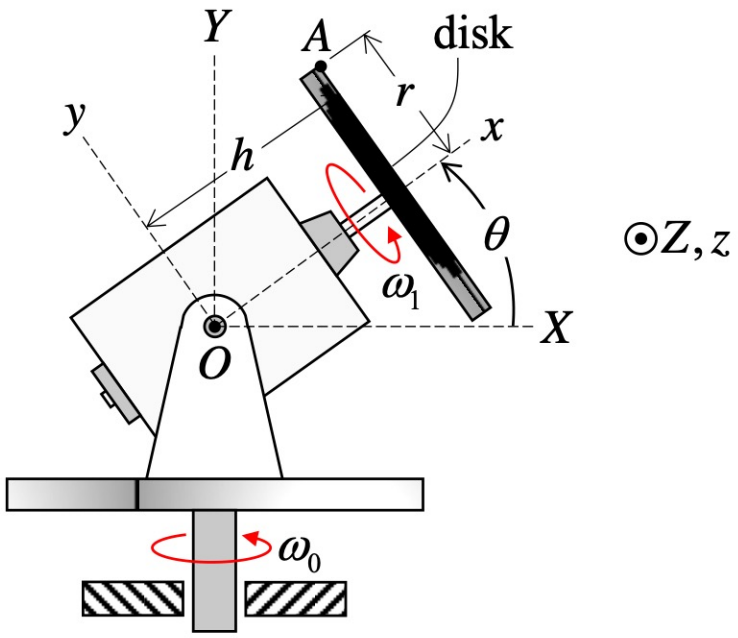
Homework H.3.H

Given: A motor is attached to a platform that is rotating with a constant rate of ω_0 about a fixed vertical axis. The body of the motor pivots about a moving horizontal axis at a constant rate of $\dot{\theta}$ with the shaft of the motor rotating at a constant rate of ω_1.

Find: Determine:

(a) The angular acceleration of the disk attached to the shaft of the motor.

(b) The velocity of point A on the disk when A is at the top of the disk.



Use the following parameters in your analysis: $\omega_0 = 1$ rad/s, $\theta = 30°$, $\dot{\theta} = 0.3$ rad/s, $\omega_1 = 60$ rad/s, $h = 0.15$ m, and $r = 0.1$ m.