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Jeep® Renegade Concept Has its European Premiere in Geneva

BLUETEC diesel Range-extended Electric Vehicle in fun, open-air, sustainable design package

February 25, 2008, Geneva - A B-segment Jeep® concept vehicle, the Renegade is a sporty, “minimised” two-seater ideally suited for the all-weather fun of dune-surfing or rock-crawling. Just as comfortable on city streets and country lanes, the Renegade makes its European debut at the 78th International Motor Show in Geneva.

“With an electric motor powering each axle, the Jeep Renegade concept is designed for a ‘hang on and have fun experience,’” said Tony Shamenkov, Jeep Renegade concept principal exterior designer.

Constructed of environmentally responsible materials, sustainability is a key theme of the Jeep Renegade concept.

Jeep Renegade is targeted at customers in the “Stylish Green” segment of the marketplace—those who are extremely environmentally oriented, appreciate high-tech and innovation, and enjoy performance combined with style in keeping with their “green” attitude.

Jeep Renegade Concept Technology

The advanced propulsion system in the Jeep Renegade concept starts with a 64-kilometre lithium-ion battery pack. A range extender—in Renegade’s case, a small-displacement (1.5-litre, 3-cylinder) BLUETEC diesel engine—allows for journeys beyond 64 kilometres. In fact, the Renegade concept boasts a 644-kilometre range.

Jeep Renegade’s BLUETEC diesel engine generates an additional 117 horsepower DIN (86 kW) when needed, while greatly reducing exhaust emissions when compared to standard petrol engines. Renegade is capable of achieving an equivalent petroleum fuel economy of approximately 2.1L/100km, which is four-to-five times greater than an equivalent petrol-only vehicle.

The all-new Jeep Renegade concept’s lightweight aluminium architecture and regenerative-braking system help to improve overall efficiency, while dual electric 200-kilowatt (272 horsepower DIN) motors propel a very capable 4x4 system—complete with Low Range and locking differentials—worthy of carrying the Jeep name.

Jeep Renegade Concept Exterior

The Jeep Renegade concept’s “one-with-nature” personality is emphasised by its large, flaring wheel openings, oversized wheels and tyres, and cut-down speedster windscreen—all of which combine to deliver on the Renegade’s promise of cross-country fun and agility.

Among the unique exterior details are “deconstructed” rubber-clad headlamps and taillamps, as well as just-for-fun elongated triangular openings in each of the two sculpted doors.

While the Jeep Renegade features a roll bar, it has no top. Instead, the cargo deck just behind the cockpit can be fitted with a variety of “lids.” Options include a plain lid, or lids configured to accommodate the gear of a particular outdoor day-trip activity, such as mountain biking or kayaking. Or it can come “as built”—with formations designed to accommodate two matching water scooters with open storage underneath. Fluid-fill caps, a plug-in port and a first-aid kit are also included.

Jeep Renegade Concept Interior

Sustainability—a ratio between the energy needed to build and ship the vehicle as compared with the impact these processes have on the environment—is a key focus of the Jeep Renegade concept’s interior design.

Materials used in constructing the Jeep Renegade concept were deliberately selected to be environmentally responsible, both in manufacture and end-of-vehicle-life recyclability.

Innovative construction includes one-piece moulded soy-based foam seats and doors, a one-piece co-moulded instrument panel with a urethane skin, a co-moulded aluminium/silicone steering wheel, a one-piece moulded chassis created without using environmentally harmful resins, and a one-piece moulded interior compartment “tub.” This environmental care in designing the Renegade’s interior is aligned with Jeep’s “harmony with nature” philosophy.

“The Jeep Renegade concept’s interior—actually the entire vehicle—is designed to minimise the number of parts necessary for assembly and function,” said Scott Anderson, Jeep Renegade concept principal interior designer. “We designed the Renegade with an eye toward simplification of systems, both in parts and processes.”

The HVAC system, for example, is not coolant-based, while the colour, grain and gloss of the interior parts are moulded in one piece. Even the no-gloss exterior colour of the Renegade’s lightweight composite body is moulded in to avoid the use of solvents present in automotive paints.

The dual-cockpit instrument panel is symmetrically balanced for easy “plug and play” left-hand-drive and right-hand-drive applications. There is no conventional wiring. Instead, the instrument panel features wireless electronics in sealed, self-contained units, removable by the customer. The panel is built around an exposed cross-car beam containing an integrated power strip, and on the passenger side, yaw, pitch and roll indicators (also built into the fluid-fill gauges). The instrument panel itself is hollow, allowing ample open storage below the beam. Separately configured impact-absorbing vinyl-wrapped knee-blockers “float” beneath the cross-car beam.

The thin multi-plane acrylic instrument cluster mounts to the steering column, while the similar but separate centre control screen mounts on a swivel base—providing easy access to both occupants.

Located at the intersection of the steering wheel’s T-shaped spokes, the circular LED screen rotates, allowing the driver to select the Drive mode, while a flattened rim provides roomier thigh clearance. A driver air bag is concealed beneath the screen. Red or green translucent shift buttons allow Park, Reverse or Drive selections.

The Jeep Renegade concept’s sporty doors incorporate unique canvas-pull remote “handles,” while the rush of the moving landscape visible through the door’s elongated openings enhance the feeling of carefree, open-air mobility.

The Jeep Renegade’s contoured, figure-form seats—covered in scuba-like waterproof materials that are both soft-touch and flexible—feature in-seat belts and unusual, hollow, lightweight upside-down “U-shaped” head restraints. The seats feature a urethane skin with soy-based foam co-moulded with a composite substructure. The integral seat belts, along with slender accent strips on the seats and instrument panel, repeat the Palm Metallic exterior colour.

A “thermal unit” in the centre console plugs into the electrical battery pack, permitting food to be either heated or cooled.

“Inspired by the simplicity and functionality of scuba diving gear, we wanted the interior of the Jeep Renegade concept to be weather-tight and durable,” Anderson said.

The Jeep Renegade’s wireless interior is designed to be hosed down. It features a drain in the floor, while the formations built into the floor mat are designed to channel water to the opening. Hollow-section billet-formed pedals float above the tub floor.

Fun, functional and fabricated from recyclable materials, the Jeep Renegade concept offers agile, capable performance without sacrificing the environment its drivers seek to explore. Keeping with Jeep owners’ desire to use their vehicles as an extension of their active lives, the Renegade concept promotes enjoyment of the good things of the earth while taking care of its future.

Jeep Renegade Concept Vehicle Specifications

Vehicle Type

- Range-extended Electric Vehicle (64-kilometre all-electric range with diesel range extender)
- Two-passenger, open-air design

Weight and Dimensions

- Weight 1429 kg (3150 lbs.)
- GVWR 1633 kg (3600 lbs.)
- Length 3885 mm (153 in.)
- Width at H-point 1598 mm (62.9 in.)
- Height 1431 mm (56.3 in.)
- Wheelbase 2580 mm (101.6 in.)
- Front Overhang 634 mm (25 in.)
- Rear Overhang 671 mm (26.4 in.)
- Track Front/Rear 1580 mm (62.2 in.)
- Approach Angle 44.0 degrees
- Departure Angle 52.0 degrees
- Breakover Angle 32.0 degrees
- Turn Circle 10.7 m (35 ft.)
- Maximum Width 1814 mm (71.4 in.)

Powertrain and Suspension

- Layout Four-wheel drive with Low Range and locking differentials
- Motor Dual electric
- Nominal power: 200 kW (272 hp DIN) x 2
- Regenerative braking
- Battery 16 kWh Li-ion battery pack
- Range Extender 1.5-litre, 3-cylinder diesel engine
- Fuel Volume 37.8 litres (10 U.S. gal.)
- Suspension Front – SLA
- Rear – Multi-link

Wheels and Tyres

- Tyre Size Front/Rear 235/65R20x7.5 inches 815 mm (32.1 in.)
- Tyre Manufacturer BF Goodrich

Colour Scheme

- Exterior Palm Metallic
- Interior Black

Key Performance Attributes

- 0-60 mph (0-96 km/h) 8.5 seconds
- Standing ¼ mile (0.4 km) 13.6 seconds
- Top Speed 145 km/h (90 mph)
- All-electric Range 64 kilometres (40 mi.)
- Total Range 644 kilometers (400 mi.)
- Estimated Fuel Economy Approx. 2.1L/100km

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