Place spherical electrode on top of secondary, and adjust gap between spheres to 1 1/2" to 2". Set spark gap in primary to a length of approximately 1/8". Turn on switch. (The longer the gap in the primary can be made and still have it operate, the longer and fatter the secondary spark will be. The length of either gap can be changed with safety even though the machine is operating.)

With the room partially darkened, observe as many of the following phenomena as you wish: (1) The spark between the two spheres. (2) The smell of ozone which will be evident to students nearby. (3) The discharge into air from the central sphere when the distance between spheres is too large for a spark to jump. (4) The discharge into air from a central point electrode which can replace the spherical electrode. (5) The discharge through the body from the central spherical electrode to the point electrode, or other piece of metal, held in the hand. (6) The glow of a neon tube held in the hand, with one end near the spherical electrode. (7) The glow of an ordinary 20-watt fluorescent lamp when held in the hand with one end near the spherical electrode.

**WARNING:** Do not allow a spark to jump to the glass of the neon tube; there is some danger of puncture. Also, the Tesla coil should not be operated continuously for more than 10 minutes, followed by a 5 minute rest period, to avoid overheating of the capacitors.