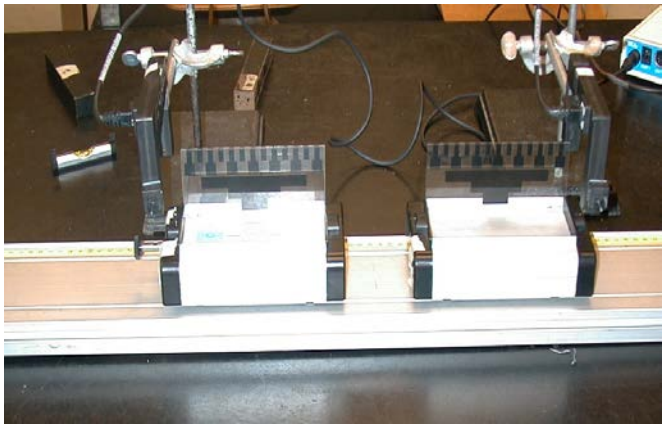
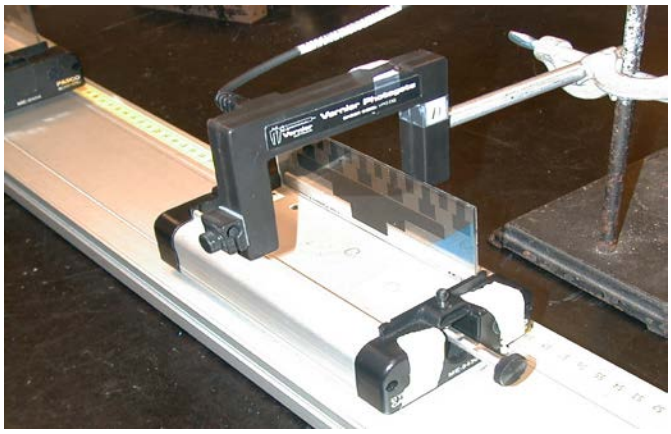
Lab #4 - COL

Section D. Procedure

Space the photogates as in the picture below for experiments 1-6.

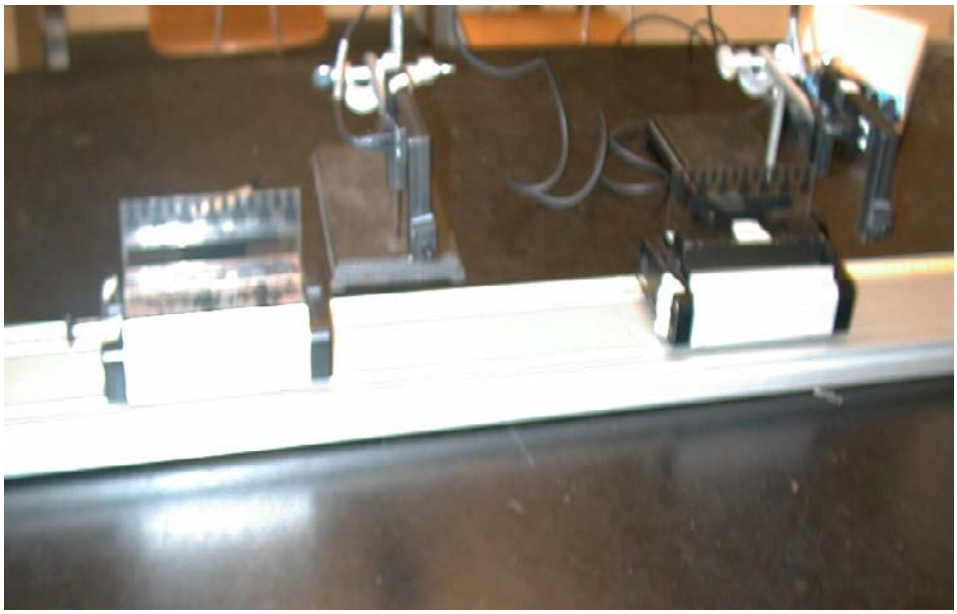


Space the grating on the carts as in the picture below.



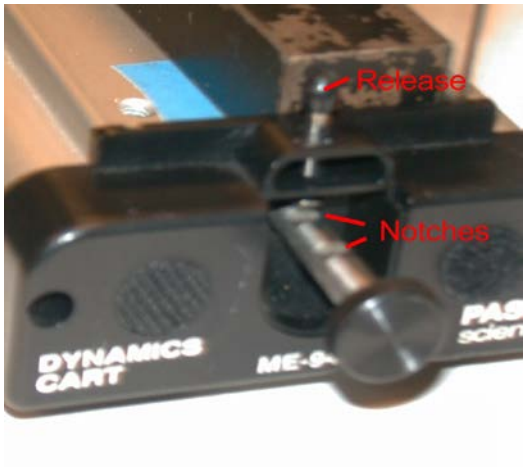
Section D.1. Elastic Collisions

The cart to the right is the target cart, it is initially stationary just to the left of the rightmost photogate. The incident cart is started to the far left and given a push so that it will collide with the target cart. If you move the leftmost photogate closer to the right photogate, so that the half of the incident cart has passed the photogate upon impact, you may be able to record both initial and final velocities for the incident cart for D.1b (*col2*).



Section D.3 Inelastic Collisions - Energy Gain

You should be able to see in the picture below the notches in the spring-loaded bar. To use the spring you must pre-load it by pushing the bar in and then up to engage one of these notches in the body of the car. You then tap on the release mechanism to provide a sudden impulse to the system.



Section E. Analysis

If you wish, you may use *Origin* to calculate ε_K and ε_P for each of the four collisions. If you are proficient with *Origin*, using it will save you time when compared to computing the results for each experiment separately with a calculator.