

## Conti.eContact

The new Conti.eContact also loses less energy when the tire deflects and rebounds than a conventional tire does.

The Conti.eContact is designed to generate minimum audible noise in the vehicle interior, to compensate for the fact that hybrid vehicles have little engine noise, making tire noise more noticeable. A thin layer of polyurethane foam attached to the inside of the tread reduces the vibrations that are generated as the tire rolls along the road, therefore transmitting less vibration to the chassis.

The eContact range is currently being pitched as especially designed for models such as the Opel Ampera, BMW 5 ActiveHybrid, Lexus LS 600h and Porsche Cayenne S Hybrid, as well as other cars and SUVs with hybrid drive. Given that this is a new vehicle segment that also involves highly complex production processes, Continental is kicking off with low-volume production at its French tire plant in Sarreguemines.



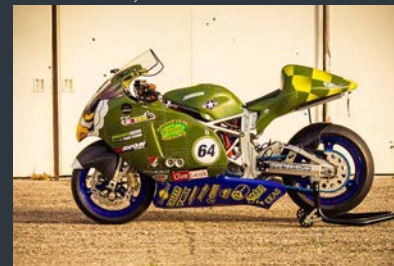
## Continental eTires

In 2011, Continental introduced the Conti.eContact, a tire optimized for electric vehicles, with lower rolling resistance translating into increased range. Thanks to the introduction of numerous new technologies and processes, this new and extensively hand-crafted summer tire is the first from Continental to obtain the top A rating on the EU Tire Label for both wet grip and rolling resistance. The Conti.eContact is available in six sizes for 17 and 18-inch rims.

The rolling resistance of the new Conti.eContact for hybrids is 20 percent lower than in a conventional tire, while not effecting performance. Part of this is thanks to Continental's Green Chili, which is not a taco sauce, but a silica compound that's made in such a way that the internal friction of the filler particles and the polymers is lower than in conventional rubber compounds. The sidewalls of the new Conti.eContact have been redesigned to minimize aerodynamic drag and rolling resistance.

## Pikes Peak Motorcycle Results

Unfortunately the weather conditions weren't as favorable as last year when the Electric Motorsport entry won outright first place in the motorcycle division at PPIHC. However the fastest of the electron beasts saw Jeff Clark finish the course in 11:59.814 on a 2013 Zero FX running in the production electric class. Unfortunately this time was 2 min 2 sec behind the gas powered winner. In an electric surprise this time was faster than the Brutus V2 Rocket (shown below) of Jeremiah Johnson – 12:20.448;



which was running in the Modified Electric Classification! Yoshihiro Kishimoto riding a MIRAI was second in the Modified Electric, a further 1:16 behind Johnson.



## Mitsubishi MiEV Evolution III

The 92<sup>nd</sup> running of the Pikes Peak hill climb was run and won last weekend. While petrol powered cars still ruled the day with a 9:05.801 time by Romain Dumas, the electron-powered racers are catching up fast. This year two Mitsubishi MiEV Evolution III race cars each hacked more than 30 seconds off the PPIHC EV record time of "Monster" Tajima, (who this year came up with a personal best of 9:43.900). Greg Tracy's 9:08.188 effort came only 2.387 seconds off the winning time, placing him in second place outright – (Hiroshi Masuoka in the other MiEV was third outright four seconds back). The timing for the four course stages are interesting; both Tracy and Masuoka ran the high-altitude third and fourth sections faster than Dumas had in his fossil-fuel-burning 2013 Norma, demonstrating the advantage that electric cars have over internal-combustion machines when oxygen gets more difficult to obtain. Tracy's average speed was 125.9kmh over the 156 corner, 20km course that climbs 1900metres to 14,110 ft.



## Leaf Battery



Nissan LEAF owners can now purchase a replacement battery pack. The price is \$5,499 (with the return of the original battery pack, which is required and valued at \$1,000), plus tax and the dealer's fee for installation, which is estimated to take about 3 hours. For those with 2011 and 2012 LEAF models, a \$225 installation kit is also required to adapt the new battery profile to the cars structure. The new packs, which are to be standard equipment on the 2015 LEAF, use a new chemistry that reduces capacity loss under high temperatures. Hopefully the new "lizard battery" will put an end to the problems in places like Arizona, where some drivers found that their batteries were losing capacity faster than expected. Don't know if this was noticed in Australia, but there certainly is the potential for it. The new battery doesn't offer any improvements in performance or range, and Nissan has not commented on a rumour of a planned higher-capacity battery pack. Replacement packs will carry similar warranty coverage to a new LEAF: 8 years/100,000 miles against defects and 5 years/60,000 miles against capacity loss.

## LiveWire



There must have been a slight snow slurry in Hell recently! Why you ask, well the sleek looking beast pictured above is a Harley Davidson product. An all-electric product!!! This all new electric motorcycle pairs Harley Davidson's classic sense of style with what promises to be an impressive array of modern technology. At the moment, the LiveWire is only a prototype, but the investment in building the electric motorcycle clearly points toward an intent toward production.

What does LiveWire offer your average electric motorcycle riders? A 74-horsepower electric motor that generates 52 pound-feet of torque, an electrically limited top speed of 92 mph, and a range of up to 53 miles, according to Harley Davidson. In other words, it should provide quick reliable commuter transport with low running costs

The lithium-ion battery pack (of undisclosed capacity) can be recharged in 3.5 hours at 220 volts. A lightweight cast aluminum frame forms the LiveWire's core structure, and at just 14 pounds, it's about 8 pounds lighter than the comparable component found in the Zero Motorcycles offerings. Further details on the project remain undisclosed, but H-D has said it will take several dozen of the electric bikes on tour around the United States and Europe as part of Project LiveWire. The tour will offer potential owners the chance to check out the bike, take test rides, and give feedback on design, function, and more. The first stop of the tour was New York City late last month.

BTW, this bike is being featured in the latest Avengers movie, currently in production in South Korea.

## The *SHAPE* of Thing to Come!!

## Carice Cars Mk1 Sports



Now here's something fun from the Netherlands. Carice cars from Delft (just south of The Hague) has just released its EV sports car, It looks like a Porsche 356 from the late 1950s, is made from plastic and propelled by a 40kW system, that could well be a glimpse into the future direction of the car industry. As Governments adopt new emissions laws to reduce pollution, traditionally heavy metal vehicles could give way to niche products such as the Carice Mk1, which has a total mass of just 350kg thanks to its plastic shell and compact dimensions. Top speed is 100kmh and a range of around 110km. The manufacturer can even install a compact petrol engine to extend the vehicle's range. The car's core is a simple "backbone" chassis layout comprising of a single beam that runs the length of the car and incorporates the batteries. Most components, such as the suspension are also attached to the backbone, and gives the car an equal 50:50 weight distribution, ensuring dexterous handling. Price is €22,000 - \$32,000; and is available in three states of "tune": 15kW, 40kW and a special 4kW "Junior" version for 16-year-old drivers.



## This Month's Technology Review

Gigavac – The guys that make high power solenoids, has recently introduced a range of hermetically sealed battery disconnect switch. Due to the hermetic seal the switches can be mounted in harsh locations (like under the car) and not suffer from it. Continuous rating is 400Amps at 1000Vdc. Maximum ratings are 2000Amp and 5000Vdc. These figures make this

device more than acceptable as a replacement to the usual Nanfeng "Big Red Switch" which is only 250Amp rated. You can also lock the switch in the off position for "Theft Proof Parking." These units are available from EV-Power for \$89.00 +gst  
<http://ev-power.com.au/webstore/index.php/dc-contactors-relays/gigavac-hermetic-battery-disconnect.html>