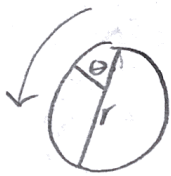


Find The Shear strain in the steering column

* Carbon steel

* Torq input of 300 lbf max



$$A = r^2 \pi = .001364 \text{ ft}^2$$

$$\theta = \frac{TL}{JG}$$

$$J = 2.95907 \times 10^{-7} \rightarrow \left(\frac{\pi}{32}\right) (1.5417)^4$$

$$G \approx 11.0 \times 10^{13} \text{ ksi}$$

$$\theta = \frac{(300)(2.5)}{2.959 \times 11 \times 10^{13}} = 92^\circ$$

The max Δ of twist for 300 lbf is 92°

After reviewing the files from last semester it is determined that both our & their calculations were correct.