

#1

$$T_0 = 20 \text{ Nm}$$

$$\omega_0 = 180 \text{ rpm}$$



$$P_{\text{ideal}} = .377 \text{ W}$$

$$P_{\text{real}} = \frac{P_{\text{ideal}}}{\eta_m \eta_g} = .670 \text{ W}$$

$$\eta_r = .75$$

$$\eta_g = .75$$



unnecessary, given rotors already

$$\left[\begin{array}{l} E_c 10 - 315171 \\ G P 10A - 332924 \end{array} \right]$$



$$\omega_m = (180 \cdot 64) = 11520$$

$$T_m = \frac{20 \text{ Nm}}{64 \cdot .73} = .428$$



$$V = 2.27 \text{ V}$$

$$\eta = .59$$

Chosen motor + gear combo does not exceed max rotor speed, gearhead input speed, max torque, and is well sized for the chosen constraints.



Only concerning number is efficiency, but this is ~~at~~ above .5 minimum, and is the highest from among the chosen rotors/gears.