ME 360 21.11.17

Fatigue strength bending

$$S_{fb} = \frac{K_L}{K_T K_R} S_{fb}' \qquad \text{Eq } 12.24a$$

S_{fb}' unmodified — Table 12-20 special

Figure 12-25 other steels

K_L = life factor — Figure 12-24

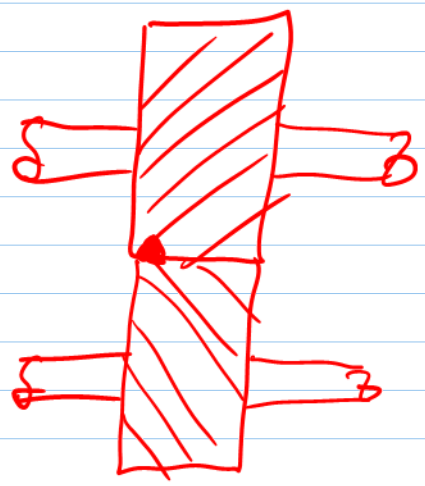
K_T = temperature — $T_F < 250°F$ $K_T = 1$

T_F temp of lubri

$T_F > 250°$ $\quad K_T = \frac{460 + T_F}{620}$ Eq 12.24b

K_R = reliability — Table 12-19

$K_R = 1$ 99% reliability



helical compared to spur

⊕ stronger

⊕ quieter

⊖ more expensive

⊖ more sliding contact