

	GROUP <b>Chassis</b>	MODEL <b>All Models w/ AEB</b>
	NUMBER <b>PS475</b>	DATE <b>October 2016</b>
 		
<b>SUBJECT: AUTONOMOUS EMERGENCY BRAKING (AEB) OPERATION</b>		

An increasing number of Kia's latest models are now equipped with Autonomous Emergency Braking (AEB). Some customers may have interest and/or questions regarding this new technology, including what type of feedback they can expect from this system. The information provided below is a brief reference. The service information found on KGIS including the Owner's Manual will provide more detailed information.



**Overview:**

Autonomous Emergency Braking (AEB) system is a safety system which recognizes the distance from the Kia vehicle to another vehicle, bicyclist or a pedestrian ahead of the Kia through the sensors (i.e. radar and camera). It first provides a warning to the driver of accident risk with a visual and audible warning messages and/or warning alert, and as necessary, then automatically applies braking to prevent or to minimize the damage from a collision. This system is not a substitute for safe driving practices. It is the responsibility of the driver to always check the speed and distance to the vehicle ahead.



**Operation:**

The main components of the AEB system are the Smart Cruise Control (SCC) radar sensor, Lane Departure Warning System (LDWS) camera sensor and Electronic Stability Control (ESC) system module. If AEB needs to be activated due to detection of a vehicle, bicyclist or pedestrian in front, then the radar sends the vehicle control request to ESC. ESC then adjusts engine torque and applies brakes depending on the distances and speeds involved. At the same

time, it turns ON the AEB warning lamp, message and buzzer sound to alert the driver of an emergency situation. When AEB activates the brakes, the brake lamps are also turned on by the ESS system (Emergency Stop Signal).

**! WARNING**

The system may not recognize every obstacle (vehicle/bicyclist/pedestrian) or provide warnings in every situation. The system requires prerequisites for activation: ESC ON, Vehicle Speed above 6 mph (AEB only works within a certain range of vehicle speed) and recognition of vehicle or pedestrian in front.

Additionally, the system conducts a self-check and will provide a warning message in the instrument cluster center display if an issue with the functioning is identified. The system will inhibit the AEB system to operate if a system functioning issue is identified. However, normal driver braking is not affected.

**Stages:**

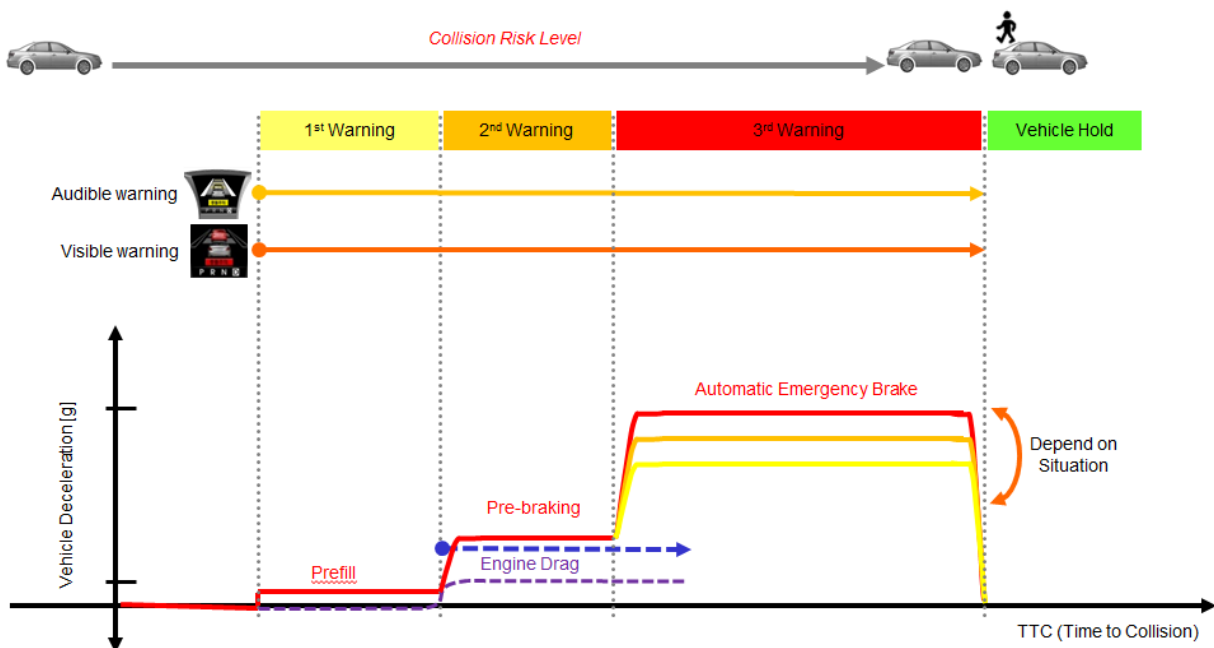
The AEB system operates in 3 stages based on Collision Risk Level:

- 1<sup>st</sup> Stage - Alarm is activated to notify the driver of a potential collision risk situation.
- 2<sup>nd</sup> Stage - Vehicle deceleration is carried out to try to maintain an adequate distance from the frontal object.
- 3<sup>rd</sup> Stage – Full emergency braking imposed using ESC and ABS commands to maximize tire adhesion.

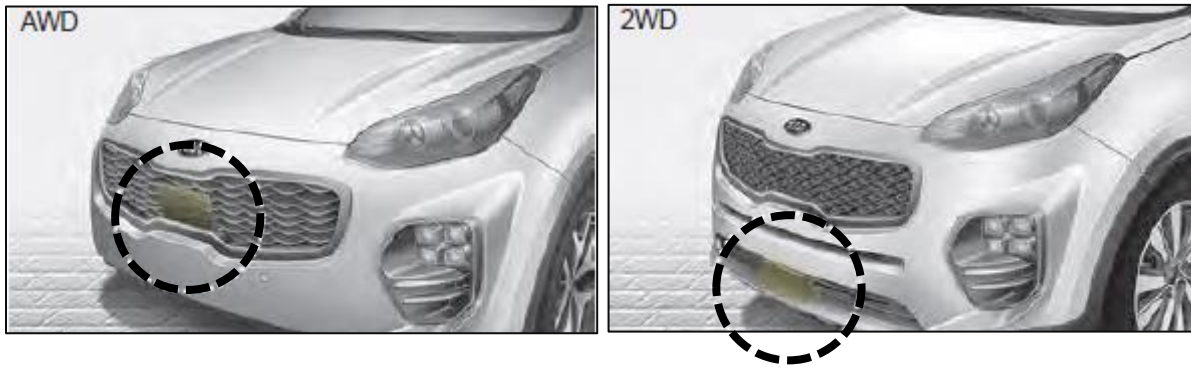
After stopping the vehicle: ESC maintains the braking control for a certain amount of time and then releases it.

**\* NOTICE**

The Driver can select the initial warning activation time (Early, Normal, Late) in the User Settings in the Instrument Cluster LCD display. Kia recommends that drivers always use the “Early” activation time when they are learning the capabilities of the AEB.



## Radar Location:

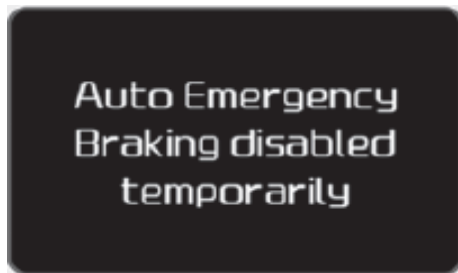


The radar sensor is used to maintain a certain distance from the vehicle in the front and should never be blocked or obstructed.

### ★ NOTICE

Refer to Pitstop PS451 for information regarding License Plate Mounting Position

## Impaired Sensor Warning:



When a radar sensor is covered such as with a license plate or with dirt, snow, rain and/or bugs, the AEB operation may stop working since it is no longer receiving necessary frontal object information and/or may adversely affect the sensor performance. In this case, a warning message will appear to notify the driver.

Such obstructions and warnings do not indicate a malfunction of the AEB system. To allow the system to operate properly again, removal of the blocking object or material is necessary. Always keep the sensor clean for optimum performance.

### ⚠ WARNING

The AEB system has limitations both in sensing technology and due to environmental factors. Refer to the Owner's Manual for additional details regarding AEB system operation and limitations.