STATOR ASSEMBLY AND INSTALLATION INSTRUCTIONS

Materials: 4 Wire Coils (pre-wound) Hot Glue Gun and Sticks 1 Piece Sandpaper Needle-Nosed Pliers Scissors Multimeter Alligator clip wires Soldering Iron and Solder (Optional)

1. Place the 4 coils of wire in a position like an image below. Note: The two coils opposite each other have their wires extended to the center, and the other two coils opposite each other have their wires extended away from the center. (This is of major importance in the construction of your generator



2. On each of the coils of wire, one of the wire ends will be on the side of the coil and the other on the top of the wire. (See image below)



- 3. With the coils in front of you, make sure the top and bottom coils have the wires coming from the side of the coil and the TOP of the coil.
- 4. With the coils in front of you, make sure the left and right coils have the wires coming from the side of the coil and the BOTTOM of the coil. We need the coils alternating to ensure that the alternate current we generate flows in the correct direction.
- 5. When you have positioned the coils correctly, glue them in position on the side of the plastic container with the longer end of the threaded rod sticking out. The coils should be about ¼ inch from the rod. (At this point there should not be any washers on locking nuts on this end of the rod).



6. Using the image on the following page, trim 6 of the 8 wires to about 6 cm in length, with the cutter on the pliers. Do not trim the set of wires in the top left corner, one from the top coil and one from the coil on the left, those are for the LED light later).

SEE STATOR TEMPLATE ON PAGE 12 FOR DIAGRAM



7. Using the sandpaper, carefully clean about 2 cm at each end of each wire, until the coating is removed, and the wire end is bare. The illustration below shows how to bare the wire by pulling the wire across the sandpaper.



Cleaning coil wires

Wire twist of bare ends

8. Twist wires together to create a continuous circuit. (except for the two untrimmed wires in the top left corner which will connect to the LED bulb, wires #7 & 8). Use the image below. Wire #1 will twist with wire #2, Wire #3 will twist with wire #4, & Wire #5 will twist with wire #6



9. A critical check can now be made with the multimeter to check for the continuous circuit. Read instructions on multimeter for setting. Set multimeter for sound/continuity of current. The turbine will not produce current if there is no continuity of current.

Procedure for checking stator connections with a multimeter:

- 1. Depending on the type of multimeter you are using, you may need to attach alligator clips to the probes coming off the multimeter.
- 2. Turn the multimeter to "Continuity" looks like this symbol 🔌
- 3. Attach one of the alligator clips to the untwisted wire coming off the top coil (wire #8)
- 4. Attach the other alligator clip to the twisted wires on the other side of the top coil, wires #1 & 2 that are twisted together. See image below.
 - a. If there are no breaks, the multimeter will make a sound & move to step #5.
 - b. If no sound is heard, check the wires are twisted tightly.



5. Move the alligator clip from the first set of twisted wires to the next set (wires #3 & 4 that are twisted together). Repeat Step #4. See image below



6. Repeat steps 4 & 5 until all connections are good. See images below.



- 7. Once the twisted wires have shown continuity, connect the multimeter to wires #7 and #8. If there is a sound, then you have a complete circuit for the entire stator. If not, check connections.
- 8. Once you have a complete circuit, it is advised that the 3 twisted sets of wires should either be soldered or taped with electrical tape to keep the wires from coming apart.
- 9. You may also want to gently bend the 3 twisted wires and hot glue them to the container to keep them out of the way.

STATOR TEMPLATE

Guide for Direction of Coil Turns and Connection



Note that coils numbered 1 and 3 have the wires pointing away from the center of the template, and coils numbered 2 and 4 have their wires directed toward the center of the template.

The wires need to be **trimmed and bared** for #1 when connected to #4; #1 when connected to #2; and #2 when connected to #3. Leave the wires for #3 and #4 long as they will attach to the LED.

The correct position of the coils when placed on the template are shown in the picture and indicated on the template diagram above by the solid and dashed lines.

Note: Dashed arrows indicate wires extending out from the center of the template. **Note:** Solid arrows indicate wires extend into center.

Note: Squiggly lines indicate where wires are to be bared, twisted and taped.