



KENT, WILES, MILLER AND O'CONNOR WIN
2012 BORGWARNER LOUIS SCHWITZER AWARD

*GM Returns to IndyCar with Powerful, Fuel Efficient
Chevrolet IndyCar V6 Engine*

Auburn Hills, Michigan, May 21, 2012 – The 46th annual BorgWarner Louis Schwitzer Award has been presented to engineers Mark Kent and Matt Wiles from General Motors (GM) and Steve Miller and Steve O'Connor from Ilmor Engineering for the Chevrolet IndyCar V6 Engine. Designed for fuel efficiency, performance and low friction, the 2.2-liter twin-turbo engine has demonstrated superior fuel economy while posting four wins in the first four IZOD IndyCar[®] Series races of the 2012 season.

GM's first IndyCar engine since 2004 was built through a collaborative effort, uniting GM's experience in E85 fuel and direct injection with Ilmor Engineering's race engine design expertise. GM's goal was to develop new technologies for a powerful fuel-efficient engine that could be transferred to production cars. To boost performance and throttle response, the engine uses twin turbochargers. The production-car based Hitachi fuel delivery system was enhanced with six high-pressure direct injectors in the heads and six lower-pressure injectors in the plenum. Operating at up to 12,000 RPM, this is the highest revving direct injection engine in racing competition today. Computer models and empirical testing led to a technology breakthrough in the placement of the injectors that could be utilized in production cars. Special coatings in the engine and exhaust system reduce friction and improve fuel economy. Compression ratios and piston shapes were also designed for optimal thermodynamics. A pool of engines has been produced to support Team Penske, Andretti Autosport, KV Racing Technology, Ed Carpenter Racing, Panther Racing, Dragon Racing, and Panther/Dreyer & Reinbold Racing this year.

Presented by engineers to engineers, the BorgWarner Louis Schwitzer Award recognizes individuals for innovation and engineering excellence in the field of race car

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design, specifically related to the annual Indianapolis 500 race. BorgWarner sponsors the prestigious \$10,000 award to be presented by the Indiana Section of SAE International. The winners are also honored at an awards banquet, and their names are immortalized on the Schwitzer trophy on permanent display at the Indianapolis Motor Speedway Hall of Fame Museum.

Initiated in 1967, the award memorializes Louis Schwitzer, a true automotive pioneer who had close ties to the Indianapolis Motor Speedway (IMS) at its very beginning a century ago. Both an engineer and professional race car driver, Schwitzer won the first auto race at the IMS in 1909 and designed the “Marmon Yellow Jacket” engine that powered the Marmon Wasp to victory at the first Indianapolis 500 in 1911. After working in the automotive industry for many years, he founded the Schwitzer Corporation, which produced innovative cooling fans, water pumps and turbochargers. In 1999, the Schwitzer Corporation joined BorgWarner. Throughout his career, Schwitzer enjoyed numerous technological accomplishments, supported higher education, led the IMS technical committee for many years and maintained a strong association with SAE.

BorgWarner continues his legacy of technology leadership as the official turbocharger supplier of the IZOD IndyCar® Series. The engine of every car in the 2012 field will be boosted by BorgWarner’s new line of EFR (for “Engineered For Racing”) turbochargers, which feature Gamma TiAl (titanium aluminide) turbine wheels, ceramic ball bearings and stainless steel turbine housings.

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.

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Presentation of the 2012 BorgWarner Louis Schwitzer Award (Left to Right) Matt Wiles and Mark Kent from General Motors (GM), Jim Bailey from BorgWarner, Steve Miller from Ilmor Engineering and Steve Holman from the Indiana Section of SAE International.

Photo courtesy of Holman Photography.

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