

B/26 The mass distribution is essentially the same as that of a cylindrical shell.

From Table D/4: $I_{zz} = mr^2$

$$I_{xx} = I_{yy} = \frac{1}{2}mr^2 + \frac{1}{12}mh^2$$

$$\text{So } I_{zz} = \frac{4}{32.2} \left(\frac{3/2}{12} \right)^2 = \underline{0.001941 \text{ lb-ft-sec}^2}$$

$$\begin{aligned} I_{xx} = I_{yy} &= \frac{0.001941}{2} + \frac{1}{12} \frac{4}{32.2} \left(\frac{10}{12} \right)^2 \\ &= \underline{0.00816 \text{ lb-ft-sec}^2} \end{aligned}$$