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COVER:

1956 FORD HI-CROP

GARDEN TRACTORS

Silence of the Lawns

Elec-Trak Tractors

by Harold Zimmerman

In 2002, I purchased the first of two electric garden tractors that I use on my property. That machine now sports an Elec-Trak front-end loader and performs many tasks throughout the year.

The other electric tractor has a belly-mounted mower deck, and it gets pretty heavy year-round use. In the summer-time it grooms our meadow and lawns, and in the winter it keeps our driveway clear of snow. My wife and sons also really like the tractors because they are quite easy to operate.

Owners do need to train themselves to charge the battery packs (chargers are built-in) after every use, as this is required to prolong battery life and prevent having a dead tractor the next time you want to use it.

Electric Development

General Electric developed an electric Delta Car in the mid-'60s, and although that project was not a success,

it did pave the way for the development of an electric tractor.

Many of the characteristics that were disadvantages for the electric car were advantages in a garden tractor. Range was no problem because garden tractors don't stray far from home. The DC drive motors, which are powerful at low speeds but not necessarily fast, are beneficial in tractor work. Battery weight can be used to advantage when positioned to provide traction for the tractor, and the power source for recharging is readily available from the homeowner's electric supply.

Bruce Laumeister spearheaded the company's electric tractor research and development beginning in 1967; and the machines were on the market in 1969. They were built in a rented building in Scotia, New York, near Schenectady.

General Electric built 11 different models throughout production years. These were the ER8-36, a small ride-on mower similar to a rear-engine riding mower, the E8M, E10M, E12M, E12,

E12S, E14, E15, E16, E20, and the industrial version of the E20, called the I-5 (list price of the E20 with mower deck and heavy-duty battery pack was \$2,208 in 1973).

Many electrical changes were made throughout production, along with some structural improvements. For instance, early models used cast-iron axles. One former GE employee said a dealer who came to the factory to do a critique of the machines purposely hit a doorway with the front wheel, snapping the axle. After that incident, a fabricated steel axle was put into production.

Approximately 800 dealers were part of the company's dealer network. Most of the dealers, however, were mechanics who had only limited electrical knowledge.

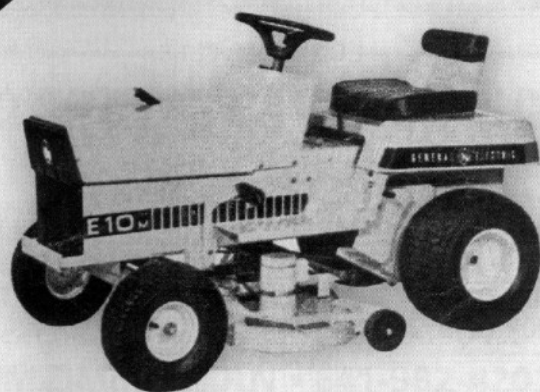
Beginning in 1973, General Electric decided to increase distribution of the electric tractors. Six of the models were manufactured under the Avco New Idea brand name and sold through New Idea farm equipment dealers. These machines



Elec-Trak



Elec-Trak E15



Elec-Trak E10M

had a few notable differences from regular GE models. Most GE models were yellow and had front-mounted mower decks. The New Idea models had an orange-and-cream paint scheme and provision for a belly-mounted mower.

Reportedly 33, 331 Elec-Traks were produced with 731 units going overseas. The GE business plan envisioned \$100

million in sales per year within three years, but the program didn't meet that goal. As a result, the Elec-Trak line was sold to Wheel Horse Products of South Bend, Indiana, on August 2, 1974. Wheel Horse continued building three of the Elec-Trak models, which were painted red, with few changes other than cosmetics, until 1977 or 1978.

Harold Zimmerman operates Clean Power Supply in Ephrata, Pennsylvania, which specializes in parts—including mower blades, switches, relays, and motors—and services for Elec-Traks. He welcomes questions and conversation about these unusual machines and can be reached by email at cleanpower@att.net, or by phone at 717-859-4234. 📠

Battery-powered Lawn Care by Peggy Shank

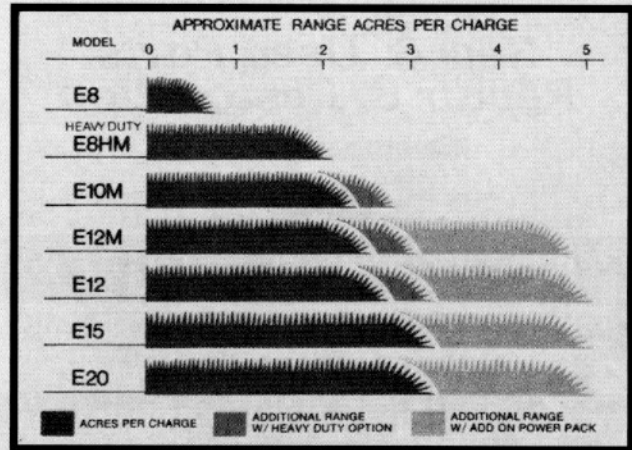
Concern about dependence on fossil fuels and emissions from gas engines, especially those in lawn mowers, make a strong case for developing an electric-powered garden tractor. It's not a new idea.

General Electric developed, designed, and delivered a battery-powered garden tractor 40 years ago. Although the company's literature compared the advantages of electric operation over gas-powered lawn tractors to the electric light over kerosene lamps, the new tractor technology didn't catch on the way light bulbs did.

Battery-operated lawn tractors had much to offer, according to General Electric's literature. Cordless, quiet, powerful, comfortable, economical, safe, and easy-to-use operation was available at the flip of a switch—even at sub-zero temperatures. With a half dozen models to choose from ranging from 8 to 16hp and a plethora of attachments, GE offered customers a variety of lawn care options.

Comparing the electrics to gas-powered machines, General Electric assured prospective buyers that its electric garden tractor, the Elec-Trak, was easier to maintain because it required no oil, points and plugs, or filters. Rather than frequent gas fill-ups, the battery packs—guaranteed for three to five years, depending on the model—recharged overnight from any household 110–120-volt outlet via a built-in system.

General Electric's brochures didn't mention how long a fully charged machine would run, just how many acres it would mow using different sized equipment. For instance, the larger models were said to mow 3.5 acres on a full charge. Another chart revealed a machine with a 42-inch rotary mower would cut 2.5 to 3.5 acres at approximately one acre per hour, which translates into 2½ to 3½ hours of work in a day (brochures for New Idea, which later marketed the electric garden tractor, reported that it "mows 1 to 4 hours, non-stop"). However, booster packs and partial recharging could extend work time. Plugging the tractors into an outlet for five hours would give an 85 percent recharge, and for two hours of feeding from the outlet, the batteries could get a 40 percent recharge. Being stranded with no power was not a problem, though. Letting the tractor rest for ten minutes allowed the battery pack to recover enough power to make the trip back to the garage.



Power was plentiful in the Elec-Trak, and distributing 70 percent of the weight over the rear drive wheels increased traction. Literature stated, "In actual tug-of-war tests, an E12 has easily out-pulled the five leading makes of gas tractors of equivalent rating."

At the top of the safety feature list was the safety seat switch that prevented the tractor, mower, or snow blower from starting unless the operator was sitting on the seat. The switch also shut the systems off automatically when the operator left the seat. Mower blades stopped one to three seconds after shutoff, and depressing the brake completely on large models shut off all drive power.

More than 40 available attachments included a belly mower, rotary mower, gang-mower, lawn sweeper, sleeve hitch, rake, toolbox, rear lift, V plow, snow thrower, snow cab, snow/dozer blade, disc harrow, cultivator, toolbar, moldboard plow, dump cart, lawn roller, rotary broom, vacuum and cart, and platform lift and a number of electric tools—edge trimmer, chain saw, weeder/cultivator, trimmers—that could be powered directly from the battery pack via an outlet on the side of the tractor (some of these tools could be powered for up to six hours on one full charge). The Elec-Trak also provided a mobile power source for any electrical equipment using an inverter that converted the 36-volt battery direct current to alternating current.

Battery-powered garden tractors seemed like a good idea, but customers failed to make the switch.