IF WE ASSUME THAT TURBINE (A) DRIVES THE COMPRESSOR + TURBINE (B) DRIVES THE FAN, THEN:

$$\gamma_{ta} = \gamma_c$$ FOR A CONVENTIONAL TURBOJET

THEN

$$\frac{U_4}{U_0} = \left[ \frac{\gamma_{lb}}{\gamma(1 - \gamma_r/\gamma_c(\gamma_c - 1))} \right]$$

$$\frac{U_4}{U_0} = \left[ \frac{\gamma_{lb}}{\gamma - \gamma_c(\gamma_c - 1)} \right]^{1/2}$$

b) FIND $m_{in} + \delta$ FOR NO AB AT $\alpha^*$:

$$M_0 = 2.2, \quad \gamma = 1.4, \quad C_p = 0.451 \text{ lbm} \cdot \text{R}^{-1} \cdot \text{R}$$

$$T_0 = 400 \text{ R}, \quad \gamma_{c} = 57, \quad \gamma_{c'} = 1.5, \quad \gamma_{c''} = 15.$$