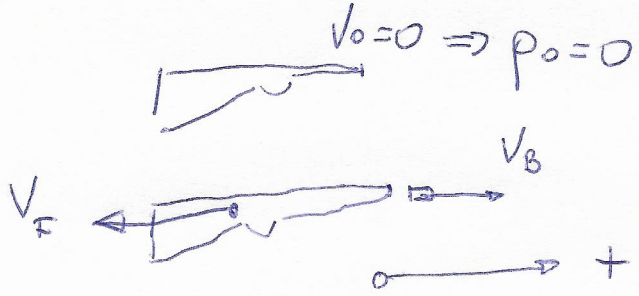
2) $\Sigma F_{ext} = 0 \Rightarrow \Delta \vec{p} = 0$

$$p_0 = p_f$$

$$\left.\begin{array}{l} p_0 = 0 \\ p_f = p_F + p_B \end{array}\right\} \quad 0 = p_F + p_B$$



F: FUSIL B: BALA

$$m_F \cdot V_F = m_B V_B \Rightarrow V_F = \frac{m_B}{m_F} V_B$$

$$W = \Delta E_c$$

$$|\vec{F}| \cdot \Delta x = E_{cf} - E_{c0} \qquad E_{c0} = 0$$

$$|\vec{F}| = \frac{m_F \cdot V_F^2}{2\Delta x} = \frac{m_F \left(\frac{m_B}{m_F} V_B\right)^2}{2}$$

$$|\vec{F}| = \frac{\frac{m_0^2}{m_F} \cdot v_0^2}{2 \cdot \Delta x}$$

$$|\vec{F}| = \frac{(0{,}01\,kg)^2 \cdot \left(500\,\frac{m}{s}\right)^2}{2 \cdot 5\,kg \cdot 0{,}015\,m}$$

$$\boxed{F = 166\,N}$$

F es la fuerza que ejerce la culata del fusil sobre el hombro del tirador