Cadillac ELR's Paddle Shifters Regenerate Energy

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Spark EV's battery pack

Chevy Spark Sets Standard for EVs

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Volt and the gas-powered Spark to offer an affordable, fun and efficient minicar our customers will love to drive.'

The Chevrolet Spark EV will set an acceleration benchmark for an urban city electric vehicle - 0-60 mph in under eight seconds due to the mating of a permanent magnet electric motor, which produces more than 130 hp, with the coaxial drive unit.

The GM-designed oil-cooled, permanent magnet motor is the heart of the Spark EV's propulsion system. Putting more than half-a-million road miles on development versions of the Spark EV, say GM officials, enabled engineers to make the performance of the electric motor the best it could be by using a bar-wound copper stator and unique rotor configuration.

The motor and drive unit are assembled at GM's Baltimore operations plant in White Marsh, Md.

Karmanos Dinner Raises \$2.5 Million CONTINUED FROM PAGE 1

treatments" she's received at Karmanos.

The funds raised at the dinner will go toward supporting Karmanos' new clinical core laboratory, a 4,200-square-foot renovated area in the Karmanos Cancer Center dedicated to laboratory services for Karmanos' patients.

This improvement will mean shorter wait times for patients needing blood test results prior to receiving their cancer treatment. The lab, set to open in October 2013, will generate approximately 34 new jobs, including medical technologists and laboratory assistants. It will be open 24 hours a day, seven days a week. Also announced was the Karmanos Comfort Care Initiative, an opportunity to help make patients' hospital stavs more comfortable. This fund will help provide items such as complementary tea, coffee and snacks; blanket warmers, recliner and sleeper chairs for family overnight visits; and high-back chairs that make it easier for surgical patients to sit and stand after their procedures.

Paddle shifters take on new meaning in the Cadillac ELR, the brand's first electric vehicle with extended range capability that goes on sale in early 2014.

Unlike traditional performance vehicles where the steeringwheel-mounted paddles allow drivers to upshift and downshift mechanical transmission, the Cadillac ELR's paddle shifters enable the driver to temporarily regenerate energy and store it as electricity in the battery pack for later use.

ELR's Regen on Demand feature is unique to the compact luxury coupe.

"Regen on Demand enables ELR drivers to actively recapture energy when slowing down, such as when approaching slower traffic or setting up for a tight turn," said Chris Thomason, ELR chief engineer. "This allows the driver to take a more active role in the electric vehicle driving experience.'

To engage Regen on Demand, the driver simply takes his or her foot off the accelerator and pulls back on either the left or right steering-wheel paddle to begin regenerating electricity.

When engaged, Regen on Demand provides vehicle deceleration that is more than what a typical vehicle experiences while coasting, providing control and dynamic performance characteristics similar to downshifting in a manual-transmission vehicle. The feature does not bring the vehicle to a full stop.

Releasing the paddle disengages Regen on Demand, allowing the vehicle to coast normally. The driver can engage and disengage Regen on Demand as desired and as traffic conditions allow.

"Pulling back on the paddle to slow down allows the ELR driver to keep (his or her) foot close to the throttle, ready to accelerate," Thomason said. "It provides a more engaged, satisfying driving experience, and when you consider the added benefit of recapturing energy, it's also a smart thing to do.

During regenerative braking, the system converts the vehicle's momentum to electrical power and stores the energy in the Tshaped battery pack located along the centerline of the vehicle, between the front and rear wheels for optimal weight distribution.

The pack supplies energy to an advanced electric drive unit capable of 295 lb.-ft. of instant torque to propel the vehicle. Using only the energy stored in the battery, the ELR will deliver an estimated range of about 35 miles of pure electric driving, depending on terrain, driving techniques and temperature.

ELR includes a blended regenerative braking system that will recapture a majority of the energy in a vehicle's momentum rather than losing it as heat in the brakes, which is common with conventional vehicles. When the brakes are applied, energy is recaptured, as the vehicle slows. If more brake force is applied, ELR automatically blends in friction brakes to apply greater stopping power for more urgent stops.

The system has a standard 4channel anti-lock braking system

the best lean factory in Europe;

· Continued focus on employ-

ee health and well-being initiatives, including those addressing

work-life balance issues. (More

than one million hours of training

provided to employees on health

and safety topics - an increase of

\$27.5 million donated to lo-

54 percent compared with 2011;

cal communities in 2012;



Cadillac ELR's paddle shifters

and includes electronic Brake Force Distribution, which uses independent rear control for improved stability and braking during cornering, as well as more effective use of the rear brakes as vehicle loading occurs.

Also, the disc brake system features vented front and solid rear Duralife rotors with Ferritic Nitro-Carburizing finishing technology to reduce corrosion and deliver longer life.

Charging the ELR's battery can be done with a 120V electrical outlet or a dedicated 240V charging station. The vehicle can be completely recharged in about 4.5 hours using a 240V outlet, depending on the outside temperature.

• Confirmation of Fiat for the

fourth consecutive year in the Dow Jones Sustainability Indexes

World and Europe, and inclusion

in the Carbon Disclosure Leader-

ship Index Italy 100 and the Car-

bon Performance Leadership In-

The report can be found at

www.chryslergroup-llc.com/sus-

dex Italy 100.

tainability.

Chrysler/Fiat Report Touts Sustainability Gains

Fiat and Chrysler released a report detailing the combined sustainability initiatives, achievements and targets of the two organizations.

The report covers the companies' sustainability efforts at every stage in a vehicle's lifecycle - from design, selection of suppliers and materials, production, logistics, customer experience, vehicle use, through final disposal.

The report communicates progress on the group's "commitments to generate value responsibly with respect to good corporate governance, environmentally responsible products, plants and processes; a healthy, safe and inclusive work environment; and constructive relationships with local communities and business partners.

"Our business philosophy, where product excellence goes hand-inhand with acting responsibly, involves everyone throughout the entire organization, beginning with top management." said Sergio Marchionne, CEO of Fiat and Chairman and CEO of Chrysler.

"Nearly 215,000 people around the world put that philosophy into practice every day through their commitment and dedication to making Fiat-Chrysler a strong and competitive group, while never losing sight of our

moral obligation to contribute to the well-being of society as a whole and to the construction of a better future.'

Highlights of the group's sustainability achievements for 2012, according to company officials. include:

 Continued leadership on CO2 emissions, as the Fiat brand was recognized for the sixth consecutive year for cars with the lowest average CO2 emissions among the best-selling brands in Europe:

• Production launch in the United States of the Fiat 500e, a zero-emissions electric vehicle:

 Continued leadership in natural-gas-powered vehicles in Europe, with 10 models offered by Fiat, and the launch in North America of the Ram 2500 Heavy

500L, Dodge Dart and Fiat Viaggio;

• Further progress reducing with 2011 levels:

 Pomigliano d'Arco plant awarded with the Automotive Lean Production 2012 award for being

China Business Expo Planned The Automotive Industry Action Group and the Michigan

Economic Development Corporation (MEDC) formed a partnership to provide incentives for Michigan's small- and mediumsized automotive companies interested in launching or expand-

ty,"said J. Scot Sharland, executive director of AIAG.

The seventh annual AIAG Auto Parts Purchasing Leadership and Suppliers Forum, supported by the Chinese Ministry of Commerce and the U.S. Department of Commerce, takes place on Sept. 14 at the Radisson Blu Hotel in Beijing.

More information on the event is available at www.AIAG.org and www.michiganadvantage.org.



Duty CNG, the only factory-built natural-gas pickup; ing exports to China. • Highest safety rating recognitions achieved by the new Fiat

the environmental impact of the group's production processes: CO2 emissions reduced 5.5 percent, energy use reduced 6.5 percent and water consumption reduced 13.4 percent compared

'Pent-Up Demand For New Vehicles Is So Strong It Will Take About 5 Years to Play Out' – WWJ's Gilbert

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other drivers, when he is marginally tired the stimulation of driv-

"AIAG is committed to help accelerate growth in the lower-tier automotive supply base in terms of both capacity and capabili-

To donate to the Karmanos Comfort Care Initiative, go to www.karmanos.org/annualdinner.



If you have solid business news for this paper, please contact us at News@DetroitAutoScene.com. tem that builds the cars and charges their batteries depends on the coal, oil and gas that provides most of the electrical power in the U.S., he noted.

Although, he said, some of them are very good products that are very driveable, offer plenty of power and have a reasonable amount of range. But to be practical, said Gilbert, the battery recharge time needs to be less than an hour. He added that automakers take the learning they accomplish in making electric cars to apply toward future vehicles.

Despite all the press given lately to experimental autonomous (self-driving) vehicles, Gilbert said he doesn't think they are going to be practical. Regardless of how well the technology is designed, he said, no technology is perfect, and when someone is injured or killed due to failure of an autonomous vehicle, a lawsuit will result.

Gilbert also pointed out that for himself, as it is for a lot of ing helps keep him alert. But if he were in a self-driving vehicle with features beyond, say, blind spot monitoring, which Gilbert said is his favorite new safety option, he feels drivers become less alert when lulled by use of cruise control, lane departure warning and adaptive cruise control, for example, and can be slow to respond when a quick decision is needed that the safety system can't handle.

For example, he added, a human driver is needed to determine whether the object ahead is a deer or a child, which in the case of the deer the better choice often is to strike the animal, or if a child whether it's necessary to swerve and possibly end up off the road in a ditch.

Gilbert added he's got nothing against high-tech systems, but if his iPhone fails, it's no big deal, whereas failure of one of these autonomous systems could lead to severe crash injuries or fatalities

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