

# Amplitude

$$A = \frac{2 \times Mt}{Mv}$$

$Mv$

$Mt$  = Eccentric Moment in inch pounds

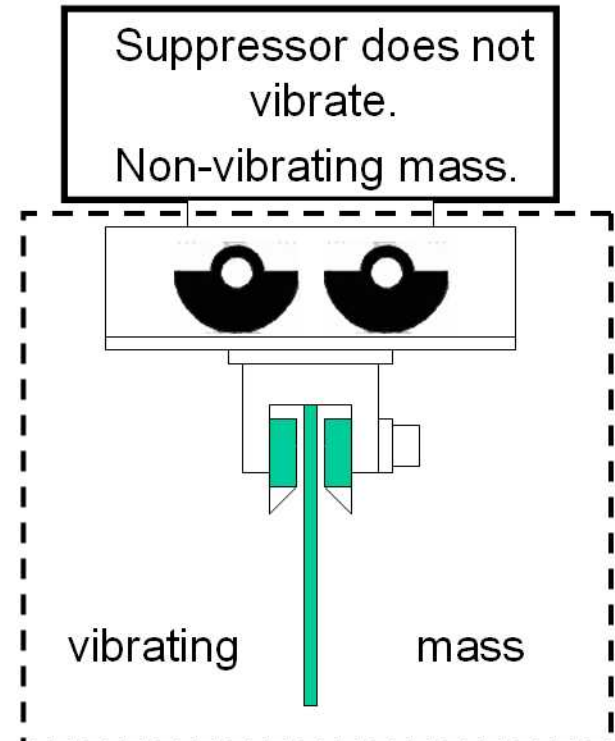
$Mv$  = Total Vibrating Weight

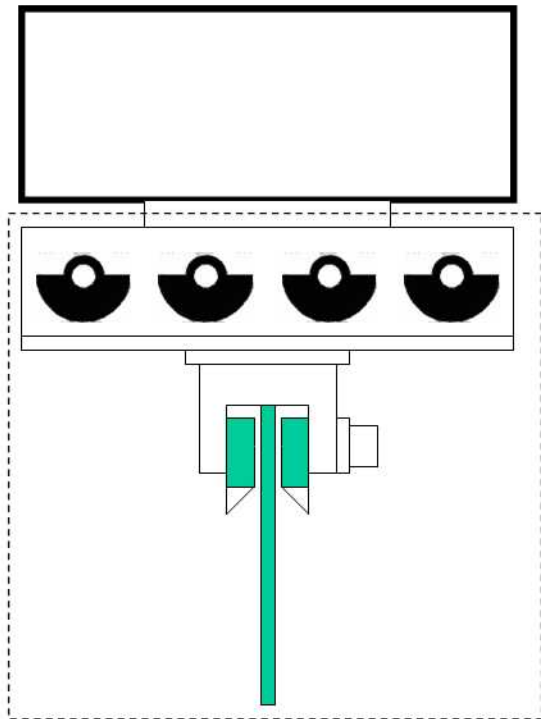
$A$  = Amplitude in inches

Vibrating weight:  $Mv$

The vibrating weight is the sum of all the weights of the vibrating mass.

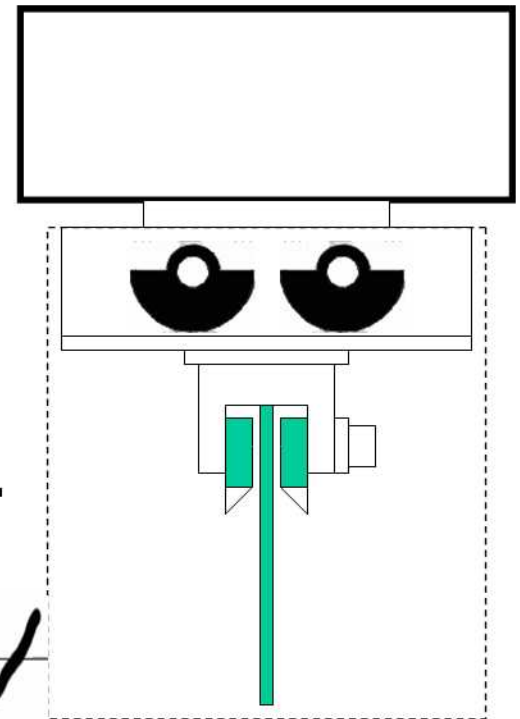
- B: Gear Box (vibrating mass)
- C: Clamping device including all plates or clamps
- D: Pile weight





Amplitude

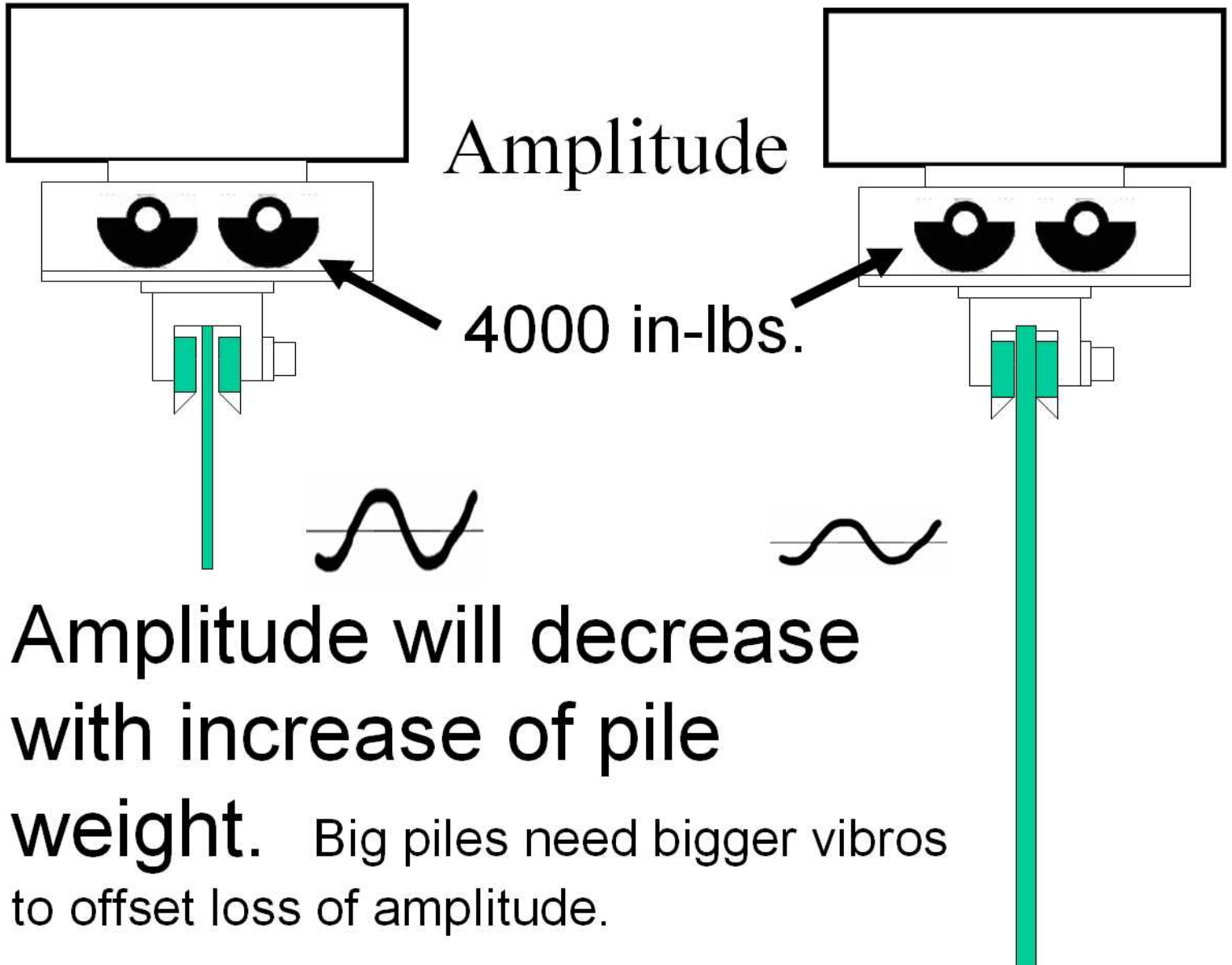
4000 in-lb.



Vibrating mass: 6500 lb

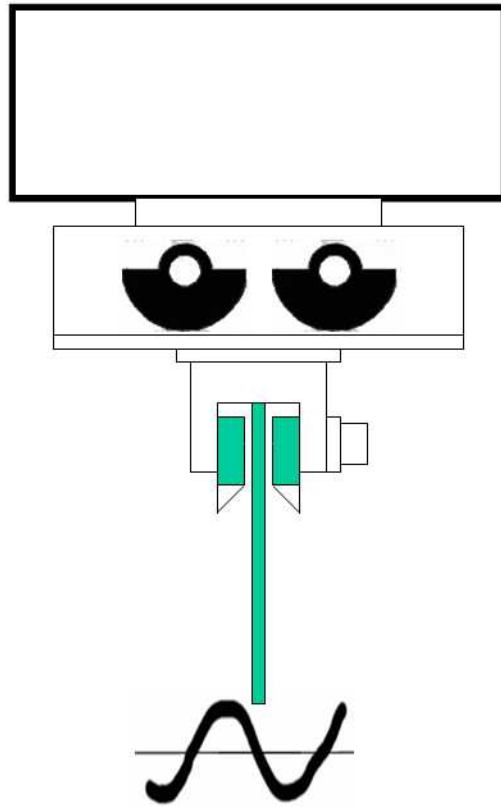
Vibrating mass: 5000 lb

The hammer on the left has the same eccentric moment but less amplitude because the vibrating mass is heavier.



# Amplitude

Amplitude will decrease with increase of:



- Pile weight
- Soil resistance
- Weights, gears, shafts, hoses, motors
- Extra clamp attachments
- Anything that increases vibrating mass.

$$\text{Amplitude} = \frac{2 \times \text{EM}}{\text{VM}}$$

EM: Eccentric Moment

VM: Vibrating Mass