



Wimshurst Machine

Model #: 2310

Please Read Completely Prior to Initial Use and Retain These Instructions

Notes

To ensure quality, this device is tested twice, once at the factory, and again prior to shipment. Yes, that means that the disc surfaces will be scratched upon receipt, but this is necessary to ensure quality (as you will find out through use, it doesn't take long to scratch disc surfaces). Although we make every effort to ensure that this machine will function properly right out of the box, please take a moment to read and follow the instructions below, paying special attention to **line 6 and Line 11** under assembly and use.

Safety

- 1. Children should not use or operate this device.** If used for demonstration purposes around children, close adult supervision is required, and children should be kept at a safe viewing distance away from the device (> 3 feet).
- 2. Proper care should be taken to avoid static electric shock.** This device can produce dangerous voltage, and the operator should never touch any surface (except for the handles) when in operation. Adjustments to the device should only be made after all of the static electricity is properly discharged.

Assembly & Use

- 1.** Attach handle to main pulley located centrally toward the bottom of device.
- 2.** Adjust the 4 wire brushes so that they are each in solid contact with the aluminum sectors on the acrylic discs. They should be positioned so they flow over the acrylic discs.
- 3.** Ensure that the metal spheres mounted on top of the Leyden jar capacitors are closely spaced (not touching) to begin.
- 4.** Slowly turn the hand crank until sparks are generated. Sparks should appear quickly at first when the metal spheres are closer together, and then at longer intervals as the metal spheres are moved further away from each other.
- 5.** When cranking the handle, you should hear a "hissing sound" emanating from the Leyden jars as they collect a charge, similar to the sound Rice Krispies make when the milk is added.

(OVER)

6. **You must have proper contact with all 4 brushes for the device to work! If you have proper contact with all 4 brushes and the device still will not work, try the following technique: Drag a piece of cloth (you can also use the plastic cover from the package, a glove, sock, or any small clothing item - if you have any old Styrofoam around, that works well too) over carpet to accumulate charge, then place the item close to the acrylic disc surface just above the aluminum sectors while rotating the handle SLOWLY. You can also move the item over top of and around the discharge spheres. The object is to create a charge imbalance in the Leyden jars. You can use anything that will carry and convey a charge, even yourself.**
7. ***OPTIONAL*** After you have successfully gotten the device to produce high voltage sparks, move the wire brushes further (still very close @ 1mm) from the sectors. This will preserve the life of your sectors.
8. High humidity will adversely affect the performance of this device. The device will achieve maximum output in lower humidity conditions (especially in the winter).
9. After use, discharge any remaining charge by moving the metal spheres so that they are in contact with one another.
10. Lubricate spindles and pulleys periodically with a ***SMALL AMOUNT** of light oil (gun oil or household general purpose oil).
11. **The sector adhesive is constantly subject to strong electrostatic charges, and will break down, causing the aluminum sectors to come loose. As a manufacturer of this economy class machine, we have only 2 options for sectors, spray on or aluminum. We prefer the aluminum sectors over the spray coat sectors because they are replaceable and develop higher potentials. While it may be an inconvenience to have to re-attach sectors periodically, we feel that this is a worthwhile sacrifice! We hope you will agree. Rubber Cement (Elmers with the brush) is the recommended adhesive, which can be found at most big box stores for under \$2. DO NOT use Super Glue (Cyanoacrylate), as it will damage the acrylic discs.**
12. Store in a cool, dry place.

Note:

Many of our customers are sending feedback on the laminate base, and how easy and inexpensive it is to replace it with a solid piece of wood. If you are careful, you can disassemble the generator quickly and replace the base for a nicer finish. Simply use the existing base as a template.