

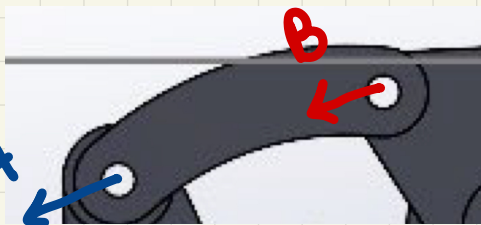
$$\text{Torque} = r \times F$$

$$F = \frac{\text{Torque}}{r}$$

$$F = \frac{17 \text{ kg} \cdot \text{cm}}{2.75 \text{ cm}}$$

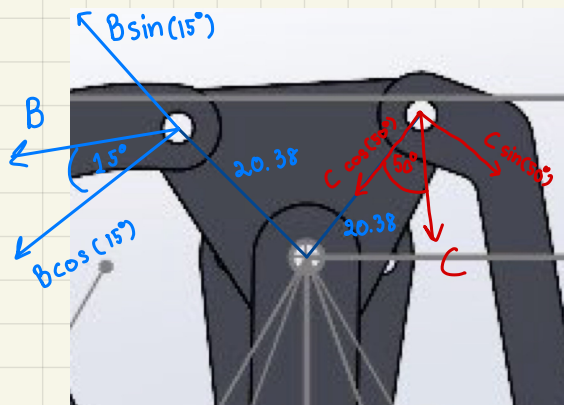
$$= 6.1818 \text{ kg} \times 10$$

$$F = 61.818 \text{ N.m.}$$



$$\text{กำหนดให้ } A = B$$

$$\begin{aligned} M_1 &= M_2 \\ A \cos 15^\circ \cdot 20.38 &= B \sin 50^\circ \cdot 20.38 \\ B &= \frac{A \cos 15^\circ}{\sin 50^\circ} \\ &= \frac{61.818 \times \cos 15^\circ}{\sin 50^\circ} \\ &= 178.98967 \end{aligned}$$



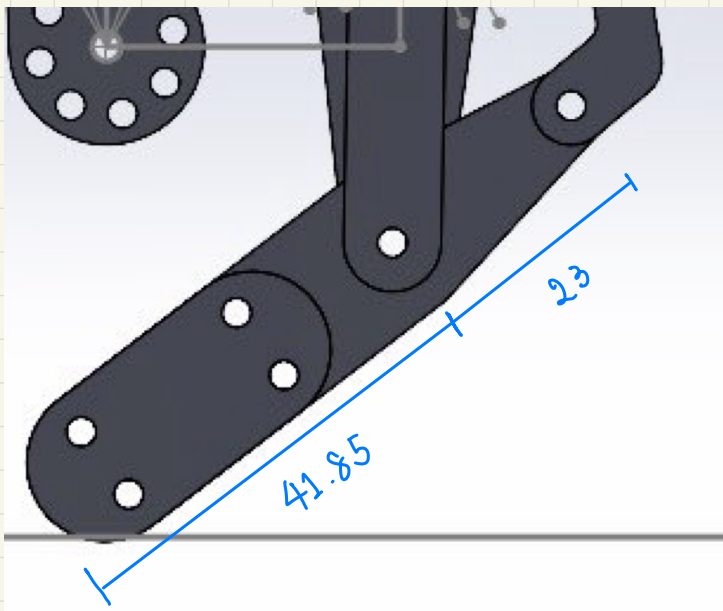
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$$M_1 = M_2$$

$$B \cos 15^\circ \times 0.02038 = C \sin 50^\circ \times 0.02038$$

$$C = \frac{B \cos 15^\circ}{\sin 50^\circ}$$

$$C = 178.98967$$



$$M_g = M_d$$

$$C \sin 50^\circ \times 0.023 = D \times \sin 45^\circ \times 0.04185$$

$$D = \frac{C \sin 50^\circ \times 0.023}{\sin 45^\circ \times 0.04185}$$

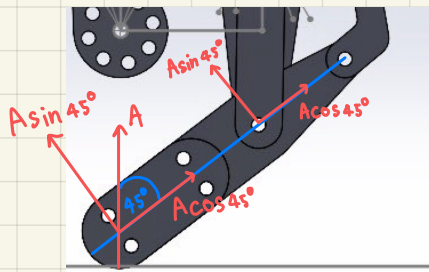
$$D = -30.33208$$

$$\frac{m_{max} g}{2} = -30.33208$$

$$m_{max} = \frac{\sqrt{30.33208 \times 2}}{(\times 10)}$$

$$m_{max} = 6.06642 \text{ kg}$$

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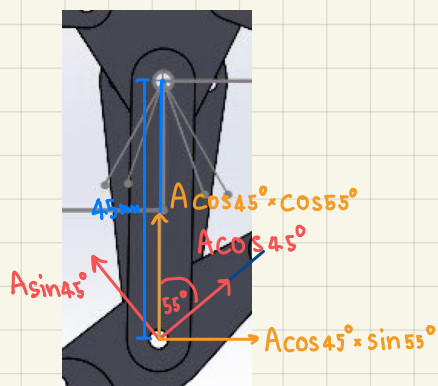
$$\text{Torque}_{max} = r \times F_{max}$$

$$F_{max} = \frac{\text{Torque}_{max}}{r}$$

$$= \frac{17 \text{ kg} \cdot \text{cm}}{4.5 \text{ cm}}$$

$$= 3.778 \text{ kg} \times 10$$

$$F_{max} = 37.78 \text{ N.m.}$$



$$M_g = M_d$$

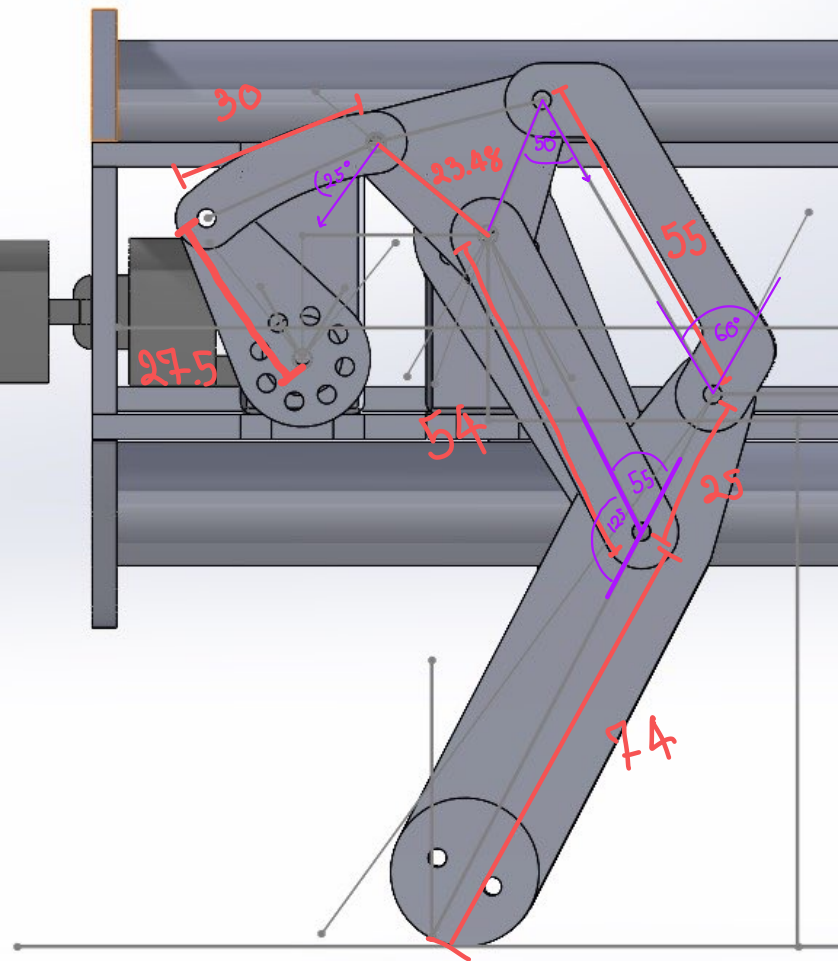
$$A \cos 45^\circ \sin 55^\circ \times 0.045 = F_{max} \times 0.045$$

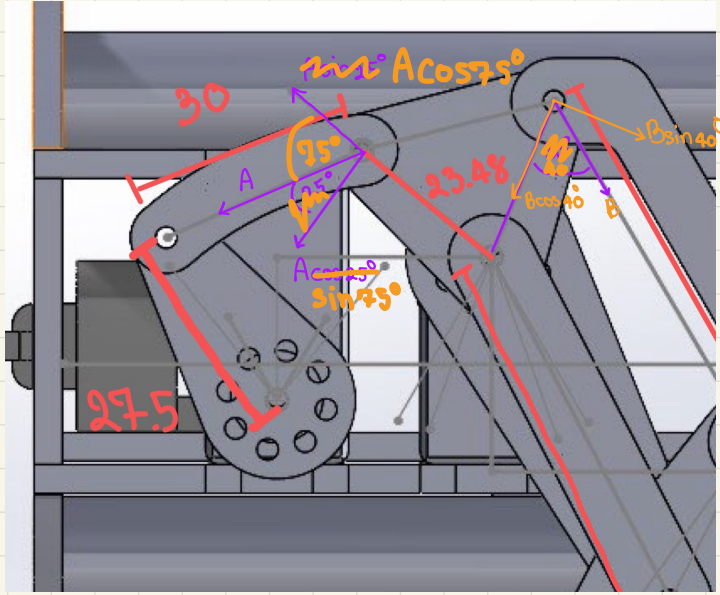
$$A = \frac{F_{max}}{\cos 45^\circ \times \sin 55^\circ}$$

$$A = -71.93541$$

$$\frac{m_{max} g}{2} = \frac{-71.93541 \times 2}{(-10)}$$

$$m_{max} = 14.387082 \text{ kg}$$





$$T = r \times F$$

$$F = \frac{T}{r}$$

$$= \frac{19 \text{ kg} \cdot \text{cm}}{2.75 \text{ cm}}$$

$$= 6.1818$$

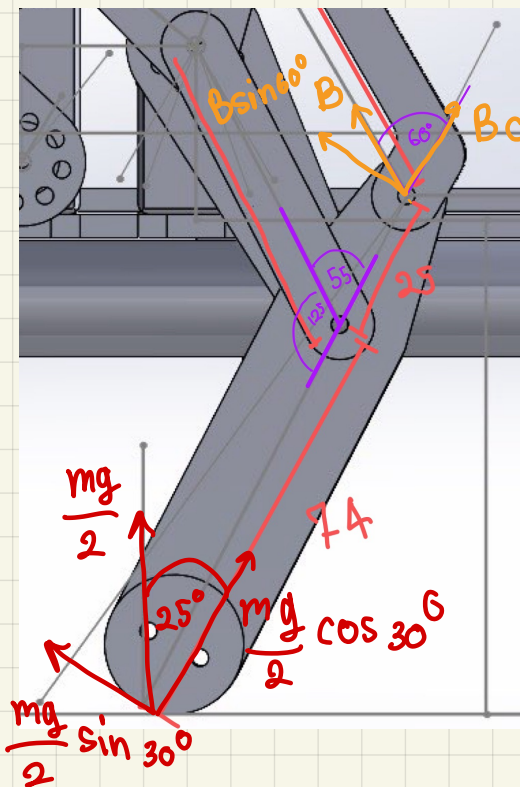
$$F = 61.818 \text{ N}$$

$$M_1 = M_2$$

$$A \cos 75^\circ \times 23.48 = B \sin 40^\circ \times 23.48$$

$$B = \frac{A \cos 75^\circ}{\sin 40^\circ}$$

$$B = 76.47271$$

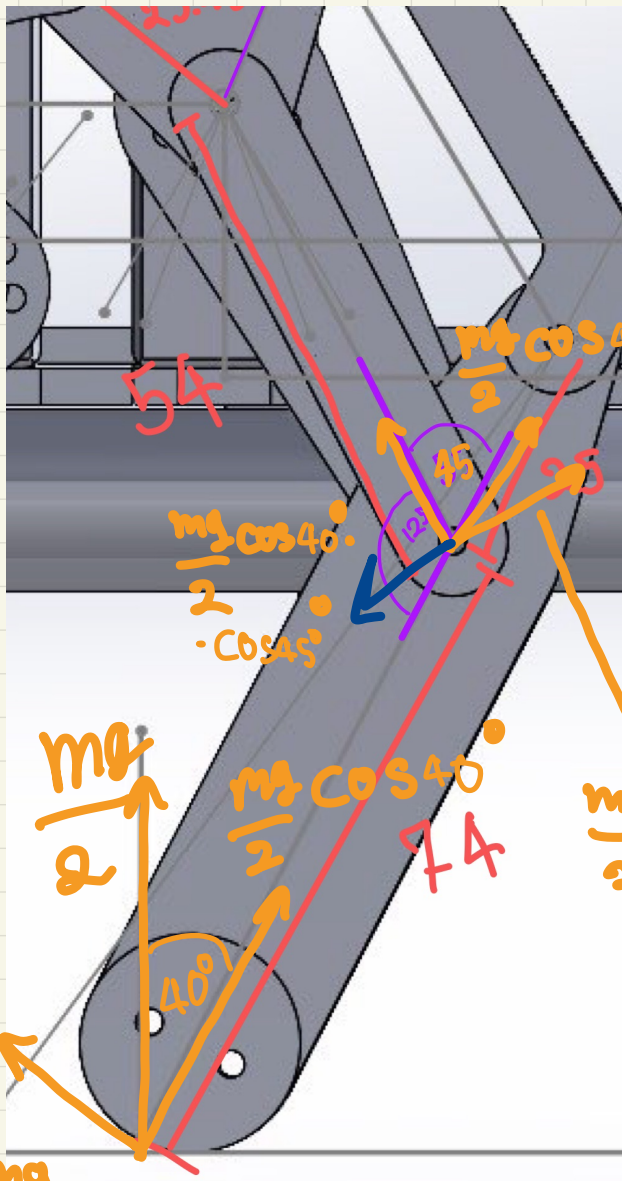


$$M_1 = M_2$$

$$B \sin 60^\circ \times 0.025 = \frac{mg \sin 25^\circ \times 0.074}{2}$$

$$m = \frac{B \sin 60^\circ \times 0.025 \times 2}{g \times \sin 30^\circ \times 0.074}$$

$$m_{mn} = 4.86803 \text{ kg}$$



$$T = r \times f$$

$$F = \frac{T}{r}$$

$$= \frac{17 \text{ kg} \cdot \text{cm}}{5.4 \text{ cm}}$$

$$F = 3.148$$

$$F = 31.48 \text{ N}$$

$$M_1 = M_2$$

$$\frac{mg}{2} \cos 30^\circ \cdot \sin 30^\circ \times 0.054 = F \times 0.054$$

$$m = \frac{F \times 2}{g \cdot \cos 30^\circ \cdot \sin 30^\circ \times 0.054}$$

$$M_{max} = 11.09427 \text{ kg}$$