MAXWELL MODEL:

$\sigma_1 = k\varepsilon_1$ spring

$\sigma_2 = \mu\dot{\varepsilon}_2$ DAMPER

$= \mu \frac{d\varepsilon_2}{dt}$

IN SERIES

LD $\sigma = \sigma_1 = \sigma_2$

$\varepsilon = \varepsilon_1 + \varepsilon_2$

$\Rightarrow \dot{\varepsilon} = \dot{\varepsilon}_1 + \dot{\varepsilon}_2$

$\dot{\varepsilon}_2 = \frac{\sigma_2}{\mu}$

$\varepsilon_1 = \frac{\sigma_1}{k} \Rightarrow \dot{\varepsilon}_1 = \frac{\dot{\sigma}_1}{k}$

$$\boxed{\dot{\varepsilon} = \frac{\sigma_2}{\mu} + \frac{\dot{\sigma}_1}{k} = \frac{\sigma}{\mu} + \frac{\dot{\sigma}}{k}}$$

CREEP const STRESS $= \sigma_0$

$\Rightarrow \dot{\sigma} = 0$

$\dot{\varepsilon} = \frac{\sigma_0}{\mu} + 0 =$ constant.

ε increasing in a straight line FOREVER. with no Limit

THERE WILL BE AN INITIAL ELASTIC STRETCH EQUAL TO $\varepsilon = \frac{\sigma_0}{k}$

i.e. EQUAL TO final limit of KELVIN MODEL.