3/91 contd

$\sum M_z = 0$ ... $\hat{k}$ component

$$\Rightarrow \|F_{CD}\| = \frac{(0.306)(490.5)}{(0.613)(0.386) + (0.514)(0.828)} = \underline{226.65N}$$

$\sum M_y = 0$ ... $\hat{j}$ comp.

$$-B_x(1.2) - \|F_{CD}\|(0.613)(0.405) = 0$$

$$\Rightarrow B_x = \frac{\|F_{CD}\|(0.613)(0.405)}{1.2} = \underline{46.89N}$$

$\sum M_x = 0$ $\hat{i}$ comp.

$$-(0.6)(490.5) + (B_y)(1.2) - (0.514)(0.405)\|F_{CD}\| = 0$$

$$\Rightarrow B_y = \frac{(0.6)(490.5) + (0.514)(0.405)(226.65)}{1.2}$$

$$\underline{B_y = 284.6 N}$$

$$\sum F_z = 0 \Rightarrow F_{CD_z} + A_z = 0$$

$$(226.65)(0.405) + A_z = 0 \Rightarrow \underline{A_z = -91.8 N}$$

$$\sum F_y = 0 \Rightarrow A_y + B_y + F_{CD_y} - W = 0$$

$$\Rightarrow A_y = -B_y - F_{CD_y} + W = -284.6 - (226.65)(0.386) + 490.5$$

$$\underline{A_y = 118.4 N}$$

finally...

$$\sum F_z = 0 \Rightarrow A_x + B_x + F_{CD_x} = 0$$

$$A_x = -46.89 - 226.65(0.405) = \underline{-138.7N}$$