Calculating TTK

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$$t_{\text{kill}} = t_{\text{fire}}'' + t_{\text{impact}}$$

$$t_{\text{fire}}'' = t_{\text{fire}}' + t_{\text{reload}}'$$

$$t_{\text{impact}} = \begin{cases} a = 0 & \dfrac{d}{v} \\ \text{else} & -\dfrac{v}{a} + \sqrt{\dfrac{v^2}{a^2} + \dfrac{2d}{a}} \end{cases}$$

$$t_{\text{fire}}' = t_{\text{fire}}(n_{\text{rounds}} - n_{\text{reload}} - 1)$$

$$t_{\text{reload}}' = t_{\text{reload}} n_{\text{reload}}$$

$$[t_{\text{fire}}] = \text{seconds/round}$$

$$n_{\text{rounds}} = \left\lceil \frac{n_{\text{health}}'}{n_{\text{damage}}'} \right\rceil$$

$$n_{\text{reload}} = \begin{cases} n_{\text{ammo}} = \infty & 0 \\ \text{else} & \left\lfloor \dfrac{n_{\text{health}}'}{n_{\text{damage}}' n_{\text{ammo}}} \right\rfloor \end{cases}$$

$$[t_{\text{reload}}] = \text{seconds/reload}$$

$$n_{\text{health}}' = n_{\text{health}} + \lceil c_{\text{protection}} n_{\text{armor}} \rceil$$

$$n_{\text{damage}}' = \begin{cases} d < d_{\text{min}} & n_{\text{damage}} \\ d > d_{\text{max}} & n_{\text{min-damage}} \\ \text{else} & \left\lfloor n_{\text{damage}} - \dfrac{n_{\text{damage}} - n_{\text{min-damage}}}{d_{\text{max}} - d_{\text{min}}} (d - d_{\text{min}}) \right\rfloor \end{cases}$$

$$n_{\text{ammo}} \in \mathbb{N}_{>0} \cup \infty$$

$$n_{\text{health}} \in \mathbb{N}$$

$$c_{\text{protection}} \in \mathbb{R}^{+}_{\leq 1}$$

$$n_{\text{armor}} \in \mathbb{N}$$