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AUTO COMPONENTS

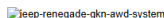
by Autocar Pro News Desk Apr 14, 2015



GKN Driveline designed, developed and now manufactures the intelligent AWD systems for a new AWD global platform launched by FCA US LLC (FCA).

GKN Driveline, which supplies automotive driveline components and systems to global automakers, has become the first Tier 1 supplier to deliver a complete all-wheel drive (AWD) system for a vehicle manufacturer.

The company designed, developed and now manufactures the intelligent all-wheel drive systems for a new AWD global platform launched by FCA US LLC (FCA). The platform is the basis for the Fiat 500X and the Jeep Renegade (pictured below).



GKN Driveline president of engineering, Peter Moelegg said: "Growing demand for AWD is a global phenomenon. Consumers worldwide want smaller, more fuel-efficient cars that can do everything larger vehicles can. Automakers need responsive suppliers who can overcome the tight packaging and cost constraints and produce drivelines that engage their customers in new ways. We are delivering on our strategy of developing intelligent driveline systems that enhance both efficiency and drivability."

Global programme director, GKN Driveline, Hannes Prenn, added: "This is a milestone programme for GKN in our evolution as a driveline system integrator. This is the first time a supplier has been responsible for the design, development and production of a complete all-wheel drive system. With all manufacturing, engineering and software development in-house, GKN Driveline is the only Tier 1 that could take such a tightly integrated all-wheel drive system from concept to production - and in just 24 months."

The short time to market was enabled by close networking of GKN's global development centres, the company's streamlined change management process and its responsive in-house software teams.

The FCA platform sources the complete driveline, from transmission to wheel, from GKN, including AWD, AWD Disconnect and front-wheel drive variants. Every part of the system, from the propshafts to the rear differential module to the sideshafts, is designed by GKN and manufactured by the company's global production facilities.

To meet the tight packaging targets of a compact SUV and small city car, GKN integrated a number of key features of the driveline system, saving space and optimizing cost and efficiency. Instead of a standard power transfer unit (PTU), GKN developed a monobloc housing that fully integrates the propshaft's constant velocity joint.

"This is a new technical solution and a remarkable piece of engineering, which involved close inter-functional development," said Prenn. "The result is a high-performance system that offers optimum efficiency, weight and packaging. The arrangement also yields superior NVH characteristics, helping to create a more refined driving experience."

The same hardware is able to fulfill requirements for different brands and classes of vehicle, from city cars to off-roaders. GKN's software tuning experts ensure the system is able to meet different brands' specific requirements. A city car version may require low drag torques and torque biasing, while a model intended for off-road use requires high traction and torques.



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