cellular coverage and that your mobile device has a good Internet connection. If disruptions persist, read the section with frequently asked questions about the Volvo Cars app on volvocars.com/intl/support [https://www.volvocars.com/intl/support] or contact Volvo customer care.

If the vehicle was previously owned, however, you should first check whether access to Volvo Assistance is activated in the vehicle.

14.2.6. Booking service with the Volvo Cars app

Vehicle service can be scheduled using the Volvo Cars app.[1]

Book service

1. In the tab, tap **Maintenance**.
2. Select **Book service**.
3. Select a workshop to perform the service.
4. Select any additional services[2] you would like to purchase, e.g. air conditioning check.
5. Enter a date and time for service and indicate if you would like a courtesy car[3]. Some workshops also offer pick-up and delivery of the vehicle to be serviced.
6. Fill in comments, if any, and confirm the booking.
7. Select if you would like to add the booking to the calendar.

When a service has been booked, this will be shown under **Maintenance** in the tab.

Click on the booking to:

- see details about the booking
- save the booking in the calendar (with option to add a reminder)
- cancel the service
- contact the workshop via email or phone.

Service messages in the Volvo Cars app

When it is time for the vehicle to be serviced, this will be shown in the Volvo Cars app

- with a message in the ⌂ tab
- and under **Maintenance** in the 🚗 tab.

While the vehicle is being serviced, the estimated completion time is shown in the Volvo Cars app.

[1] Certain markets only.

[2] Available services vary depending on workshop.

[3] Certain workshops only.

14.2.7. Locking function in the Volvo Cars app

The Volvo Cars app shows the actual lock status and you can lock and unlock the vehicle remotely.

You can find the lock function in the ⌂ tab.

> **Note**
>
> If an incorrect lock status is shown, open the lock function from the ⌂ tab and wait 15-20 seconds.

14.2.8. Shortcuts to the Volvo Cars app

You can create shortcuts to the functions offered in the Volvo Cars app.

3D Touch

Using 3D Touch gives you access to shortcuts to certain features in the Volvo Cars app[1].

A hard press on the App icon in your phone takes you to shortcuts for functions such as Start Climate and Unlock Doors.

Sharing addresses to the Volvo Cars app

Some third party apps facilitate sharing addresses to the Volvo Cars app[2].

[1] Applies to certain iPhone models. See the manufacturer's website for more information.

[2] Varies depending on phone model and version of operating system.

14.2.9. Battery and charging functions in the Volvo Cars app

The current battery level and an estimation of how long the vehicle can be driven on the remaining charge are shown in the Volvo Cars app. You can also schedule charging for the vehicle by setting start and stop times that are repeated every day.

You can access the battery and charging functions by tapping the lightning icon in the ⌂ tab.

Push notifications

You can choose to get push notifications on your phone if anything goes wrong and charging is interrupted. Set which notifications you would like to receive in the notifications settings in the ⌂ tab.

14.2.10. Remote Start of the climate system using the Volvo Cars app

With the Volvo Cars app, the climate system can be started remotely to heat up or cool down the vehicle to a comfortable temperature.

1. Go to the ⌂ tab and tap ⁂.
2. Tap **Start**.

> The climate system starts and runs for 30 minutes.

Setting climate system timers

A timer can be set to automatically start the climate system to warm up the passenger compartment before departure. Up to 8 different timers can be set. Each timer can be set by selecting a time and day of the week and indicating whether the setting should be repeated every week.

Timers are set from ⁂ in the ⌂ tab.

Other climate settings

Heating of the driver's seat, passenger's seat and steering wheel[1] is automatically activated in cold weather.

[1] Vehicles with steering wheel heating.

14.2.11. Remote start of air purification using the Volvo Cars app

With the Volvo Cars app, you can start the vehicle's air purification* remotely to improve the air quality before departure.

1. Go to the ⌂ tab and tap (air purification).
2. Tap **Start**.

* Option/accessory.

14.2.12. Using the Volvo Cars app with an Apple Watch

You can use an Apple Watch to access certain Volvo Cars app functions, such as starting/stopping the parking climate and locking/unlocking the vehicle.

When the Volvo Cars app is installed on a phone and connected to the vehicle, the app functions will be automatically available in the Apple Watch that is paired with the phone.

Functions that can be controlled from an Apple Watch[1]:

- Parking climate (start/stop).
- Remote start of vehicle (start/stop).
- Doors (lock/unlock).
- Find the vehicle by activating the vehicle's horn and/or turn signals for a few seconds.
- View estimated range.
- View the vehicle's location on a map.

Paring an Apple Watch with a phone

For instructions on how to pair an Apple Watch with a phone, as well as the technical requirements for this, see Apple's website.

Technical requirements

Technical requirements for operating systems and information about cell model compatibility can be found on the information page in the relevant app store.

[1] Available functions can vary over time.

14.2.13. Removing the connection between the Volvo Cars app and the vehicle

Before uninstalling the Volvo Cars app, you need to make sure that the connection between the app and the vehicle is removed or that your vehicle ownership is correctly ended in the app. Only deleting the Volvo Cars app may lead to problems connecting to the vehicle in the future.

Ending ownership in the Volvo Cars app

If you sell your vehicle, you need to end your ownership and remove the link between the Volvo Cars app and the vehicle from the administrator account in the app. If you do not have access to the app, contact your Volvo retailer and explain that you want to sell your vehicle.

To end ownership and remove the link:

1. Go to **Connected vehicles** in the tab.
2. Select the relevant vehicle.
3. Tap **I no longer own this Volvo** and follow the instructions in the app.

> When ownership is ended, user history and other user accounts will be deleted. An automatic factory reset of the vehicle will also be performed, so that profiles, user data, linked keys, personalized settings, etc. are deleted.

The Volvo ID is personal and therefore does not need to be changed or deleted if you sell the vehicle.

Contact your Volvo retailer if you would like to delete your contact information from their system.

Removing the connection between a paired phone and the vehicle

The connection between a paired phone and the vehicle can be removed either from the Volvo Cars app or from the vehicle's center display. Users with administrator rights can see and disconnect all phones paired with the vehicle. Other users can only see and disconnect their own phone.

Via the Volvo Cars app

1. Go to **Connected vehicles** in the tab.
2. Select the relevant vehicle.

3 Tap **Disconnect** next to the device you want to remove and follow the instructions in the app.

Via the center display

1 Go to ⚙.

2 Select **Profiles**.

3 Select **Volvo Cars app devices**.

4 Tap the phone you want to remove and select **Unpair this phone**.

14.2.14. Change of ownership when the Volvo Cars app is connected to the vehicle

When the vehicle changes owners, there are several steps that need to be carried out to disconnect the previous owner and allow the new owner to connect the Volvo Cars app to the vehicle.

Selling a vehicle

The previous owner needs to remove the link between the vehicle and the Volvo Cars app. Once ownership is ended, an automatic factory reset of the vehicle will be performed, so that profiles, user data, linked keys, personalized settings, etc. are deleted.

Purchasing a vehicle

The new owner will need to connect the Volvo Cars app to the vehicle.

Change of ownership to another country

When a vehicle is purchased and imported to another country, further measures may be necessary. Contact a retailer for information.

---

15. Navigation

15.1. Map updates

15.1.1. Map downloads

To help ensure access to maps in Google Maps even when the vehicle has a poor or no Internet connection, map data is saved automatically.

Maps automatically downloads maps based on the vehicle's current location and travel patterns. These maps can be used when the vehicle does not have an Internet connection to:

- provide map data to the vehicle's safety and navigation functions
- provide access to Maps in areas with limited or no Internet connection.

A map area can also be selected manually and downloaded.

> **Note**
>
> The above instructions provide a general description and include third-party suppliers. Availability, procedures and functionality may vary or be changed.

15.2. Google Maps

The Google Maps app contains maps and gives you access to traffic information, route guidance, suitable charging station locations, etc.

Maps can be used both when the vehicle has an Internet connection and when it doesn't, but more services are available when the vehicle is online.

Same information in the vehicle as on other devices

Connecting your Google account to the active user profile also makes the services more personalized. Destinations given on other devices, such as home, work, favorites and most recent searches, will be shown. If you change something on one device, it will also be changed in Maps if the device and the vehicle are logged in to the same Google account.

Voice control

Maps can also be voice-controlled using the Google Assistant[1].

> **Note**
>
> The above instructions provide a general description and include third-party suppliers. Availability, procedures and functionality may vary or be changed.

> **Warning**
>
> Observe the following:
>
> - Direct all your attention to the road and make sure that your concentration is focused on driving.
> - Follow applicable traffic laws and use good judgment while driving.
> - Road conditions can be affected by weather or season, which may make certain recommendations less reliable.

[1] The Google Assistant is not yet available in all languages.

15.3. Use Google Maps

Maps is displayed and managed in the center display and in the instrument panel using the steering wheel keypad. Maps can also be managed using voice control.

Opening and closing Maps

To open Maps, tap its icon in the center display. To close the app, press the Home button.

When the app is open, the map and current traffic information will be shown.

Shortcuts

There are shortcuts in the navigation tile, each of which initiates a search in Maps. Examples of shortcuts:

- Charging station
- Restaurant

When a route has been entered in Maps, there will be an extra shortcut to stop current guidance.

> **Note**
>
> The above instructions provide a general description and include third-party suppliers. Availability, procedures and functionality may vary or be changed.

Warning

Observe the following:

- Direct all your attention to the road and make sure that your concentration is focused on driving.
- Follow applicable traffic laws and use good judgment while driving.
- Road conditions can be affected by weather or season, which may make certain recommendations less reliable.

15.4. Updating Google Maps

Try to keep Maps updated to the latest version.

Updated versions of Maps are available in Google Play. If there are any differences in access rights between the two versions of the app, the system will prompt the user to accept the new terms.

Using the latest version ensures that you have the most recent updates and functions. To update Maps, the vehicle must be connected to the Internet and an active Google account must be connected to the user profile.

When a Maps update is available, you will receive a notification asking if you would like to update.

15.5. Google Maps settings

The majority of the Maps settings are adjusted directly in the app under settings. Several examples are listed below.

Voice guidance level

Set the level for voice guidance, for example if you only want to hear traffic information and not the next maneuver.

Route options

Set, for example, preferences to avoid road tolls and highways in route guidance.

Note

The above instructions provide a general description and include third-party suppliers. Availability, procedures and functionality may vary or be changed.

Other settings

Voice guidance volume

Turn the volume control below the center display or use the buttons on the steering wheel's right-side keypad. An expandable menu will open in the center display. Set the volume for voice guidance.

Language and units

If you would like to change the language or measurement units used in Maps, you can change these settings in App view . Please note that changing this setting will change the language and units used in all of the vehicle's displays, not only Maps.

> **Note**
>
> Changing languages in the center display could mean that certain information in the Owner's Manual will not comply with national or local laws and regulations. Do not change to a language you do not speak well, as it can be difficult to find your way back through the menu.

15.6. Electric vehicle functions with Google Maps

Some functions in Maps are unique for electric vehicles. Here are some of these, along with brief explanations.

The functions listed are only examples. For up-to-date information on which functions are available and how they work, go to g.co/mapsincar [https://g.co/mapsincar] .

The functions that relate to battery level are based on historic use of the vehicle and can be influenced by factors such as speed, driving style and use of electrical equipment.

Filter by charging stations

By default, the map only shows compatible charging stations.

Battery charge level at arrival

Maps can show the estimated battery level at arrival at a destination.

Estimated minimum charging time

When charging stations are input as waypoints in an itinerary, Maps will indicate the minimum estimated charging time at that charging station to clarify total travel time and ETA [1].

Battery preconditioning before rapid charging

When charging stations have been added in Google Maps, the battery will be preconditioned to reduce charging time.

Suggestions for adding charging stations

If route guidance is started and the system estimates that the vehicle cannot reach its final destination on the current battery level, Maps will suggest adding charging stations at suitable places so that the final destination can be reached.

Note

The above instructions provide a general description and include third-party suppliers. Availability, procedures and functionality may vary or be changed.

[1] Estimated Time of Arrival

15.7. Google Maps in the instrument panel

Guidance to destinations can be displayed in the instrument panel, along with step-by-step instructions and a map. The map can also be displayed even if no destination has been specified.

Different map and guidance information will be displayed depending on the selected display mode in the instrument panel. Examples of information in the instrument panel:

- Arrows indicating next maneuver
- Distance to maneuver
- Name of next street
- Road number and exit number
- Lane information

Turn-by-Turn guidance points provide clear driving directions on the instrument panel and minimize the need to move your eyes from the road.

15.8. Destinations in Google Maps

You can enter several types of destinations in Maps.

Various types of destinations can be entered in the search field. In addition to addresses, you can also enter a specific destination, such as a museum, and request route guidance there. You can also perform more general searches, such as for charging stations, restaurants and hotels, and then select one of the search results as a destination and get route guidance there.

If a Google account is connected to the vehicle, destinations given on other devices, such as home, work, favorites and most recent searches, will be shown in Maps.

Note

A poor connection can adversely affect the functions.

15.9. Connected functions with Google Maps

For full Maps functionality, the vehicle must be connected to the Internet. The following is a list of some functions that are available when the vehicle is online.

Maps is updated continuously with traffic information and information from parking spots, charging stations and connected Google accounts.

The functions listed are only examples. For up-to-date information on which functions are available and how they work, go to g.co/mapsincar [https://g.co/mapsincar] .

Traffic information

If traffic is moving slowly, the map will show orange or red lines, depending on traffic speed. If the vehicle loses its Internet connection, the colored lines will disappear after a few minutes because this information will no longer be current. Updated traffic information will be shown again once the connection has been reestablished. The map also shows information about different types of obstacles, such as road construction or accidents.

If any accidents or other obstacles are detected along the current route and another faster route is identified, Maps will suggest an alternative route.

Alternative route

When a destination is entered, a route will be suggested along with alternative routes. The suggestions are based on system settings, traffic information, estimated range, travel time, etc. To choose an alternative route, select the route in the list of suggested routes or steer the vehicle in the direction of that route, so-called decide by steering.

If you change route during the trip, Google Maps will dynamically redirect you based on current traffic patterns so that you can avoid traffic congestion.

> **Note**
>
> The above instructions provide a general description and include third-party suppliers. Availability, procedures and functionality may vary or be changed.

15.10. Creating route guidance with Google Maps

Enter the destination in the search field and let Maps create a route.

1. Open Maps in Home view or App view ⊞.
2. Enter an address or location in the search field.

> A route will be suggested and shown in blue on the map. Alternative routes will be indicated in gray. The available routes for selection may be affected if preferences have been set to, for example, avoid road tolls or highways.

3 If another route is preferred, tap the route overview icon and choose and alternative route.

4 Start navigation.

> Instructions in the instrument panel and voice guidance[1] will begin.

Maps can also be voice-controlled using the Google Assistant[2].

> **Note**
>
> The above instructions provide a general description and include third-party suppliers. Availability, procedures and functionality may vary or be changed.

For more information, go to g.co/mapsincar [https://g.co/mapsincar] .

> **Warning**
>
> Observe the following:
>
> - Direct all your attention to the road and make sure that your concentration is focused on driving.
> - Follow applicable traffic laws and use good judgment while driving.
> - Road conditions can be affected by weather or season, which may make certain recommendations less reliable.

Adding a waypoint to an existing route

1 Select a shortcut.

2 Select a waypoint.

> The route will be recalculated.

Trip information in the navigation tile

When a route has been entered in Maps, the navigation tile will display the following trip information about the next waypoint along the route:

- Travel time
- Distance to waypoint
- Estimated time of arrival, ETA[3]
- Name of next waypoint
- Specific information for electric vehicles, e.g. estimated battery level at arrival.

Current route guidance can be canceled directly from the tile.

The information displayed concerns the next waypoint. The final destination will be shown when there are no more waypoints along the route.

[1] Voice guidance can be switched off in settings in the Maps app via the center display.

[2] The Google Assistant is not yet available in all languages.

[3] Estimated Time of Arrival

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16. Wheels and tires

16.1. Changing a wheel

16.1.1. Changing a wheel

Wheel changes must always be carried out correctly. The following instructions show how to remove and install a wheel and what is important to keep in mind. Make sure that the tire dimension is approved for use on the vehicle.

Warning

- If a tire must be changed near passing traffic, make sure all passengers move to a safe location.
- Use a jack intended for the vehicle when changing a tire. For any other job, use stands to support the vehicle.
- Never crawl under or allow any part of your body to be extended under a vehicle supported by a jack.
- Never let anyone remain in the vehicle when it is raised on a jack.

Important

If a jack is provided with your vehicle, it is intended to be used only in temporary situations such as changing wheels in the event of a flat tire. Only the jack that came with your particular model should be used to lift the vehicle. If the vehicle needs to be lifted more frequently, or for a longer period of time than for a wheel change, a garage jack or hoist is recommended. Always follow this device's instructions for use.

When not in use, the jack should be kept in its storage compartment under the cargo compartment floor. Crank the jack to the correct position so that it fits.

Removing a wheel

Read through all instructions before starting. Before raising the vehicle using a jack or lift, take out all the tools you will need.

1 Turn on the vehicle's hazard warning flashers if a wheel change must be performed in an area with traffic.

2 Make sure that the parking brake is engaged and put the gear selector in P position.

3 Place chocks in front of and behind the wheels that are still on the ground. For example, use heavy wooden blocks or large stones.

4 Using the lug wrench, screw the towing eye into place as far as possible.

5 Remove the plastic covers from the wheel bolts using the designated tool or pull off the wheel cap.

6 With the vehicle still on the ground, use the lug wrench/towing eye to loosen the wheel bolts ½-1 turn by pressing downward (counterclockwise). Always start with the locking wheel bolts*.

7 Follow the instructions for safely lifting the vehicle using a jack.

8 Raise the vehicle until the wheel to be changed can move freely. Unscrew the wheel bolts and lift off the wheel.

Installing a wheel

1 Clean the contact surfaces between the wheel and the wheel hub.

2 Lift the wheel into place. If the vehicle has tires or wheels of different sizes on the front and back, make sure the correct dimensions are used for each position. Tighten the wheel bolts securely.

Do **not** grease the wheel bolt threads.

3 Lower the vehicle so that the wheel cannot rotate.

4 Tighten the wheel bolts in a crisscross pattern (as shown in illustration). It is important that the wheel bolts are securely

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tightened. Tighten to 140 Nm (103 ft. lbs.). Use a torque wrench to check torque.

5 Depending on tire equipment:

- Replace the wheel cap over the wheel bolts by aligning it with the guide marks and then pressing it into place.
- Press the plastic covers over the wheel bolts.

6 Check the tire inflation pressure and store the new inflation pressure in the tire pressure monitoring system*.

Warning

The wheel bolts may need to be tightened again several days after a wheel change. Temperature fluctuations and vibrations can cause them to loosen slightly.

Note

- After inflating a tire, always replace the valve cap to help prevent valve damage caused by gravel, dirt, etc.
- Use plastic valve caps only. Metal caps could corrode and become difficult to remove.

* Option/accessory.

16.1.2. Jack*

The jack can be used to lift the vehicle to e.g. change a wheel.

Important

If a jack is provided with your vehicle, it is intended to be used only in temporary situations such as changing wheels in the event of a flat tire. Only the jack that came with your particular model should be used to lift the vehicle. If the vehicle needs to be lifted more frequently, or for a longer period of time than for a wheel change, a garage jack or hoist is recommended. Always follow this device's instructions for use.

When not in use, the jack should be kept in its storage compartment under the cargo compartment floor. Crank the jack to the correct position so that it fits.

The jack needs to be cranked together to the correct position in order to fit.

* Option/accessory.

16.1.3. Wheel bolts

The wheel bolts hold the wheel in place on the wheel hub.

Only use rims that have been tested and approved by Volvo and are included in Volvo's original product range.

Use a torque wrench to check that the wheel bolts are tightened correctly.

Do **not** grease the wheel bolt threads.

Warning

The wheel bolts may need to be tightened again several days after a wheel change. Temperature fluctuations and vibrations can cause them to loosen slightly.

Important

The wheel bolts should be tightened to 140 Nm (103 ft. lbs.). Over-tightening or under-tightening could damage the threaded joints.

Locking wheel bolt kit*

To loosen or tighten the locking wheel bolts, turn the wrench in the locking bolt until it fully engages in the code grooves. When removing a wheel, always start with the locking wheel bolts. When mounting a wheel, end with the locking bolt.

Important

Make sure you have a solid connection between bolt and wheel bolt key when loosening/tightening the wheel bolts. Applying force at an angle could damage the slots in the wheel bolts and the wheel bolt key and make it impossible to install or remove the wheel.

When the wheel bolt key is not being used, stow it in its designated location in the storage area under the hood. This is important to remember so that the tool is available if the vehicle is taken to a workshop. If you lose the key, contact your Volvo retailer.

* Option/accessory.

16.1.4. Spare wheel

The spare wheel[1] is a Temporary Spare and can be used to temporarily replace one of the vehicle's regular wheels with a punctured tire.

The spare wheel is only intended for temporary use. Replace it with a normal wheel as soon as possible.

The driving characteristics of the vehicle change and ground clearance reduces when the spare wheel is used. Do not wash the vehicle in an automatic car wash while using the Temporary Spare.

The recommended tire pressure must be maintained regardless of at which position the temporary spare wheel is used on the vehicle.

If the spare wheel is damaged, a replacement can be purchased from a Volvo retailer.

Warning

Current legislation prohibits the use of the "Temporary Spare" wheel other than as a temporary replacement for a punctured tire. It must be replaced as soon as possible by a standard tire. Roadholding and handling may be affected with the "Temporary Spare" wheel in use.

Warning

- Never drive faster than 80 km/h (50 mph) with a spare tire mounted on the vehicle.
- The vehicle must never be driven with more than one "Temporary Spare" wheel mounted.
- Driving with a spare wheel may alter the driving characteristics of the vehicle. Replace the spare wheel with a normal wheel as soon as possible.
- The spare wheel is smaller than the normal wheel, which affects the vehicle's ground clearance. Watch for high curbs and do not wash the vehicle in an automatic car wash when a spare wheel is mounted.
- Follow the manufacturer's recommended tire inflation pressure for the spare wheel.
- On all-wheel drive vehicles, the drive on the rear axle can be disconnected.
- If the spare wheel is mounted on the front axle, snow chains must not be used.
- The spare wheel must not be repaired.

Important

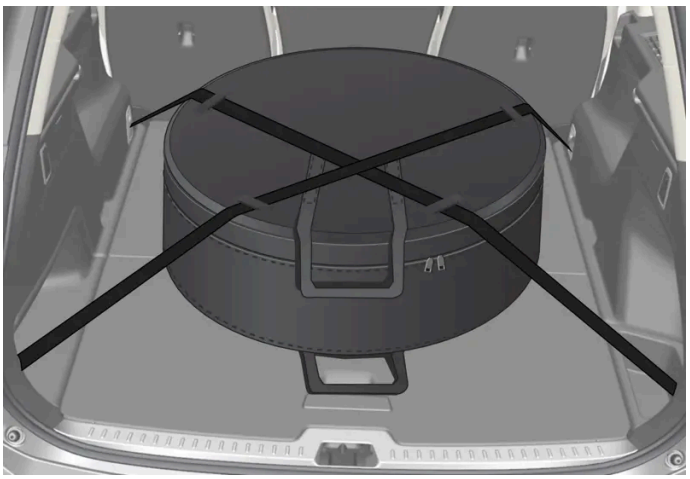
The vehicle must not be driven with wheels of different dimensions or with a spare tire other than the one the vehicle is approved for. Using tires of different sizes can seriously damage the vehicle's transmission due to different rolling circumferences.

Vehicles designed for different front and rear tire or wheel dimensions must have the same type and make of tire on the front and rear axles.

[1] Not available on all models.

16.1.5. Handling the spare wheel

Follow these instructions regarding handling the spare wheel[1].



This illustration is generic and appearance may vary.

The spare wheel is stored in a bag and should be secured with two straps onto the floor of the trunk/cargo compartment when the vehicle is being driven. The straps should be strapped down crosswise over the wheel, attached to the load anchoring eyelets and pulled taut.

Wheel changing tools are located under the cargo compartment floor.

[1] Not available on all models.

16.1.6. Snow chains

Using snow chains and/or snow tires can help improve traction in winter driving conditions.

Volvo recommends that snow chains are not used on wheel dimensions larger than 20 inches.

Warning

Use Volvo genuine snow chains or equivalent snow chains that are suitable for the vehicle model and the tire and wheel sizes. Only **one-sided** snow chains are permitted.

If uncertain about snow chains, Volvo recommends contacting an authorized Volvo workshop. Use of the wrong snow chains could cause serious damage to the vehicle and result in an accident.

Using snow chains could result in malfunction of the system for monitoring of tire inflation pressures* [1].

Important

Snow chains can be used on the vehicle, with the following restrictions:

- Always follow the manufacturer's installation instructions carefully. Install chains as tightly as possible and retighten periodically.
- Only put snow chains on the front wheels (also applies to all-wheel drive vehicles).
- If accessory, aftermarket or "custom" tires and wheels with different dimensions than the original tires and wheels are used, snow chains in some cases may NOT be used. Sufficient distance between the chains and brakes, suspension and body components must be maintained.
- Check local regulations regarding the use of snow chains before installing.
- Never exceed the snow chain manufacturer's specified maximum speed limit. Under no circumstances should you exceed 50 km/h (30 mph).
- Avoid bumps, holes or sharp turns when driving with snow chains.
- Avoid driving on surfaces without snow as this wears out both the snow chains and the tires.
- The handling of the vehicle can be adversely affected when driving with chains. Avoid fast or sharp turns as well as locked wheel braking.
- Some types of strap-on chains affect brake components and therefore must NOT be used.

Consult a Volvo retailer for more information about snow chains.

* Option/accessory.

[1] Tire Pressure Monitoring System (TPMS)

16.1.7. Snow tires

Snow tires are designed for winter driving conditions.

Volvo recommends snow tires with specific dimensions. The tire dimensions vary depending on engine type. When driving with snow tires, the correct type of tires must be mounted on all four wheels.

Tips for changing snow tires

When switching between regular tires and snow tires, mark the tires according to which side they were mounted on, e.g. **L** for left and **R** for right.

Contact a Volvo retailer for advice on the most suitable rims and tires.

Studded tires

Studded tires should be broken in by driving 500–1000 km (300–600 miles) slowly and gently to help the studs settle properly in the tires. This gives the tire, and especially the studs, a longer service life.

> **Note**
>
> Legal requirements concerning the use of studded tires may vary. Always follow local laws and regulations.

Tread depth

Road conditions with ice, slush and low temperatures place considerably higher demands on tires than summer conditions. Volvo therefore recommends not driving on snow tires that have a tread depth of less than 4 mm (0.15 inch).

16.1.8. Flat tire

Turn on the hazard warning flashers if you get a flat tire near passing traffic.

Move the vehicle out of traffic if this can be done safely. Call road assistance if necessary.

If possible, exit the vehicle on the side with the least traffic.

Handling a flat tire

The vehicle is equipped with either a tire sealing system for temporarily sealing a tire, or a spare wheel [1]. See the relevant section for instructions on use.

[1] Not available on all models.

16.1.9. Tool kit

The vehicle's storage compartments can be used to store tools for e.g. towing or changing wheels. There is space for a jack and a lug wrench in the vehicle's cargo compartment. Other tools can be stowed in the storage compartment under the hood.

Examples of tools that may be found in the vehicle.

1 Jack

2 Tool for removing the plastic wheel bolt covers

3 Tire sealing system

4 Wheel bolt key and towing eyelet

If the vehicle is equipped with a spare tire* [1], a jack and wheel bolt key are provided instead of the tire sealing system.

* Option/accessory.

[1] Not available on all models.

16.2. Tires

16.2.1. Tire sidewall designations

The following information can be found on a tire's sidewall.

Federal law mandates that tire manufacturers place standardized information on the sidewall of all tires (see the illustration).

The vehicle has been certified with certain combinations of wheels and tires.

The following information is listed on the tire sidewall:

The tire designation:

> **Note**
>
> Please be aware that the following tire designation is an **example only** and that this particular tire may not be available on your vehicle.

1. 215: The width of the tire (in millimeters) from sidewall edge to sidewall edge. The larger the number, the wider the tire.
2. 65: The ratio of the tire's height to its width in percent.
3. R: Radial tire (the designation RF and the ◎ symbol indicate that the vehicle is equipped with optional self-supporting run flat tires[1].
4. 15: The diameter of the wheel rim (in inches).
5. 95: The tire's load index. In this example, a load index of 95 equals a maximum load of 1521 lbs (690 kg).
6. H: The tire's speed rating, or the maximum speed at which the tire is designed to be driven for extended periods of time, carrying a permissible load for the vehicle, and with correct inflation pressure. For example, H indicates a speed rating of 210 km/h (130 mph).

> **Note**
>
> The tire's load index and speed rating may not appear on the sidewall because they are not required by law.

7. M+S or M/S = Mud and Snow, AT = All Terrain, AS = All Season
8. U.S. DOT Tire Identification Number (TIN): This begins with the letters "DOT" and indicates that the tire meets all federal standards. The next two numbers are the factory code where the tire was manufactured, the next two are the tire size code and the last four numbers represent the week and year the tire was made. For example, 0717 means that the tire was manufactured during week 7 of 2017. The numbers in between are marketing codes used at the manufacturer's discretion. This information helps a tire manufacturer identify a tire for safety recall purposes.
9. Tire Ply Composition and Material Used: Indicates the number of plies indicates or the number of layers of rubber-coated fabric in the tire tread and sidewall. Tire manufacturers also must indicate the ply materials in the tire and the sidewall, which include steel, nylon, polyester, and others.
10. Maximum Load: Indicates the maximum load in pounds and kilograms that can be carried by the tire. Refer to the vehicle's tire information placard located on the B-Pillar for the correct tire pressure for your vehicle.
11. Treadwear, Traction, and Temperature grades.

12. Maximum permissible inflation pressure: The greatest amount of air pressure that should ever be put in the tire. This limit is set by the tire manufacturer.

Speed Symbol

A tire's Speed Symbol (SS) indicates the maximum speed for which the tire has been certified and should be at least equivalent to the vehicle's top speed.

Winter tires, with or without studs, are exceptions and may use a lower SS. When winter tires are installed, the vehicle may not be driven faster than the tires' SS.

The vehicle's speed should always be determined by the posted speed limit and traffic and road conditions, not the tire's SS.

The following table indicates the maximum permissible speed for each SS.

M	130 km/h (81 mph)
Q	160 km/h (100 mph)
T	190 km/h (118 mph)
H	210 km/h (130 mph)
V	240 km/h (149 mph)
W	270 km/h (168 mph)
Y	300 km/h (186 mph)

Warning

- The wheel and tire sizes for your Volvo are specified to meet stringent stability and handling requirements. Unapproved wheel/tire size combinations can negatively affect your vehicle's stability and handling.
- Any damage caused by installation of unapproved wheel/tire size combinations will not be covered by your new vehicle warranty. Volvo assumes no responsibility for death, injury, or expenses that may result from such installations.

[1] Self-supporting run flat tires may not be available on all models.

16.2.2. Uniform Tire Quality Grading

ALL PASSENGER VEHICLE TIRES MUST CONFORM TO FEDERAL SAFETY REQUIREMENTS IN ADDITION TO THESE GRADES.

Quality grades can be found, where applicable, on the tire sidewall between the tread shoulder and maximum section width. For example:

Treadwear 200 Traction AA Temperature A

TREADWEAR

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one half (1 ½) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and many depart significantly from the norm due to variation in driving habits, maintenance practices and differences in road characteristics and climate.

TRACTION

The traction grades, from highest to lowest, are AA, A, B, and C, as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

> ⚠ **Warning**
>
> The traction grade assigned to this tire is based on braking (straight-ahead) traction tests and is not a measure of cornering (turning) traction.

TEMPERATURE

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a minimum level of performance that all passenger vehicle tires must meet under the Federal Motor Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

> ⚠ **Warning**
>
> The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, under-inflation, or excessive loading, either separately or in combination, can cause heat buildup and tire failure.

16.2.3. Tire terminology

The following is a glossary of tire-related terms.

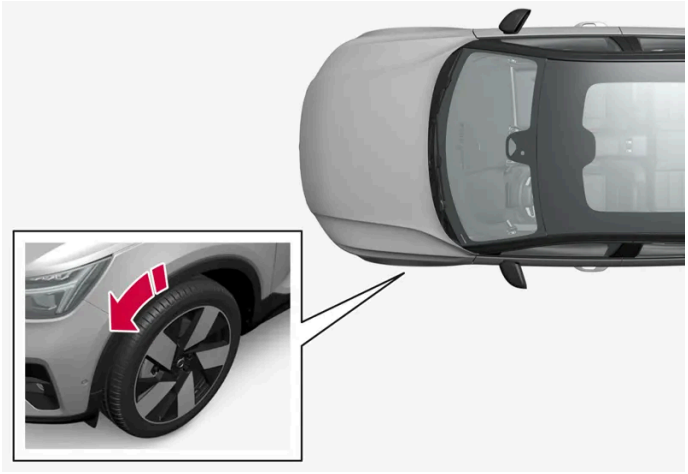
The tire suppliers may have additional markings, notes or warnings such as standard load, radial tubeless, etc.

- Tire information placard: A placard showing the OE (Original Equipment) tire sizes, recommended inflation pressure, and the maximum weight the vehicle can carry.
- Tire Identification Number (TIN): A number on the sidewall of each tire providing information about the tire brand and manufacturing plant, tire size and date of manufacture.
- Inflation pressure: A measure of the amount of air in a tire.
- Standard load: A class of P-metric or Metric tires designed to carry a maximum load at 35 psi [37 psi (2.5 bar) for Metric tires]. Increasing the inflation pressure beyond this pressure will not increase the tires load carrying capability.
- Extra load: A class of P-metric or Metric tires designed to carry a heavier maximum load at 41 psi [43 psi (2.9 bar) for Metric tires]. Increasing the inflation pressure beyond this pressure will not increase the tire's load carrying capability.

- kPa: Kilopascal, a metric unit of air pressure.
- PSI: Pounds per square inch, a standard unit of air pressure.
- B-pillar: The structural member at the side of the vehicle behind the front door.
- Bead area of the tire: Area of the tire next to the rim.
- Sidewall of the tire: Area between the bead area and the tread.
- Tread area of the tire: Area of the perimeter of the tire that contacts the road when mounted on the vehicle.
- Rim: The metal support (wheel) for a tire or a tire and tube assembly upon which the tire beads are seated.
- Maximum load rating: A figure indicating the maximum load in pounds and kilograms that can be carried by the tire. This rating is established by the tire manufacturer.
- Maximum permissible inflation pressure: The greatest amount of air pressure that should ever be put in the tire. This limit is set by the tire manufacturer.
- Recommended tire inflation pressure: Inflation pressure, established by Volvo, which is based on the type of tires that are mounted on a vehicle at the factory. This information can be found on the tire inflation placard(s) located on the driver's side B-pillar and in the tire inflation table.
- Cold tires: The tires are considered to be cold when they have the same temperature as the surrounding (ambient) air. This temperature is normally reached after the vehicle has been parked for at least 3 hours.

16.2.4. Tire direction of rotation

Tires with tread designed to roll in only one direction are marked with an arrow on the sidewall.



The arrow shows the tire's direction of rotation.

- Tires should maintain the same direction of rotation throughout their service life.
- Tires should only be moved between the front and back, never from right to left or vice versa.
- Incorrectly mounted tires impair the vehicle's braking properties and ability to force aside rain, snow and slush.
- The tires with the most tread should always be mounted on the rear wheels to help reduce the risk of rear-wheel skidding.
- Never switch positions between the front and rear axles on vehicles with different front and rear tire or wheel dimensions.
- To help reduce the risk of rear-wheel skid when driving on wet roads, Volvo recommends that the rear tires do not have significantly less tread than the front tires.

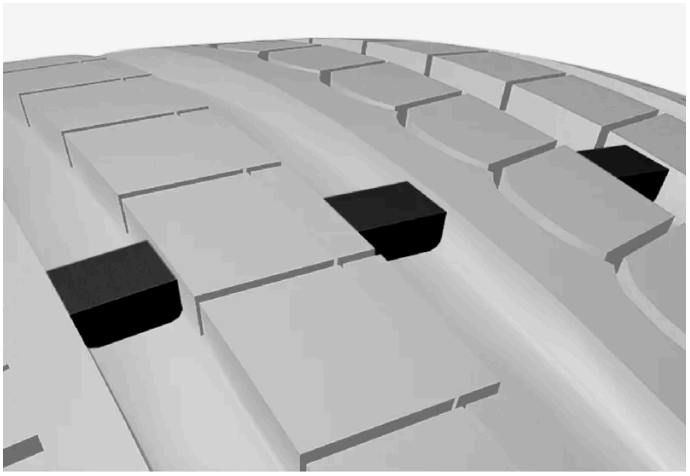
Note

Make sure to have tires of the same type, dimensions and make on both the front and rear axles.

Vehicles with different front and rear tire dimensions must have the same type and make of tire on the front and rear axles.

16.2.5. Tread wear indicator

The tread wear indicator shows the status of the tire's tread.



The tread wear indicator is a narrow elevated strip running across the tire's longitudinal tread grooves. The letters TWI (Tread Wear Indicator) are visible on the side of the tire. When approximately 1.6 mm (1/16 inch) is left on the tread, the tread will be at the same height as the tread wear indicator. Replace the tire as soon as possible. Tires with low tread offer very poor traction in rain or snow.

16.3. Tire inflation pressure

16.3.1. Tire inflation pressure monitoring

16.3.1.1. Tire Pressure Monitoring System*

The tire pressure monitoring system [1] provides a warning symbol in the instrument panel if pressure is too low in one or more tires.

This symbol illuminates to indicate low inflation pressure. Check the inflation pressure in the **Car status** app in the center display.

If there is a system malfunction, the inflation pressure warning symbol will flash for approximately one minute and then glow steadily.

System description

The tire pressure monitoring system measures differences in rotational speed between the wheels through the ABS system to determine if the tires are properly inflated. If inflation pressure in a tire is too low, its diameter (and consequently its rotational speed) changes. By comparing the tires with each other, the system can determine if the pressure in one or more tires is too low.

General information about the tire pressure monitoring system

In the following description, the tire monitoring system is generally referred to as TPMS.

Each tire, including the spare (if provided) [2] should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure.

Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability. Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended.

TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly.

Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

To keep in mind

- Always save the new inflation pressure in the system after changing a tire or adjusting the inflation pressure.
- Using snow chains can affect tire inflation pressure monitoring. This is indicated by a symbol and message in the instrument panel. When the snow chains are removed, all tires should be checked and adjusted to the recommended inflation pressure. The new inflation pressure should then be saved in the tire pressure monitoring system.

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- If you switch to a tire of another size than the factory-mounted tires, the system must be reset by storing a new inflation pressure for these tires to avoid false warnings.
- If a spare wheel[2] is used, it is possible that the tire pressure monitoring system will not work correctly due to the differences between the wheels.
- The system does not replace the need for regular tire inspection and maintenance.
- It is not possible to deactivate the tire pressure monitoring system.

> **Warning**
>
> - Incorrect inflation pressure could lead to tire failure, which could cause the driver to lose control of the vehicle.
> - The system cannot predict sudden tire damage.

* Option/accessory.

[1] Tire Pressure Monitoring System (TPMS)

[2] Not available on all models.

16.3.1.2. Viewing tire pressure status in the center display*

With the system for tire pressure monitoring[1], tire pressure status can be viewed in the center display.

Checking status

The vehicle may need to be driven for a few minutes at a speed above 35 km/h (22 mph) to activate the system.

1. Tap ⊞ in the center display.
2. Tap **Car status** to see the tire inflation pressure status.

* Option/accessory.

[1] Tire Pressure Monitoring System (TPMS)

16.3.1.3. Action when warned of low tire pressure

When the inflation pressure monitoring system[1] detects low inflation pressure in a tire, immediate action is required.

If the system's indicator symbol illuminates and the message about low inflation pressure is displayed, check the tire pressure and inflate if necessary.

1. Switch off the ignition.
2. Check the inflation pressure on all four tires using a tire pressure gauge.
3. Inflate the tire to the correct inflation pressure; see the tire pressure placard on the driver's side B pillar for recommended pressures for factory-mounted tires.
4. After the inflation pressure has been adjusted, always save the new inflation pressure in the system via the center display. This can only be done when the vehicle is running and stationary.

   Please be aware that the indicator symbol will not go out until the low tire pressure has been corrected and a storing procedure has been started for the new inflation pressure.

   The vehicle may need to be driven for a few minutes at a speed above 35 km/h (22 mph) for the system to be able to store the new reference value.

Note

To help prevent incorrect inflation pressure, pressure should be checked when the tires are cold. The tires are considered to be cold when they have reached the same temperature as the ambient temperature (about 3 hours after the vehicle was last driven). After driving for a few kilometers, the tires will warm up and the pressure will increase.

Note

- After inflating a tire, always replace the valve cap to help prevent valve damage caused by gravel, dirt, etc.
- Use plastic valve caps only. Metal caps could corrode and become difficult to remove.

Warning

- Incorrect inflation pressure could lead to tire failure, which could cause the driver to lose control of the vehicle.
- The system cannot predict sudden tire damage.

[1] Tire Pressure Monitoring System (TPMS)

16.3.1.4. Saving new reference values for tire inflation pressure monitoring*

In order for the tire pressure monitoring system[1] to function correctly, tire pressure reference values must be saved correctly. To help ensure that the system can correctly alert the driver of low inflation pressure, this must be done each time the tires are changed or the inflation pressure is adjusted.

To store the new inflation pressure as a reference value in the system:

1. Switch off the ignition.
2. Inflate the tire to the correct inflation pressure; see the tire pressure placard on the driver's side B pillar for recommended pressures for factory-mounted tires.
3. Start the vehicle.
4. Tap ⊞ in the center display.
5. Tap **Car status**.
6. Tap **Store pressure**. When the inflation pressure is stored, the vehicle must be on and stationary.

   > **Note**
   >
   > The **Store pressure** button is used to save new reference values for inflation pressure in the tire pressure monitoring system. For safety reasons, it is only available (selectable) when the vehicle is stationary and the engine is running.

7. The inflation pressure must be saved after adjusting the inflation pressure or if the tire is replaced. Adjust the inflation pressure to the recommended value and tap **Confirm** to store the inflation pressure.

   > **Note**
   >
   > To prevent the **Store pressure** function from being activated inadvertently, it is necessary to confirm in a second step that the inflation pressure should be saved.

8. Drive the vehicle until the new inflation pressure has been saved. The new inflation pressure is stored when the vehicle is driven at speeds over 35 km/h (22 mph).

> When enough data has been collected for the system to detect low inflation pressure, the animation showing the progress of the procedure for storing a new reference value will disappear from the center display.

If storing cannot be performed, a message will be displayed.

* Option/accessory.

[1] Tire Pressure Monitoring System (TPMS)

16.3.1.5. Messages for tire inflation pressure monitoring*

A number of messages related to the tire pressure monitoring system[1] can be displayed. Several examples are provided below.

Center display: **Storing pressure required due to updated software**	The software has been updated and the tire inflation pressure must be saved again. Check the tire inflation pressure and fill as needed.
Instrument panel: **TPMS unavailable Open Car Status app to Store Pressure**	The indicator symbol flashes and changes to a steady glow after about one minute. See "Car status" in the center display for more information.
Instrument panel: **Tire pressure low Check Car Status app in center display**	The indicator symbol will illuminate to indicate that inflation pressure is low in one or more tires. See "Car status" in the center display for more information.
Instrument panel: **Tire pressure system Temporarily unavailable**	The indicator symbol will flash for about 1 minute and then glow steadily. The system is temporarily unavailable and will be activated momentarily.
Instrument panel: **Tire pressure system Service required**	The indicator symbol will flash for about 1 minute and then glow steadily. If the system is not working properly, contact a workshop[2].

* Option/accessory.

[1] Tire Pressure Monitoring System (TPMS)

[2] An authorized Volvo workshop is recommended.

16.3.2. Checking tire pressure

Correct inflation pressure helps improve driving stability, reduce energy consumption and increase the service life of the tires.

Tire pressure decreases over time, which is normal. Tire pressure also varies depending on the ambient temperature. Driving on under-inflated tires could cause the vehicle to overheat and lead to damage. Tire pressure affects traveling comfort, road noise and driving characteristics.

Check the pressure in the tires every month. Use the recommended inflation pressure for cold tires to help maintain good tire performance. Under-inflated or over-inflated tires could cause uneven tread wear.

Use an air pressure gauge and check the inflation pressure on all the tires, including the spare tire[1], at least once a month and before long trips. Volvo recommends buying a reliable air pressure gauge, as the automatic gauges provided at service stations may be inaccurate.

Warning

- Under-inflation is the most common cause of tire failure. This can result in severe tire cracking, tread separation, tire blow out or reduced control of the vehicle, which can lead to an increased risk of injury.
- Under-inflated tires reduce the load carrying capacity of your vehicle.

Cold tires

Inflation pressure should be checked when the tires are cold. The tires are considered to be cold when they have the same temperature as the surrounding (ambient) air. This temperature is normally reached after the vehicle has been parked for at least 3 hours.

After driving for approximately 1.6 km (1 mile), the tires are considered to be warm. If you have to drive farther than that to inflate the tire, check and record your inflation pressure first. Then fill to an appropriate inflation pressure when you arrive at the pump.

When the ambient temperature changes, so does the inflation pressure. A 10-degree temperature drop causes a corresponding drop in inflation pressure of 7 kPa (1 psi). Check the inflation pressure of the tires regularly and adjust to the correct pressure, which can be found on the vehicle's tire information decal or certification label.

If you check inflation pressure when the tires are warm, you should never release air. The tires become warm after driving and it is normal for warm tires to have an inflation pressure above the recommended pressure for cold tires. A warm tire with an inflation pressure equal to or under the recommended pressure for cold tires could be significantly under-inflated.

[1] Not available in all models.

16.3.3. Adjusting tire pressure

Tire pressure decreases over time, which is normal. The tire pressure must therefore be adjusted to maintain the recommended tire pressure.

Use the recommended inflation pressure for cold tires to help maintain good tire performance and even wear.

> **Note**
>
> To help prevent incorrect inflation pressure, pressure should be checked when the tires are cold. The tires are considered to be cold when they have reached the same temperature as the ambient temperature (about 3 hours after the vehicle was last driven). After driving for a few kilometers, the tires will warm up and the pressure will increase.

1. Remove the valve cap from the tire and press the air pressure gauge firmly onto the valve.
2. Inflate the tire to the correct inflation pressure; see the tire pressure placard on the driver's side B pillar for recommended pressures for factory-mounted tires.
3. Screw the valve cap back on.

   > **Note**
   >
   > - After inflating a tire, always replace the valve cap to help prevent valve damage caused by gravel, dirt, etc.
   > - Use plastic valve caps only. Metal caps could corrode and become difficult to remove.

4. Visually inspect the tire to make sure there are no nails or other embedded objects that could puncture the tire and cause air leakage.
5. Check the sidewalls to make sure there are no gouges, cuts, bulges or other irregularities.
6. Repeat this procedure for each tire, including the spare tire[1].

> **Note**
>
> If you have overfilled the tire, release air by pushing on the metal stem in the center of the valve. Then recheck the pressure with your tire gauge.
>
> Some spare tires require higher inflation pressure than the other tires. Consult the tire inflation pressure table or the inflation pressure decal.

[1] Not available on all models.

16.3.4. Approved tire pressure

The following tire pressures are recommended by Volvo for your vehicle. Refer to the tire inflation placard for information specific to the tires installed on your vehicle at the factory.

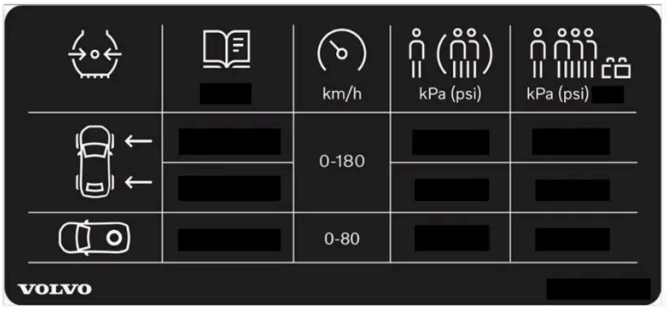
Tire dimensions	Cold tire pressure for up to five persons Front psi (kPa)	 Rear psi (kPa)
235/50 R19 255/45 R19 235/45 R20 255/40 R20	41 (280)	42 (290)
Temporary spare tire T125/70 R19	60 (420)	60 (420)

Important

Do not switch the front wheels with the rear wheels or vice versa.

16.3.5. Location of tire pressure decal

The tire pressure placard on the driver's side B pillar (between the front and the rear door) indicates tire pressure for different loads and speed conditions.



Tire pressure decal

The decal specifies the designation for the factory-mounted tires on the vehicle, as well as load limits and inflation pressures.

Note

The decals shown in the Owner's Manual do not claim to be exact reproductions of those found in the vehicle. The purpose is to show approximately how they look and about where they are located on the vehicle. The information that applies for your vehicle in particular is found on the decal on the vehicle.

16.4. Temporary tire sealing

16.4.1. Tire sealing system

The temporary tire sealing system[1] (TMK) can be used to seal a puncture hole in a tire or to check and adjust the inflation pressure in the tire.
Models equipped with a spare wheel[2] do not have the tire sealing system.

> **Warning**
>
> **California Proposition 65**
>
> Operating, servicing and maintaining a passenger vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle [https://www.p65warnings.ca.gov/products/passenger-vehicle] .

The tire sealing system consists of a compressor and a bottle containing sealing compound. The sealing functions as a temporary repair.

> **Note**
>
> The sealing compound effectively seals tires with punctures in the tread but may not be able to fully seal tires with punctures in the sidewall. Do not use the tire sealing system on tires with large tears, cracks or similar damage.

> **Note**
>
> The compressor is intended for temporary tire sealing and is approved by Volvo.

Location

The tire sealing system is located in a foam block under the cargo compartment floor under the hood.

Sealing compound expiration date

The sealing compound bottle must be replaced if its expiration date has passed (see the decal on the bottle). Handle the old bottle as hazardous waste.

[1] Certain models only.

[2] Not available on all models.

16.4.2. Inflating tires using the compressor included in the tire sealing system

The vehicle's original tires can be inflated using the compressor in the tire sealing system.

1. The compressor must be switched off. Make sure that the switch is in the 0 (Off) position and take out the electrical cable and the hose.
2. Attach the hose directly in the compressor's bottle holder and then turn clockwise 90 degrees.

   Move the warning sticker to the side of the compressor; it doesn't need to be affixed to the wheel side if the sealing compound is not used.
3. Unscrew the tire's valve cap and screw the hose's valve connector as far as possible onto the valve.
4. Connect the electrical cable to the nearest 12 V outlet and start the vehicle.

   > **Warning**
   >
   > Never leave children unattended in the vehicle while the vehicle is running.
5. Start the compressor by moving the switch to the I (On) position.
6. > **Important**
   >
   > Risk of overheating. The compressor should not be running for longer than 10 minutes at a time.

   Inflate the tire to the pressure specified on the tire pressure decal on the driver's side door pillar. If the inflation pressure is too high, use the air release valve to release air.
7. Switch off the compressor. Remove the hose and the electrical cable.
8. Screw the valve cap back onto the tire.
9. If needed, save the new tire pressure in the tire pressure monitoring system.*

Note

- After inflating a tire, always replace the valve cap to help prevent valve damage caused by gravel, dirt, etc.
- Use plastic valve caps only. Metal caps could corrode and become difficult to remove.

Note

The compressor is an electric device. Follow local regulations for disposal.

* Option/accessory.

16.4.3. Using the tire sealing system

The temporary tire sealing system (TMK[1]) can be used to seal a puncture in a tire. Read through all the instructions before use.

Overview

1 Speed limit sticker

2 Switch

3 Electrical cable

4 Bottle holder

5 Air pressure gauge

6 Air release valve

7 Decal, wheel-side warning

8 Sealing compound bottle

9 Bottle opening

10 Connection for bottle

11 Hose

12 Connection valve

Connecting

Warning

Please keep the following points in mind when using the tire sealing system:

- The sealing compound bottle contains natural rubber latex. These substances are harmful if swallowed.
- The contents of this bottle may cause allergic skin reactions or otherwise be potentially harmful to the respiratory tract, the skin, the central nervous system, and the eyes.

Precautions:

- Keep out of reach of children.
- Do not ingest the contents.
- Avoid prolonged or repeated contact with the skin. Remove any clothing that has come into contact with sealant.
- Wash thoroughly after handling.

First aid:

- Skin: Wash affected areas of the skin with soap and water. Get medical attention if symptoms occur.
- Eyes: Flush with plenty of water for least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
- Inhalation: Move the exposed person to fresh air. If irritation persists, get medical attention.
- Ingestion: Get medical attention.
- Disposal: Dispose of this material and its container at a hazardous or special waste collection point. Always follow federal and local environmental regulations.

Warning

Do not remove the bottle or the hose while the tire sealing system is being used.

Note

If the puncture was caused by a nail or similar object, do not remove it from the tire. It will help to seal the hole.

1 **Preparations**

Turn on the vehicle's hazard warning flashers if the tire sealing system is to be used in an area with traffic.

2 Peel off the speed limit sticker from the side of the compressor. Affix the decal to a clearly visible location on the windshield to remind the driver not to exceed this speed limit. Do not drive faster than 80 km/h (50 mph) while using a tire that has been temporarily repaired with the tire sealing system.

Also peel off the warning decal and affix it securely to the side of the wheel.

3 Make sure the switch is in the 0 (Off) position and take out the electric cable and the hose.

4 Attach the sealing compound bottle to the compressor and then turn clockwise 90 degrees.

The bottle is equipped with a check valve that prevents fluid leakage when the bottle is not connected to the compressor.

5 Attach the hose in the bottle opening and turn clockwise 90 degrees.

6 Unscrew the tire's valve cap and screw the hose's valve connector as far as possible onto the valve.

7 **Begin tire sealing**

Connect the electrical cable to the nearest 12 V outlet and start the vehicle.

Note

Make sure that none of the vehicle's other 12 V sockets are used while the compressor is running.

Warning

Never leave children unattended in the vehicle while the vehicle is running.

8 Start the compressor by moving the switch to the I (On) position.

When the compressor starts, the pressure can increase up to 7 bar (102 psi), but the pressure will decrease after approx. 30 seconds.

Warning

Never stand next to a tire being inflated with the compressor. If cracks, bulges, etc. form on the tire, switch off the compressor immediately. The vehicle should not be driven. Call roadside assistance to have the vehicle towed to a workshop for inspection/replacement of the tire. Volvo recommends an authorized workshop.

9 Inflate the tire for 7 minutes.

> **Important**
>
> To help avoid overheating, the compressor should never be used for more than 10 minutes at a time.

10 Switch off the compressor and check the inflation pressure using the air pressure gauge. The inflation pressure should be between 1.8 bar (26 psi) and 2.5 bar (36 psi). If the inflation pressure is too high, use the air release valve to release air.

The sealing compound bottle must be removed in order to access the air release valve. Remove the bottle in the following order:

1. Remove the hose from the tire's valve.
2. Remove the hose from the bottle.
3. Remove the bottle from the compressor.
4. Reconnect the hose directly to the compressor.
5. Screw the hose back on to the tire's valve.
6. Release air by pressing the air release valve.

> **Warning**
>
> If pressure falls below 1.8 bar (26 psi), the hole in the tire may be too large. The vehicle should not be driven. Call roadside assistance to have the vehicle towed to a workshop for inspection/replacement of the tire. Volvo recommends an authorized workshop.

11 Switch off the compressor and remove the electrical cable.

12 Unscrew the hose from the tire's valve and screw the valve cap back on.

> **Note**
>
> - After inflating a tire, always replace the valve cap to help prevent valve damage caused by gravel, dirt, etc.
> - Use plastic valve caps only. Metal caps could corrode and become difficult to remove.

13 Clean the hose before stowing it and make sure that no sealing compound is leaking out.

14 Immediately drive the vehicle at least 3 km (2 miles) at a maximum speed of 80 km/h (50 mph) to allow the sealing compound to seal the tire, and then recheck the inflation pressure.

> **Warning**
>
> During the tire's first revolution, some sealing compound may spray out of the puncture hole. Before driving away, make sure that no one is near the vehicle who could be sprayed with sealing compound. Make sure no one is within 2 meters (7 feet) of the vehicle.

15 **Rechecking the inflation pressure**

Connect the hose to the tire's valve and screw the hose connector onto the valve as far as possible. The compressor must be switched off.

16 Check the inflation pressure on the air pressure gauge.

- If the pressure is under 1.3 bar (19 psi), the tire is not sufficiently sealed. The vehicle should not be driven. Call roadside assistance to have the vehicle towed.
- If the inflation pressure is higher than 1.3 bar (19 psi), the tire must be inflated to the inflation pressure specified on the tire pressure decal on the driver's side door pillar (1 bar = 100 kPa = 14.5 psi). If the inflation pressure is too high, use the air release valve to release air.

> **Warning**
>
> Check inflation pressure regularly.

Volvo recommends driving to the nearest authorized Volvo workshop to have the tire replaced/repaired. Inform the workshop that the tire contains sealing compound.

The sealing compound bottle and the hose must be replaced after use. Volvo recommends contacting an authorized Volvo workshop for replacement.

> **Warning**
>
> After using the tire sealing system, the vehicle should not be driven farther than approximately 200 km (120 miles).

> **Note**
>
> The compressor is an electric device. Follow local regulations for disposal.

[1] Temporary Mobility Kit

16.5. Driving in winter

16.5.1. Snow chains

Using snow chains and/or snow tires can help improve traction in winter driving conditions.

Volvo recommends that snow chains are not used on wheel dimensions larger than 20 inches.

Warning

Use Volvo genuine snow chains or equivalent snow chains that are suitable for the vehicle model and the tire and wheel sizes. Only **one-sided** snow chains are permitted.

If uncertain about snow chains, Volvo recommends contacting an authorized Volvo workshop. Use of the wrong snow chains could cause serious damage to the vehicle and result in an accident.

Using snow chains could result in malfunction of the system for monitoring of tire inflation pressures* [1].

Important

Snow chains can be used on the vehicle, with the following restrictions:

- Always follow the manufacturer's installation instructions carefully. Install chains as tightly as possible and retighten periodically.
- Only put snow chains on the front wheels (also applies to all-wheel drive vehicles).
- If accessory, aftermarket or "custom" tires and wheels with different dimensions than the original tires and wheels are used, snow chains in some cases may NOT be used. Sufficient distance between the chains and brakes, suspension and body components must be maintained.
- Check local regulations regarding the use of snow chains before installing.
- Never exceed the snow chain manufacturer's specified maximum speed limit. Under no circumstances should you exceed 50 km/h (30 mph).
- Avoid bumps, holes or sharp turns when driving with snow chains.
- Avoid driving on surfaces without snow as this wears out both the snow chains and the tires.
- The handling of the vehicle can be adversely affected when driving with chains. Avoid fast or sharp turns as well as locked wheel braking.
- Some types of strap-on chains affect brake components and therefore must NOT be used.

Consult a Volvo retailer for more information about snow chains.

* Option/accessory.

[1] Tire Pressure Monitoring System (TPMS)

16.5.2. Snow tires

Snow tires are designed for winter driving conditions.

Volvo recommends snow tires with specific dimensions. The tire dimensions vary depending on engine type. When driving with snow tires, the correct type of tires must be mounted on all four wheels.

Tips for changing snow tires

When switching between regular tires and snow tires, mark the tires according to which side they were mounted on, e.g. **L** for left and **R** for right.

Contact a Volvo retailer for advice on the most suitable rims and tires.

Studded tires

Studded tires should be broken in by driving 500–1000 km (300–600 miles) slowly and gently to help the studs settle properly in the tires. This gives the tire, and especially the studs, a longer service life.

> **Note**
>
> Legal requirements concerning the use of studded tires may vary. Always follow local laws and regulations.

Tread depth

Road conditions with ice, slush and low temperatures place considerably higher demands on tires than summer conditions. Volvo therefore recommends not driving on snow tires that have a tread depth of less than 4 mm (0.15 inch).

16.5.3. Preparing for a long trip

It is important to have the vehicle's systems and equipment checked carefully before driving long distances.

Check that

- the brake pedal is functioning properly
- all lights work
- tire tread depth and air pressure are at correct levels. Change to snow tires when driving in areas where there is a risk of snowy or icy roads
- the battery is sufficiently charged
- the wiper blades are in good condition

16.5.4. Winter driving

It is important to check the vehicle before driving in cold/snowy conditions to make sure it can be driven safely.

Before the cold season arrives:

- Check the condition and charge level of the battery. Cold weather places greater demands on the battery and reduces its capacity.
- Use washer fluid containing antifreeze to help prevent ice from forming in the washer fluid reservoir.

Slippery driving conditions

Volvo recommends that **One Pedal Drive** is deactivated when driving on slippery or icy roads.

To help optimize traction and roadholding, Volvo recommends using snow tires on all wheels whenever there is a risk of snow or ice on the road.

> **Note**
>
> Certain countries require use of winter tires by law. Not all countries permit the use of studded tires.

Practice driving on slippery surfaces under controlled conditions to learn how the vehicle reacts.

16.6. Tires

The function of the tires is to carry loads, provide traction on road surfaces, reduce vibrations and protect the wheels from wear.

The tires significantly influence the vehicle's driving characteristics. The type, dimensions, tire pressure and speed rating have a considerable impact on how the vehicle performs.

Your vehicle is equipped with tires according to the vehicle's tire information placard on the B-pillar (the structural member at the side of the vehicle, at the rear of the driver's door opening).

> **Warning**
>
> A damaged tire could cause the driver to lose control of the vehicle.

> **Important**
>
> Some Volvo models are equipped with an Ultra High Performance tire and wheel combination designed to provide maximum dry pavement performance with consideration for hydroplaning resistance. They may be more susceptible to road hazard damage and, depending on driving conditions, may achieve a tread life of less than 30,000 km (20,000 miles). Even if this vehicle is equipped with Volvo's advanced AWD or stability system, these tires are not designed for winter driving, and should be replaced with winter tires when weather conditions dictate.

The tires have good road holding characteristics and offer good handling on dry and wet surfaces. It should be noted however that the tires have been developed to give these features on snow/ice-free surfaces.

Most models are equipped with "all-season" tires, which provide a somewhat higher degree of roadholding on slippery road surfaces than tires without the "all-season" rating. However, Volvo recommends using snow tires on all four wheels for good roadholding on icy or snow-covered roads.

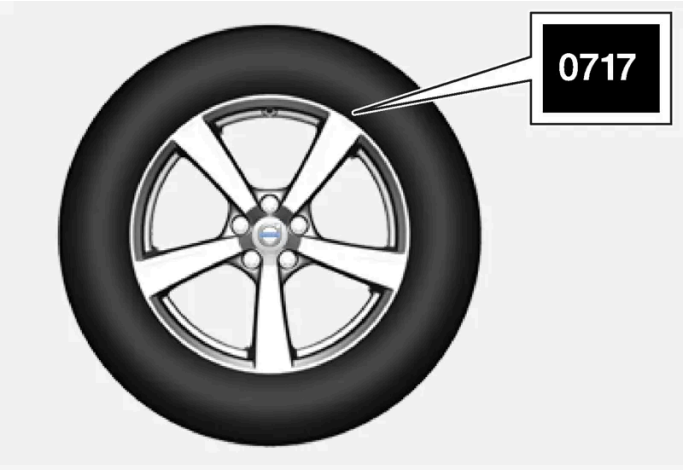
When replacing tires, be sure that the new tires are the same size designation, type (radial) and preferably from the same manufacturer, on all four wheels. Otherwise there is a risk of altering the vehicle's roadholding and handling characteristics.

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.

Recommended tires

On delivery, the car is equipped with Volvo original tires that have the VOL [1] marking on the side of the tires. These tires have been designed specifically for your vehicle. It is therefore important when replacing tires that the new tires have this same marking to help maintain the vehicle's driving characteristics, comfort and energy consumption.

New tires



Tires are perishable goods. After a few years, they will begin to harden and their friction properties will gradually deteriorate. Always replace tires with the freshest tires possible. This is particularly important for snow tires. A series of numbers is imprinted on the sidewall of the tire. The last four digits in the series is the Department of Transportation (DOT) stamp and indicates the week and year the tire was manufactured. The tire in the illustration has 0717 as the last four digits, which means it was manufactured week 7 of 2017.

Tire age

Tires degrade over time, even when they are not being used. It is recommended that tires generally be replaced after 6 years of normal service. Heat caused by hot climates, frequent high loading conditions or Ultra Violet (U.V.) exposure can accelerate the aging process. The temporary spare [2] should also be replaced at 6-year intervals, even if it has never been used. A tire with e.g., visible cracks or discoloration should be replaced immediately.

Tire economy

- Maintain correct tire pressure.
- Avoid fast starts, hard braking and tire screeching.
- Tire wear increases with speed.
- Correct front wheel alignment is very important.
- Unbalanced wheels impair tire economy and driving comfort.
- Tires should maintain the same direction of rotation throughout their lifetime.
- When you change tires, the tires with the most tread should be mounted on the rear axle to reduce the risk of rear wheel skid during hydroplaning, turning or hard braking on wet roads.
- Hitting curbs or potholes can damage the tires and/or wheels permanently.
- Never switch positions between the front and rear axles on vehicles with different front and rear tire or wheel dimensions.

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.

Tire rotation

The vehicle's original tires cannot be changed from the front to rear wheel axle or vice versa.

Driving style, tire pressure, climate and road conditions affect how quickly the tires age and exhibit signs of wear. Maintaining the correct tire pressure helps keep tread wear evenly distributed.

> **Important**
>
> Vehicles with different tire or wheel dimensions on the front and rear axles must always have the wider tires and/or wheels on the rear axle. Switching between front and rear wheels, e.g. to obtain more even tire wear between the front and rear tires, is not allowed.

Storing wheels and tires

When storing complete wheels (tires mounted on rims), they should be suspended off the floor or placed on their sides on the floor.

Tires not mounted on rims should be stored on their sides or standing upright, but should not be suspended.

> **Important**
>
> Tires should be stored in a cool, dry and dark location. They should never be stored near solvents, gasoline, oil, etc.

> **Warning**
>
> - The wheel and tire sizes for your Volvo are specified to meet stringent stability and handling requirements. Unapproved wheel/tire size combinations can negatively affect your vehicle's stability and handling.
> - Any damage caused by installation of unapproved wheel/tire size combinations will not be covered by your new vehicle warranty. Volvo assumes no responsibility for death, injury, or expenses that may result from such installations.

[1] This may vary for certain tire dimensions.

[2] Not available on all models.

16.7. Determining the vehicle's permitted weight

Properly loading your vehicle will provide maximum return of vehicle design performance.

Weight designations

Before loading your vehicle, familiarize yourself with the following terms for determining your vehicle's weight ratings, with or without a trailer, from the vehicle's Federal/Canadian Motor Vehicle Safety Standards (FMVSS/CMVSS) label, and the vehicle's tire information placard:

Curb weight

The weight of the vehicle including all standard equipment. It does not include passengers, cargo, or optional equipment.

Capacity weight

All weight added to the curb weight, including cargo and optional equipment. When towing, towbar weight is also part of cargo weight.

Permissible axle weight

The maximum allowable weight that can be carried by a single axle (front or rear). These numbers are shown on the Federal/Canadian Motor Vehicle Safety Standards (FMVSS/CMVSS) label. The total load on each axle must never exceed its maximum permissible weight.

Gross vehicle weight (GVW)

The vehicle's curb weight + cargo + passengers.

Steps for Determining Correct Load Limit

1. Locate the statement "the combined weight of occupants and cargo should never exceed XXX kg or XXX lbs." on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. (1400 - 750 (5 × 150) = 650 lbs.)
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

Warning

- Exceeding the permissible axle weight, gross vehicle weight, or any other weight rating limits can cause tire overheating resulting in permanent deformation or catastrophic failure.
- Do not use replacement tires with lower load carrying capacities than the tires that were original equipment on the vehicle because this will lower the vehicle's GVW rating. Use only tires with the correct load carrying capacity. Consult your Volvo retailer for information.

17. Loading, storage and passenger compartment

17.1. Loading

17.1.1. Loading recommendations

There are a number of things that are important to consider when carrying loads in or on the vehicle.

Load-carrying capacity is determined by the vehicle's curb weight. The total weight of all passengers and any installed accessories reduces the vehicle's load-carrying capacity by the corresponding amount.

> **Warning**
>
> The vehicle's driving characteristics change depending on the weight and position of the load.

Loading the cargo compartment/trunk

Keep the following in mind when loading:

- Position objects so they are pressing against the rear seat backrests.
- Heavy objects should be positioned as low as possible. Avoid placing heavy objects on folded-down seat backrests.
- Cover sharp corners with a soft cloth or similar to help prevent damage to the upholstery.
- Use the load anchoring eyelets and tensioning straps or similar to secure all objects.

> **Warning**
>
> In a head-on collision at a speed of 50 km/h (30 mph), an unsecured object weighing 20 kg (44 pounds) can reach a projectile weight equivalent to 1000 kg (2200 pounds).

> **Warning**
>
> If objects are loaded higher than the upper edge of the side windows, leave a 10 cm (4 in.) space between the objects and the window. Objects placed closer to this could impede the function of the inflatable curtain concealed inside the headlining.

> **Warning**
>
> Always secure the load. Otherwise, it may shift during heavy braking and injure people in the vehicle.
>
> Cover sharp edges and sharp corners with something soft.
>
> Apply the parking brake when loading/unloading.

Extra cargo space

The rear seat backrests can be folded down to increase cargo space in the cargo compartment/trunk and simplify loading. If the rear seat backrests are folded down, make sure that no objects loaded into the vehicle prevent the WHIPS system for the front seats from functioning correctly.

The ski hatch* in the rear seat can be folded down to carry skis or other long, thin objects.

* Option/accessory.

17.1.2. Determining the vehicle's permitted weight

Properly loading your vehicle will provide maximum return of vehicle design performance.

Weight designations

Before loading your vehicle, familiarize yourself with the following terms for determining your vehicle's weight ratings, with or without a trailer, from the vehicle's Federal/Canadian Motor Vehicle Safety Standards (FMVSS/CMVSS) label, and the vehicle's tire information placard:

Curb weight

The weight of the vehicle including all standard equipment. It does not include passengers, cargo, or optional equipment.

Capacity weight

All weight added to the curb weight, including cargo and optional equipment. When towing, towbar weight is also part of cargo weight.

Permissible axle weight

The maximum allowable weight that can be carried by a single axle (front or rear). These numbers are shown on the Federal/Canadian Motor Vehicle Safety Standards (FMVSS/CMVSS) label. The total load on each axle must never exceed its maximum permissible weight.

Gross vehicle weight (GVW)

The vehicle's curb weight + cargo + passengers.

Steps for Determining Correct Load Limit

1. Locate the statement "the combined weight of occupants and cargo should never exceed XXX kg or XXX lbs." on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. (1400 - 750 (5 × 150) = 650 lbs.)
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

Warning

- Exceeding the permissible axle weight, gross vehicle weight, or any other weight rating limits can cause tire overheating resulting in permanent deformation or catastrophic failure.
- Do not use replacement tires with lower load carrying capacities than the tires that were original equipment on the vehicle because this will lower the vehicle's GVW rating. Use only tires with the correct load carrying capacity. Consult your Volvo retailer for information.

17.1.3. Grocery bag holders

Grocery bag holders (hooks) help keep shopping bags in place and prevent them from falling over and spilling their contents in the cargo compartment.

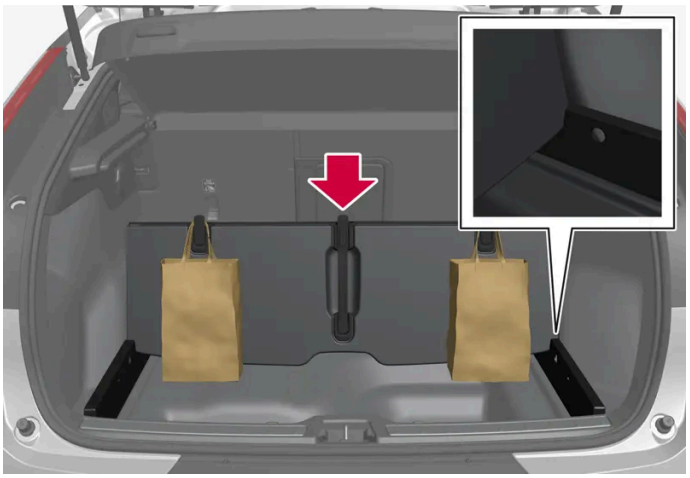
On the sides of the cargo compartment

There is a grocery bag holder in the side panel on each side of the cargo compartment.

There are two grocery bag holders in the side panel on each side of the cargo compartment.

> **Important**
>
> The grocery bag holders are only intended to hold weights up to 5 kg (11 lbs).

Under the floor hatch*



1. Lift the handle in the center of the load compartment floor and fold up the floor.
2. Move the load compartment floor to the upright position and place it in the adjustment track on each side.

> It is now possible to hang grocery bags with handles at a suitable height on the hooks.

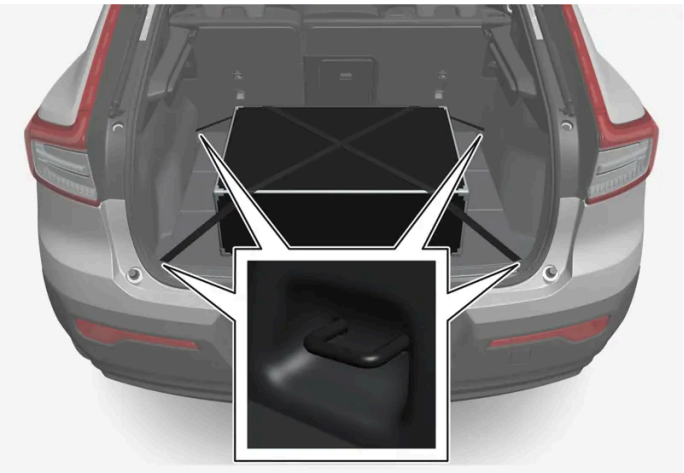
In the glove compartment

There is also a fold-out hook in the glove compartment that can be used to hang a shopping bag.

* Option/accessory.

17.1.4. Cargo anchoring eyelets

The load anchoring eyelets in the cargo compartment can be used to secure objects with straps, a net, etc.



Warning

Hard, sharp and heavy objects in or protruding from the vehicle can cause injury in the event of hard braking.

Always secure large and heavy objects with a seat belt or cargo retaining straps.

17.1.5. Roof loads and load carriers

Volvo-developed load carriers are recommended for carrying loads on the roof of the vehicle.

These load carriers are specially designed to help prevent damage to your vehicle. Volvo load carriers are available from authorized Volvo retailers.

Carefully follow the installation instructions provided with the load carriers.

- Distribute the load evenly throughout the load carriers. Place heavier cargo at the bottom of the load.
- Check periodically to ensure that the load carriers and load are properly secured. Secure the load firmly using tie straps or similar.
- If the load is longer than the vehicle, such as a canoe or kayak, attach the towing eyelet in its front outlet and secure the tie straps in it.
- The vehicle's wind resistance and energy consumption increase with the size of the load.
- Drive smoothly. Avoid rapid acceleration, hard braking and fast cornering.

Warning

The vehicle's center of gravity and driving characteristics are altered by roof loads.

Follow the vehicle's specifications regarding weights and maximum permitted load.

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17.2. Cargo compartment

17.2.1. Cargo net, steel cargo grid and cargo compartment cover

17.2.1.1. Installing and removing the cargo net*

The cargo net helps prevent objects in the cargo compartment from entering the passenger compartment in the event of a sudden stop or hard braking.

The cargo net is attached in four attachment points and, for safety reasons, must always be attached and secured as described below. The net is most easily installed via the rear doors.

The cargo net is made of a strong nylon weave and secured behind the front seats.

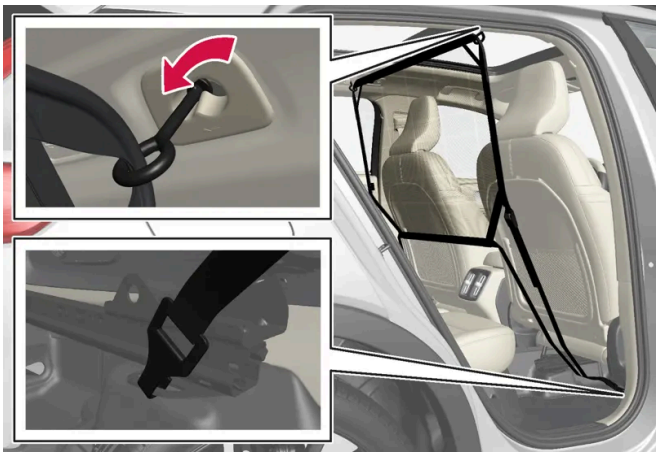
Installing the cargo net

> **Warning**
>
> Make sure that the cargo net's upper attachments are correctly mounted and that the straps are hooked securely into place.
>
> Never use the net if it is damaged.

1. Fold out the cargo net with the upper hooks facing upwards.
2. Insert one of the net's hooks into the ceiling bracket with the strap lock facing you.
3. Insert the net's other upper hook into the ceiling bracket on the opposite side.

   Make sure that the net's hooks are pushed forward as far as possible into their respective ceiling brackets.
4. Pull the straps until the cargo net is taut.
5. With the net mounted in the ceiling brackets, hook the straps into the outer eyelets on the seat rails behind the seats.

Attaching the net is easier if the seat backrests are upright and the seats are moved slightly forward.



Installation of cargo net

When moving the seat and backrest back again, make sure to not apply too much pressure against the net. Move the seat or backrest only until it touches the net.

> **Important**
>
> If a seat or backrest is pressed with too much force back against the cargo net, the net and its ceiling brackets could be damaged.

Removing the cargo net

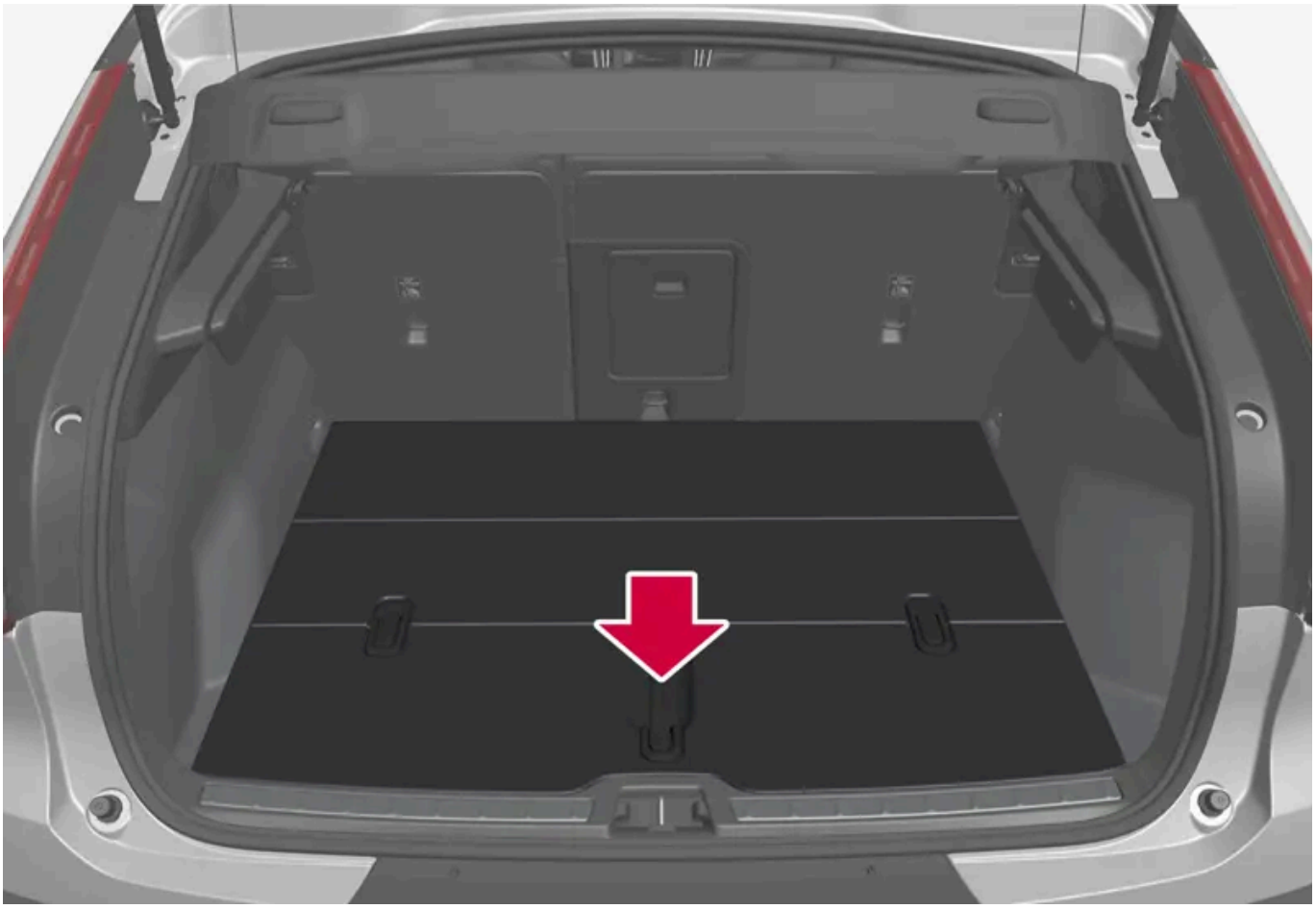
The cargo net can be easily removed and folded up.

1. Loosen the cargo net by pressing the button on the strap locks on each side and pulling to allow some slack.
2. Press in the catches and release both of the strap hooks.
3. Unhook the upper hooks and remove the net from the ceiling brackets.
4. Fold and roll up the net. Then store it in its case.

* Option/accessory.

17.2.2. Cargo compartment

The vehicle has a flexible cargo compartment that makes it possible to carry and secure large objects. There is also a front cargo compartment, or "frunk," under the hood.

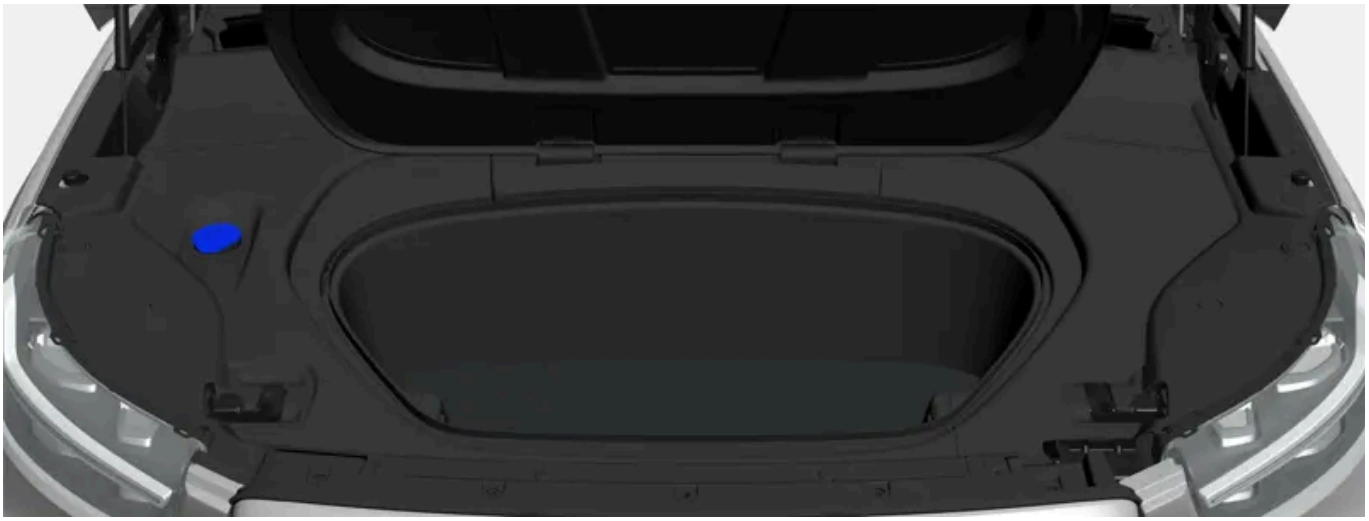


Cargo compartment with storage space under the cargo compartment floor.

The cargo capacity of the vehicle can be considerably increased by folding down the rear seat backrests. Use load anchoring eyelets or grocery bag holders to help secure objects in place. The parcel shelf can be easily removed to make room for bulky loads.

If the vehicle is equipped with a temporary spare tire, this is secured to the cargo compartment floor under the cover.

Front cargo compartment



There is additional storage space under the hood. The front cargo compartment also contains the vehicle's towing eyelet and tire sealing system.

17.2.3. Grocery bag holders

Grocery bag holders (hooks) help keep shopping bags in place and prevent them from falling over and spilling their contents in the cargo compartment.

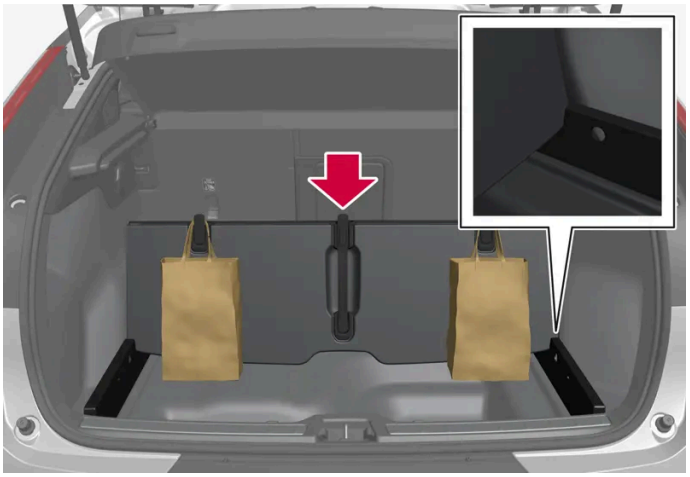
On the sides of the cargo compartment

There is a grocery bag holder in the side panel on each side of the cargo compartment.

There are two grocery bag holders in the side panel on each side of the cargo compartment.

> **Important**
>
> The grocery bag holders are only intended to hold weights up to 5 kg (11 lbs).

Under the floor hatch*



1 Lift the handle in the center of the load compartment floor and fold up the floor.

2 Move the load compartment floor to the upright position and place it in the adjustment track on each side.

> It is now possible to hang grocery bags with handles at a suitable height on the hooks.

In the glove compartment

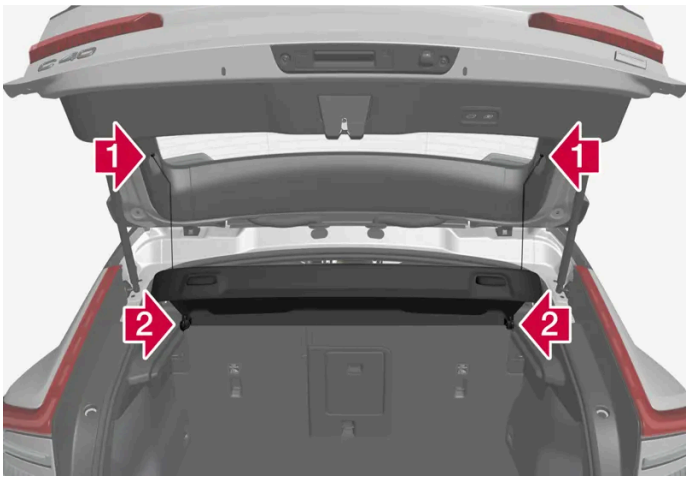
There is also a fold-out hook in the glove compartment that can be used to hang a shopping bag.

* Option/accessory.

17.2.4. Removing and storing the parcel shelf

The parcel shelf can be removed to increase the cargo space.

Removing the parcel shelf



1 1
Detach the parcel shelf lifting eyes on both sides.

2 2
Unhook the front edge of the parcel shelf and remove it.

Storing the parcel shelf under the cargo floor

Once removed, the parcel shelf can be stored under the cargo compartment floor.

1 Fold up the cargo compartment floor and secure it with the support arm.

2 Position the parcel shelf with its top facing down and place it in the space with the rear part facing forward.

With folding cargo compartment floor*:

1

Fold the cargo compartment floor forward to position the parcel shelf with its top facing down and its rear part facing forward.

2 Restore the cargo compartment floor to a flat position.

* Option/accessory.

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17.2.5. Folding up the cargo compartment floor

The cargo compartment floor can be secured in the raised position using the support arm.

1 Grasp the handle to fold up the cargo compartment floor.

2 Raise the support arm and insert the end in the recess on the underside of the cargo compartment floor.

> The cargo compartment floor will then be held in the raised position.

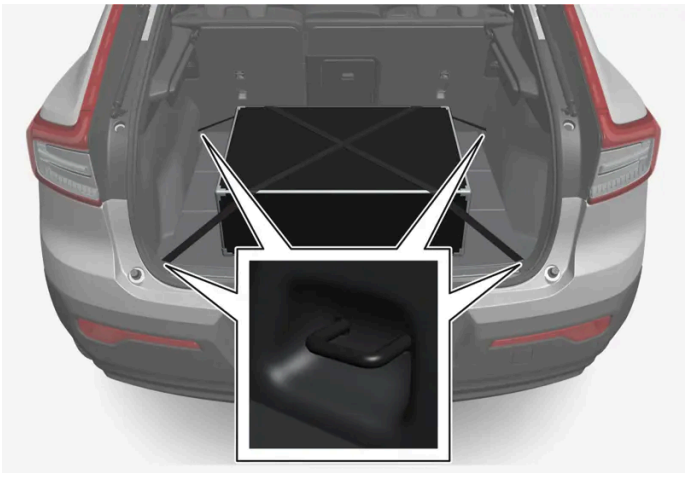
With folding cargo compartment floor*

1 Lift the handle in the middle of the folding cargo compartment floor and push it forward so that it folds together.

* Option/accessory.

17.2.6. Cargo anchoring eyelets

The load anchoring eyelets in the cargo compartment can be used to secure objects with straps, a net, etc.



Warning

Hard, sharp and heavy objects in or protruding from the vehicle can cause injury in the event of hard braking.

Always secure large and heavy objects with a seat belt or cargo retaining straps.

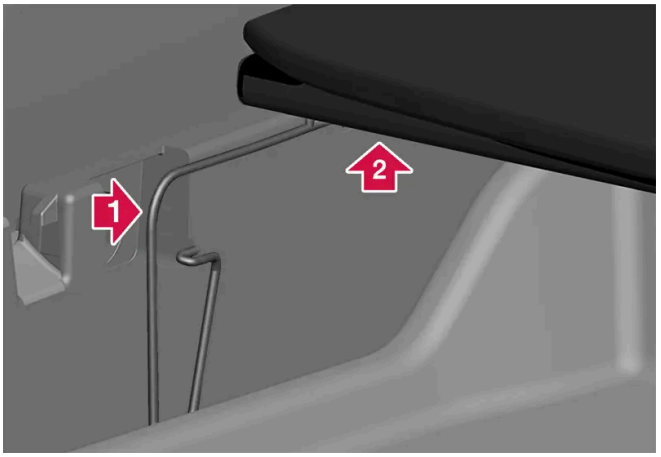
17.2.7. Removing the folding cargo compartment floor*

The folding cargo compartment floor can be removed for easier access to the storage space underneath.

1

Push the folding cargo compartment floor forward so that it folds together.

2

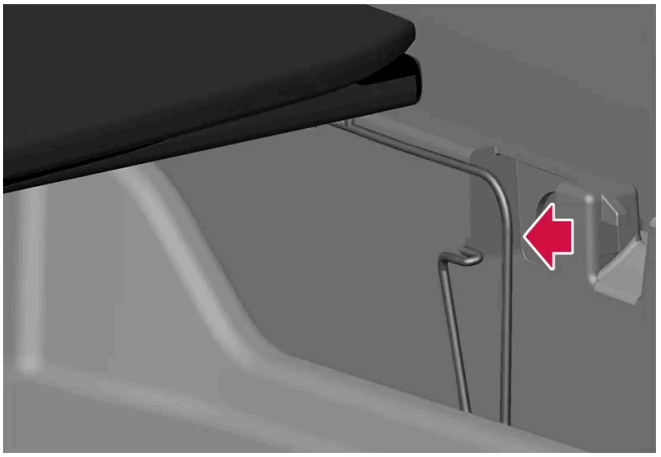


1 Press the locking clip at the location shown by the arrow until it stops. Maintain pressure on the locking clip.

2 At the same time, lift the cargo compartment floor slightly upward.

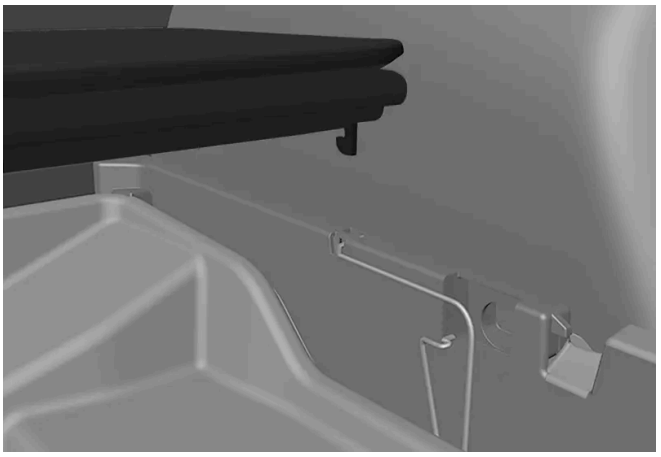
3 Release pressure on the locking clip, but keep holding the cargo compartment floor up.

4



While continuing to hold the cargo compartment floor up, press the locking clip on the other side, as shown by the arrow.

> If the procedures in step 2 have been performed correctly, the cargo compartment floor should now be released from its side attachment points.



The cargo compartment floor can be carefully placed back on top of the locking clips without it locking into place.

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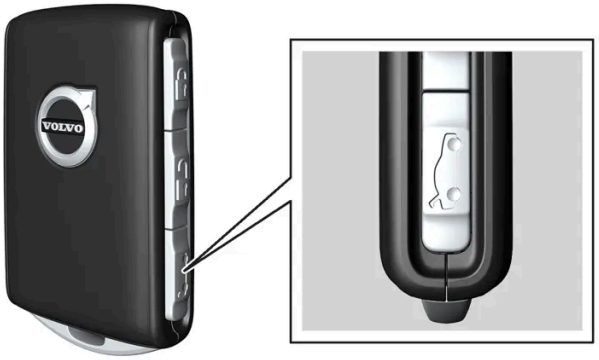
> **Note**
>
> The cargo compartment floor is also secured in the front hinge.
>
> Volvo recommends that the cargo compartment floor remains secured in its front hinge.

5 Press the cargo compartment floor downward to lock it into its attachment points again.

* Option/accessory.

17.2.8. Unlocking the tailgate using the key button

There is a button on the key for unlocking only the tailgate.



1 Press the button on the key.

> The tailgate will be unlocked but remain closed.
> The side doors remain locked and armed. The lock and alarm indicator on the dashboard will go out to indicate that the vehicle is no longer fully locked.
> The tailgate can be opened by grasping the rubberized button under the lower edge of the trunk lid.
> If the tailgate is not opened within 2 minutes, it will be relocked and the alarm armed.

1 Press and hold the key's button for a few seconds.

> The tailgate will unlock and open. However, the side doors will remain locked and armed.

Note

If the power tailgate system* has been working continuously for too long, it will be switched off to help prevent overheating. It can be used again after a few minutes.

* Option/accessory.

17.2.9. Setting maximum opening height for the power tailgate*

The tailgate can be set to stop opening at a certain height, for example if the vehicle is parked in a garage with a low ceiling.

Setting maximum opening height

1 Open the tailgate manually to the desired opening height.

2 Press the button on the lower edge of the tailgate and hold it for about 3 seconds.

> Two audio signals will sound to indicate that the position has been stored.

Note

It is not possible to program an opening position lower than half-open tailgate.

Resetting maximum opening position

1 Open the tailgate manually to the fully open position.

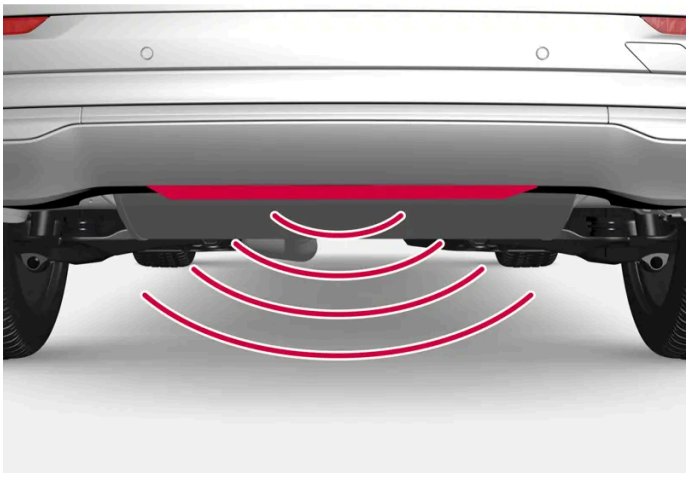
2 Press the button on the lower edge of the tailgate and hold it for about 3 seconds.

> Two audio signals will sound to indicate that the stored position has been erased.

* Option/accessory.

17.2.10. Operating the tailgate with a foot movement*

The tailgate can be opened and closed by making a foot movement* under the rear bumper. This function makes it easy to access the cargo compartment when your hands are full.

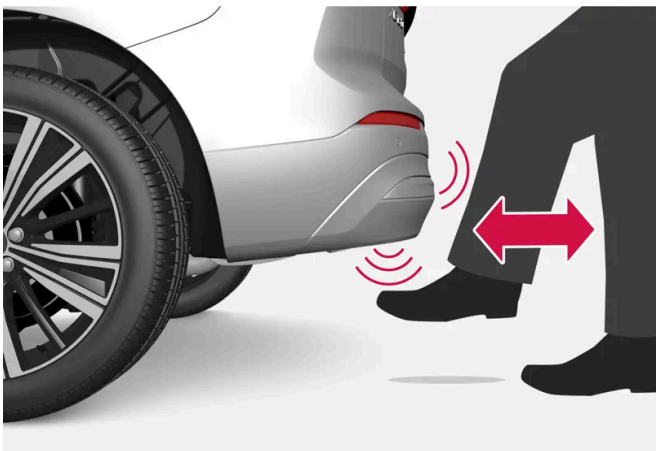


The sensor is located in the center under the bumper.

One of the vehicle's keys must be within range behind the vehicle, approx. 1 meter (3 feet) for opening and closing to be possible. This applies even if the vehicle is unlocked in order to prevent the trunk lid from inadvertently opening e.g. at a car wash.

Foot movement operation

1



Make **one** forward kicking motion with your foot under the sensor area under the rear bumper. Then take a step back. Do not touch the bumper.

> A brief audible signal will be heard when opening or closing is activated - the tailgate will open/close.

If several opening attempts have been made without a key in range behind the vehicle, foot movement operation will not be available for a short period of time.

Do not hold your foot under the vehicle in a kicking motion – this can cause the activation to fail.

Interrupting opening or closing with a foot movement

1 Make **one** forward kicking motion during opening or closing.

> The tailgate will stop opening or closing.

The key does not need to be within range of the vehicle to interrupt opening or closing of the tailgate.

If the tailgate stops near the closed position, it will open the next time it is activated.

> **Note**
>
> Keep the area around the foot movement sensor clean. The accumulation of dirt, ice or snow may interfere with its functioning.

> **Note**
>
> Please note that the system could be inadvertently activated in a car wash if the key is within range.

* Option/accessory.

17.2.11. Unlocking the tailgate from inside the vehicle

The tailgate can be unlocked from inside the vehicle by pressing the button on the dashboard, to the side of the steering wheel.

1 Press the button on the dashboard.

> The tailgate is unlocked and can be opened from the outside.

With the optional power tailgate*:

1 Press and hold the button on the dashboard for a few seconds.

> The tailgate will open.
The same button can then be used to close the tailgate.

> **Note**
>
> If the power tailgate system* has been working continuously for too long, it will be switched off to help prevent overheating. It can be used again after a few minutes.

* Option/accessory.

17.2.12. Keyless unlocking of the tailgate*

With keyless locking and unlocking, the tailgate can be unlocked by lightly touching the rubberized button under the tailgate handle.

> **Note**
>
> One of the vehicle's keys must be within range behind the vehicle for unlocking to be possible.

The tailgate is held closed by an electronic locking mechanism.

To open:

1 Lightly press the rubberized pressure plate on the underside of the tailgate handle.

> The lock will disengage.

2 Lift the outer handle to open the tailgate.

Important

- Handle the rubber plate carefully to help prevent damage to its electrical connections. Very little force is needed for activation.
- Use the handle to lift – do not apply force to the rubberized pressure plate.

The tailgate can also be unlocked by making a foot movement* under the rear bumper; see the separate section.

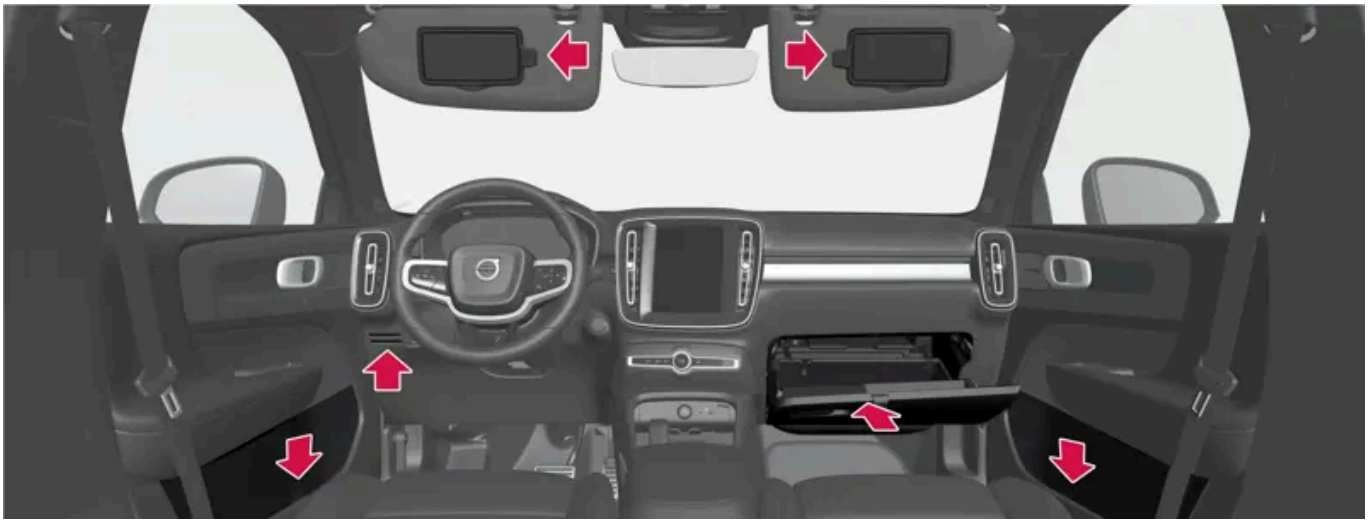
* Option/accessory.

17.3. Storage and passenger compartment

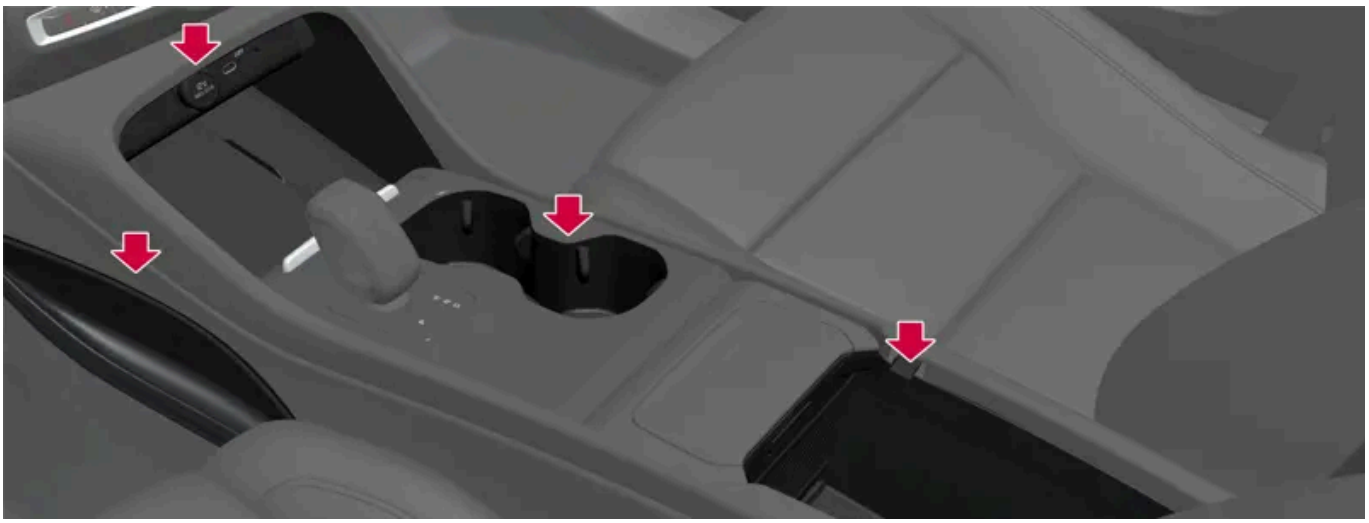
17.3.1. Passenger compartment interior

Overview of the passenger compartment interior and storage spaces.

Front seats

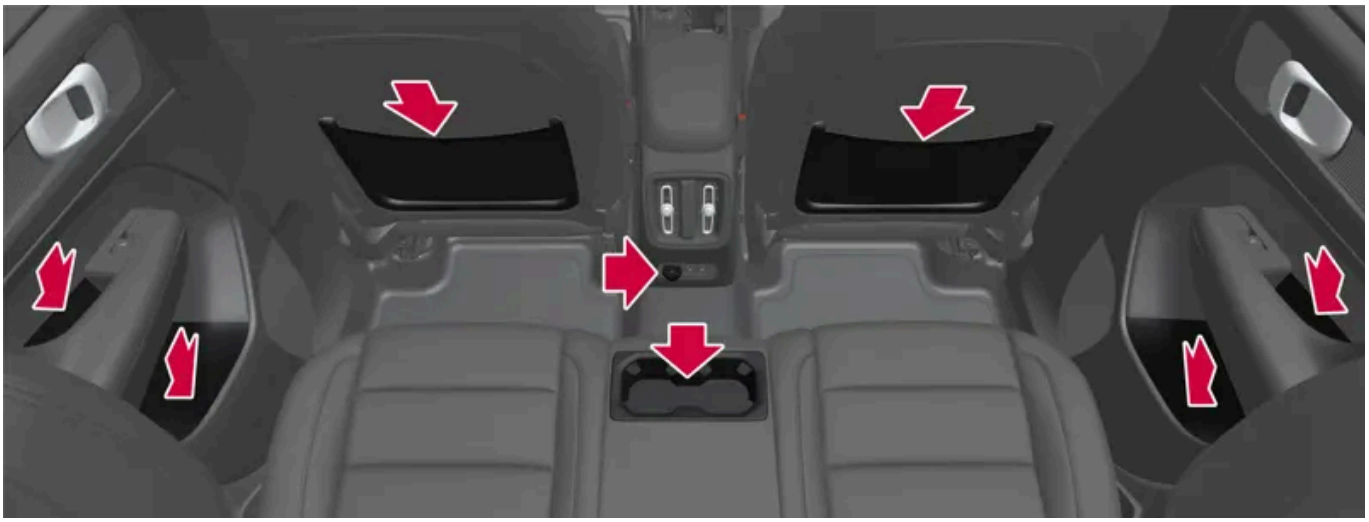


Storage compartment in door panel, card holder* next to the steering wheel, sun visors and glove compartment with fold-out hook.



Storage compartment at leg area, electrical outlets and USB ports over the wireless phone charger*, cup holder and storage under armrest in tunnel console.

Rear seat



Storage compartment in the door panel, cup holders* in the center seat's backrest, storage pocket in the front seat's backrest* and USB ports in the tunnel console.

Warning

Store loose objects, such as a phone, camera, remote control for extra equipment, etc., in the glove compartment or another compartment. Otherwise, these could injure people in the vehicle in the event of hard braking or a collision.

Important

Keep in mind that glossy surfaces can be easily scratched by e.g. metal objects. Do not place keys, phones or similar items on sensitive surfaces.

* Option/accessory.

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17.3.2. Electrical outlets

There is a 12 V electrical outlet in the tunnel console.
If a problem occurs with an electrical socket, contact a workshop - an authorized Volvo workshop is recommended.

12 V outlets

12 V outlet in the tunnel console, front seat.

The 12 V outlets can be used for devices intended for this such as MP3 players, coolers and cellular phones.

17.3.3. Using the electrical outlets

The 12 V outlet can be used for devices intended for this such as MP3 players, coolers and cellular phones.

The vehicle must be in Comfort or Drive mode in order for the outlet to deliver current.

The outlet closes automatically when the driver exits the vehicle. If the vehicle remains unlocked, the outlet will remain active for about 10 minutes longer.

Note

Accessories connected to the electrical outlet can be activated even when the vehicle's electrical system is off or if preconditioning is used. For this reason, unplug accessories when they are not being used.

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Warning

- Do not use accessories with large or heavy plugs – they could damage the outlet or come loose while you are driving.
- Do not use accessories that could cause disruptions to e.g. the vehicle's radio receiver or electrical system.
- Position the accessory so that there is no risk of it injuring the driver or passengers in the event of heavy braking or a collision.
- Pay attention to connected accessories as they can generate heat that could burn passengers or the interior.

Using 12 V outlets

1. Remove the stopper over the outlet in the tunnel console and plug in the device.
2. Unplug the device and replace the stopper in the tunnel console when the outlet is not in use or is left unattended.

Important

The maximum power is 120 W (10 A) per outlet.

17.3.4. Using the glove compartment

The glove compartment is located on the passenger side. The glove compartment can be used to store the vehicle's printed owner's information and other items. There is also room for a pen and a card holder.

Glove compartment with fold-out hook.

The hook on the glove compartment can be folded out when the glove compartment is open. Once folded out, it can be used when the glove compartment is closed.

Important

The hook must be either fully retracted or fully extended so that it doesn't break when the glove compartment is closed.

17.3.5. Sun visors

In the ceiling in front of the driver's and front passenger's seats, there are sun visors that can be lowered and angled to the side as necessary.

The illustration is generic – the design may vary.

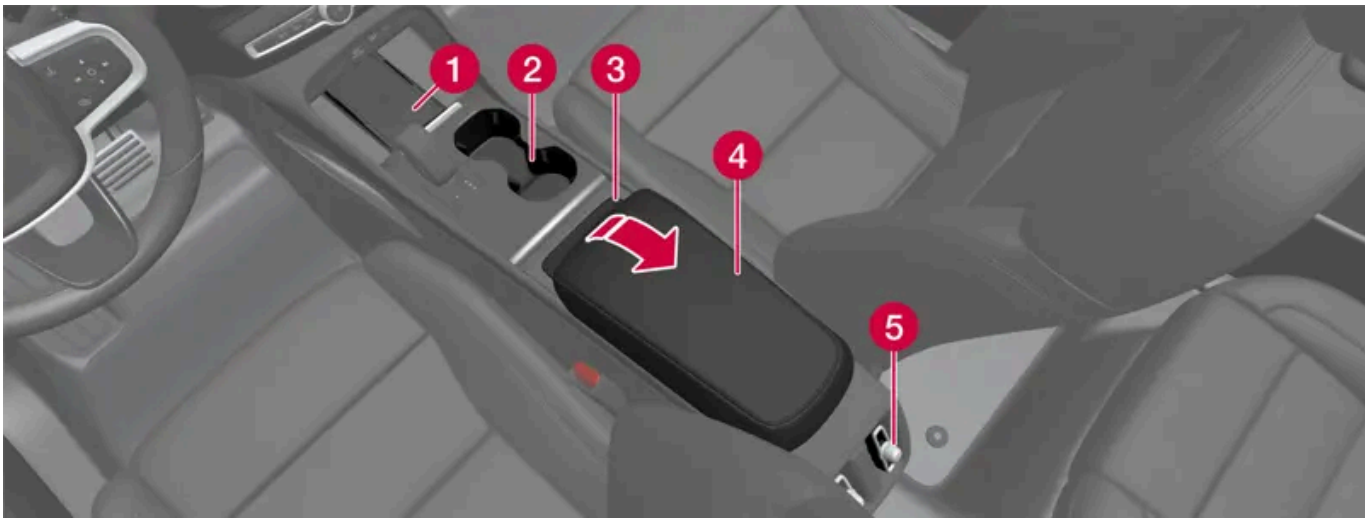
The mirror lighting* comes on automatically when the visor is lifted up.

The mirror frame has a holder for e.g. cards or tickets.

* Option/accessory.

17.3.6. Tunnel console

The tunnel console is located between the front seats.



1. Wireless phone charger*
2. Storage compartment with cup holder.
3. Removable trash bin.
4. Storage compartment under the armrest.
5. Climate control panel for the rear seats* or storage compartment. There are also USB ports underneath.

Warning

Store loose objects, such as a phone, camera, remote control for extra equipment, etc., in the glove compartment or another compartment. Otherwise, these could injure people in the vehicle in the event of hard braking or a collision.

Important

Keep in mind that glossy surfaces can be easily scratched by e.g. metal objects. Do not place keys, phones or similar items on sensitive surfaces.

Note

One of the sensors for the alarm* is located under the cup holder in the center console. Avoid placing coins, keys and other metal objects in the cup holder as this could trigger the alarm.

Note

The USB ports can be used to e.g. charge a cellular phone or tablet.

* Option/accessory.

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.

17.3.7. USB ports

There are two USB ports (type C) under the center display. There are also two USB ports (type C) in the rear section of the tunnel console.

USB ports (type C), front seat.

USB ports (type C) in tunnel console, rear seat.

The USB ports can be used to charge a device such as a phone or tablet.

17.3.8. Charging devices via USB ports

The USB ports can be used to charge a device such as a phone or tablet.

The USB ports can be used when the vehicle is in Comfort or Drive mode.

The ports will switch off automatically when the driver exits the vehicle. If the vehicle remains unlocked, the ports will remain active for about 10 minutes longer.

Note

Accessories connected to the ports can be activated even when the vehicle's electrical system is off or if preconditioning is used. For this reason, unplug accessories when they are not being used.

Some devices may become warm during charging. This is normal.

Warning

Position the accessory so that there is no risk of it injuring the driver or passengers in the event of heavy braking or a collision.

Charging devices via the USB ports

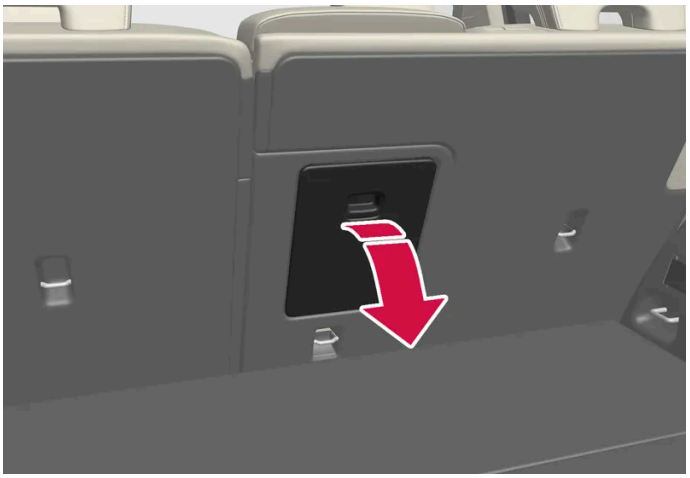
1. Fold down the cover in front of the port and plug in the device.
2. Unplug the device and fold up the cover when the port is not in use or left unattended.

Technical specifications for the USB-C port

- Type C port
- Version 3.1
- Voltage 5 V
- Max. current 3.0 A

17.4. Rear seat ski hatch*

The hatch in the rear seat backrest can be opened to transport long, narrow objects such as skis.



1. In the cargo compartment, grasp the ski hatch handle and pull it down.
2. Fold down the armrest in the rear seat.
3. Adjust the center seat head restraint upwards so the steel tubes do not block the opening.

* Option/accessory.

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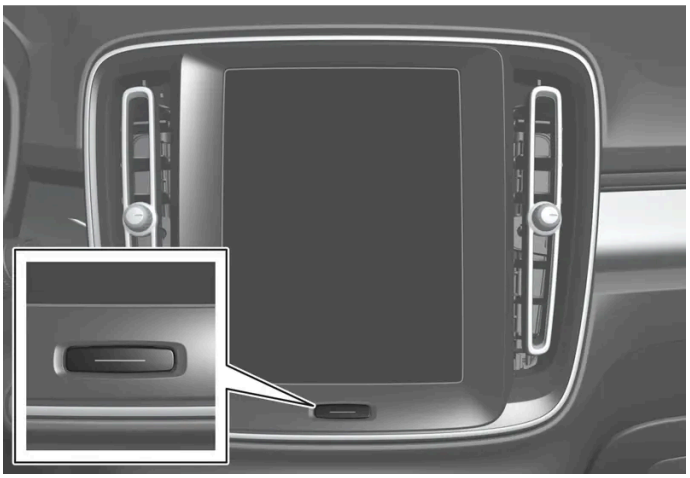
18. Maintenance and service

18.1. Vehicle care

18.1.1. Interior cleaning

18.1.1.1. Cleaning the center display

Marks, stains, finger smudges etc. on the center display may affect its performance and readability. Clean the screen regularly with a microfiber cloth.



1. Turn off the center display by pressing and holding the Home button.
2. Wipe the screen with a clean, dry microfiber cloth using small, circular motions. If necessary, moisten the cloth slightly.
3. Reactivate the display by pressing the Home button briefly.

> **Important**
>
> The microfiber cloth must be free of sand and dirt when cleaning the center display.

Important

When cleaning the center display, apply only light pressure to the screen. Pressing too hard could damage the screen.

Important

Do not spray liquid or corrosive chemicals directly onto the center display. Do not use window cleaners, cleaning agents, aerosol sprays, solvents, alcohol, ammonia or detergents that contain abrasives.

Never use abrasive cloths, paper towels or tissue paper, as these may scratch the center display.

18.1.1.2. Cleaning the instrument panel

Carefully wipe the glass covering the head-up display unit with a clean and dry microfiber cloth. If necessary, the cloth may be slightly moistened.

Never use cleaning agents. For difficult cleaning conditions, a special cleaning agent can be purchased at a Volvo retailer.

18.1.1.3. Cleaning the leather steering wheel

Use cleaning agents and car care products recommended by Volvo. Clean regularly and treat stains immediately. It is important to vacuum before using a cleaning agent.

Leather needs to breathe. Never cover the leather steering wheel with a plastic protector. Volvo Leather Care Kit 951 0251 and Leather Softener 943 7429 are recommended for cleaning the leather steering wheel. First, remove dirt, dust, etc. with a damp sponge or cloth.

Important

Sharp objects such as rings could damage the leather on the steering wheel.

Treating stains on the steering wheel:

Type 1 (ink, wine, coffee, milk, sweat or blood)

1 Use a soft cloth or sponge. Wipe the steering wheel using a solution of 5% ammonia. For blood stains, mix approximately 2 dl (1 cup) of water with 25 g (one ounce) of salt and wipe the stain.

Type 2 (grease, oil, sauces or chocolate)

1. Same procedure as for Type 1 stains.
2. Finish by wiping the wheel with an absorbent paper or towel.

Type 3 (dry dirt or dust)

1. Remove the dirt/dust using a soft brush.
2. Same procedure as for Type 1 stains.

18.1.1.4. Cleaning the seat belt

Use cleaning agents and car care products recommended by Volvo. Clean regularly and treat stains immediately. It is important to vacuum before using a cleaning agent.

Use water and a synthetic soap solution. Specially designed textile cleaning agents are available for purchase at Volvo retailers. Make sure the belt is dry before it is retracted.

18.1.1.5. Cleaning the interior

Use cleaning agents and car care products recommended by Volvo. Clean regularly and treat stains immediately. It is important to vacuum before using a cleaning agent.

Important

- Some colored clothing (for example, 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, gasoline, mineral spirit or concentrated alcohol to clean the interior as this can damage the upholstery as well as other interior materials.
- Never spray cleaning agent directly onto components that have electrical buttons and controls. Wipe instead with a damp cloth with cleaning agent.
- Sharp objects and Velcro can damage the car's textile upholstery.
- Only use cleaning agent on the type of material it is intended for.

18.1.1.6. Cleaning textile floor and inlay mats

Use of textile cleaner is recommended when cleaning textile mats. Clean regularly and treat stains immediately. It is important to vacuum before using a cleaning agent.

Remove the inlay mats to clean the floor mats and inlay mats separately. Each inlay mat is secured into place with pins.

1. Remove the inlay mat by grasping the inlay mat at each pin and lifting the mat straight up.
2. Use a vacuum to remove dust and dirt.

> **Note**
>
> Do not swing or strike the inlay mats violently against another object to remove dirt as this could damage the mats.

3. After vacuuming, a specially designed textile cleaning agent should be used to remove stains on floor mats.
4. After cleaning, put the inlay mat back into place by pressing it in at each pin.

> **Warning**
>
> - Never use more than one inlay mat at a time on the driver's floor. If any other type of floor mat is used, remove the original mat from the driver's seat floor before driving. All types of mats must be securely anchored in the attachment points in the floor. Make sure the floor mat does not impede the movement of the brake pedal or accelerator pedal in any way, as this could be a serious safety hazard.
> - Volvo's floor mats are specially manufactured for your vehicle. They must be properly secured in the attachment points in the floor to help ensure they cannot slide and become trapped under the pedals.

18.1.1.7. Cleaning interior plastic, metal and wood surfaces

Use cleaning agents and car care products recommended by Volvo. Clean regularly and treat stains immediately.

A lightly dampened microfiber cloth is recommended for cleaning interior details and surfaces. These cloths are available for purchase at Volvo retailers.

Never scrape or rub a stain. Never use strong stain removers.

> **Important**
>
> Do not use solvent containing alcohol to clean the instrument panel glass.

Important

Keep in mind that glossy surfaces can be easily scratched. Wipe these surfaces with a clean and dry microfiber cloth using small, circular motions. If necessary, moisten the cloth lightly with clean water.

18.1.1.8. Cleaning leather upholstery*

Use cleaning agents and car care products recommended by Volvo. Clean regularly and treat stains immediately. It is important to vacuum before using a cleaning agent.

Volvo's leather upholstery* is treated to protect its original appearance. Over time, sunlight, grease, dirt, etc. could break down the protective layer. This could result in scratches and cracking.

Leather upholstery* is a natural product that changes and acquires a beautiful patina over time. Regular cleaning and treatments are required to preserve the qualities and color of the leather. Volvo offers a comprehensive product, Volvo Leather Care Kit/Wipes, for cleaning and treating leather upholstery. When used as directed, it helps preserve the leather's protective coating.

For optimal results, Volvo recommends cleaning and applying protective cream one to four times a year (or more often as needed). Volvo Leather Care Kit and Volvo Leather Softener are available for purchase at Volvo retailers.

Cleaning the leather upholstery

1. Apply the leather cleaner to a damp sponge and squeeze it until the cleaner foams.
2. Move the sponge in circular motions to apply the foam to the stain.
3. Dampen the stain thoroughly with the sponge. Let the sponge absorb the stain and do not rub.
4. Dry the stain using a soft towel and let the leather dry completely.

Protecting the leather upholstery

1. Apply a small amount of leather protector to a cloth and then apply the protector to the leather using light circular movements.
2. Let it dry for approximately 20 minutes.

> Protecting the leather upholstery makes it better able to withstand sunlight's harmful UV rays.

* Option/accessory.

18.1.1.9. Cleaning Microtech upholstery*

Volvo's Microtech upholstery is treated to maintain its original appearance.

Over time, sunlight, grease, dirt, etc. could break down the protective layer, which could result in scratches or cracking. Regular cleaning and immediate treatment of stains are required to preserve the qualities and color of the leather. Vacuuming is recommended before cleaning with cleaning agents.

Cleaning Microtech upholstery

1. Vacuum the upholstery.
2. Apply a mild, alcohol-free detergent to a moistened sponge and squeeze until the detergent foams.
3. Move the sponge in a circular motion over the stain. Dampen the stain thoroughly with the sponge. Let the sponge absorb the stain and do not rub.
4. Wipe with a soft cloth or towel and then let the upholstery dry completely.

Important

Certain dark dyed clothing, such as denim or suede, may stain the Microtech upholstery.

* Option/accessory.

18.1.1.10. Cleaning fabric upholstery and headliner

Use of textile cleaner is recommended when cleaning textile and nubuck textile materials. Clean as needed and treat stains immediately.

Important

Never scrape or rub a stain because this may damage the upholstery.

Important

Never use stain removers or strong solvents because these may damage the upholstery.

Cleaning textile upholstery

1. Start by vacuuming the upholstery.
2. Follow the instructions for the textile cleaner.
3. When cleaning upholstery, a spray extraction cleaner is recommended for sucking up cleaning fluids and rinse water.

> **Important**
>
> Certain dyed clothing (such as denim and suede garments) may stain the upholstery. Difficult stains, like oil, can be difficult to remove.

> **Important**
>
> Always clean all of the upholstery, even if it only has isolated stains. This helps to prevent permanent water rings.

> **Note**
>
> Do not remove the upholstery when cleaning.

Cleaning the headliner

1. Carefully brush the headliner using a soft brush.
2. Follow the instructions for the textile cleaner.
3. Then use a soft, lint-free cloth to wipe the headliner.

> **Important**
>
> Careless cleaning could damage the headliner.

18.1.2. Exterior cleaning

18.1.2.1. Cleaning exterior lights

Dirty lights do not work as well. Clean them regularly, e.g. when charging.

Wash exterior lights, such as headlights and taillights, using a soft and clean sponge, mild soap and lukewarm water.

It is normal for condensation to form temporarily on the inside of the glass during washing. All outer lights are designed to withstand this. Condensation is normally ventilated out of the light housing once the light has been illuminated for a short period of time.

> **Important**
>
> Do not use strong detergents or chemicals to clean the lights. These types of products, such as those containing alcohol, may cause cracks in the glass.

> **Important**
>
> Do not rub with a dry sponge or rag as this could cause electric discharge and damage the components in the light.

18.1.2.2. Cleaning the wiper blades

The vehicle should be washed as soon as it becomes dirty. The longer the dirt remains, the more difficult it will be to keep the vehicle clean. It could also lead to paint damage. Wash the vehicle in a car wash or garage with an oil separator. Use a car washing detergent recommended by Volvo.

Asphalt, dust and salt residue on wiper blades, as well as insects, ice etc. on the windshield, shorten the service life of wiper blades.

When cleaning, put the wiper blades in the service position.

> **Note**
>
> Wash the wiper blades and windshield regularly with a lukewarm soap solution or vehicle shampoo. Do not use strong solvents.

18.1.2.3. Paintwork

The paintwork consists of multiple layers. It is an important part of the vehicle's corrosion protection and therefore needs to be checked regularly.

The most common types of paint damage are minor stone chips, scratches and damage to e.g. the edges of fenders, doors and bumpers. To help prevent corrosion, paint damage should be rectified immediately.

18.1.2.4. Color codes

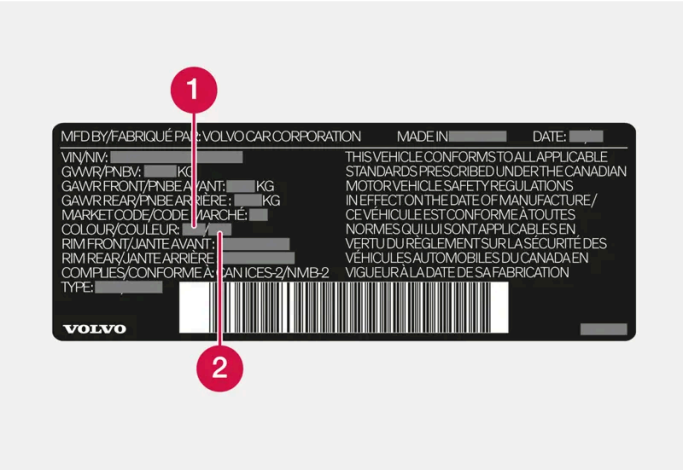
The color code decal is placed on the vehicle's left-side door pillar (B-pillar) between the front and rear doors and is visible when the left front door is open.

Color code

Sample color code (1): US models.

1 Exterior color code

2 Secondary exterior color code (if applicable)



Sample color code (1): Canadian models.

1 Exterior color code

2 Secondary exterior color code (if applicable)

18.1.2.5. Touching up minor paint damage

The paintwork is an important part of the vehicle's corrosion protection and therefore needs to be checked regularly. The most common types of paint damage are minor stone chips, scratches and damage to e.g. the edges of fenders, doors and bumpers.

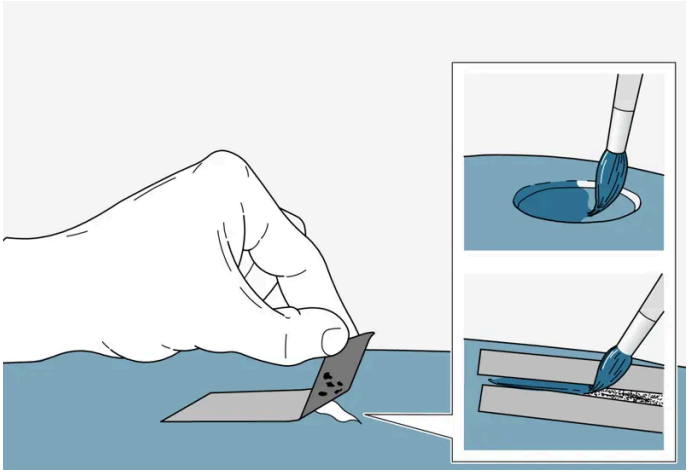
To help prevent corrosion, paint damage should be rectified immediately.

> **Note**
>
> Make sure the surface is clean and dry before performing any touch-ups to the paint. The surface temperature should be at least 15 °C (59 °F).

Materials that might be needed

- Primer – special adhesive primer is available in a spray can for e.g. plastic-covered bumpers.
- Base coat and clear coat – available in spray cans or as a touch-up pen/stick[1].
- Masking tape.
- Fine-grain sandpaper.

Applying touch-up paint to a damaged surface



If the damage has not reached all the way down to the metal, then touch-up paint can be applied immediately after the surface has been cleaned.

1. Place a strip of masking tape over the damaged surface. Pull the tape off so that any loose flakes of paint adhere to it.

   If the damage goes down to the bare metal, you may need to use primer first. If the paint damage is on a plastic surface, an adhesive primer should be used for better results. Spray the primer into the lid of the spray can and brush on thinly.

2. Light sanding with a very fine-grained abrasive cloth or similar may be required before painting (e.g. if there are uneven edges). Clean the area carefully to remove dirt, grease, salts, etc. and let it dry.

3. Thoroughly mix the primer and apply it with a small brush, toothpick or similar. When the primer is dry, apply one or more coats of paint and then a clear coat, letting the paint dry between each application.

If there is a longer scratch, follow the same procedure as above, but first mask off the surrounding area to protect the undamaged paint.

Touch-up pens/sticks and spray paint are available at Volvo retailers.

> **Note**
>
> If the stone chip has not gone down to the bare metal and an undamaged coat of paint remains, apply base coat and clear coat immediately after cleaning the surface.

[1] Follow the instructions on the packaging for the touch-up pen/stick carefully.

18.1.2.6. Cleaning the exterior

The vehicle should be washed as soon as it becomes dirty. This makes the vehicle easier to clean because dirt does not attach as strongly. It also reduces the risk of scratches and keeps the vehicle looking new. Wash the vehicle in a car wash or garage with an oil separator and use car washing detergent. Use cleaning agents and car care products recommended by Volvo.

Important to keep in mind when washing your vehicle

- Avoid washing the vehicle in direct sunlight[1]. This could cause the detergent or wax to dry out and become abrasive.
- Remove bird droppings and tree sap and resin from the paint as soon as possible. They can contain substances that affect and discolor the paint very quickly. Use e.g. soft paper or a sponge soaked in lots of water. Consult an authorized Volvo workshop for assistance removing discoloration.
- In areas with heavy industrial emissions, more frequent washing of the vehicle's exterior is recommended.
- After the car has been washed, tar from asphalt may remain. Use the tar remover recommended by Volvo to remove the final stains.

[1] Does not apply to washing in an automatic car wash.

18.1.2.7. Corrosion protection

Your vehicle is constructed with protection against corrosion.

Corrosion protection for the body consists of modern metallic protective coatings on the sheet metal, a high-quality painting process, corrosion-protected and minimized metal overlap, and shielding plastic components, abrasion protection and supplemental rust inhibitor in exposed areas. In the chassis, exposed components of the wheel suspension are made of corrosion-resistant cast aluminum.

Inspection and maintenance

The corrosion protection does not normally require maintenance, but keeping the vehicle clean helps reduce the risk of corrosion. The use of strong alkaline or acidic cleaning fluids should be avoided on shiny body components. Any stone chips in the paint should be touched up as soon as they are discovered.

18.1.2.8. Automatic car washes

It is important to prepare the vehicle before washing it in an automatic car wash. Carefully follow the instructions for vehicle handling before and during the car wash.

Automatic car washes can be a fast and easy way to clean the vehicle, but they do not reach all the parts of the vehicle that need regular cleaning. Volvo recommends supplementing automatic car washing with hand-washing.

> **Note**
>
> Avoid washing a brand new vehicle in automatic car washes for the first few months after it leaves the factory. This will allow the paintwork to fully set.

Preparations before washing

In automatic car washes in which the vehicle is pulled through the car wash, it is important to switch off functions that prevent the vehicle from rolling freely.

- Secure or remove protruding exterior parts such as retrofitted auxiliary lights, antennas, etc.
- Make sure that the automatic rain sensor function is switched off. The windshield wipers must be switched off throughout the car wash to avoid the risk of damage.
- Switch off the warning and auto-braking when backing up functions in the center display's Park Assist Camera view. They may be reactivated if the vehicle is restarted, and must then be deactivated again.

During the car wash

> **Important**
>
> Keep the vehicle's windows, doors and tailgate closed throughout the car wash.
>
> If the vehicle is equipped with keyless locking and unlocking*:
>
> Take out the key and place it in the open in the front section of the vehicle during the car wash. This minimizes the risk of unintentionally pressing the button that opens the tailgate, or of the key being incorrectly detected outside of the vehicle.

1. Drive into the car wash and stop at the designated place.
2. Put the gear selector in N.
3. The vehicle goes through the automatic car wash.

   Keep your seat belt buckled for the entire car wash.

> Don't forget to reset the adjustments made before the car wash.

After the car wash

Depress the brake pedal lightly for a short time while driving after the brake pads have been exposed to moisture. The friction will heat up the brakes so that they will dry more quickly, reducing the risk of corrosion.

> **Warning**
>
> Always test the foot brake and parking brake after washing the vehicle to ensure they are functioning properly.

* Option/accessory.

18.1.2.9. Cleaning exterior plastic, rubber and trim components

The vehicle should be washed as soon as it becomes dirty. The longer the dirt remains, the more difficult it will be to keep the vehicle clean. It could also lead to paint damage. Use a car washing detergent recommended by Volvo.

A special cleaning agent available from Volvo retailers is recommended for the cleaning and care of colored plastic parts, rubber and trim components, e.g. glossy trim. Follow the usage instructions for the cleaning agent carefully.

Avoid using car washing detergents with a pH value lower than 3.5 or higher than 11.5. Doing so could result in the discoloring of anodized aluminum surfaces* (as shown in the illustrations below). Abrasive polishing agents are not recommended for these areas (as shown in the illustrations below).

Components that should be washed with a cleaning product with a pH value between 3.5 and 11.5.

Important

Avoid waxing and polishing plastic and rubber.

If using degreaser on plastic and rubber, only rub (if necessary) with slight pressure. Use a soft sponge.

Polishing glossy trim moldings can wear away or damage the glossy surface layer.

Polish containing abrasives must not be used.

Important

Avoid washing the vehicle with cleaner with a pH value below 3.5 or above 11.5. This could cause discoloration of anodized aluminum components like the roof rail and around the side windows.

Never use metal polishing agent on anodized aluminum components. This could cause discoloration and destroy the surface treatment.

* Option/accessory.

18.1.2.10. Cleaning rims

The vehicle should be washed as soon as it becomes dirty. The longer the dirt remains, the more difficult it will be to keep the vehicle clean. It could also lead to paint damage. Wash the rims at a car wash or garage with an oil separator. Use a car washing detergent recommended by Volvo.

Use a rim cleaning agent recommended by Volvo.

Strong rim cleaning agents could damage the surface and stain the chromed aluminum rims.

18.1.2.11. Hand washing

The vehicle should be washed as soon as it becomes dirty. This makes the vehicle easier to clean because dirt does not attach as strongly. It also reduces the risk of scratches and keeps the vehicle looking new. Wash the vehicle in a car wash or garage with an oil separator and use car washing detergent. Use cleaning agents and car care products recommended by Volvo.

Important to keep in mind when handwashing your vehicle

- Hose down the underbody, including the wheel housings and bumper.
- Hose down the entire vehicle and remove any loose dirt, droppings etc. to reduce the risk of scratches from washing. Do not spray directly onto locks.

- If necessary, use cold degreaser on heavily soiled surfaces. Note that in such cases the surfaces must not be hot from the sun.
- Wash using a sponge, car washing detergent and plenty of lukewarm water. Make sure that the sponge is clean. A dirty sponge can scratch the paint.
- Clean the wiper blades with lukewarm soap solution or car washing detergent.
- Dry the vehicle using a clean, soft chamois or a squeegee. Try not to let drops of water dry in strong sunlight. This could cause water drying stains that may need to be polished out.

Important

Dirty headlights do not work as well. Clean them regularly, e.g. when charging.

Do not use corrosive cleaners. Use water and a non-abrasive sponge. See separate section for more information.

Note

Exterior lighting such as headlights and taillights may develop temporary condensation on the inside of the lens. This is normal. All exterior lighting is designed to resist this. Condensation is normally vented out of the lamp housing once the light has been lit for some period of time.

Important

- Make sure that the panoramic roof* and sun shade are closed before washing the vehicle.
- Never use abrasive polishing agents on the panoramic roof.
- Never use wax on the rubber seals around the panoramic roof.

Important

Remember to remove dirt from the drain holes in the doors, sills and panoramic roof after washing the vehicle.

* Option/accessory.

18.1.2.12. High-pressure washing

The vehicle should be washed as soon as it becomes dirty. The longer the dirt remains, the more difficult it will be to keep the vehicle clean. It could also lead to paint damage. Wash the vehicle in a car wash or garage with an oil separator. Use a car washing detergent recommended by Volvo.

If washing the vehicle with a high-pressure wash, use sweeping movements and keep the nozzle at least 30 cm (13 in.) from the vehicle. Do not spray directly on the lock or on the inside of the charger door.

Important

Do not use water hotter than 60 °C (140 °F) on the exterior lights, such as headlights and taillights. See separate section for more information.

18.1.2.13. Polishing and waxing

Polish and wax the vehicle when the paint is dull or to provide extra protection. The vehicle does not need to be polished until it is at least a year old. However, it can be waxed during the first year. Do not polish or wax the vehicle in direct sunlight. The surface of the vehicle should not be warmer than 45 °C (113 °F).

- Wash and dry the vehicle very carefully before polishing or waxing. Remove asphalt and tar stains with asphalt remover or paint thinner. More stubborn stains can be removed with a grinding paste designed for vehicle paint. Use cleaning agents recommended by Volvo.
- Use polish first and then liquid or paste wax. Follow the instructions on the package carefully. Many products contain both polish and wax.

Important

Never polish or wax initially matte exterior details on the vehicle. This could destroy the matte effect and make the surface permanently shiny.

Important

Avoid waxing and polishing plastic and rubber.

If using degreaser on plastic and rubber, only rub (if necessary) with slight pressure. Use a soft sponge.

Polishing glossy trim moldings can wear away or damage the glossy surface layer.

Polish containing abrasives must not be used.

Important

Use cleaning agents recommended by Volvo. Other treatments, such as preservation, sealing, protection, luster sealing or similar, could damage the paintwork. Paintwork damage caused by such treatments are not covered by Volvo's warranty.

18.2. Wiper blades and washer fluid

18.2.1. Wiper blades and washer fluid

The wipers and the washer fluid are designed to improve visibility and the headlight pattern.

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

When there is approximately 1 liter (1 qt) of washer fluid remaining, a message to refill will appear in the instrument panel.

* Option/accessory.

18.2.2. Putting the wiper blades in service position

The windshield wiper blades must be in the service (vertical) position for certain operations, e.g. replacing the blades.

Windshield wipers in the service position.

The windshield wipers must be in the service position when replacing, washing or lifting the blades (e.g. to scrape ice or snow from the windshield).

> **Important**
>
> Before placing the wipers in service position, ensure that they have not frozen to the windshield.

Activating/deactivating service position

The service position can be activated/deactivated when the vehicle is stationary and the windshield wipers are switched off. Activating/deactivating the service position in the center display:

1. Tap ⚙ in the center display.
2. Then tap **Controls** and activate/deactivate service position for the wiper blades.

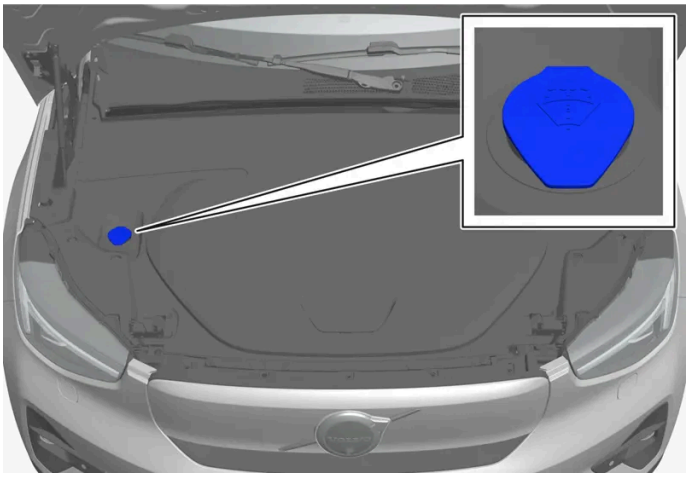
The wiper blades will also move out of the service position if:

- The windshield wipers are turned on.
- The windshield washers are turned on.
- The rain sensor is activated.
- The vehicle begins moving.

> **Important**
>
> If the wiper arms in service position are raised from the windshield, they must be folded back against the windscreen before activating wiping, washing or rain sensor as well as before departure. This is to prevent scratching the paint on the hood.

18.2.3. Refilling washer fluid

Washer fluid is used to help keep the headlights and windshield clean. Washer fluid containing anti-freeze should be used in very cold weather (below-freezing temperatures).



> **Note**
>
> When there is approximately 1 liter (1 qt) of washer fluid remaining, the message **Refill washer fluid, level low** and the symbol will be displayed in the instrument panel.

When the message **Refill washer fluid, level low** along with the symbol is shown in the instrument panel, it is time to refill washer fluid.

1. Open the hood by first using the handle in the passenger compartment and then the handle under the front edge of the hood.
2. Open the cover on the washer fluid reservoir.

   Fill washer fluid into the reservoir with the blue cover. The reservoir is used for both the windshield washer and the headlight washer*.
3. Pour in washer fluid until it is full.
4. Close the cover on the washer fluid reservoir and then close the hood.

Recommended grade: Washer fluid recommended by Volvo, with frost protection during cold weather and temperatures below the freezing point.

> **Important**
>
> Use Volvo's original washer fluid or an equivalent fluid with the recommended pH value between 6 and 8, diluted as recommended, e.g. in a 1:1 solution with pH-neutral water.

> **Important**
>
> Use washer fluid with anti-freeze when temperatures are below the freezing point to help keep the pump, reservoir and hoses from freezing.

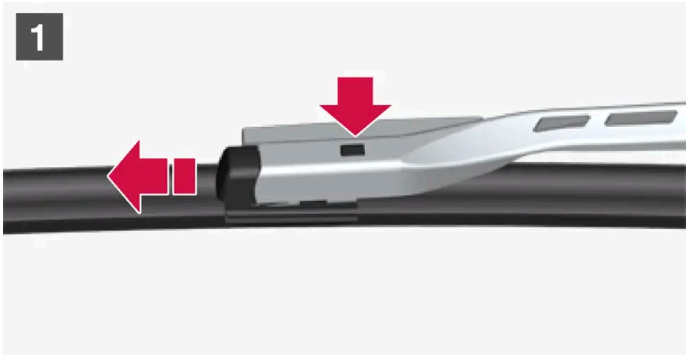
Volume:

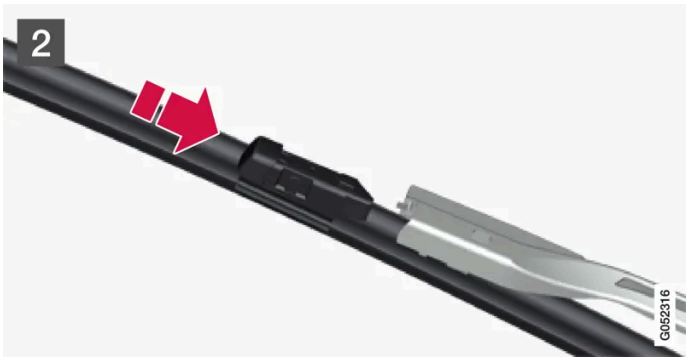
- Vehicles **with** headlight washing: 5.5 liters (5.8 qts).
- Vehicles **without** headlight washing: 3.5 liters (3.7 qts).

* Option/accessory.

18.2.4. Replacing windshield wiper blades

The wiper blades help remove water from the windshield. Along with the washer fluid, they are designed to clean the glass and help improve visibility while driving. The wiper blades can be replaced.





1 1
Raise the wiper arms to the service position. Service position is activated/deactivated via the center display when the vehicle is stationary and the windshield wipers are not on. Press the button on the wiper blade attachment and pull the wiper blade straight out, parallel with the wiper arm.

2 2
Slide in a new wiper blade until it clicks into place.

3 Check to make sure the blade is securely in place.

4 Press the wiper blade back against the windshield.

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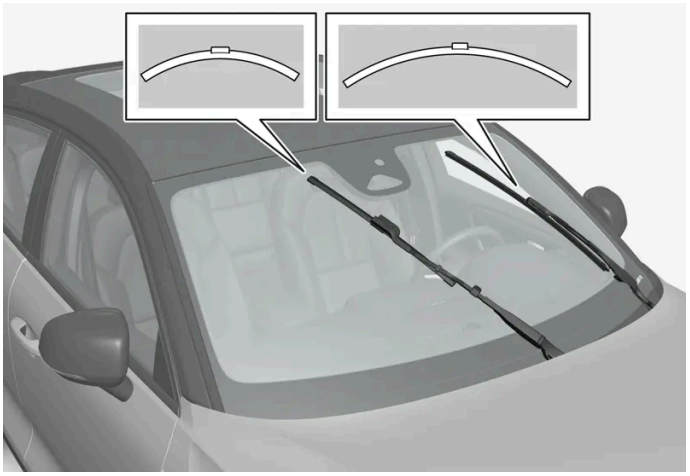
Wiper blades come in varying lengths



Note

When changing wiper blades, make sure that the blades are of different lengths. The blade on the driver's side is longer than the one on the passenger side.

18.3. Replacing bulbs

18.3.1. Replacing the rear fog light bulb

The rear fog light is located in the rear bumper on the driver's side.

The rear fog light is only located on the driver's side.

1. Remove the fog light unit on the driver's side by inserting a flat object (e.g. a screwdriver) behind the light kit's narrower short side and prying out the fog light unit.
2. Unplug the connector.
3. Remove the bulb holder by turning it counterclockwise and pulling it out.
4. Remove the bulb by pressing it in and turning it counterclockwise.
5. Insert the new bulb by pressing it in and turning it clockwise.
6. Put the panel back in place and turn it clockwise.
7. Plug in the connector.
8. Insert the hook on the wide part of the fog light unit in the rear bumper and rotate the unit until the clips fasten into place.

Note

Exterior lighting such as headlights and taillights may develop temporary condensation on the inside of the lens. This is normal, and all exterior lighting is designed to resist this. Condensation is normally vented out of the lamp housing once the light has been lit for some period of time.

18.3.2. Replacing bulbs

This vehicle is equipped withe LED lights front and rear. The rear fog lights consist of bulbs that can be replaced manually according to the method described in the Owner's Manual.
If there is a problem with an LED[1] light, the entire lamp unit will normally need to be replaced.

Note

For information on lights not mentioned in the Owner's Manual, contact a Volvo retailer or an authorized Volvo workshop.

Warning

The vehicle must be switched off when replacing bulbs.

Important

Never touch the bulb glass with your bare fingers. Grease and oils from your fingers vaporize in the heat and will leave a deposit on the reflector, which may damage it.

Note

If the error message persists after the defective bulb has been replaced, we recommend a visit to an authorized Volvo workshop.

Note

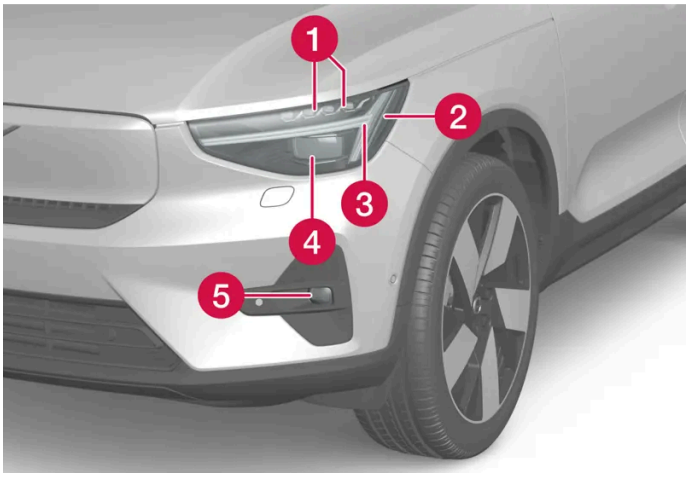
Exterior lighting such as headlights and taillights may develop temporary condensation on the inside of the lens. This is normal, and all exterior lighting is designed to resist this. Condensation is normally vented out of the lamp housing once the light has been lit for some period of time.

[1] LED (Light Emitting Diode)

18.3.3. Location of exterior lights

The vehicle's exterior lighting consists of several different bulbs. LED[1] bulbs must be replaced by a workshop. An authorized Volvo workshop is recommended.

Front lights



1 High beams/low beams (LED)

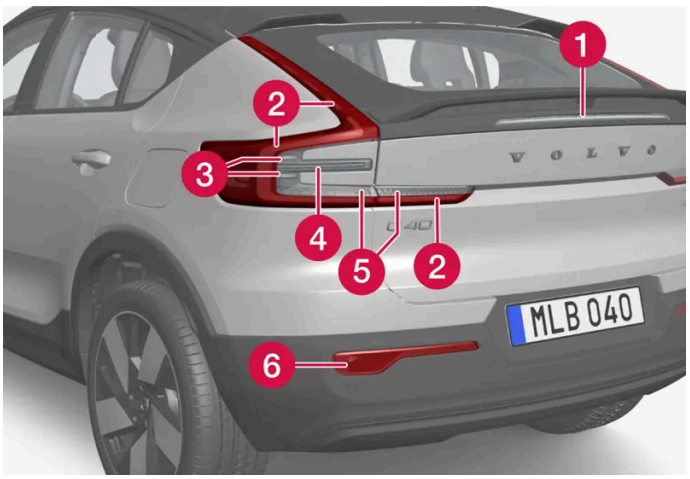
2 Side marker lights (LED)

3 Daytime running lights/position lamps/direction indicators (LED)

4 Pixel module* for high and low beams (LED)

5 Front fog light/cornering illumination* (LED)

Rear bulbs



1 Brake light – central, high-mounted (LED)

2 Parking light (LED)

3 Backup light (LED)

4 Brake light (LED)

5 Turn signals (LED)

6 Fog light

[1] LED (Light Emitting Diode)

* Option/accessory.

18.3.4. Bulb specifications

Specifications for replaceable light bulbs.
If you are experiencing problems with any lights other than light bulbs, contact a workshop[1]. If there is a problem with an LED[2] light, the entire lamp unit will normally need to be replaced.

Function	W[3]	Type
Rear fog light	21	H21W LL

[1] An authorized Volvo workshop is recommended.

[2] LED (Light Emitting Diode)

[3] Watt

18.3.5. Checking trailer lights*

When connecting a trailer, make sure that the trailer's lights are functioning before starting to drive.

Checking trailer lights*

Automatic check

When the trailer has been connected to the vehicle's electrical system, its lights can be checked by automatically activating them. This function helps the driver check that the trailer's lights are functioning correctly before starting to drive.

1 When a trailer is connected to the towbar, the message **Perform a trailer lamp check?** will appear in the instrument panel.

2 Acknowledge the message by pressing the O button on the right-side steering wheel keypad.

> The light check will begin.

3 Get out of the vehicle to perform the check.

> All of the lights on the trailer will begin flashing, and then illuminate separately one at a time.

4 Visually check that all of the trailer's lights are functioning correctly.

5 After a short time, all of the trailer's lights will start flashing again.

> The light check is completed.

Trailer rear fog light

When a trailer is connected, the vehicle's rear fog light may not illuminate and rear fog light functionality is instead transferred to only the trailer. If this is the case, check to see if the trailer is equipped with a rear fog light before activating the vehicle's rear fog light when driving with a trailer to help ensure safe operation.

Symbols and messages in the instrument panel

If one or more of the turn signals or brake lights on the trailer is not working, a symbol and message will be displayed in the instrument panel. The other lights on the trailer must be checked manually by the driver before the vehicle is driven.

Symbol	Message
	Right trailer turn indicator malfunction Left trailer turn indicator malfunction
	Trailer brake light malfunction

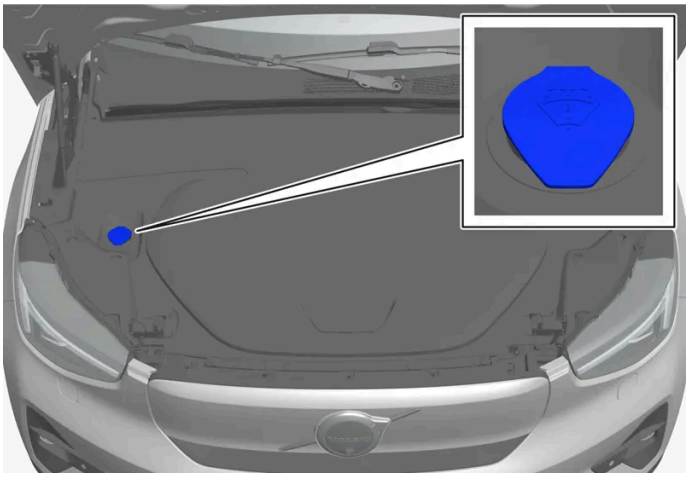
If any of the trailer's turn signal lights is not working, the turn signal symbol in the instrument panel will also flash more quickly than normal.

* Option/accessory.

18.4. Space under hood

18.4.1. Refilling washer fluid

Washer fluid is used to help keep the headlights and windshield clean. Washer fluid containing anti-freeze should be used in very cold weather (below-freezing temperatures).



Note

When there is approximately 1 liter (1 qt) of washer fluid remaining, the message **Refill washer fluid, level low** and the symbol will be displayed in the instrument panel.

When the message **Refill washer fluid, level low** along with the symbol is shown in the instrument panel, it is time to refill washer fluid.

1. Open the hood by first using the handle in the passenger compartment and then the handle under the front edge of the hood.
2. Open the cover on the washer fluid reservoir.

   Fill washer fluid into the reservoir with the blue cover. The reservoir is used for both the windshield washer and the headlight washer*.
3. Pour in washer fluid until it is full.
4. Close the cover on the washer fluid reservoir and then close the hood.

Recommended grade: Washer fluid recommended by Volvo, with frost protection during cold weather and temperatures below the freezing point.

Important

Use Volvo's original washer fluid or an equivalent fluid with the recommended pH value between 6 and 8, diluted as recommended, e.g. in a 1:1 solution with pH-neutral water.

> **Important**
>
> Use washer fluid with anti-freeze when temperatures are below the freezing point to help keep the pump, reservoir and hoses from freezing.

Volume:

- Vehicles **with** headlight washing: 5.5 liters (5.8 qts).
- Vehicles **without** headlight washing: 3.5 liters (3.7 qts).

* Option/accessory.

18.4.2. Brake fluid specifications

The medium in the hydraulic brake system is called brake fluid and is used to transfer pressure from e.g. a brake pedal via a master brake cylinder, which in turn actuates the brake calipers.

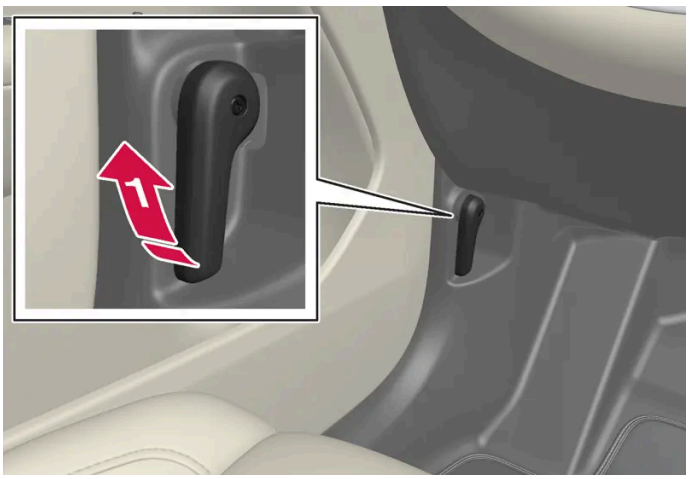
Recommended grade: Volvo Original or similar fluid that meets a combination of Dot 4, 5.1 and ISO 4925 class 6.

> **Note**
>
> Changing or filling brake fluid should be entrusted to an authorized Volvo workshop.

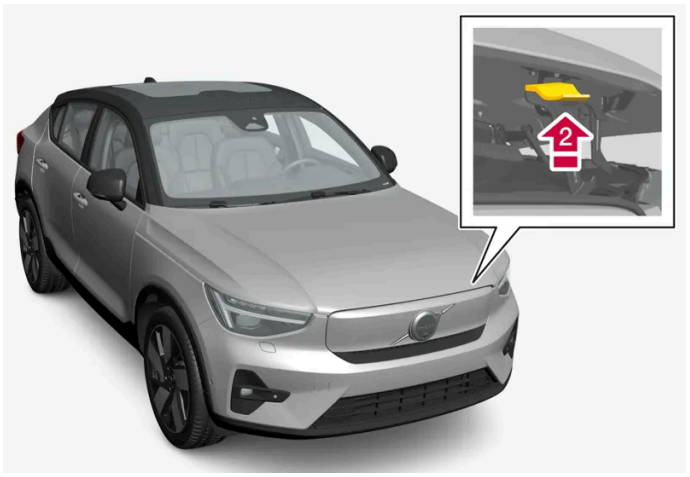
18.4.3. Opening and closing the hood

To open the hood, pull the lever in the passenger compartment and then turn the handle under the front edge of the hood. It is important to follow the instructions for closing and check to make sure the hood is closed completely if it has been open.

Opening the hood



1. Pull the lever next to the pedals to release the hood from its fully closed position.



2. Move the handle under the hood upwards to release the catch and lift the hood.

> **Important**
>
> Only remove the panels around the storage compartment under the hood if this requirement is clearly stated in the instructions in the Owner's Manual. Contact a workshop if you experience any problems or maintenance is required – an authorized Volvo workshop is recommended.

Warning - hood not closed

An open hood is indicated by a warning symbol and graphic in the instrument panel as well as an audible signal.

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Note

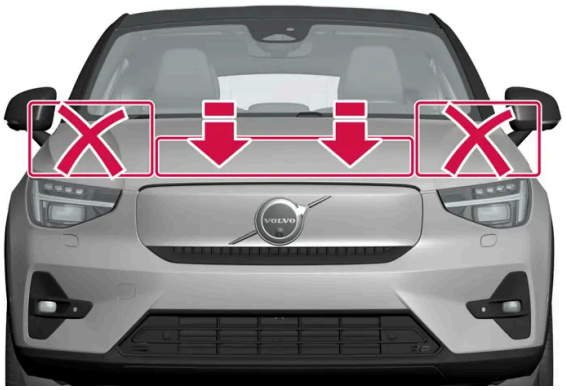
If the vehicle indicates that the hood is open even though it is completely closed, open the hood and follow the instructions for closing it. Consult a workshop if the problem persists – an authorized Volvo workshop is recommended.

Closing the hood

Warning

To help prevent injury, make sure that there is nothing in the closing path of the hood.

1 Lower the hood until it reaches the lock catch.



2 Press the hood down using both hands to close it completely. Only push on the front part of the hood above the grille plate. Do **not** push on the sides of the hood.

> The hood must audibly lock into place on both sides.

3 Make sure that the hood locks securely into place without any gaps.

Warning

Never drive with the hood open.

Check carefully to ensure that the hood closes completely after it has been open.

If the vehicle warns or indicates that the hood is open, or if anything indicates that it is not completely closed, stop immediately and close it properly.

18.4.4. Coolant

The vehicle has an advanced coolant system that regulates the temperature of the electric drive and passenger compartment. The system is available regardless of whether the vehicle is parked, charging or being driven.

The coolant system is a closed system and all maintenance must be performed by a trained technician. Contact a workshop[1] as soon as possible if you receive a warning message that service is required.

Important

Do not open the coolant tank cap and do not add any fluids. Doing this can cause damage that is not covered by the warranty.

Warning

Never ingest coolant. It can damage kidneys and other organs. The product contains ethylene glycol, inhibitor, water, etc.

[1] Volvo recommends contacting an authorized Volvo workshop.

18.5. Tools and accessories

18.5.1. Jack*

The jack can be used to lift the vehicle to e.g. change a wheel.

Important

If a jack is provided with your vehicle, it is intended to be used only in temporary situations such as changing wheels in the event of a flat tire. Only the jack that came with your particular model should be used to lift the vehicle. If the vehicle needs to be lifted more frequently, or for a longer period of time than for a wheel change, a garage jack or hoist is recommended. Always follow this device's instructions for use.

When not in use, the jack should be kept in its storage compartment under the cargo compartment floor. Crank the jack to the correct position so that it fits.

The jack needs to be cranked together to the correct position in order to fit.

* Option/accessory.

18.5.2. Tire sealing system

The temporary tire sealing system[1] (TMK) can be used to seal a puncture hole in a tire or to check and adjust the inflation pressure in the tire.
Models equipped with a spare wheel[2] do not have the tire sealing system.

Warning

California Proposition 65

Operating, servicing and maintaining a passenger vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle [https://www.p65warnings.ca.gov/products/passenger-vehicle] .

The tire sealing system consists of a compressor and a bottle containing sealing compound. The sealing functions as a temporary repair.

Note

The sealing compound effectively seals tires with punctures in the tread but may not be able to fully seal tires with punctures in the sidewall. Do not use the tire sealing system on tires with large tears, cracks or similar damage.

Note

The compressor is intended for temporary tire sealing and is approved by Volvo.

Location

The tire sealing system is located in a foam block under the cargo compartment floor under the hood.

Sealing compound expiration date

The sealing compound bottle must be replaced if its expiration date has passed (see the decal on the bottle). Handle the old bottle as hazardous waste.

[1] Certain models only.

[2] Not available on all models.

18.5.3. Tool kit

The vehicle's storage compartments can be used to store tools for e.g. towing or changing wheels. There is space for a jack and a lug wrench in the vehicle's cargo compartment. Other tools can be stowed in the storage compartment under the hood.

Examples of tools that may be found in the vehicle.

1 Jack

2 Tool for removing the plastic wheel bolt covers

3 Tire sealing system

4 Wheel bolt key and towing eyelet

If the vehicle is equipped with a spare tire* [1], a jack and wheel bolt key are provided instead of the tire sealing system.

* Option/accessory.

[1] Not available on all models.

18.6. Fuses

18.6.1. Fuses and fuseboxes

Electrical functions and components are protected by a number of fuses in order to protect the vehicle's electrical system from damage by short circuiting or overloading. Fuses are located in the vehicle's fuse boxes.

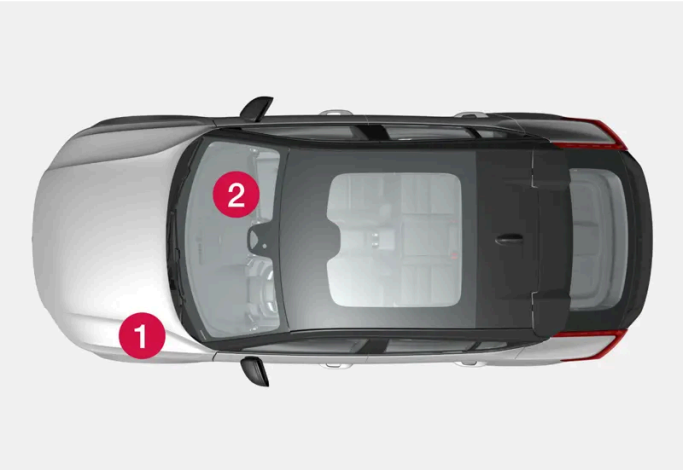
> **Warning**
>
> Never replace a fuse with a foreign object or a fuse with higher amperage. This could damage the electrical system and lead to fire.
>
> Contact an authorized Volvo workshop for assistance replacing fuses not described in the Owner's Manual.

> **Warning**
>
> Orange wiring may only be handled by qualified personnel.

> **Warning**
>
> A number of electrical components in Twin Engine Plug-in Hybrid vehicles use high-voltage current and can be extremely dangerous if handled incorrectly.
>
> Do not touch anything that is not clearly described in the vehicle's Owner's Manual.

If any electrical component or function is not responding, the component's fuse may be overloaded and must then be replaced. If the same fuse is repeatedly overloaded, there may be a problem with the component. Volvo recommends contacting an authorized Volvo workshop to have the component checked.

Location of fuseboxes



1. Under the hood
2. Under the glove compartment

18.6.2. Replacing fuses

An overloaded fuse needs to be replaced to restore function to the electrical component it protects.

1. Locate the correct fuse in the fuse diagrams for the different fuse boxes.
2. Pull out the fuse and examine it from the side to determine if the curved metal wire in the fuse is intact.
3. If the wire is broken, replace the fuse with a new fuse of the same color and amperage.

Note

Some fuse boxes contain special pliers to make it easier to grip the fuse.

Warning

Never replace a fuse with a foreign object or a fuse with higher amperage. This could damage the electrical system and lead to fire.

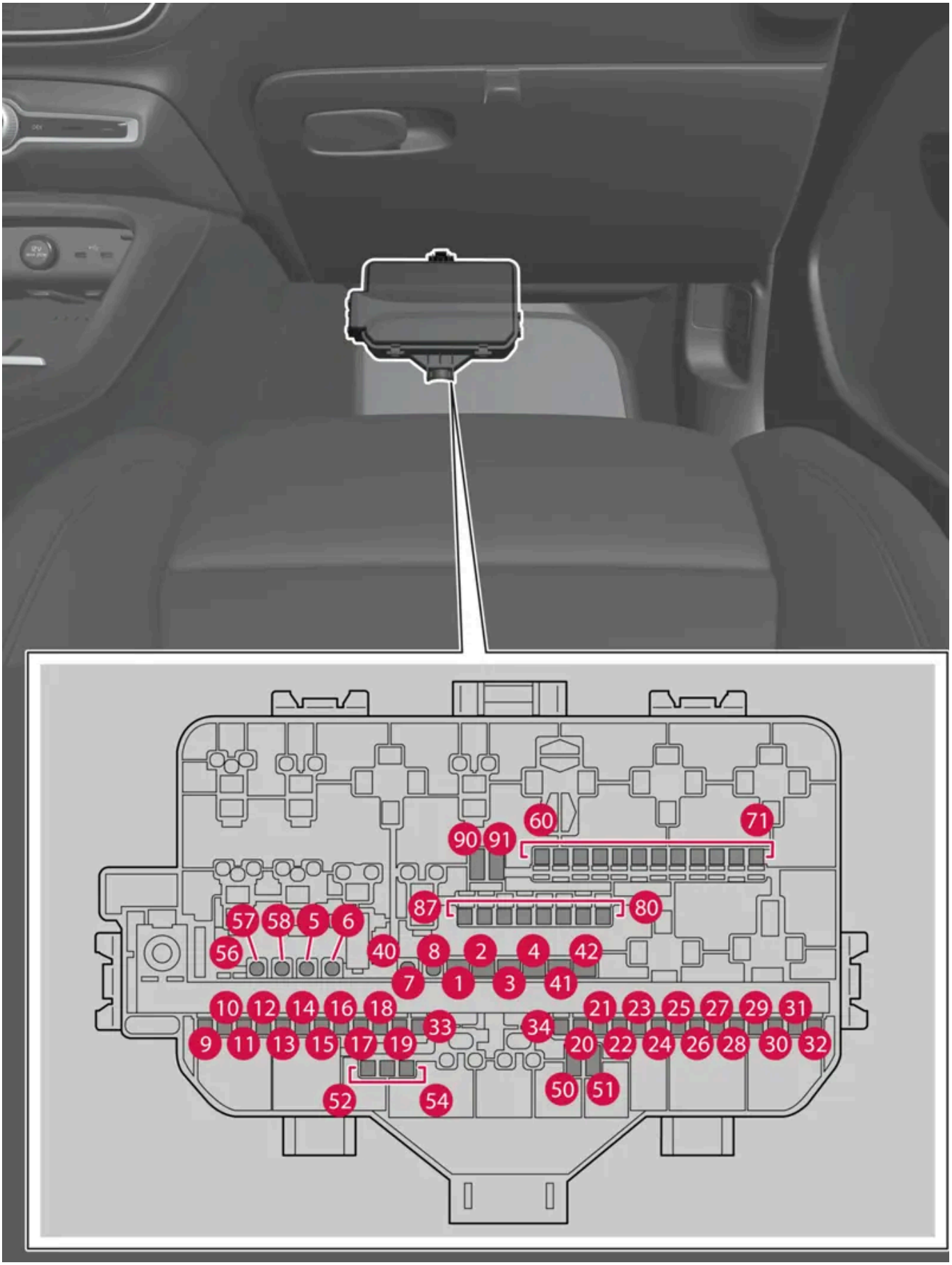
Contact an authorized Volvo workshop for assistance replacing fuses not described in the Owner's Manual.

Warning

Contact an authorized Volvo workshop for assistance replacing fuses not described in the Owner's Manual.

18.6.3. Fuses under the glove compartment

The fuses in the fuse box under the glove compartment protect electrical components such as outlets, displays and door modules.



The fuse box is located behind the floor mat/panel.

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There are also spaces for several extra fuses in the fusebox under the hood.

Positions

The location of the fuses is shown on the inside of the cover. Functions and components in the fuse table cover several different models and engine variants. Therefore, a described fuse may apply to fewer components than those in the table, or be missing completely, depending on how the vehicle is equipped.

If a position has several table values, this is due to variations in equipment level. If this is the case, follow the value on the replaced fuse. In the event of uncertainty, contact a workshop. An authorized Volvo workshop is recommended.

	Function	Ampere	Type
1	Infotainment control module (amplifier)	40	MCase (slotted) [1]
2	Electric Module A	40	MCase (slotted) [1]
3	Electric Module B	40	MCase (slotted) [1]
4	Climate system blower, front	40	MCase (slotted) [1]
5	Power tailgate*	25	MCase [1]
6	Power seat*, left	20	MCase [1]
7	Power seat*, right	20	MCase [1]
8	–	–	MCase [1]
9	Door module, right side, rear	20	Micro
10	Door module, left side, rear	20	Micro
11	Door module, left side, front	20	Micro
12	Rear lighting	15	Micro
13	Door module, right side, front	20	Micro
14	Seat heating, rear*	15	Micro
15	Safety module (ASDM) Converter, rear electric motors	5	Micro
16	Calculation module	5	Micro
17	Sun sensor Transponder for road tax	5	Micro
18	–	–	Micro
19	Climate system control module	7.5	Micro
20	Interior movement sensors*	5	Micro
21	Instrument panel	5	Micro
22	Center console keypad	5	Micro
23	Steering wheel module	5	Micro
24	Electronic shifting module	5	Micro
25	Center display	5	Micro
26	Control module for Internet-connected vehicle Control module for Connect	5	Micro
27	Antenna module (TCAM)	5	Micro
28	Relay coils	5	Micro
29	Opening trunk/tailgate with foot movement*	5	Micro

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	Function	Ampere	Type
30	Infotainment control module	15	Micro
31	Diagnostics port	10	Micro
32	–	–	Micro
33	Folding head restraint, left side, rear	15	Micro
34	Folding head restraint, right side, rear	15	Micro
40	Heated rear window	30	MCase [1]
41	Seat belt tensioner, left side	40	MCase (slotted) [1]
42	Seat belt tensioner, right side	40	MCase (slotted) [1]
50	–	–	Micro
51	–	–	Micro
52	Coolant pump	7.5	Micro
53	Heated steering wheel module*	15	Micro
54	Air particulate matter sensor (APMS) Auxiliary air heater (PTC)	5	Micro
55	Headlight washers*	25	MCase [1]
56	Windshield and tailgate window washers	25	MCase [1]
57	–	–	MCase [1]
58	–	–	MCase [1]
60	–	–	Micro
61	–	–	Micro
62	–	–	Micro
63	Extra fuse	5	Micro
64	Blind Spot Information (BLIS)*	5	Micro
65	–	–	Micro
66	–	–	Micro
67	Radar control module, front	5	Micro
68	–	–	Micro
69	–	–	Micro
70	Prepared fuse, Special Edition vehicle	5	Micro
71	Collision module (SRS)	5	Micro
80	–	–	Micro
81	Overhead console indicator (SRS) Wake-up, electronic shifting mode 360° Park Assist Camera*	5	Micro
82	–	–	Micro
83	Passenger compartment lighting Rearview mirror auto-dimming Rain and light sensors Control panels in rear doors and cargo compartment Transponder for road tax	7.5	Micro
84	Wireless charging pad*	5	Micro
85	Front camera	5	Micro
86	–	–	Micro

	Function	Ampere	Type
87	USB port	5	Micro
90	–	–	Micro
91	–	–	Micro

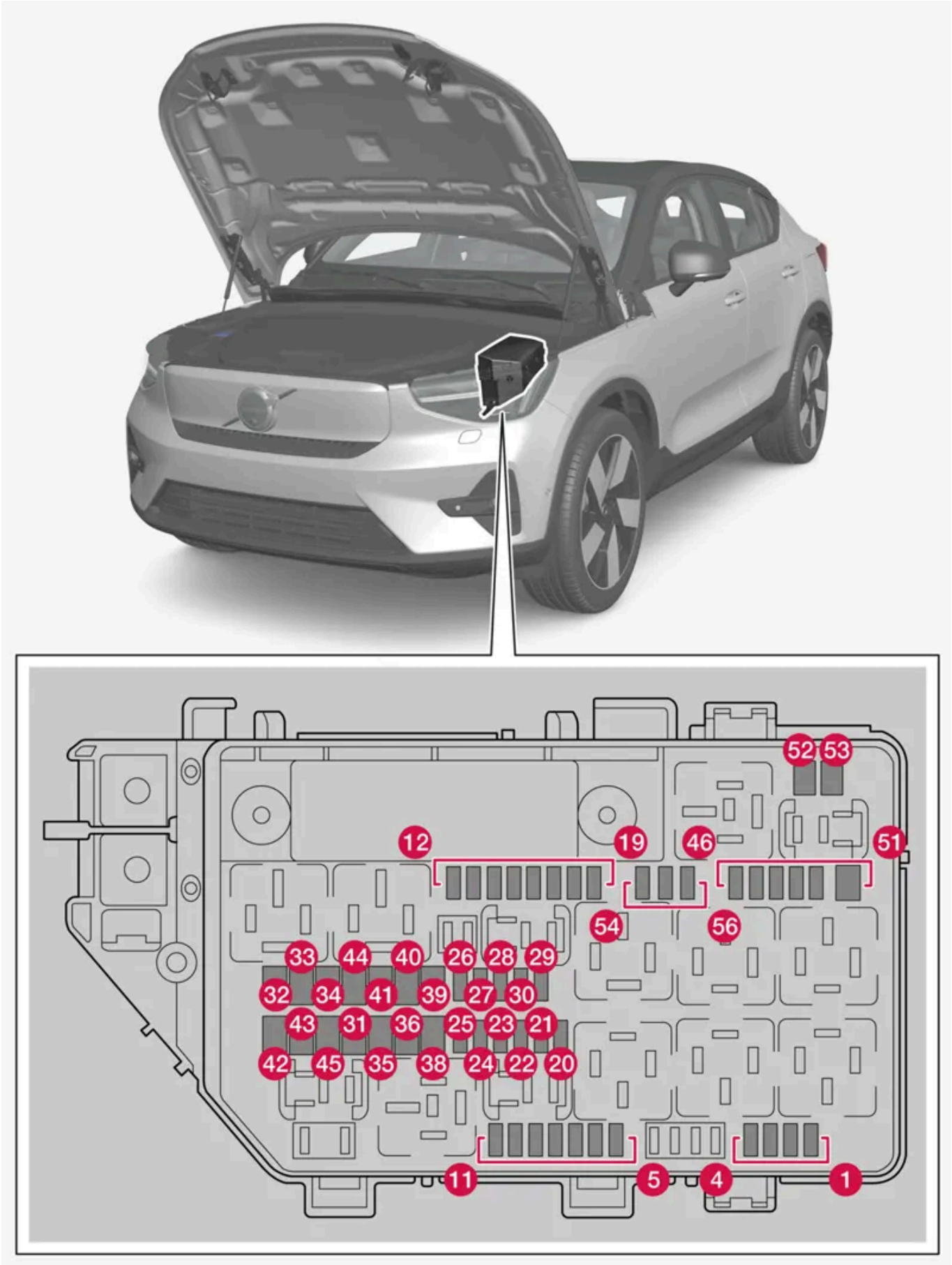
[1] This type of fuse should be replaced by a workshop. An authorized Volvo workshop is recommended.

* Option/accessory.

18.6.4. Fuses under the hood

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 fuses under the hood help protect electrical components such as motor and brake functions.



To access fuses under the hood, a number of panels around the storage compartment must be removed.

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Special pliers are provided on the inside of the cover to assist in changing blown fuses.

There are also spaces for several extra fuses in the fusebox.

> **Important**
>
> Only remove the panels around the storage compartment under the hood if this requirement is clearly stated in the instructions in the Owner's Manual. Contact a workshop if you experience any problems or maintenance is required – an authorized Volvo workshop is recommended.

Positions

The location of the fuses is shown on the inside of the cover. Functions and components in the fuse table cover several different models and engine variants. Therefore, a described fuse may apply to fewer components than those in the table, or be missing completely, depending on how the vehicle is equipped.

If a position has several table values, this is due to variations in equipment level. If this is the case, follow the value on the replaced fuse. In the event of uncertainty, contact a workshop. An authorized Volvo workshop is recommended.

	Function	Ampere	Type
1	Dual USB ports in tunnel console, rear*	7.5	Micro
2	12 V outlet front	15	Micro
3	–	–	Micro
4	–	–	Micro
5	Engine control module	10	Micro
6	Cooling valve block	15	Micro
7	Battery cooling valve	5	Micro
8	Spoiler damper control module Cooler damper control module	10	Micro
9	–	–	Micro
10	–	–	Micro
11	–	–	Micro
12	Headlight, right	20	Micro
13	Headlight, left	20	Micro
14	Collision module (SRS) Occupant weight sensor (OWS)	5	Micro
15	Accelerator pedal sensor	5	Micro
16	Supplied when the vehicle's electrical system is on: engine control module, transmission components, electrical power steering, central electrical module, brake system control module	5	Micro
17	Exterior sound module	5	Micro
18	–	–	Micro
19	Lighting, rear	10	Micro
20	Internal relay windings	5	Micro
21	–	–	Micro
22	Brake pedal sensor	5	Micro

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	Function	Ampere	Type
23	Calculation module	5	Micro
24	High-voltage battery control module	5	Micro
25	–	–	Micro
26	Engine control module	5	Micro
27	Charge module	15	Micro
28	Converter, front electric motor	5	Micro
29	Horn (honk)	20	Micro
30	Alarm siren*	5	Micro
31	Wipers	30	MCase [1]
32	–	–	MCase (slotted) [1]
33	–	–	MCase (slotted) [1]
34	–	–	MCase (slotted) [1]
35	Brake control module	30	MCase [1]
36	–	–	MCase [1]
38	Headlights	30	MCase [1]
39	–	–	MCase [1]
40	–	–	MCase [1]
41	Towbar* control module	25	MCase [1]
42	Towbar* control module	40	MCase (slotted) [1]
43	–	–	MCase (slotted) [1]
44	–	–	MCase [1]
45	–	–	MCase (slotted) [1]
46	Exterior heat exchanger*	5	Micro
47	A/C compressor control module High-voltage heater control module Electric expansion valve control module Monitoring unit	5	Micro
48	High-voltage battery control module Converter, front and rear electric motor	15	Micro
49	High-voltage battery coolant pump	20	Micro
50	Electric drive system coolant pump	20	Micro
51	–	–	MCase [1]
52	–	–	MCase (slotted) [1]
53	–	–	MCase (slotted) [1]
54	–	–	Micro
55	Headlight, left	20	Micro
56	Headlight, right	20	Micro

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.

* Option/accessory.

[1] This type of fuse should be replaced by a workshop. An authorized Volvo workshop is recommended.

18.7. Battery

18.7.1. Replacing the key's battery

The battery in the key can be replaced when it is discharged. Battery life depends on how much the key is used. The battery for the buttonless key (Key Tag)* cannot be replaced.

> **Note**
>
> All batteries have a limited service life and must eventually be replaced (does not apply for Key Tag). The battery's service life varies depending on how often the vehicle/key is used.

When the information icon illuminates and the message **The car key battery is low. See Owner's Manual for replacement.** appears in the instrument panel, the key's battery needs to be replaced.

Reduced key range is another sign that the battery level is low.

The battery in the buttonless key (Key Tag)* cannot be replaced. When the battery is discharged, a new buttonless key can be ordered from an authorized Volvo workshop.

> **Important**
>
> Hand in used Key Tags to an authorized Volvo workshop, where the key can be deleted from the vehicle's system. The key can still be used even if the battery is discharged to start the vehicle via a back-up start.

Opening the key and replacing its battery

> **Important**
>
> Do not touch the contact surfaces of new batteries. This impairs the battery's function.

Hold the key with the front side (with the Volvo logo) facing up, and the key ring bracket facing you.

There should be a catch to the left of the key ring bracket. If this catch is on the wrong side, the front and back sides have been switched during a previous battery change.

1 1

Move the catch next to the key ring bracket to the side and slide the front cover away from the bracket.

> The cover comes loose and can be lifted off.
There is an additional catch under the front cover for removing the back cover.

2 2

Move the catch behind the front cover to the side and slide the rear cover away from the key ring bracket.

> The cover comes loose and can be lifted off.
Under the rear cover is a battery cover.

3 3

Turn the battery cover counterclockwise to the OPEN position. Use a screwdriver, coin or similar.

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Remove the battery cover. If it is difficult to remove, use a narrow object to carefully pry it up.

4 4

The battery's positive side (+) faces upward. Remove the battery by pressing its edge and then lifting it out.

5 5

Insert a new battery with the positive side (+) facing upward. Do not touch the contact surfaces of the key battery.

Place the edge of the battery under the two lower plastic catches.

Then push the battery down so that it is held in place by the upper plastic catch.

> **Note**
>
> Use batteries with the designation CR2032, 3 V.

> **Note**
>
> Volvo recommends that replacement batteries for the key meet the UN Manual of Test and Criteria, Part III, sub-section 38.3. The supplied batteries or batteries replaced by an authorized Volvo workshop meet the same criteria.

6 6

Put the battery cover back into place and turn it clockwise to the CLOSE position.

7 7

Put the back cover on in the reverse order it was removed. The back cover does not have a logo. Press the cover down until it clicks and then push it the last few millimeters back to its original position.

> A second click indicates that the cover is correctly positioned and locked into place.
There should not be any gaps.

8 8

Turn the key and put the front cover back on in the same way as the back cover.

Warning

Make sure the battery is positioned correctly with the right polarity. If the key will not be used for a prolonged period of time, remove the battery to avoid battery leakage and damage. Wear protective gloves when handling damaged batteries, as batteries that are damaged or leaking can cause corrosive damage in contact with the skin.

- Keep batteries out of the reach of children.
- Do not leave batteries lying out where they could be swallowed by children or pets.
- Never disassemble, short-circuit or place a battery into open fire.
- Do not charge non-chargeable batteries. They could explode.
- Check products with batteries regularly for signs of damage.

Do not use the key if there is anything to suggest that the key or its battery has been damaged or is beginning to leak. Keep defective products out of the reach of children.

Important

Batteries must be recycled in an environmentally sound manner at the end of their service life.

Warning

California Proposition 65

Operating, servicing and maintaining a passenger vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle [https://www.p65warnings.ca.gov/products/passenger-vehicle] .

* Option/accessory.

18.7.2. High-voltage battery recommendations

Some circumstances can lead to damage to the high-voltage battery and shorten its lifetime. These recommendations are designed to help ensure a long lifetime for the high-voltage battery and good performance when driving.

Charging

When time and opportunity allow, choose AC charging[1] rather than DC rapid charging[2]. AC charging is gentler on the high-voltage battery, particularly in the case of regular charging.

High charge level

Avoid charging the vehicle to 100% unless the entire range is needed for the trip.

The battery can be damaged by maintaining a very high charge level for a long period of time. To help prevent damage, avoid leaving the vehicle plugged in for charging to more than the recommended charge level, which is shown in the center display.

Low charge level

Important

The high-voltage battery could be severely damaged if it is not recharged after becoming completely discharged. Because some consumption and natural battery discharge occur even when the vehicle is not being used, the charge level can drop to 0% if the vehicle is left unplugged with a low charge level.

If the charge level is under 20%, charging is always recommended so as to not risk discharging the battery completely.

Long-term parking

To minimize the risk of battery damage during long-term parking (longer than one month), a charge level of 40-60% is recommended.

- If the charge level is higher – drive the vehicle until the charge level is lower.
- If the charge level is lower – charge the vehicle.

If you plan to park the vehicle for longer than three months, continuous charging is recommended.

Check the charge level of the vehicle regularly and ensure that it is charging properly.

Parking in warm climates

> **Important**
>
> Avoid exposing the vehicle to extreme temperatures. If there is a risk of temperatures reaching about 55 °C (131 °F), parking for longer than 24 hours should be avoided completely as this could seriously damage the battery.

High temperatures can damage the high-voltage battery, especially if it is exposed to these temperatures for a long period of time. If possible, always plug in the vehicle for charging in temperatures higher than 30 °C (86 °F). The vehicle can actively cool the battery while it is parked, but this consumes current and causes the charge level to drop. If the vehicle is charged while it is parked, the battery can be cooled without being discharged.

If possible, park in the shade if the outdoor temperature is high. Strong sunlight in combination with high outdoor temperatures can cause the vehicle and the high-voltage battery to become very warm.

Parking in cold climates

If the temperature of the high-voltage battery is low, its performance is temporarily reduced until the battery warms up again. Plug in the vehicle for charging and use preconditioning to avoid driving with reduced performance. The vehicle can then warm up the battery before driving without the charge level and range being decreased.

Plug in the vehicle for charging if you plan to park it for longer than 24 hours when the ambient temperature is under -30 °C (-22 °F).

It is not harmful to drive the vehicle when it indicates that performance is reduced due to low temperatures.

[1] AC is also called alternating current.

[2] DC is also called direct current.

18.7.3. Jump starting using another battery

If the vehicle doesn't start, it could be because the 12 V battery is discharged. It can then be charged using another vehicle's 12 V battery or an external charger.

Under normal conditions, the 12 V battery is charged when the vehicle is charged, and through electrical current transfer directly from the high-voltage battery when the vehicle is not plugged in for charging.

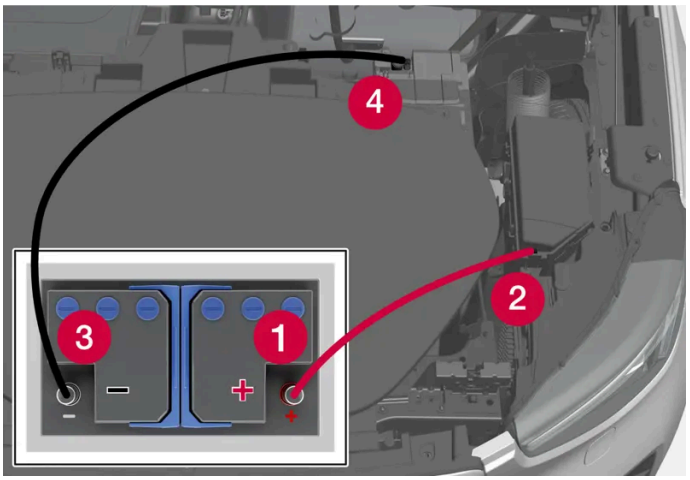
If the 12 V battery becomes discharged for any reason, it can be jump-started. There are several reasons why a battery may become discharged, such as the vehicle not being used for a long period of time, a temporary malfunction or a blown fuse in the

vehicle's charging circuit. A discharged 12 V battery needs to be charged in order to start the vehicle and power its electrical systems. After startup, it is possible to start charging of the vehicle using a charging cable, which is necessary when the high-voltage battery is also discharged. If the vehicle is out of range for charging, it must be towed.

To jump-start the vehicle, jumper cables must be connected to the vehicle's charging points for the 12 V battery.

To access the charging points, a number of panels under the hood must be removed.

> **Important**
>
> The charging points of the vehicle are only intended for jump-starting the vehicle in question. The charging points are not intended for jump-starting another vehicle. Using the charging points to start another vehicle could cause a fuse to blow, which would cause the charging points to stop working.
>
> If the message **12 V battery fuse failure Service required** is displayed in the instrument panel, a fuse has blown and needs to be replaced. Volvo recommends contacting an authorized Volvo workshop.



A number of the panels around the storage compartment need to be removed to access the charging points under the hood.

To avoid short circuits or other damage, the following steps are recommended when jump starting the battery using another battery:

1. Put the vehicle's electrical system in Passive usage mode.
2. Make sure that the assisting battery has a voltage of 12 V.
3. If the battery is in another vehicle, turn off that vehicle's engine and make sure that the vehicles are not touching each other.
4. Attach one end of the red jumper cable to the assisting battery's positive terminal (1).

   > **Important**
   >
   > Handle jumper cables carefully. A short circuit can occur if the ends come in contact with any other surface than the charging points.

5. Open the cover over the positive charging point (2) by pressing in its side to release the catch while lifting the cover upward. There are two connecting points under the cover. Use the one closest to the center of the vehicle.

6 Clamp the other end of the red jumper cable to your vehicle's positive charging point (2).

7 Clamp one end of the black jumper cable to the assisting battery's negative terminal (3).

8 Clamp the other end of the black jumper cable to your vehicle's negative charging point (4).

9 Make sure the jumper cable's clamps are securely attached. Poor contact can cause sparks or the clamps to loosen during the start attempt.

10 Start the motor of the assisting vehicle.

11 Start the vehicle with the discharged battery by depressing the brake pedal and selecting gear position D or R.

> **Important**
>
> Do not touch the connections between the cable and the vehicle during the start attempt. Risk of sparking.

> **Note**
>
> Full startup is indicated by the indicator lights on the instrument panel going out and its preselected theme illuminating.

12 If the high-voltage battery is also discharged, begin charging of the vehicle using the charging cable.

13 Remove the jumper cables in the reverse order – first the black cables and then the red cables.

Make sure that the clamps of the black jumper cables do not come into contact with the vehicle's positive charging point, the assisting vehicle's battery's positive terminal, or the red jumper cable's clamps.

> **Note**
>
> A discharged 12 V battery must be charged for a while in order to power the vehicle's electrical systems. At an ambient temperature of about +15 °C (about 60 °F), the battery must be charged by the vehicle for at least 30 minutes. At lower ambient temperatures, the charging time can increase to 3-4 hours. If possible, the battery should be charged using an external battery charger.

> **Warning**
>
> **PROPOSITION 65 WARNING!** Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

Warning

- The 12 V battery can generate oxyhydrogen gas, which is very explosive. A spark caused by an incorrectly connected jumper cable could be enough to make the battery explode.
- The 12 V battery contains sulfuric acid, which could cause serious burn injuries.
- If contact with eyes, skin or clothing occurs, flush the affected area immediately with water. Obtain medical help immediately if eyes are affected.
- Never smoke near the battery.

18.7.4. Batteries and power supply

The vehicle's own power is supplied by different batteries and components. These enable the vehicle's electric functions.

The vehicle's primary electrical system operates with 12 V voltage and powers electrical equipment.

In addition to the primary electrical system, the vehicle has a high-voltage system for electrical propulsion.

Warning

A number of electrical components in the vehicle use high-voltage current and can be extremely dangerous if handled incorrectly. Do not touch anything that is not clearly described in this Owner's Manual.

Batteries

To supply power to various components, your vehicle is equipped with:

- a 12 V battery that powers the vehicle's primary electrical system
- a high-voltage battery for electrical propulsion of the vehicle.

18.7.5. Recycling of batteries

Batteries must be recycled in an environmentally sound manner at the end of their service life.

Consult a workshop if you are uncertain of how to dispose of this type of waste – an authorized Volvo workshop is recommended. Only authorized workshop personnel may handle high-voltage batteries.

18.7.6. Battery symbols

There are warning symbols and information on the batteries.

	Wear protective goggles.
	See the Owner's Manual for additional information.
	Keep batteries away from children.
	Batteries contain corrosive acid.
	Avoid smoking, open flames, and/or sparks.
	Risk of explosion.
	Recycle properly.

18.7.7. 12 V battery

The 12 V battery powers the vehicle's primary electrical system, which includes most of the electrical equipment. However, the high-voltage battery is used for propulsion with the electric motor.

The battery is dimensioned to power the electrical systems and functions specific to this vehicle model. Under normal conditions, it is kept charged by the larger high-voltage battery.

Battery handling

- Never disconnect the battery while the vehicle is running.
- Make sure the cables to the battery are correctly connected and the clamps are securely tightened.
- If the battery is kept in place with a strap, make sure that it is always securely tightened.

Important

If replacing the battery, make sure you replace it with a battery of the same size, cold start capacity and type as the original battery (see the decal on the battery). Volvo recommends having an authorized Volvo workshop change batteries.

Warning

If the 12 V battery is disconnected, the function for automatic opening and closing must be reset to function correctly. A reset is required in order for the pinch protection to work.

Warning

- The battery can generate oxyhydrogen gas, which is very explosive. A spark caused by an incorrectly connected jumper cable could be enough to make the battery explode.
- The battery contains sulfuric acid, which could cause serious burn injuries.
- If contact with eyes, skin or clothing occurs, flush the affected area immediately with water. Obtain medical help immediately if eyes are affected.
- Never smoke near the battery.

Warning

PROPOSITION 65 WARNING! Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

12 V battery service life and capacity

The service life of the battery is influenced by a number of factors, including the number of discharges and climate conditions. If the vehicle has not been charged for a prolonged period of time, the battery's charge level decreases due to self-discharge. If the battery becomes discharged too many times, its service life will be shortened. A 12 V battery that is always kept fully charged has the maximum service life.

Location

12 V battery specifications

Battery type	H6 AGM
Voltage (V)	12
Cold start capacity[1] - CCA[2] (A)	760
Dimensions, L×W×H	277.7×174.4×188.5 mm (10.9×6.9×7.4 inches)
Capacity (Ah)	70

[1] According to EN standard.

[2] Cold Cranking Amperes.

18.7.8. High-voltage battery

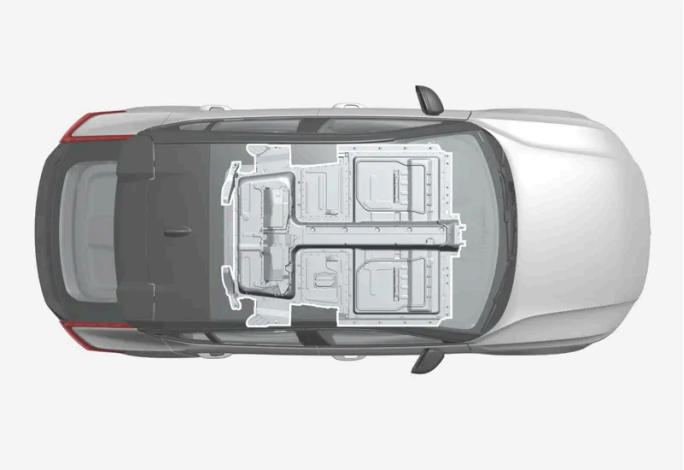
The vehicle is equipped with a high-voltage battery for electric propulsion, which is located underneath the vehicle. The battery and the high-voltage system work with much higher voltage than the vehicle's ordinary electrical system.

Only authorized workshop personnel may handle high-voltage components.

If the high-voltage battery is discharged, it will not be possible to drive the vehicle. To charge the battery, the vehicle's smaller 12 V battery must also have sufficient charge to power the vehicle's electrical system and start charging.

> **Warning**
>
> High-voltage battery replacement may only be performed by a workshop – an authorized Volvo workshop is recommended.

Location of high-voltage battery



High-voltage battery service life and capacity

The capacity of the high-voltage battery decreases with age and use, which could result in decreased range.

> **Important**
>
> Follow the recommendations for high-voltage battery handling to optimize its lifetime and performance.

High-voltage battery specifications

Type: Lithium-ion

The power reserve depends on the version [1].

Recharge Twin: 78 kWh

Recharge: 69 kWh

[1] Not all electric motor variants are available on all markets.

18.8. Service

18.8.1. Climate control system service

Service and repairs on the air conditioning system should only be done by an authorized workshop.

Troubleshooting and repairs

The air conditioning system contains a fluorescent tracer substance. Ultraviolet light is used to search for leaks.

Volvo recommends contacting an authorized Volvo workshop.

The climate system in the vehicle uses a freon-free R1234yf refrigerant. For information regarding the refrigerant, refer to the decal located on the inside of the hood.

> **Warning**
>
> The air conditioning system contains the refrigerant R1234yf under pressure. In accordance with SAE J2845 (Technician Training for Safe Service and Containment of Refrigerants Used in Mobile A/C System), service and repairs to the refrigerant system may only be performed by trained and certified technicians in order to ensure the safety of the system.

18.8.2. Volvo's service program

To keep the vehicle as safe and reliable as possible, follow the Volvo service schedule specified in the Warranty and Maintenance Records Information booklet.

> **Warning**
>
> **California Proposition 65**
>
> Operating, servicing and maintaining a passenger vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle [https://www.p65warnings.ca.gov/products/passenger-vehicle] .

Volvo recommends having an authorized Volvo workshop perform service and maintenance. Volvo workshops have the staff, service literature and special tools that can provide the highest quality of service.

> **Important**
>
> To ensure the Volvo warranty is not invalidated, check and follow the Warranty and Service Records Information booklet.

Service and repairs

Service the vehicle regularly. Follow Volvo's recommended service intervals.

Detailed inspection and repairs may only be performed by an authorized workshop.

Warning

Do not make any repairs on this vehicle yourself. Electrical cables and/or components that have come loose may only be corrected by an authorized workshop – an authorized Volvo workshop is recommended.

18.9. Recommended maintenance for the camera, sensor and radar units

In order for the cameras, parking sensors and radar units to function properly, they must be kept free of dirt, ice, snow, etc. and should be washed regularly with water and car washing detergent.

- Do not attach any items, tape or decals in the areas described below.
- Clean the camera lenses regularly using lukewarm water and car washing detergent. Wash gently to avoid scratching the lens.
- Avoid mounting extra lights or similar in the grille, as this could affect the front radar unit's performance.
- To help ensure proper functioning of the front radar unit, use only the Volvo original emblem in the grille in front of the front radar unit.

Location of the radar units

Location of the front radar sensor

Location of rear radar sensors

Location of the Park Assist sensors

Location of the parking sensors around the vehicle

Note

Dirt, ice and snow covering the sensors could cause false warnings, reduced function, or no function.

Location of the camera

Location of the camera

> **Important**
>
> Only a workshop may perform maintenance on driver support components – an authorized Volvo workshop is recommended.

18.10. Software Updates

The vehicle's software is updated through its connection to the cellular network via OTA (over-the-air) updates.

When a new software update is available, it will be shown in Notifications view. Once it has been downloaded, you can choose when it should be installed. Update the vehicle's software as soon as possible when an update is available.

Downloading

> **Note**
>
> The software in declared ordinary software release windows does not affect certification, safety, emissions or non-compliance.

The download takes place in the background over the cellular network[1]. Depending on the size of the update and connection speed, this may take several hours.

To download updates:

- the vehicle must be connected to the Internet[2].
- use of connected services must be approved.

Note

Depending on software version, downloads can take place automatically or be started via a notification of an available software update.

Installing updates

Note

Do not use the data link connector when installing a software update as this may affect the installation process and the vehicle's systems.

When a software update has been downloaded and is ready to be installed, this will be indicated in Notifications view and via a message when the vehicle is started. You can choose to schedule a time for installation, be reminded again at a later time, or install the update immediately.

The installation can be scheduled up to four days ahead. If the vehicle is used close to the scheduled installation time, a reminder will be displayed. When the scheduled time arrives, the vehicle will be updated automatically. You can change the time via Notifications view.

You can access Updates view via ⚙, **System**, **System details**, **Software update**. You can also see the version number of the vehicle's current software in this view.

Note

Installation of the software update may take up to 90 minutes. During this time, the vehicle is locked and its functions are unavailable. Keep this in mind when choosing a time for the update.

Do not install new software when the vehicle is plugged in for rapid charging. The vehicle can be left plugged in for charging from a regular wall outlet, but it will not be charged during the installation. Depending on charging source, charging may resume automatically after the installation is complete.

Before installation:

1. Make sure the vehicle has a charge level of at least 40%.
2. When an update is ready to be installed, this will be shown in Notifications view. Open the notification and follow the instructions in the center display.
3. Exit the vehicle, close all doors and lock the vehicle.

> Installation will begin. The vehicle must be locked within a few minutes or installation will be canceled.

4. Wait until the installation is finished.

> The installation can take up to 90 minutes. When the installation is finished, the vehicle can be operated as usual.

Note

- If possible, avoid handling the vehicle and its functions during installation.
- Do not connect or disconnect the charging cable during the installation.
- If you need to get into the vehicle while installation is in progress, you must use the key blade.
- To avoid false alarms, the vehicle's burglary alarm will be deactivated during installation.

Always read through the contents of the update so that you know how the vehicle and its functions will be affected.

If the installation fails, the vehicle's systems will reset to the last installed version.

Note

It is important to install software updates as soon as possible to avoid risks that may be associated with older software. If you experience any problems with the update, contact your Volvo retailer.

Information on contents

You can tap the information icon in the center display to see more information about the content of the software update.

Note

Functionality after updating may vary depending on market, model, model year and options.

[1] Applies for vehicles with software version 2.9 or later. For vehicles with older software, the download can only be done while the vehicle is being driven. It may therefore take several driving cycles before the software is fully downloaded.

[2] There may be a charge for transmitting data over the Internet, depending on your service plan. Volvo covers data traffic charges for system updates if no personal SIM card is installed.

18.11. Maintenance of the brake system

Regularly check the brake system components for wear.

To keep the vehicle as safe and reliable as possible, follow the Volvo service schedule specified in the Warranty and Maintenance Records Information booklet. After replacing brake pads and brake discs, braking effect is not adapted until they are "broken in" by driving a few hundred kilometers (miles). Compensate for the reduced braking effect by applying greater pressure to the brake pedal. Volvo recommends only using brake pads approved for your Volvo.

Important

The brake system's components should be regularly checked for wear.

Contact a workshop for advice on how to do this or let a workshop perform the inspection - an authorized Volvo workshop is recommended.

18.12. Data transfer between vehicle and workshop over Wi-Fi

Volvo workshops have a designated Wi-Fi network for data transfer between the vehicle and the workshop. The key buttons are used to connect the vehicle to the Internet, so it is important to bring a key with buttons to workshop visits.

During workshop visits, service technicians perform troubleshooting and update software via the network.

Connecting to the Internet using the key

Pressing the lock button on the key three times will connect the vehicle to the workshop's network. Connection to the Internet is usually performed by the service technician.

When the car is connected to a Wi-Fi network, the symbol appears in the center display.

The key cannot be used to connect to other Wi-Fi networks.

Warning

The vehicle may not be driven when it is connected to the workshop's networks and systems.

18.13. Hoisting the vehicle

When lifting the vehicle using a jack*, it is important to use the correct lifting points on the chassis. Read through all instructions before lifting.

The vehicle can be lifted with a jack designed for occasional lifts, with a garage hoist if regular lifts are required, or by authorized workshop personnel who have access to larger lifting devices.

Note

Volvo recommends only using the jack intended for your specific vehicle model. If another jack must be used, follow the instructions supplied with it.

The vehicle's ordinary jack* is only intended to be used in temporary situations for short periods of time, such as when changing wheels in the event of a flat tire. If the vehicle needs to be lifted more frequently, or for a longer period of time than for a wheel change, a garage hoist is recommended. In this case, follow the instructions supplied with the hoist.

Warning

- The vehicle must not be able to roll when it is lifted. Put on the parking brake and select parking mode (P).
- Chock the wheels standing on the ground, using rigid wooden blocks or large stones, both in front of and behind the wheels.
- Use a jack designed for your vehicle model when changing a tire. For any other job, also use stands to support the vehicle.
- Do not use a jack that is in poor condition. Make sure that the threads are lubricated and that it is free of damage and dirt.
- Make sure the jack is stable. The surface must be solid, level and not slippery.
- No objects should be placed between the base of jack and the ground, or between the jack and the lifting point on the vehicle.
- Never let anyone remain in the vehicle while it is raised on a jack. Make sure that passengers stand in a safe place away from the vehicle if the tire needs to be changed in an area with traffic.
- Do not allow any part of your body to be extended under a vehicle supported with a jack.

Lifting points

The vehicle's lifting points for lifting with a jack.

Warning

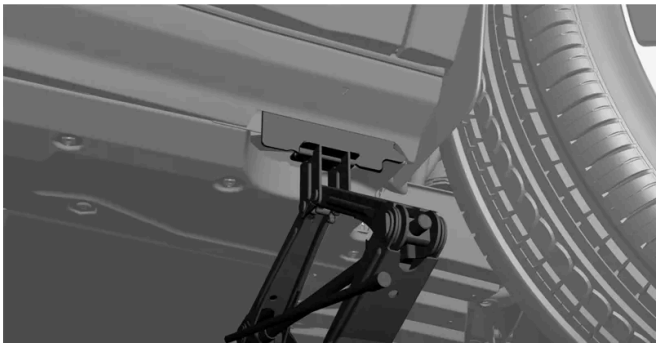
If the vehicle is hoisted using a workshop jack, the instructions provided with the jack must be followed. Be precise when positioning the jack to ensure that the vehicle cannot slip off while lifting. Make sure the top of the jack is equipped with a rubber pad to help keep the vehicle stable and prevent damage. Use axle stands or similar when the vehicle is raised.

Lifting a wheel with a jack

Read through all instructions before starting. Before raising the vehicle using a jack or lift, take out all the tools you will need.

1. Activate the hazard warning flashers if the vehicle needs to be lifted in an area with traffic.
2. Apply the parking brake. Put the gear selector in P.
3. Place chocks in front of and behind the wheels that are still on the ground. For example, use heavy wooden blocks or large stones.
4. Place the jack under one of the vehicle's lifting points, with the crank handle pointing straight out from the side of the vehicle.

   The locations of the lifting points are marked with triangular arrows along the lower edge of the side of the vehicle. There are special grooves for the jack behind these markings.
5. Make sure that the jack is stably positioned on level, solid ground and that the surface is not slippery.
6. Raise the jack until it is touching the vehicle's lifting point. Make sure that the edge of the lifting point fits in the notch on the top of the jack.

   
7. Make sure that the jack is completely level and perpendicular to the side of the vehicle.

> The vehicle is now ready to be lifted.

8. Only raise the vehicle as high as needed for the work you will carry out.

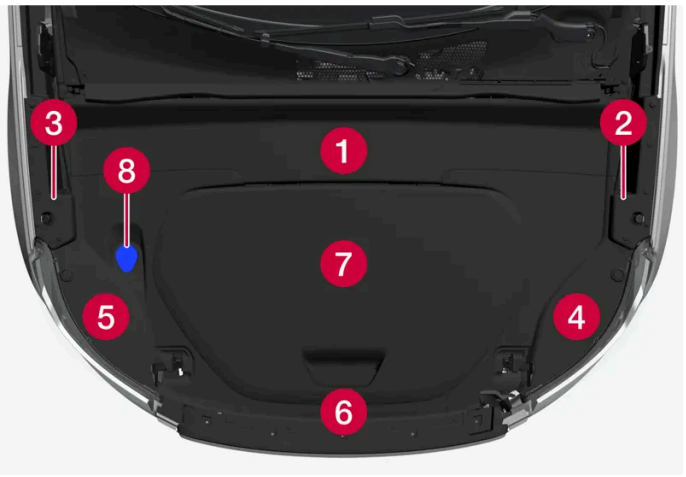
   Lower the vehicle using the jack immediately after the work has been performed.

When the jack* is not being used, it is recommended that it is stored in the vehicle, protected from moisture and dirt.

* Option/accessory.

18.14. Removing panels under the hood

To access certain components, such as fuses and jump-start charging points, one or more protective panels in the space under the hood may need to be removed.



Location of panels and parts under the hood.

1. Panel A – provides access to the negative charging point for jump-starting.
2. Panel B
3. Panel C
4. Panel D – provides access to the positive charging point for jump-starting and to fuses under the hood.
5. Panel E
6. Panel F
7. Cover for storage compartment under the hood
8. Cap for filling washer fluid

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.

Important

Only remove the panels around the storage compartment under the hood if this requirement is clearly stated in the instructions in the Owner's Manual. Contact a workshop if you experience any problems or maintenance is required – an authorized Volvo workshop is recommended.

Important

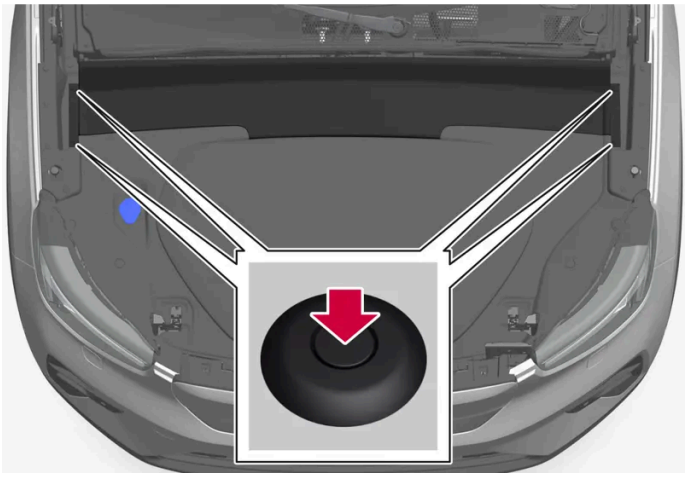
The panels are designed to protect the components behind them. Reinstall the panels completely to their original positions before driving the vehicle.

Warning

A number of electrical components in the vehicle use high-voltage current and can be extremely dangerous if handled incorrectly. Do not touch anything that is not clearly described in this Owner's Manual.

The protective panels are held in place with plugs. To remove these plugs, use a screwdriver, pen or similar to press in the locking pin in the middle of the plug. When the pin is pressed in far enough, the plug can be pulled out. Avoid pushing the pin all the way through the plug, as this could cause it to dislodge and fall down between components. When reinstalling the panel, pull the locking pin out completely before reinserting the plug. When the plug is inserted in the attachment hole, push the pin into place again to secure the panel.

Because the protective panels overlap one another, they must be removed and installed in a certain order. To remove the panels, follow these steps:



Plug positions for panel A.

Panel A

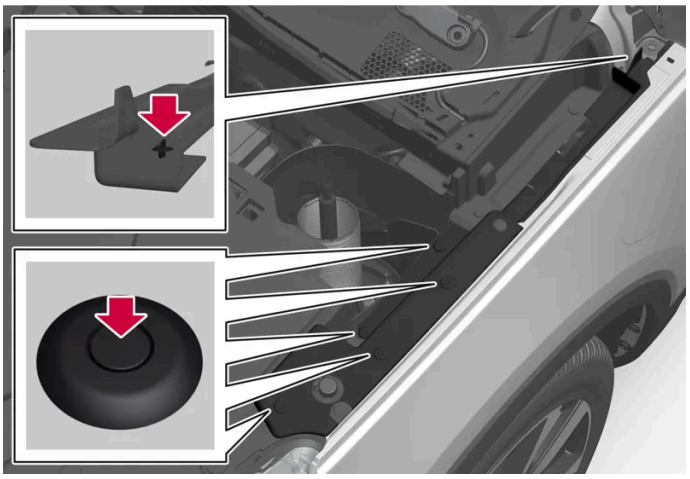
1 Remove the 4 plugs holding the panel by pressing down their locking pins slightly.

2 The panel is now held in place by the hidden snaps. Lift the panel carefully until these unsnap.

> The panel can now be removed completely. This provides access to the negative charging point and the panels B and C. Panel B must be removed for access to Panel D, under which the positive charging point and fuses under the hood are

located.

To replace the panel, pull out the locking pins completely and push them in again once the plugs are positioned in the attachment holes. Make sure that the snaps are positioned correctly before pushing the panel into place.



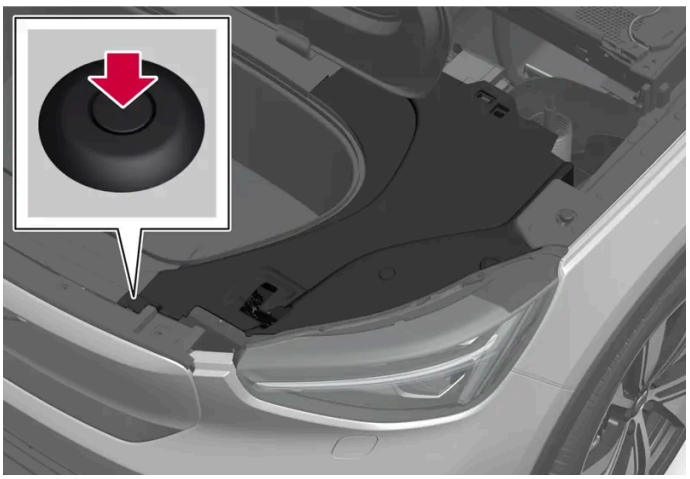
Plug positions for Panel B. Panel C positions are the reverse of those for Panel B.

Panel B/C

1. Remove Panel A first according to the previous instructions.
2. Remove the 5 marked plugs.

> The panel is now detached and can be removed completely. This will provide access to plugs that attach Panel D or E, depending on side. Panel D must be removed to access the positive charging point and fuses under the hood.

To replace the panel, pull out the locking pins completely and push them in again once the plugs are positioned in the attachment holes. The panel also has a protruding part at the rear that helps hold it in place as it is being positioned in its hole.



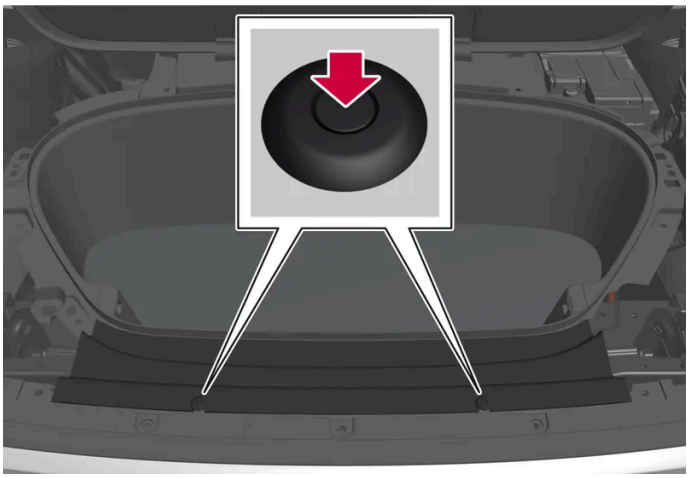
Plug positions for Panel D. Panel E positions are the reverse of those for Panel D.

Panel D/E

1. First remove Panels A and B/C, depending on side, and then open the cover for the storage space under the hood (7).
2. Remove the marked plug. To remove Panel E, the washer fluid cap (8) must also be removed.
3. The panel is now held in place by the hidden snaps. Lift the panel carefully until these unsnap.

> The panel is now detached and can be removed completely. The positive charging point and fuses under the hood are located under Panel D.

To replace the panel, pull out the locking pins completely and push them in again once the plugs are positioned in the attachment holes. Make sure that the snaps are positioned correctly before pushing the panel into place.



Plug positions for Panel F.

Panel F

1. First remove Panels A, B, C, D and E.
2. Remove the 2 marked plugs.
3. The panel is now held in place by the hidden snaps. Lift the panel carefully until these unsnap.

> The panel is now detached and can be removed completely.

To replace the panel, pull out the locking pins completely and push them in again once the plugs are positioned in the attachment holes. Make sure that the snaps are positioned correctly before pushing the panel into place.

19. Specifications

19.1. Dimensions and weights

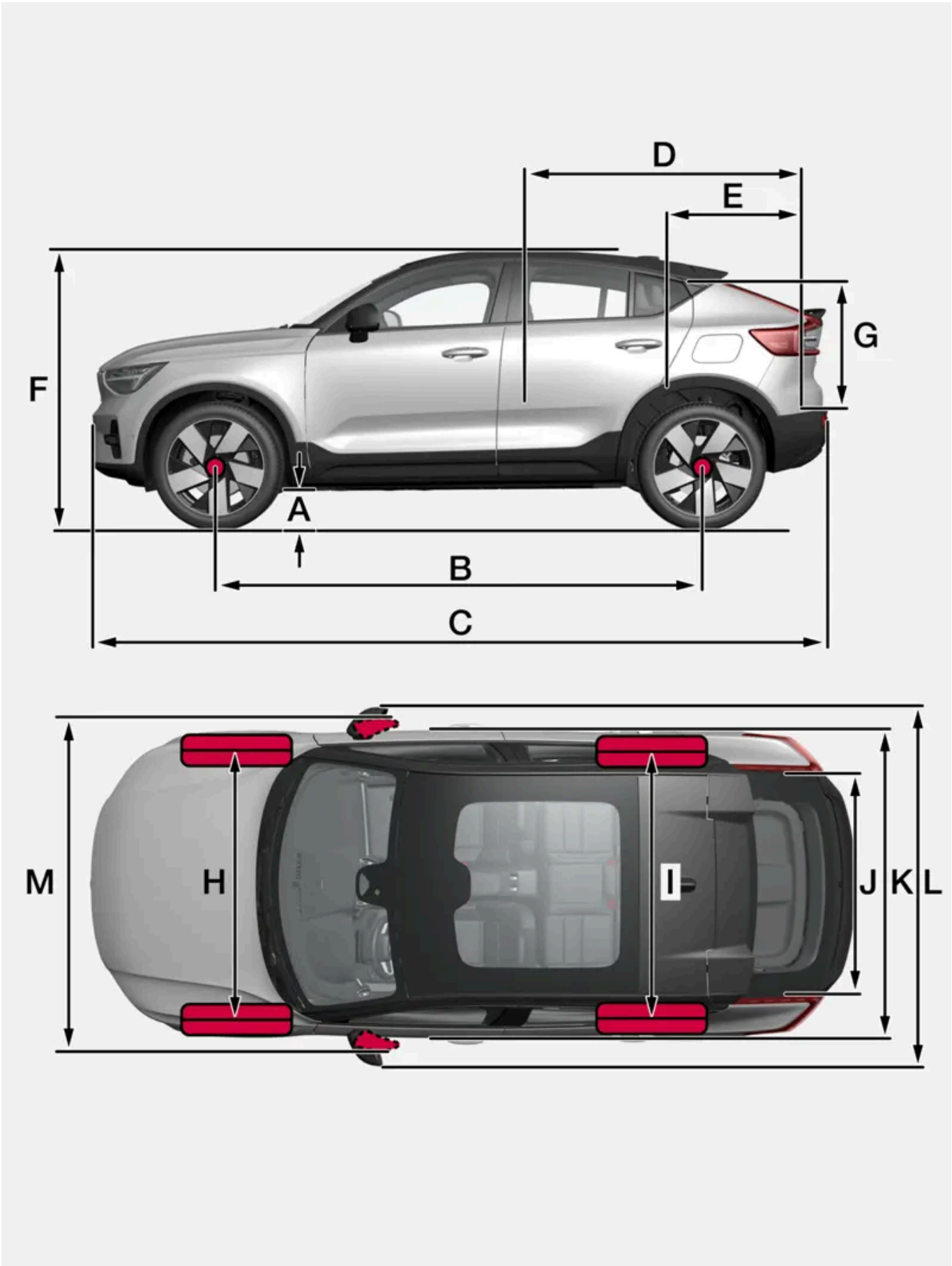
19.1.1. Towing capacity and tongue weight

Towing capacity and tongue weight are shown in the table.

Category		USA (lbs)	Canada (kg)
Max. trailer weights	Without brakes:	1650	750
	With brakes:	2000	900
Max. tongue weight	–	200	90

19.1.2. Dimensions

The vehicle's length, height, etc. are shown in the table.



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	Dimensions	mm	inches
A	Ground clearance[1]	171	6.7
B	Wheelbase	2702	106.4
C	Length	4440	174.8
D	Load length, floor, folded backrest	1685	66.3
E	Load length, floor	896	35.3
F	Height[2]	1591	62.6
G	Load height	630	24.8
H	Wheel track, front	1598	62.9
I	Wheel track, rear	1603	63,1
J	Load width, floor	1059	41.7
K	Width	1873	73.7
L	Width incl. folded-out rearview mirrors	2034	80,1
M	Width incl. folded rearview mirrors	1910	75.2

[1] For curb weight plus 1 person. (Varies slightly depending on tire dimensions, chassis variant, etc.).

[2] Including roof antenna, for curb weight plus 1 person.

19.1.3. Weights

The following table lists important weight data for your vehicle.

Category	USA (lbs)	Canada (kg)
Gross vehicle weight	5775	2620
Capacity weight	960	436
Permissible axle weights, front	2845	1290
Permissible axle weights, rear	3150	1430
Curb weight	4740–4800	2150–2180
Max. roof load	165	75

Important

- When loading the vehicle, the maximum gross vehicle weight and permissible axle weights may not be exceeded.

19.2. Electric motor specifications

19.2.1. Electric motor specifications

Recharge Twin is powered by two electric motors (front and rear).

Electric motor

		Recharge Twin
Location in vehicle:		Front and rear
Electric motor type:		Permanent-magnet synchronous motors
Electric motor model:		EAD 3.1
Max output, per electric motor:	kW	150
	hp	204
Max output, total vehicle:	kW	300
	hp	408
Max torque, per electric motor:	Nm	330
	ft. lbs	243
Max torque, total vehicle:	Nm	660
	ft. lbs	487

Note

Not all electric motor variants are available on all markets.

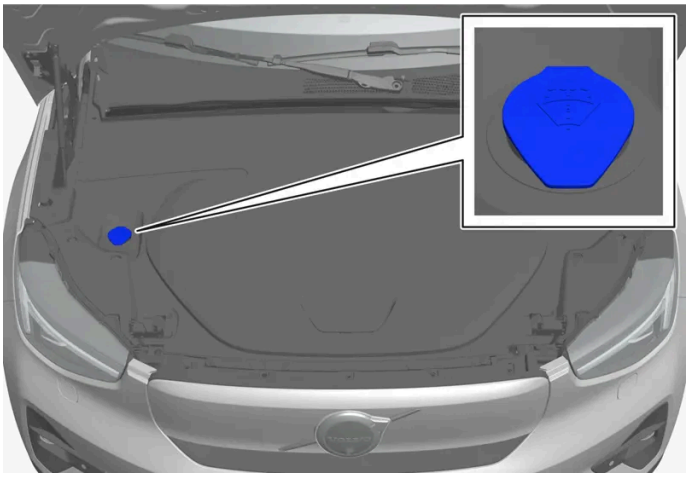
Note

If electric motor data is not shown in the table, it will be updated at a later time.

19.3. Specifications for fluids and lubricants

19.3.1. Refilling washer fluid

Washer fluid is used to help keep the headlights and windshield clean. Washer fluid containing anti-freeze should be used in very cold weather (below-freezing temperatures).



Note

When there is approximately 1 liter (1 qt) of washer fluid remaining, the message **Refill washer fluid, level low** and the symbol will be displayed in the instrument panel.

When the message **Refill washer fluid, level low** along with the symbol is shown in the instrument panel, it is time to refill washer fluid.

1. Open the hood by first using the handle in the passenger compartment and then the handle under the front edge of the hood.
2. Open the cover on the washer fluid reservoir.

   Fill washer fluid into the reservoir with the blue cover. The reservoir is used for both the windshield washer and the headlight washer*.
3. Pour in washer fluid until it is full.
4. Close the cover on the washer fluid reservoir and then close the hood.

Recommended grade: Washer fluid recommended by Volvo, with frost protection during cold weather and temperatures below the freezing point.

Important

Use Volvo's original washer fluid or an equivalent fluid with the recommended pH value between 6 and 8, diluted as recommended, e.g. in a 1:1 solution with pH-neutral water.

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> **Important**
>
> Use washer fluid with anti-freeze when temperatures are below the freezing point to help keep the pump, reservoir and hoses from freezing.

Volume:

- Vehicles **with** headlight washing: 5.5 liters (5.8 qts).
- Vehicles **without** headlight washing: 3.5 liters (3.7 qts).

* Option/accessory.

19.3.2. Air conditioning specifications

The climate system in the vehicle uses a freon-free R1234yf refrigerant. For information regarding the refrigerant, refer to the decal located on the underside of the hood.

Refrigerant and compressor oil are used in the air conditioning system. Information about the refrigerant decals, including amounts, is shown below. The table shows the prescribed grade and volume of the compressor oil.

A/C Decal

Decal for R1234yf

Explanation of symbols for R1234yf

Symbol	Explanation
	Caution
	Mobile air condition system (MAC)
	Lubricant
	Only a trained and certified technician can perform service on the air conditioning system (MAC)
	Flammable refrigerant

Refrigerant

The refrigerant amount (charge level) is printed on a decal on the underside of the hood.

1 Refrigerant amount.

> **Warning**
>
> The air conditioning system contains the refrigerant R1234yf under pressure. In accordance with SAE J2845 (Technician Training for Safe Service and Containment of Refrigerants Used in Mobile A/C System), service and repairs to the refrigerant system may only be performed by trained and certified technicians in order to ensure the safety of the system.

Compressor oil

Volume	Prescribed grade
110 ml (3.87 fl. oz.) [1] 260 ml (9.15 fl. oz.) [2]	POE RB68

Evaporator

> **Important**
>
> The A/C system evaporator must never be repaired or replaced with a previously used evaporator. The new evaporator must be certified and labeled in accordance with SAE J2842.

[1] Vehicles without heating pump.

[2] Vehicles equipped with heating pump.

19.3.3. Brake fluid specifications

The medium in the hydraulic brake system is called brake fluid and is used to transfer pressure from e.g. a brake pedal via a master brake cylinder, which in turn actuates the brake calipers.

Recommended grade: Volvo Original or similar fluid that meets a combination of Dot 4, 5.1 and ISO 4925 class 6.

> **Note**
>
> Changing or filling brake fluid should be entrusted to an authorized Volvo workshop.

19.4. Specifications for wheels and tires

19.4.1. Approved tire pressure

The following tire pressures are recommended by Volvo for your vehicle. Refer to the tire inflation placard for information specific to the tires installed on your vehicle at the factory.

Tire dimensions	Cold tire pressure for up to five persons Front psi (kPa)	 Rear psi (kPa)
235/50 R19 255/45 R19 235/45 R20 255/40 R20	41 (280)	42 (290)
Temporary spare tire T125/70 R19	60 (420)	60 (420)

> **Important**
>
> Do not switch the front wheels with the rear wheels or vice versa.

19.5. Bulb specifications

Specifications for replaceable light bulbs.
If you are experiencing problems with any lights other than light bulbs, contact a workshop[1]. If there is a problem with an LED[2] light, the entire lamp unit will normally need to be replaced.

Function	W[3]	Type
Rear fog light	21	H21W LL

[1] An authorized Volvo workshop is recommended.

[2] LED (Light Emitting Diode)

[3] Watt

19.6. Type designations

The decals in the vehicle contain information such as chassis number, type designation, color code, etc.

Location of decals

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The illustration is generic - details may vary according to market and model.

1a **Vehicle Emission Control Information. US models.** Your Volvo is designed to meet all applicable emission standards, as evidenced by the certification label on the underside of the hood. For further information regarding these regulations, please consult your Volvo retailer.

1b **Vehicle Emission Control Information. Canadian models.** Your Volvo is designed to meet all applicable emission standards, as evidenced by the certification label on the underside of the hood. For further information regarding these regulations, please consult your Volvo retailer.

2 **Vehicle Identification Number (VIN).** The VIN plate is located on the top left surface of the dashboard. The Vehicle Identification Number (VIN) should always be quoted in all correspondence concerning your vehicle with the retailer and when ordering parts.

3 **Tire inflation pressures.** This label indicates the correct inflation pressures for the tires that were on the vehicle when it left the factory.

4 **Federal Motor Vehicle Safety Standards (FMVSS) specifications (USA) and Ministry of Transport (CMVSS) standards (Canada).** Your Volvo is designed to meet all applicable safety standards, as evidenced by the certification label on the driver's side B-pillar (the structural member at the side of the vehicle, at the rear of the driver's door opening). This label also includes codes for paint color, etc. For further information regarding these regulations, please consult your Volvo retailer. U.S. models have the upper decal; Canadian models have the lower one.

5 **Decal A/C.** Refrigerant R1234yf. The decal is affixed to the underside of the hood.

Note

The decals shown in the Owner's Manual do not claim to be exact reproductions of those found in the vehicle. The purpose is to show approximately how they look and about where they are located on the vehicle. The information that applies for your vehicle in particular is found on the decal on the vehicle.