

## GREENLEE DM-210 DIGITAL MULTIMETER OPERATING PROCEDURE

### Objective

The purpose of using the Greenlee DM-210 Digital Multimeter is to ensure that there is a good ground for parts being painted. Proper grounding (less than 1 megohm) of racks, hooks and parts will improve powder adhesion to parts and also improve first pass efficiency. If parts do not have a good ground, powder will fail to adhere properly and 'wrap' well on the parts, resulting in inefficient time usage and light parts.

Safety is also a concern. Improperly grounded parts store an electrostatic charge when exposed to an electrostatic field (i.e.: powder coating). When this charge becomes too great, it is released to ground, causing an arc or spark. This results in the UV detectors detecting the spark and shutting down the equipment. If we did not have UV detectors, the spark in the booth could ignite the airborne powder, resulting in a fire or explosion. The detectors offer excellent protection, shutting down the booth in under 1/2 a second.

For the above reasons, a ground on your parts of under 1 megohm is crucial for both safety and quality reasons.

For our purposes, we will be using the Greenlee DM-210 Digital Multimeter to check for a ground on our racks and parts entering the powder booth.

### Procedure

**Note:** This procedure is for testing for grounding of racks and parts entering the Powder Booth.

1. Turn on your Greenlee Multimeter with your black and red probes already attached in their respective input jacks.
2. Turn rotary switch to the Measuring Resistance mode (the second setting from off clockwise; it resembles a horseshoe).
3. Press the range button again to put the meter in fixed range (so it will not revert to Auto range).
4. Test your meter by touching the ends of both probes together. You should get a reading of 0. If test fails, contact Maintenance for assistance.
5. Now you are ready to take a reading. With your (black) alligator clamp attached to the permanent cable leading to main ground bar, touch the red probe end to either a rack or a part passing overhead. Reading should be from 0 (ideal ground) to 0.9. A reading of 1 megohm or greater indicates no or very poor ground.
6. If the test fails, contact your Supervisor immediately.