

New Electric Tractors Ready For Market

By Scott Geyer, Publisher

As the power and design of batteries rapidly improves, electric-powered equipment is showing up everywhere, including at the Western Canada Farm Progress Show. I recently attended the show and spotted a Solelectrac electric utility tractor that's designed to replace a 25 to 40-hp. gas tractor.

Designed by Californian Steve Heckerroth, the eUtility tractor has a Cat I 3-pt. hitch and a 540 rpm pto. At 68 decibels, it's the quietest tractor ever tested at Nebraska Tractor Test Labs.

Equipped with a 30kWh lithium battery pack, it has 5 to 8 hrs. of run time, depending on load. It charges to 80 percent in 3 hrs. or full charge overnight. Exchangeable battery packs are also available to extend daily operating time.

Instead of hydraulics, it has electric linear actuators so there's no fluid to deal with. They'll handle a 3,000 lbs. static load. Battery

life is estimated to be about 10 years.

A front loader is available. A hydraulic pump can be installed for implements that require hydraulics.

The eUtility tractor sells for \$45,000. Tractors will be ready for delivery this fall.

Heckerroth also designed the "eFarmer" tractor that's similar in design to an Allis Chalmers G. It can be fitted with front, mid, and rear 3-pts. so implements can be mounted for maximum visibility. A single joystick controls steering and speed for easy navigation in row crops. Run time is about 8 hrs. and exchangeable battery packs are available. The eFarmer tractor will also sell for \$45,000 starting later this year.

To see the tractors in action, check out the video at www.farmshow.com.

For more information, go to: www.solelectrac.com; ph 707 235-8509; steve@solelectrac.com.



Solelectrac's eUtility tractor is designed to replace a 25 to 40 hp. tractor. It has a run time of 5 to 8 hrs. Quick-change battery packs are available.

The company's eFarmer tractor can be fitted with front, mid, and rear 3-pt. hitches for a variety of configurations in the field. Speed and steering are controlled by a single joystick.



Solar-Powered Ford 9N Runs On Battery Power

Jerry Clermont replaced the original gas engine in his Ford 9N with a 24-volt, solar-charged system. Solar panels on an overhead frame supply electric power that's stored in the tractor's four 6-volt batteries.

An inverter mounted ahead of the steering wheel converts the 24-volt power to 110-volts, which supplies all the power needs for the lights in his shop and for shop tools and appliances. "I use the inverter to power the lights in my shop all winter long," says Clermont.

After removing the engine, he built a metal frame to mount a 10 hp. DC electric motor and the four 6-volt batteries. He left the tractor's 4-speed transmission in place. "I start the tractor in 12 volts and flip a switch to go to 24 volts for full power."

Clermont made the conversion 8 years ago and says it was inexpensive and simple to do. "My total cost was less than \$2,000. The biggest expense was for the solar panel, which cost about \$1,600. The electric motor was salvaged from an electric forklift.

"I use the tractor on my small acreage to do everything from skidding logs to vineyard and orchard work. The electric motor actually puts out more torque than the tractor's original 23 hp. gas engine. It works very well with implements, such as my 3-pt. mounted rotary mower and spring toothed, 2-bottom harrow, which I use to do gardening work. I can still use the pto if I want.

"All the controls work the same except that with DC power there's no need for a clutch."

Clermont says the batteries are constantly being recharged by the solar panel, even on a cloudy day. "I can work for about 2 hrs. before the batteries will lose power. I don't have any gauges to show how much battery power is left, so I just run the tractor until the batteries die. When that happens I can go home for lunch, and by the time I come back the batteries are fully charged again."

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Jerry Clermont's tractor is powered by a 10 hp. electric motor, with four 6-volt batteries recharged by a 24-volt solar panel mounted on an overhead frame.

Air Conditioning Added To 30-Year-Old Trackhoe

Ron Heidebrink says the cab of his 1988 trackhoe was so hot during the summer that even opening the windows and using a fan wouldn't cool it enough to make it comfortable. He solved the problem by installing an air conditioning unit from an old motor home.

"The cab had a flat roof that was large enough to bolt the RV air conditioner unit in place, but the trackhoe's electrical system only had 28-volt DC power, which wasn't adequate," Heidebrink says. "I solved that problem by installing a larger 28-volt electrical system and an inverter to create 110-volt AC power."

His installation included replacing the original trackhoe alternator with a double alternator to improve the electrical output. Now he's able to use a 110-volt electric heater, too.

"Using the double alternator and the inverter made it possible to use an RV roof unit and install it myself without the need for a licensed AC installer," says Heidebrink.

He is a retired engineer and pilot and actually invented the double alternator in 2007 (featured in Vol. 43, No. 3). "It's a great device that can be used with any size



An air conditioning unit from an old motor home keeps the cab cool on Ron Heidebrink's 1988 trackhoe.

batteries, providing high amperage while the motor is idling." It installs on the same brackets as the existing alternator and uses the same belt or belts.

"By installing a double alternator and an inverter, any older tractor, combine, truck or road equipment can use an RV air conditioner," Heidebrink says. "You can also plug in a grinder, trouble lights or anything else that runs on 110 volts."

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Foot pedal lets Earl Line lift and lower the flap on his mower's grass discharge chute with his foot. Cable runs along mower deck and under the seat.

Foot Pedal Cable Lifts Mower Discharge Chute

"I came up with this idea a few years ago to raise the discharge chute on my zero-turn riding mower," says Earl Line, Melita, Manitoba.

"Normally I mow with the chute in the lower position, but once in a while I need to raise the chute. This is an easy way to do that," says Line. "I used a foot pedal made from scrap metal, a couple of angle iron brackets, and a length of cable off an old push mower.

"The foot pedal mounts to the foot deck

where I can operate it with the heel of my foot. I push on the pedal to raise the chute, and when I remove my foot the chute drops back down to its regular mowing position. The cable runs along the mower deck and under the seat. My total cost was only about \$20. Works great."

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