Spring

Probelm Statement

A 3 kg Collar is attached to a spring and slides without friction along a circular rod which lies in a horizontal plane. The spring has a constant 1.5 kg/cm and is unreformed when the collar is at B. Knowing that the collar passes through the point D with a speed of 6 m/s. Determine the speed of the collar as it passes through A) Point C, B) Point B (Figure for this problem is drawn in the Advance help file.)

Input

Initial velocity of the Collar----- m/s

Stiffness of the spring ----- kg/cm.

Control Buttons

"RUN" button starts the animation.

"STOP" button stops the animation.
"RESET" button resets the animation.

Procedure
Set the initial velocity of the collar and stiffness of the spring. Press reset button and then start button to start the animation.

Concepts used
Basic definitions of velocity and acceleration.
Conservation of energy principle.

What to see
How and why stiffness of the spring affects the velocity of the collar?
Why the velocity of the collar is not constant?
At which location of the circular rod the velocity of the collar is maximum? why?