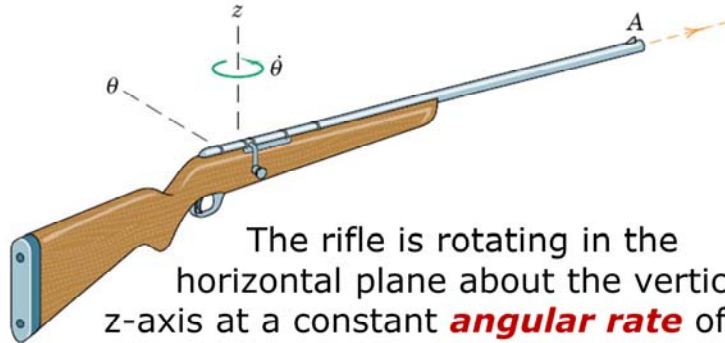


### Question of the Day

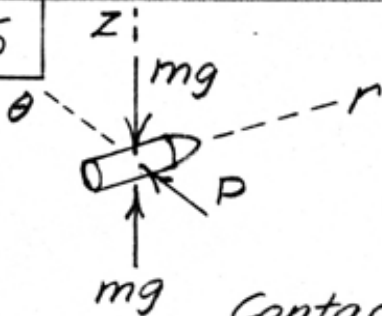


The rifle is rotating in the horizontal plane about the vertical  $z$ -axis at a constant **angular rate** of  **$0.5 \text{ rad/s}$**  when a  **$60\text{-g}$**  bullet is fired and reaches **point A** with a **velocity** of  **$600 \text{ m/s}$**  relative to the barrel.

Determine the **horizontal force** exerted by the barrel on the bullet?

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$$\Sigma F_{\theta} = m(r\ddot{\theta} + 2r\dot{\theta})$$

$$P = 0.06(0 + 2[600][0.5])$$
$$= \underline{36 \text{ N}}$$

Contact is against right-hand side of barrel.