

## No. 2 HANDGUN GROUNDING

### Safety Bulletin

#### Grounding the Ransburg No. 2 Handgun System

Proper grounding between the work piece, the high voltage power supply, and the surrounding building is essential for correct operation of the Ransburg No. 2 Process handgun system.

#### **WARNING**

► Failure to observe the following rules for grounding may result in inferior finishes, equipment failures, static shocks to the operator, and **FIRE HAZARD**.

1. **Connect the power supply to the building electrical ground.** The three prong grounding plug supplied with the power supply is acceptable if the wall receptacle has a proper connection to the ground pin.

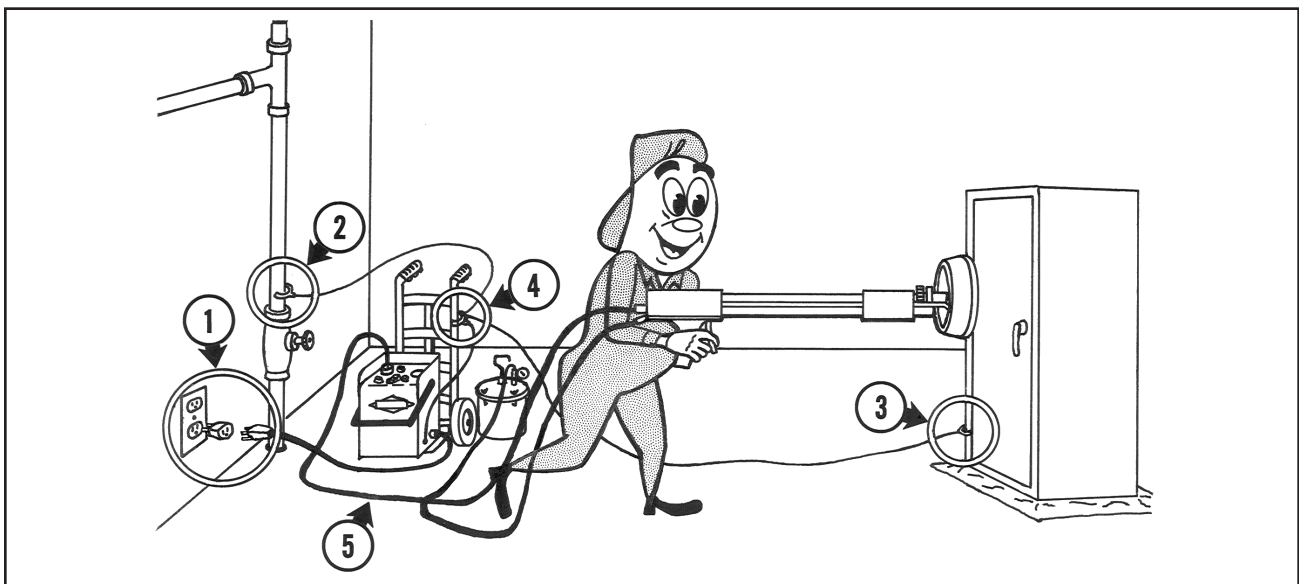
**NOTE:** Ransburg suggests that each operating crew be supplied with a three-wire circuit analyzer which may be used to quickly check the ground continuity of the building electrical system. These analyzers are available from many suppliers such as Sears, Hubbell, or Woodhead at a cost of no more than a few dollars.

2. **Ground the power supply to a building (structural) ground.** If a 3-prong to 2-prong adapter is used or if the ground in the AC receptacle is not connected, then a separate ground wire must be run to a metal building member (electrical conduit, water line, steel building support, etc.). The power supply is equipped with a grounding cable for this purpose.

**NOTE:** Because the building electrical system may not always be properly grounded, using the alternate building ground connection is a good practice in all situations.

3. **Ground the work piece to a building (structural) ground.** Secure wire from the work piece to the building ground with a spring clip or a grounding clamp. If a good earth ground is not available, a second ground wire on power supply is available to ground the part.

**NOTE:** A magnet is acceptable if the magnet is kept free of paint accumulation. Remember that most paints are insulators!





## CAUTION

- ▶ DO NOT ground the work piece directly to the power supply. It must be grounded with a separate grounding wire to earth ground. Grounding directly to the power supply could damage the equipment.

4. **Ground any supporting conveyance for the power supply.** If the power supply is on a cart for portability, ground the cart to the power supply and to the building ground. If using a generator, ensure generator frame is also connected to true earth ground. If a true earth ground is not available, one may be established by driving a ground rod (see electrical supplier) into the earth, assuming the soil has adequate moisture content.
5. **Ground the operator to the power supply.** The operator will be grounded by grasping the metal handle of the No. 2 Process Handgun with his bare hand. The handgun is grounded to the power supply through the metal braid in the high voltage cable.



## CAUTION

- ▶ This cable should be inspected frequently for voltage leaks and checked for electrical continuity of both the conductive wire and the grounding braid.

- a. Paint accumulation on the handle must not be allowed.
  - b. Gloves cannot be worn unless an alternate operator ground is used.
  - c. The gun handle **MUST NOT** be covered. Tape is an insulator!
6. Operation of any high voltage electrostatic system requires an awareness of the phenomenon of **inductive charging**. Specifically, this phenomenon occurs whenever an ungrounded object (i.e., a metal can on a plastic tile floor) is within the electrostatic field generated by an electrode charged to high voltage. The ungrounded object will try to acquire a charge equal in voltage to that of the electrode.

Therefore, the **first rule of electrostatic safety** is: Ground all conductive objects within the near field (10 ft. radius) of any charged electrode!

The **second rule** is: Except those being properly utilized in the application system, **KEEP ALL FLAMMABLE** material outside of the far field (20 ft. radius) of any charged electrode.

All use of high voltage systems **MUST** be in compliance with the National Electrical Code. Additional precautions are contained in NFPA Bulletins 33 (Spray Applications) and 77 (Static Electricity). Also see Ransburg publications: No. 2 Handgun Spray Techniques (IL-211), Operating Your Electrostatic Coating System Safely (IL-247), No. 2 Handgun service manual (AH-95-02), and the appropriate power supply service manual.



## WARNING

- ▶ ALL personnel who operate, clean or maintain this equipment **MUST** read and thoroughly understand the appropriate service and safety literature! Special care should be taken to ensure that the **WARNINGS** and requirements for operating and servicing safety are followed.

### Technical/Service Assistance

Telephone: 800/ 233-3366  
Fax: 419/ 470-2071



(Technical Support Representative will direct you to the appropriate telephone number for ordering Spare Parts.)

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