NEW FEATURES

■ PRE-CRASH SAFETY SYSTEM (ONLY FOR EUROPE MODEL)

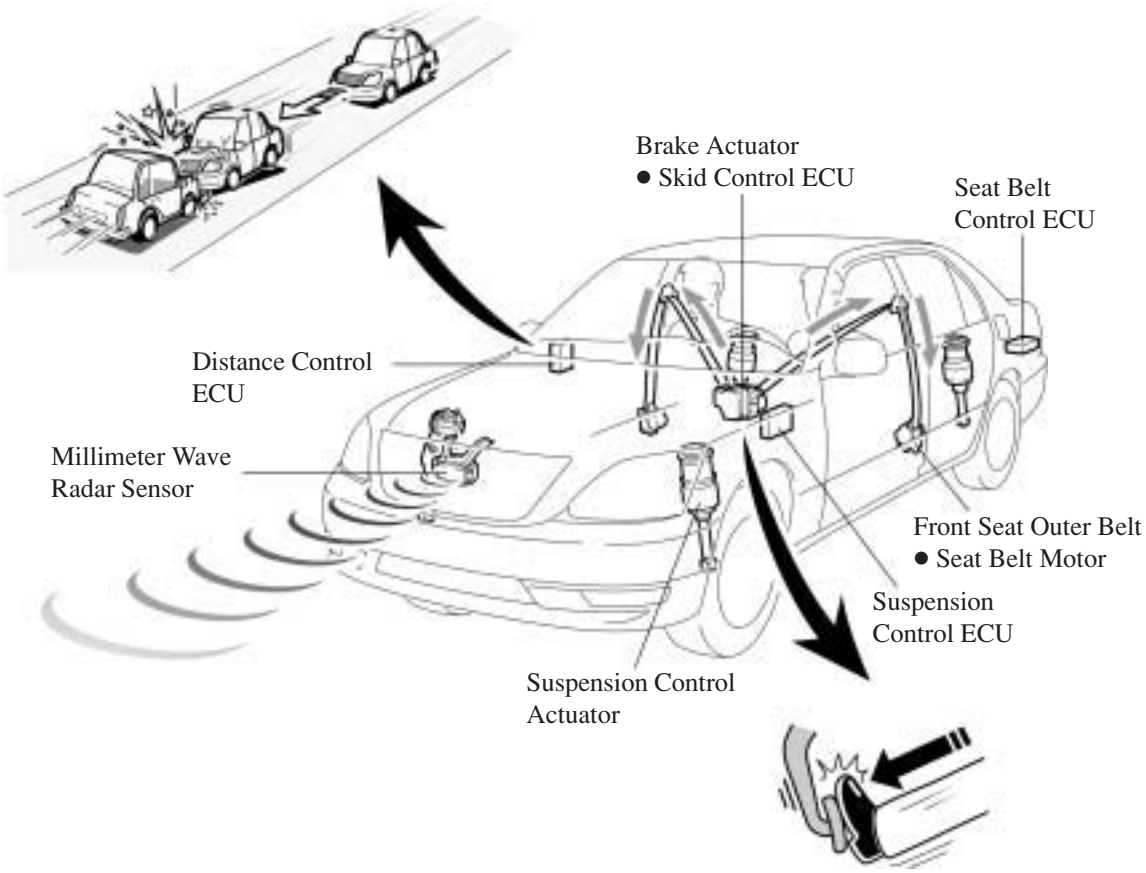
1. General

Based on the vehicle speed relative to the speed of an oncoming vehicle or approach to an object, the distance control ECU and/ or the skid control ECU determine if the condition requires the operation of the pre-crash safety system. If required, the system will operate the respective crash dampening components in order to help reduce the damage caused by the inevitable collision.

- The pre-crash safety system operates under the following conditions; the distance control ECU determines that a collision is unavoidable, as a result of the millimeter wave radar sensor recognizing the presence of an object in front, or the skid control ECU determines that the brakes have been applied suddenly.
- The pre-crash safety system has three collision damping components. These components operate as shown below.

Collision Damping Component	Operation
Seat Belt	The driver and front passenger seat belts will be retracted.
Brake Assist	The brake assist will be rendered in the standby mode and operated at the instant the brake pedal is pressed.
Electronically Modulated Air Suspension	The electronically modulated air suspension will be changed the damping force mode of the shock absorbers to the adequate level.

▶ Unavoidable Collision Judgment ◀



▶ Brakes suddenly applied ◀

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- The pre-crash safety system will not operate under the following conditions.

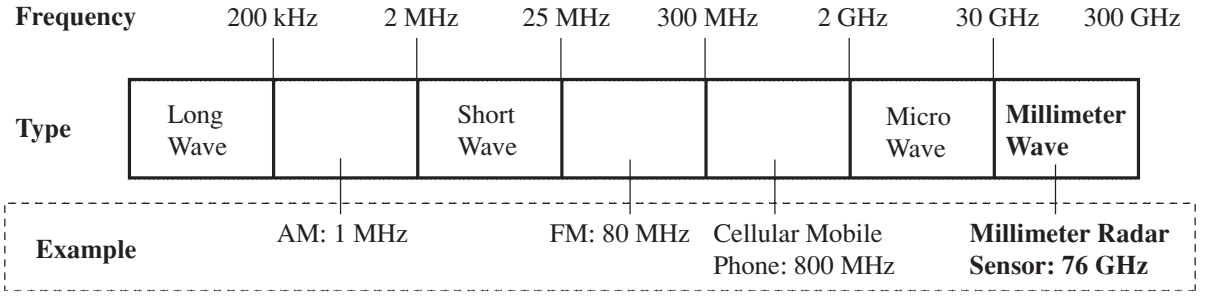
Non-Operation Condition	1) Oncoming vehicle relative speed is approx. 30 km/h (20 mph) or less. 2) Vehicle speed is approx. 5 km/h (3 mph) or less. 3) Collision objects that cannot be detected by the millimeter wave radar sensor: ● Objects that cannot be detected: plastic items (Safety Cones, etc.), etc. ● Objects that cannot be detected in a stable manner: people, bicycles, motorcycles, trees, animals, snow fence, etc. 4) Ignition switch is OFF or ACC. 5) Multi-information display in the combination meter displays a "Check PCS System" warning message. 6) The vehicle collided with an object located outside the detection area of the millimeter wave radar sensor.

- When any of the following conditions occur, each collision damping component will not operate.

Component	Condition
Seat Belt	● The system is in a non-operation condition. ● The seat belts are not buckled.
Brake Assist	● The system is in a non-operation condition. ● The driver has not depressed the brake pedal.
Electronically Modulated Air Suspension	The system is in a non-operation condition.

— Reference —

Millimeter Wave Radar:
The millimeter wave radar uses an extremely high frequency band between 30 GHz and 300 GHz, with an extremely short wavelength between 1 and 10 mm (0.04 to 0.40 in.) in a vacuum. The millimeter wave radar sensor of the pre-crash safety system uses frequencies in the 76 GHz band.
The millimeter wave radar is less affected by weather conditions such as rain, fog, or snow, and provides excellent characteristics for recognizing objects. Therefore, it is well suited to the pre-crash safety system and the dynamic radar cruise control system.



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▶ Main Wave Types and Frequencies ◀