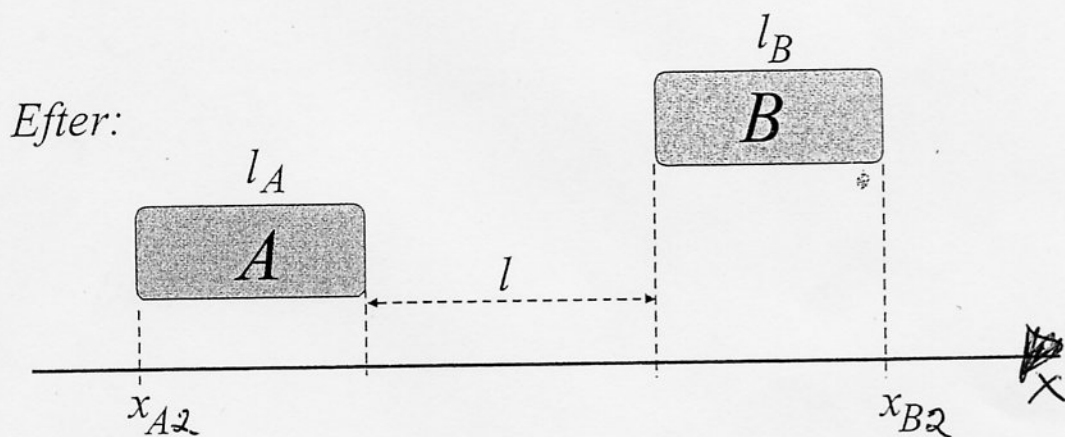
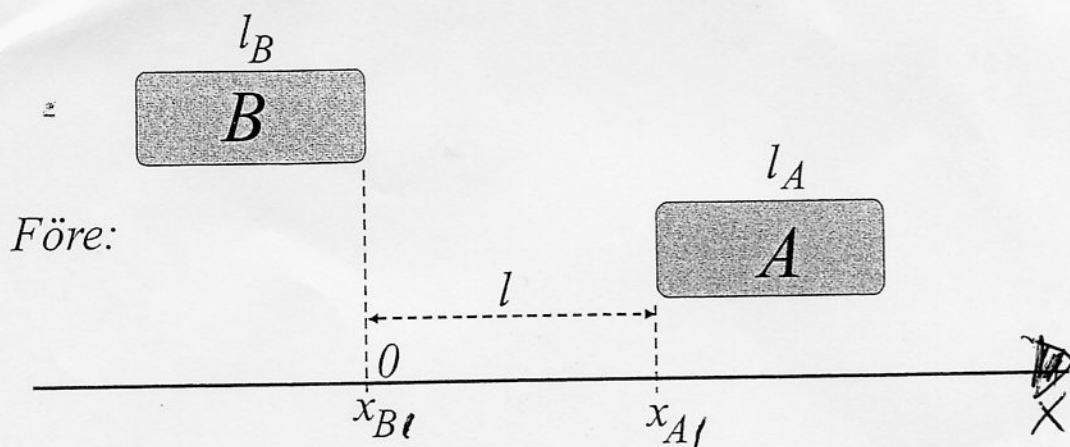


Lösning 7.7



$$\ddot{X}_A = 0$$

$$\dot{X}_A = v_0$$

$$X_A = l + v_0 t$$

$$\ddot{X}_B = a_0$$

$$\dot{X}_B = v_0 + a_0 t$$

$$X_B = 0 + v_0 t + a_0 \frac{t^2}{2}$$

Samma tid!

$$X_{A2} = l + v_0 t$$

$$X_{B2} = v_0 t + a_0 \frac{t^2}{2}$$

$$X_{B2} - X_{A2} = \underbrace{v_0 t + a_0 \frac{t^2}{2} - l - v_0 t}_{a_0 \frac{t^2}{2} - l} = l_A + l + l_B$$

$$a_0 \frac{t^2}{2} - l = l_A + l + l_B \Rightarrow t = \sqrt{\frac{2(l_A + l_B) + 4l}{a_0}}$$

$$S = X_{B2} = v_0 t + a_0 \frac{t^2}{2} = v_0 \sqrt{\frac{2(l_A + l_B) + 4l}{a_0}} + \frac{2(l_A + l_B) + 4l}{2a_0}$$

GK

$$S = v_0 \sqrt{\frac{2(l_A + l_B) + 4l}{a_0}} + 2l + l_A + l_B$$