



**BORGWARNER LAUNCHES NEW SILENT CHAIN**  
**FOR HYUNDAI AND KIA GDI ENGINES**

*BorgWarner's Optimized Silent Chain Delivers Durability and Low Noise  
for Balance Shaft Drives in Gas Direct-Injection Engines*

Auburn Hills, Michigan, September 12, 2011 – BorgWarner recently launched its new silent chain for the balance shaft drive on Hyundai's Theta II four-cylinder gas direct-injection (GDI) and turbo-GDI engines. These engines power the Hyundai Sonata and Kia Sorento, K5 and Sportage for the U.S. and South Korea. Designed to withstand the harsh environment and stresses of GDI engines, the new silent chain delivers lower noise, vibration and harshness (NVH) and greater durability compared with roller chain systems for balance drive applications.

"BorgWarner's new silent chain technology enables GDI engine designers to take advantage of a simplified balance shaft drive system with lower cost, lower noise and better durability than roller chain drives," said James Verrier, President and General Manager, BorgWarner Morse TEC. "BorgWarner engineers are constantly innovating new technologies to improve engine efficiency and performance. We are pleased to launch this new silent chain with Hyundai and Kia."

Inline engines lack the inherent stability of the V-shape in V6 and V8 engines, so balance shaft drives are used to help reduce engine vibration. These drives typically run faster than the primary engine timing system, making durability an important characteristic for balance shaft drive chains. Engineered to withstand the harsh environment and extreme temperatures of GDI engines, BorgWarner's new silent chain features an inverted tooth profile that reduces surface pressure for added wear resistance. Compared with roller chain drives, BorgWarner's silent chains for balance shaft drives enable a lower-cost balance drive system capable of running at higher speeds with the benefits of both lower

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NVH and greater durability. In addition to the new silent chain, BorgWarner also supplies balance shaft drive components including the tensioner, control arms and guides.

### **About BorgWarner**

Auburn Hills, Michigan-based BorgWarner Inc. (NYSE: BWA) is a technology leader in highly engineered components and systems for powertrain applications worldwide. Operating manufacturing and technical facilities in 59 locations in 19 countries, the company develops products to improve fuel economy, reduce emissions and enhance performance. Customers include VW/Audi, Ford, Toyota, Renault/Nissan, General Motors, Hyundai/Kia, Daimler, Chrysler, Fiat, BMW, Honda, John Deere, PSA, and MAN. For more information, please visit [www.borgwarner.com](http://www.borgwarner.com).



Designed to withstand the harsh environment and stresses of GDI engines, BorgWarner's new silent chain for balance shaft drives debuts on Hyundai's Theta II four-cylinder GDI and turbo-GDI engines for the Hyundai Sonata and Kia Sorento, K5 and Sportage. Photo courtesy of Hyundai Motor Company.

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