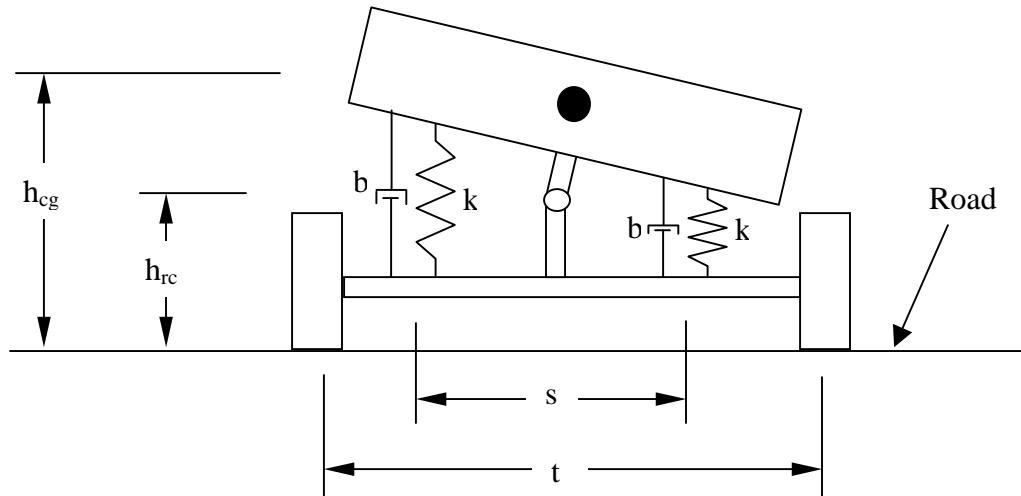


MECH 4420 Intermediate HW
(Due Tuesday 9/11/2007 in class)

- 1) Given the schematic of the sprung and unsprung mass in roll:
 - a) Draw a complete FBD
 - b) Derive the roll stiffness (Nm/rad) and roll damping (Nm-s/rad)



- 2) Derive the stiffness (N/m) of the cast iron bar of diameter d drawn below (i.e. find the amount of deflection per unit force at the location of the force). The bar has a 90 degree bend as shown below. Find values for any constants that you need to calculate the stiffness.

