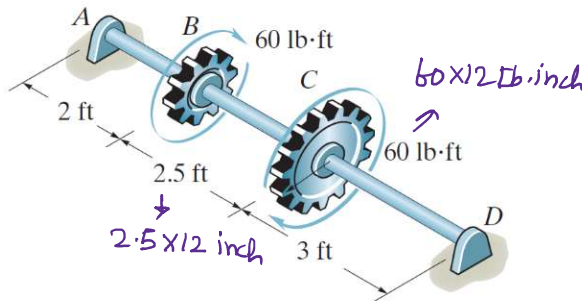


\*5-60. The shaft is made of A-36 steel. It has a diameter of 1 in. and is supported by bearings at A and D, which allow free rotation. Determine the angle of twist of gear C with respect to B.

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$$\theta_{C/B} = \left( \frac{TL}{GJ} \right)_{CB}$$

$$\theta_{C/B} = \frac{60 \times 12 \text{ lb} \cdot \text{inch} \times 2.5 \times 12}{11 \times 10^6 \times \frac{\pi}{2} (0.5)^4}$$

$$\Rightarrow \theta_{C/B} = 0.02 \text{ radians} = 1.146^\circ \text{ Ans}$$

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