87. (a) We use $U_B = \frac{1}{2}Li^2$ to solve for the self-inductance:

$$L = \frac{2U_B}{i^2} = \frac{2(25.0 \times 10^{-3}\,\text{J})}{(60.0 \times 10^{-3}\,\text{A})^2} = 13.9\ \text{H}\ .$$

(b) Since $U_B \propto i^2$, for U_B to increase by a factor of 4, i must increase by a factor of 2. Therefore, i should be increased to $2(60.0\,\text{mA}) = 120\,\text{mA}$.