

JUNE 1972 60 CENTS

# Popular Science

THE **What's New** MAGAZINE

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# Two New Electric Tractors—



Ten and eight-hp Electraks look alike, but E-10 has extra batteries. The E-8 will cut an acre per charge, E-10 one to three acres.

**These Electraks are cheaper and smaller than GE's original "kilowatt" riders**

By E. F. LINDSLEY / *PS Midwest Editor*

If you had a "wait and see" feeling about electric tractors when GE introduced its Electraks two years ago, you weren't alone. Would the batteries stand up? Would the operating time be too short?

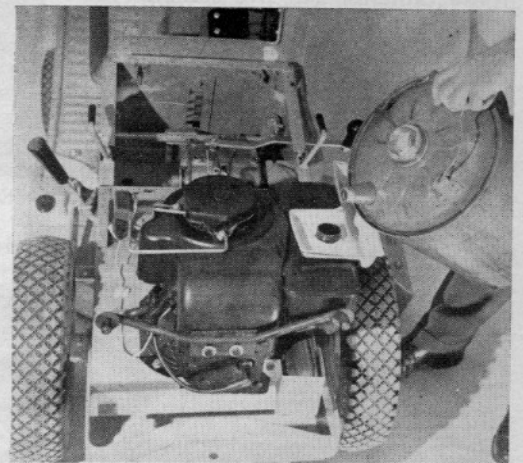
Happily, the tractors have performed as advertised.

Battery failures have been almost nil—in fractions of one percent. Now, a bit flushed with success, GE is making two new models. They're smaller (eight and 10 hp) and cheaper. The E-8 sells for \$795 and the E-10 costs \$995. Add to that \$180 for the mower, in both cases, and \$269 for an E-10 snow thrower.

I tested both tractors on tough Florida grass. They did a fine job; and did it without fuss, noise, or special favor. They differed somewhat from the larger, original Electraks:

- Mowers are mid-mounted rather than front-mounted.
- The drive motor is constant-speed, not "throttling."
- There are three forward speeds and reverse from a selective gearbox.

## OFF THE DRAWING BOARD AND INTO YOUR YARD:



Brake pedal on seven-horse Bolens rider must be down and locked to start (left). This prevents forward motion, and declutches and brakes mower blades. Photo above shows a clever little catchpan that prevents gas from running down onto the muffler. Runover splashes on the ground.

# No Fuss, No Noise, No Gas

- Deck lift is manual with six on-the-go adjustments.

You operate the electrics the same as you would equivalent eight- or 10-hp engine-powered tractors. Flip on the key switch and the traction motor starts. Depress the clutch and select your gear; release the clutch and you're rolling. To cut the grass, flick the switch to turn on the cutter-deck motors.

GE has gone out of its way to protect the careless or unknowing user. A safety switch under the seat insists that you be firmly in the saddle before starting, and it cuts all motors if you fall off.

I tested the Electraks for stopping and starting on steep hills. High torque can throw you like a motorcycle hill-climber if you roll back slightly before engaging the clutch. Battery position and weight with both tractors definitely prevented this. It was easy to let off the brake and let in the clutch to restart either forward or backward up a hill.

One problem was the rather tight underbelly clearance of the mower deck. This stems, in part, from the vertical height of the cutter motors. My lawn has some high rises around the root bases of a few old trees. I found a similar tree and stuck the tractor by running one edge of the deck high enough on the mound to leave the wheels spinning.

Both tractors have built-in, self-regulating chargers. When you're through working, plug 'em into a 115-volt outlet and forget 'em. Five hours later, the tractor will be rarin' to go again. The E-10 has six six-volt batteries rated at 180 amp hrs.; the E-8 has three 12-volt batteries rated at 85 amp hrs. Both front and rear compartments house batteries on the E-10, but the rear box is empty on the E-8 (until you use it for tool storage). Both mowers have 36" decks with two cutter blades. Each cuts about an acre an hour, and each has a top speed of 4½ to five mph.

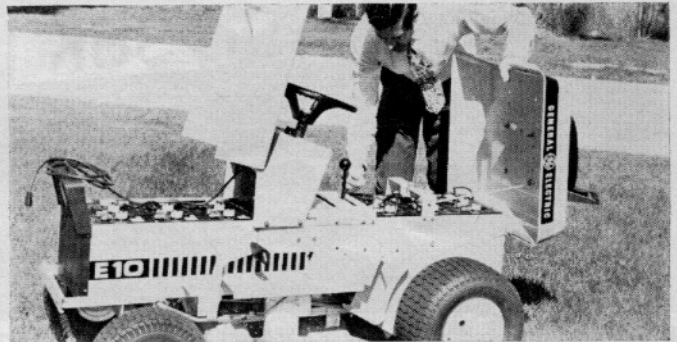
**Electraks in snow.** For light snow on a stretch of side-

walk, the E-8 with a 42" dozer blade might be all you'd need. For heavier snow, only the E-10 offers the snow-thrasher option. It'll clear two or three average 150-foot drives per charge.

Another feature offered on the E-10 only is the receptacle to plug in electrical lawn, garden, and hand tools. Options for both tractors include a headlight kit, lawn sweeper, and lawn cart.

How long will the batteries last? GE says its design picture was once-a-week use to full discharge for a period of eight years. About the only maintenance needed is checking and occasionally replenishing battery water. For outdoor storage on cold winter nights, GE suggests plugging in the cord for a trickle charge.

**Replacement costs are reasonable.** The E-10 battery package sells for \$192; the E-8 for about \$99. Divide this by the years of use and compare it to oil, gas, spark plugs, and repairs for the same time period. Even with power costs for battery charging, you'll probably save a few dollars. But better, you'll never need a can of gas or wake your neighbor on Sunday. P 5



Six six-volt deep-discharge lead/acid batteries fill the front and rear boxes on E-10. Cord plugs into 115-volt outlet to recharge.

## A Riding Mower Built for Safety

If you're a concerned consumer on riding-mower safety, you'll like the new Bolens 728. Its long development went from an experimental wheeled test-bed (only slightly less ugly than the Lunar Rover) into what now appears to be one of the safest, most functional riders on the market.

The 728 (from seven hp, 28-inch cut) started from scratch to bring together a multitude of human engineering factors: How ordinary users (not mower designers) drive a mower. How your reflexes respond in an emergency stop. Which body muscles best handle a deck lift. The design even takes into account errors commonly made in shifting, fueling, and starting a mower. Here's what I found:

- A deadman's brake when you release the clutch.
- A second emergency foot brake that also declutches and stops the

whirling cutter blade almost instantly.

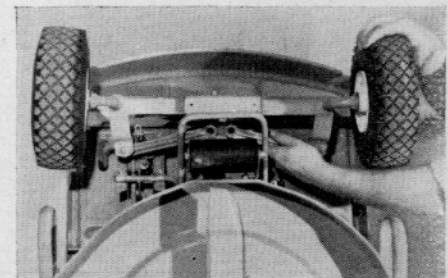
- A blocked reverse gate to prevent accidental shifting goofups.
- A collector to channel spilled gas to a safe discharge point if you're sloppy when filling the tank.
- A spring-suspended seat that lifts off for service access, plus a lift-up rear deck of tough leathery plastic to help deaden engine noise.

Manual start is standard on the 728, and before tugging the rope you must set and lock the foot brake and turn the key. Once you're running and in the seat, disengaging the brake arms a seat switch. Leave (or fall off) the seat without first setting the foot brake, and the engine stops.

The automatic disk brake on the transmission output shaft is adequate for most routine stops. It also brakes the mower when parked—a good safety feature. But if you want to push

the mower for parking, you have to hold the clutch pedal down.

Emergency stop? Jab the foot brake and three things happen: The drive clutch disengages, blade drive clutch disengages, and blade brake blocks pull the blade to a stop. Base price: \$525. Bolens Div., FMC Corp., Port Washington, Wis. 53074. P 5



**Solid positive steering** on the 728 comes from heavy ball-joint tie rods. All the wheel bearings have grease fittings.

If our new \$795\* cordless electric tractor isn't exactly right for you

one of our five other Elec-Trak tractors will be.



The widest choice of power, size, mower design, speed control and attachments. GE Elec-Trak tractors offer everything from weeding to welding.

**QUIET.** Mow during the day. At night. Anytime. Forget noise, heat, vibration and polluting fumes with your Elec-Trak tractor's quiet, rugged electric power system.

**BATTERY-POWERED.** No cords. No gas. One automatic refueling from any standard household electric outlet and you're ready to mow up to 3 acres. Or, with a full line of plug-in attachments available, tackle just about any yard job. All for about 5¢ an acre. And the tractor's tough power pack is warranted 5 years on Model E20, E15, E12, E12M, E10M; 3 years on Model E8M.

**SAFER.** Leave the tractor seat and a safety switch shuts off power to the motor and instantly stops the mower blades. A rear discharge mower puts clippings and debris under the tractor. Power lift or quick lever action easily raises or lowers the mower, snowthrower or dozer blade. Without leaving your seat. And you choose between front or under-mounted mower.

**INSTANT START.** Turn the key, and you're off. Every time. In any weather.

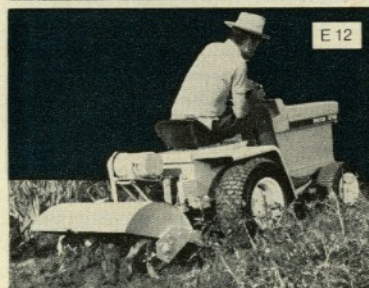
For your nearest dealer, check the Yellow Pages under "lawnmower."

OR CALL TOLL-FREE ANYTIME:  
**800-243-6000.**

In Connecticut, call 1-800-882-6500.

523-33A

\*Manufacturer's suggested retail price for E8M plus taxes, dealer setup and freight charges.



**GENERAL**  **ELECTRIC**