

Common Point Grounding Units Installation Instructions



Made in America

Description

Per ANSI/ESD S20.20, all conductors, including personnel, must be electrically connected and attached to a known ground. EOS/ESD S6.1 recommends hard ground, without resistor, of work surface or floor mats. Per ANSI/ESD S20.20, ground fault circuit interrupter (GFCI) should be considered to provide personnel protection.

ESD Systems.com offers a number of common point grounds and wrist strap ground connectors designed to ground multiple operators or devices.

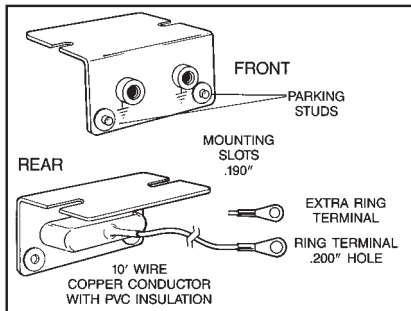


Figure 1. 13523/13525 wrist strap bench ground.

The 13523/13525 wrist strap bench ground is a wrist strap ground connector and consists of a mounting bracket with two standard banana jacks installed and soldered to a ten foot ground wire terminated with a ring terminal with a 0.200" hole.

The 13523 includes a wrist strap parking station. See figure 2.

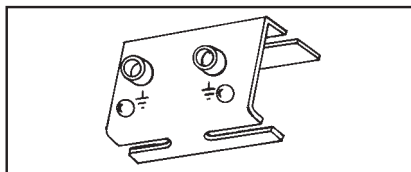


Figure 2. 13523 premium bench mounted ground with parking station.

The 13580 Multi Grounding Hub is designed for use as either a wrist strap ground connector or as a common point ground for all items to be grounded at a bench (i.e. table mat ground cord, floor mat ground cord, banana jack ground block, etc.). The Multi Grounding Hub

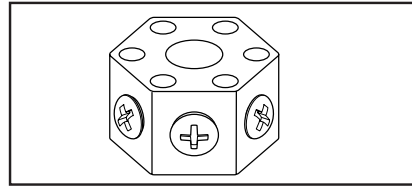


Figure 3. 13580 Multi Grounding Hub

incorporates six standard banana jacks, and six terminations for ring terminals (10-32 screw in threaded holes).

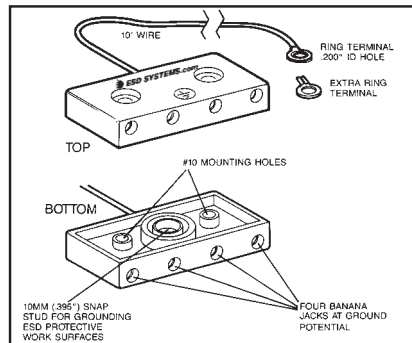


Figure 4. 13570/13575 quad common point ground.

The 13570/13575 quad common point ground is designed for use as either a wrist strap ground connector or as a common point ground cord. The quad ground cord incorporates four standard banana jacks, a 10mm (0.395") snap stud, and ten feet of ground wire terminated with a ring terminal with a 0.200" I.D. hole. The model 13570 also incorporates a 1 megohm resistor in series with the snap stud.

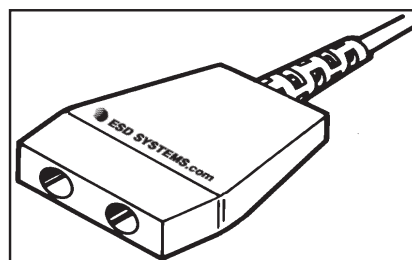


Figure 5. 13160/13165 common point ground.

The 13160/13165 common point ground is designed for use on bench mats to provide a convenient wrist strap ground connector. It incorporates two standard banana jacks, a 10mm (0.395") snap stud, and 15 feet of

wire terminated with a ring terminal with a 0.200" I.D. hole. The model 13165 also incorporates a one megohm resistor in series with the snap stud.

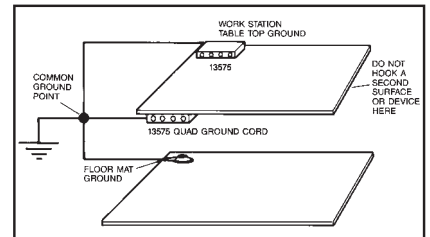


Figure 6. All ESD protective devices at the work station should be connected to one common ground point.

The 13523/13525 and the 13570/13575 feature a pair of mounting holes designed to accommodate standard #10 screws, allowing the units to be permanently installed at the work bench.

Proper Grounding

Wrist straps, work surfaces, floor mats and other electrostatic discharge (ESD) protective products should be grounded to a common point ground.

COMMON POINT GROUND

Per ANSI/EOS/ESD S6.1, Grounding paragraph 4.1.1 "Every element to be grounded at an ESD protected station shall be connected to the same common point ground."

ESD Handbook TR 20.20 paragraph 5.1.3 Basic Grounding Requirements "The first step in ensuring that everything in an EPA is at the same electrical potential is to ground all conductive components of the work area (worksurfaces, people, equipment, etc.) to the same electrical ground point. This point is called the common point ground. The next step in completing the ground circuit is to connect the common point ground to the equipment ground (third wire, green)."

If all elements are connected to the common point ground, even if the equipment ground connection is compromised, all workstation elements will be connected and be at equipotential or at the same charge. Being at the same electrostatic charge will mean that no discharge should occur.

Connect the ground wire directly to the nearest utility “green wire” ground point. In a properly wired building, the “green wire” equipment ground point may be the center screw of the standard 110VAC outlet. Some special outlets may “float” the center screw. Test before you hook up.

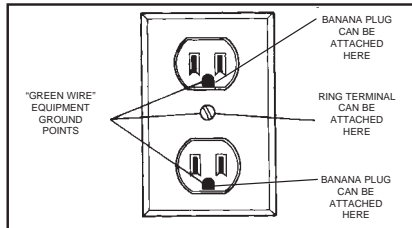


Figure 7. Recommended grounding point.

Individual work stations must be individually grounded to the “green wire” equipment ground. For ESD work surface installation information, see ESD Systems.com Tech Brief PS-2013.

Always Test the Ground Before You Use It And Periodically Thereafter

You should not assume that any electrical outlet is properly grounded. Even if it was originally wired correctly, it can become ungrounded due to corrosion and wear. Test the ground you intend to use before you hook up. Use ESD Systems.com 41110 AC Outlet Analyzer to verify proper wiring of the electrical outlet (equipment ground).

Installation

After you have selected and tested your grounding point, you will need to determine the method of installation for the type of grounding block that you have selected. Installation of common point units as grounding blocks is outlined below. Installation of the 13570 and 13160 series as common point ground cords for a work surface is also discussed below.

WRIST STRAP GROUND CONNECTORS

1. Select the most convenient location on the work bench for grounding of wrist straps and other grounding devices.
2. Position the wrist strap ground connectors and use the two #10 mounting holes to secure to the work bench.
3. Route the wire neatly back to your grounding point. You may wish to use wire brackets to hold the wire in place and out of the way. If desired, cut and strip the end of the wire to properly fit your ground point. Install and crimp the extra ring terminal provided.

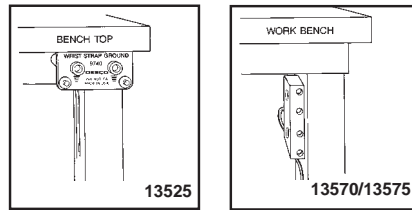


Figure 8. Installation of grounding blocks.

4. To check resistance, use an ohmmeter from the banana jacks to the common ground point. It should read less than 1 Ohm AC impedance for items 13523/13525, 13160 and 13575, and 1 megohm (106 Ohms) for items 13570 and 13165.

GROUNDING POINT

As previously mentioned, the 13570/13575 and the 13160/13165 can be installed as a wrist strap ground connector for ESD protective work surfaces.

1. Position or lay the work surface in the desired location. Snap the ground cord to it. These units connect with a 10mm (0.395") socket snap.

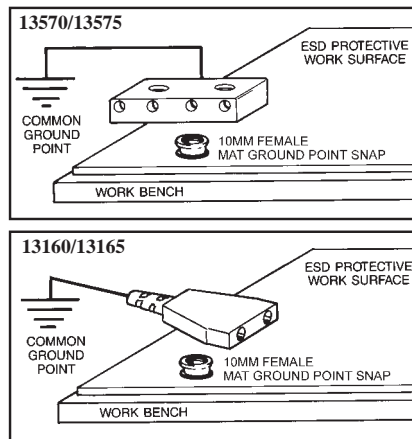


Figure 9. Installing the 13570/13575 and 13160/13165 as a common point ground cord for a work surface.

2. Bring the other end of the ground cord to a verified grounding point and attach it using the ring terminal. Tie the ground wire to the bench to keep it neatly out of the way. You may cut and strip the ground wire to a shorter length and attach it using the extra ring terminal included with each ground cord.
3. After installation, the work surface along with the banana jacks are all electrically connected to ground. The banana jacks will now serve as wrist strap ground connectors.

4. To check resistance, use an ohmmeter from the ground point snap on the mat to the common ground point. It should read 1 megohm ± 20 percent if you are using a model 13570 or 13165 ground cord, and less than 1 Ohm AC impedance if you are using a 13575 or 13160 non-resistor ground cord.

MULTI GROUNDING HUB

The 13580 Multi Grounding Hub can be mounted either on a bench leg or table top. See Figure 10 for installation.

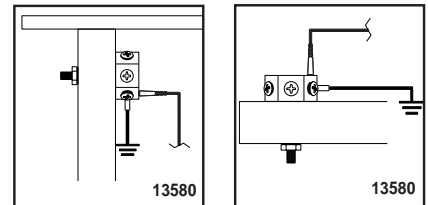


Figure 10. Installation of multi grounding hub.

Maintenance

You should set up a maintenance schedule to be sure that all ESD grounds are inspected and tested at least once each six months in your facility.

Limited Warranty

ESD Systems.com expressly warrants that for a period of one (1) year from the date of purchase, our grounding products will be free of defects in material (parts) and workmanship (labor). Within the warranty period, the product will be tested, repaired, or replaced at our option, free of charge. Call Customer Service at 508-485-7390 for a Return Material Authorization (RMA) and proper shipping instructions and address. You should include a copy of your original packing slip, invoice, or other proof of purchase date. Any unit under warranty should be shipped prepaid to the ESD Systems.com factory. Warranty repairs will take approximately two weeks.

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