Contact: Eric Mayne

New Eight Speed Transmission Introduced by Chrysler

- Chrysler Group LLC is first domestic automaker to offer new eight-speed automatic transmission
- New eight-speed transmission coupled to award-winning Pentastar V-6 will offer double-digit increase in fuel economy
- New 845RE eight-speed transmission will be offered initially in rear-wheel and all-wheel drive models of V-6 Chrysler 300 and Dodge Charger
- Lower gear spread of transmission ensures low engine operation for better fuel economy

August 31, 2011, Auburn Hills, Mich. - The first eight-speed automatic transmission in a domestically produced automobile will mark its debut on both the Chrysler 300 and Dodge Charger for 2012.

The new eight-speed automatic, introduced and licensed through ZF and often found on high-end luxury cars including Audi, Bentley, BMW, Range Rover and Rolls Royce, will be available on selected models of the Chrysler 300 and Dodge Charger. Initially, the transmission will be mated exclusively to the award-winning 3.6-liter V6 Pentastar engine that was introduced last year.

The result is a four mile-per-gallon increase that pushes highway fuel economy to an EPA-rated 31 mpg for the 2012 Chrysler 300 and 2012 Dodge Charger – up from 27 mpg highway over last year's model.

The transmission efficiency and wide ratio spread also provide the best possible fuel economy in city traffic. Fuel economy for both models is 19 mpg on the EPA city cycle - an increase of five percent over last year's five speed automatic. With eight speeds, driving at a lower rpm in both city and highway environments also effectively helps reduce emissions by nearly 11 percent on both vehicles.

For those living in inclement weather climates or wanting the proven traction of four wheels, all-wheel-drive variants of the transmission also will be available on both models for 2012. Designed as a modular transmission, the 845RE allows for the addition of Chrysler's all-wheel drive system. This all-wheel drive is engaged only when needed, requires no driver input and helps improve fuel economy by only engaging the front-drive wheels when there is excessive wheel spin.

Compact and lightweight, the new transmission required no structural changes to either vehicle and despite the addition of more gears, the transmission actually weighs just 3kg more than the outgoing five speed automatic transmission.

Coupled to the new rear-wheel-drive automatic is a differential with final drive ratio of 2.65:1. The transmission efficiency and gear ratio spread enable spending more time at lower engine rpm and the use of numerically low axle ratios further improve highway fuel economy. All-wheel-drive models are equipped with a 3.07;1 final drive ratio.

Fully electronic and aided with software that provides an adaptive shifting strategy, the 845RE has been designed to provide optimal shifting characteristics consistent with the Chrysler and Dodge brands. Adaptive shifting takes into account a number of variables including engine torque gradients, kick down, longitudinal and lateral acceleration, hill detection, friction detection and downshift detection in determining shift patterns. Additional parameters include vehicle speed control, electronic stability control activation and high temperatures that can affect transmission shifting. The addition of more gear ratios in the transmission helps reduce the gaps normally associated with upshifting and downshifting. Both vehicles benefit from nearly imperceptible gear changes due in part to very evenly spaced gear steps between each gear ratio. The gear steps also are very small providing quicker acceleration and smoother shifts. High efforts in shifting also have been eliminated with gear selection controlled by a shift-by-wire system. The position selected by the driver (P, R, N, D) is transmitted electronically with no mechanical linkage from the shifter to the

outside of the transmission. Elimination of this linkage removes any shift effort from the driver's gear selection. Shift-by-wire also allows improved calibration and smoothness of garage and parking lot shifts.

All shifts, whether single, double or multiple are performed as a direct result of the pedal position. Downshifts are made with very short response times and lead directly to the requested gear. Multiple upshifts can be decoupled temporarily if the torque request changes during the upshift. This helps eliminate the shift searching of the transmission.

During more spirited driving conditions, sporty, quick shifts are possible as a result of multiple parameters either through a Sport shift mode that requires simple driver input. At the rear of the shifter is a gate that allows for down- and up-shifting by the driver. Once the vehicle is in the Sport mode, the driver can use either the console-mounted shifter or a pair of paddle controls located on the steering wheel.

Once the Sport mode is selected, shift times are quicker and engine rpm is allowed to increase for a more performance- oriented acceleration and higher shift dynamics.

Acceleration times for the Dodge Charger and Chrysler 300 for 0-to-60 mph are 7.2 seconds.

Internally, the 845RE transmission features four gear sets and five shift elements (multi-disc clutches and brakes) inside the transmission. With fewer open shift elements, drag losses due to multiple parts rotating relative to one another, are reduced.

Additionally, lower viscosity transmission fluid is used resulting in improved transmission efficiency and fuel economy improvements especially during cold environments or vehicle start-up. The 845RE also is "fill for life" not requiring oil changes during normal driving conditions.

The all-new automatic transmission will initially be purchased through ZF. Production by Chrysler at its Kokomo transmission facility under license by the German-based company is slated following introduction.

About Chrysler Group LLC
Chrysler Group LLC, formed in 2009 from a global strategic alliance with Fiat S.p.A., produces Chrysler, Jeep, Dodge, Ram, SRT, Fiat and Mopar vehicles and products. With the resources, technology and worldwide distribution network required to compete on a global scale, the alliance builds on Chrysler Group's culture of innovation, first established by Walter P. Chrysler in 1925, and Fiat's complementary technology that dates back to its founding in 1899.

Headquartered in Auburn Hills, Mich., Chrysler Group's product lineup features some of the world's most recognizable vehicles, including the Chrysler 300, Jeep Wrangler, Dodge Challenger and Ram 1500. Fiat contributes world-class technology, platforms and powertrains for small- and medium-size cars, allowing Chrysler Group to offer an expanded product line including environmentally friendly vehicles.

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