GENERAL ELECTRIC

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ELEC-TRAK ENERGY FACTS

Work demands energy. Awareness of energy consumption and the raw materials we use to produce this energy has been keenly intensified recently. Here are some energy facts as they relate to Elec-Trak tractors and Rider Mower.

Average Power Consumption to Complete Full Cycle Charge on Elec-Trak Tractors and Rider Mower

Heavy Duty Power Pack (Six, six-volt 220-ampere hour lead acid batteries, 20-hr. rating)	9.66 kwh[1] per charge (65°F)
Standard Power Pack (Six, six-volt 180-ampere hour lead acid batteries, 20-hr. rating)	7.9 kwh per charge
Rider Mower Power Pack (Three, twelve-volt 90 ampere hours lead acid batteries, 20-hr. rating)	3.0 kwh per charge

Average mowing usage of once a week means charging of once a week. For the sake of comparison, we will assume the equipment is charged 52 times per year, although in actual practice, it would be less.

Average Power Consumption, Per Week, of Some Typical Household Appliances[2]

Water Heater	81.13 kwh
Room Air Conditioner	26.71 kwh
Refrigerator (frostless, 12 cu. ft.)	23. kwh
Range	22.5 kwh
Large Elec-Trak tractors (HD Power Pack)	9.66 kwh
Color Television	9.6 kwh
Large Elec-Trak tractors (Standard Power Pack)	7.9 kwh
Dishwasher	6.9 kwh
Electric Fry Pan	3.69 kwh
Elec-Trak ER8-36 Rider Mower (three 12-volt batteries)	3.0 kwh
Radio	1.6 kwh
Clock	.32 kwh

[1] OPEO Report #1066 Charger Efficiency

[2] The Electric Energy Association, as printed in the New York Times, Nov. 24, 1973. Numbers divided by 52 to attain weekly values.

Energy Consumption of Elec-Trak Tractors in Terms of Petroleum[3]

Because most outdoor power equipment is presently powered by petroleum products—gasoline—it is of interest to ascertain what Elec-Trak tractors "consume" in terms of petroleum at the power station that provides recharging power.

If a petroleum fueled generator were used, here are the figures based on average heat rate of all fossil-fueled generators now in service.

Charging of Heavy Duty Tractor Power Pack	0.69 gallons
Charging of Standard Power Pack	0.57 gallons
Charging of Three Twelves	0.22 gallons

But it is not that simple! Electric utilities experience off-peak and peak load conditions. During off-peak times, generally after 8 PM and during weekends, many of the nation's utilities produce their electric power with coal, natural gas or nuclear fueled generators. When a locality's need for electricity exceeds the off-peak amount being generated, that locality's utility meets the additional demand with additional generators. Many of these extra generators are petroleum fueled.

However, most Elec-Trak tractors are charged in off-peak time periods: at night or during the weekends after they have been used. Therefore, when they are charged, the petroleum-fueled generators are probably not in use. Thus, it is not realistic to make a direct "petroleum consumption comparison" between an Elec-Trak tractor and a gasoline powered tractor.

Nevertheless, based on the mowing range figures confirmed by the Nationwide Consumer Testing Institute[4], Elec-Trak tractors would "consume" the following amounts of petroleum per acre:

Heavy Duty Batteries in E12M, E14, E16, E20 models	0.23/gallons/acre
Standard Batteries in same models as above	0.19/acre
Three Twelves in E8M or ER8-36	0.22/acre

Petroleum Consumption by Gasoline Powered Lawn Tractors and Riders

Assuming a gasoline tractor consumes:
1 pound/horsepower/hour at 3600 rpm, full throttle where
6 pounds = 1 gallon of gasoline
Therefore, a twelve horsepower engine operated over a varying speed range for one hour would consume one-two gallons of gasoline.

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[3] EEI Statistical Yearbook, 1972 extrapolated

[4] Nationwide Consumer Testing Institute Report No. N12017

Consumption of Other Fuels

Most common fuel for power generation is coal. Elec-Trak tractors would consume the following amounts of coal.[5]

Heavy Duty Batteries	8.8 pounds
Standard Batteries	7.2 pounds
Three Twelves	2.7 pounds

Nuclear energy is also being used. To charge the heavy duty batteries would take 0.0084 of an ounce.[6]

Typical Energy Costs for Homeowners (¢/kwh)[7]

Below are average residential power costs, at retail, for seven areas in the U.S., 1972 figures.

	¢/kwh	¢/HD Charge	¢/Std. Charge	¢/Rider Charge
New England	2.9	28.01	22.91	8.7
Middle Atlantic	3.03	29.26	23.93	9.0
East North Central	2.49	24.05	19.67	7.47
West North Central	2.53	24.43	19.98	7.59
South Atlantic	2.14	20.67	16.90	6.42
East South Central	1.55	14.97	12.24	4.65
West South Central	2.15	20.76	16.98	6.45
Total U.S.	2.29	22.12	18.09	6.87

The statistics quoted herein are based solely on information provided in the cited publications and in no way should indicate a guarantee that Elec-Trak tractors and equipment will in all cases conform especially to the costs stated. Figures are to be used for general comparison purposes only.

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[5] EEI Statistical Yearbook, 1972

[6] AEC Report Wash. 11/39

[7] EEI Statistical Yearbook, 1972

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