

# STAR™

## SAFETY SYSTEM

- All 2011 Toyota models come standard with the Star Safety System.™ This integration of active safety features is designed to protect occupants by helping drivers avoid accidents in the first place.

The Star Safety System™ includes:

VSC: Vehicle Stability Control  
TRAC: Traction Control  
ABS: Antilock Braking System  
EBD: Electronic Brake-force Distribution  
BA: Brake Assist  
SST: Smart Stop Technology

- The Star Safety System has been developed to help you drive your vehicle with confidence, knowing that, when you need it most, the car's safety systems can help you stay in control.
- Every time you climb into your vehicle, Toyota's Star Safety System can help to keep you out of trouble, whether it's a run to the corner store or a long road trip with friends or family.

Read on to find out more about each component of the Star Safety System and how it can be of benefit to you.



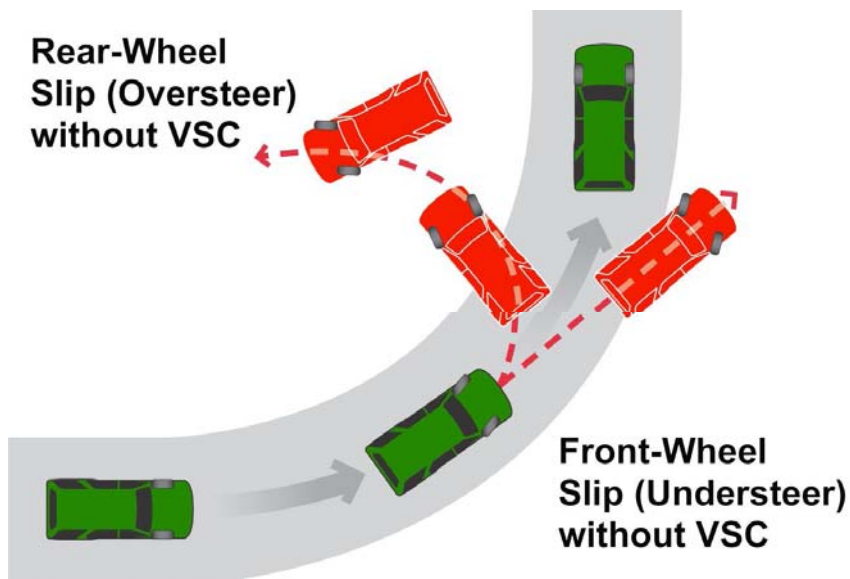
1. Vehicle Stability Control (VSC) is an electronic system designed to help the driver maintain vehicle control under adverse conditions. It is not a substitute for safe driving practices. Factors including speed, road conditions and driver steering input can all affect whether VSC will be effective in preventing a loss of control.
2. Brake Assist is designed to help the driver take full advantage of the benefits of ABS. It is not a substitute for safe driving practices. Braking effectiveness also depends on proper brake-system maintenance and tire and road conditions.
3. Smart Stop Technology operates only in the event of certain simultaneous brake and gas pedal applications. When engaged, the system will reduce engine power to help the brakes bring the vehicle to a stop. Factors including speed, road conditions and driver input can all impact stopping distance. Smart Stop Technology is not a substitute for safe and attentive driving and does not guarantee instant stopping.

# VSC

Vehicle Stability Control

- Toyota is the only fullline manufacturer in Canada to have VSC as standard equipment on every 2011 Model Year Vehicle. VSC helps prevent wheelslip and loss of traction by reducing engine power and applying brake force to the wheels that need it. Front wheelslip can occur when the front wheels lose traction during cornering and begin to drift toward the outside of the turn. Rear wheelslip can occur when the rear wheels lose traction and cause the vehicle to slide around. Toyota's VSC monitors your steering angle and the direction your vehicle is actually traveling and senses when your front or rear wheels begin to slip. When it senses this loss of traction or slip, VSC reduces engine power and applies braking to the individual wheels that need it to help correct the slip and keep the vehicle in the intended path.
- When surprises occur and there is need to take sudden evasive action, VSC helps the driver to control skidding when swerving suddenly or turning on slippery road surfaces. VSC can help stabilize the vehicle by controlling the brakes and, if necessary, the engine.
- When you encounter certain difficult situations, Toyota's VSC system can help you stay on the road and pointed in the direction that you want to go, and can help you avoid a collision so you can get on with the important things.

## VSC can help stabilize your vehicle and reduce front / rear wheel skids

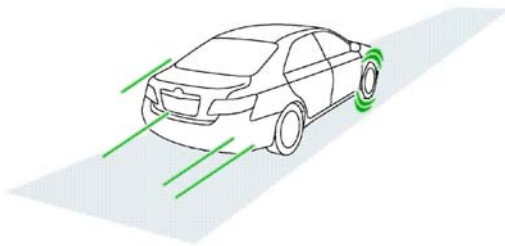


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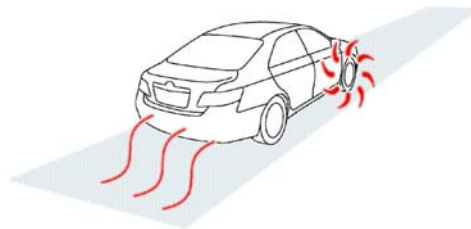
# TRAC

Traction Control System

- Traction Control helps maintain traction on wet, icy, loose or uneven surfaces by applying brake force to the spinning wheel(s). Toyota's Traction Control sensors are activated when one of the wheels start to slip. TRAC limits engine output and applies the brakes to the spinning wheel.
- You want your vehicle to drive in a stable and controllable manner no matter what the road conditions are. TRAC can help you maintain drive power and prevent the front wheels from spinning when starting the vehicle or accelerating on slippery roads.
- When the road conditions change from dry, to icy, to slushy, to puddle ridden, TRAC can help you get through the difficult road conditions during your drive home.



With Traction Control

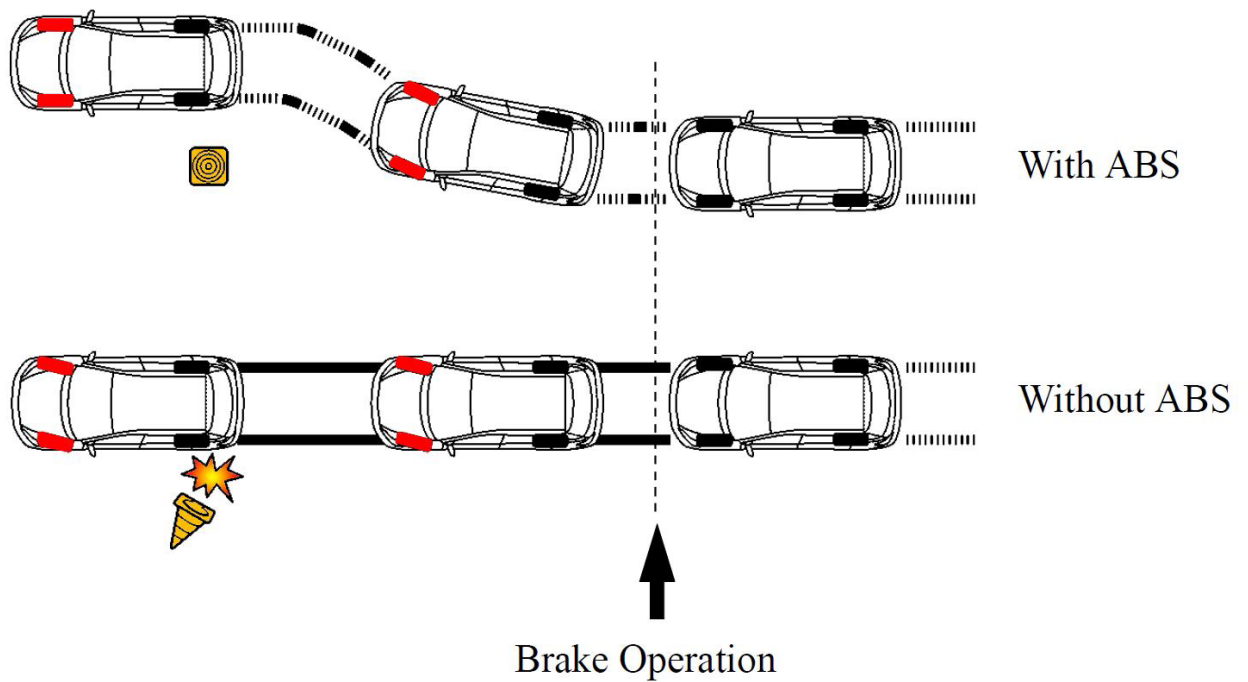


Without Traction Control

# ABS

Anti-lock Brake System

- ABS helps prevent brakes from locking up by "pulsing" brake pressure to each wheel to help you stay in control in emergency braking situations. Toyota's ABS sensors detect which wheels are locking up and prevent the lockup by "pulsing" the brakes at each wheel independently. Pulsing releases brake pressure repeatedly for fractions of a second – a reaction time not possible for humans. This means the wheels never stop rotating and that helps the car to avoid going into a skid, helping you stay in control.
- The ABS system can help provide safer, controllable stops and can help allow you to steer the vehicle in emergency braking situations.
- When something unexpected appears in your path, you instinctively swerve to avoid it and jam on the brakes. However, without ABS, the brakes can lock up, the vehicle starts to skid, and you struggle to stay in control.



# EBD

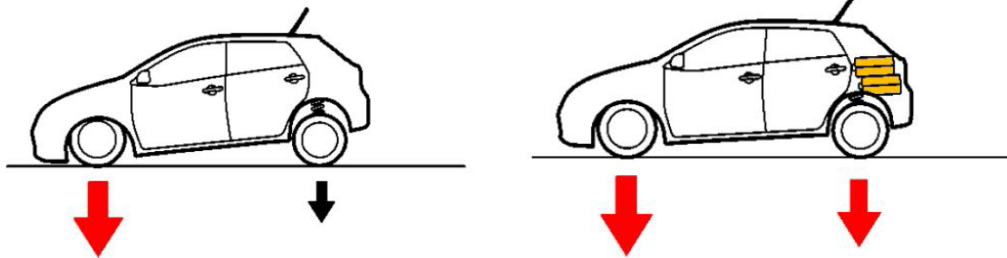
Electronic Brake Force Distribution

■ Toyota's ABS technology has Electronic Brake-force Distribution (EBD) to help keep the vehicle more stable and balanced when braking. If you have to stop abruptly, momentum causes the vehicle to tilt forward and reduces the brake force of the rear tires. But in a Toyota, EBD responds to sudden stops by redistributing brake force. Wheels with more braking effectiveness receive more brake force; wheels with less effectiveness receive less brake force. This helps prevent brake lockup. EBD is especially helpful when carrying cargo. Sensors recognize the extra load the cargo puts on the rear axle, so brake pressure on the rear wheels is increased because the extra weight improves braking effectiveness.

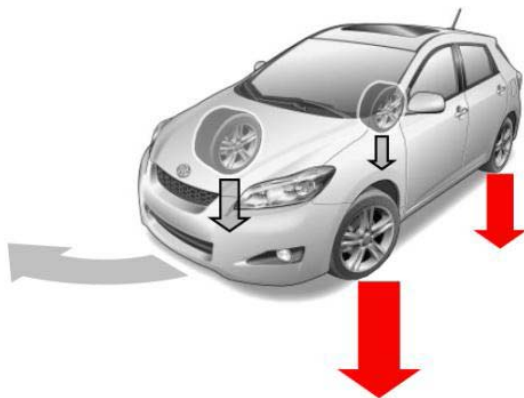
When cornering and braking at the same time, the wheels to the outside of the turn carry more vehicle weight and may have more grip than the inner wheels. EBD balances the brake force between the inner and outer wheels to help optimize stopping and cornering performance.

■ The vehicle's EBD system enhances your ability to stop by helping to balance and maximize the braking force at each wheel.

Grip at wheels: No Load vs. Load

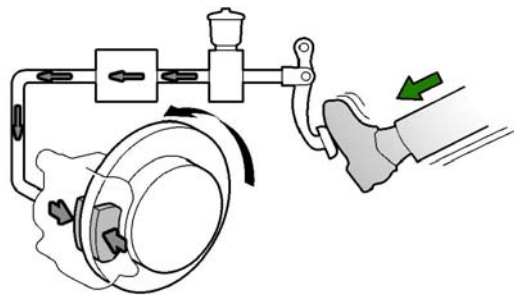


Grip at wheels: Turning

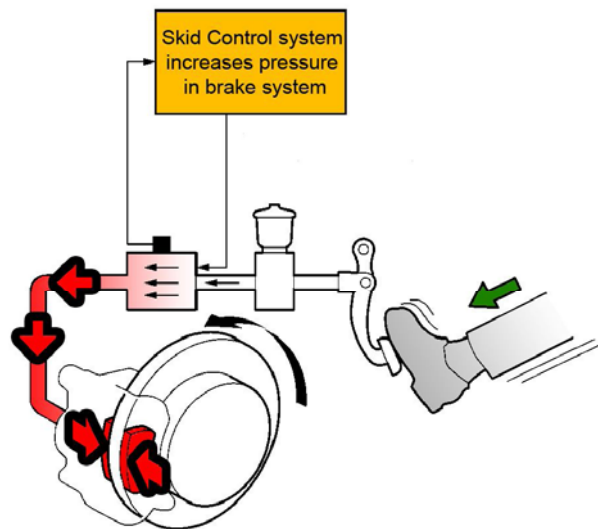


# BA Brake Assist

- Brake Assist is designed to detect sudden or “panic” braking and adds the full pressure needed to help prevent a collision. Because the reaction time is so short before the driver hits the brakes, not enough pressure may be applied. As a result, the car may not stop in time. But in a Toyota, if a driver fails to apply enough pressure to the brake, the Brake Assist sensors will detect this sudden or “panic” braking and add pressure. This additional pressure can help the driver avoid hitting the object.
- Brake Assist can help you apply more braking force in situations where you have to brake hard.
- When driving you can be confident that Brake Assist can help you stop your vehicle... for example, if you are commuting in traffic and have to stop to help avoid a collision.



Without Brake Assist



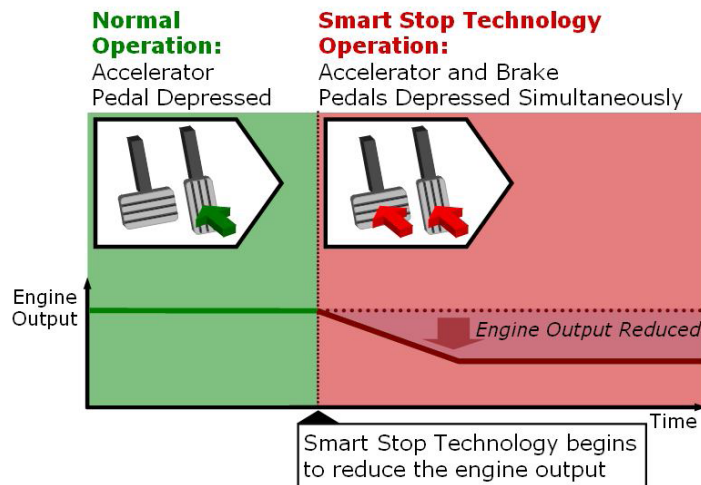
With Brake Assist

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# SST

Smart Stop Technology

- As an added measure of safety, Toyota created the braking system enhancement known as Smart Stop Technology. This advanced technology automatically reduces engine power when both pedals are pressed at the same time under certain conditions. Smart Stop Technology intervenes when the accelerator is depressed first and the brakes are applied firmly for longer than one half second at speeds greater than five miles per hour. In normal driving conditions, you won't notice Smart Stop Technology as it is imperceptible. The feature doesn't engage if the brake pedal is depressed before the accelerator pedal. This allows for vehicles starting on a steep hill to safely accelerate without rolling.
- You want to be able to stop your vehicle in the shortest distance possible. With Toyota's Smart Stop Technology there is an extra system that can help you bring your vehicle to a stop.
- Drivers can operate their vehicle with added confidence that Toyota's Smart Stop Technology will help them stop the vehicle in the event of certain simultaneous brake and gas pedal applications.



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