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## Innovative 3.6-liter Pentastar V-6 Hybrid Propulsion System Named to Wards 10 Best Engines List for 2017

- New propulsion system from FCA US LLC powers the most fuel-efficient minioan ever the 2017 Chrysler Pacifica Hybrid
- eFlite electrically variable transmission is key to benchmark efficiency of all-new hybrid minivan
- Pacifica Hybrid delivers 84 MPGe fuel economy rating in electric-only mode a new standard for minivans
- Electric-only range of 33 miles and impressive total driving range of 566 miles
- Represents the second electric propulsion system from FCA US named to Wards 10 Best Engine's list in last four years – first was 83-kW electric motor in the Fiat 500e in 2014
- Seventh consecutive and 17th year overall FCA US is represented on prestigious list

December 12, 2016, Auburn Hills, Mich. - The editors at *WardsAuto* have named the new 3.6-liter Pentastar V-6 hybrid propulsion system to the Wards 10 Best Engines list for 2017.

Making its debut for FCA US LLC in the 2017 Chrysler Pacifica Hybrid, the new electric propulsion system drives the most fuel-efficient minivan ever to benchmark performance numbers, including a fuel-economy rating of 84 miles-pergallon-equivalent (MPGe), reflecting the vehicle's combined city- and highway-cycle performance in electric-mode only.

The 2017 Chrysler Pacifica Hybrid also excels on two other efficiency fronts as U.S. Environmental Protection Agency (EPA) testing recently established an EPA total driving range rating of 566 miles and electric-only range rating of 33 miles.

"We were wowed by the Chrysler Pacifica Hybrid's seamless operation," says WardsAuto Senior Content Director Drew Winter. "The eFlite transmission shifts between pure electric mode and a combination of electric and gasoline engine propulsion without a hiccup."

"FCA's powertrain engineers did all the hard work to make the first plug-in hybrid minivan a success," adds Winter. "They not only reworked the V-6 engine for a hybrid application, but undertook in-house development of an innovative transmission capable of effectively coordinating power from two electric motors and the gasoline engine."

eFlite, the Pacifica Hybrid's distinguishing electrically variable transmission, is an in-house FCA US innovation. It was developed by a team of engineers assigned exclusively to the task of delivering a high-efficiency powertrain within the functionality envelope customers expect from minipals.

Conventional electrification schemes dedicate one motor to serve as a generator and a second motor, usually much larger, to deliver torque to the wheels. The new eFlite system uses a one-way clutch that enables the motor typically used only as a generator to also deliver torque to the wheels, depending on driving conditions.

The result is increased efficiency, refinement and improved component packaging.

"We're extremely proud that Wards has recognized our newest solution to hybrid propulsion technology on their 10 Best Engines list," said <u>Bob Lee</u>, Head of Engine, Powertrain and Electrified Propulsion, and Systems Engineering, FCA – North America. "The latest version of the three-time Wards 10 Best Engines family runs on an Atkinson

combustion cycle and when paired with our new eFlite dual-motor electrically variable transmission, delivers class-leading efficiency and refinement for our minivan customers."

The Pacifica Hybrid's 16-kWh lithium-ion battery pack is located under the second-row floor, keeping the rear cargo area as roomy as ever and preserving the third-row Stow 'n Go seating and storage, plus room for seven passengers. Recharging can take as little as two hours using an optional 240-volt (Level 2) charger, available from Mopar through dealers.

With a 120-volt (Level 1) charger, which comes standard with the vehicle, the Pacifica Hybrid can be fully recharged in approximately 14 hours. The vehicle's battery also benefits from charging by regenerative braking.

When the battery's energy is depleted to a certain threshold, the Pacifica Hybrid becomes a part-time electric vehicle, like a conventional hybrid, to maximize energy and efficiency. Power to the wheels is supplied by the electric drive system or supplemented by a specially adapted new version of the award-winning gasoline-powered Pentastar 3.6-liter V-6.

The EPA last month gave the all-new minivan a rating of 10 in its <u>Green Vehicle Guide</u>. The score relates to a vehicle's combined performance on fuel economy and greenhouse-gas emissions.

In the 22-year history of Wards 10 Best Engines, eight engines produced by FCA US and its predecessor companies have accounted for 17 awards, including (engine/latest vehicles tested/years listed) in reverse chronological order:

- 3.6-liter Pentastar V-6 hybrid (new Chrysler Pacifica): 2017
- 3.0-liter EcoDiesel V-6 (Ram 1500): 2014-2016
- 6.2-liter Hellcat supercharged HEMI® V-8 (Dodge Challenger SRT Hellcat): 2015
- 83-kW electric motor (Fiat 500e): 2014
- 3.6-liter Pentastar V-6 gasoline (Dodge Avenger, Chrysler 300S and Ram 1500): 2011-2013
- <u>5.7-liter HEMI V-8</u> (Dodge Charger R/T, Chrysler 300C, Dodge Challenger R/T and Ram 1500): 2003-2007, 2009
- 5.9-liter Cummins turbodiesel I-6 (Ram HD): 2004
- 4.7-liter SOHC V-8 (Jeep® Grand Cherokee): 1999

## 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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