

New rule: we will approve the minutes from the last meeting

The new motor plan is to use an alternator for our motor, so finding a means to drive it becomes a new challenge. We can estimate the drive system to cost as much as the motor (the alternator).

Complications of building an inverter:

- Finding the appropriately rated circuit parts.

- Appropriate layout. Minimizing effects of stray capacitance and inductance.

- Isolation issues with the bridge circuit.

- Circuit protection in high frequencies.

36 V is common for alternators in newer vehicles; we can use this to find a higher-voltage alternator.

Medical equipment typically operates at low speed, so searching there may be promising for finding a low speed drive

Saturation effects will limit our speed (see: magnetization curve).

Advantages of using 12-pole machine: Much higher torque at lower speed

- Could run the motor at the rated voltage for all speeds

Other terms to describe a torque controller drive: field oriented, vector controlled. Another possible idea to find a minimalist drive is to repurpose a VFD, using only the Bridge circuitry and its appropriate drivers. Our purposes require around 50A rated current.