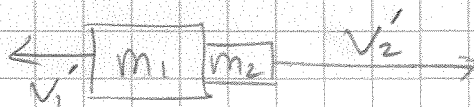


$m_1 = 9500 \text{ kg}$ (cannon) $v_1 = 0$ (at rest before explosion)

$m_2 = 3.5 \text{ kg}$ (cannon ball) $v_2 = 0$
 $v_2' = 135 \text{ m/s}$



$$p_1 + p_2 = p_1' + p_2'$$

$$(9500 \text{ kg}) \cdot 0 + (3.5 \text{ kg}) \cdot 0 = (9500 \text{ kg})(v_1') + (3.5 \text{ kg})(135 \text{ m/s})$$

$$v_1' = -0.05 \text{ m/s}$$