

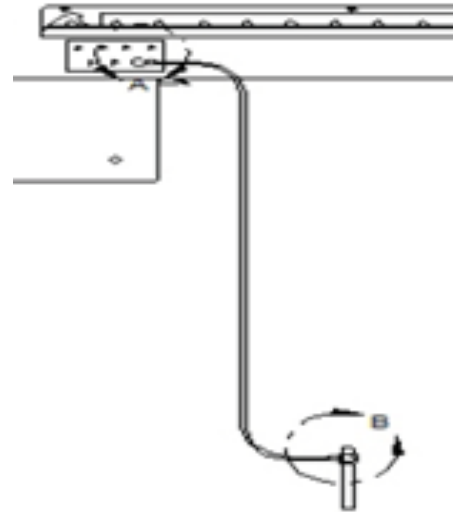
Overview:

Why we Ground and Understanding Grounding

A separate high-quality earth ground is crucial for a Lincoln Electric CNC plasma cutting system. The reason is twofold. By its physical nature, a plasma arc creates a lot of electrical “noise” disturbance. Secondly, the microprocessor-based electronics that control the machine’s cutting motion, like any sensitive equipment, is vulnerable to such noise. A quality low resistance ground guards the electronics against the potentially harmful electrical noise that the earth should dissipate. If the ground resistance is too high, the system may function erratically and could harm the electrical equipment. **NOTE: Please have a certified electrician verify your grounding rod resistance. The common building ground or electrical service equipment ground must not be used for the cutting system. The warranty of your machine is void if the cause of the failure is attributed to a deficient earth ground.**

Requirements:

1. Have a certified electrician verify the grounding before running the machine.
2. 3 ohms of resistance or less from the ground rod to the earth.
3. The ground rod must be independent and dedicated to the CNC machine only.
4. The ground rod must be at least ½” in diameter and made of copper, steel copper clad, stainless steel, or zinc-coated steel depending on your soil type.



5. Use a terminal screw connector to the ground rod.
6. The ground cable must be at least 4 AWG stranded wire.



Requirements

Cont.:

7. Connection to the table and the rod must be maintained and well kept.
8. Keep the ground as close to the table as possible within Ten feet.
9. Comply with the current NEC 250 (National Electrical Code) as well as state and local code
10. The use of multiple electrodes in parallel series and spaced apart a minimum of 2.2 times the rod length may be used to reach the proper amount of resistance.