# Toyota Prius Vehicle Throttle and Brake Systems: Myth VS. Fact

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**Myth:** The start/stop button on the dash will not turn off my Prius while it?s running.

**Fact:** On early to 2010 models with a push-button smart key system, pushing and holding the button on the dash for about three seconds will shut off the ignition system on the vehicle ? even if it?s in gear and moving along the roadway. Check your Owner?s Manual for details on your vehicle?s system.

**Myth:** The brake system on my Toyota Prius is not able to stop the car at speed with a wide-open throttle condition.

**Fact:** The brake system on each Toyota model is capable of overpowering the driveline to stop the vehicle ? even with the throttle in a wide-open condition. See *Car and Driver*‘s article at: http://www.caranddriver.com/features/09q4/how_to_deal_with_unintended_acceleration-tech_dept for more information. Apply firm, steady pressure on the brake pedal ? use two feet if needed, to bring the vehicle to a halt. Do not pump the brakes in these conditions, as this may overheat the system, causing a reduction in brake performance. Prius is equipped with a combination of hydraulic and electric regenerative brake systems. All Prius vehicles have a brake system program that reduces gasoline engine power if both the throttle and brake pedals are depressed at the same time. This feature helps reduce the chance of damage to the hybrid system transmission in the event of simultaneous brake and throttle pedal application by the driver, and also helps to slow the vehicle under these circumstances. The regenerative braking via the main electric motor will continue to function to help slow the vehicle

**Myth:** In the event you encounter a runaway vehicle, the first thing you should do is to turn off the ignition.

**Fact:** Although turning off the ignition is a possible course of action, the first thing a driver should do is to put the transmission in Neutral. This separates the driveline from the wheels, and gives the driver instant speed control over the vehicle, and allows the driver time to assess what is happening. This also allows continued use of the power steering and brake systems for an easier stopping operation. Pressing the start/stop button to turn off the ignition can be done as a next step. This will shut down power assist to the brakes and steering system ? reducing their performance, but the driver can still brake and steer the vehicle manually in this condition. The steering column on Prius will not lock up when the ignition is turned off while the vehicle is moving ? allowing the driver steering control. Traditional key type ignitions systems can be turned off while the vehicle is moving without locking the steering column ? as long as the key is left in the ignition. Removal of the key may result in a locked steering column, and hamper driver steering control. After placing the transmission in Neutral, and the vehicle is brought to a stop at the side of the road, the final step should be to turn off the ignition.

**Myth:** The parking brake is effective in stopping a vehicle at speed.

**Fact:** The parking brake may be helpful in that it can provide some additional brakeforce. However, the amount of brakeforce the parking brake applies will be negligible in a vehicle that is running at anything over parking lot speeds. Placing the transmission in Neutral and using firm steady pressure on the brake pedal will be the best way to bring the vehicle to a stop.

**Myth:** The transmission would not go into Neutral when an attempt was made to put it in Neutral.

**Fact:** Prius does have an electronic link between the shift lever and the transmission. The driver should place the Prius in Neutral by moving the shift lever to the ?N? position ? to the left side of the shift gate, and hold it there for a second ? this will put the Prius transmission in Neutral. Firm application of the brakes will slow the vehicle down. Pressing and holding the start/stop button can be used as a final action to stop the vehicle if needed.

**Myth:** The harder I pressed on the brake pedal, the more the vehicle accelerated.

**Fact:** In a situation where it appears to the driver that the brake pedal has been depressed, but acceleration results, the driver should stay calm and take immediate action by moving the transmission shift lever to Neutral, use a firm and steady application of the brakes, then get to the side of the road and assess the situation. Neutral allows the driver to gain immediate control, and provides the driver with time to evaluate what is happening to the vehicle.

**Myth:** Prius has an electronically controlled brake system, and I don?t believe it is as reliable as regular hydraulic brakes.

**Fact:** Prius does have an electronically controlled brake system which is as reliable as hydraulic brakes. This system utilizes both electric motor regenerative braking and hydraulic braking to stop the vehicle. The Prius system is able to recognize a fault in the regenerative braking system, and will send the driver?s brake input to the hydraulic brakes to stop the vehicle. Prius can also detect a fault in the hydraulic brake system booster, and allow all of the driver?s brake force to be directly sent to the two front brake calipers for maximum stopping power under a ?no-boost? condition.

**Myth:** If I have a throttle stuck in the wide open position, and I put the vehicle in Neutral to help gain control of the vehicle, the engine will over rev, and be damaged.

**Fact:** If you place your vehicle in Neutral with a wide open throttle, you will hear a lot of engine noise, but don?t be overly concerned by this. All Toyota gasoline engines have a rev limiter function as a part of the engine control program that will prevent over revving of the engine by cutting the fuel supply at a predetermined RPM. This RPM limit varies ? depending on the engine type.

**Myth:** The Brake Override System will make it difficult to start my vehicle on a hill.

**Fact:** The Brake Override System is designed to stop your vehicle when the brake pedal is firmly pressed in cases where there is acceleration caused by mechanical interference with the throttle pedal. For practical reasons ? the Brake Override System will not operate when the brake pedal is depressed first ? to allow for uphill starts, while limiting the vehicle?s tendency to roll backwards. When engaged, the Brake Override System will disengage when the brake pedal is released. It will also not function at vehicle speeds of less than 5 mph, as at

this point, the vehicle can be stopped safely.