

OnGuard™

Collision Mitigation System

Frequently Asked Questions

What is OnGuard?

OnGuard is a radar-based active safety system that offers Forward Collision Warning, Collision Mitigation and Adaptive Cruise Control (ACC). OnGuard detects objects ahead and measures the vehicle's position in relation to others on the road to assist the driver in recognizing and responding to potentially dangerous driving scenarios that could lead to a rear end collision. The system responds by sending audible, visual and haptic warnings, automatically reducing engine torque and applying the foundation brakes when necessary to help avoid or mitigate an impending collision. OnGuard is always monitoring the road and provides warnings and active braking even when cruise control is not set. The system also warns on stationary objects, such as disabled cars, to alert drivers of potential obstructions in their lane.

OnGuard's Adaptive Cruise Control (ACC) automatically adjusts the vehicle's set cruising speed to maintain a safe following distance whenever a vehicle ahead is detected.

OnGuard should only be considered as an aid and is not intended to replace driver control over the vehicle at any time. The active braking application is intended to assist the driver to avoid or reduce the severity of a collision. The driver remains in control of the vehicle and ultimately determines the actions that are necessary for safe operation. OnGuard warnings will not be issued below a vehicle speed of 15 mph.

How does OnGuard work?

OnGuard uses a forward-looking dual-beam radar sensor to detect objects in your vehicle's path at distances up to 650 feet away. The dual beam radar uses far-range and near-range detection to expand the total width of radar coverage. The far-range beam provides fast and accurate detection of objects far ahead as well as quick and reliable object classification to identify vehicles in your path. The near-range beam has a wide-angle beam that checks adjacent freeway lanes for vehicles and assists in determining whether a safe evasive maneuver is possible.

What is Adaptive Cruise Control (ACC)? How can I enable/disable it?

The Adaptive Cruise Control (ACC) maintains a safe following interval of 3.6 seconds between you and the vehicle ahead. When there is no moving vehicle detected ahead, the set cruise speed resumes automatically.

To enable ACC, simply press the "ON" and "Set" button for cruise control in your vehicle, the same as you would using conventional cruise control. You can disengage the ACC at anytime by applying the brakes yourself, applying the clutch (if your vehicle has one), or pressing the cruise control "OFF" button.

What is haptic warning?

The OnGuard system utilizes three alerting methods to warn drivers of a collision danger; audible, visual and haptic. The audible warning will beep while the visual warning changes the color and screen image of your OnGuard display. The haptic warning is a quick pulse of braking felt when a collision danger is present, depending on the speed and distance of vehicles ahead. These warnings will occur when an unforeseen event occurs, such as another vehicle entering your lane and travelling slower than you are, or when the gap between you and the vehicle in front of you becomes too small. For a detailed explanation of OnGuard's alerts, please refer to the driver tips document available on Meritor WABCO's website.

What is Active Braking?

Active braking is a system-initiated brake application that can be triggered by OnGuard without the driver's input. If OnGuard determines that a rear-end collision is imminent and a safe evasive maneuver is no longer possible, it will automatically apply foundation brakes to help mitigate or prevent a collision. Active braking can also be triggered by ACC to maintain a safe following distance or by the stability control systems to maintain control of your vehicle during hazardous weather conditions or to reduce rollover risks.

What is the difference between a stopped object and a stationary object? How does OnGuard respond differently?

A stationary object is an object that was never detected as moving. When the object comes into the radar range and does not move (such as a disabled car), the radar classifies it as “stationary” and will provide only visible and audible warnings, but will not activate the brakes. A stopped object is an object that was detected moving and came to a stop. When the radar detects the object as moving and decelerates to a complete stop, the radar will classify the object as “stopped” and will provide visible and audible warnings as well as activate the CMS braking sequence if necessary to mitigate rear-end collision.

How does OnGuard compare to competition?

OnGuard offers the following over competitive systems:

- 33% more radar range than the competition’s system, resulting in earlier detection and more time to react to impending situations
- Wider Field of view providing improved target tracking around curves, smooth ACC execution and evasive-maneuver assists
- Haptic warning (short brake pulse), which triggers drivers to respond faster to dangerous situations than audible or visual warnings alone
- The OnGuard radar continuously auto-aligns and auto-adjusts saving time and providing more accurate tracking
- A night mode option for enhanced visibility on the OnGuard display

What objects does OnGuard warn on or actively brake on?

OnGuard warns and reacts to objects such as cars, trucks or buses that are moving in the same direction as your vehicle on the road. In addition, OnGuard provides only visual and audible warnings on stationary objects (such as disabled cars) that are in the path of your vehicle to alert you of potential obstruction. The system will not apply the brakes on stationary objects. OnGuard will not warn or react to oncoming traffic or traffic crossing your driving lane.

Is OnGuard active while at very low speeds? Will the system react to stop and go traffic?

OnGuard will not react to objects when you are travelling at speeds below 15 mph to prevent slow-speed activation in heavy traffic, truck stops and rest areas.

Do my brake lights come on when OnGuard activates my brakes?

Yes, your brake lights will come on when OnGuard applies your brakes.

What are Meritor WABCO’s Roll Stability Control (RSC) and Electronic Stability Control (ESC) systems? Why is either one required for OnGuard to be installed?

RSC and ESC are active vehicle safety systems that assist drivers in maintaining control of the vehicle. RSC monitors conditions that can lead to a rollover, and it automatically intervenes if a high rollover risk is detected by reducing engine torque, engaging the engine retarder and if necessary, applying drive axle and trailer brakes. ESC combines RSC with the added capability of directional or rotational control to reduce the potential of jack-knifing and drift out conditions. OnGuard utilizes the stability control systems on your vehicle to ensure your vehicle’s stability during active braking in all weather conditions.

How much braking power does OnGuard apply? Will the system override the ABS system and lock up my brakes?

OnGuard applies the brakes during ACC to maintain a safe following distance and during collision mitigation when a rear-end collision is deemed unavoidable. Depending on the speed of your vehicle and the vehicle ahead, OnGuard will calculate the braking required and will apply up to 50% of a vehicle’s braking power to help in avoiding or mitigating a collision. The system utilizes the vehicle’s ABS and stability system to prevent wheel lock-up and maintain control.

How does the system adjust for severe and slippery weather conditions that could cause sliding or jackknifing?

OnGuard works with the Anti-Lock Braking System (ABS) and stability control systems on your vehicle and therefore the braking initiated by the system is not likely to cause your vehicle to slide or jack-knife.

Sometimes when cruise control is set, the vehicle slows down on its own while going around a curve even though there is no vehicle ahead, why?

Vehicles equipped with OnGuard are also equipped with a sophisticated stability control system, either SmartTrac Electronic Stability Control System (ESC) or SmartTrac Roll Stability Control System (RSC). These systems monitor the vehicle's speed and weight to determine the threshold of a potential loss of control. When the stability control system determines the vehicle is going around a curve at a speed that can cause a potential loss of control, it will reduce engine torque, apply engine brakes and if necessary apply the service brakes of the vehicle. This type of intervention can happen whether cruise control is set or not.

OnGuard sometimes gives audible warnings even though there is nothing in my lane, why?

OnGuard relies on a radar device mounted to the front of your vehicle. If the radar is not mounted correctly, has come loose or the alignment of the device is not adjusted properly, your unit could detect objects that may not be in your vehicle's intended path. You should check the OnGuard device in your pre- and post-trip inspection for proper mounting, or broken or loose mounting brackets. Any issues should be reported to your fleet manager.

What do I do if I get an OnGuard System Error Notification? Can I still drive?

If you receive an OnGuard System Error Notification, your display will turn amber and a Diagnostic Trouble Code (DTC) will appear. While your vehicle will still be operable, certain OnGuard functions such as standard cruise control and CMS will not be available. It is recommended that you find a safe place to park and turn off the ignition for one to three minutes. This will reboot your systems and should correct most errors. If the condition persists, you should contact your fleet manager to review the issue. Any DTC information should be recorded for troubleshooting purposes.

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