

# Tesla Magic

The new black is a green alternative made in America.

BY JEANNE FERRIS



There is a sleek, futuristic vehicle called Tesla passing the loud, petrol-driven showboat imports on the highway. Quietly accelerating as if by magic, it's a mystical sylph gleaming by in the periphery. It's covert and sexy enough for James Bond, yet its low profile assimilates easily into the elementary school drop-off line formation. This green alternative automobile is the new black.

The car is named after the quintessential mad scientist Nicola Tesla, a naturalized Serbian immigrant famous for his otherworldly high voltage, high-frequency power experiments in New York and Colorado Springs during the 1800s, and best known for his contributions to the design of the modern alternating current (AC) electricity supply system. Tesla's experiments included patented devices and theoretical work used in the invention of radio communication, X-ray experiments and the unfinished, ill-fated wireless transmission Wardenclyffe Tower project.

At the height of his international fame and fortune, poets, scientists, industrialists and financiers alike sought Tesla's steel-trap photographic memory and his hundreds of inventions. His experiments, namely his death-ray blaster weaponry forays, eventually earned him J. Edgar Hoover's suspicious attention, resulting in one of Hoover's infamous FBI confiscation paper sweeps. His work fell into obscurity after his death in 1943—only to come back into popular culture in the last two decades.

The General Conference on Weights and Measure for the International System of Units even dedicated the term "tesla" to the SI unit measure for magnetic field strength in 1960. With this weighty posthumous accolade to add to his reputation, surely Tesla is a worthwhile distinction to bestow upon a mechanical, alternative energy chariot—namely, an electrical car made with pride in America.

A visionary himself, Elon Musk has adopted Tesla's exact AC supply system developed in 1893 with Westinghouse for his zero emission, 21st century electric powertrain and has called it the Tesla, in honor of its inventor. Musk is co-

founder, CEO and product architect of Tesla who has overseen product development and design since its genesis. He is also the CEO/CTO of Space Exploration Technologies, or SpaceX, which oversees the development of rockets and spacecraft for mission to earth's orbit and ultimately to other planets. In addition, Musk is the non-executive chairman and principal shareholder of SolarCity, which he also helped to create.

SolarCity is a leading provider of solar power systems in the United States and is being utilized in the Tesla Supercharger network stations. As if that wasn't enough of a bio, Musk is also a co-founder of Paypal, the world's leading Internet payment system and Zip2, a provider of Internet software to the media industry. It's an impressive resume to back an impressive product.



The recently unveiled Model S (Signature and Signature Performance) goes from 0 to 60 mph in 4.2 seconds, can hold a charge for 300 miles and has received a 99 rating out of 100 in safety and performance from Consumer Reports.

“Accelerating in it feels like an amusement park ride...hit the pedal and blast! No engine delay, no shifting, and no noise,” said Jim Kaese, brand-new owner of the Model S. “The heavy battery beneath the car seems to keep a low-center of gravity and helps the car feel really secure around turns. People are curious and ask about the car, so owners should be prepared to talk about it.”

And indeed, they are talking about it. Automobile Magazine has named it 2013 Automobile of the Year® and Motor Trend Magazine has also given it the Car of the Year® 2013. Like a Miss America pageant contender, it has climbed up the ranks of competition to prove it is not only beautiful, but also intelligent with a responsible plan to leave the world a better place.

Throughout well-traveled routes in North America, Tesla is building a network of Superchargers designed to give half a charge in about half an hour. This includes all hardware, software, and unlimited free charging with no additional

connector required. The half hour required charge on a road trip could be a challenge for today's society—a palate honed by immediate gratification with daily access to social media and gasoline consumption.



Perhaps with a Starbucks, shoeshine and a nail salon at each Supercharger, impatience could be assuaged and reconditioned.

The Model S has been outfitted with the latest sensors, like a 17-inch capacitive touchscreen allowing for better viewing and complete with media, communication, cabin, vehicle controls and Bluetooth wireless technology. The most disconcerting feature is that you simply shut the door and walk away when in park. Like magic, the car fob automatically turns the engine off, locks the doors, and initiates the theft deterrent while the door handles become flushed again with the streamlined body—a space rocket concept now available on terra firma.

For local San Diego commutes, the added government incentive of a \$7,500 rebate, discounted utility rates from San Diego Gas and Electric during off-peak hours, and a Clean Air Decal for HOV (high occupancy vehicle) lane usage, the sedan can be an alternative family or date car on many levels, with a starting base price of \$62,400.

In the event of another citywide electrical blackout, Kaese's response was efficient: "We have a 20-kilowatt gas-powered emergency generator at our home, so no problem there."

A check up is required only once a year, as oil changes are replaced by "road rangers" who come to your home to inspect the vehicle for maintenance. And with the combined long-term sustainable energy return on discounted solar panels from SolarCity, the garage or carport of the future can also be efficient in utilizing solar energy to generate electricity.

For an additional \$1,500, the car's sunroof can be a panoramic all-safety laminated glass which blocks 98 percent of sunlight and 81 percent of heat. Experimentation was conducted with small solar panels, but Tesla found it wasn't cost-

effective for the amount of stored sunlight received and utilized. However, the sunroof did prove to be significantly cooler than a metal roof, which retains heat despite shading the interior.



Jason Knapp is a San Diego resident who has put 40,000 miles on his Tesla Roadster and hasn't been to a gas station since 2010. The Roadster was leased in lieu of being waitlisted for the Model S, which he received in September of 2012 and has already put 22,000 miles on. Knapp, who commutes to Irvine daily, said that there are Superchargers along I-5 and sitting in traffic doesn't use the energy. Instead, it's consumed in speed—"the faster you go, the more electricity you use."

"The only downside to owning an electric car is the need to plan your long road trips around the Superchargers, which we have done when driving to the Bay Area," Knapp said. "I love it because you can just plug it in at night wherever you stay, and you have a full 300 miles ready to go—which lasts about five hours. And with kids we don't drive much longer than that anyway."

Knapp said his wife is waitlisted for the Tesla SUV, which is expected to be available in 2014. "We will then be an electric car family completely," he said.

In an interview with Justin Hyde of Yahoo! Autos, Musk had this to say about the reliability of free nationwide Supercharger stations: "These stations will operate even if the entire national grid goes down," Musk said. "Even if there's a zombie apocalypse, you'll still be able to travel using the Tesla Supercharging system."

It's a confident statement bordering on brashness from a Silicon Valley entrepreneur who has captured the kilowatt successfully, encased it in aluminum and reinforced it with high strength, boron steel elements—all while disregarding Wall Street's naysayer and others. The ghost of Nicola Tesla should be deeply gratified to know he had been on the right track all along.