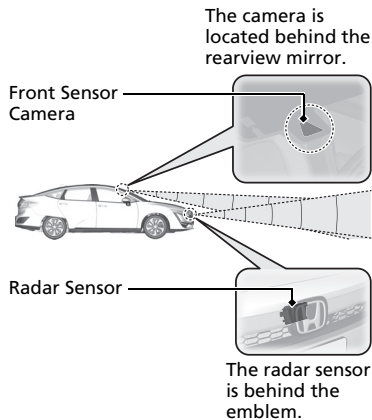


# Honda Sensing™

Honda Sensing™ is a driver support system which employs the use of two distinctly different kinds of sensors, a radar sensor located behind the emblem and a front sensor camera mounted to the interior side of the windshield, behind the rearview mirror.



## Adaptive Cruise Control (ACC) with Low Speed Follow

Helps maintain a constant vehicle speed and a set following-interval behind a vehicle detected ahead of yours and, if the detected vehicle comes to a stop, can decelerate and stop your vehicle, without you having to keep your foot on the brake or the accelerator.

## Road Departure Mitigation (RDM) System

Alerts and helps to assist you when the system detects a possibility of your vehicle unintentionally crossing over detected lane markings and/or leaving the roadway altogether.

## Lane Keeping Assist System (LKAS)

Provides steering input to help keep the vehicle in the middle of a detected lane and provides tactile and visual alerts if the vehicle is detected drifting out of its lane.

## Collision Mitigation Braking System™ (CMBS™)

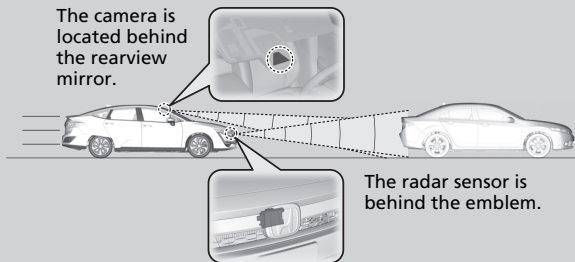
Can assist you when there is a possibility of your vehicle colliding with a vehicle or a pedestrian detected in front of yours. The CMBS™ is designed to alert you when a potential collision is determined, as well as to reduce your vehicle speed to help minimize collision severity when a collision is deemed unavoidable.

## Adaptive Cruise Control (ACC) with Low Speed Follow

Helps maintain a constant vehicle speed and a set following-interval behind a vehicle detected ahead of yours and, if the detected vehicle comes to a stop, can decelerate and stop your vehicle, without you having to keep your foot on the brake or the accelerator.

When ACC with Low Speed Follow slows your vehicle by applying the brakes, your vehicle's brake lights will illuminate.

### When to use



- Vehicle speed for ACC with Low Speed Follow: A vehicle is detected ahead within ACC with Low Speed Follow range – ACC with Low Speed Follow operates at speeds up to 90 mph (145 km/h). No vehicle is detected within ACC with Low Speed Follow range – ACC with Low Speed Follow operates at the speed of 25 mph (40 km/h) or above.
- Gear position for ACC with Low Speed Follow: In **D**.

### Adaptive Cruise Control (ACC) with Low Speed Follow

#### **WARNING**

Improper use of ACC with Low Speed Follow can lead to a crash.

Use ACC with Low Speed Follow only when driving on expressways or freeways and in good weather conditions.

#### **WARNING**

ACC with Low Speed Follow has limited braking capability and may not stop your vehicle in time to avoid a collision with a vehicle that quickly stops in front of you.

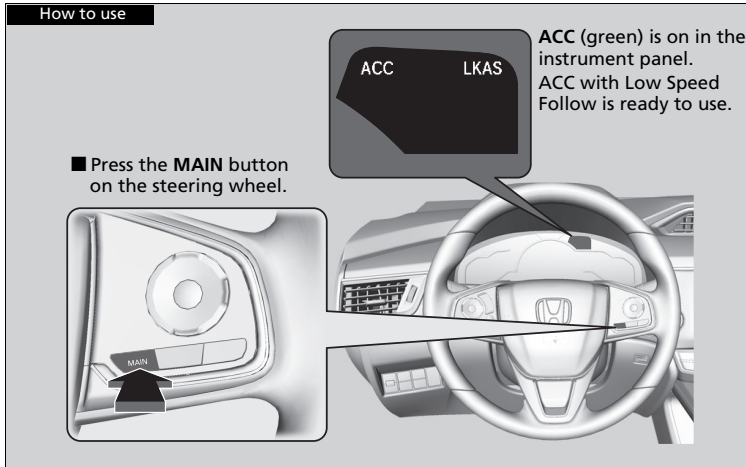
Always be prepared to apply the brake pedal if the conditions require.

#### **Important Reminder**

As with any system, there are limits to ACC with Low Speed Follow. Use the brake pedal whenever necessary, and always keep a safe interval between your vehicle and other vehicles.

Be careful not to severely impact the radar sensor cover.

## ■ How to activate the system



## ▶ Adaptive Cruise Control (ACC) with Low Speed Follow

When the **MAIN** button is pressed, both ACC with Low Speed Follow and the Lane Keeping Assist System (LKAS) are either turned on or off.

ACC with Low Speed Follow may not work properly under certain conditions.

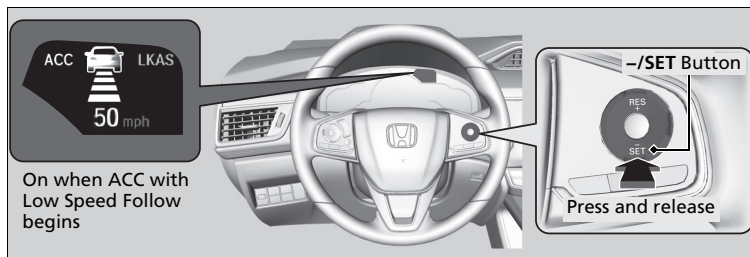
### ▶ ACC with Low Speed Follow Conditions and Limitations

When not using ACC with Low Speed Follow: Turn off adaptive cruise by pressing the **MAIN** button. This also will turn off the Lane Keeping Assist System (LKAS).

Do not use ACC with Low Speed Follow under the following conditions:

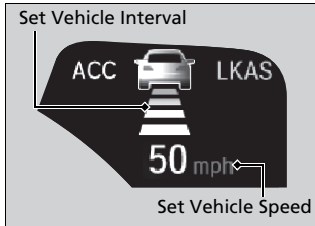
- On roads with heavy traffic or while driving in continuous stop and go traffic.
- On roads with sharp turns.
- On roads with steep downhill sections, as the set vehicle speed can be exceeded by coasting. In such cases, ACC with Low Speed Follow will not apply the brakes to maintain the set speed.
- On roads with toll collection facilities or other objects between lanes of traffic, or in parking areas, or facilities with drive through access.

## ■ To Set the Vehicle Speed



**When driving at about 25 mph (40 km/h) or above:** Take your foot off the pedal and press the **-/SET** button when you reach the desired speed. The moment you release the button, the set speed is fixed, and ACC with Low Speed Follow begins.

**When driving slower than about 25 mph (40 km/h):** If the vehicle is moving and the brake pedal is not depressed, pressing the button fixes the set speed to about 25 mph (40 km/h) regardless of current vehicle speed. If your vehicle is stationary, you can set the vehicle speed even with the brake pedal depressed.



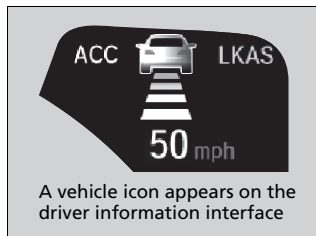
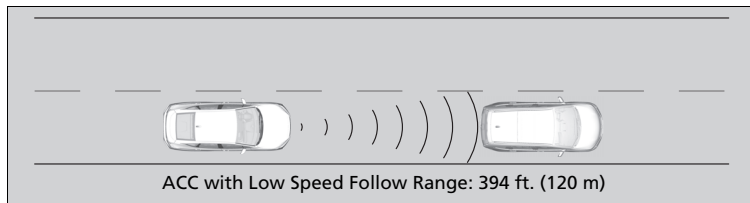
When ACC with Low Speed Follow starts operating, the vehicle icon, interval bars and set speed appear on the driver information interface.

When you use ACC with Low Speed Follow, Straight Driving Assist (a feature of the Electric Power Steering system) is activated. By enabling the steering system to automatically compensate for natural steering pull, Straight Driving Assist makes it easier for you to keep your vehicle in a straight line.

## When in Operation

### There is a vehicle ahead

ACC with Low Speed Follow monitors if a vehicle ahead of you enters the ACC with Low Speed Follow range. If a vehicle is detected doing so, the ACC with Low Speed Follow system maintains or decelerates your vehicle's set speed in order to keep the vehicle's set following-interval from the vehicle ahead.

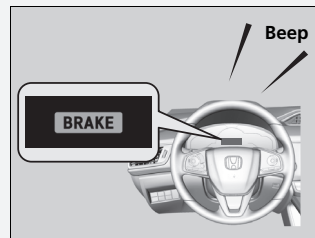


When a vehicle whose speed is slower than your set speed is detected in front of you, your vehicle starts to slow down.

### When in Operation

If the vehicle ahead of you slows down abruptly, or if another vehicle is detected cutting in front of you, the beeper sounds, a message appears on the driver information interface.

Depress the brake pedal, and keep an appropriate interval from the vehicle ahead.

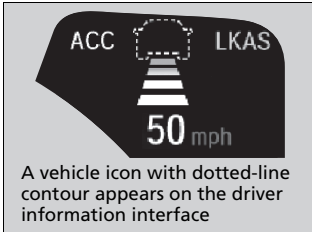


Even if the interval between your vehicle and the vehicle detected ahead is short, ACC with Low Speed Follow may start accelerating your vehicle under the following circumstances:

- The vehicle ahead of you is going at almost the same speed as, or faster than, your vehicle.
- A vehicle that cuts in front of you is going faster than your vehicle, gradually increasing the interval between the vehicles.

You can also set the system to beep when a vehicle detected in front of you comes in and goes out of the ACC with Low Speed Follow detecting range. Change the **ACC Forward Vehicle Detect Beep** setting.

### ■ There is no vehicle ahead



Your vehicle maintains the set speed without having to keep your foot on the brake or accelerator pedal. If there previously was a vehicle detected ahead that kept your vehicle from traveling at the set speed, ACC with Low Speed Follow accelerates your vehicle to the set speed, and then maintains it.

### ■ When you depress the accelerator pedal

You can temporarily increase the vehicle speed. In this case, there is no audible or visual alert even if a vehicle is in the ACC with Low Speed Follow range. ACC with Low Speed Follow stays on unless you cancel it. Once you release the accelerator pedal, the system resumes an appropriate speed for keeping the following-interval while a vehicle ahead is within the ACC with Low Speed Follow range.

#### ▶▶ When in Operation

### ⚠ WARNING

Exiting a vehicle that has been stopped while the ACC with Low Speed Follow system is operating can result in the vehicle moving without operator control.

A vehicle that moves without operator control can cause a crash, resulting in serious injury or death.

Never exit a vehicle when the vehicle is stopped by ACC with Low Speed Follow.

#### Limitations

You may need to use the brake to maintain a safe interval when using ACC with Low Speed Follow. Additionally, ACC with Low Speed Follow may not work properly under certain conditions.

#### ▶ ACC with Low Speed Follow Conditions and Limitations

#### ▶▶ When you depress the accelerator pedal

While the accelerator pedal is depressed, the system does not apply the brakes to keep the following interval, as well as the **BRAKE** message on the driver information interface does not appear.

■ **A vehicle detected ahead is within ACC with Low Speed Follow range and slows to a stop**



Your vehicle also stops, automatically. The **Stopped** message appears on the driver information interface.

When the vehicle ahead of you starts again, the vehicle icon on the driver information interface blinks. If you press the **RES/+** or **-/SET** button, or depress the accelerator pedal, ACC with Low Speed Follow operates again within the prior set speed.

## ■ ACC with Low Speed Follow Conditions and Limitations

The system may automatically shut off and the **ACC** indicator will come on under certain conditions. Some examples of these conditions are listed below. Other conditions may reduce some of the ACC functions.

### 📷 Front Sensor Camera

### ■ Environmental conditions

Driving in bad weather (rain, fog, snow, etc.).

### ■ Roadway conditions

Driving on a snowy or wet roadway (obscured lane marking, vehicle tracks, reflected lights, road spray, high contrast).

### ■ Vehicle conditions

- The outside of the windshield is blocked by dirt, mud, leaves, wet snow, etc.
- An abnormal tire or wheel condition (Wrong sized, varied size or construction, improperly inflated tire, etc.).
- The camera temperature gets too high.
- The parking brake is applied.
- When the front grille is dirty.
- The vehicle is tilted due to a heavy load or suspension modifications.
- When tire chains are installed.

## 📷 ACC with Low Speed Follow Conditions and Limitations

The radar sensor for ACC with Low Speed Follow is shared with the collision mitigation braking system™ (CMBS™).

### 📷 Collision Mitigation Braking System™ (CMBS™)

You can read about handling information for the camera equipped with this system.

### 📷 Front Sensor Camera

Always keep the radar sensor cover clean.

Never use chemical solvents or polishing powder for cleaning the sensor cover. Clean it with water or a mild detergent.

Do not put a sticker on the radar sensor cover or replace the radar sensor cover.

If you need the radar sensor to be repaired, or removed, or the radar sensor cover is strongly impacted, turn off the system by pressing the **MAIN** button and take your vehicle to a dealer.

Have your vehicle checked by a dealer if you find any unusual behavior of the system (e.g., the warning message appears too frequently).

### ■ Detection limitations

- A vehicle suddenly crosses in front of you.
- The interval between your vehicle and the vehicle ahead of you is too short.
- A vehicle cuts in front of you at a slow speed, and it brakes suddenly.
- When you accelerate rapidly and approach the vehicle ahead of you at high speed.
- The vehicle ahead of you is a motorcycle, bicycle, mobility scooter, or other small vehicle.
- When there are animals in front of your vehicle.
- When you drive on a curved or winding or undulating road that makes it difficult for the sensor to properly detect a vehicle in front of you.
- The speed difference between your vehicle and a vehicle in front of you is significantly large.
- An oncoming vehicle suddenly comes in front of you.
- Your vehicle abruptly crosses over in front of an oncoming vehicle.
- When driving through a narrow iron bridge.
- When the vehicle ahead of you brakes suddenly.
- When the vehicle ahead of you has a unique shape.
- When your vehicle or the vehicle ahead of you is driving on one edge of the lane.

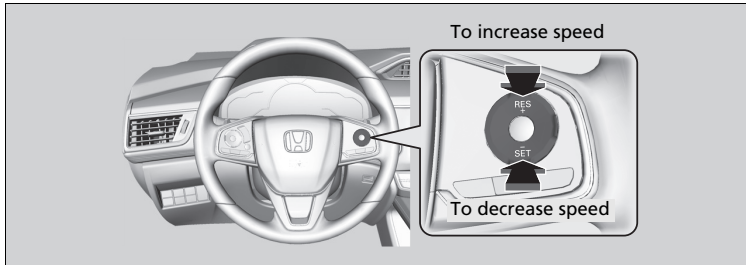
### ☒ ACC with Low Speed Follow Conditions and Limitations

If the front of the vehicle is impacted in any of the following situations, the radar sensor may not work properly. Have your vehicle checked by a dealer:

- The vehicle impacted a bump, curb, chock, embankment, etc.
- You drive the vehicle where the water is deep.
- Your vehicle has a frontal collision.

## ■ To Adjust the Vehicle Speed

Increase or decrease the vehicle speed using the **RES/+** or **-/SET** button on the steering wheel.



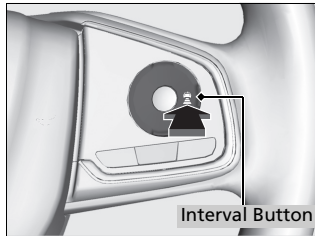
- Each time you press the **RES/+** or **-/SET** button, the vehicle speed is increased or decreased by about 1 mph or 1 km/h accordingly.
- If you press and hold the **RES/+** or **-/SET** button, the vehicle speed increases or decreases by about 5 mph or 5 km/h accordingly.


## ▶▶ To Adjust the Vehicle Speed

If a vehicle detected ahead is going at a speed slower than your increased set speed, ACC with Low Speed Follow may not accelerate your vehicle. This is to maintain the set interval between your vehicle and the vehicle ahead.

You can switch the displayed set speed measurements on the driver information interface between mph and km/h.

## ■ To Set or Change Following-Interval







Press the  (interval) button to change the ACC with Low Speed Follow following-interval.

Each time you press the button, the following-interval (the interval behind a vehicle detected ahead of you) setting cycles through extra long, long, middle, and short following-intervals.

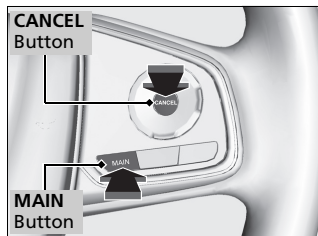
Determine the most appropriate following-interval setting based on your specific driving conditions. Be sure to adhere to any following-interval requirements set by local regulation.

The higher your vehicle's following-speed is, the longer the short, middle, long or extra long following-interval becomes. See the following examples for your reference.

Following-interval		When the Set Speed is:	
		50 mph (80 km/h)	65 mph (104 km/h)
Short		83 feet 25 meters 1.1 sec	100 feet 31 meters 1.1 sec
Middle		110 feet 33 meters 1.5 sec	142 feet 43 meters 1.5 sec
Long		154 feet 47 meters 2.1 sec	200 feet 61 meters 2.1 sec
Extra Long		204 feet 62 meters 2.8 sec	265 feet 81 meters 2.8 sec

When your vehicle stops automatically because a vehicle detected ahead of you has stopped, the interval between the two vehicles will vary based on the ACC with Low Speed Follow interval setting.

## To Cancel



To cancel ACC with Low Speed Follow, do any of the following:

- Press the **CANCEL** button.
- Press the **MAIN** button.
  - ▶ ACC with Low Speed Follow indicator goes off.
- Depress the brake pedal while the vehicle is moving forward.

## To Cancel

Resuming the prior set speed: After you have canceled ACC with Low Speed Follow, you can resume the prior set speed while it is still displayed. Press the **RES/+** button.

The set speed cannot be set or resumed when ACC with Low Speed Follow has been turned off using the **MAIN** button. Press the **MAIN** button to activate the system, then set the desired speed.

### ■ Automatic cancellation

The beeper sounds and a message appears on the driver information interface when ACC with Low Speed Follow is automatically canceled. Any of these conditions may cause the ACC with Low Speed Follow to automatically cancel:

- Bad weather (rain, fog, snow, etc.)
- When the radar sensor in the front grille gets dirty.
- An abnormal tire condition is detected, or the tires are skidding.
- Driving on a mountainous road, or driving off road for extended periods.
- Abrupt steering wheel movement.
- When the ABS, VSA® or CMBS™ is activated.
- When the ABS or VSA® system indicator comes on.
- When the vehicle is stopped on a very steep slope.
- When you manually apply the parking brake.
- When the detected vehicle within the ACC with Low Speed Follow range is too close to your vehicle.
- When a detected vehicle goes out of the ACC with Low Speed Follow range while your vehicle is stationary.
- The camera behind the rearview mirror, or the area around the camera, including the windshield, gets dirty.

The ACC with Low Speed Follow automatic cancellation can be also triggered by the following causes. In these cases, the parking brake will be automatically applied.

- The driver's seat belt is unfastened when the vehicle is stationary.
- The vehicle stops for more than 10 minutes.
- The power system is turned off.

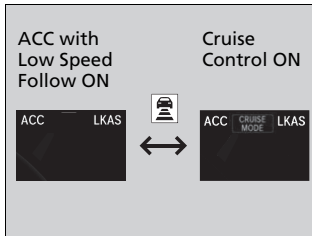
### ⌘ Automatic cancellation


Even though ACC with Low Speed Follow has been automatically canceled, you can still resume the prior set speed. Wait until the condition that caused ACC with Low Speed Follow to cancel improves, then press the **RES/+** button.


In the following cases, a buzzer sounds, ACC with Low Speed Follow is deactivated, and the message **Cruise Cancelled: Slope Too Steep. Watch Downhill Speed** appears in the driver information interface.

- While descending a long slope and the vehicle has repeatedly applied the brakes to maintain the set speed.

## ■ To Switch ACC with Low Speed Follow to Cruise Control



Press and hold the  (interval) button for one second. **Cruise Mode Selected** appears on the driver information interface for two seconds, and then the mode switches to Cruise.

To switch back to ACC with Low Speed Follow, press and hold the  button again for one second. **ACC Mode Selected** appears on the driver information interface for two seconds.

### ■ When to use

Desired speed in a range above roughly 25 mph (40 km/h) ~.

## ▶▶ To Switch ACC with Low Speed Follow to Cruise Control

Always be aware which mode you are in. When you are driving in Cruise mode, the system will not assist you to maintain a following-interval from a vehicle ahead of you.

You can switch the displayed set speed measurements on the driver information interface between mph and km/h.

## ■ To Set the Vehicle Speed

Take your foot off the pedal and press the **-/SET** button when you reach the desired speed.

The moment you release the **-/SET** button, the set speed is fixed, and cruise control begins. The **CRUISE CONTROL** indicator comes on.

## ■ To Adjust the Vehicle Speed

Each time you press the **RES/+** or **-/SET** button, the vehicle speed is increased or decreased by about 1 mph (1.6 km/h).

If you keep the **RES/+** or **-/SET** button pressed, the vehicle speed increases or decreases until you release it. This speed is then set.

When you use cruise control, Straight Driving Assist (a feature of the Electric Power Steering system) is activated.

By enabling the steering system to automatically compensate for natural steering pull, Straight Driving Assist makes it easier for you to keep your vehicle in a straight line.

## ■ To Cancel

To cancel cruise control, do any of the following:

- Press the **CANCEL** button.
- Press the **MAIN** button.
- Depress the brake pedal.

The **CRUISE CONTROL** indicator goes off.

### ☒ To Cancel

Resuming the prior set speed:

After cruise control has been canceled, you can still resume the prior set speed by pressing the **RES/+** button while driving at a speed of at least 25 mph (40 km/h) or more.

You cannot set or resume in the following situations:

- When vehicle speed is less than 25 mph (40 km/h).
- When the **MAIN** button is turned off.

At vehicle speeds of 22 mph (35 km/h) or less, cruise control is canceled automatically.

## Lane Keeping Assist System (LKAS)

Provides steering input to help keep the vehicle in the middle of a detected lane and provides tactile and visual alerts if the vehicle is detected drifting out of its lane.

### ■ Steering input assist

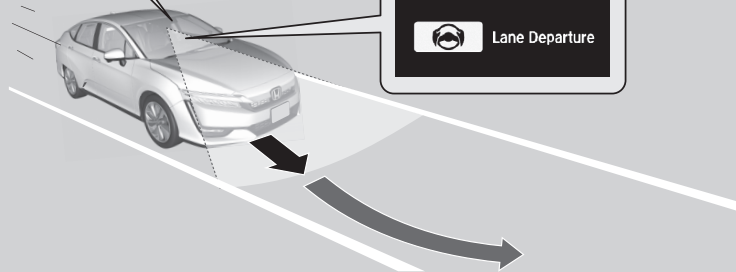
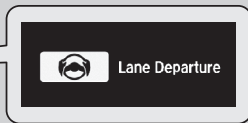
The system applies torque to the steering to keep the vehicle between the left and right lane lines. The applied torque becomes stronger as the vehicle gets closer to either of the lane lines.



■ Front Sensor Camera  
Monitors the lane lines

### ■ Tactile and visual alerts

Rapid vibrations on the steering wheel and a warning display alert you that the vehicle is drifting out of a detected lane.



When you operate the turn signals to change lanes, the system is suspended, and resumes after the signals are off.

If you make a lane change without operating the turn signals, the LKAS alerts activate, and torque is applied to the steering.

### ▣ Lane Keeping Assist System (LKAS)

#### Important Safety Reminders

The LKAS is for your convenience only. It is not a substitute for your vehicle control. The system does not work if you take your hands off the steering wheel or fail to steer the vehicle.

Do not place objects on the instrument panel. Objects may reflect on the windshield and prevent correct detection of the traffic lanes.

The LKAS only alerts you when lane drift is detected without a turn signal in use. The LKAS may not detect all lane markings or lane departures; accuracy will vary based on weather, speed, and lane marker condition. It is always your responsibility to safely operate the vehicle and avoid collisions.

The LKAS is convenient when it is used on freeways.

The LKAS may not work properly or may work improperly under the certain conditions:

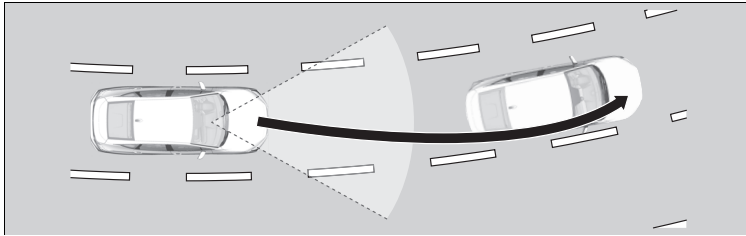
#### ▣ LKAS Conditions and Limitations

You can read about handling information for the camera equipped with this system.

#### ▣ Front Sensor Camera

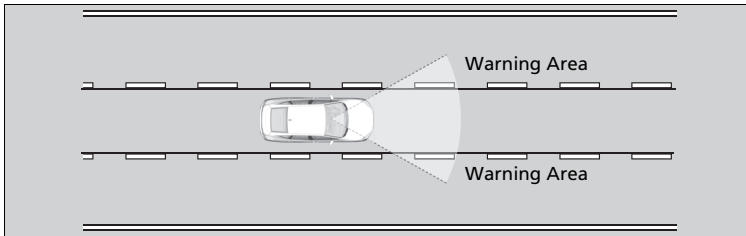
### ■ Lane Keep Support Function

Provides assistance to keep the vehicle in the center of the lane, when the vehicle nears a white or yellow line, steering force of the electric power steering will become stronger.



### ■ Lane Departure Warning Function

When the vehicle enters the warning area, the LKAS alerts you with slight steering wheel vibration as well as a warning display.



### ☒ Lane Keeping Assist System (LKAS)

The LKAS may not function as designed while driving in frequent stop and go traffic, or on roads with sharp curves.

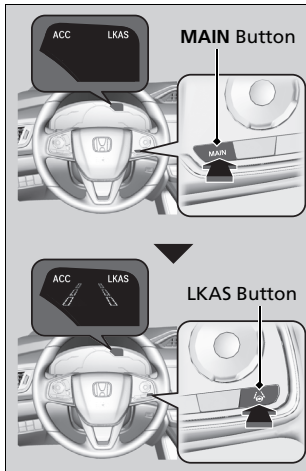
When it fails to detect lanes, the system will temporarily be canceled. When a lane is detected, the system will recover automatically.

## ■ When the System can be Used

The system can be used when the following conditions are met.

- The lane in which you are driving has detectable lane markers on both sides, and your vehicle is in the center of the lane.
- The vehicle is traveling between about 45 and 90 mph (72 and 145 km/h).
- You are driving on a straight or slightly curved road.
- The turn signals are off.
- The brake pedal is not depressed.
- The wipers are not in continuous operation.

## ■ How to activate the system



### 1. Press the **MAIN** button.

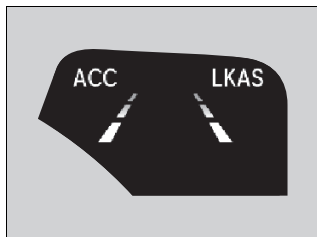
- ▶ The LKAS (green) is on in the driver information interface.  
The system is ready to use.

### 2. Press the LKAS button.

- ▶ Lane outlines appear on the driver information interface.  
The system is activated.

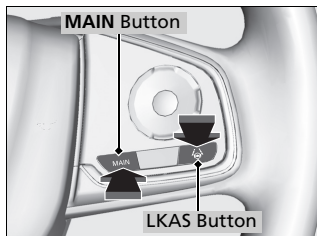
## ▶▶ When the System can be Used

If the vehicle drifts toward either left or right lane line due to the system applying torque, turn off the LKAS and have your vehicle checked by a dealer.



3. Keep your vehicle near the center of the lane while driving.
  - ▶ The dotted outer lines change to solid ones once the system starts operating after detecting the left and right lane markings.

### ■ To Cancel

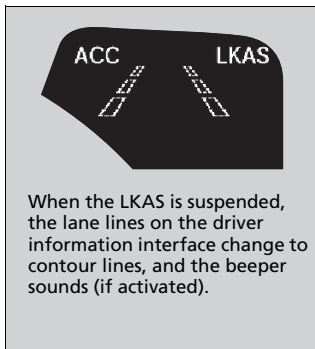


To cancel the LKAS:  
Press the **MAIN** or LKAS button.

The LKAS is turned off every time you turn the power system off, even if you turned it on the last time you drove the vehicle.

### ☒ To Cancel

Pressing the **MAIN** button also turns ACC with Low Speed Follow on and off.



■ **The system operation is suspended if you:**

- Set the wipers to **HI**.
  - ▶ Set the wiper switch to other than **HI** resumes the LKAS.
- Decrease the vehicle speed to about 40 mph (64 km/h) or less.
  - ▶ Increasing the vehicle speed to about 45 mph (72 km/h) or more resumes the LKAS.
- Depress the brake pedal.
  - ▶ The LKAS resumes and starts detecting the lane lines again once you release the brake pedal.

■ **The LKAS may automatically be suspended when:**

- The system fails to detect lane lines.
  - The steering wheel is quickly turned.
  - You fail to steer the vehicle.
  - Driving through a sharp curve.
  - Driving at a speed in excess of approximately 90 mph (145 km/h).
- Once these conditions no longer exist, the LKAS automatically resumes.

■ **The LKAS may automatically be canceled when:**

- The camera temperature gets extremely high or low.
- The camera behind the rearview mirror, or the area around the camera, including the windshield, gets dirty.
- The ABS or VSA® systems engage.

The beeper sounds if the LKAS is automatically canceled.

■ **LKAS Conditions and Limitations**

The system may not detect lane markings and therefore may not keep the vehicle in the middle of a lane under certain conditions, including the following:

■ **Environmental conditions**

- Driving in bad weather (rain, fog, snow, etc.).
- Sudden changes between light and dark, such as an entrance or exit of a tunnel.
- There is little contrast between lane lines and the roadway surface.
- Driving into low sunlight (e.g., at dawn or dusk).
- Strong light is reflected onto the roadway.
- Driving in the shadows of trees, buildings, etc.
- Shadows of adjacent objects are parallel to lane markings.
- Roadway objects or structures are misinterpreted as lane markers.
- Reflections on the interior of the windshield.

**■ Roadway conditions**

- Driving on a snowy or wet roadway (obscured lane marking, vehicle tracks, reflected lights, road spray, high contrast).
- Driving on a road with temporary lane markings.
- Faint, multiple, or varied lane markings are visible on the roadway due to road repairs or old lane markings.
- The roadway has merging, split, or crossing lines (e.g., such as at an intersection or crosswalk).
- The lane markings are extremely narrow, wide, or changing.
- The vehicle in front of you is driving near the lane lines.
- The road is hilly or the vehicle is approaching the crest of a hill.
- Driving on rough or unpaved roads, or over bumpy surfaces.
- When objects on the road (curb, guard rail, pylons, etc.) are recognized as white lines (or yellow lines).
- Driving on roads with double lines.

**■ Vehicle conditions**

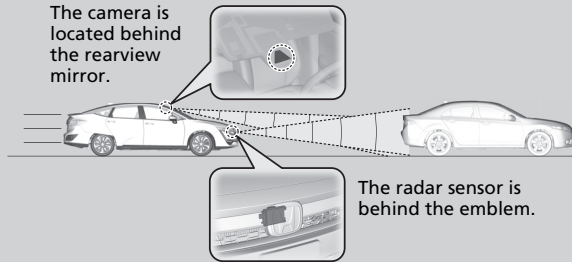
- Headlight lenses are dirty or the headlights are not properly adjusted.
- The outside of the windshield is streaked or blocked by dirt, mud, leaves, wet snow, etc.
- The inside of the windshield is fogged.
- The camera temperature gets too high.
- An abnormal tire or wheel condition (wrong sized, varied size or construction, improperly inflated tire, etc.).
- The vehicle is tilted due to a heavy load or suspension modifications.

## Collision Mitigation Braking System™ (CMBS™)

Can assist you when there is a possibility of your vehicle colliding with a vehicle or a pedestrian detected in front of yours. The CMBS™ is designed to alert you when a potential collision is determined, as well as to reduce your vehicle speed to help minimize collision severity when a collision is deemed unavoidable.

### ■ How the system works

#### When to use



The system starts monitoring the roadway ahead when your vehicle speed is about 3 mph (5 km/h) and there is a vehicle in front of you.

The CMBS™ activates when:

- The speed difference between your vehicle and a vehicle or pedestrian detected in front of you becomes about 3 mph (5 km/h) and over with a chance of a collision.
- Your vehicle speed is about 62 mph (100 km/h) or less and there is a chance of a collision with an oncoming detected vehicle or a pedestrian in front of you.

#### ▶▶ Collision Mitigation Braking System™ (CMBS™)

##### Important Safety Reminder

The CMBS™ is designed to reduce the severity of an unavoidable collision. It does not prevent a collision nor stop the vehicle automatically. It is still your responsibility to operate the brake pedal and steering wheel appropriately according to the driving conditions.

The CMBS™ may not activate or may not detect a vehicle in front of your vehicle under certain conditions:

##### ▶▶ CMBS™ Conditions and Limitations

You can read about handling information for the camera equipped with this system.

##### ▶▶ Front Sensor Camera

Be careful not to severely impact the radar sensor cover.

#### ▶▶ How the system works

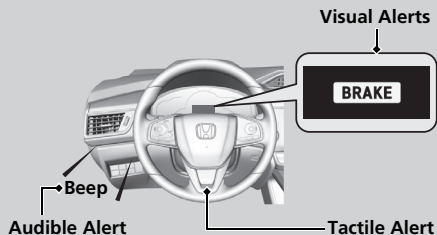
Rapid vibrations on the steering wheel alert you when the your vehicle speed is between 19 and 62 mph (30 and 100 km/h) with an oncoming vehicle detected in front of you.

When the CMBS™ activates, it may automatically apply the brake. It will be canceled when your vehicle stops or a potential collision is not determined.

### ■ When the system activates

The system provides visual, audible and tactile alerts of a possible collision, and stops if the collision is avoided.

- ▶ Take appropriate action to prevent a collision (apply the brakes, change lanes, etc.)



At system's earliest collision alert stage, you can change the distance (**Long/Normal/Short**) between vehicles at which alerts will come on through audio/information screen setting options.

### ■ Vibration alert on the steering wheel

When a potential collision to an oncoming detected vehicle is determined, the system alerts you with rapid vibration on the steering wheel, in addition to visual and audible alerts.

- ▶ Take appropriate action to prevent a collision (apply the brakes, operate the steering wheel, etc.).

### ☒ When the system activates

The camera in the CMBS™ is also designed to detect pedestrians.

However, this pedestrian detection feature may not activate or may not detect a pedestrian in front of your vehicle under certain conditions.

Refer to the ones indicating the pedestrian detection limitations from the list.

### ▶ CMBS™ Conditions and Limitations

### ☒ Vibration alert on the steering wheel

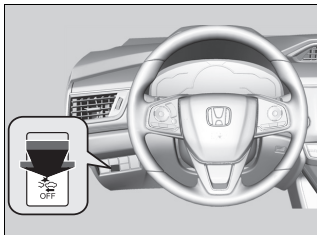
Vibration alert function is disabled when the electric power steering (EPS) system indicator comes on.

## ■ Collision Alert Stages

The system has three alert stages for a possible collision. However, depending on circumstances, the CMBS™ may not go through all of the stages before initiating the last stage.

Distance between vehicles		CMBS™			
		The sensor detects a vehicle	Audible & Visual WARNINGS	Steering Wheel	Braking
Stage one		There is a risk of a collision with the vehicle ahead of you.	When in <b>Long</b> , visual and audible alerts come on at a longer distance from a vehicle ahead than in <b>Normal</b> setting, and in <b>Short</b> , at a shorter distance than in <b>Normal</b> .	In case of an oncoming vehicle detected, rapid vibration is provided.	—
Stage two		The risk of a collision has increased, time to respond is reduced.	Visual and audible alerts.	—	Lightly applied
Stage three		The CMBS™ determines that a collision is unavoidable.			Forcefully applied

## ■ CMBS™ On and Off



Press and hold the button until the beeper sounds to switch the system on or off.

When the CMBS™ is off:

- The CMBS™ indicator in the instrument panel comes on.
- A message on the driver information interface reminds you that the system is off.

The CMBS™ is turned on every time you start the power system, even if you turned it off the last time you drove the vehicle.

## ▣ Collision Mitigation Braking System™ (CMBS™)

The CMBS™ may automatically shut off, and the CMBS™ indicator will come and stay on under certain conditions:

### ➤ CMBS™ Conditions and Limitations

The indicators for the Vehicle Stability Assist™ (VSA®) System, Vehicle Stability Assist™ (VSA®) OFF, low tire Pressure/TPMS and Collision Mitigation Braking System™ (CMBS™) may come on along with a message in the driver information interface after reconnecting the 12-volt battery. Drive a short distance at more than 12 mph (20 km/h). The indicator should go off. If it does not, have your vehicle checked by a dealer.

## ■ CMBS™ Conditions and Limitations

The system may automatically shut off and the CMBS™ indicator will come on under certain conditions. Some examples of these conditions are listed below. Other conditions may reduce some of the CMBS™ functions.

### 📷 Front Sensor Camera

#### ■ Environmental conditions

- Driving in bad weather (rain, fog, snow, etc.).
- Sudden changes between light and dark, such as an entrance or exit of a tunnel.
- There is little contrast between objects and the background.
- Driving into low sunlight (e.g., at dawn or dusk).
- Strong light is reflected onto the roadway.
- Driving in the shadows of trees, buildings, etc.
- Roadway objects or structures are misinterpreted as vehicles and pedestrians.
- Reflections on the interior of the windshield.
- Driving at night or in a dark condition such as a tunnel.

#### ■ Roadway conditions

- Driving on a snowy or wet roadway (obscured lane marking, vehicle tracks, reflected lights, road spray, high contrast).
- Driving on curvy, winding, or undulating roads.
- The road is hilly or the vehicle is approaching the crest of a hill.

### ■ Vehicle conditions

- Headlight lenses are dirty or the headlights are not properly adjusted.
- The outside of the windshield is blocked by dirt, mud, leaves, wet snow, etc.
- The inside of the windshield is fogged.
- An abnormal tire or wheel condition (wrong sized, varied size or construction, improperly inflated tire, etc.).
- When tire chains are installed.
- The vehicle is tilted due to a heavy load or suspension modifications.
- The camera temperature gets too high.
- Driving with the parking brake applied.
- When the radar sensor in the front grille gets dirty.

### ■ Detection limitations

- A vehicle or pedestrian suddenly crosses in front of you.
- The distance between your vehicle and the vehicle or pedestrian ahead of you is too short.
- A vehicle cuts in front of you at a slow speed, and it brakes suddenly.
- When you accelerate rapidly and approach the vehicle or pedestrian ahead of you at high speed.
- The vehicle ahead of you is a motorcycle, bicycle, mobility scooter or other small vehicle.
- When there are animals in front of your vehicle.
- When you drive on a curved, winding or undulating road that makes it difficult for the sensor to properly detect a vehicle in front of you.
- The speed difference between your vehicle and a vehicle or pedestrian in front of you is significantly large.
- An oncoming vehicle suddenly comes in front of you.
- Another vehicle suddenly comes in front of you at an intersection, etc.
- Your vehicle abruptly crosses over in front of an oncoming vehicle.
- When driving through a narrow iron bridge.
- When the lead vehicle suddenly slows down.

**Limitations applicable to pedestrian detection only**

- When there is a group of people in front of your vehicle walking together side by side.
- Surrounding conditions or belongings of the pedestrian alter the pedestrian's shape, preventing the system from recognizing that the person is a pedestrian.
- When the pedestrian is shorter than about 3.3 feet (1 meter) or taller than about 6.6 feet (2 meters) in height.
- When a pedestrian blends in with the background.
- When a pedestrian is bent over or squatting, or when their hands are raised or they are running.
- When several pedestrians are walking ahead in a group.
- When the camera cannot correctly identify that a pedestrian is present due to an unusual shape (holding luggage, body position, size).

**■ Automatic shutoff**

The CMBS™ may automatically shut itself off and the CMBS™ indicator comes and stays on when:

- The temperature inside the system is high.
- You drive off-road or on a mountain road, or curved and winding road for an extended period.
- An abnormal tire condition is detected (wrong tire size, flat tire, etc.).
- The camera behind the rearview mirror, or the area around the camera, including the windshield, gets dirty.

Once the conditions that caused the CMBS™ to shut off improve or are addressed (e.g., cleaning), the system comes back on.

## ■ With Little Chance of a Collision

The CMBS™ may activate even when you are aware of a vehicle ahead of you, or when there is no vehicle ahead. Some examples of this are:

### ■ When Passing

Your vehicle approaches another vehicle ahead of you and you change lanes to pass.

### ■ At an intersection

Your vehicle approaches or passes another vehicle that is making a left or right turn.

### ■ On a curve

When driving through curves, your vehicle comes to a point where an oncoming vehicle is right in front of you.

### ■ Through a low bridge at high speed

You drive under a low or narrow bridge at high speed.

### ■ Speed bumps, road work sites, train tracks, roadside objects, etc.

You drive over speed bumps, steel road plates, etc., or your vehicle approaches train tracks or roadside objects [such as a traffic sign and guard rail] on a curve or, when parking, stationary vehicles and walls.

## ☒ Collision Mitigation Braking System™ (CMBS™)

For the CMBS™ to work properly:

Always keep the radar sensor cover clean.

Never use chemical solvents or polishing powder for cleaning the sensor cover. Clean it with water or a mild detergent.

Do not apply any coverings or paint to the radar sensor area. Do not put a sticker on the emblem or replace the emblem.

These can impact CMBS™ operation.

If you need the radar sensor to be repaired, or removed, or the radar sensor cover is strongly impacted, turn off the system by pressing the CMBS™ off button and take your vehicle to a dealer.

Have your vehicle checked by a dealer if you find any unusual behavior of the system (e.g., the warning message appears too frequently).

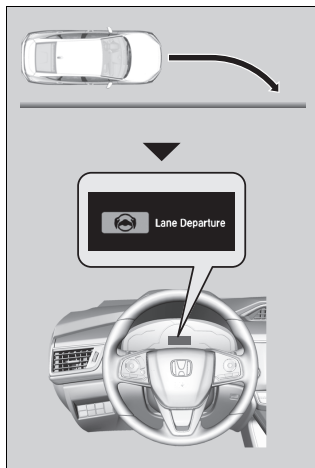
If the front of the vehicle is impacted in any of the following situations, the radar sensor may not work properly. Have your vehicle checked by a dealer:

- The vehicle impacted a bump, curb, chock, embankment, etc.
- You drive the vehicle where the water is deep.
- Your vehicle has a frontal collision.

## Road Departure Mitigation (RDM) System

Alerts and helps to assist you when the system detects a possibility of your vehicle unintentionally crossing over detected lane markings and/or leaving the roadway altogether.

### How the System Works



The front camera behind the rearview mirror monitors left and right lane markings (in white or yellow). If your vehicle is getting too close to detected lane markings without a turn signal activated, the system, in addition to a visual alert, applies steering torque and alerts you with rapid vibrations on the steering wheel, to help you remain within the detected lane.

As a visual alert, the **Lane Departure** message appears on the driver information interface.

If the system determines that its steering input is insufficient to keep your vehicle on the roadway, it may apply braking.

- ▶ Braking is applied only when the lane markings are solid continuous lines.

The system cancels assisting operations when you turn the steering wheel to avoid crossing over detected lane markings.

If the system operates several times without detecting driver response, the system beeps to alert you.

### ⊠ Road Departure Mitigation (RDM) System

#### Important Safety Reminder

Like all assistance systems, the RDM system has limitations.

Over-reliance on the RDM system may result in a collision. It is always your responsibility to keep the vehicle within your driving lane.

The RDM system only alerts you when lane drift is detected without a turn signal in use. The RDM system may not detect all lane markings or lane or roadway departures; accuracy will vary based on weather, speed and lane marker condition. It is always your responsibility to safely operate the vehicle and avoid collisions.

You can read about handling information for the camera equipped with this system.

#### ▶ Front Sensor Camera

The RDM system may not work properly or may work improperly under the certain conditions:

#### ▶ RDM Conditions and Limitations

There are times when you may not notice RDM functions due to your operation of the vehicle, or road surface conditions.

## How the System Activates


The system becomes ready to start searching for lane markings when all the following conditions are met:

- The vehicle is traveling between about 45 and 90 mph (72 and 145 km/h).
- The vehicle is on a straight or slightly curved road.
- The turn signals are off.
- The brake pedal is not depressed.
- The wipers are not in continuous operation.
- The vehicle is not accelerating or braking, and the steering wheel is not being turned.
- The system makes a determination that the driver is not actively accelerating, braking or steering.

## How the System Activates

If LKAS is off and you have selected **Narrow** from the customized options using the audio/information screen, the message below will appear in case the system determines a possibility of your vehicle crossing over detected lane markings.

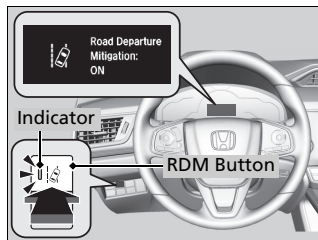


The RDM system may automatically shut off and the  indicator comes and stays on.

RDM system function can be impacted when the vehicle is:

- Not driven within a traffic lane.
- Driven on the inside edge of a curve, or outside of a lane.
- Driven in a narrow lane.

## RDM On and Off



Press the RDM button to turn the system on and off.

- ▶ The indicator in the button comes on and the message appears on the driver information interface when the system is on.

## RDM Conditions and Limitations

The system may not properly detect lane markings and the position of your vehicle under certain conditions. Some examples of these conditions are listed below.

### ■ Environmental conditions

- Driving in bad weather (rain, fog, snow, etc.).
- Sudden changes between light and dark, such as an entrance or exit of a tunnel.
- There is little contrast between lane lines and the roadway surface.
- Driving into low sunlight (e.g., at dawn or dusk).
- Strong light is reflected onto the roadway.
- Driving in the shadows of trees, buildings, etc.
- Shadows of adjacent objects are parallel to lane markings.
- Roadway objects or structures are misinterpreted as lane markers.
- Reflections on the interior of the windshield.

### ⊗ RDM On and Off

When you have selected **Warning Only** from the customized options using the audio/information screen, the system does not operate the steering wheel and braking.

**■ Roadway conditions**

- Driving on a snowy or wet roadway (obscured lane marking, vehicle tracks, reflected lights, road spray, high contrast).
- Driving on a road with temporary lane markings.
- Faint, multiple, or varied lane markings are visible on the roadway due to road repairs or old lane markings.
- The roadway has merging, split, or crossing lines (e.g., such as at an intersection or crosswalk).
- The lane markings are extremely narrow, wide, or changing.
- The vehicle in front of you is driving near the lane lines.
- The road is hilly or the vehicle is approaching the crest of a hill.
- Driving on rough or unpaved roads, or over bumpy surfaces.
- When objects on the road (curb, guard rail, pylons, etc.) are recognized as white lines (or yellow lines).
- Driving on roads with double lines.

**■ Vehicle conditions**

- Headlight lenses are dirty or the headlights are not properly adjusted.
- The outside of the windshield is streaked or blocked by dirt, mud, leaves, wet snow, etc.
- The inside of the windshield is fogged.
- The camera temperature gets too high.
- An abnormal tire or wheel condition (wrong sized, varied size or construction, improperly inflated tire, etc.).
- The vehicle is tilted due to a heavy load or suspension modifications.
- When tire chains are installed.