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## **All-new 2015 Jeep® Renegade Features Two New 4x4 Systems, Segment's First Nine-speed Automatic Transmission and More Than 30 MPG Highway**

- Best-in-class capability in all driving conditions, complements of two new full-time Jeep® 4x4 systems that raise the standard for small sport-utility vehicles (SUV):
  - Jeep Active Drive with fully automatic one-speed power transfer unit (PTU)
  - Jeep Active Drive Low with 20:1 crawl ratio and Jeep Selec-Terrain system with five modes
- Segment-exclusive disconnecting rear axle and power take-off unit (PTU) optimize fuel efficiency of Jeep Renegade 4x4 models
- World's first small SUV to feature nine-speed automatic transmission
- More than 30 miles per gallon (mpg) highway from each of two four-cylinder engines featuring innovative MultiAir technology:
  - 2.4-liter Tigershark with MultiAir2 valve-actuation is paired exclusively with the nine-speed automatic transmission
  - 1.4-liter MultiAir Turbo engine with six-speed manual transmission delivers pure driving enjoyment

April 16, 2014, Auburn Hills, Mich. - True to the Jeep® brand, the all-new Renegade is the most capable, fuel-efficient and technologically advanced small sport-utility vehicle (SUV) ever. With a pair of new 4x4 systems, two fuel-efficient MultiAir engines and available, segment-first nine-speed automatic transmission that helps achieve more than 30 miles per gallon (mpg) on the highway, the 2015 Jeep Renegade is engineered to deliver new levels of capability and innovation in the small SUV segment.

"Jeep customers don't compromise on their passion for the brand, so we didn't compromise on the all-new 2015 Jeep Renegade," said Bob Lee, Vice President and Head of Engine, Powertrain and Electrified Propulsion Systems Engineering — Chrysler Group LLC. "It uses breakthrough technology to deliver Jeep 4x4 capability and efficiency that is unmatched in its segment. It is unlike any SUV that has come before."

### **Go-anywhere Jeep capability**

The all-new 2015 Jeep Renegade offers a choice of two innovative driveline systems for best-in-class 4x4 capability in all weather conditions. Its unique rear-axle disconnect system delivers 4x2 levels of fuel-efficiency, and instantly engages 4x4 when 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 power-transfer unit (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 algorithms 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 Selec-Terrain system**

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 and Mud modes, 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.

### **Segment-first nine-speed transmission**

The all-new 2015 Jeep Renegade is the world's first small SUV to offer a nine-speed automatic transmission, enabling the vehicle to optimize engine output and enable aggressive launches and smooth, efficient power delivery at highway speeds.

Like the all-new Jeep Cherokee, the Renegade's nine-speed gearbox provides a more responsive driving experience with quicker acceleration and smoother shifting. The wide ratio spread delivers an aggressive first-gear ratio of 4.71 for low-end performance and small gear-ratio steps, which afford luxury-car levels of shift refinement.

A unique set of four overdrive ratios improve highway fuel economy and reduce overall noise, vibration and harshness (NVH) levels.

The all-new, fully electronic nine-speed automatic features on-the-fly shift-map changing with Auto Stick manual shift capability. More than 20 individual shift maps for specific conditions optimize shift quality and shift points for improved fuel economy, performance and drivability.

To determine the appropriate shift mode, the transmission's software takes into account variables such as engine-torque gradients, kick-down events, longitudinal and lateral acceleration and grade changes.

For improved driving comfort and refinement, the transmission control strategy closely monitors temperature, speed and electronic stability control activation. The result is automatic shifting ideally attuned to the performance requirements of almost any driving demand.

But a Jeep SUV isn't a Jeep SUV unless it delivers superior off-road performance. Uniquely suited to the requirements of the Renegade Trailhawk model, the nine-speed automatic transmission accommodates a 20:1 crawl ratio setting. The Trail Rated 4x4 rock-crawl ratio is enabled by a 4.71:1 first gear ratio coupled with a 4.334:1 final drive to deliver its class-leading 20:1 crawl ratio.

### **2.4-liter Tigershark engine with MultiAir2**

Efficiency and refinement also are hallmarks of Chrysler Group's 16-valve, 2.4-liter Tigershark I-4 engine with the MultiAir2 electro-hydraulic, fully variable valve-actuation system. The high-tech engine produces 180 horsepower, 175 lb.-ft. of torque and is paired exclusively with the segment's first nine-speed automatic transmission on 4x2 and 4x4 models.

MultiAir technology, which is exclusive to Chrysler Group in the North American market, uses a column of oil in place of the traditional mechanical link between the camshaft and intake valves. The resulting precision maximizes intake manifold pressure, significantly reducing pumping losses.

MultiAir2 takes the innovation further by simultaneously controlling both valve opening and closing events to more

effectively manage combustion quality. This ensures the appropriate, effective compression ratio and efficient internal exhaust-gas recirculation (EGR) for improved fuel economy.

Refinement was a key consideration in the design of every Tigershark component, from its fully isolated aluminum head cover with integrated oil-separation system, to its high-pressure, die-cast aluminum block.

Sandwiched between the block and the steel oil pan is a lightweight, aluminum ladder-frame with integral oil filter and oil-cooler adapter. This lends additional structural rigidity.

The oil pan itself boasts refinement. Acoustic material is sandwiched between its outer and inner stampings.

The Tigershark's polymer-coated piston skirts and tighter piston-to-bore tolerances contribute to reduced NVH. The cast-aluminum piston, combustion chamber and ports align with the MultiAir2 system for optimal combustion and fuel economy.

Cast-aluminum pistons with a compression ratio of 10:1 are designed specifically for the engine and MultiAir system.

Each bore is fitted with individual oil-squirters in the block that spray oil on the bottom of the pistons and bore walls to maintain cylinder-wall and piston temperatures. This feature also helps prevent hot spots that could lead to knock, while improving performance and fuel economy.

Fitted to the forged-steel crankshaft are powder-forged-steel connecting rods that feature a full-floating piston pin with diamond-like carbon coating. This further reduces friction and improves fuel efficiency.

Vibration is minimized with the use of a balance shaft module. And to maintain adequate oiling at all engine speeds, the 2.4-liter MultiAir2 Tigershark features a two-stage oil-pressure relief system that reduces engine-oil pumping loads at low engine speeds for better fuel efficiency.

Other key features of the 2.4-liter MultiAir2 Tigershark I-4 engine include:

- 360-degree engine-to-transmission attachment
- Coil-on-plug ignition with dual precious-metal spark plugs
- Front-end accessory drive with automatic tensioning single-belt drive
- Tigershark delivers reduced operating costs because its cam drive, cam-phasing and valve-train components require no scheduled maintenance

#### **1.4-liter MultiAir Turbo engine**

Paired with a six-speed manual transmission, the 1.4-liter MultiAir Turbo four-cylinder engine generates 160 horsepower and 184 lb.-ft. of torque to provide a spirited driving experience on Jeep Renegade Sport and Latitude 4x2 and 4x4 models.

The new 1.4-liter MultiAir Turbo engine transmits its power through high-strength components throughout the drivetrain, including equal-length half shafts and a 4.438 final-drive ratio.

Structurally, the 1.4-liter MultiAir Turbo engine starts with a durable cast-iron block and a structural aluminum bedplate. The bore and stroke are 72 mm and 84 mm, respectively, for a total displacement of 1,368 cc.

Boost pressure is dynamically managed to provide a broad torque curve over a wide variety of ambient conditions, with a peak pressure of 22 psi at 4,000 rpm. Exclusive MultiAir valve-actuation technology controls intake air, cylinder by cylinder and stroke by stroke. The resulting precision reduces carbon-dioxide emissions and boosts fuel-economy up to 7.5 percent compared with engines equipped with conventional valvetrains.

At the bottom end, a forged-steel crankshaft with select-fit main bearings is supported across five main journals. The crankshaft and its counterweights are designed to reduce overall mass.

Durability is ensured with the use of lightweight forged-steel connecting rods that have been designed with a unique

cross-section to minimize longitudinal and lateral rod-bending.

Lightweight cast-aluminum pistons contribute to the overall efficiency of the reciprocating assembly and the engine's high-rpm capability. Full-floating piston pins are used for added strength.

Piston cooling jets, located at the bottom of each cylinder, contribute to fuel economy by squirting oil on the bottom of the pistons. This helps maintain cylinder temperatures and reduce the possibility of hot spots along the cylinder walls or at the top of the piston that could lead to spark knock.

#### **Proven, fun-to-drive six-speed manual transmission**

All-new 2015 Jeep Renegade Sport and Latitude models equipped with the standard 1.4-liter MultiAir Turbo feature a six-speed manual transmission with 6.68 ratio spread and a 4.438 final-drive ratio for fuel efficiency at faster speeds. And thanks to its first-gear launch ratio of 18.4:1, the gearbox delivers quick acceleration with smooth, precise shift quality. A tubular intermediate shaft with equal-length half shafts helps mitigate unwanted torque steer.

#### **Jeep Brand**

Built on more than 80 years of legendary heritage, Jeep® is the authentic SUV brand that delivers legendary off-road capability, interior refinement, high-tech features and versatility to people who seek extraordinary journeys. The Jeep brand delivers an open invitation to live life to the fullest by offering a broad portfolio of vehicles that continues to provide owners with a sense of safety and security to handle any journey with confidence. Jeep Wave, a premium owner loyalty and customer care program that is available to the entire Jeep 4x4 lineup, is filled with benefits and exclusive perks to deliver Jeep brand owners the utmost care and dedicated 24/7 support. The legendary Jeep brand's off-road capability is enhanced by a global electrification initiative that is transforming 4xe into the new 4x4. All Jeep brand vehicles in North America will offer an electrified variant by 2025.

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