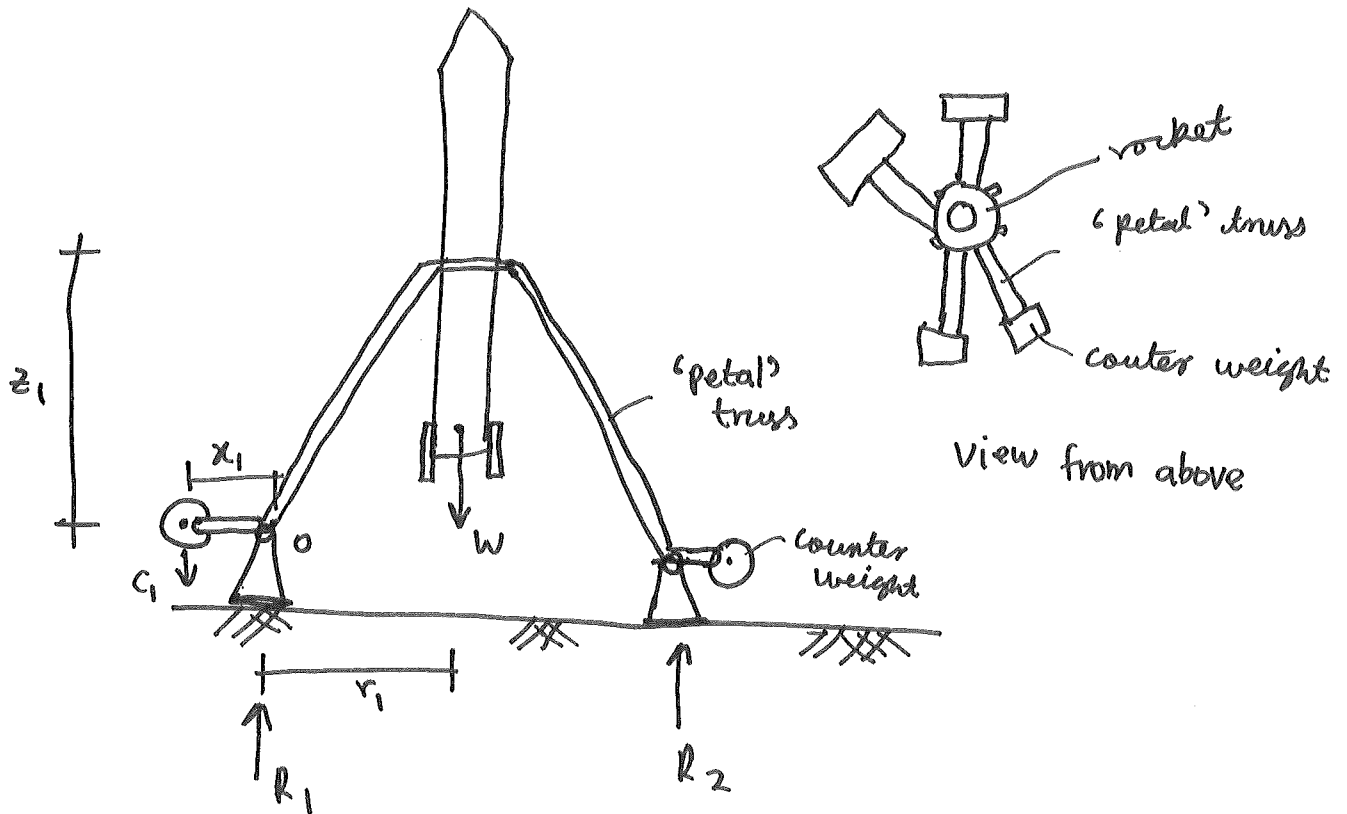


Launch Pad



For 4 petal truss, weight of rocket will be evenly distributed. So relevant weight for a truss is $w/4$.

So,

$$\sum M_o = 0$$

$$-\frac{W}{4} \cdot r + C \cdot x = 0$$

$$C = \frac{W \cdot r}{4 \cdot x}$$

For truss to swing away not too slow or not too fast, we must apply Newton 2nd law for rotation (a Dynamics topic)

$$\sum M_o = I \alpha$$

where $I =$ mass moment of inertia
 $\alpha =$ angular acceleration.

Topics.

- Equilibrium
- Trusses
- Moments
- Equations of motion (angular)
- Newtons 2nd law (angular)
- Moment of inertia
- Center of gravity