

How do intelligent stability and handling systems work?

Not all intelligent stability and handling systems are exactly the same. Most operate under a basic principle of monitoring and comparing your vehicle's movement with the direction you are steering. That is, if you're steering one way but your vehicle is about to head another, such as during a skid, the systems automatically brake specific wheels, allowing you to maintain steering control and continue in your intended direction.

I'm a good driver. Why do I need this?

In emergency driving conditions – whether related to surface, speed or weather – even the best drivers can find themselves in understeer or oversteer situations.

Oversteer occurs when rear wheels lose traction causing the back of the vehicle to “spin out.” Understeer occurs when front wheels lose traction, which can cause you to “miss” a curve.

Intelligent stability and handling systems intervene to correct for oversteer and understeer by automatically braking specific wheels, a function even the best drivers cannot perform.

What do I have to do to use the system?

Intelligent stability and handling systems do not need to be activated by the driver. When sensors detect that loss of control is imminent, the system automatically engages to help you maintain control of your vehicle.

Can I drive more aggressively with intelligent stability and handling systems?

No. Aggressive driving is neither appropriate nor safe with any vehicle. Intelligent stability and handling systems will not allow drivers to defeat the laws of physics.

How do I know the system is working?

This depends on the type of intelligent stability and handling system you have on your vehicle. Various vehicles have different signals, such as a lit dashboard icon or mechanical sounds to indicate the intelligent stability and handling system has been engaged.

How do I know if my vehicle has an intelligent stability and handling system?

If you're buying a new vehicle, look for one of the intelligent stability and handling system brand names on the window sticker and ask the dealer

representative for a breakout of the safety and performance packages. If you're borrowing or renting a vehicle, ask the owner or rental agent. It's also a good idea to check your owner's manual to better understand your vehicle's safety features.

Since intelligent stability and handling systems are relatively new to the market, you might not know if your current vehicle has such a system. If you drive a newer vehicle that you think might have such a system, call your dealership. Your purchase record should have this information. Make sure you have your vehicle identification number (VIN) so the dealer can look up your record.

When are intelligent stability and handling systems helpful?

Intelligent stability and handling systems are helpful when loss of vehicle control is imminent. Generally, we associate rain or snow – bad weather – with skids or losing control. However, various road surfaces and conditions (such as gravel or potholes and roads with sharp curves), driving too fast or avoiding road obstacles can also create hazardous or emergency driving conditions.

Are these systems the same as traction control?

No. Traction control works to prevent unwanted wheel spin in low-traction situations such as snow or rain by adjusting vehicle acceleration. Intelligent stability and handling systems actually detect when loss of control is imminent and automatically brake individual wheels to help the driver maintain control. If you're driving a vehicle with an intelligent stability and handling system, the vehicle will also have traction control.

Are these systems the same as anti-lock brake systems (ABS)?

No. ABS works to prevent wheel-lock. To engage ABS, a driver must firmly step on the brake and hold the pedal in place while the system applies the brakes rapidly – more rapidly than a driver “pumping” ever could.

Intelligent stability and handling systems actually detect when loss of control is imminent and automatically brake individual wheels to help the driver maintain control. They do not have to be engaged by the driver. If you're driving a vehicle with an intelligent stability and handling system, the vehicle will also have ABS.

When the rear wheels of a vehicle lose traction, oversteer can occur. When the front wheels lose traction, it's called understeer. Either way, the driver can lose the ability to turn the car along the intended path.



When sensors in intelligent stability and handling systems detect oversteer is imminent, the outside front wheel brake is automatically applied to prevent loss of control.



Likewise, when the sensors detect understeer is about to occur, they automatically brake the inside rear wheel, helping the driver make the turn and continue forward in the right direction.



What They Do

Intelligent stability and handling systems provide you with greater control of your vehicle when loss of control is imminent.

They help you avoid obstacles and prevent the skidding that can occur in all kinds of weather and on all kinds of roads; conditions in which even the best of drivers might struggle to keep their cars on the road.

These systems have sensors that detect the direction your vehicle is going and compare it to the direction you are steering the vehicle. When the system detects a discrepancy between your intended path and the direction the vehicle is actually traveling, the system will intervene to help bring the movement of the vehicle back in line with your intentions.

Intelligent stability and handling systems intervene before control is lost by automatically braking specific wheels. In short, these systems help you maintain control when control might otherwise – without such a system – be lost.

A word about anti-lock brake systems (ABS):

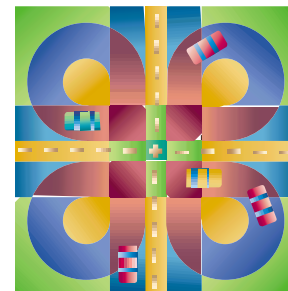
Anti-lock brake systems (ABS) are recognized by government and industry leaders as one of the most significant safety advances in modern automotive engineering. Four-wheel ABS prevents wheel lock-up, allowing drivers to maintain stability as well as steering control during an emergency or hard braking situation. When engaging four-wheel anti-lock brakes, drivers should firmly press their brake pedals and steer normally.

About the ABS Education Alliance and intelligent stability and handling systems:

This campaign to help drivers understand intelligent stability and handling systems is led by the ABS Education Alliance, a nonprofit coalition of leading manufacturers of intelligent stability and handling systems and anti-lock brake systems (ABS): Robert Bosch Corp., Continental Teves and Delphi Automotive Systems. Since 1995, the ABS Education Alliance has been reaching out to automotive and safety experts, educators and drivers to increase understanding and use of vehicle safety technology.

To order quantities of this free brochure, or “America Brakes for Safety,” our free brochure about ABS, contact:

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It seems that every time you open the newspaper or turn on the television, there's a new report on automotive safety. For many drivers, safe driving simply means using safety belts and paying attention to the road.

But some of the greatest risk factors related to driving may not be in your control, such as other drivers, obstacles, road surfaces and weather conditions. What you can control is what you know about the vehicle you're driving... what kinds of safety features it has, what those features do and how they can help you.

Today there are new technologies that are designed to help control your vehicle when you cannot. We call them intelligent stability and handling systems. Among the newest automotive safety advancements, they are now available on more and more vehicles as either optional or standard equipment. Some names for intelligent stability and handling systems that you may recognize are:

- Active Handling
- AdvanceTrac™
- Dynamic Stability Control
- Electronic Stability Program or ESP
- StabiliTrac
- Traxxar™