

ROYSON ENGINEERING COMPANY

Cardinal Rules of Vibratory Bowls

1. Media **MUST** always rotate in a direction opposite to the direction of rotation of the motor shaft. If this is not the case, reverse the electrical leads to the vibe bowl motor.
2. Adding weight to the bottom eccentric increases bowl amplitude. Meaning that the up and down motion of the bowl is more aggressive.
3. Adding weight to the top eccentric decreases angle of incidence into the hub thereby opening the corkscrew rotational pattern. Meaning the parts rise and fall fewer times as they progress around the bowl.
4. Media will **ALWAYS** rise at the O.D. and fall at the I.D.. If the motion is opposite check rule #1 and reverse electrical leads to the vibe bowl motor.
5. Removing weight from the bottom eccentric decreases bowl amplitude. Meaning the up and down motion of the bowl is less aggressive.
6. Removing weight from the top eccentric increases angle of incidence. This forms a tighter corkscrew pattern which means the parts rise and fall many times as they progress around the bowl.
7. When observing the rotation of the motor shaft from above, the bottom eccentric weight mass **MUST** always lead the top eccentric weight mass when traveling in the direction of the shaft rotation. the difference in the positions of the weight masses in relationship to each other is therefore known as the lead angle:
 - a. a good starting position is a lead angle of 90° .
 - b. making the angle between the two weight masses more acute, (i.e. $<90^\circ$) results in a rapid rise and fall of the parts.
 - c. making the angle between the two weight masses more oblique, (i.e. $>90^\circ$) results in a slow rise and fall of the parts.
 - d. most vibe bowls operate with a lead angle of $75^\circ - 110^\circ$.

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