



FACT SHEET

Driving Support



Driving Support

Driving Support is a collective term for the various help systems that are available to support the driver while driving.

The system uses both radar and camera to collect information.

Sales variants

Lane Change Support

LCS Lane Change Support

Driver State Sensing System

DAS-W Driver Alert Support

Lane Support System

LSS-DW Lane Keeping Support

LSS-DWC Depart warning system with Lane Keeping Assist

FEATURES AND BENEFITS

- Support the driver.
- Improved safety.
- Easy and logical to handle.

| | LCS | DAS-W ¹ | LSS-DW | LSS-DWC ² |
|--------------------------------------|-----|--------------------|--------|----------------------|
| Monitors area on passenger side | • | – | – | – |
| Monitors driving behaviour | – | • | – | – |
| Monitors deviation from driving lane | – | – | • | • |
| Corrective steering support | – | – | – | • |
| Uses radar technology | • | – | – | – |
| Uses camera technology | – | • | • | • |

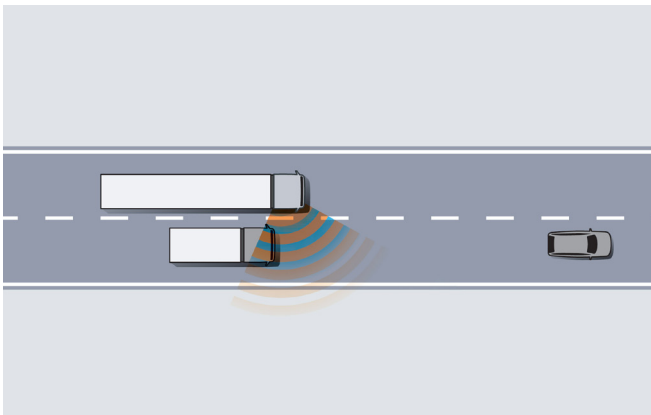
• Standard o Option – Not available

¹Requires LSS-DW/LSS-DWC

²Requires ACTST-TO

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The LCS system monitors the area on the truck's passenger side.

Advantages

- Assists the driver in making safer lane changes.
- Alerts the driver via a warning light and an optional audible signal when an object is detected.
- Detects vehicles the size of a motorbike or larger, with a relative speed of between -15 km/h and $+20$ km/h.
- Easy to turn on and off.

Lane Change Support

Lane Change Support (LCS) assists the driver in preventing blind spot accidents during lane changes on the passenger side. It is part of Volvo's wide range of safety-enhancing systems.

Lane Change Support uses radar technology to monitor the area immediately outside the cab on the passenger side*.

Warnings are received at speeds above 35 km/h. When the turn indicator is activated and an object is in the monitored area, a warning light comes on in the A-pillar on the passenger side. The driver can also choose to program an audible warning signal via the driver information display.

The system detects vehicles the size of a motorbike or larger with a speed of between -15 km/h and $+20$ km/h in relation to the truck's own speed.

The LCS system does not detect stationary objects. The audible warning can be switched off via a menu in the instrument panel. The LCS system can be deactivated using a switch in the dashboard (always activated at key-on).

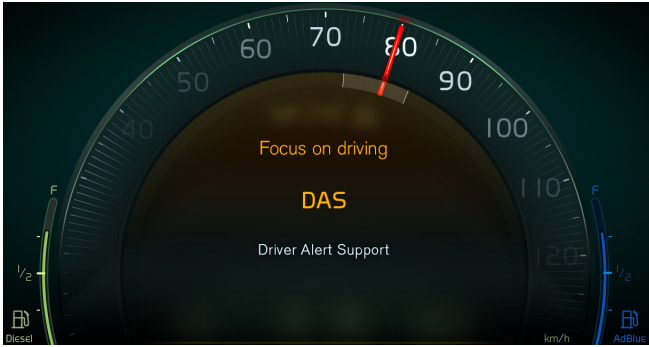
The radar sensor is component certified in most European countries as well as several countries outside Europe.

* For a more detailed description of the system's behaviour in different traffic scenarios, see the driver manual.

Note! The LCS system is a highly sensitive radar-based system. Therefore it is important to carefully follow the Volvo Body Builder Instructions (chapter General) in order not to install equipment above/near the radar sensor or its coverage area, as this may affect the system's performance. The radar sensor for the LCS system is located under the cab on the passenger side. Depending on other equipment in this area the installation may differ.

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The DAS-W system improves active safety by reducing the risk of accidents caused by lowered driver attention/ awareness.

Driver Alert Support

Driver Alert Support (DAS-W) is a safety system aimed at preventing accidents caused by tired drivers or drivers who fall asleep at the wheel.

The system monitors driving behaviour and the position of the truck in relation to lane and road edges. The system detects driving characteristics of drowsy or inattentive drivers and encourages the driver to take a break.

The system is automatically activated when the ignition is turned on and is switched on at speeds above 60 km/h.

If erratic driving behaviour is detected, the system will warn the driver with both an acoustic warning and a warning in the instrument cluster. The first warning is an alert, the second warning is a suggestion to take a break. When the acoustic warning is activated, the radio is automatically muted.

The system is deactivated by a switch on the dashboard. Deactivated status is shown on the switch and in the instrument cluster if driver alert support is chosen as the favourite display.

DAS-W uses input from the same components as the Lane Keeping Support System (LSS-DW/LSS-DWC), which therefore is required.

If the LSS-DW/LSS-DWC system cannot find any reference (lane or road edges) the Driver Alert Support will be deactivated and a warning is displayed in the instrument cluster.



Lane Keeping Support

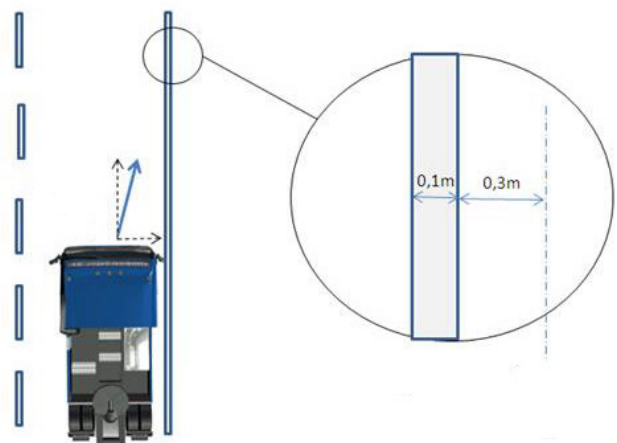
The Lane Keeping Support system (LSS-DW) is a drive support system with the task to alert the driver during unintentional lane departure.

The system alerts where unintentional deviations from the lane departure can result in accidents. The system uses a camera positioned in the upper centre area of the windscreen and alerts the driver with an acoustic signal from the speakers.

The LSS-DW shall warn at the latest when the outside of the tire of the vehicle's front wheel (closest to the lane markings) crosses a line 0.3 m beyond the outside edge of the visible lane marking to which the vehicle is drifting (see picture).

The system operates in speeds from 60 km/h and can be activated/deactivated with a switch in the dashboard.

The system is activated automatically when the truck is started.



The LSS-DW system is a drive support system with the task to alert the driver during unintentional lane departure.

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Lane Keeping Assist

Lane Keeping Assist (LSS-DWC) is a drive support system. The system is using front facing camera to track the lane markers of the road. When the truck deviates from the driving lane, the system alerts the driver and the truck provides automatic steering assistance to guide the truck back into the lane again.

The LSS-DWC shall act at the latest when the outside of the tire of the vehicle's front wheel (closest to the lane markings) crosses a line 0.3 m beyond the outside edge of the visible lane marking to which the vehicle is being drifted.

When the truck is on its way to cross the line the system is supporting the driver with a gentle steering support to come back to the middle of the lane again.

The purpose of the system is to reduce the number of accidents where the truck is drifting out of lane, primarily on highways.

The system is available in speeds above 55 km/h. The system can be deactivated/activated with a switch in the dashboard.

The warning function is activated automatically when the truck is started. At start up the steering function maintains the setting it had before the engine was turned off.

Note! The system is not aware of the weather conditions and the friction of the road surface. In very slippery conditions it is recommended to turn off the system.

Function is not available on narrow roads, where the width of the lane is less than vehicle width + 20 cm on each side. This is possible to adjust in workshop with a parameter.

Volvo Dynamic Steering (ACTST-TO) is required for Lane Keeping Assist (LSS-DWC).

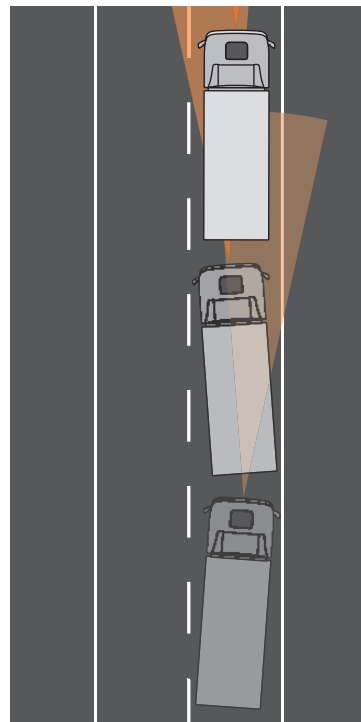
Switch with several settings

The driver can activate the Lane Keeping Assist after current driving conditions and driving situations. The switch has several modes:

- Both warning (vibration in the steering wheel) and automatic steering function.
- Warning only (vibration in the steering wheel).
- Lane Keeping Assist is off.



The functions in Lane Keeping Assist are handled with a switch on the instrumental panel.



The Lane Keeping Assist using a front facing camera to track the lane markers. When the truck is on its way to cross the line, the system supports the driver with a gentle steering support to come back to the middle of the lane again.

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