

ME 320
Spring 2011
Project 2

The figure below shows a concept for an elliptical exercise bike. Based on your design of Project 1, you need to analyze the displacement and velocity of the system (bike and the user).

The following steps are suggested:

- i. Derive the displacement equations for the machine and the user.
- ii. Derive the displacement equation for the critical points.
- iii. Derive the velocity equations for the machine and the user.
- iv. Derive the velocity equation for the critical points.
- v. Write a computer program to simulate the displacement and the velocity of the machine and the user.
- vi. Compare the results with those obtained from Working Model.

