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Enginer Brand RangeMore© Nissan Leaf DATA

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In the gasoline cars market, there is a large industry supplying add-on parts and accessories for a wide range of purposes. In the due course of time there will surely be an accessories market for electric or hybrid cars. Enginer is one such company, being most famous for the plug-in Prius conversion kit that's been on the market for several years. The company recently announced, on the My Nissan Leaf forum, a range of add-on battery packs for the Nissan Leaf to extend the Leaf's driving range by as much as 40 miles.

Getting a long driving range with an electric car is simply a matter of carrying enough energy storage capacity. The huge range of the Tesla Model S (EPA certified at 265 miles) is due simply to the 85 kilowatt-hours of energy storage, compared to the 73 mile driving range of the Nissan Leaf due to its 24 kilowatthour battery pack. When you buy an electric car you're stuck with the design considerations of the company which built the car. But what if you could add modifications to the car? Gasoline car owners do this all the time, why not electric car owners?

What Enginer has done is develop a method of tapping into the Leaf's high voltage power system, to add additional battery capacity. Kit installation does not cut any wires, and the car can be returned to stock state at any time. The company claims it does not void the Leaf's warranty.

The kit consists of a large box containing a 48 volt DC LiFePo4 lithium-ironphosphate battery pack, and a DC-DC converter to step the voltage up to what's necessary for the Nissan Leaf. The box does take up room in the trunk area. The 5 kilowatt-hour model weighs 160 lbs, extends the driving range by 20 to 30 miles, and costs \$3,995. The 10 kilowatt-hour model weighs 240 lbs, extends the driving range by 40 to 60 miles, and costs \$5,995. KUBT, LLC. Enginer Brand battery pack is rated for 2,500 charge cycles. We should note that the miles of driving range Enginer quotes is similar to the "100 miles of driving range" that Nissan claims, when in fact the EPA certified range of the Leaf is 73 miles. That is to say we should expect the actual range extension to be less than the figure Enginer quotes, and the actual range extension will depend on driving habits.

Charging the battery pack is done via the J1772 port on the Leaf. This battery pack does not get charged if the Leaf is charged via the CHADEMO DC quick charge port.

Installation is not terribly hard, but should be done by someone competent with tools and electrical wiring. The Enginer range extender kit taps into the DC High Voltage wires, the AC wires for the charging system, some EV controller signal wires, and the charger DC relays. The website has a series of pictures outlining the steps with which you can gauge whether or not you are up to this task.

This sort of addon unit is an obvious accessory that Leaf (or other electric car) owners would want, whether from a 3rd part as in this case or from the manufacturer. One can imagine a car that's designed for, say, a 100 mile driving range but set up to allow adding an extra battery pack for longer trips. The battery pack could be rented much like we rent trailers for a few days at a time. Edit 2017 Data

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Install 1

Install 2

Leaf Rear Cover

\$3995.00 USD <u>90 DAY MONEY BACK SATISFACTION GUARANTEE</u>

RANGEMORE © Nissan Leaf 10 KWH KIT



Install 1 Leaf Rear Cover \$5995.00 USD <u>90 DAY MONEY BACK SATISFACTION GUARANTEE</u>