## ME 320 Spring 2013 Project 2

A machine that closes the top flaps of boxes is shown below (not to scale). The biggest box that can be used is the Priority Mail® International Large Flat Rate Box ( $12" \times 12" \times 5-1/2"$ ).



Analyze the system using the following steps:

- i. Derive the displacement equations for the machine you designed in Project #1.
- ii. Derive the displacement equation for the critical points. *These points would vary depending on your design.*
- iii. Derive the velocity equations for the machine.
- iv. Derive the velocity equation for the critical points of step (ii).
- v. Write a computer program to simulate the displacement and the velocity for the bump and the rear suspension of the motorcycle.
- vi. Compare the results with those obtained from Working Model / Solid Works in Project #1.