Page 327, No. 45

With $v(t) = mg(1 - e^{-kt/m})/k$ we have

$$\begin{aligned} h(t) &= h_0 - \int_0^t v(\tau)\, d\tau \\ &= h_0 - \frac{mg}{k}\left\{ \int_0^t 1\, d\tau - \int_0^t e^{-k\tau/m}\, d\tau \right\} \\ &= h_0 - \frac{mg}{k}\left\{ t - \left(-\frac{m}{k} e^{-k\tau/m} \right) \Big|_0^t \right\} \\ &= h_0 - \frac{mg}{k}\left\{ t - \frac{m}{k}\left(1 - e^{-kt/m}\right) \right\} \end{aligned}$$

The solution in the back of the book appears to assume that the body is falling upwards.