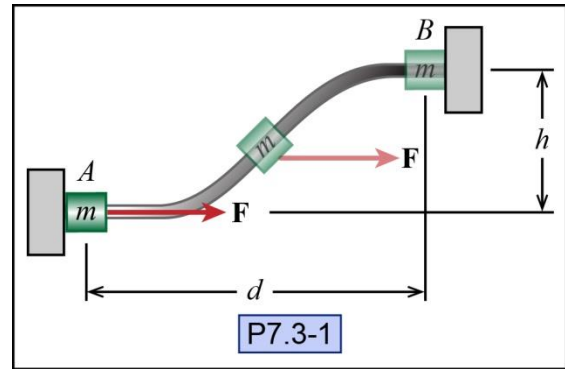**P7.3-1)**[fe] A collar moves on a shaft under the action of force **F**. Force **F** remains horizontal throughout the motion of the collar. Determine an expression for the velocity of the collar as it reaches position B if it starts from rest at position A. Friction may be neglected.

Given:

P7.3-1

Find:

Solution:

Is this a conservative or non-conservative system?

Conservative   Non-conservative

Draw a free-body diagram of the collar.

Which force(s) do non-conservative work?

Which force(s) do conservative work?

Which force(s) do zero work?

Use the work-energy balance to determine the speed at point B.

v_B = _____