6.21)

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This problem is a little deceptive because it is probable that the person who swings the club will continue to apply a force to the club after having made contact with the ball. This will, in turn, provide to the system an external impulse that isn't being taken into consideration, given what's given in the problem. Assuming we ignore this, we can use a straight conservation of momentum, the problem looks like:

$$\sum p_{1,x} + \sum F_{ext,x}\Delta t = \sum p_{2,x}$$

$$m_c v_{1,x} + m_b v_{2,x} + 0 = m_c v_{3,x} + m_b v_{4,x}$$

$$(.2\text{ kg})(55\text{ m/s}) + (.046\text{ kg})(0\text{ m/s}) = (.2\text{ kg})(40\text{ m/s}) + (.046\text{ kg})v$$

$$\Rightarrow \quad v = 65.2\text{ m/s}$$