GAMMA 1.6-LITER GDI ENGINE

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The all-new Gamma 1.6-liter four-cylinder engine is the smallest Hyundai engine to use Gasoline Direct Injection (GDI). GDI technology helps deliver estimated highway fuel economy of up to 40 mpg, lower emissions and higher reliability.

“Gasoline-direct-injection technology allowed Hyundai engineers to create an engine that is powerful, fuel-efficient, and has fewer emissions,” said Hyundai American Technical Center Inc. (HATCI) powertrain director, John Juriga. “Despite its small size, it generates some big numbers, with both impressive horsepower output and up to 40 mpg on the highway.”

Through the use of GDI, the Gamma 1.6-liter engine delivers a peak output of 138 horsepower at 6,300 rpm and maximum torque of 123 lb.-ft. at 4,850 rpm. But GDI is only part of the story as the new Gamma also features Dual Continuously Variable Valve Timing, an electronic throttle control, a roller timing chain, variable induction and innovative anti-friction coatings such as CrN Physical Vapor Deposition (PVD) coating and Diamond Like Carbon (DLC) coating.

Gamma highlights include:

- **Dual Continuously Variable Valve Timing (D-CVVT)**
  - (intake and exhaust camshaft phaser) camshafts and hydraulic engine mounts provide optimum power, efficiency and refinement. Using CVVT on both camshafts has several advantages when compared to using it only on the intake camshaft including an improvement in performance (increased volumetric efficiency) and fuel economy (reduced pumping loss), and a reduction in hydrocarbon emissions.

- **Roller Timing Chain**
  - Helps increase the reliability of the Gamma 1.6-liter engine.

- **Electronic Throttle Control**
  - This system accurately controls air intake and engine torque, improving drivability, response and fuel economy.

- **Innovative Anti-Friction Coatings**
  - A Diamond Like Coating (DLC) was added to the tappets to help reduce friction in the valvetrain.

Working together, the complete range of engine technologies produce an engine that offers:

- Best-in-class specific output at 86.3 horsepower per liter
- Excellent fuel economy
- Lower emissions with ULEV certification
- High reliability backed by a 10-year / 100,000-mile powertrain warranty
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