009: Assured Grounding

Discussion leader duties for this session:

Obtain a portable cord and a Digital Multimeter with an ohmic function to demonstrate continuity tests. Review your company's policy on assured grounding. If your company doesn't have an assured grounding program, this Toolbox Talk will still prove useful, because most of the concepts also apply to general safety and to a GFCI program.

What this Safety Talk covers:

What an assured grounding program is and how to follow it. Goals include understanding some key similarities and differences between assured grounding programs and GFCI programs, plus protections the programs provide and don't provide.

Discussion notes :

An assured grounding program is a formal program for inspecting:

- Equipment connected by cord and plug and available for use.
- Portable cords.
- Receptacles that are not part of the permanent wiring of the structure.

The inspections require:

- Visual checks of equipment for physical damage or defects, per a specific schedule.
- Continuity tests to ensure the grounding conductors are electrically continuous.
- Tests to ensure the equipment grounding conductors are connected to the proper terminals.

The specific schedule for inspections is:

- Before the day's first use.
- After any repairs.
- After any suspected damage and before subsequent use.

These inspections are all your responsibility, except those performed by your tool crib—if you have one on site. If the tool crib does perform continuity checks and inspections, you add an extra measure of safety by doing a visual inspection once you arrive at your specific work location. Additionally, OSHA requires your company to ensure the equipment undergoes inspection at 3-month intervals.

Other facts

The use of GFCI devices does not eliminate the need for an assured grounding program. The lack of an assured grounding program requires the use of GFCI devices.

The National Electrical Code prohibits using assured grounding program in lieu of GFCI protection, but OSHA does not. The combination of assured grounding and GFCI adds an extra measure of protection.

Both an assured grounding program and a GFCI program require inspection and testing. The assured grounding program simply requires more of these.

Neither an assured grounding program nor a GFCI program will protect you against a line to line or line to neutral short. They will protect you only from a ground fault.

Most assured grounding programs use a quarterly or monthly color tag or tape to allow quick visual confirmation of inspection.

If your company does not have an assured grounding program, you should still employ the principles of such a program. That is, check equipment before you use it. Look for insulation damage, missing ground plugs, and broken ground wires.

If your company does have an assured grounding program, you can add an extra measure of safety by using GFCI equipment when it's available, and testing such equipment prior to first day's use.

Review and Discussion

What is the central activity of an assured grounding program?

What are the three types of equipment an assured grounding program requires inspecting?

What are the three types of inspections an assured grounding program requires?

What are the three times you must perform an equipment inspection?

Does the use of a GFCI device eliminate the need for an assured grounding program?

Does the use of an assured grounding program mean you can't use GFCI devices?

In what ways are an assured grounding program and a GFCI program alike?

In what ways do an assured grounding program and a GFCI program differ?

Which standard forbids an assured grounding program to replace a GFCI program, and which organization permits it?

What will neither program protect you from? What *will* the programs protect you from?

Demonstration

Have a crewmember demonstrate ohmic testing of a portable cord to ensure the grounding conductor is not broken inside the cord. Note that you can obtain a good reading on a break, if the cord is in the right position. Thus, a good test requires flexing or wiggling the cord.

Participant's Signature and Date