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Production of Award-Winning Pentastar Engine Eclipses 3 Million

- **Total production of 3.6-liter Pentastar V-6 engine hit 3 million today**
- **Available in 17 Chrysler Group vehicles across nine vehicle segments**
- **Powers vehicle range once served by seven different V-6 engines**
- **One of Ward's 10 Best Engines three years running**
- **Contributes to 22 best-in-class benchmarks, from fuel economy to towing**
- **Design has spawned Pentastar engine family – 3.2-liter V-6 (all-new 2014 Jeep Cherokee) 3.0-liter V-6 (2014 Jeep Grand Cherokee sold in China)**
- **Nearly half of all Chrysler Group vehicles sold during first 10 months of year equipped with Pentastar-family engines**

November 6, 2013, Auburn Hills, Mich. - The production tally today hit the three million-mark for Chrysler Group's award-winning workhorse, the 3.6-liter Pentastar V-6 engine.

The milestone event occurred just before 7 a.m. during the first shift at Chrysler Group's Trenton Engine Complex (Trenton, Mich.). Since the 3.6-liter Pentastar V-6 was launched in model-year 2011, Trenton has combined with Chrysler Group's Saltillo South Engine Plant (Saltillo, Mexico) to produce approximately 1 million 3.6-liter V-6 engines per year, or one every two minutes.

"The 3.6-liter Pentastar not only has provided our many customers with billions of miles of reliable service and driving enjoyment, it is testament to our powertrain engineering prowess," said Bob Lee, Chrysler Group Vice President and Head of Engine, Powertrain and Electrified Propulsion Systems Engineering. "With minimal modification, this engine delivers world-class performance in multiple applications. While our customers benefit from its wide range of capabilities, Chrysler Group benefits from economies of scale."

The impact of the Pentastar engine's design is actually expanding with the recent addition of two new versions – a 3.2-liter V-6 in the all-new 2014 Jeep Cherokee and a 3.0-liter V-6 in the 2014 Jeep Grand Cherokee sold in China. Also produced in Trenton, both are making their way to dealerships.

Total Pentastar family production reached 3 million engines Oct. 29. More than 49 percent of all Chrysler Group vehicles sold during the first 10 months of this year were equipped with Pentastar-family engines.

"The accolades the Pentastar engine has received would not have been possible without the dedication of our employees in Trenton and Saltillo," said Brian Harlow, Chrysler Group's Vice President, Powertrain Manufacturing. "They have worked tirelessly to build a high quality engine that exceeds our customers' expectations, while continuing to meet tremendous demand."

The 3.6-liter Pentastar was introduced in the 2011 Jeep Grand Cherokee. It arrived with the promise – since realized – of powering vehicles then served by seven different V-6 engines.

The port-injected Pentastar, one of Ward's 10 Best Engines for three years running, is so well-designed it outperforms even those competitive engines that feature costlier direct-injection technology. Accounting for all its vehicle applications, it contributes to 22 best-in-class benchmarks:

- Best-in-class fuel economy for a gasoline-powered full-size pickup (25 mpg highway; Ram 1500)
- Best-in-class horsepower (305) among full-size pickups with naturally aspirated V-6 (Ram 1500)

- Best-in-class standard V-6 horsepower (283; Ram ProMaster full-size van)
- Best-in-class horsepower (283) and torque (260 lb.-ft./353 Nm), best-in-class fuel economy (26 mpg highway) and best-in-class driving range of up to 520 miles (Ram Cargo Van)
- Best-in-class horsepower (283; Dodge Avenger mid-size sedan)
- Best-in-class horsepower (283; Dodge Journey crossover utility vehicle and Dodge Grand Caravan/Chrysler Town & Country minivans)
- Best-in-class towing (6,200 lbs.) among full-size SUVs with V-6 engines (Dodge Durango)
- Best-in-class V-6 driving range (600+ miles; Dodge Durango)
- Best-in-class driving range of (600+ miles) among gasoline-powered mid-size SUVs (Jeep Grand Cherokee)
- Among full-size sedans, the 3.6L Pentastar powers the Dodge Charger and Chrysler 300 to …
    - Best-in-class highway fuel economy (31 mpg highway)
    - Best-in-class V-6 AWD fuel economy (18 mpg city and 27 mpg highway))
    - Best-in-class combined fuel economy (23 mpg with RWD, 21 mpg with AWD)
    - Unsurpassed city fuel economy (19 mpg city RWD, 18 mpg AWD

All Pentastar engines feature variable valve timing (VVT), which accommodates fuel efficiency.

In terms of character, the 3.6-liter Pentastar can be mannerly, as demonstrated in the Chrysler Town & Country; or it can be beastly, as in the rugged Jeep Wrangler and Jeep Wrangler Unlimited.

Remaining applications are: the Ram 1500 pickup, Cargo Van and ProMaster full-size van; Chrysler 200 mid-size sedan, 200 convertible and 300 full-size sedan; Jeep Grand Cherokee; Dodge Avenger mid-size sedan, Challenger sport coupe, Charger sport sedan, Charger Pursuit police vehicle, Grand Caravan minivan, Durango full-size SUV and Journey mid-size crossover.

That's 17 applications across nine segments, according to WardsAuto segmentation.

The Pentastar architecture further distinguishes itself with flexibility that can best be described as "plug-and-play." With little or no modification, it can accommodate longitudinal and transverse orientations; front-wheel-, rear-wheel-, all-wheel- and four-wheel-drive systems; 6-speed manual transmissions and and 6-, 8- and 9-speed automatic transmissions.

The 3.6-liter Pentastar features just two intake manifolds – one for the Ram 1500 and Jeep Wrangler series, and one for the rest of its applications.

All Pentastar engines feature a 60-degree, deep-skirt, die-cast-aluminum cylinder block with six-bolt main caps that afford optimal stiffness for NVH mitigation. Also contributing to NVH reduction are:

- A structural windage tray to complement block stiffness
- A structural aluminum oil pan
- Direct-mounted alternator and A/C compressor that increases stiffness
- Select-fit pistons with polymer-graphite-coated piston skirts
- "Silent chain" timing drive with inverted teeth for minimal sprocket NVH
- Contoured composite cylinder-head covers

Further enhancing the driving experience is the specially designed, glass-reinforced, nylon composite intake manifold, which benefits from low-rumble tuning.

The Pentastar family's defining design element is its exhaust manifold. It's integrated with the cylinder head, which enables greater packaging efficiency.

The engine also boasts forged-steel connecting rods and piston-squirter jets, and its cam drive and valve-train components require no scheduled maintenance.

Since Chrysler Group was established in 2009, it has invested $2.5 billion in powertrain manufacturing initiatives – 48 percent of the company's total $5.2 billion manufacturing outlay.

Such commitment has led Chrysler Group to introduce, since model-year 2012, the Fiat 500e battery-electric drive system and nine new engines:

- 1.4-liter FIRE I-4
- 1.4-liter FIRE I-4 Turbo
- 2.0-liter Tigershark I-4
- 2.4-liter Tigershark I-4 with MultiAir® 2
- 3.0-liter EcoDiesel V-6
- 3.0-liter Pentastar V-6
- 3.2-liter Pentastar V-6
- 6.4L HEMI® V-8
- 6.4L HEMI® HD V-8

An additional engine, the 3.0-liter EcoDiesel I-4, will launch next year. It will power the ProMaster.

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