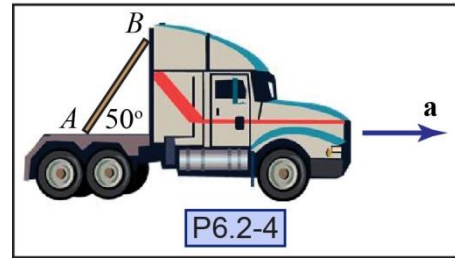


P6.2-4) A truck is accelerating forward with a beam resting against the bed and the cab of the truck at points *A* and *B*, respectively. If the coefficient of static friction between the bed and the beam is 0.5 and the surface of the cab is very smooth, determine the maximum horizontal acceleration the truck may experience before the beam begins to slip.

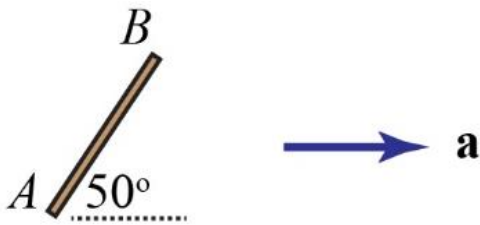


Given:

Find:

Solution:

Draw a free-body diagram of the beam.



Use the beam's equation of motion to solve for the maximum acceleration.

What type of friction exists between the beam and truck bed?

Static friction

Maximum static friction

Kinetic friction

$a =$ _____