

## Cadillac Sport's Twin-Turbo Engine Kicks Turbo Lag To the Curb

Turbocharging increases power and performance with efficiency, but the delay in the delivery of power – known as “turbo lag” – has historically been its key limitation.

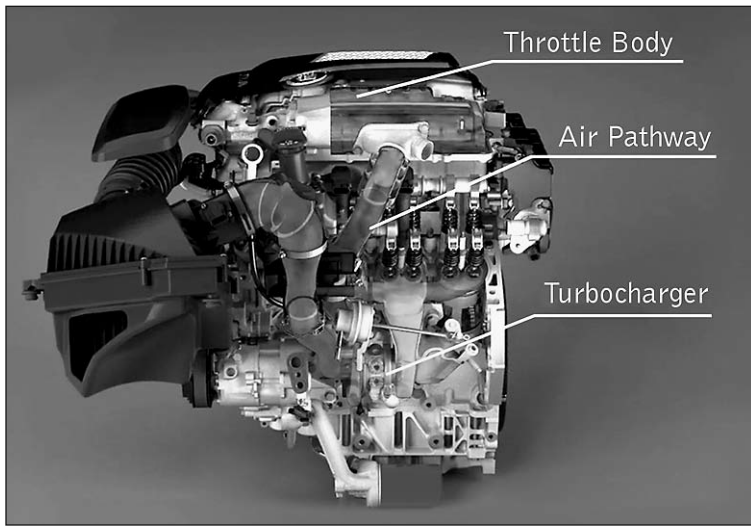
Cadillac's about to change all that.

“By creating a very short path from the turbos to the throttle body, the compressors are able to draw air directly from the inlet box and send pressurized air through the intercooler immediately,” said Richard Bartlett, Cadillac assistant chief engineer for the 3.6L engine.

“This gives the driver a more immediate feeling of power on demand.”

Cadillac's first-ever Twin-Turbo, available on the 2014 CTS Vsport midsize luxury sedan and XTS Vsport full-size luxury sedan in the U.S. this fall, kicks turbo lag to the curb with a unique combination of smaller turbochargers, top-mounted throttle body and shorter air pathways.

The Cadillac Twin-Turbo V6's patented air flow design, which eliminates circuitous heat-exchanger tubing, makes the most of engine packaging efficiency to



Cadillac has new designs to reduce “turbo lag” in the new XTS.

improve torque response time over other air flow designs, Bartlett said.

Rated at 420 horsepower in the all-new 2014 CTS Vsport and paired with Cadillac's first eight-speed transmission, the Twin Turbo is one of the most power-dense engines in the midsize luxury sedan segment, rated at an SAE-certified 420 horsepower and 430 lb.-ft. of torque.

Air flow routing volume is reduced by more than 60 percent when compared with a conventional design that features a chassis-mounted heat exchanger. The water-to-air cooler system achieves more than 80 percent cooling efficiency with only about 1 psi flow restriction at

peak power for fast torque production.

Using two smaller turbochargers rather than a single, larger turbo also helps ensure immediate performance because smaller turbochargers spool up quicker to generate horsepower-building air pressure that is fed into the engine, Bartlett said. An integrated charge air cooling system also contributes because the compressors blow through very short pipes up to the intercooler.

The single, centrally located throttle body atop the engine controls the air charge from a pair of turbochargers after the temperature is reduced in the

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## Ram Black Express Pickup Termed ‘Menacing,’ ‘Sinister’

by Irena Granaas

Whether someone is in the market for their first truck or just appreciates a sporty, fun-to-drive pickup with a lot of attitude, Chrysler believes it has the vehicle to fit the bill in the 2013 Ram Black Express.

Distinguished by its all-black exterior, black grille, black Ram's head badges on the grille and tailgate, and black front fascia with fog lamps, the new Black Express conveys a menacing presence when the driver ahead of the truck peers into the rear-view mirror.

“Ram trucks are known for their bold, in-your-face presence,” said Reid Bigland, president and CEO – Ram Truck Brand. “The new Black Express takes Ram's aggressive good looks to an all new sinister level by ‘blackening out’ the entire truck while maintaining a great price.”

The Black Express starts at \$26,955 plus \$1,095 destination charge, and includes the 5.7-liter Hemi engine that produces 395 horsepower and 410 lb.-ft. of torque, along with other content that expresses the truck's high-performance, and sports truck character. The legendary Hemi pow-



2013 Ram Black Express

erplant comes with Chrysler's Fuel Saver Technology with cylinder deactivation, which enables fuel economy of up to 20 mpg in highway driving.

Ram spokesman Nick Cappa said the Black Express generates a lot of excitement and has broad appeal. While pointing out the automaker sees especially strong interest in the truck on the West Coast, Cappa said demand for this package is pretty strong everywhere.

The Black Express has already reached dealer showrooms and Cappa said demand is “extremely strong” for the truck package. He noted that the Black Express is the latest refinement in creating a truck appealing to multiple segments of the vehicle consumer market.

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## Hot July Brings Hot July Auto Sales

### GM's Four Brands Post Double-Digit Retail Sales Jumps

July of 2013 was a good month for General Motors' retail sales. The automaker reported that its dealers delivered 234,071 vehicles in the United States in July, up 16 percent from last year. Retail sales increased 23 percent while fleet sales declined 6 percent.

“For GM, July was the most well-balanced month of the year from a retail sales standpoint: trucks were hot, but so were small cars and family vehicles,” said Kurt McNeil, vice president, U.S. Sales Operations.

“Our experience shows that the difference between good sales and great sales in a slow-growth economy is how many new products you have to offer, and we are starting to hit our sweet spot.”

He said GM passenger car sales were up 24 percent year over year, including a 42 percent increase in mini-, small and compact car deliveries.

McNeil reported Chevrolet car sales were up 31 percent driven by a record month for the Spark, record July sales for the Cruze and a 38 percent increase for the Impala.

He said Cadillac car sales were up 34 percent on the strength of the new ATS and XTS.

Pickup, van and SUV sales were up a combined 16 percent with full-size pickups up 44 percent – the best July since 2007.

About 15 percent of full-size

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### Ford's July Sales Of Small Cars Up 32 Percent

Ford has reported its U.S. sales grew 11 percent compared with last year – the best total July sales since 2006. Retail sales are up 19 percent, marking the Dearborn automaker's best July retail sales month since 2005.

With tight inventories, retail car sales are up 13 percent, utilities are up 19 percent, and trucks are up 27 percent – with strong growth in the coastal regions.

“We saw continued strength and growth in our retail business, particularly in the coastal regions of the country,” said Ken Czubay, Ford vice president, U.S. Marketing, Sales and Service.

“Our small cars and hybrids continue to attract new customers to Ford and away from our competitors, thanks to the vehicles' combination of styling, technology, fuel economy and performance.”

He said Ford small cars – including Fiesta, Focus and C-MAX hybrids – are up 32 percent, with a combined 27,131 sales, making it Ford's best July for small car performance since 2000.

All three Ford utility vehicles are on pace to set sales records this year, with Escape up 4 percent in July to 22,343 vehicles sold and Explorer up 13 percent to 12,742 vehicles sold. Edge also posted a record July with 10,541 sales, a 15 percent increase from last year, Czubay said.

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### Chrysler Sales Up 11 Percent; Best July Since '06

Chrysler last week reported U.S. sales of 140,102 units in July, an 11 percent increase compared with sales in July 2012 (126,089 units), and the group's best July sales since 2006.

The Jeep, Dodge, Ram Truck and Fiat brands each posted year-over-year sales gains in July compared with the same month last year.

The Ram Truck brand's 31 percent increase was the largest sales gain of any Chrysler brand in July.

“We continue to see strong retail sales, particularly with our pickup trucks and SUVs, and that has helped to propel Chrysler Group to our 40th consecutive month of year-over-year sales growth,” said Reid Bigland, head of U.S. Sales.

“In addition, the all-new Fiat 500L is off to a great start with 962 units sold in its first full month on sale.”

The Ram Truck brand sales gain was driven by the 31 percent increase in Ram pickup truck sales. Dodge sales were up 18 percent in July, largely because of the 88 percent increase in Dodge Durango full-size SUV sales. Jeep sales were up 2 percent as all Jeep models in production recorded year-over-year sales gains in July. Fiat sales were up 2 percent in July compared with the same month a year ago, Bigland said.

Dodge posted the best July

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Paul Czornij of BASF shows some of the company's auto paint colors.

## To Predict Future Popular Car Colors, BASF Designers Study the Current Fashion, Social and Economic Trends

by Jim Stickford

Color affects mood and mood affects color, said Paul Czornij, technical manager of BASF's Color Excellence Group in Southfield.

Czornij said that makes it very difficult to determine in 2013 what car colors will be popular in 2017.

Improved paint design technology, he said, makes it possible for companies like BASF to create a wide variety of colors for cars.

In order to be able to provide OEMs with a popular variety of choices, BASF does an annual automotive color trend report, Czornij said. The latest report was just released.

He said the forecast, titled, “Making Headway,” indicates a movement toward more color

shades than in previous years. BASF can now present OEMs with 65 different colors that have been developed in four design centers around the world.

The North American center is in Southfield and the European center is in Germany. There are two Asian centers, one in Japan and one in Shanghai.

Czornij said it's important for OEMs to pay attention to color because there's no way to separate color from emotion.

“Any color a person chooses to display evokes two responses,” Czornij said. “One is personal and the other is a response that the person displaying the color wants to evoke in other people.”

Car colors tend to be conservative because a person who

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