



Electric Conversion: *The Great Planes 1/4 Scale "Patty Wagstaff" Extra 300S*

For this article, I will compare the cost, performance, and weight of the gas engine and the electric power system. To be fair, I will list the cost of a Chinese gas engine, as well as an American gas engine. Also, the thrust figures listed are based on data obtained from similar motors (size, K/V, voltage, prop, ect...), and will be tested once I get the motor mounted and everything hooked up.

Gasoline power:

- Engine: TGY 52cc 2-stroke gasoline: \$170+\$30S&H www.hobbycity.com
Desert Aircraft DA-50 50cc: \$660
- Fuel tank, throttle servo, and misc.: \$30
- Prop: Bambula 22X8: \$20
- TOTAL COST: \$250 or \$710

Electric power:

- Motor: Exceed-RC Monster Power 160: \$50
- ESC: Turnigy 100A HV ESC: \$100 www.hobbycity.com
- Battery: 2X Turnigy 5S 5000mAH 20C connected in series: \$100 www.hobbycity.com
- Prop: Xoar electric wood 22X10: \$22 www.chiefaircraft.com
- TOTAL COST: \$272

Now that we have compared the *cost* of Gas and Electric, let's compare the *performance*...

Gasoline power:

- Thrust: 25-30LBS
- Weight: (including CDI, throttle servo, ignition battery, and a full fuel tank).
Approx. 5.5LBS
- Flying time: 15-20 minutes on one tank.

Electric power:

- Thrust: 23.5LBS at 2600W continuous, 28LBS at 3300W (20-30 second bursts)
- Weight: (including motor, ESC, and battery): 4.9LBS
- Flying time: 8-12 minutes on one charge