

Homework Problem H18.B

Given: A block of weight W rests on a rough, horizontal surface with a coefficient of static friction of μ_s . A homogeneous disk having a weight of W_C and radius R is placed between the angled surface of the block and a vertical wall, with each of these two contact surfaces being smooth.

Find: For this problem:

- Determine the maximum weight of the disk for which the system remains in equilibrium. Express your answer in terms of W .
- For the weight found above in a), is the block in a state of impending slipping or tipping? Explain.

For this problem, use the following parameter value: $\mu_s = 0.40$.

