

REGEN THOUGHTS

Although we have installed a couple of the Curtis regen systems for customers, we are not an advocate of regen unless you are looking for additional braking capacity. Curtis no longer makes a Regen Controller and other high voltage regen controllers (120V +) in DC systems have not proven effective.

Regen should be activated by the brakes and should not come "on" when you take your foot off of the accelerator. You have paid for that energy - now coast.

Now, if we look at the additional range via regen; it appears that you would multiple the:

$$(\% \text{Time Foot is on the brake}) \times (\text{Regen Efficiency}) = (\% \text{ additional range})$$

Let's say (5% on brake) x (25 % regen eff) = 1.25% additional range

I think then you have to evaluate that additional range and braking benefit to the additional cost of regen. In our opinion, you are better spending you money on decreasing the aerodynamic drag and rolling resistance in most cases.

To back up the above, an S-10 built by EVA for the USAF was in the Great Truck Race in Smuggler's Notch VT in 1993. Ours was the only older EV with a DC system and no regen. All of the others were 1992 or 1993 trucks. In a 20 mile efficiency run through the valleys, we tied Solectria for 3rd place. Another Solectria truck won 1st place and one was in 5th place. There was also US Electricar truck and others. Although a Dodge truck with a Westinghouse system did not make to the starting gate and a SMUD vehicle from Europe broke a motor mount. Now, please remember this was an efficiency run. Naturally, we were pleased with our performance against AC system costing 3 times as much.

Something to think about. Evaluate incremental cost vs incremental benefit. It is called economic analysis.

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