

TEAM-BHP Dynamic Radar Cruise Control Detects Owner's Manual

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**Dynamic Radar Cruise Control Detects
DRIVING
Using the driving support systems
Dynamic radar cruise control*
Owner's Manual**

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Dynamic Radar Cruise Control Detects



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* : If equipped

This dynamic radar cruise control detects the presence of vehicles ahead, determines the current vehicle-to-vehicle distance, and operates to maintain a suitable distance from the vehicle ahead. The desired vehicle-to-vehicle distance can be set by operating the vehicle-to-vehicle distance switch.

Use the dynamic radar cruise control only on highways and expressways.



WARNING

For safe use

- Driving safely is solely the responsibility of the driver. Do not overly rely on this system, and pay careful attention to the surrounding conditions in order to ensure safe driving.
- The dynamic radar cruise control provides driving assistance to reduce the driver's burden. However, there are limitations to the assistance provided.
- Read the following items carefully. Do not overly rely on this system and always drive carefully.
Conditions under which the system may not operate correctly: ([Click Here](#))
- Set the speed appropriately according to the speed limit, traffic flow, road conditions, weather conditions, etc.
The driver is responsible for confirming the set speed.
- Even if the system is operating correctly, the condition of a preceding vehicle as recognized by the driver and detected by the system may differ. Therefore, it is necessary for the driver to pay attention, assess risks, and ensure safety. Over-reliance on this system to drive the vehicle safely may lead to an accident resulting in death or serious injury.

Precautions for the driving assist systems

Observe the following precautions, as there are limitations to the assistance provided by the system. Overreliance on this system may lead to an accident resulting in death or serious injury.

- Details of support provided for the driver's vision
The dynamic radar cruise control is only intended to help the driver in determining the distance between the driver's own vehicle and a designated preceding vehicle. It is not a system which allows for careless or inattentive driving, and is not a system which assists in poor visibility conditions.
The driver must pay attention to their surroundings, even when the vehicle stops.
- Details of support provided for the driver's judgement
The dynamic radar cruise control determines whether the distance between the driver's own vehicle and a designated preceding vehicle is within a set range. It is not capable of making any other type of judgement. Therefore, it is absolutely necessary for the driver to remain vigilant and to determine whether or not there is a possibility of danger.
- Details of support provided for the driver's operation
The dynamic radar cruise control does not include functions which will prevent or avoid collisions with vehicles ahead of your vehicle. Therefore, if there is ever any possibility of danger, the driver must take immediate and direct control of the vehicle and act appropriately in order to ensure safety

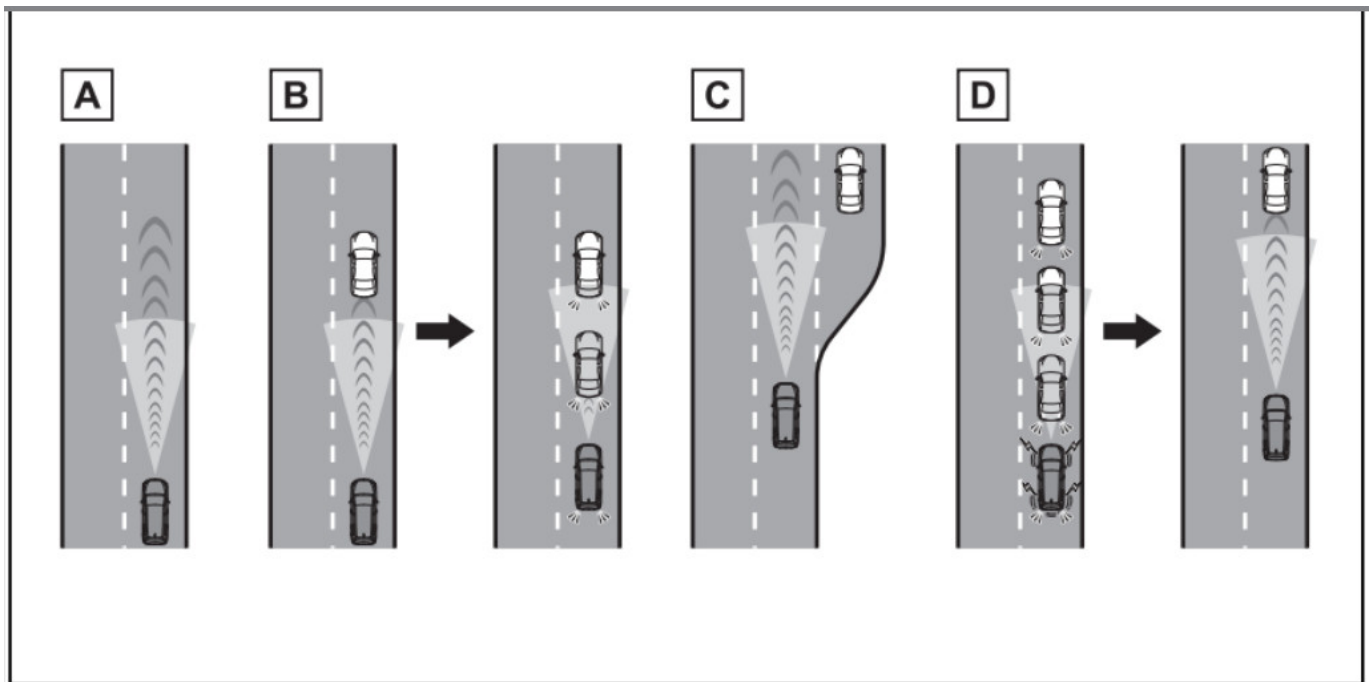
Situations in which the dynamic radar cruise control should not be used

Do not use the dynamic radar cruise control in the following situations. As the system will not be able to provide

appropriate control, using it may lead to an accident resulting in death or serious injury.

- Roads where there are pedestrians, cyclists, etc.
- When driving on a highway or expressway entrance or exit
- When the approach warning sounds frequently
- Situations in which the sensors may not operate properly:([Click Here](#))
- Situations in which the lane may not be detected:([Click Here](#))

Basic functions



A. Constant speed cruising

When there are no vehicles ahead

The vehicle drives at the speed set by the driver.

If the set vehicle speed is exceeded while driving down a hill, the set vehicle speed display will blink and a buzzer will sound.

B. Deceleration and follow-up cruising

When a preceding vehicle driving slower than the set vehicle speed is detected When a vehicle is detected driving ahead of your vehicle, the vehicle automatically decelerates and if a greater reduction in vehicle speed is necessary, the brakes are applied (the stop lights will come on at this time). The vehicle is controlled to maintain the vehicle-to-vehicle distance set by the driver, in accordance with changes in the speed of the preceding vehicle. If vehicle deceleration is not sufficient and the vehicle approaches the vehicle ahead, the approach warning will sound.

C. Acceleration

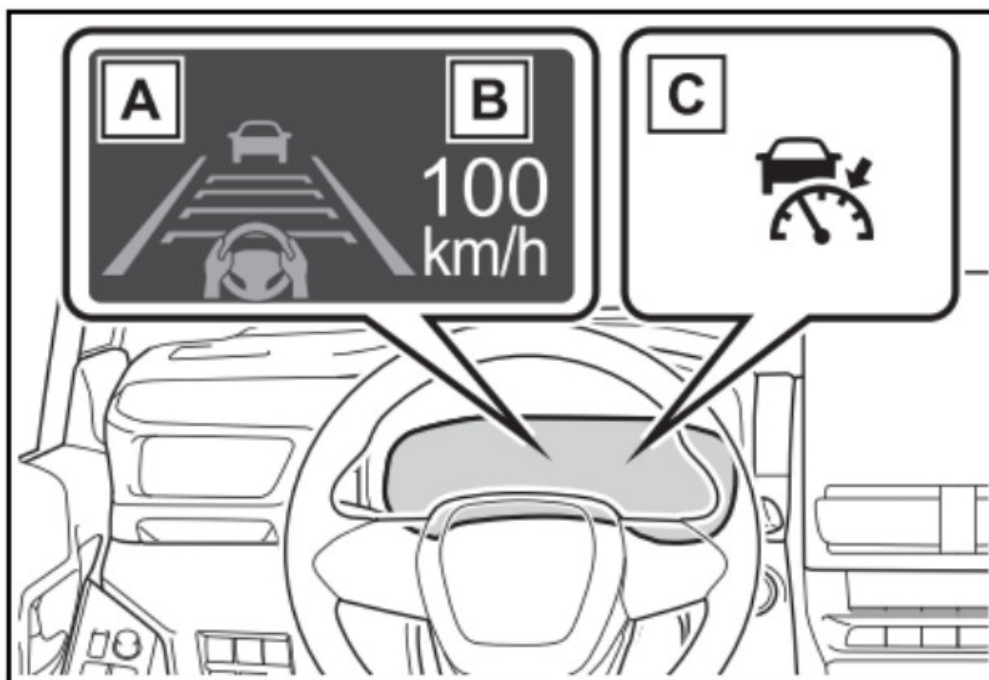
When there are no longer any preceding vehicles driving slower than the set vehicle speed The vehicle accelerates until the set vehicle speed is reached and then resumes constant speed cruising.

C. Starting off

If a preceding vehicle stops, the vehicle will also stop (controlled stop). After the preceding vehicle starts off, pressing the "RES" switch or depressing the accelerator pedal will resume follow-up cruising (start off operation). If a start off operation is not performed, the controlled stop will continue.

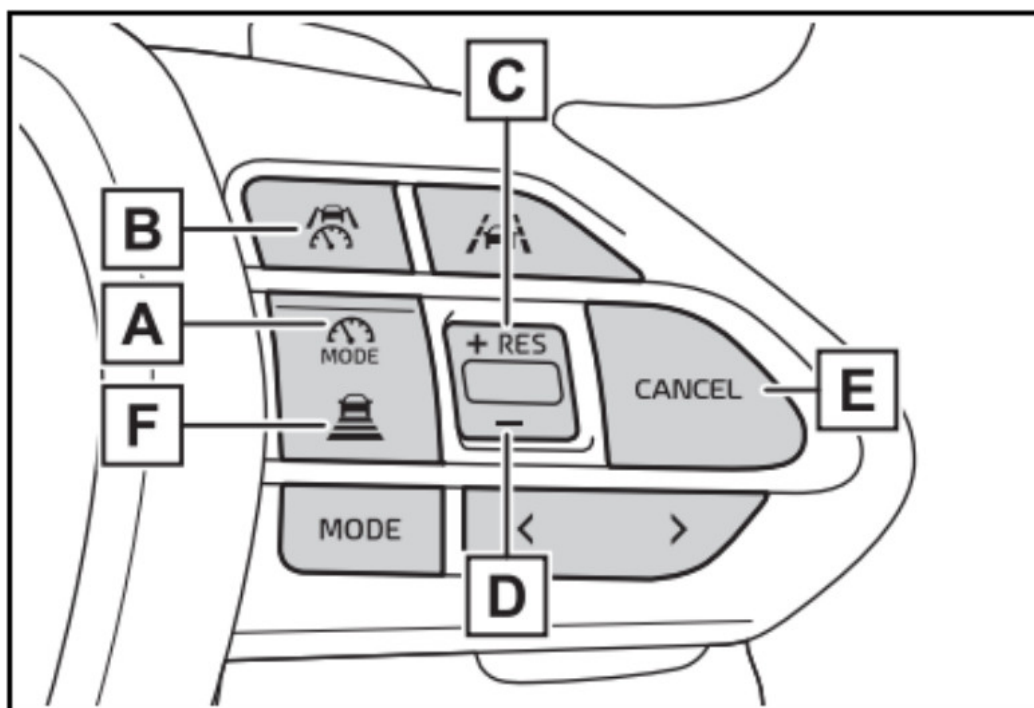
System components

Meter display



- A. Multi-information display
- B. Set vehicle speed
- C. Indicators

■ Switches



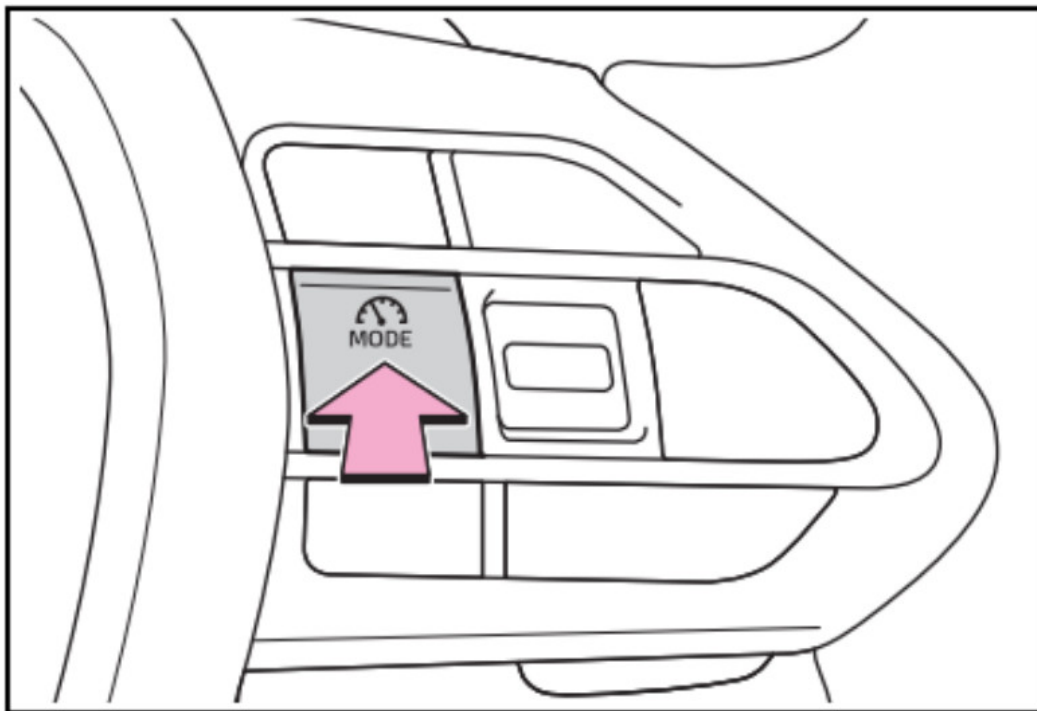
- A. Driving assist mode select switch
- B. Driving assist switch
- C. "+" switch / "RES" switch
- D. "-" switch
- F. Cancel switch
- F. Vehicle-to-vehicle distance switch

Using the dynamic radar cruise control

■ Setting the vehicle speed

1. Press the driving assist mode select switch to select dynamic radar cruise control.

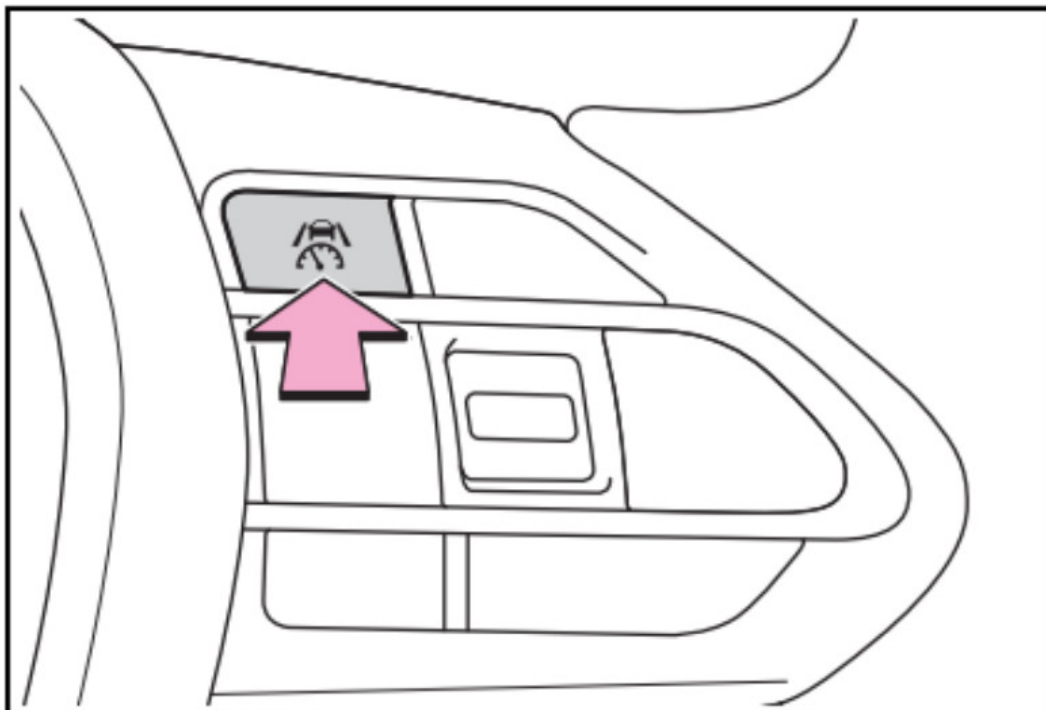
The dynamic radar cruise control indicator will illuminate.



2. Using the accelerator pedal, accelerate or decelerate to the desired vehicle speed (approximately 30 km/h [20 mph] or more), and press the driving assist switch to set the set vehicle speed.

The set vehicle speed will be displayed on the multi-information display.

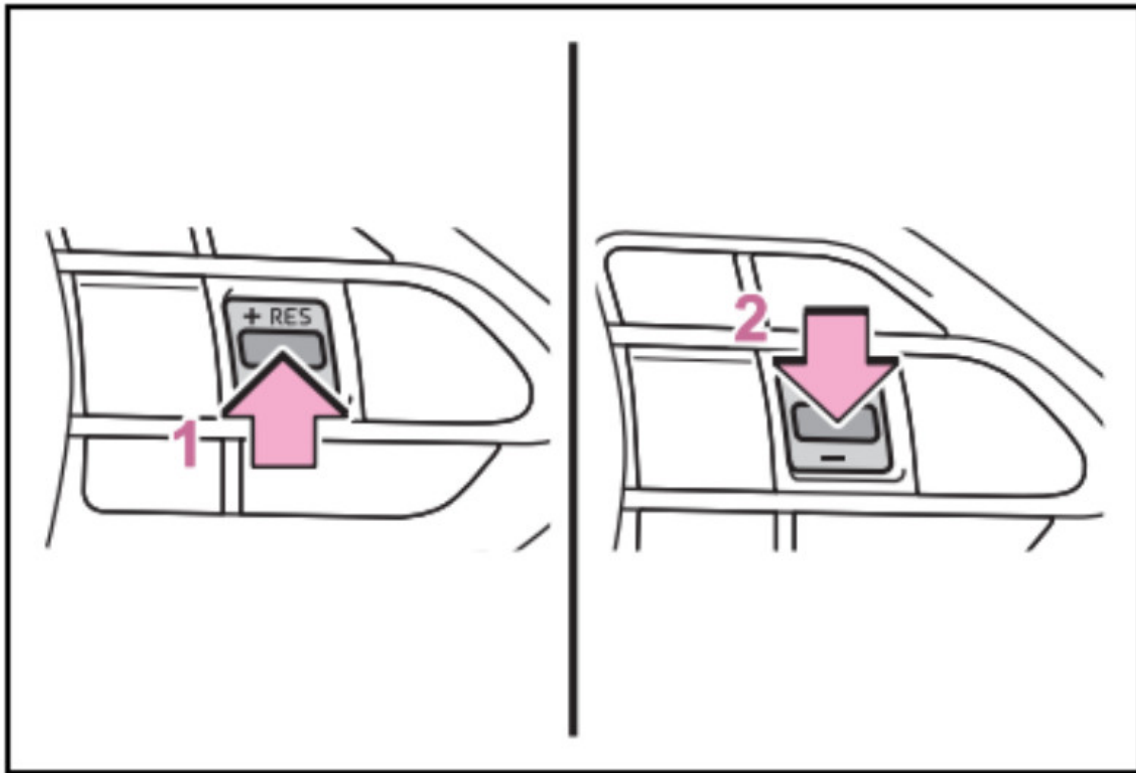
The vehicle speed at the moment the switch is released will be the set vehicle speed.



■ Adjusting the set vehicle speed

1. Adjusting the set vehicle speed using the switches

To change the set vehicle speed, press the "+" switch or "-" switch until the desired speed is displayed.



1. Increase set vehicle speed
2. Decrease set vehicle speed

Short press adjustment: Press the switch

Long press adjustment: Press and hold the switch until the desired set vehicle speed is reached.

The set vehicle speed will increase or decrease as follows:

Short press adjustment: By 1 km/h (0.6 mph) or 1 mph (1.6 km/h) each time the switch is pressed

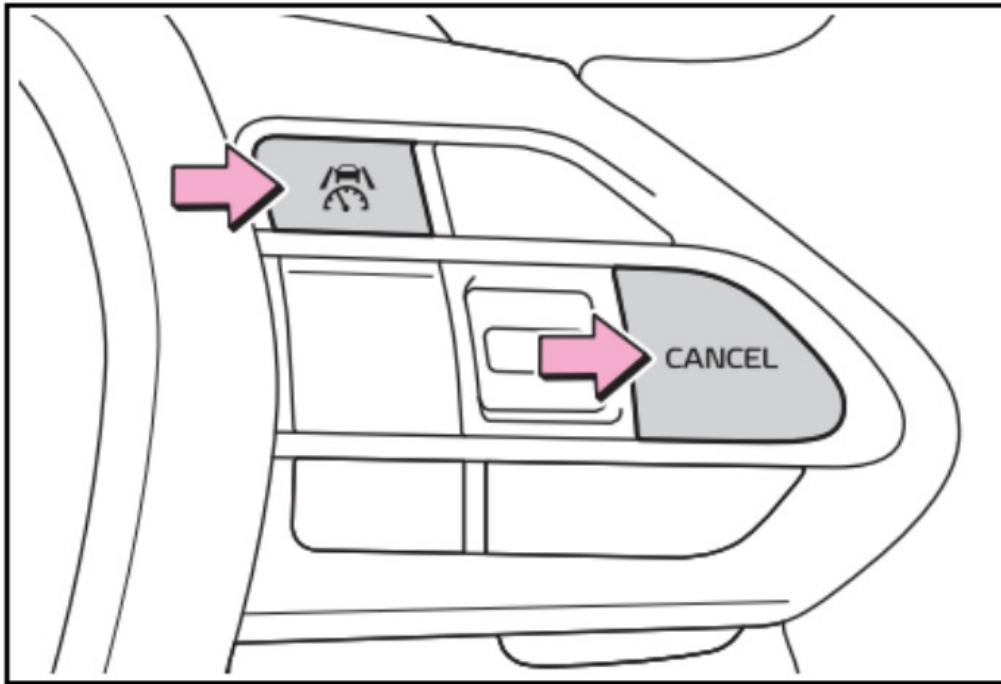
Long press adjustment: Increases or decreases in 5 km/h (3.1 mph) or 5 mph (8 km/h) increments continuously while the switch is pressed and held

The set vehicle speed adjustment increment can be changed through a customize setting.

Increasing the set vehicle speed using the accelerator pedal

1. Depress the accelerator pedal to accelerate the vehicle to the desired vehicle speed.
2. Press the "+" switch.

■ Canceling/resuming control



1. Press the cancel switch or driving assist switch to cancel control.
Control will also be canceled if the brake pedal is depressed.
(If the vehicle has been stopped by system control, depressing the brake pedal will not cancel control.)
2. Press the "RES" switch to resume control.

■ Changing the vehicle-to-vehicle distance

Each time the switch is pressed, the vehicle-to-vehicle distance setting will change as follows:
If a preceding vehicle is detected, the preceding vehicle mark will be displayed.

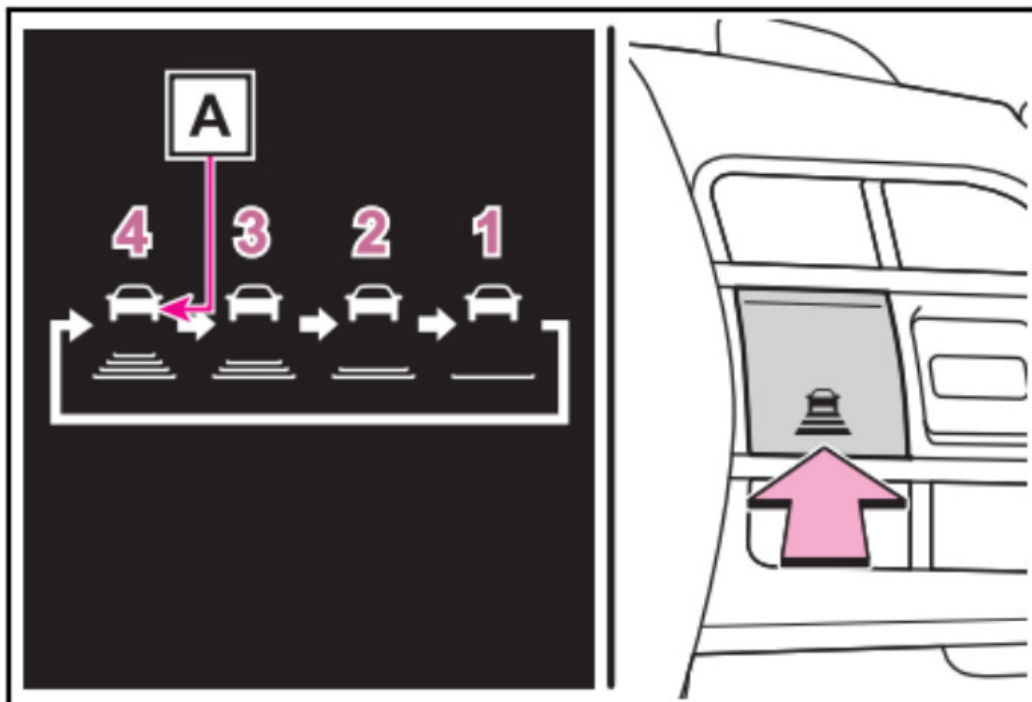


Illustration Number	Vehicle- to-vehicle distance	Approximate Distance (Vehicle Speed: 100 km/h S[60 mph])
1	Short	Approximately 30 m (100 ft.)
2	Medium	Approximately 45 m (145 ft.)
3	Long	Approximately 60 m (200 ft.)
4	Extra long	Approximately 70 m (230 ft.)

The actual vehicle-to-vehicle distance varies in accordance with the vehicle speed. Also, when the vehicle is stopped by system control, it will be stopped at a certain distance from the preceding vehicle, depending on the situation, regardless of the setting.

■ Operating conditions

- The shift lever is in D.
- The desired set speed can be set when the vehicle speed is approximately 30 km/h (20 mph) or more.
 - If the vehicle speed is set while driving at below approximately 30 km/h (20 mph), the set vehicle speed will be approximately 30 km/h (20 mph).
 - If the vehicle speed is set while driving at a speed that exceeds the system's upper limit, the set vehicle speed will be the system's upper limit.

■ Accelerating after setting the vehicle speed

As with normal driving, acceleration can be performed by depressing the accelerator pedal.

After accelerating, the vehicle will return to the set vehicle speed.

However, while in vehicle-to-vehicle distance control mode, the vehicle speed may decrease to below the set vehicle speed in order to maintain the distance from the preceding vehicle.

■ When the vehicle is stopped by system control during follow-up cruising

- When the "RES" switch is pressed while the vehicle is stopped by system control, if the preceding vehicle starts off within approximately 3 seconds, follow-up cruising will resume.
- If the preceding vehicle starts off within approximately 3 seconds of the vehicle being stopped by system control, follow-up cruising will resume.

■ Automatic cancellation of vehicle-to-vehicle distance control mode

In the following situations, vehicle-to-vehicle distance control mode will be canceled automatically:

- When the brake control or output restriction control of a driving support system operates
(For example: Pre-Collision System, drive-start control)
- When the parking brake has been operated
- When the vehicle is stopped by system control on a steep incline
- When any of the following are detected while the vehicle is stopped by system control:
 - The driver's seat belt is unfastened
 - The driver's door is opened
 - Approximately 3 minutes have elapsed since the vehicle was stopped
 The parking brake may be activated automatically.

- Situations in which some or all of the functions of the system cannot operate:([Click Here](#))

■ **Dynamic radar cruise control system warning messages and buzzers**

For safe use:([Click Here](#))

■ **Preceding vehicles that the sensor may not detect correctly**

In the following situations, depending on the conditions, if the system cannot provide sufficient deceleration or acceleration is necessary, operate the brake pedal or accelerator pedal. As the sensor may not be able to correctly detect these types of vehicles, the approach warning ([Click Here](#)) may not operate.

- When a vehicle cuts in front of your vehicle or changes lanes away from your vehicle extremely slowly or quickly
- When changing lanes
- When a preceding vehicle is driving at a low speed
- When a vehicle is stopped in the same lane as the vehicle
- When a motorcycle is traveling in the same lane as the vehicle

■ **Conditions under which the system may not operate correctly**

In the following situations, operate the brake pedal (or accelerator pedal, depending on the situation) as necessary.

As the sensor may not be able to correctly detect a vehicle, the system may not operate properly.

- When a preceding vehicle brakes suddenly
- When changing lanes at low speeds, such as in a traffic jam

Approach warning

In situations where the vehicle approaches a preceding vehicle and the system cannot provide sufficient deceleration, such as if a vehicle cuts in front of the vehicle, a warning display will flash and a buzzer will sound to alert the driver. Depress the brake pedal to ensure appropriate vehicle-to-vehicle distance.

■ **Warnings may not occur when**

In the following situations, the warning may not operate even though the vehicle-to-vehicle distance is short.

- When the preceding vehicle is traveling at the same speed or faster than your vehicle
- When the preceding vehicle is traveling at an extremely low speed
- Immediately after the vehicle speed has been set
- When the accelerator pedal is depressed

Curve speed reduction function

When a curve is detected, the vehicle speed will begin being reduced. When the curve ends, the vehicle speed reduction will end.

Depending on the situation, the vehicle speed will then return to the set vehicle speed.

In situations where vehicle-to-vehicle distance control needs to operate, such as when a preceding vehicle cuts in front of your vehicle, the curve speed reduction function will be canceled.



■ Situations in which the curve speed reduction function may not operate

In situations such as the following, the curve speed reduction function may not operate:

- When the vehicle is being driven around a gentle curve
- When the accelerator pedal is being depressed
- When the vehicle is being driven around an extremely short curve

Support for lane change

If your vehicle is being driven at approximately 80 km/h (50 mph) or more and a lane change to the passing lane is performed, when the turn signal lever is operated and the lane is changed, the vehicle will accelerate up to the set speed to assist in overtaking.

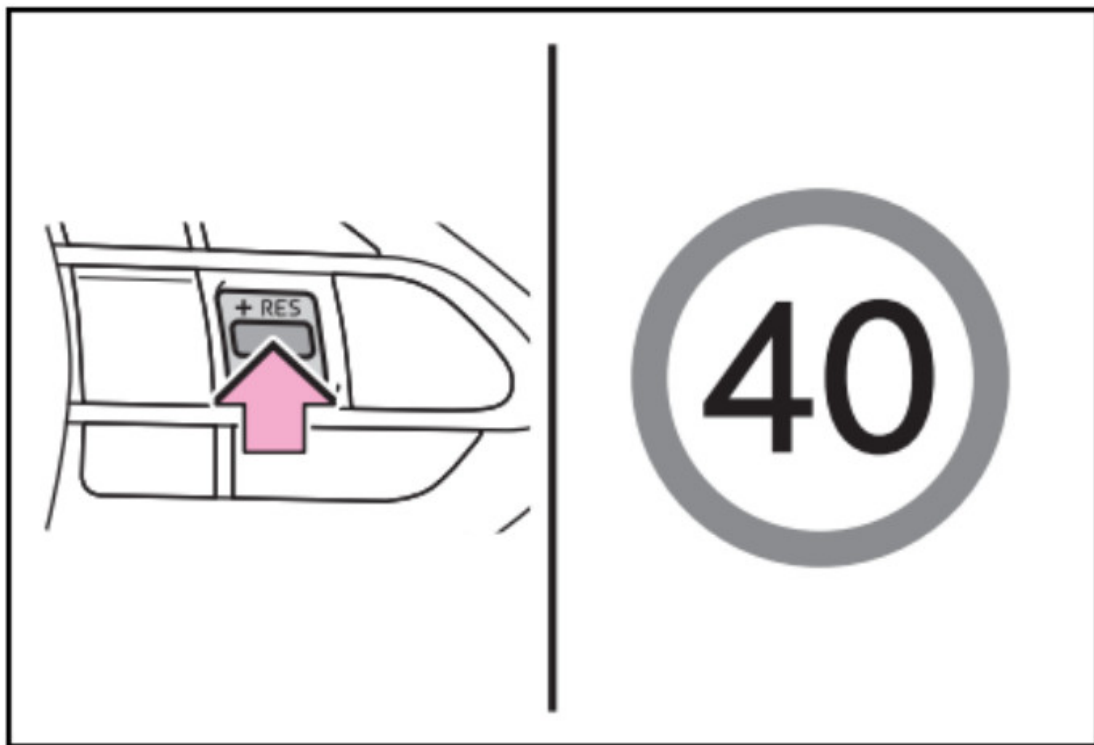
The system's recognition of which lane is the passing lane may be based solely on the location of the steering wheel in the vehicle (left-hand drive/right-hand drive). If the vehicle is driven in a location where the passing lane is on the opposite side of that where the vehicle was originally sold, the vehicle may accelerate when the turn signal lever is operated away from the passing lane. (e.g. The vehicle was manufactured for a right-hand traffic location, but is being driven in a left-hand traffic location. The vehicle may accelerate when the turn signal lever is operated to the right.)

If your vehicle is being driven at approximately 80 km/h (50 mph) or more and the lane is changed to that with a vehicle traveling slower than your vehicle, when the turn signal lever is operated the vehicle will gradually decelerate to assist in changing lanes.

Dynamic Radar Cruise Control with Road Sign Assist

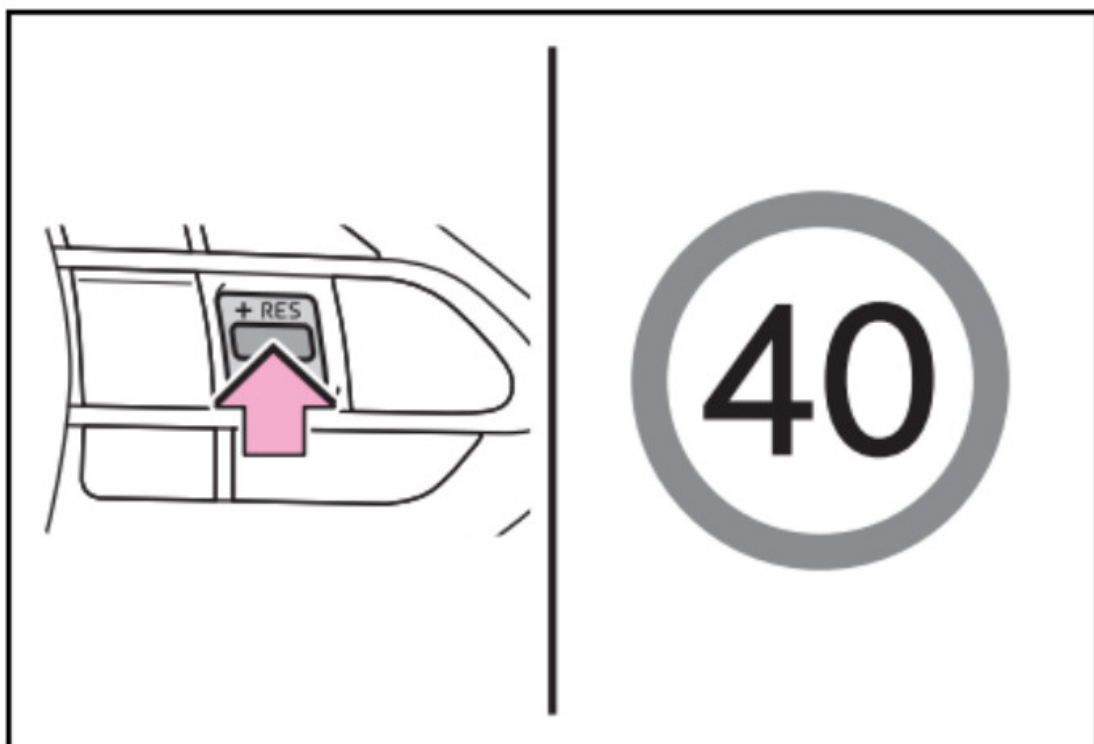
When RSA function is enabled and the dynamic radar cruise control system is operating, if a speed limit sign is detected, the detected speed limit will be displayed with an up/down arrow. The set speed can be increased/reduced to the detected speed limit by pressing and holding the "+" switch or "-" switch.

■ When the set speed is lower than the detected speed limit



Press and hold the “+” switch.

■ When the set speed is higher than the detected speed limit



Press and hold the “-” switch.

■ The dynamic radar cruise control with road sign assist may not operate properly when

As the dynamic radar cruise control with road sign assist may not operate properly in situations where the RSA may not operate or cannot detect signs correctly ([Click Here](#)), when using this function, make sure to confirm the actual speed limit.

In the following situations, the set speed may not change to the detected speed limit by pressing and holding the “+” switch or “-” switch:

- When speed limit information is not available
- When the detected speed limit is the same as the set speed








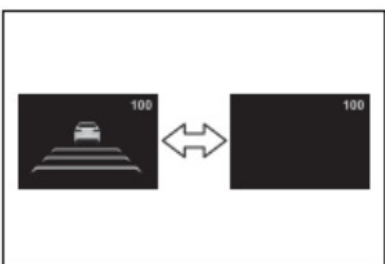


- When the detected speed limit is outside of the speed range which the dynamic radar cruise control system can operate


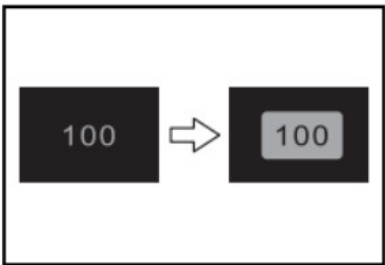


Changing Dynamic radar cruise control settings

- The settings of Dynamic radar cruise control can be changed through customize settings.([Click Here](#))

Display and system operation state


The operating state of Dynamic radar cruise control is indicated.

Indicator	Multi-information display		Situation
 White		Vehicle-to-vehicle distance setting: Gray	Dynamic radar cruise control being OFF
 Green		Vehicle-to-vehicle distance setting: Blue Set vehicle speed: Green	Constant speed cruising
 Green		Vehicle-to-vehicle distance setting: Blue Set vehicle speed: Green Preceding vehicle: White	Follow-up cruising
 Green		Vehicle-to-vehicle distance setting: Orange flashing Set vehicle speed: Green Preceding vehicle: Orange flashing	Approach warning
 Green		Vehicle-to-vehicle distance setting: Gray Set vehicle speed: White Preceding vehicle: Gray	Accelerating with the accelerator pedal








Indicator	Multi-information display		Situation
 Green		Set vehicle speed: Green in reverse display	Set vehicle speed being exceeded
 Green		Vehicle-to-vehicle distance setting: Gray Set vehicle speed: White Preceding vehicle: Gray	Vehicle in controlled stop

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Documents / Resources

	TEAM-BHP Dynamic Radar Cruise Control Detects [pdf] Owner's Manual Dynamic Radar Cruise Control Detects, Radar Cruise Control Detects, Cruise Control Detects, Control Detects
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References

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