## **Detroit Auto Scene**

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WE PUT A FACE ON THE AMERICAN AUTO INDUSTRY

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## **Chrysler Employees Volunteer to Feed Detroit Hungry**

by Jim Stickford

Part of being a good corporate citizen is helping the people in the communities in which a company operates, and that's why Chrysler employees donated their time getting food for the Gleaner's Food Bank.

Daphne Harris, manager -Civic Relations and Community Engagement for Chrysler, said employees gave of their time on Sept. 12 and Sept. 18 to make a door-to-door pickup of food.

"The way the actual process worked," Harris said, "was that on Sept. 12, employees walked around to homes in the neighborhoods around our world headquarters - Auburn Hills, Troy, Rochester, Birmingham – and placed door hangers with one bag on people's doors.'

These hangers asked people to donate food by placing them in the bags, which would be picked up on Sept. 18 by "an army of employees" who volunteered their time, Harris said.

"We collected nearly 2,800 pounds of food," Harris said. That can provide 3,000 meals for people in need."

Hunger affects every demographic, and isn't limited to only the homeless, Harris said. According to the Food Bank Council of Michigan, food banks and emergency food providers continue to serve more working poor families than ever and 50

ceive food from emergency food providers are children and senior citizens.

Since hundreds of thousands of people face hunger every day, The Chrysler Foundation, the charitable arm of Chrysler, focuses on empowering people in local communities and continues to encourage volunteer opportunities within the company, Harris said.

"We are longtime partners of Gleaner's and have participated in several projects with them," Harris said. "In July, Chrysler employees volunteered their time during a weekend and helped bag food at our headquarters. We had about 100 employees pack 5,000 food bags for children.'

The food bags, Harris said,

contained food enough for six meals for children. The meals consisted of protein, fruit, veg-

"We know that one in five children in the area are affected by hunger," Harris said. "We want to do our part to help them get nutritious food because a hungry child needs food to power the brain."

etables and cereal.



percent of the people who re- A few of the 80-plus Chrysler staffers who picked up food to help fight hunger in the Detroit metro area.

## **Meteorology Tools Promote Cadillac's V6 Turbo Efficiency**

box.

The techniques meteorologists use to create weather reports also help ensure optimal performance from Cadillac's new Twin-Turbo V6 engine.

"Just as a meteorologist uses high-tech sensors to detect barometric pressure, humidity, air flow and temperature, our system can detect these conditions and modify engine performance and efficiency accordingly," said Richard Bartlett, assistant chief engineer of General Motors' twinturbo engine.

"In the same way the tools for meteorology have become more precise over the years, so have the technologies for monitoring engine operation."

The power-dense engine - available on the 2014 CTS Vsport midsize luxury sedan and XTS Vsport full-size luxury sedan in the U.S.

Talk about thinking outside the er output and increase unwanted noise. Read said.

> To reduce surge, he said, the system sensors continually measure air pressure in the compressor, and optimize the wastegate position to produce maximum power and eliminate unwanted noise.

> The wastegate regulates the pressure at which exhaust gases pass to the turbine by opening or closing a vent to the exteri-

> "Co-surge" is another phenomenon unique to twin-turbo engines that results when an air flow imbalance exists between competing compressors, leading

one compressor to surge, Read said. Co-surge is most common in high altitudes, where low barometric pressure can more adversely affect vehicle performance.

Compressor air flow sensors allow the Twin-Turbo V6 to correct air imbalances by repositioning a pair of vacuum-actuated wastegates on each turbocharger, Read said. This process allows the exhaust to bypass the turbocharger's turbine wheel and merge into the exhaust stream, allowing for the ideal turbine speed throughout the rpm band.

During spirited driving, com-

pressed air temperature can exceed 265 degrees Fahrenheit. Cadillac's onboard weather station detects temperature conditions and a unique charge air cooling system reduces the temperature by more than 130 degrees, increasing the air density to provide maximum power and performance, Read said.

Likewise, he said, the Twin-Turbo V6's humidity sensor monitors moisture in the air to modify combustion spark and cam timing to make the most of engine efficiency and performance whether driving in often-wet Seattle or desert-dry Las Vegas.

## **Local Engineers Help to Bring Clean Water to Nicaragua Town** CONTINUED FROM PAGE 1

that our chapter will have designed.

"The first two projects were in Buenos Aires, Honduras, and Las Glorias, Honduras."

This latest project, Taylor said, will have the advantage of the chapter's experience in building the two previous systems.

"The first time we started on a water project, we came to the realization that perhaps our skill sets as mostly auto engineers didn't translate directly into being able to design a water system," Taylor said. "We found out you really need to have civil and environmental engineers on the project."

Fortunately, Detroit has quite a number of both, Taylor said.

"We reached out to our colleagues in civil and environmental engineering and they really helped us learn the skills we needed for our water projects."

Once they actually design the water system, Detroit EWB members will go down to Nicaragua next year to help with its construction.

One of the things they learned was that any project they design must be able to be constructed using local labor and local materials, Taylor said.

It does no one any good to design a system using parts they can't get and requiring construction workers with skills that aren't available.

What's great about the chapter's latest project is that people who want to help out don't have to be trained engineers, Taylor said.

They just have to like looking at classic cars and buy tickets to the "A Pint With the Past" fundraiser, a beer-tasting event.

General admission tickets are \$75 apiece if ordered in advance, Taylor said. They are \$100 if bought at the door.

To learn more about the event and to order tickets, go to eventzilla.net or contact Taylor at MichelleZTaylor@gmail.com.



this fall – is equipped with a set of sensors that monitor air pressure, intake humidity and throttle intake temperature, said Tom Read, Technology and Powertrain Communications spokesman for General Motors.

The sensors, said Read, act as an "onboard weather station" to continuously send data to the engine's wastegate and compressor bypass control system to make the most of engine efficiency.

One of the conditions monitored by the Twin-Turbo V6's sensor set is compressor surge, an air flow phenomena leading to flow reversal that can limit pow-

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