



Press Information
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SUZUKI ALL-WHEEL-DRIVE TECHNOLOGY

Suzuki is one of only a handful of automakers to offer a four-wheel-drive or all-wheel-drive option on all its nameplates in the U.S. market. The all-new Equator midsize pickup truck features part-time 4WD along with dynamic off-road handling technology, while the five-door SX4 Crossover and XL7 feature automatic on-demand all-wheel-drive systems that maximize traction performance and minimize the impact on fuel consumption. Moreover, the rugged Grand Vitara, constructed much like premium brand SUVs, offers a choice of two full-time 4WD systems that provide all-weather agility and true off-road capability.

Equator: Part-Time 4WD

The available shift-on-the-fly part-time 4WD system features an electronically controlled part-time two-speed transfer case. For enhanced off-road capability, the rugged Equator offers a comprehensive off-road traction system, including four-wheel limited slip, electronic locking rear differential, Vehicle Dynamic Control, Hill Descent Control and Hill Hold Control.

SX4 Crossover: Intelligent All-Wheel Drive (i-AWD™)

Engineered from concept to be all-wheel-drive capable, the SX4 Crossover offers Suzuki's three-mode Intelligent All-Wheel-Drive system (i-AWD). The i-AWD system employs an electronically controlled coupling device mounted in front of the rear differential. The driver uses a console switch to choose the best mode for the driving situation. The 2WD mode dedicates power to the front wheels for optimum fuel economy in high-traction conditions. In AWD Auto mode, up to 50 percent of torque is automatically apportioned to the rear wheels when pronounced front-wheel slippage occurs. The AWD Lock setting sends 30-50 percent of torque as needed to the rear wheels for optimum traction in slippery conditions. Additionally, the system automatically switches back from AWD Lock to AWD Auto mode at speeds above 36 mph.

Grand Vitara: Single Mode and Four-Mode 4WD

The Grand Vitara's single mode 4WD system is offered with the compact SUV's more fuel-efficient four-cylinder engine, while the Four-Mode full-time system is available with the efficient, but more powerful, 3.2-liter V6.

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The Grand Vitara's single mode 4WD system is ideal for drivers who need all-weather traction and participate in light off-road driving. The single mode and Four-Mode systems share a similar bevel gear open center differential that distributes power evenly between the front and rear wheels. The differential allows the differing wheel speeds caused by turning, minimizing the "binding" that causes unwanted noise and vibration during tight turns or maneuvering in some 4WD vehicles.

The 4WD system itself is purely mechanical and does not rely on clutch packs or electronic couplers to vary the torque split. Rather, if the standard Electronic Stability Program (ESP®) detects wheel spin (front or rear), it uses the traction control feature to apply the brake to the spinning wheel, which effectively transfers power to the wheels with traction.

Suzuki's Four-Mode full-time 4WD offers the best of both worlds: it is exceptionally capable off-road, but is civilized on the asphalt. On pavement, drivers can leave the interior-mounted transfer case switch in 4H and the electronically controlled on-demand four-wheel-drive system will apply traction to the front wheels only as needed, optimizing economy. In slippery conditions such as snow, 4H Lock locks the differential, keeping power distribution at 50:50. When traveling off-road, or for low-speed power and traction, drivers can turn the switch to high-range 4H Lock or low-range 4L Lock to engage the center differential lock. In 4L Lock, engine power is sent through a lower set of gears (1.97:1) to multiply torque. The V6 models with Four-Mode full-time 4WD drive also feature Hill Descent Control and Hill Hold Control, which help enhance driving safety and confidence on slopes.

For RV owners, a Grand Vitara equipped with the Four-Mode full-time 4WD system also can be flat-towed; simply switch the transfer case control into the Neutral position to help minimize driveline wear and prevent non-driving miles from accumulating on the odometer.

XL7: Electronically Controlled, On-Demand All-Wheel Drive

The XL7's AWD system is matched with a new, more fuel-efficient six-speed automatic transmission and standard ESP with traction control. The midsize crossover's electronically controlled, on-demand all-wheel-drive system delivers power to the front wheels during normal driving on dry road surfaces. Should the front wheels slip – due to rain, snow, mud or other surface variations – the system can route up to 50 percent of available torque to the rear wheels to enhance traction performance. While engineered primarily for on-road use, the system also provides excellent traction and mobility for light off-roading.

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The heart of the XL7's all-wheel-drive system is its progressive coupling assembly (PCA). The PCA performs two functions: it delivers drive torque from the propeller shaft to the rear differential, and it automatically limits maximum torque to protect driveline components from overloading or abuse. Inside the PCA are a gerotor pump and a multi-plate clutch pack. The propeller shaft drives the outer portion of the gerotor pump while the inner portion is mechanically linked to the rear axle. When there is no speed differential between front and rear axles, the pump simply rotates. When front-wheel slippage causes front axle rotation to exceed rear axle rotation, the resulting speed differential causes the gerotor to apply hydraulic pressure to the clutch pack. Reaction plates inside the clutch pack are thus forced into contact with the friction plates. As this occurs, torque from the propeller shaft is smoothly and progressively transmitted through the PCA to the rear differential.

About Suzuki

The Brea, Calif.,-based Operations of American Suzuki Motor Corporation (ASMC) was founded in 1963 by parent company Suzuki Motor Corporation (SMC) and currently markets its vehicles in the United States through a network of approximately 500 automotive dealerships and numerous other motorcycle, ATV and marine distributors in 49 states. With global headquarters in Hamamatsu, Japan, SMC is a diversified worldwide automobile, motorcycle, and outboard motor manufacturer. In 2007, SMC sold more than two million new cars and trucks and more than three million motorcycles and ATVs. Founded in 1909 and incorporated in 1920, SMC has operations in 193 countries and regions. For more information, visit www.media.suzuki.com.

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