

2004 SUBARU IMPREZA WRX STI




If You Can't Make it Fun, You Can't Make it

Subaru All-Wheel Drive has conquered rallies all over the globe, under all imaginable weather and road conditions. In the wildly enthusiastic hands of the Subaru World Rally Team, Subaru Impreza has become one of the most winning forces in World Rally Championship (WRC) competition, including three consecutive Manufacturers' Championships and two Drivers' Championships. Now, Subaru Rally Team USA is building a legend with Impreza. Subaru Rally Team USA won the SCCA Pro Rally Championship in 2001. With DNA like that, no wonder the offspring are natural-born athletes.

The resemblance between Impreza WRX STi and the Impreza World Rally Championship (WRC) competition car goes much deeper than the big hood scoop and rear wing. Both cars share the Subaru DNA, featuring a boxer engine, 4-wheel fully independent suspension and the unrelenting grip of Subaru All-Wheel Drive. Both cars were developed at the same time to maximize sharing ideas between the rally car and the road car, and both wear the Subaru Tecnica International logo with pride. One drive in the WRX STi, and you'll know why Subaru rally car drivers enjoy their profession.



A blue Subaru WRX STi is shown from a rear three-quarter view, driving on a road. The background is a dramatic sunset with a purple and orange sky. The car's rear wheel, side mirror, and door are visible. The text "Join the 300 Club" is centered on the page.

Join the 300 Club

It's an invitation to experience performance that challenges some of the world's best sports cars. The intercooled and turbocharged 2.5-liter boxer engine with Active Valve Control System (AVCS) variable valve timing produces an astounding 300 horsepower at 6,000 rpm and 300 lb.-ft. of peak torque at 4,000 rpm. Divide the 3,263-lb. vehicle weight by 300 horsepower and you'll see that each turbocharged "horse" only has to accelerate 10.9-lbs. of car. Then consider the physics—you control the power through a robust new 6-speed manual transmission with a short-throw shifter. WRX STi claws the pavement through our most performance-directed All-Wheel Drive system yet. We call it Driver Controlled Center Differential All-Wheel Drive—or DCCD. In Automatic mode, DCCD continually adjusts the torque split for optimum handling under all driving and road conditions. Manual mode puts the control at your fingertips for special performance situations.



Winner's Circle

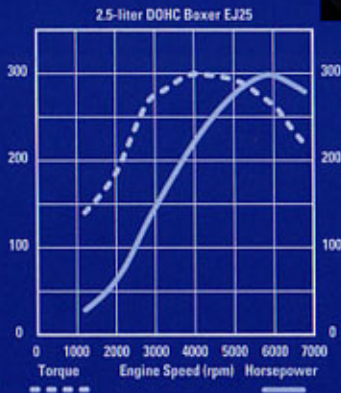
There's a saying that "racing improves the breed." Subaru engineers couldn't agree more, and they offer the 2004 Impreza WRX STi as proof. Authenticity oozes from every inch of its body—the functional hood scoop that feeds air to the intercooler—the bulging fenders that envelop high-performance tires on BBS lightweight aluminum-alloy wheels—the dual-plane rear spoiler that adds downforce. If there's a measure for performance density, WRX STi pegs the meter.

Caution: For Serious Drivers Only

Suddenly, every twisty road becomes a playground. And the more curves, the better. The 300-horsepower boxer engine helps give WRX STi a lower center of gravity, which we helped a bit more by lowering the car by 0.4 inches. Inverted-strut suspension comes right from our rally experience, and DCCD All-Wheel Drive always knows which wheels need the most power through a curve. The Brembo Performance Brake System puts huge ventilated discs at all four wheels, with four-piston calipers up front and twin-piston calipers in the rear. A new Super Sport Anti-lock Braking System (ABS) takes input from a lateral g-sensor to control braking pressure at each rear wheel independently. That's something conventional ABS systems can't do. By making the best use of the rear brakes, this technology helps to reduce stopping distance and understeer when cornering, increasing handling agility and vehicle stability. The All-Wheel Drive grip reaches the pavement through standard 17-inch BBS lightweight aluminum-alloy wheels with serious performance rubber—225/45 R17 90W Bridgestone Potenza RE070 summer/directional tires.



Our engineers went through every part in the WRX STi 2.5-liter intercooled and turbocharged boxer engine to ensure maximum performance and legendary Subaru durability. Ready for some impressive specs? The specially reinforced semi-closed deck cylinder block is cast of lightweight aluminum-alloy—just like the Impreza rally car engine. Molybdenum-coated pistons resist heat and cut friction. Dual Overhead Camshaft (DOHC) cylinder heads use hollow camshafts to reduce mass for quicker engine response. AVCS (Active Valve Control System) variable valve timing technology provides ideal valve timing for stable engine idling and optimum torque across the engine speed range. Because AVCS helps eliminate the traditional compromise between low-end torque and high-rpm horsepower, WRX STi gives you both. The high-boost turbocharger produces 14.5 psi maximum boost, and the large intercooler with manual driver-controlled water spray keeps the compressed intake air cool and dense for top performance. A new drive-by-wire Electronic Throttle Control (ETC) system enhances response by eliminating the mechanical throttle linkage. More technology borrowed from racecars includes sodium-cooled exhaust valves and iridium sparkplugs to keep heat from robbing power. And that's just what's under the hood....



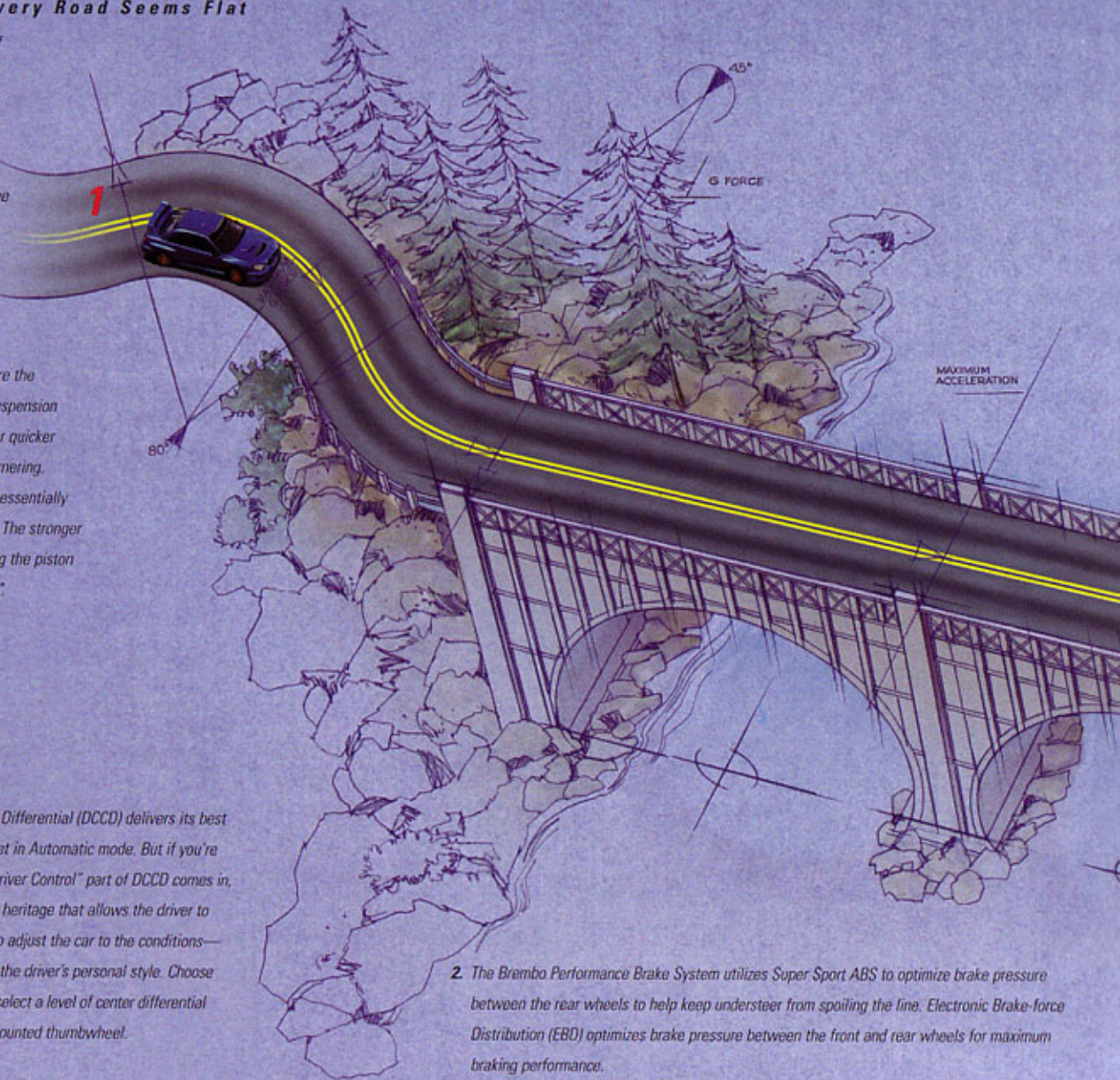
If You're Tough Enough, Every Road Seems Flat

Impreza WRX STi is the ultimate development of the Subaru All-Wheel Driving System: the most powerful boxer engine we offer, a rally-derived 4-wheel fully independent suspension system and our most performance-directed All-Wheel Drive (AWD). It's a complete performance package that rewards driver involvement with driving excitement. High technology? Plenty. But you drive WRX STi, not the other way around.

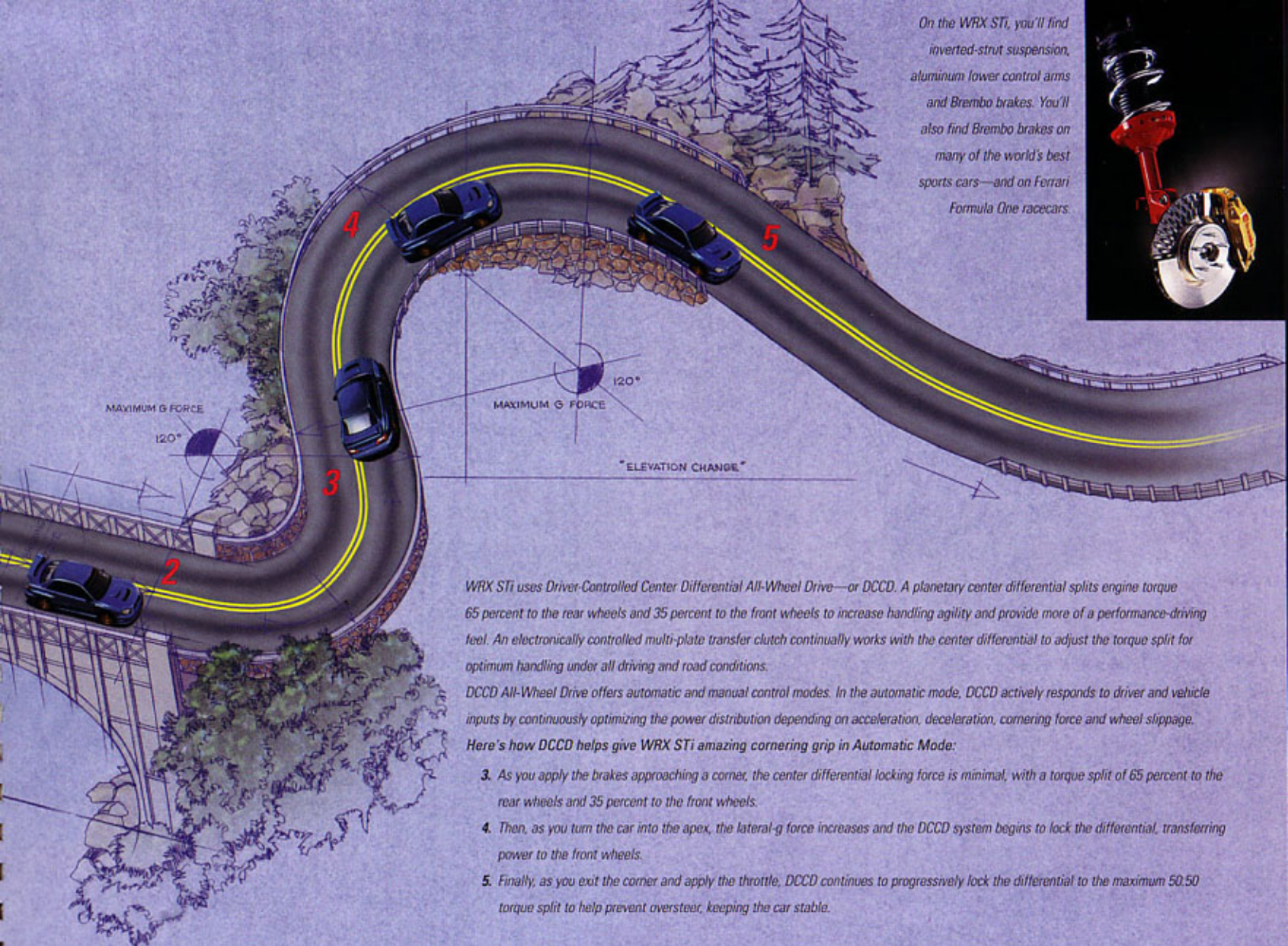
1. The more curves the road throws at you, the more the performance-tuned 4-wheel fully independent suspension shines. Inverted struts increase lateral rigidity for quicker and more consistent performance under hard cornering. What's inverted about them? The strut piston is essentially upside down inside a larger, stronger strut tube. The stronger tube takes the brunt of the lateral force, allowing the piston to ride freely through its stroke without "binding".

Driver-Controlled Center Differential (DCCD) delivers its best performance on the street in Automatic mode. But if you're wondering where the "Driver Control" part of DCCD comes in, it's a part of Subaru rally heritage that allows the driver to control the torque split to adjust the car to the conditions—the weather, the road or the driver's personal style. Choose Manual mode, and then select a level of center differential locking with a console-mounted thumbwheel.

2. The Brembo Performance Brake System utilizes Super Sport ABS to optimize brake pressure between the rear wheels to help keep understeer from spoiling the line. Electronic Brake-force Distribution (EBD) optimizes brake pressure between the front and rear wheels for maximum braking performance.



On the WRX STi, you'll find inverted-strut suspension, aluminum lower control arms and Brembo brakes. You'll also find Brembo brakes on many of the world's best sports cars—and on Ferrari Formula One racecars.



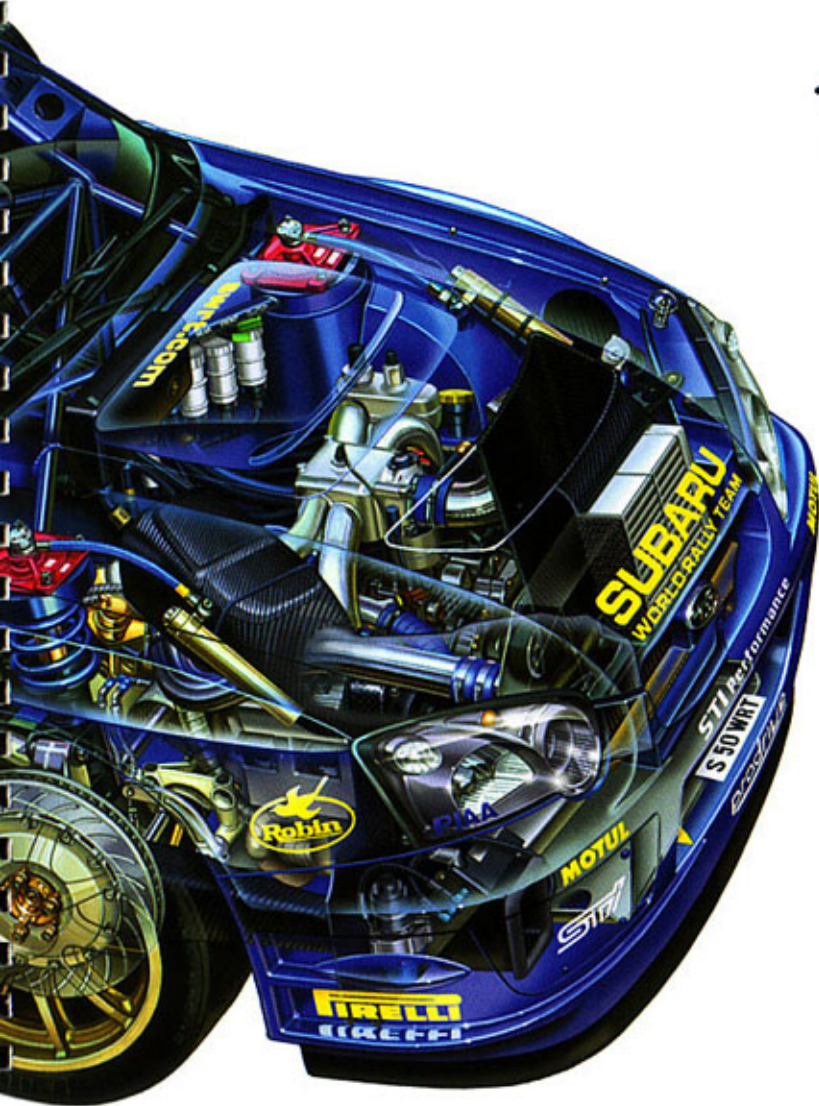
WRX STi uses Driver-Controlled Center Differential All-Wheel Drive—or DCCD. A planetary center differential splits engine torque 65 percent to the rear wheels and 35 percent to the front wheels to increase handling agility and provide more of a performance-driving feel. An electronically controlled multi-plate transfer clutch continually works with the center differential to adjust the torque split for optimum handling under all driving and road conditions.

DCCD All-Wheel Drive offers automatic and manual control modes. In the automatic mode, DCCD actively responds to driver and vehicle inputs by continuously optimizing the power distribution depending on acceleration, deceleration, cornering force and wheel slippage.

Here's how DCCD helps give WRX STi amazing cornering grip in Automatic Mode:

3. As you apply the brakes approaching a corner, the center differential locking force is minimal, with a torque split of 65 percent to the rear wheels and 35 percent to the front wheels.
4. Then, as you turn the car into the apex, the lateral-g force increases and the DCCD system begins to lock the differential, transferring power to the front wheels.
5. Finally, as you exit the corner and apply the throttle, DCCD continues to progressively lock the differential to the maximum 50:50 torque split to help prevent oversteer, keeping the car stable.

Control Your Power and You'll Own the Road



The specially built Impreza WRC rally car engine (shown) shares fundamental engineering and technology with the engine in Impreza WRX STi. In both, a large intercooler optimizes performance by reducing the temperature of the intake air that's been compressed by a high-boost turbocharger. In the WRX STi, the driver can press a dash-mounted button to spray bursts of cooling water over the intercooler.

*The Subaru Impreza WRC2003 (World Rally Championship) is one of the most advanced competition cars in the world. Yet it originates on the same assembly line as the Impreza WRX STi. Both share the Subaru DNA that defines their performance character. Of course, the Impreza WRC has been fortified for the rigors of rallying, with special features such as the welded-in roll cage. Its engine and All-Wheel Drive system are specially built for extreme performance and durability, and the cockpit is packed with electronic gear for precise navigation. After more than a decade of campaigning, the Impreza has taught us a thing or two about optimizing street performance. Consider some of the technology transferred from rally to road car: intercooled turbo boxer engine? Check. Large intercooler with manual driver-controlled water spray? Got it. Inverted strut 4-wheel fully independent suspension? Yep. Impreza WRX STi comes as close to driving a rally car as you can get without needing a competition license.**

**Remember, WRX STi is a road car, not a racecar. Subaru reminds you to obey all traffic laws. Hey, be careful out there.*

100% Lean Performance

Three hundred horsepower is great, but 300 horsepower with low weight is even better. We made WRX STi comfortable, but trimmed the fat to keep it lean. The aluminum-alloy hood and lightweight rear glass reduce mass far from the center of gravity for quicker handling. The dual-element rear spoiler looks like we took it off the Impreza WRC car. The spoiler adds rear downforce for greater high-speed stability. Inside, we left out an audio system and floor mats. (Ask a muscle-car buff about "radio-delete" cars and then watch for the knowing grin.) Your Subaru dealer can install a stereo as an optional accessory. You might want to spend some time listening to the tailpipe music before you do that, though.

Available optional accessories (clockwise opposite page): 1. Electronic-tuning AM/FM 80-watt stereo with logic control cassette and 6-disc in-dash CD changer. 2. Quality speakers offering crisp sound with minimal distortion, while the tweeter kit gives high frequency response as well as excellent stereo imaging. 3. Sub-woofer amplifier will give you 120 watts of power and deliver powerful bass sound you not only hear but feel. 4. Auto-dimming mirror/compass includes an electronic compass and the mirror darkens when headlights are detected from rear of vehicle.

5. Illuminated turbo boost gauge mounts conveniently to the left side of steering column. 6. Armrest extension provides out-of-sight storage for your phone plus added comfort on long trips. 7. Fog lights enhance vision at night or in inclement weather. 8. Upgrade the remote keyless entry with the addition of a security system.

