

**MERITOR WABCO**

## OnGuard™ Collision Safety System Driver Tips





This User's Guide applies to tractors equipped with the OnGuard™ Collision Safety System. OnGuard is a radar-based system that can include the Collision Warning System (CWS), Adaptive Cruise Control (ACC), and Collision Mitigation System (CMS). OnGuard is a driver-assistance system that helps the driver quickly recognize and respond to potentially dangerous driving situations such as rear-end collision or following too closely. It is not intended to replace driver control of the vehicle at any time. You as the driver remain in control of your vehicle and must ultimately determine the actions that are necessary for safe operation.

## Collision Warning System (CWS)

The Collision Warning System (CWS) will generate an audible and visible alert when the vehicle's following distance may result in a collision. CWS provides only a warning and will not control vehicle speed unless ACC is engaged or a CMS event is detected. CWS cannot be turned off and is always active at vehicle speeds above 15 mph.

## Adaptive Cruise Control (ACC)

Adaptive Cruise Control (ACC) works in conjunction with conventional cruise control to maintain the set cruise speed when no vehicle is being tracked and maintains a minimum following interval when a target vehicle is being tracked. The minimum following interval is achieved by controlling engine throttle, engine retarder and the foundation brakes without driver intervention. When the target vehicle is no longer being tracked, the set cruise speed resumes automatically.

## Collision Mitigation System (CMS)

Collision Mitigation System (CMS) is an optional additional feature to the OnGuard Collision Safety System. The system will provide driver alerts with both visual and audible alarms through an in-cab dash display when the vehicle's following distance could result in a rear-end collision. If a potential rear-end collision is developing and the driver does not take action to decelerate the vehicle, OnGuard's Active Braking automatically de-throttles the engine and applies the engine retarder and foundation brakes to provide up to .35Gs of braking power. The active braking application is intended only to assist the driver to possibly avoid or reduce the severity of a collision. The driver must take the appropriate corrective action in response to the collision warning. The OnGuard Collision Safety System will not become active below 15 mph.

# In-Cab Dash Display

## Screen Background Color:

Blue: General operating mode with no target vehicle detected

Green: Target vehicle detected

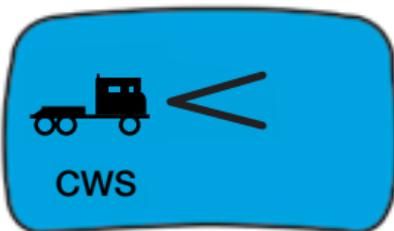
Yellow: Following distance alert, system capability warning

Red: Collision warning and diagnostic fault screen

## Operating Cruise Modes

### Control Not Set:

Your vehicle operates as usual when the ACC speed is not set. The CWS is on and will emit visual and audible alerts, but ACC is not active and vehicle speed will not be controlled. If your vehicle is equipped with CMS, CMS is always activated above 15 mph and will apply brakes and engine retarder control if the situation requires it.



Cruise control not set. No lead vehicle detected.



Cruise control not set. Lead vehicle detected.

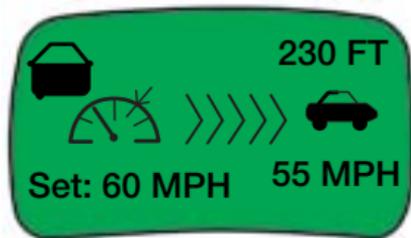


## Cruise Control Set:

When you set an ACC speed using factory cruise controls, the set cruise speed appears on the display. When a vehicle is detected in front of you, the ACC system attempts to control your speed, if necessary, to maintain a three-second following distance between you and the detected vehicle. Both the ACC and CWS are on, the display will emit visual and audible collision warnings, and the system will apply braking, engine and/or retarder control, if needed, to maintain a safe following distance.



Cruise control set. ACC and CWS activated. No lead vehicle detected.



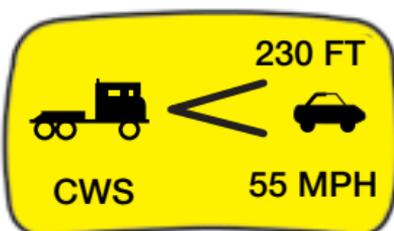
Cruise control set. ACC and CWS activated and lead vehicle detected. You may sense a decrease in power or vehicle speed in order to maintain a three-second distance between you and the detected vehicle.

**Note:** When the ACC is active, the driver can override the system braking, engine throttle and engine retarder controls by manually depressing the accelerator pedal. This will allow you to decrease the following distance between you and the vehicle in front of you. ACC can also be deactivated by pressing the brake pedal, similar to standard cruise control. Always use caution when manually overriding the ACC system by depressing the accelerator pedal because you may be creating an unsafe following distance.

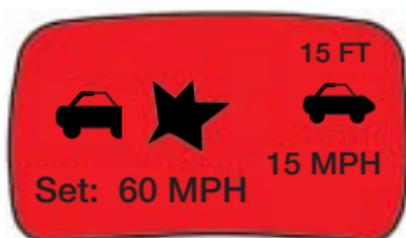


## Following-Distance Alert

The Following-Distance Alert will emit an audible alert and the in-cab dash display screen will turn yellow if you are following too closely behind another vehicle at a steady driving speed. This alert will end when your vehicle speed drops below the speed of the lead vehicle and the following distance is increased. This alert will also activate if the driver is using the accelerator pedal to override the ACC and approaches too closely to a vehicle. The Following-Distance Alert is disabled (will not alert) when your vehicle speed is below 15 mph.



# Collision Warning



If the lead vehicle is decelerating or your vehicle is driving much faster than the lead vehicle, the system will take the following actions:

- A collision warning symbol is displayed on the in-cab display.
- An audible alarm is sounded.
- The display screen turns red.
- The braking, engine and retarder control may activate and reduce the vehicle speed if an ACC speed is set.
- The driver must also take the appropriate corrective action.
- If the vehicle is equipped with CMS, automatic braking may be applied prior to the collision.
- Collision warning is disabled when your vehicle speed is below 15 mph.

## Adaptive Cruise Control and Collision

### Mitigation Errors:



If there is a fault in the system, OnGuard will not emit collision warnings or apply Active Braking. If there is an active fault, the display will turn red and the fault code will appear. If this occurs, take the vehicle in for service as soon as possible (**fault information should be recorded for troubleshooting**). Your vehicle's cruise control system, including ACC, CWC and CMS, will not warn or function until the active fault in the system is corrected.

## Safe Vehicle Operation

The OnGuard Collision Safety System includes multiple predefined calculations designed to alert you to potentially dangerous driving situations and provide a safe following distance while utilizing ACC in most environments and driving situations that you face on a daily basis. However, multiple factors can affect safe following distances and create additional safe driving considerations. When operating a vehicle with the OnGuard Collision Safety System, it is very important to adhere to the following:

- The OnGuard Collision Safety System should only be considered as an aid and is not intended to replace driver control over the vehicle at any time.
- Like cruise control in general, ACC should not be used when weather, road surface or conditions require longer following distances and your full control over the speed of the vehicle. Such conditions include, without limitation, snow, sleet, rain, fog, icing, etc.

- When operating your vehicle, always use safe driving techniques. The driver is always the most important element in safe vehicle operation.
- The OnGuard Collision Safety System is only intended to assist reaction and response time. The OnGuard Collision Safety System is not a substitute for proper driver braking and should be considered only as a driver assistance system. In the event the ACC system requires activation of the foundation brakes, the system is designed to provide braking at a level to alert you to a potentially unsafe following distance and aid in possibly avoiding or mitigating a collision. For your safety, the ACC system does not apply maximum braking, so the driver must intervene and assume control of vehicle braking.

## System Limitations

The OnGuard Collision Safety System only reacts to moving objects located directly in front of your vehicle and does not operate when your speed is less than 15 mph. Accordingly, the OnGuard Collision Safety System:

- Will not react and alert you to objects that the system has not seen move or objects crossing in front of you or oncoming traffic.
- Should not be relied on to track target vehicles when either or both vehicles have entered and/or are traveling through a severe curve in the road. Because of this, ACC is not recommended for use on winding (curving) roads.
- Should not be expected to track smaller objects (e.g., motorcycles, mopeds, bicycles, pedestrians, etc).
- Should not be relied on to alert drivers to vehicles in an adjacent lane.

# MERITOR WABCO

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