

3-D Printing Enhances Multi-dimensional Chrysler Technology Center

- Unique lube-flow test benefits axle durability, efficiency
- Harnesses power of 3-D printing technology
- Test exemplifies range of in-house engineering capability at CTC – focal point of FCA US exhibit at this week's SAE World Congress

April 20, 2015, Auburn Hills, Mich. - FCA US LLC is using 3-D printing to open a unique window on the world of axle development.

Conventional methods of evaluating oil flow inside axles and pinion carriers involve cutting windows into the components and then observing the fluid's movement using a dynamometer. But with movement, oil turns milky and blocks the view afforded by two-dimensional windows.

So FCA US engineers decided to add a third dimension to the process by printing see-through plastic components exclusively for test purposes. This new technology allows correlation to virtual analysis of fluid flow.

As a result, the Company has a clearer view of axle durability and efficiency – and the road ahead.

"Efficient axles are critical to our powertrain strategy," says Jeffrey Lux, Vice President-Transmission Powertrain. "For the customer, they offer an economical way to improve total powertrain efficiency. Accordingly, we've introduced six new axle families since the foundation for FCA US was established in 2009."

The unique test is one of thousands performed daily at the Chrysler Technology Center, also known as CTC, located at the FCA US headquarters. It is the auto industry's only headquarters building where a vehicle design can go from a napkin sketch to production prototype to advertising campaign – and everything in between – under one roof.

"CTC is a key competitive advantage for FCA US," says John Nigro, Vice President-Product Development. "We have more than 14,000 people under one roof, including 7,900 engineers. That speeds the collaborative process, which is the lifeblood of our business."

CTC's 5.4 million square feet of floor space makes it the largest headquarters of any kind in North America, except for the Pentagon. Among its features:

- CTC's aerodynamics testing facility generates the highest wind speeds (160+ mph) of any domestic OEM's wind tunnel
- Its 129 dynamometer cells run 24 hours a day, seven days a week
- The facility has been running 24/7 since it opened in 1991
- CTC's current employment numbers (14,000+) represent its historic peak
- The site produces no landfill waste

The features of CTC will be the focal point of the FCA US exhibit at this week's SAE World Congress in Detroit.

About FCA US LLC

FCA US LLC is a North American automaker based in Auburn Hills, Michigan. It designs, manufactures, and sells or distributes vehicles under the Chrysler, Dodge, Jeep®, Ram, FIAT and Alfa Romeo brands, as well as the SRT performance designation. The Company also distributes Mopar and Alfa Romeo parts and accessories. FCA US is building upon the historic foundations of Chrysler Corp., established in 1925 by industry visionary Walter P. Chrysler and Fabbrica Italiana Automobili Torino (F.I.A.T.), founded in Italy in 1899 by pioneering entrepreneurs, including

Giovanni Agnelli. FCA US is a member of the Fiat Chrysler Automobiles N.V. (FCA) family of companies. (NYSE: FCAU/ MTA: FCA).

FCA is an international automotive group listed on the New York Stock Exchange under the symbol "FCAU" and on the Mercato Telematico Azionario under the symbol "FCA."

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