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From Inclement Weather to Harsh, Off-Road Environments, FCA US Drivelines Deliver Full Range of Capability

- Multiple segment-first and segment-exclusive applications of fuel-saving axle-disconnect and active-transfer-case technologies
- Rugged 4x4 systems deliver legendary off-road performance
- All-wheel-drive and 4x4 systems engineered and calibrated to complement brand character

February 26, 2015, Auburn Hills, Mich. - The FCA US LLC vehicle lineup is designed to get drivers where they need to go, whether their routes are caked with slush or pockmarked by muddy craters.
They might even save some fuel along the way. More importantly, they're likely to have fun.

"Intrepid and adventurous character is baked into our vehicles," said Jeff Lux, Vice President - Transmission Powertrain, FCA - North America. "It has to be, because our customers have places to go. Our all-wheel-drive and 4x4 systems are engineered to help them arrive at their destinations safely and efficiently, using the right technologies – some of which have redefined the industry landscape."

FCA US is a global leader in axle-disconnect and active-transfer-case technologies, with exclusive applications in multiple segments spanning cars, SUVS and pickups.
"Our systems invite driver confidence," Lux added. "That's the foundation of a superior ownership experience."

For every operating condition and customer desire, there is a corresponding FCA US all-wheel-drive (AWD) or 4x4 system. Here's the rundown:

Front-wheel-drive-based AWD systems
The FWD-based 2015 Chrysler 200 is the first mid-size sedan to feature complete rear-axle disconnect, which reduces energy loss to improve fuel efficiency. The rear-axle disconnect seamlessly switches between front- and all-wheel drive for full-time torque management and does not require input from the driver.

The available AWD system uniquely disconnects and reconnects the rear axle – automatically and seamlessly – as needed and at any speed. On its own, the system accounts for a parasitic loss reduction of up to 80 percent compared with competitive part-time AWD systems, which are limited by conventional technology.

The power transfer unit (PTU) and rear-drive module (RDM) are the lynchpins of the system, which proactively engage and then disengage depending on road and environmental conditions. This dramatically reduces spin losses.

As a result, components that would normally contribute to the greatest parasitic loss – driveshaft, ring/pinion, input clutch plates, servo-hydraulic pump assembly and planetary gear sets – are all stationary when the vehicle is in front-wheel drive.

When AWD is engaged, the all-new 2015 Chrysler 200 sedan benefits from improved traction and enhanced driving dynamics. Sensors gather vehicle data that compel sophisticated controls to smoothly distribute torque fore and aft as required.

System triggers range from road-surface changes to electronic stability control (ESC) activation. As much as 60 percent of available torque can be transferred to the rear wheels, contributing to a total driving experience that reassures while also igniting passion.

The experience is further intensified when Sport mode is engaged, leveraging the AWD system's full capabilities, the benefits of ESC and the unique character of the available award-winning 3.6-liter Pentastar V-6 engine.

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The available AWD system in the front-wheel-drive-based 2015 Dodge Journey provides added traction on snow, ice and other low-traction surfaces by transferring power to the wheels without grip.

To accommodate reduced fuel consumption, the system drives only the front wheels – unless wheel-slip is detected. When this occurs, power is automatically split between front and rear.

Electronically controlled coupling (ECC) is at the heart of the system's capability. In contrast, viscous-coupling or gerotor systems require some degree of front-to-rear slip before torque is transferred to the rear wheels.

The AWD Dodge Journey's electronic control module works with the vehicle's electronic-stability-control (ESC) and traction-control systems by using ECC to help optimize the amount of torque transmitted to the rear wheels.

At speeds greater than 53 miles per hour (mph), the control strategy provides minimal torque to the rear wheels under normal driving conditions to provide better fuel economy.

Rear-wheel-drive-based AWD systems
The redesigned, rear-wheel-drive-based 2015 Chrysler 300 features an available AWD system capable of responding to as much inclement weather as Mother Nature can dish out.

The system integrates a segment-exclusive active transfer-case and front-axle-disconnect technologies that not only enhance handling and control, but also afford greater fuel efficiency. No other major automotive manufacturer offers the combination of these two independent technologies.
The 300's advanced AWD system seamlessly transitions between RWD and AWD with no driver intervention. The system automatically disconnects and reconnects the front axle to maximize fuel economy, contributing to a highway rating of 27 miles per gallon (mpg) – best-in-class among mainstream-brand full-size cars with AWD.

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Whether winding through twisty stretches of a coastal road, to escaping away to a snow-covered ski resort, the AWD-equipped 2015 Dodge Charger is at home. It also shares bragging rights with the Chrysler 300 as the most fuel-efficient vehicle in its class for highway driving
(27 mpg).

Dodge Charger's intelligent AWD system benefits from the same segment-exclusive active transfer case and front-axle-disconnect technologies as the 300. However, the system combines with the Charger's specially tuned suspension to reflect the brand's characteristic performance-oriented feel.
Nowhere is this more evident than in the 2015 Charger Pursuit Police Package. As with the RWD version, the AWD model delivers best-in-class acceleration, including 0-to-60 mph in less than six seconds.

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The 2015 Dodge Durango's rear-wheel-drive-based drivetrain is the foundation for its outstanding on-road driving performance. But that performance is further enhanced by an available, full-time AWD system, which leverages the brawny SUV's nearly 50/50 weight distribution.

While competitors have switched to front-wheel-drive car-based platforms, the HEMI®-powered AWD Durango features a low-range transfer case with a neutral position.

Low range improves light off-road performance and helps ease maneuvers, such as pulling a boat up a steep launch or backing up with a trailer.

The neutral position in the transfer case allows the vehicle to be flat-towed without damaging powertrain components.

It benefits from three separate open differentials – one in its transfer case and one in each of its axles. This combined with brake-traction control, electronic stability control (ESC) and an antilock braking system (ABS), affords exceptional performance in inclement weather.

Front-wheel-drive-based 4x4 systems
The 2015 Jeep Cherokee offers customers a choice of three innovative 4x4 systems for best-in-class 4x4 capability in all weather conditions. The Jeep Cherokee is the first mid-size SUV to feature rear-axle disconnect, which benefits fuel economy by reducing the energy loss normally associated with deactivating 4x4 mode.

The rear-axle disconnect seamlessly switches between two- and four-wheel-drive for full-time torque management and does not require driver input. The Cherokee's three systems are:

- **Jeep Active Drive I**
    - Available on the Cherokee Sport, Latitude and Limited models, Jeep Active Drive I features a single PTU, which is fully automatic and delivers seamless operation in and out of four-wheel drive at any speed. The system does not require any driver intervention or feedback, delivers yaw correction during dynamic events and improves both understeer and oversteer conditions. Jeep Active Drive I offers balanced torque distribution with brake traction control. The four-wheel-drive performance results from a fully variable wet clutch housed in the rear drive module. The clutch supplies the proper amount of torque for any driving condition, including slippery conditions, aggressive starts and dynamic driving. Sophisticated controls enable the system to contribute to the driving dynamics while interacting with the electronic stability control (ESC) system when approaching the traction limits of the road surface.

- **Jeep Active Drive II**
    - Available on the Cherokee Sport, Latitude and Limited models, Jeep Active Drive II includes a two-speed PTU with torque management and low range. 4-Low mode locks the front and rear drive shafts for low speed power or towing. Low range provides a 2.92:1 gear reduction. The gear reduction allows for enhanced climbing ability as well as outstanding crawl ratios for severe off-road conditions. The 2014 Jeep Cherokee with Jeep Active Drive II gives the off-road adventurer a crawl ratio of 56:1 when powered by the 2.4-liter MultiAir2 Tigershark I-4 engine, and 47.8:1 when powered by the new 3.2-liter Pentastar V-6 engine, which is as much as a 90-percent improvement versus the outgoing Liberty. Jeep Active Drive II works in conjunction with the Selec-Terrain system to aggressively modify the torque distribution while monitoring the engine transmission and ESC system, providing power to the wheels that will deliver the most traction.

- **Jeep Active Drive Lock**
    - Jeep Active Drive Lock includes all the features of Jeep Active Drive II and adds a locking rear differential for superior low-speed power for rock crawling or severe off-road conditions. The locking rear differential is selectable in any low-range terrain mode, but will lock automatically when in certain modes, such as "Rock," to maximize tractive effort, which the tire patch can support. Jeep Active Drive Lock is standard on all Trailhawk models.Selec-Terrain traction control allows the driver, with a push of a button, to choose the appropriate on- or off-road setting for optimum performance. It electronically coordinates and optimizes up to 12 systems on any terrain, providing enhanced vehicle control through the drivetrain control module, electronic brake controller, ESC, transmission controller, powertrain controller and Selec-Speed Control (Hill-ascent and Hill-descent Control).

Selec-Terrain modes are:

Auto

- Standard Drive mode
- Standard electronic brake controls
- Automatically detects need for four-wheel-drive engagement

- Front/rear torque split is fully active and variable depending on the driving conditions

Sport

- For enhanced on-road driver control
- Traction control is limited
- ESC slip thresholds are raised
- Driveline torque bias for improved cornering
- Allows for a target front/rear torque split of up to 40/60 percent

Snow

- Second gear launch
- For use in inclement weather
- Slick surface electronic brake controls
- Full-time four-wheel drive
- Allows for a target front/rear torque split of up to 60/40 percent

Sand/Mud

- For enhanced driver control in off-road conditions
- Off-road electronic brake controls
- Full-time four-wheel drive
- Allows for a front/rear torque split of up to 100 percent rear

Rock (available with Jeep Active Drive Lock)

- For use on obstacles
- Off-road electronic brake controls with increased brake lock differential capacity
- Available in 4-Low only
- Allows for a front/rear torque split of up to 100 percent rear

In addition, the ESC system will change mode in coordination with the Selec-Terrain mode chosen:

- ESC remains full on with Auto and Snow modes
- ESC is off when in 4-Low
- ESC is in Partial mode for Sport, and Sand/Mud modes

Partial mode means aid from traction control and stability control are reduced, but anti-lock braking system (ABS) and electronic roll mitigation remain fully enabled In 4-Low, the Selec-Terrain system shifts front and rear axles to a 2.92:1 gear set for increased torque and control off-road.

When in neutral, the 2015 Jeep Cherokee equipped with Jeep Active Drive II disconnects the driveline for flat towing behind another vehicle, such as a recreational vehicle (RV).

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The all-new 2015 Jeep Renegade offers a choice of two innovative driveline systems for best-in-class 4x4 capability in all weather conditions. Both systems are first-time applications, designed to accommodate the Renegade's new "small-wide 4x4" architecture." A rear-axle disconnect system delivers 4x2 levels of fuel-efficiency and instantly engages 4x4 when additional traction is needed.

Both systems automatically and seamlessly switch between 4x2 and 4x4 for full-time torque management and optimal traction when required.

Jeep Active Drive
Enabled by an innovative PTU, Jeep Active Drive is fully automatic and delivers seamless operation in and out of four-wheel drive, and at any speed. This system requires no driver intervention, delivers yaw correction during dynamic events and improves both understeer and oversteer conditions. Jeep Active Drive can provide up to 1,475 lb.-ft. (2,000 N•m) of the engine's available torque to the rear wheels, enabling optimal grip in low-traction conditions.

A fully variable wet clutch housed in the rear-drive module utilizes the Jeep brand's proprietary controls to provide the proper amount of torque for any driving condition, including low-traction surfaces, aggressive starts and dynamic driving.

Jeep Active Drive Low
Providing the all-new Renegade Trailhawk with best-in-class off-road capability, Jeep Active Drive Low builds on the Jeep Active Drive system and affords a 20:1 crawl ratio for 4x4 Trail Rated capability.

Jeep Active Drive and Active Drive Low feature the brand's Selec-Terrain traction-control system. Selec-Terrain allows the driver to dial in the desired on- or off-road setting for optimum performance.

Up to five customized settings are offered: Auto, Snow, Sand, Mud, and exclusively on the Trailhawk model's Jeep Active Drive Low system, Rock mode. For even greater Trail Rated off-road capability, Selec-Terrain includes Selec-Speed Control with Hill-descent Control.

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The 2015 Jeep Compass and Jeep Patriot offer customers a choice of two 4x4 systems: one that affords robust on-road performance, and another that delivers segment-topping off-road capability.

Jeep Freedom Drive I 4x4 is an available full-time, active four-wheel-drive system with lock mode designed to give drivers year-round assurance with the ability to handle rough weather and low-traction conditions. This active four-wheel-drive system is recommended for daily use, including slick conditions that come with rain and light snow.

Freedom Drive I also features a lockable center coupling, giving drivers the ability to put the Jeep Compass in four-wheel-drive lock mode to handle deep snow, sand and other low-traction surfaces.

The Jeep Freedom Drive II 4x4 Off-road Package is an available four-wheel-drive system that delivers Jeep Trail Rated capability in Compass form. The Freedom Drive II Off-road Package includes a second-generation continuously variable transaxle with low range (CVT2L) that engages when the off-road mode is activated, 17-inch all-terrain tires and aluminum wheels, a one-inch raised ride height, a full-size spare tire, skid plates, tow hooks, fog lamps and manual seat height adjuster.

The available Freedom Drive II Off-road Package is recommended for off-road situations that include steep grades, occasional wheel lift and rock or log climbing.

Rear-wheel-drive-based 4x4 systems
Power is most effective when properly distributed. So Ram's 4x4 systems are engineered accordingly with robust, premium axle and transfer-case technologies.

Two transfer cases are available on the 2015 Ram 1500: the 44-45, which enables part-time four-wheel-drive (4x4) operation with a two-speed gear system; and the 44-44, which enables on-demand 4x4 functionality, also via a two-speed gear system.

Depending on other equipment choices, the transfer cases are engaged with either a dash-mounted rotary dial or dash-mounted buttons.

The part-time transfer case delivers three operating ranges: 2HI (two-wheel drive), 4HI (four-wheel drive) and 4LO (low-range reduction four-wheel drive) plus a neutral position.

The 2HI is designed for any road surface at any time. Both 4HI and 4LO are for off-road use or slick surfaces. Operating modes may be switched between 2HI and 4HI while the vehicle is in motion, but the vehicle's transmission must be in neutral to engage 4LO.

The low-range reduction ratio for 4LO is 2.64:1, which provides increased low-speed torque capability for pulling power in off-road conditions.

The on-demand transfer case affords drivers the flexibility to choose from four operating ranges: auto, 2HI, 4HI and

4LO. Auto provides optimum versatility by automatically providing 4WD traction, depending on road conditions.

Driveshafts incorporate 1350-series universal joints, two-piece thrust washers with triple-lip seals and improved journal cross-strength.

Four-wheel-drive models offer three final-drive ratios: 3.21, and 3.55 and 3.92, which are available on both the 2WD and 4WD models. This affects engine rpm throughout the operating range for better fuel economy.

Four-wheel-drive models of the Ram 1500 also use a front axle designed for optional air suspension or standard torsional independent front suspension, incorporating half-shafts that drive front hubs. For improved fuel economy, the axle also has a disconnect system that automatically disengages when four-wheel-drive is disengaged.

In addition, an optional helical-gear, limited-slip rear axle is available. The limited-slip function instantaneously divides torque between the rear wheels in proportion to the traction available to each wheel. The system is consistently smooth when turning corners because it responds only to variations in traction.

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The 2015 Ram Power Wagon heavy-duty pickup is the most capable production off-road truck in its segment and boasts a part-time, manual-engagement 44-47 transfer case.

The Power Wagon's axles are the pinnacles of durability. The units measure 9.25 inches in the front and 11.5 inches in the rear (increase from 10.5 inches), delivering power via a 4.10:1 ring and pinion ratio.

Robust rear axle shafts are upgraded to 38 mm, providing rotating force directly to the 33-inch tire/wheel combination. Both axles include electronic locking differentials driven by electro-magnetic actuators.

All Ram Heavy Duty pickups feature segment-exclusive front axle disconnect systems. When conditions warrant, front drivetrain components are disconnected to reduce parasitic loss and improve overall efficiency.

Two part-time transfer cases are available on the Ram Heavy Duty. The 44-46 is an electric shifting part-time transfer case with 2WD (two-wheel-drive), 4WD (four-wheel-drive) High, 4WD Low and Neutral; 44-47 is a manual shifting transfer case with 2WD, 4WD High, 4WD Low and Neutral.

Both options offer a low-range ratio of 2.64 and locking differential from front to rear.

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The 2015 Jeep Grand Cherokee features three available full-time 4x4 systems (Quadra-Trac I, Quadra-Trac II and Quadra-Drive II) and the Selec-Terrain traction management system.

Quadra-Trac I features a single-speed transfer case that accommodates full-time four-wheel drive – without any switches or levers to pull.

The Quadra-Trac II's two-speed transfer case uses input from a variety of sensors to determine tire slip at the earliest possible moment. Then it takes corrective action.
When wheel slippage is detected, as much as 100 percent of available torque is instantly routed to the axle with the most traction.

Quadra-Drive II, with a rear Electronic Limited-slip Differential (ELSD), delivers industry-leading tractive capability. The system instantly detects tire slip and smoothly distributes engine torque to tires with traction. In some cases, the vehicle will anticipate low traction and adjust in order to proactively limit or eliminate slip.

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With its live axles and electronic lockers, the 2015 Jeep Wrangler delivers unmatched off-road capability with legendary four-wheel drive and benefits from more than seven decades of 4x4 engineering experience.

The Jeep Wrangler is available with several axle gear ratios allowing customers to optimize fuel economy and/or vehicle capability. Wrangler is available with 3.21, 3.73 or 4.10 ratios depending on model. Also, Wrangler offers towing capability up to 3,500 pounds.

The capable driveline of the Sport and Sahara models feature a Dana 30 front axle and Dana 44 rear axle. The Command-Trac NV241, part-time, two-speed transfer case features a 2.72:1 low-range gear ratio.

In addition, an optional Trac-Lok limited-slip rear differential provides extra torque and grip in low-traction environments such as sand, mud or snow.

The Wrangler Rubicon model features heavy-duty Dana 44 front and rear axles and the Rock-Trac NV241 two-speed transfer case with a 4.0:1 low-range gear ratio. Rubicon also includes electric front and rear locking differentials, disconnecting front sway bar and 32-inch tires, taking the Wrangler to the highest level of capability.

All Jeeps can be equipped with systems that earn the brand's celebrated "Trail Rated" badge, a symbol of its off-road performance in five key consumer-oriented performance categories: traction, ground clearance, maneuverability, articulation and water fording.

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).

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