$$T_m = 2NrBli_a\cos(\theta)$$

$$N_i = \frac{T_m}{2rBli_a\cos(\theta)} = \frac{\frac{4}{9.73}T_{max}}{2rBli_a\cos\theta} = \frac{4/9.73\ (1457.4\ N\text{-}mm)}{2(\frac{1}{2}m)(21\times10^{-3}T)(.5m)(1700A)\cos(0°)}$$

$$N_i = 100.7$$

$$N = f.o.s.(N_i) = 1.25(100.7) = 125.9$$

$$\boxed{N = 126 \text{ coils}}$$