



Determining the bending moment M, using the below details:

$$\alpha := 30.2 \text{ deg}$$

$$B := 22.5 \text{ tonne}$$

$$W := 28.256 \text{ tonne}$$

$$X_c := 3639 \text{ mm}$$

$$Y_c := 856 \text{ mm}$$

$$X_b := 4040 \text{ mm}$$

$$Y_b := 1328 \text{ mm}$$

$$M := 32.5 \text{ tonne}$$

$$ps := 7850 \frac{\text{kg}}{\text{m}^3}$$

$$pw := 1025 \frac{\text{kg}}{\text{m}^3}$$

$$Ws := M \cdot \frac{(ps - pw)}{ps} = 28.256 \text{ tonne}$$

$$Ws := W \cdot g = 277.097 \text{ kN}$$

$$Bu := B \cdot g = 220.65 \text{ kN}$$

$$Wx := Ws \cdot \sin\left(\alpha \cdot \frac{\pi}{180}\right) = 2.549 \text{ kN}$$

$$Wy := Ws \cdot \cos\left(\alpha \cdot \frac{\pi}{180}\right) = 277.085 \text{ kN}$$

$$Bx := Bu \cdot \sin\left(\alpha \cdot \frac{\pi}{180}\right) = 2.03 \text{ kN}$$

$$By := Bu \cdot \cos\left(\alpha \cdot \frac{\pi}{180}\right) = 220.64 \text{ kN}$$

$$Mb := Wx \cdot Y_c + Wy \cdot X_c - (Bx \cdot Y_b + By \cdot X_c) = 204.889 \text{ kN} \cdot \text{m}$$

Determining the shearforce (V), using the below details and same configuration as for M:

$$V := ?$$

$$L := 12.2 \text{ m}$$

$$T := 435.8 \text{ kN}$$

$$F := 397.5 \text{ kN}$$

$$\gamma := 35 \text{ deg}$$