Understanding Weight and Balance

The heavier box placed at a shorter distance from the balance point will have the same moment as a lighter box placed at a greater distance from the balance point. Both weights will have the same moment (force) and will be in equal.

<table>
<thead>
<tr>
<th>Weight</th>
<th>X</th>
<th>Arm</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 lbs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 lbs.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Equal Distance

Balance Point

Two equal weights placed at equal distance from the balance point.

Same weight positioned equal distance from Balance point

The heavier box placed at a shorter distance from the balance point will have the same moment as a lighter box placed at a greater distance from the balance point. Both weights will have the same moment (force) and will be in equal.

Moment (or Force)
The Three Axis of Flight

Vertical Axis- The airplane yaws around this axis – controlled by rudder

Lateral Axis- The airplane pitches around this axis – controlled with elevator

Longitudinal Axis- the airplane rolls around this axis – controlled with ailerons