

Sacramento EV Association Talk 3  
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Guy asked me to tell you about a new vehicle which begins production next year: the Workhorse W-15 Plug-in-hybrid Electric Pickup. It is built from the ground up, not a converted internal combustion truck. It has battery pack between the frame rails, and motors powering both front and rear wheels. Built by a company in Ohio with years of experience doing drive train chassis for other truck makers and creating plug-in hybrid electric delivery vans that are now being tested by Fedex and UPS. Unlike all the plug-in cars being sold today, this pickup has the potential to replace a huge number of fossil-fueled vehicles because of the existing market demand.

Most people do not realize it, but over half of all vehicles sold each year are pickups. For the last 40 years the single most popular vehicle sold in the US (not the most popular truck - the most popular vehicle of any kind) was the Ford F-150 half ton pickup. Next was Chevy half ton, next the Dodge half ton. During January and February of this year, **ten times as many pickups** were sold in two months as ALL plug-in vehicles of any kind were sold in **all 12 months** of 2016. The Workhorse could replace a huge number of those conventional internal combustion pickups, providing much lower emissions, fuel consumption, repair cost and much better performance.

The unveiling of the first prototype of the Workhorse W-15 pickup was held at a fleet vehicle show in Long Beach on May 4 of this year. At that event my wife Cheri and I met the Workhorse design/management team to hear what they had to say about the new prototype truck, and offer our own opinions about it. We got to do a close inspection of the truck, look at

the design details, sit in it, crawl under it, measure it, ask questions, kick the tires, and generally get a good feel for it.

So what advantages did we find this truck has?

It will be cost competitive with conventional internal combustion pickups at its price of **\$52,500** before any state rebates, tax credits or deductions. Total cost of ownership for a Workhorse in 12 years is estimated to be \$36,000 **less** than a standard half-ton gas pickup, including initial cost, rebate, fuel/electricity, maintenance and repairs. That comes out to a 44% return on investment. I have a small chart here with me tonight which breaks down that calculation.

The Workhorse will provide regenerative braking, and major fuel savings, with 80 miles all-electric (much more than the average daily distance of most drivers), ***then*** 30 miles per gallon as far as needed with 310 mile range per tankful on gasoline. This is achieved with a 3-cylinder gas generator to keep the battery fully charged for longer trips without any reduction in performance. It works like the range extender genset on the BMW i3. Full recharge of the Workhorse battery would take about 4 hours on a level 2 charger.

This truck will have amazing performance - 460 horsepower! Those who have test driven it (And I have links to reports from Car and Driver, Motor Trend, Trucks.com, and others) have said it accelerates and handles more like a sports car than a truck. 0-60 time is the same as my wife's Tesla Model X.

Battery pack under the floor makes for the lowest center of gravity of any truck. It is designed to be the safest truck ever built, with front crumple zone, all wheel drive, automatic braking, lane departure warning, and extremely strong frame and battery structure below the passenger floor.

The payload capacity is 2200 pounds – more than twice a half-ton pickup. Towing capacity is 5000 lbs

It has 12 inch high ground clearance and 4 wheel drive for off-road and bad weather capability

There is a 5 passenger cab (although the rear seats are a little bit tight, they are quite usable).

A 6-1/2 foot textured load bed, which will carry 4x8 sheets of plywood with the tail gate down.

Carbon fiber composite body panels that are lighter, stronger, more dent resistant than steel or aluminum, with integral color. The front does look sort of like the helmet of a storm trooper from Star Wars, but maybe that is appropriate if it is the “Truck of the Future”.

It has built-in 120 volt and 240 volt outlets for power tools or whatever other electrical need you have.

Ryder Truck Rental has signed an agreement with Workhorse so that Ryder will provide distribution and maintenance from their 800 nationwide locations.

So all of this sounds great. What is the downside? Workhorse began with the intention of selling to Fleet buyers only, from which they already have letters of intent for thousands of trucks when production starts in late 2018. They have those agreements with Duke Energy, the City of Orlando, Portland General Electric Power, Southern California Electric Power Association, Clean Fuels Ohio, and other fleet buyers. They initially had no plans to sell individual or consumer-level trucks.

But there is hope! They are currently considering sales to individuals. They have now added a banner and clickable link on the bottom of the Workhorse/pickup web page for us to show interest in a consumer version of the truck. This leads to a page where you can leave your e-mail address (no obligation to buy) and take a survey. Those numbers will be compiled into statistics to help them decide.

So I urge you to take the survey, and tell anyone you know who is interested in trucks, work vehicles, off road driving, camping, boating, biking, fishing, hunting, skiing, boarding, and/or saving the planet from global warming, to take the survey too. It would also be great for business users of small pickups, who do not qualify as fleet buyers. Sole proprietors like builders, surveyors, plumbers, electricians, handymen, lawn care workers, farmers, ranchers, deliverymen, veterinarians, and on and on.

This could be a real game changer in the battle to voluntarily reduce pollution and greenhouse emissions from transportation in our country. Hopefully all of you can help make it happen. I have some fliers you can take, and other printed information for you to look at.

Thank you very much. Any questions I can answer?