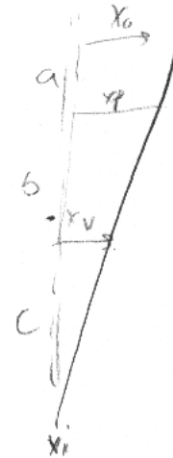
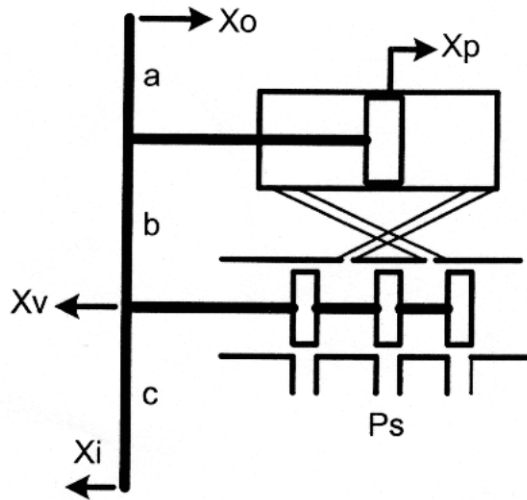


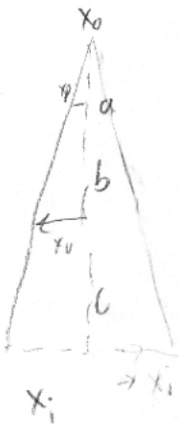
Name

A valve controlled actuator is shown below. You are to formulate the linkage equation for the valve position X_v . That is, determine d_i and d_o in the equation below.

$$X_v = d_i X_i + d_o X_o$$



$$\frac{-X_v}{c} = \frac{X_o}{(L+bt_a)}$$



$$\frac{X_v}{a+b} = \frac{X_i}{a+bt+c}$$

$$X_v = \frac{X_i (a+bt)}{(a+bt+c)} - \frac{X_o c}{a+bt+c}$$

$$d_i = \frac{a+bt}{(a+bt+c)}$$

$$d_o = \frac{-c}{(a+bt+c)}$$