

2022 CHEVROLET CORVETTE SERVICE MANUAL

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Side Blind Zone Alert Description and Operation

The side blind zone alert system detects and reports "objects of interest" on either side of the vehicle, within a specified blind spot zone. The system is designed to alert the driver, with a visual display placed on the side view mirror, to the presence of objects of interest that may not be visible in the inside rearview mirror and outside rear view mirrors. Although this system is intended to help drivers avoid lane change collisions, it does not replace driver vision and therefore should be considered a lane change aid. Even with the side blind zone alert system, the driver must check carefully for objects outside of the reporting zone (e.g., a fast approaching vehicle) before changing lanes. In the event that the system senses a malfunction through its diagnostic routines, the system will be disabled and the driver will be visually notified.

When the system detects a vehicle in the side blind zone while driving forward, an amber warning symbol will light up in the appropriate outside mirror. This indicates that it may be unsafe to change lanes. If the driver then activates the turn signal, the amber warning symbol starts flashing as an extra warning not to change lanes.

Side blind zone alert is active when the vehicle is out of park, or the parking brake is off on manual transmission vehicles, and at speeds up to approximately 140 km/h (87 MPH). If a vehicle is detected in the blind zone, the warning symbols will illuminate on the appropriate side. When the vehicle is started, both outside mirror indicators will briefly illuminate to indicate that the system is operating. The warning symbols will vary brightness based on the ambient light conditions.

Side Blind Zone Alert Components

- B218L Side Object Sensor Module - Left
- B218R Side Object Sensor Module - Right
- K9 Body Control Module
- S79D Front Side Door Window Control Switch - Driver
- S79P Front Side Door Window Switch - Passenger
- A9A Outside Rearview Mirror "Driver"
- A9B Outside Rearview Mirror "Passenger"

B218 Side Object Sensor Module

The B218L Side Object Sensor Module - Left and B218R Side Object Sensor Module - Right are located on each side of the vehicle behind the rear fascia and are not directly visible from outside the vehicle. The B218 Side Object Sensor Modules use radar to determine the presence of objects nearby. Both B218 Side Object Sensor Modules communicate with the vehicle via serial data. The B218L Side Object Sensor Module - Left and B218R Side Object Sensor Module - Right also communicate with one another on a private CAN serial data bus. When an object is detected in the side blind zone, the B218L Side Object Sensor Module - Left and B218R Side Object Sensor Module - Right will send a CAN message to the K9 Body Control Module to illuminate the appropriate side blind zone alert indicator.

K9 Body Control Module

The B218L Side Object Sensor Module - Left and the B218R Side Object Sensor Module - Right will send a CAN message to the K9 Body Control Module when requesting the driver or passenger indicator be illuminated. The K9 Body Control Module then sends a LIN message to the S79D Front Side Door Window Control Switch - Driver or S79P Front Side Door Window Switch - Passenger with the indicator request.

S79 Front Side Door Window Control Switch

The B218L Side Obstacle Detection Control Module "Left" and the B218R Side Obstacle Detection Control Module "Right" will send a CAN message to the K9 Body Control Module when requesting the driver or passenger indicator be illuminated. The K9 Body Control Module then sends a LIN message to the S79D Front Side Door Window Control Switch - Driver or S79P Front Side Door Window Switch - Passenger with the indicator request. The S79D Front Side Door Window Control Switch - Driver or S79P Front Side Door Window Switch - Passenger will apply voltage to the indicator control circuit to illuminate the appropriate indicator.

A9 Outside Rearview Mirror

The A9A Outside Rearview Mirror “Driver” and A9B Outside Rearview Mirror “Passenger” each contain an icon that is backlit with high intensity, amber-colored LED™s located on the mirror surface. The display brightness adapts to day/night conditions. The P43D Side Object Detection Indicator “Driver” and P43P Side Object Detection Indicator “Passenger” in the appropriate A9 Outside Rearview Mirror is illuminated if the specific B218 Side Object Sensor Module detects a vehicle in the side blind zone to inform the driver that there is a vehicle driving in the blind spot zone.

Side Blind Zone Alert Operation

When the vehicle is started, both A9 Outside Rearview Mirror indicators will briefly illuminate to indicate that the system is operating. The system is designed to detect objects of interest as small as a 125cc motorcycle with rider. The detection zone starts at the outside rearview mirror and extends out to 3.5 m (11 ft) at the back corner of the vehicle and 3 m (10 ft) behind the vehicle at a height of 0.5 m (1.5 ft) and 2.0 m (6 ft) above the ground. The system may illuminate an indicator due to guardrails, signs, trees, shrubs, and other non-moving objects. This is normal system operation; the vehicle does not need service.

When the system detects a vehicle in the side blind zone or lane change alert area while driving forward, independent of passing a vehicle or being passed, an amber warning symbol will illuminate in the appropriate A9 Outside Rearview Mirror. This indicates that it may be unsafe to change lanes. If the driver then activates the turn signal, the amber warning symbol starts flashing as an extra warning not to change lanes.

Foul weather may affect the operation of the side blind zone and lane change alert systems. Occasional missed alerts can occur under normal circumstances and will increase in wet conditions. The number of missed alerts will increase with increased rainfall or road spray. Heavy rainfall, as well as mud, dirt, snow, ice, or slush build-up on the rear fascia, can completely disable the system.

If the vehicle is towing a trailer or has an object such as a bicycle rack attached to the rear of the vehicle, the side blind zone and lane change alert systems may not function properly and the indicators may illuminate intermittently or remain illuminated all the time.

Lane Change Alert Operation

An integrated function of the side blind zone alert system is lane change alert. Lane change alert supplements the side blind zone alert system by detecting approaching vehicles on either side of the vehicle that may not yet be in the side blind zone alert area. The detection zone for lane change alert starts at the outside rearview mirror and extends out to 3.5 m (11 ft) at the back corner of the vehicle and up to 70 m (230 ft) behind the vehicle at a height between 0.5 m (1.5 ft) and 2.0 m (6 ft) above the ground. The system determines when the indicator will illuminate based on the rate of closure, or approach speed, of an approaching vehicle. As the rate of closure becomes faster, the indicator will illuminate sooner.

Rear Cross Traffic Alert Operation

Rear cross traffic alert displays a red warning triangle with a left or right pointing arrow on the infotainment display to warn of traffic coming from the left or right. This system detects objects coming from up to 20 m (65 ft) from the left or right side of the vehicle. When an object is detected, either three beeps sound from the left or right or three safety alert seat pulses occur on the left or right side, depending on the direction of the detected vehicle.

Driver Information Center Messages

SIDE BLIND ZONE ALERT OFF or LANE CHANGE ALERT OFF

This message indicates that the system has been disabled through the driver information center. Refer to the vehicle owner's manual for instructions on how to set personalization options on the driver information center.

SERVICE SIDE DETECTION SYSTEM

This message indicates that the system requires service. When the message is displayed, the indicators will remain illuminated at all times, notifying the driver that the side blind zone system should not be relied upon when changing lanes. Since the sensors are also used for rear cross traffic alert, this feature will also be inoperative.

SIDE DETECTION SYSTEM UNAVAILABLE

This message indicates that the system has been temporarily disabled because the sensor is blocked or can otherwise not accurately detect vehicles or objects. Such instances may be mud, dirt, snow, ice, or slush build-up on the rear fascia, heavy rainfall, excessive road spray, fascia damage or stickers. An over or under-voltage condition or over-temperature will also cause the message to display.

The rear cross traffic alert system will read the GPS latitude and longitude on the serial data bus and calculate if the vehicle is within a Radio Astronomy zone. These zones are located in Europe and Japan and require the sensors to be turned off. The “Side Detection System Unavailable” message will be displayed to the driver when this occurs.

The system is continuously fine tuning the radar alignment. If the B218 Side Object Sensor Module is removed or significantly disturbed, such as removing the rear fascia or sensor bracket, an initial alignment is automatically performed by the system to enable system operation. However, the SIDE DETECTION SYSTEM UNAVAILABLE may remain for several hours of driving as the system fine tunes the radar alignment to ensure satisfactory alert performance.

