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### **2007 MAZDASPEED3: SIT BACK, BUCKLE UP AND ENJOY THE ZOOM-ZOOM**

In 2003, Mazda revolutionized the compact sedan segment with the launch of the MAZDA3. European sophistication, high-performance, advanced technology and safety are the ingredients that make MAZDA3 Mazda's best-selling model globally with more than one million vehicles produced. Not resting on its laurels, Mazda is launching a new flagship model to the MAZDA3 family for 2007 that's infused with a double dose of ZOOM-ZOOM – the MAZDASPEED3.

MAZDASPEED3 features a compact, lightweight body paired together with a 263-horsepower 2.3-liter DISI (Direct Injection Spark Ignition) Turbo engine, giving it the best weight-to-power ratio in class and making it one of the highest performance front-wheel drive cars in the world.

"The MAZDASPEED3 is a pure enthusiasts' dream, made for the performance buyer who wants it all for a price that doesn't take it all," said Tatsuo Maeda, Program Manager for development of the MAZDA3 series. "Sport-tuned exhaust, turbocharged motor, MAZDASPEED sport independent suspension, 18-inch alloy wheels, unique roof spoiler, sport-inspired interior – the MAZDASPEED3 delivers a true drivers car."

To create this new benchmark, Mazda's team focused on three requirements:

- *Driving Fun*: Formidable performance from the 2.3-liter DISI Turbo engine, along with sharp, responsive handling
- *Ownership Delight*: Exterior styling that gives an immediate impression of driving fun, and an interior with a quality feel that exceeds expectations

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- *Everyday, User-Friendly Convenience*: Balancing driving pleasure with everyday functionality and comfort

### **POWER AND HANDLING**

Under the hood of the *MAZDASPEED3* is a version of the turbocharged and intercooled 2.3-liter four-cylinder direct-injection gasoline engine that powers the highly regarded *MAZDASPEED6* sport sedan and the CX-7 crossover SUV. Engineered to deliver high performance at all speeds, along with low exhaust emissions and excellent fuel economy, Mazda's MZR 2.3 DISI (Direct Injection Spark Ignition) turbo-charged engine produces 263 horsepower at 5,500 rpm and 280 lb-ft torque at 3,000 rpm in the *MAZDASPEED3*.

Key engine components are aluminum block and head construction with forged internal components — crankshaft and connecting rods — for long-lasting durability while balance shafts help eliminate noise and vibration. A large air-to-air intercooler and direct fuel injection cool temperature inside the cylinder. Shifting gasoline's change in state from liquid to vapor from the intake manifold to the cylinder provides the substantial cooling effect. The low charge temperature permits use of a high 9.5:1 compression ratio, which boosts low- and mid-range torque by approximately 10 percent over conventional turbo engines. This compression ratio also contributes to the car's frugal use of fuel.

"*MAZDASPEED3*'s outstanding driving dynamics and impressive engine technology, combined with *MAZDASPEED* sportiness and refinement, position it to challenge the vehicles in this segment with Zoom-Zoom in its ultimate compact form," said Maeda.

The DISI Turbo engine is engineered to achieve three aspects of performance that are difficult to realize with conventional manifold injection engines: good fuel-economy and low exhaust-gas emissions; powerful acceleration thanks to the turbocharger; and a full and flat torque curve throughout the rev range for exceptional engine response.

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Engineers also paid close attention to the exhaust sound of the *MAZDASPEED3* in order to further increase the driving enjoyment of the car. Its throaty timber under acceleration from a standing start is music to ears of driving enthusiasts. Once an engine speed of above 4,000 rpm is reached, engine sound changes to the mid-frequency range to further underscore the car's sportiness.

### **SOPHISTICATED TORQUE MANAGEMENT**

To increase drivability in what is a very powerful front-wheel drive car, intake volume and boost pressure-control suppress sudden torque peaks, assuring smooth, linear torque delivery. Additionally, torque characteristics from first through third gears are electronically controlled to deliver appropriate power delivery, minimizing torque-steer and wheel-spin.

Torque control is also linked to the steering angle, and the stiffness of the left and right drive shafts is balanced, also working to minimize torque-steer. A newly-developed limited-slip differential also minimizes wheel-spin on the inner wheel during hard cornering for smooth, predictable power delivery.

### **SIX-SPEED MANUAL TRANSMISSION**

The new *MAZDASPEED3* employs the six-speed manual transmission shared with the *MAZDASPEED6*, providing the driver with full control over the vehicle's high power, while contributing to a quiet ride and strong fuel economy. A compact three-shaft design made it possible to keep the overall length the same as the five-speed manual transmission used in the standard *MAZDA3*. Triple-cone synchronizers for the first three gears, along with double-cone synchronizers for fourth gear, ensure precise and clean shift characteristics and low-effort shifting through clearly defined shift travel. In addition, *MAZDASPEED3*'s six-speed transmission uses wide gear ratios to fully exploit the wide torque band of the direct-injection turbocharged engine.

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### **HIGH BODY RIGIDITY AND SPECIALLY TUNED CHASSIS**

Like the 2007 MAZDA3, the new *MAZDASPEED3* features a body with increased rigidity. The *MAZDASPEED* version is based on the MAZDA3 5-Door hatchback, with local reinforcements added to produce a body sufficiently stiff to stand up to the demands of 263 horsepower. Suspension and brakes have also been specially tuned.

Body rigidity has been increased by several features, including a reinforced front cowl member that is joined directly to the top section of the front damper mount, assuring the same rigidity as a car fitted with strut tower bars. This prevents deformation of the front suspension towers and maintains correct suspension geometry. In the lower body, a large closed section member is employed to reinforce the floor tunnel which improves the torsional rigidity of the whole body. At the rear, the gusset introduced at the bottom end of the rear suspension towers restrains the tendency of the towers to displace inwards, which maintains the correct suspension geometry under all cornering loads.

Both the MacPherson strut front suspension and multi-link rear suspension have higher spring rates and larger diameter stabilizer bars than the standard MAZDA3. Damping force on both compression and rebound is raised approximately six-times at low piston speed, and about 1.3-times at moderate piston speed. In combination with the reinforced springs and stabilizer bars, this produces 60 percent more roll stiffness than the standard MAZDA3.

### **ENGINEERED AERODYNAMICS**

Special attention was paid to achieve aerodynamic performance that supports stable straight running, lane changing and overtaking at high speeds. A wide variety of underfloor parts were employed to achieve the superior aerodynamic performance targets, and the result is a Cd of 0.32.

**MAZDASPEED DESIGN DNA**

*MAZDASPEED3*'s styling pursues a look of strength and solidity in a design that conveys the car's dynamic performance. Its form is characterized by boldly flared front fenders and effective use of strong edges on the hood. These combine with the functional forms of the bumpers, spoilers and other parts developed for aerodynamic performance. Overall, *MAZDASPEED3*'s design is sporty and strong, befitting a high-performance model, without exaggerated styling cues.

**EXTERIOR DESIGN**

Exterior designers of the *MAZDASPEED3* set a goal to communicate the car's high-performance character with a design that is stylish and sporty, yet subtle. While the car remains true to the basic form of the *MAZDA3* 5-Door hatchback, there is a clear emphasis on the car's sporty nature. Front fenders are widened to provide clearance for the large tires and to evoke a well-planted stance. To forge a uniform identity for the *MAZDASPEED* series, two design elements are shared with the *MAZDASPEED6*: strong lines flowing back along the hood from the upper part of the five-point grille, which is also used as the air intake for the intercooler; and the aerodynamically shaped front bumper and large lower grille serving as the air intake for the radiator. An athletic yet elegant side view is created by aerodynamic side skirts and 18-inch, 10-spoke aluminum alloy wheels.

The rear view is also an expression of power, characterized by the design of the rear bumper, the large-diameter tailpipe and the roof spoiler with integrated high-mounted LED brake lights.

The *MAZDASPEED3* is offered in four exterior colors. Besides black, silver and red, a unique Cosmic Blue was specially developed for the *MAZDASPEED3*.

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### **INTERIOR DESIGN**

*MAZDASPEED3*'s cockpit is a harmonious synthesis of functional sportiness and stylish comfort. A high-quality black finish sets the tone of the interior, accented by red stitching on the seats, steering wheel, and the six-speed manual transmission shift knob to create a sporty yet refined look. The instrument panel includes a matte black decorative insert panel finished with a hairline treatment to underscore the vehicle's personality. A leather-wrapped shift knob, aluminum pedals and stainless steel scuff plates further contribute to the sporty, high quality feel that distinguishes *MAZDASPEED* models, while semi-bucket front sport seats with the *MAZDASPEED* logo on the seatbacks provide firm support and comfort.

The speedometer is in the middle of the meter cluster and is scaled to 180 mph and, like the tachometer, its numbers first illuminate once the car is turned on.

### **HIGH-PERFORMANCE BRAKING SYSTEM TO MATCH THE POWER**

Large diameter four-wheel disc brakes, vented in front, and a large diameter master cylinder provide powerful and stable braking. Standard equipment includes four-wheel-ABS, electronic brake force distribution (EBD) with brake assist and dynamic stability control (DSC), all of which provide active safety in a range of driving scenarios.

For protection during collisions, *MAZDASPEED3* employs the unique Mazda Advanced Impact-energy Distribution and Absorption System to deliver a robust and safe body structure. Inside the cabin, dual frontal airbags, as well as seat-mounted side and roof-mounted curtain airbags, are all standard. A collapsible brake pedal and steering column structure reduce the risk of injury to the driver's lower legs.

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### **The MAZDASPEED Family**

*MAZDASPEED3* is the fourth vehicle to carry the *MAZDASPEED* name in the U.S., following the 2003 and 2003.5 *MAZDASPEED* Protegé, 2004 and 2005 *MAZDASPEED* MX-5 and 2006 *MAZDASPEED6*. This will be the first time that two *MAZDASPEED*-branded vehicles will be sold in North American dealers at the same time. *MAZDASPEED3* is called MAZDA3 MPS – Mazda Performance Series – in Europe and *MAZDASPEED* Axela in Japan.

Headquartered in Irvine, Calif., Mazda North American Operations oversees the sales, marketing, parts and customer service support of Mazda vehicles in the United States, Canada and Mexico through nearly 900 dealers. Operations in Canada are managed by Mazda Canada, Inc., located in Ontario, Canada, and in Mexico by Mazda Motor de Mexico in Mexico City.

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