

# REVIEW:



## 2012 Chevy VOLT

By John Miller  
Images by Ken Pett & Ray DiSilvestro

**E**lectric when you want it.

Gas when you need it. That's the tag line Chevy is using with its 2012 Electric-Extended range Volt (Chevy prefers not to refer to it as a 'hybrid'). Electric vehicles are, no doubt, the future of automobiles. The leap, however, from the gas-engined car to the pure electric is still a ways off, based on the acceptance of the current crop of electric-only vehicles. GM chose to carefully bridge that gap with a technical combination that not only works, but looks good doing it.

The Chevy Volt is billed as a 'full-performance and full-speed' electric vehicle with extended range. The Volt operates in two ways: In EV (battery powered) mode and extended-range (gasoline powered) mode. Fully charged, and depending to a degree on temperature, terrain, and how heavy you are on the accelerator, the Volt can travel between 35 and 40 miles in battery-only mode. When the battery charge is exhausted, the Volt's cleverly designed gasoline generator allows the car to continue travelling up to 375 miles. What distinguishes the Chevy Volt from the more common Toyota and Honda Hybrids is the implementation of the gas driven generator, rather than driving the wheels directly via a gasoline engine.

The concept isn't new. General Motors was not only a pioneer with the ideas, but perfected them quite some time ago. Not with the ill-fated GM-EV1 electric car. GM's Electro-Motive train engine manufacturing was working with diesel-powered electric generators that fed the electric motors which powered the locomotives. It may have take GM 50 or 60 years o adapt the idea into a passenger vehicle, but the implementation is well done. The four-seat, five-door hatchback has an EPA rating of 98 MPGe (the MPG 'e' abbreviation stands for Miles Per Gallon Equivalent--the measure for plug-in/electric vehicles distance capability equivalent to the fuel economy in 1 gallon of gasoline).

The four-door, four seat, front-wheel-drive Volt is primarily powered two electric motors — a 149 horsepower primary drive motor and a 74-hp motor/generator, and a 1.4-liter gas engine. All three elements are connected via a complex set of transmission-like gears. The primary drive motor puts out 273 pound-feet of torque and is fed by a 16-kWh lithium-ion battery pack until the battery charge is 70 percent depleted, at which point the car's range-extending four-cylinder gas engine and its attached generator switch on, generating electricity to extend the cars range by another 350 miles. The Chevy Volt plugs into a standard 120-volt household plug or for faster charging, a 240-volt Level 2 charging station via the charger port the left front fender. It takes 7 to 10 hours to recharge a fully



depleted pack using a 110-volt outlet. With the 240-volt Level 2 charging station, it takes approximately 3 hours. Inside the Volt, the digital instrument cluster and the central display screen have excellent graphics that clearly convey as much or as little operating information as the driver chooses. The heated front seats are comfortable and leave excellent leg room in the rear. Although surrounded by numerous buttons and switches, the dual video screens were easy to understand and nearly all functions easily operated during a test drive.



Driving the rutted and pot-holed surfaces that pass as streets around Chicago proved an excellent test track. The Volt never faltered even in colder temperatures. Acceleration was quick and, as with any electric, eerily quiet. The various selectable driving modes are useful and do affect electric driving range as the central and drivers displays quickly reflect updated battery states. The Volt was nimble in the city traffic and visibility as good as expected in a hatchback. Storage capacity, at 10.6 cubic feet, while not luxurious, is adequate. Its clear Chevrolet gave significant though to the use of the car and the potential for issues with gasoline. Given the preferred means of power for the car is electric, Chevrolet anticipated that the gasoline in the tank might sit there for extended periods of time. As a precaution, the Volt will alert owners, as required (if the engine has not been used for the last 6 weeks), to run the engine to keep it properly maintained and lubricated. GM built in a further safeguard: The Volt will alert you that the engine will run to use up some of the older gasoline in the tank over one year old. If the fuel in the tank is over 365 days old, the Volt will also alert you to add some fresh gas. Chevrolet asserts that gas will remain usable in the Volt's pressurized tank for approximately 365 days.

The 2013 Volt received top safety ratings from both the IIHS and the National Highway Traffic Safety Administration. Chevrolet backs the Volt with a 100,000-mile/8-year Battery and Volttec™ Component Warranty. In addition to the battery, the warranty covers the thermal management system, charging system and electric drive components. Internal marketing figures from GM indicate the 2013 Chevrolet Volt is attracting buyers who never previously considered buying a Chevrolet or GM product.

Electric vehicles make complete sense as a city-commuter car. While the competition would have you believe the 'pure' electric cars are far more efficient than the gas-electric combinations, the flexibility and piece of mind of knowing that as you approach the end of the electric-only range, the Volt isn't going to leave you stranded and looking for a long extension cord. Current Volt owners are passionate advocates and may prove to be the best marketing GM can 'buy'. Compared to our test drives in the Toyota Prius and a Nissan Altima Hybrid, the Volt is smoother, faster, better executed, and significantly more fun to drive.

*The 2013 Chevy Volt starts at \$39,145. Volt buyers are eligible for a \$7,500 Federal income-tax credit for purchasing a plug-in car, along with the potential for other state and local incentives.*