GOVERNING WEIBULL EQUATIONS

These are alternative forms of the same equation, all used to support our slides and presented here to help you follow the Weibull-DR discussion.

Reliability Given T, η, β - - $R = e^{-[T/\eta]^{\beta}}$

Elapsed Time ***(or cycles)*** Given R, η, β - - $T = \eta * [Ln(1/R)]^{1/\beta}$

Shape Factor Given R, T, η - - $\beta = \frac{LnLn[1/R]}{Ln(T/\eta)}$

(Weibull's 1st parameter)

Characteristic Life Given R, T, β - - $\eta = \frac{T}{[Ln(1/R)]^{1/\beta}}$

(Weibull's 2nd parameter)

Weibull's third parameter is a fixed number subtracted from the time or cycles.
i.e. replace "T" with "$T - \gamma$", where γ (gamma) is Weibull's third parameter. Its value is determined by an iteration process to maximize the formula's correlation coefficient.

You might wish to print this as a handy reference for any of your Weibull related calculations.

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