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## **2007 Dodge Caliber Powertrain is a New Slant in One of the World's Most Competitive Segments**

Firsts for the Chrysler Group Include the Use of a Continuously Variable Transmission, Application of the World Engines and All-Wheel Drive Availability in the C Segment

- New-generation continuously variable transmission, CVT2, will give customers improved performance and fuel economy
- Chrysler Group's first electronically controlled all-wheel-drive system provides all-weather driving security and added handling performance
- 2.0-liter turbo diesel with 2000-bar direct injection will deliver excellent performance and fuel economy for markets outside of North America

**View Animation:** - [Newest generation of continuously variable transmissions, \(CVT2\)](#). Requires Real Player.

August 7, 2005, Auburn Hills, Mich. -

Confirming production of the all-new 2007 Dodge Caliber, the Chrysler Group today announced that the powertrain choices for the vehicle will be engineered to meet the demands of global customers. The Dodge Caliber will feature innovative engines and transmissions to deliver world-class performance, fuel economy and refinement.

"We focused on customer benefits during the selection and development of the Dodge Caliber engines and transmissions, targeting the hottest issues in the C segment: fuel economy, reliability, performance and value," said Eric Ridenour, Executive Vice President – Product Development, Chrysler Group. "The 2007 Dodge Caliber will be the first Chrysler Group vehicle to offer a continuously variable transmission, the World Engine family of four-cylinder gasoline engines, a new 2.0-liter diesel engine and all-wheel drive."

### **New Generation Continuously Variable Transmission – CVT2**

The all-new Dodge Caliber will use the newest generation of continuously variable transmissions, CVT2, offering several advantages compared with previous CVTs.

"Chrysler Group's CVT2 has been calibrated to delight customers with pleasing engine response, precise ratio control and an AutoStick® feature that allows for manual control and the simulation of six stepped gears," said Ridenour.

Through the use of electronic controls, the Chrysler Group CVT2 provides a familiar feel while delivering improved fuel economy. For example, drivers will experience an appropriate rise in engine RPM during acceleration rather than an instant rise to the maximum engine RPM.

Chrysler Group's CVT2 contributes a 6-8 percent improvement in fuel economy compared with a traditional four-speed automatic transmission. Eliminating upshifts allows the transmission to engage the torque converter clutch almost immediately when accelerating and to keep it engaged throughout speed changes. This eliminates torque converter slippage common in stepped transmissions and results in more efficient operation, especially during city driving.

Customers will notice that CVT2 also improves vehicle performance compared with a traditional automatic transmission. Optimized gear ratios, especially in the 30-60 mph range, improve passing maneuvers and contribute to a responsive feel.

Chrysler Group's CVT2 makes it possible to continuously vary the transmission ratio, providing an infinite number of gear ratios. This allows the engine to stay in its most efficient operating range. The transmission uses two V pulleys and a steel push belt to vary the input speed to output speed ratio instead of traditional discrete gear ratios activated by clutches or bands.

### **All-Wheel Drive**

"In addition to being the first all-wheel-drive C-segment vehicle from the Chrysler Group, Dodge Caliber will also use the first electronically controlled all-wheel-drive system with variable torque output ever offered on any Chrysler Group passenger car," said Ridenour. "An electronically controlled coupling manages torque split from front to rear with no driver input needed for smooth and automatic performance."

The system works on demand, driving only the front wheels until power to the rear wheels is needed, which optimizes fuel economy. All-wheel drive is also used between speeds of 25 and 65 mph to ensure precise handling during performance driving. All-wheel drive will be available on vehicles sold in North America.

### **World Engine**

Fuel economy is a key factor in the four-cylinder market. The Chrysler Group World Engine family is targeted to improve fuel efficiency by five percent compared with the engines they replace – rivaling the best four-cylinder engines in the world.

"The engines will be built through a joint venture and, simply stated, the World Engine program allows us to build premium features into our engines without a premium price," said Ridenour. "We set and met high standards in key customer attributes: fuel economy, refinements, durability, quality and performance for our gasoline engine offerings."

Chrysler Group brought its engineering expertise to the World Engine program in the areas of cylinder port and intake manifold design using advanced Computational Fluid Dynamics tools. Chrysler Group engineers led the development work on dual Variable Valve Timing (VVT), as well as an integrated 2:1 oil pump/balance shaft assembly. Chrysler Group also refined the engines for exceptional smoothness and sound quality, resulting in a pleasant engine feel and sound for the customer.

The 2007 Dodge Caliber will be available with all three displacements in the World Engine family: 1.8-liter, 2.0-liter and 2.4-liter. Performance objectives are targeted to match the best in the segment – 140, 150 and 170 hp, respectively.

### **2.0-liter Turbo Diesel**

For Europe and other key diesel markets, the all-new 2007 Dodge Caliber will also be available with an advanced 2.0-liter turbo diesel engine.

"The advanced diesel engine is technology readily available today that can dramatically reduce the amount of crude oil consumed worldwide," said Ridenour. "This is well known in Europe where, in today's competitive environment, customers are looking for modern diesel engines with outstanding performance and efficiency. Nearly 50 percent of all passenger vehicles sold in Europe are powered by diesel engines. For the Chrysler Group, approximately 60 percent of vehicles sold in Europe are diesel powered."

The 2.0-liter engine is a state-of-the-art, direct-injection turbo diesel with high-pressure fuel injection, a variable geometry turbocharger and four valves per cylinder. The injectors are electronically controlled, allowing precise management of each combustion cycle with the optimum quantity of fuel. This system can operate at pressures up to 2000 bar, leading to finer atomization of fuel, high power and torque and optimal fuel efficiency. The turbo diesel engine is expected to position the Dodge Caliber sold in Europe among the best in its class for power, torque and towing capacity. Maximum power is estimated at 134 hp DIN (100 kW), and peak torque is estimated at 229 lb.-ft. (310 N•m).

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