$$f = \frac{c_p T_0}{h}\left[\tau_{\lambda AB} + \alpha \tau_r \tau_c - (1+\alpha)\tau_r\right]$$

$$f = \frac{(1000)(215)}{4.43(10)^7}\left[8 + 2.94(2.25)(1.22) - (1+2.94)2.25\right]$$

$$f = 0.035$$

$$S = \frac{0.035(10)^6}{(1+2.94)(294)} = \underline{\underline{30.22}}\ \frac{mg}{N\cdot s}$$

(2) FAN AFTERBURNER ON:

$$\frac{F}{\dot{m}_c + \dot{m}_f} = \frac{293.92}{1+2.94}\left\{\left[\frac{2}{\gamma-1}\frac{7}{(2.25)(2.168)}\left((2.25)(2.168)(0.417) - 1\right)\right]^{1/2} - 2.5\right.$$

$$\left. + 2.94\left[\left[\frac{2}{\gamma-1}\frac{8}{(2.25)(1.22)}\left((2.25)(1.22) - 1\right)\right]^{1/2} - 2.5\right]\right\}$$

$$\frac{F}{\dot{m}_c + \dot{m}_f} = \underline{\underline{574.4}}\ \frac{N\cdot s}{kg}$$

$$f = \frac{c_p T_0}{h}\left[\tau_\lambda + \alpha \tau_{\lambda' AB} - (1+\alpha)\tau_r\right]$$

$$f = \frac{(1000)(215)}{4.43(10)^7}\left[7 + 2.94(8) - (1+2.94)2.25\right]$$

$$f = 0.1051$$

$$S = \frac{0.1051(10)^6}{(1+2.941)574.4} = \underline{\underline{476.44}}\ \frac{mg}{N\cdot s}$$

(3) CORE AND FAN AFTERBURNERS ON:

$$\frac{F}{\dot{m}_c + \dot{m}_f} = \frac{293.92}{1+2.94}\left\{\left[\frac{2}{\gamma-1}\frac{8}{(2.25)(2.168)(0.417)}\left(2.25(2.168)(0.417) - 1\right)\right]^{1/2} - 2.5\right.$$

$$\left. + 2.94\left[\left[\frac{2}{\gamma-1}\frac{8}{(2.25)(1.22)}\left(2.25(1.22) - 1\right)\right]^{1/2} - 2.5\right]\right\}$$

$$\frac{F}{\dot{m}_c + \dot{m}_f} = \underline{\underline{1200}}\ \frac{N\cdot s}{kg}$$

$$f = \frac{c_p T_0}{h}\left[\tau_{\lambda AB} + \alpha \tau_{\lambda_{AB}'} - (1+\alpha)\tau_r\right]$$

$$f = \frac{(1000)(215)}{4.43(10)^7}\left[8 + 2.94(8) - (1+2.94)2.25\right]$$

$$f = 0.11$$

$$S = \frac{0.11(10)^6}{(1+2.94)(1200)} = \underline{\underline{23.27}}\ \frac{mg}{N\cdot s}$$