but

$$\tau_E = 1 - \frac{\tau_F}{\tau_\lambda}(\tau_C - 1)$$

$$\frac{\partial \tau_E}{\partial \tau_C} = -\frac{\tau_F}{\tau_\lambda}$$

$\Rightarrow$

$$-\left(\frac{1}{\tau_C} - \frac{1}{\tau_E}\frac{\tau_F}{\tau_\lambda}\right)(\tau_F \tau_C \tau_E - 1) + \tau_F\left(\tau_E - \tau_C \frac{\tau_F}{\tau_\lambda}\right) = 0$$

multiply by $\tau_E \tau_\lambda \tau_C$

$$-(\tau_E \tau_\lambda - \tau_C \tau_F)(\tau_F \tau_C \tau_E - 1) + \tau_E \tau_C \tau_F(\tau_E \tau_\lambda - \tau_C \tau_F) = 0$$

factor ---- term

$$(\tau_E \tau_\lambda - \tau_C \tau_F)\left(1 - \cancel{\tau_F \tau_C \tau_E}^{\,0} + \cancel{\tau_E \tau_C \tau_F}^{\,0}\right) = 0$$

$\Rightarrow$

$$\tau_E \tau_\lambda - \tau_C \tau_F = 0$$

$$\left(1 - \frac{\tau_F}{\tau_\lambda}(\tau_C - 1)\right)\tau_\lambda - \tau_C \tau_F = 0$$

$$\tau_\lambda - \tau_F \tau_C + \tau_F - \tau_C \tau_F = 0$$