Mechatronics I Laboratory Exercise: Linkages

Pre-lab Report

1. Slider-Crank: Design a slider-crank with a stroke of 2 inches and a time ratio of 1.67.
2. Rocker-Crank: Design a rocker-crank with an output angle of 30 and a time ratio of 1.67.

NOTE: Both these mechanisms (for all configurations) must fit within a 8"X8" area.

Laboratory Exercise

Equipment Needed: Mechanical breadboard, and linkage parts.

1. Slider-Crank: Build the mechanism and show that it works. Find the transmission angles of your mechanism.
2. Rocker-Crank: Build the mechanism and show that it works. Find the transmission angles of your mechanism.

Post-Lab Report
Include drawings of both mechanisms and relevant calculations.
What are some applications of these mechanisms?
What are the minimum transmission-angles for your mechanisms?