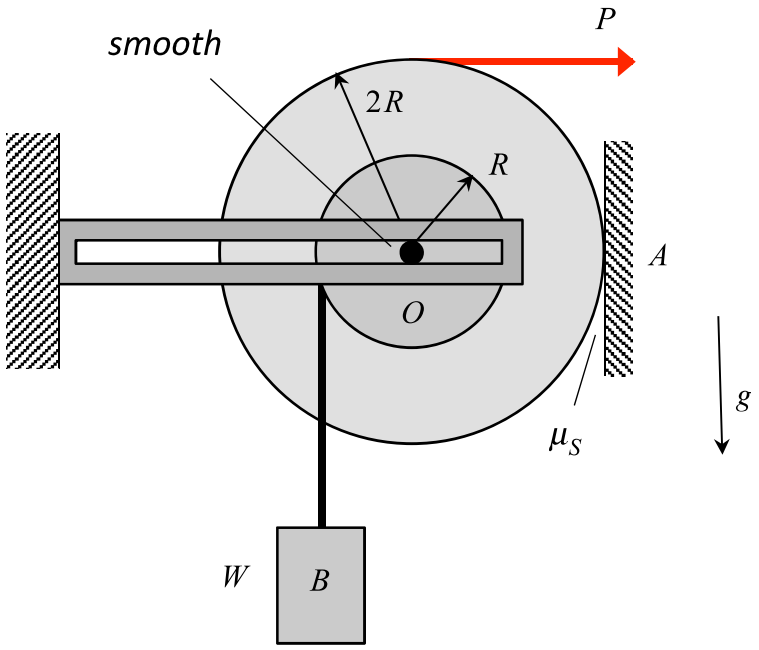
Homework Problem H17.A

Given: A spool is supported by a pin in a smooth, horizontal guide at O. A cable is wrapped around the inner surface of the spool with block B (having a weight of *W*) attached to the free end of the cable. A horizontal force *P* acts on the outer surface of the spool to bring the spool is contact with a rough, vertical wall on the right at A. The coefficient of static friction between the spool and the wall at A is $\mu_S = 0.4$.

Find: For this problem:
a) Determine the *minimum* force *P* required to hold the system in equilibrium.
b) Determine the *maximum* force *P* for which the system can be in equilibrium.

Write your answers in terms of *W*.



Homework Problem H17.B

Given: A person having a weight of W is attempting to pull a crate of weight W_C to the left.

Find: Determine the maximum weight W_C such that the crate can be moved. Use $\mu_S = 0.4$. Write your answer in terms W.

HINT: Draw individual free body diagrams for the person and the crate.