



DRIVING

Using the driving support systems

Toyota Safety Sense*

* : If equipped

The Toyota Safety Sense consists of the driving assist systems and contributes to a safe and comfortable driving experience:

⚠ WARNING

Toyota Safety Sense

The Toyota Safety Sense operates under the assumption that the driver will drive safely, and is designed to help reduce the impact to the occupants in a collision and assist the driver under normal driving conditions.

As there is a limit to the degree of recognition accuracy and control performance that this system can provide, do not overly rely on this system. The driver is solely responsible for paying attention to the vehicle's surroundings and driving safely.

For safe use

- Do not overly rely on this system. The driver is solely responsible for paying attention to the vehicle's surroundings and driving safely. This system may not operate in all situations and provided assistance is limited. Over-reliance on this system to drive the vehicle safely may lead to an accident resulting in death or serious injury.
- Do not attempt to test the operation of the system, as it may not operate properly, possibly leading to an accident.
- If attention is necessary while performing driving operations or a system malfunction occurs, a warning message or warning buzzer will be operated. If a warning message is displayed on the display, follow the instructions displayed.
- Depending on external noise, the volume of the audio system, etc. it may be difficult to hear the warning buzzer. Also, depending on the road conditions, it may be difficult to recognize the operation of the system.

When it is necessary to disable the system

In the following situations, make sure to disable the system.

Failure to do so may lead to the system not operating properly, possibly leading to an accident resulting in death or serious injury.

- When the vehicle is tilted due to being overloaded or having a flat tire
- When driving at extremely high speeds
- When towing another vehicle
- When the vehicle is being transported by a truck, ship, train, etc.
- When the vehicle is raised on a lift and the tires are allowed to rotate freely
- When inspecting the vehicle using a drum tester such as a chassis dynamometer or speedometer tester, or when using an on vehicle wheel balancer
- When the vehicle is driven in a sporty manner or off-road
- When using an automatic car wash
- When a sensor is misaligned or deformed due to a strong impact being applied to the sensor or the area around the sensor
- When accessories which obstruct a sensor or light are temporarily installed to the vehicle
- When a compact spare tire or tire chains are installed to the vehicle or an emergency tire puncture repair kit has been used
- When the tires are excessively worn or the inflation pressure of the tires is low
- When tires other than the manufacturer specified size are installed
- When the vehicle cannot be driven stably, due to a collision, malfunction, etc.

Driving assist systems

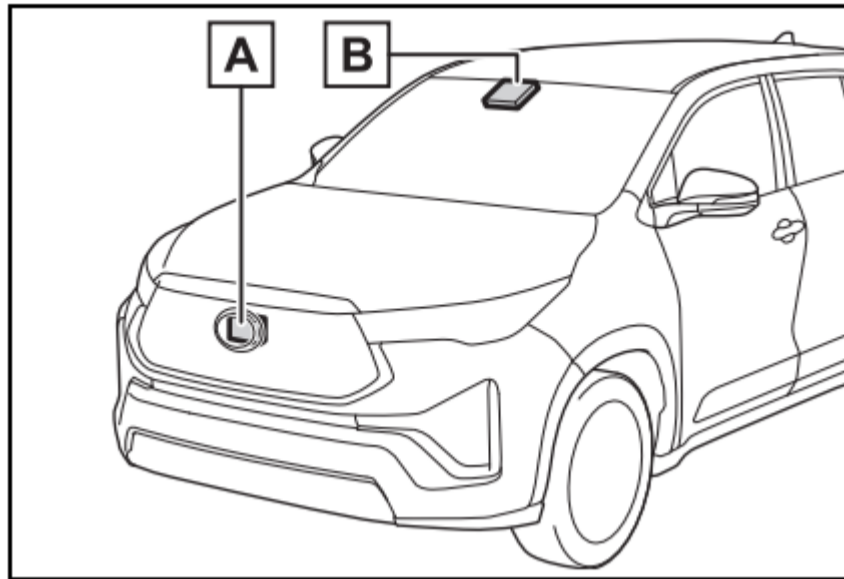
- AHB (Automatic High Beam) (if equipped)([Click Here](#))
- PCS (Pre-Collision System)([Click Here](#))
- LTA (Lane Tracing Assist)([Click Here](#))
- LDA (Lane Departure Alert)([Click Here](#))
- RSA (Road Sign Assist) (if equipped)([Click Here](#))
- Dynamic radar cruise control([Click Here](#))
- Cruise control (Vehicles with Toyota Safety Sense)([Click Here](#))

Sensors used by Toyota Safety Sense

Two types of sensors are used to obtain the necessary information for system operation.

■ Sensors which detect the surrounding conditions

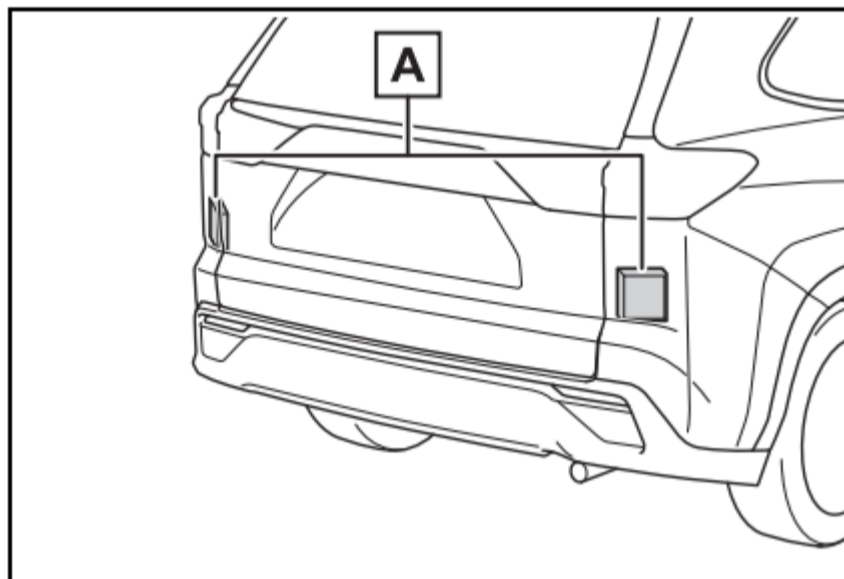
► Front



A Front radar sensor

B Front camera

► Rear



A Rear side radar sensors

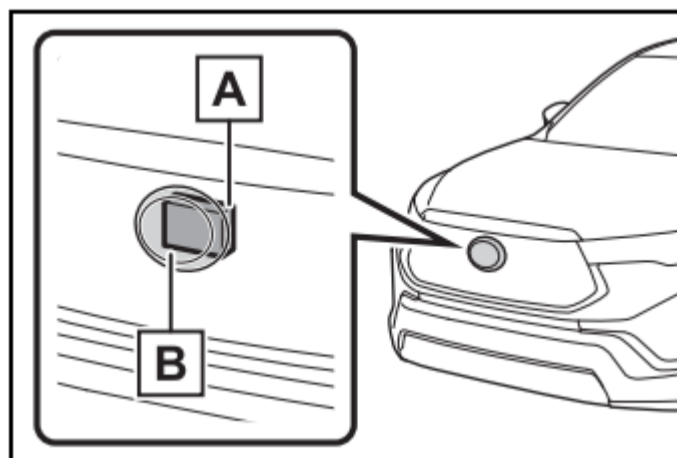
⚠ WARNING

To prevent malfunction of the radar sensor

Observe the following precautions.

Failure to do so may lead to a radar sensor not operating properly, possibly leading to an accident resulting in death or serious injury.

- Keep the radar sensor and radar sensor cover clean at all times.
Clean the front of a radar sensor or the front or back of a radar sensor cover if it is dirty or covered with water droplets, snow, etc.
When cleaning the radar sensor and radar sensor cover, use a soft cloth to remove dirt so as to not damage them.



A Radar sensor

B Radar sensor cover

- Do not attach accessories, stickers (including transparent stickers), aluminum tape, etc. to a radar sensor or radar sensor cover and their surrounding area.
- Do not subject a radar sensor or its surrounding area to impact. If a radar sensor, the front grille, or front bumper has been subjected to a impact, have the vehicle inspected by your Toyota dealer.
- Do not disassemble the radar sensor.
- Do not modify or paint the radar sensor or radar sensor cover, or replace them with anything other than Toyota genuine parts.

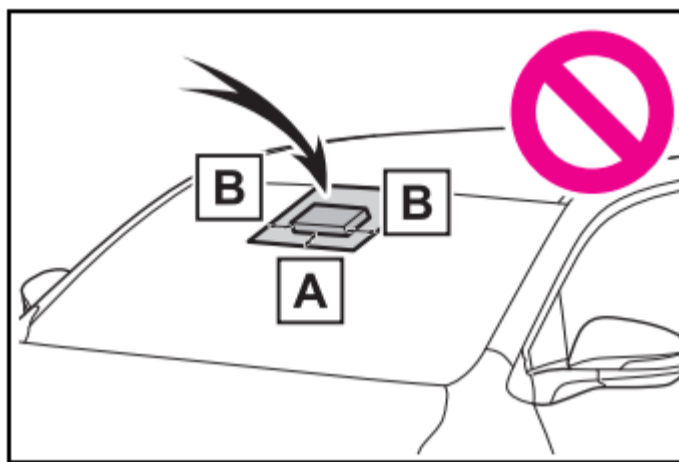
- In the following situations, recalibration of the radar sensor will be necessary. For details, contact your Toyota dealer.
 - When a radar sensor is removed and installed, or replaced
 - When the front bumper or the front grille has been replaced

To prevent malfunction of the front camera

Observe the following precautions.

Failure to do so may lead to the front camera not operating properly, possibly leading to an accident resulting in death or serious injury.

- Always keep the windshield clean.
 - If the windshield is dirty or covered with an oily film, water droplets, snow, etc., clean the windshield.
 - Even if a glass coating agent is applied to the windshield, it will still be necessary to use the windshield wipers to remove water droplets, etc. from the area of the windshield in front of the front camera.
 - If the inner side of the windshield where the front camera is installed is dirty, contact your Toyota dealer.
- Do not attach stickers (including transparent stickers) or other items to the area of the windshield in front of the front camera (shaded area in the illustration).



A Approximately 4 cm (1.6 in.)

B Approximately 4 cm (1.6 in.)

- If the part of the windshield in front of the front camera is fogged up or covered with condensation or ice, use the windshield defogger to remove the fog, condensation, or ice.
- If water droplets cannot be properly removed from the area of the windshield in front of the front camera by the windshield wipers, replace the wiper insert or wiper blade.
- Do not attach window tint to the windshield.
- Replace the windshield if it is damaged or cracked.
 - If the windshield has been replaced, recalibration of the front camera will be necessary. For details, contact your Toyota dealer.
- Do not allow liquids to contact the front camera.
- Do not allow bright lights to shine into the front camera.
- Do not damage the lens of the front camera or allow it to become dirty. When cleaning the inside of the windshield, do not allow glass cleaner to contact the lens of the front camera. Do not touch the lens of the front camera. If the lens of the front camera is dirty or damaged, contact your Toyota dealer.
- Do not subject the front camera to a strong impact.
- Do not change the position or orientation of the front camera or remove it.
- Do not disassemble the front camera.
- Do not modify any parts around the front camera, such as the inside rear view mirror or ceiling.
- Do not attach accessories which may obstruct the front camera to the hood, front grille, or front bumper. For details, contact your Toyota dealer.
- If a surfboard or other long object is to be mounted on the roof, make sure that it will not obstruct the front camera.
- Do not modify or change the headlights and other lights.

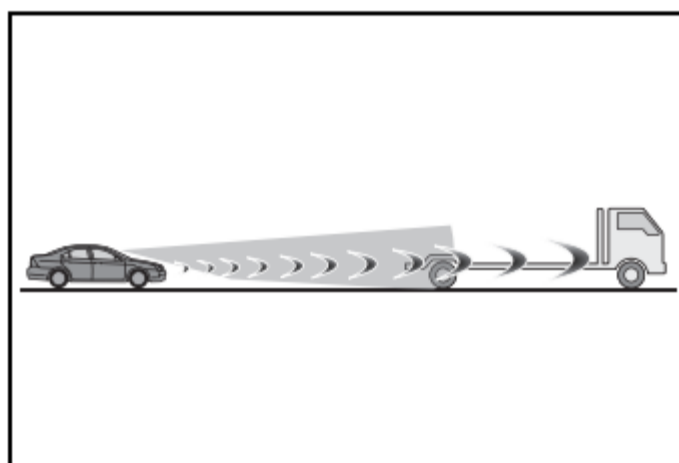
Front camera installation area on the windshield

If the system determines that the windshield may be fogged up, it will automatically operate the heater to defog the part of the windshield around the front camera. When cleaning, etc., be careful not to touch the area around the front camera until the windshield has cooled sufficiently, as touching it may cause burns.

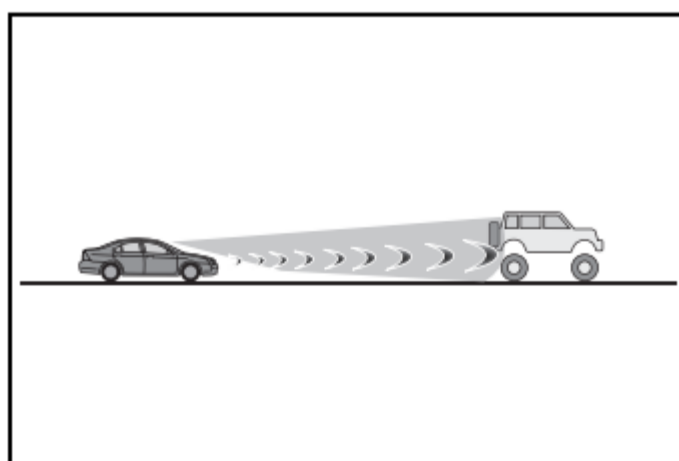
■ Situations in which the sensors may not operate properly

- When the height or inclination of the vehicle has been changed due to modifications
- When the windshield is dirty, fogged up, cracked or damaged
- When the ambient temperature is high or low
- When mud, water, snow, dead insects, foreign matter, etc., is attached to the front of the sensor
- When in inclement weather such as heavy rain, fog, snow, or a sandstorm
- When water, snow, dust, etc. is thrown up in front of the vehicle, or when driving through mist or smoke
- When the headlights are not illuminated while driving in the dark, such as at night or when in a tunnel
- When the lens of a headlight is dirty and illumination is weak
- When the headlights are misaligned

- When a headlight is malfunctioning
- When the headlights of another vehicle, sunlight, or reflected light shines directly into the front camera
- When the brightness of the surrounding area changes suddenly
- When driving near a TV tower, broadcasting station, electric power plant, radar equipped vehicles, etc., or other location where strong radio waves or electrical noise may be present
- When a wiper blade is blocking the front camera
- When in a location or near objects which strongly reflect radio waves, such as the following:
 - Tunnels
 - Truss bridges
 - Gravel roads
 - Rutted, snow-covered roads
 - Walls
 - Large trucks
 - Manhole covers
 - Guardrail
 - Metal plates
- When near a step or protrusion
- When a detectable vehicle is narrow, such as a small mobility vehicle
- When a detectable vehicle has a small front or rear end, such as an unloaded truck
- When a detectable vehicle has a low front or rear end, such as a low bed trailer



- When a detectable vehicle has extremely high ground clearance



- When a detectable vehicle is carrying a load which protrudes from its cargo area
- When a detectable vehicle has little exposed metal, such as a vehicle which is partially covered with cloth, etc.
- When a detectable vehicle is irregularly shaped, such as a tractor, sidecar, etc.
- When the distance between the vehicle and a detectable vehicle has become extremely short
- When a detectable vehicle is at an angle
- When snow, mud, etc. is attached to a detectable vehicle
- When driving on the following kinds of roads:
 - Roads with sharp curves or winding roads
 - Roads with changes in grade, such as sudden inclines or declines
 - Roads which is sloped to the left or right
 - Roads with deep ruts
 - Roads which are rough and unmaintained
 - Roads which frequently undulate or are bumpy

- When the steering wheel is being operated frequently or suddenly
- When the vehicle is not in a constant position within a lane
- When parts related to this system, the brakes, etc. are cold or extremely hot, wet, etc.
- When the wheels are misaligned
- When driving on slick road surfaces, such as when it is covered with ice, snow, gravel, etc.
- When the course of the vehicle differs from the shape of a curve
- When the vehicle speed is excessively high when entering a curve
- When entering/exiting a parking lot, garage, car elevator, etc.
- When driving in a parking lot
- When driving through an area where there are obstructions which may contact your vehicle, such as tall grass, tree branches, a curtain, etc.
- When driving in strong wind

■ Situations in which the lane may not be detected

- When the lane is extremely wide or narrow
- Immediately after changing lanes or passing through an intersection
- When driving in a temporary lane or lane regulated by construction
- When there are structures, patterns, shadows which are similar to lane lines in the surrounding
- When the lane lines are not clear or driving on a wet road surface
- When a lane line is on a curb
- When driving on a bright, reflective road surface, such as concrete

■ Situations in which some or all of the functions of the system cannot operate

- When a malfunction is detected in this system or a related system, such as the brakes, steering, etc.
- When the VSC, TRC, or other safety related system is operating
- When the VSC, TRC, or other safety related system is off

■ Changes in brake operation sound and pedal response

- When the brakes have been operated, brake operation sounds may be heard and the brake pedal response may change, but this does not indicate a malfunction.
- When the system is operating, the brake pedal may feel stiffer than expected or sink. In either situation the brake pedal can be depressed further. Further depress the brake pedal as necessary.

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