Homework H6.B

Given: Block A (of mass m) is attached to a ground spring with a stiffness of k. Block A is also in rolling contact with a pair of homogeneous disks (of masses and radii of m and R, and $2m$ and $2R$) pinned to ground at their centers O and C. As A moves in the vertical direction, it does not slip with respect to the disks. Let x represent the vertical motion of A where $x = 0$ when the spring is unstretched.

Find: For this problem, derive the dynamical equation of motion for the system in terms of the coordinate x.