About EyeSight

EyeSight

EyeSight is a driving support system that uses a range of functions to assist the driver in making decisions in order to provide for more safe and comfortable driving and to reduce driver fatigue. Making use of images created by stereo cameras specially designed by SUBARU, EyeSight detects the vehicle in front, obstacles, traffic lanes and other items.

**WARNING**

Drivers are responsible for driving safely. Always comply with all traffic rules and regulations regardless of the fact that your vehicle is equipped with EyeSight. Always maintain a safe following distance behind the vehicle in front of you, pay attention to your surroundings and the driving conditions, operate the brake pedal and take other action as necessary in order to maintain a safe following distance.

Never attempt to drive relying on EyeSight alone.

EyeSight is intended to assist the driver in making decisions in order to reduce the chance of accidents or damage and lessen the burden on the driver.

When a warning is activated, pay attention to what is in front of you and to your surroundings, operate the brake pedal and take other action as necessary.

This system is not designed to support driving in poor visibility or in extreme weather conditions, or to protect against careless driving when the driver is not paying complete attention to the road ahead. It also cannot prevent collisions from occurring in all driving conditions.

There are limits to the EyeSight recognition performance and control performance. Be sure to read the instructions for each function before using the system, and always use it properly. Improper use may lead to failure of control performance, which could cause an accident.

Refer to the following pages for each function:

- For the Pre-Collision Braking System, refer to page 20.
- For Adaptive Cruise Control, refer to page 32.
- For Pre-Collision Throttle Management, refer to page 62.
- For Conventional Cruise Control, refer to page 75.
The EyeSight system in your vehicle is designed for use in countries in which traffic operates on the right-hand side of the road. 

EyeSight for LHD vehicles such as yours is not designed for use in countries in which vehicles are driven on the left-hand side of the road.

- The system may not operate correctly under the conditions listed below. When these conditions occur, turn off the Pre-Collision Braking System. Also, do not use Adaptive Cruise Control and Conventional Cruise Control.
  - The tire pressure is not correct. *1
  - The temporary spare tire is installed on any wheel. *1
  - Tires that are worn or have large variations in wear conditions are installed. *1
  - Tires other than those of the designated size are installed. *1
  - Flat tires have been fixed temporarily with a tire repair kit.
  - The suspension has been modified (including a genuine SUBARU suspension that has been modified).
  - Any object that disturbs the stereo cameras' view is installed on the vehicle.
  - The headlights are dirty or they have snow and ice or dirt on them. (Objects are not correctly illuminated and are difficult to detect.)
  - The optical axes are not aligned correctly. (Objects are not correctly illuminated and are difficult to detect.)
  - The lights including headlights and fog lamps have been modified.
  - Vehicle operation has become compromised due to an accident or malfunction.
  - The brake system warning light is illuminated in red.
  - A heavy cargo is loaded onto or inside the vehicle.
  - The maximum number of occupants is exceeded.
  - There is something wrong with the combination meter; such as when the lights do not illuminate, the beeps do not sound, the display is different from when it is normal, etc.*2

*1: The wheels and tires have functions that are critically important. Be sure to use the correct ones. For details, refer to the Owner’s Manual for your vehicle.

*2: For details about the combination meter, refer to the Owner’s Manual for your vehicle.
• The characteristics of the stereo cameras are similar to those of human eyes. For this reason, conditions that make it difficult for the driver to see in the forward direction have the same effect on the stereo cameras and make it difficult for the system to detect vehicles, obstacles and traffic lanes.

• Detection by the EyeSight system is limited to objects that are within the range of the stereo cameras’ field of vision. Also, after an object enters the range of the cameras’ field of vision, it may take some time for the system to detect it as a controllable target and warn the driver.

• Under the conditions listed below, it will become more difficult for the system to detect the vehicle in front, motorcycles, bicycles, pedestrians and obstacles on the road, and lane markers. Also, EyeSight may temporarily stop operating. However, the temporary stop will be canceled once these conditions have improved and the vehicle is driven for a short period of time.
  - Bad weather (for example heavy rain, a blizzard or thick fog). In particular, the system is more likely to temporarily stop operating when there is an oil film adhering to the windshield, a glass coating has been applied or old wipers are used.
  - When affected by strong light from the front (sunlight or headlight beams of oncoming traffic, etc.)
  - When the front windshield washer is being used.
  - The windshield has become fogged, or snow, dirt, dust or frost has adhered to it, reducing the stereo cameras’ field of view.
  - The vehicle is tilted at an extreme angle due to loaded cargo or other factors.
  - When visibility is poor due to sand, smoke or water vapor in the air, or when the vehicle in front or oncoming traffic causes water, snow, dirt or other substances to obscure the view.
  - When the stereo cameras’ field of view is obstructed (for example by a canoe on the roof of the vehicle).
- When passing through the entrance or exit of a tunnel
- When the rear aspect of the vehicle in front is low, small or irregular (for example a low bed trailer, etc.)
- When there is a fence, a wall or a shutter, etc. with a uniform pattern (a striped pattern, brick, etc.) or with no pattern in front
- When there is a wall or door made of glass or a mirror in front
- When driving at night or in a tunnel when there is a vehicle in front that does not have its taillights on
- When passing a banner or flag, low branches on a tree or thick/tall vegetation
- On steep uphill or downhill grades
- When the stereo cameras are obstructed by a hand, etc. (If even one of the cameras is obstructed, the system does not operate properly.)
- When it is completely dark and no objects are detected
- When the area around the vehicle has a uniform color (such as when completely covered in snow, etc.)
- When the stereo camera lenses are dirty due to fingerprints, etc.
- When accurate detection is not possible due to reflections in the front windshield
- When the stereo cameras have become misaligned due to a strong impact

• Under the conditions listed below, EyeSight may temporarily stop operating. If this occurs, EyeSight will resume operating when the conditions improve.
  - The temperature inside the vehicle is high, such as after the vehicle was left in bright sunshine, or the temperature inside the vehicle is low, such as after the vehicle was left in an extremely cold environment.
  - Immediately after the engine starts

• When there is a malfunction in the EyeSight system, turn off the Pre-Collision Braking System (⇒ refer to page 30) and the Lane Departure Warning (⇒ refer to page 70), and stop using the Adaptive Cruise Control and Conventional Cruise Control. Contact a SUBARU dealer and have the system inspected.

• When the Vehicle Dynamics Control warning light is illuminated, the Pre-Collision Braking System may not operate properly. In this case, turn off the Pre-Collision Braking System. Also, do not use the Adaptive Cruise Control or Conventional Cruise Control.
NOTE

- EyeSight records and stores the following data when the Pre-Collision Braking System is operated. It does not record conversations or other audio data.
  - Stereo camera image data
  - Distance from the vehicle in front
  - Vehicle speed
  - Steering wheel turning angle
  - Lateral movement with regard to the direction of travel
  - Accelerator pedal operation status
  - Brake pedal operation status
  - Select lever position
  - Odometer reading
  - Data related to ABS, Vehicle Dynamics Control and Traction Control Function

SUBARU and third parties contracted by SUBARU may acquire and use the recorded data for the purpose of vehicle research and development. SUBARU and third parties contracted by SUBARU will not disclose or provide the acquired data to any other third party except under the following conditions.

- The vehicle owner has given his/her consent.
- The disclosure/provision is based on a court order or other legally enforceable request.
- Data that has been modified so that the user and vehicle cannot be identified is provided to a research institution for statistical processing or similar purposes.
Handling of the Stereo Cameras

The stereo cameras are installed at the positions of the front map lights.

- **CAUTION**
  
  - A function is included that will automatically detect that the fronts of the stereo cameras are dirty. However it is not 100% effective. Under certain conditions, this function may fail to detect that the fronts of the stereo cameras have become dirty. In addition, this function may not detect that there is snow or ice on the windshield close to the stereo cameras. In such conditions, be sure to keep the windshield clean at all times (indicated by ). Otherwise the system may not operate correctly.
  
  - The stereo camera is a precision component. Always observe the following precautions especially when handling lenses.
    - Never touch the stereo camera lenses, and do not attempt to wipe or clean the lenses. Doing so could cause lens damage or contamination and lead to improper system performance.
    
    If you ever touch a lens for any reason, be sure to contact a SUBARU dealer.

Continued on next page ⇒
- When cleaning the front windshield, cover the front of the camera casing with paper that does not collect dust, such as copy paper. Affix the paper to prevent glass cleaner from getting on the camera lenses. At this point, make sure that the tape’s adhesive surface does not come in contact with the windshield or the lens. Be sure to remove the paper after cleaning.

- When having the inside of windshield cleaned at a service station, etc., be sure to request that the attendant covers the camera covers before washing the vehicle.

- Do not subject the stereo cameras to a strong impact.
- Do not remove or disassemble the stereo cameras.
- Do not change the positions where the stereo cameras are installed or modify any of the surrounding structures.

- Do not install an interior rearview mirror other than a genuine SUBARU rearview mirror (such as a wide-type mirror) and the sun visor. Also, use the rearview mirror so that it does not obstruct the stereo cameras. Failure to do so may affect the stereo cameras’ field of vision and could prevent the EyeSight system from functioning properly.
• Do not install any accessories other than the ones designated by SUBARU on the prohibited areas shown in the illustrations (grey zones). Even if some accessories are installed on the outside of the prohibited areas, abnormal operation of EyeSight may occur due to the reflection of the light or any objects. In this situation, move the accessories. For details, contact a SUBARU dealer.

<Side view>                                             <Front view>

Monitor or other accessories

• Do not place any objects on top of the instrument panel. The stereo cameras may not be able to detect objects accurately and the EyeSight system may not function properly due to reflections in the front windshield. For details, contact a SUBARU dealer.

• If the top of the instrument panel is polished with chemicals or other substances, the stereo cameras may not be able to detect objects accurately and the EyeSight system may not operate properly due to reflections in the front windshield.

• Do not install any wiper blades other than genuine SUBARU wiper blades. Doing so may affect the stereo cameras’ field of vision and could prevent the EyeSight system from functioning properly.

• Replace damaged wiper blades as soon as possible. The stereo cameras may not be able to detect objects accurately and the EyeSight system may not function properly due to liquid remaining on the windshield.

• Do not install any accessories on the front side such as on the hood or the grille. It may affect the camera view and the system may not operate correctly.

• Make sure that the cargo loaded on the roof does not obstruct or interfere in the stereo cameras’ field of view. Obstructing the stereo cameras’ view may impair the system operation. For details, contact a SUBARU dealer.
• Keep the windshield (outside and inside) clean at all times. When the windshield has become fogged, or it has a dirt or an oil film on it, the stereo camera may not detect objects accurately and the EyeSight system may not operate correctly. Never mount any device to the center air vent, as any airflow change may impact EyeSight performance.

• Do not place any stickers or accessories on the windshield (outside or inside). If you have to do so (for example, legally required or electronic toll tag), avoid the area directly in front of the camera. Doing so may adversely affect the field of vision of the stereo camera and can cause improper operation of the system. For details, contact a SUBARU dealer.

• Do not use any glass coating agents or similar substances on the windshield. Doing so may prevent the system from operating correctly.

• Do not install a film on the front windshield. The system may not operate correctly.

• If there are scratches or cracks on the front windshield, contact a SUBARU dealer.

• To have the front windshield replaced or repaired, contact a SUBARU dealer. Do not install a front windshield other than a genuine SUBARU front windshield. The stereo cameras may not be able to detect objects accurately and the EyeSight system may not operate properly.
EyeSight Functions

EyeSight includes the following functions.

■ Pre-Collision Braking System
This function uses a following distance warning feature to warn the driver to take evasive action when there is the possibility of a collision with a vehicle or obstacle in front of the driver’s vehicle. If the driver still does not take evasive action, the brakes are quickly applied automatically just before the collision in order to reduce the collision damage or, if possible, prevent the collision.
⇒ Refer to page 20.

■ Adaptive Cruise Control
This function maintains the set vehicle speed and when there is a vehicle in front in the same traffic lane, it tracks the speed of the vehicle in front up to the maximum of the set vehicle speed.
⇒ Refer to page 32.

■ Lane Keep Assist
This function supports control of drifting out of a lane by detecting lane markings (e.g., white lines) on highways, etc. and assisting steering operation.
⇒ Refer to page 54.

■ Pre-Collision Throttle Management
This function reduces accidental forward movement caused by the selector lever being placed in the wrong position or the accelerator pedal being accidently depressed, or depressed too strongly.
⇒ Refer to page 62.

■ Lane Departure Warning
This function warns the driver when the vehicle is about to depart the traffic lane during driving.
⇒ Refer to page 68.

■ Lane Sway Warning
This system detects vehicle drifting caused by driver fatigue, failure to concentrate on the road, inattention, strong crosswinds or other factors, and warns the driver.
⇒ Refer to page 71.
About EyeSight

■ Lead Vehicle Start Alert

This function notifies the driver when the vehicle in front has started moving but the driver's vehicle has not.
⇒ Refer to page 74.

■ Conventional Cruise Control

In this mode, the system maintains a constant vehicle speed. Tracking of the vehicle in front does not occur. This function can be used even when the stereo cameras have temporarily stopped operating. (⇒ Refer to page 87.) (This function is used by switching from Adaptive Cruise Control to Conventional Cruise Control.)
⇒ Refer to page 75.

NOTE
EyeSight does not operate when the engine is not running.
**About EyeSight**

**Instrument panel display layout**

- (1) EyeSight display area
- (2) Adaptive Cruise Control indicator
- (3) Conventional Cruise Control indicator
- (4) READY indicator
- (5) OFF indicator
- (6) SET indicator
- (7) HOLD indicator
- (8) Lane indicator
- (9) Set vehicle speed display
- (10) Your vehicle indicator
- (11) Lane keep Assist indicator
- (12) Following distance setting indicator
- (13) Lead vehicle indicator
- (14) The pop-up screen area
- (15) EyeSight temporary stop indicator (White)
- (16) EyeSight warning indicator (Yellow)
- (17) Electric parking brake indicator light
- (18) Lane Departure Warning OFF indicator light
- (19) Pre-Collision Braking System OFF indicator light
- (20) Vehicle Dynamics Control OFF indicator light
- (21) Selector indicator/shift position indicator
- (22) X-mode indicator
- (23) Brake system warning light

* Display units can be changed in Screen Settings. For details, refer to the Owner’s Manual for your vehicle.
About EyeSight

■ CRUISE indicator

- This indicator illuminates when the main cruise control is on.
- : Adaptive Cruise Control (Adaptive Cruise Control indicator)
- : Conventional Cruise Control (Conventional Cruise Control indicator)
  ⇒ Refer to pages 38 and 75.
- When Adaptive Cruise Control is set and the vehicle detects a car in front, this indicator (white) turns green.
  ⇒ Refer to page 40.

■ SET indicator

  : illuminates when cruise control* is set.
  ⇒ Refer to pages 39 and 78.
  * Adaptive Cruise Control and Conventional Cruise Control

■ READY indicator

  : illuminates when cruise control* can be set.
  ⇒ Refer to pages 38 and 77.
  * Adaptive Cruise Control and Conventional Cruise Control

■ HOLD indicator

  : illuminates when the stay-stopped function is operated while Adaptive Cruise Control is on.
  ⇒ Refer to page 46.

■ OFF indicator

  : illuminates when cruise control* has been automatically canceled.
  ⇒ Refer to pages 49 and 82.
  * Adaptive Cruise Control and Conventional Cruise Control

■ Lead vehicle indicator

- When Adaptive Cruise Control is set or when the vehicle is stopped, this indicator illuminates when a vehicle in front has been detected.
  ⇒ Refer to page 40.
- This indicator illuminates in the following cases.
  - The Lead Vehicle Start Alert is active.
  - The Pre-Collision Braking System is active.
  - The "brake more" warning is active.
  - Pre-Collision Throttle Management is active.
■ Following distance setting indicator

Indicates the following distance setting that was set with the \( \text{\( / \)} \) (Following distance setting) switch.
⇒ Refer to page 45.

■ Set vehicle speed display

Displays the set vehicle speed.
⇒ Refer to pages 38 and 76.

■ Your vehicle indicator

When the brake pedal is depressed or the brake control function is active, the brake light on the indicator illuminates in red.

■ Lane keep Assist indicator

- This indicator illuminates when Lane Keep Assist is turned on by pressing the \( \text{\( / \)} \) (Lane Keep Assist) switch.
- While the Lane Keep Assist system is activated, if the vehicle travels across a lane marker the indicator turns from white to green.
⇒ Refer to pages 54 and 58.

■ Selector indicator/shift position indicator

This indicator illuminates and shows which position the selector lever or the gear is in.

■ Lane indicator

- When Lane Keep Assist is in the standby status or is operating, the lane indicator of the detected lane will illuminate (left, right or both left and right).
- Either the left or right indicator blinks depending on which side your vehicle is drifting towards when Lane Departure Warning operates.
- The left and right indicators alternately blink when Lane Sway Warning operates.
⇒ Refer to pages 68 and 71.

■ EyeSight warning indicator (yellow)

- This indicator illuminates or flashes when a malfunction occurs in the EyeSight system.
- When it is illuminated or flashing, none of the EyeSight functions can be used (including Adaptive Cruise Control and the Pre-Collision Braking System, etc.).
⇒ Refer to page 86.
About EyeSight

■ EyeSight temporary stop indicator (white)
• This indicator illuminates when the EyeSight system is temporarily stopped.
• When the ignition switch is placed in the ON position, it will illuminate if the (CRUISE) switch is set to ON within approximately 7 seconds of the engine starting. It turns off when approximately 7 seconds have elapsed since the engine started.
• When it is illuminated, none of the EyeSight functions can be used except for Conventional Cruise Control.
⇒ Refer to page 87.

■ Lane Departure Warning OFF indicator light
• This indicator illuminates when the Lane Departure Warning and Lane Sway Warning are off.
• It also illuminates when the ignition switch is turned to the ON position, and then approximately 7 seconds after the engine starts, the Lane Departure Warning will be turned off or remain illuminated depending on the current status (ON or OFF).
⇒ Refer to page 70.

■ Pre-Collision Braking System OFF indicator light
• Illuminates when the Pre-Collision Braking System and Pre-Collision Throttle Management are off.
• It also illuminates when the ignition switch is turned to the ON position, and then turns off approximately 7 seconds after the engine starts.
⇒ Refer to page 31.

■ Vehicle Dynamics Control OFF indicator light
• It illuminates when the engine starts and turns off within approximately 2 seconds.
• It illuminates when the Vehicle Dynamics Control OFF switch is pressed and Vehicle Dynamics Control is off. Refer to the Owner’s Manual for your vehicle.

■ Brake system warning light (red)
If the brake system warning light should illuminate while driving with the parking brake fully released, turn off the Pre-Collision Braking System. Also, do not use Adaptive Cruise Control or Conventional Cruise Control.

■ Electronic parking brake indicator light
This indicator light illuminates when the electronic parking brake is applied.
⇒ Refer to the Owner’s Manual for details.
Switch layout

(1) Lane Keep Assist switch
(2) (Following distance setting) switch
(3) RES/+ switch
(4) SET/- switch
(5) CRUISE switch
(6) switch
(7) (Info)/SET switch
(8) switch
(9) (Lane Departure Warning OFF) switch
(10) (Pre-Collision Braking System OFF) switch
About EyeSight

■ (CRUISE) switch

- Switches cruise control* on/off.
- When this switch is pressed " " or " " appears on the EyeSight display area in the multi information display. This indicates that the main cruise control is turned on.
⇒ Refer to pages 38 and 76.
- Can be used to cancel the cruise control.
⇒ Refer to pages 48 and 81.
* Adaptive Cruise Control and Conventional Cruise Control

■ RES/SET switch

● SET-/ 
- Can be used to set cruise control*.
- Can be used to reduce the set vehicle speed (when cruise control* is currently set).
⇒ Refer to pages 39 and 43 (for Adaptive Cruise Control).
⇒ Refer to pages 78 and 80 (for Conventional Cruise Control).

● RES/+ 
- After cruise control* is canceled, this switch can be used to resume the cruise control function at the vehicle speed that was previously set.
- Can be used to increase set vehicle speed (when cruise control* is currently set).
⇒ Refer to pages 42 and 51 (for Adaptive Cruise Control).
⇒ Refer to pages 79 and 84 (for Conventional Cruise Control).
* Adaptive Cruise Control and Conventional Cruise Control

■ (Following distance setting) switch

- Can be used to switch the set following distance in 4 stages: (only when Adaptive Cruise Control is on).
⇒ Refer to page 45.
- When the (CRUISE) switch is on, press and hold this switch for approximately 2 seconds or longer to select Adaptive Cruise Control or Conventional Cruise Control.

■ (Lane Keep Assist) switch

Switches Lane Keep Assist on/off.
⇒ Refer to page 43.
■ ▲ switch/▼ switch

These are used in the following situations.
- When switching the screen displayed on the multi information display.
- When changing the Warning Volume settings, etc.
⇒ Refer to page 89.

■ (Info)/SET switch

This is used in the following situations.
- When displaying the message that appeared in the pop-up screen area again.
⇒ Refer to page 91.
- When changing the Warning Volume settings, etc.
⇒ Refer to page 89.

■ (Pre-Collision Braking System OFF) switch

Press and hold this switch for approximately 2 seconds or longer to turn off the Pre-Collision Braking System and Pre-Collision Throttle Management.
When these functions are off, the Pre-Collision Braking System OFF indicator light on the instrument panel illuminates.
Press and hold the switch again to turn on the Pre-Collision Braking System and Pre-Collision Throttle Management. This turns off the Pre-Collision Braking System OFF indicator light.
⇒ Refer to page 30.

■ (Lane Departure Warning OFF) switch

Press and hold this switch for approximately 2 seconds or longer to turn off the Lane Departure Warning and Lane Sway Warning functions.
When these functions are off, the Lane Departure Warning OFF indicator light on the instrument panel illuminates.
Press and hold the switch again to turn on the Lane Departure Warning and Lane Sway Warning functions. This turns off the Lane Departure Warning OFF indicator light.
⇒ Refer to page 70.