

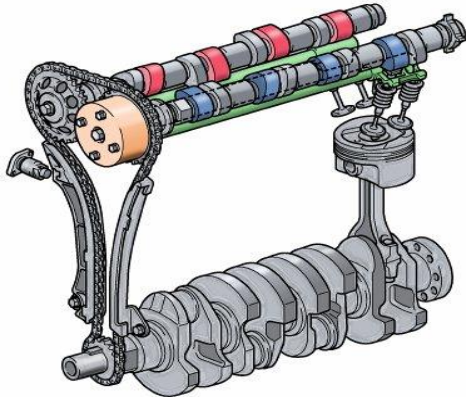
# M – CAMS

## Purpose

Introduce a method of converting rotary motion to variable linear motions using a cam.

## Cams

Cams are used in a variety of applications for the purpose of controlling movement of a link or other object in contact with it. An example of this is a cam shaft that is an internal component of an engine.

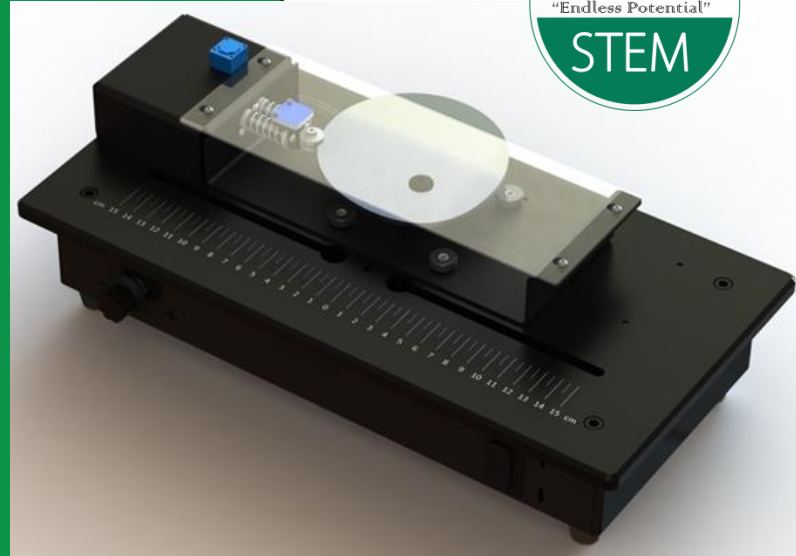


## Theory

A simple cam that is rotated on a shaft with a follower that rolls along the surface of it. As the diameter of the cam changes, the follower moves up and down. The travel of the follower "Y" is calculated as a function of rotation angle " $\theta$ ", net change in follower travel "H", and the angle " $\beta$ " causing follower movement.

$$Y = \frac{1}{2} H \left( 1 - \cos\left(\frac{\pi\theta}{\beta}\right) \right)$$

## Setup



## Results

Measurements of

$$h = \frac{l}{2} \left( 1 - \cos \frac{\pi \theta}{\beta} \right)$$

