

Jacob's Ladder

By

Graff Generators

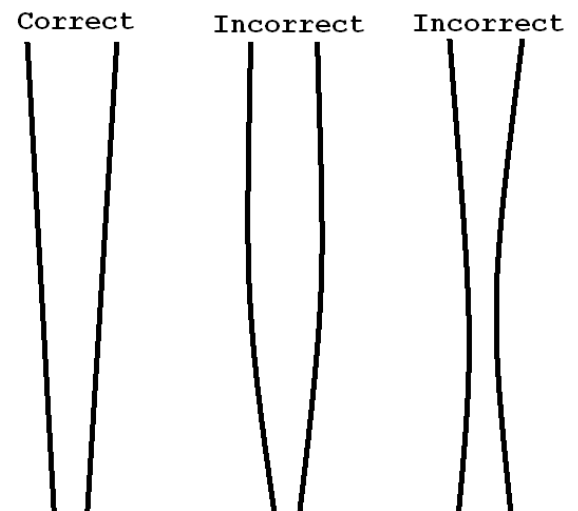


Jacobs Ladder Assembly:

The Jacobs ladder will arrive with the top acrylic tube disconnected from the bottom base and the transformer packed in a separate box. Please follow the procedure below to connect the Jacob's Ladder.

Assembly of the Jacobs Ladder:

- 1) Attach the transformer to the Velcro so that the high voltage leads are located toward the center of the base.
- 2) Attach the plate that holds the arcing rods to the top base plate the Jacobs Ladder.
- 3) Connect the wires from the arcing rods to the springs of the transformer. Make sure the wires are not crossing each other to prevent internal arcing. Attach the top base plate using the metal wing nuts.
- 4) Check that the ladders arcing rods are straight and that the rods are about $\frac{3}{16}$ of an inch apart at the bottom. The arcing rods work best if they are slightly bowed inwards. The rod material is made from anneal copper and are easy to manually bend if any small adjustments must be made.
- 5) Place the tubing over the arcing rods and fasten it to the bottom base pate. Place the black lid on the top of the tube. Fasten the top of the arcing rods to the acrylic tubing using the small black zip ties. Plug in the Jacobs Ladder and check to see if the system arcs. Most arcs should climb between 60% to 90% to the top.
- 6) The arc speed may be adjusted by changing the bottom gap such that closer gaps will produce slower traveling arcs and wider gaps will produce faster traveling arcs.



Safety Safety Safety!!!:

- 1) Jacobs Ladders produce a significant amount of **ozone** and **nitrogen dioxide** which are both **toxic gases**. Only operate this unit in a well ventilated area for short durations of time less than 10 minutes in order to avoid the buildup of such fumes.
- 2) Never, never, never leave the unit unattended.
- 3) Though the ladder has been tested for 3 hours of straight operation, it is still recommended to limit the run time to prevent possible overheating of the transformer.
- 4) Keep out of reach of children.
- 5) Do not stick body parts and other items in the unit while plugged in.
- 6) Do not touch while in operation.
- 7) Keep away from flammable items while in operation.
- 8) Do not operate the unit while on mind altering medications or drugs.

Disclaimer: A Jacob's Ladder is a high voltage device that can cause physical injuries or death if used irresponsibly. These units should only be operated by those who are familiar with such equipment.

Use at your own risk