



ASSUME $T = C = A_s f_y$

$$M_n = T d \cos \alpha$$

$$M_n = A_s f_y d \cos \alpha$$

DESIGN SHEAR FORCE TO DEVELOP MOMENT

$$V_n = \frac{2 M_n}{l_n}$$

$$V_n = \frac{2 A_s f_y d \cos \alpha}{l_n}$$

$$\tan \alpha = \frac{d}{l_n}$$

$$V_n = 2 A_s f_y \cos \alpha \tan \alpha = \underline{\underline{2 A_s f_y \sin \alpha}}$$