

Safety

Chapters T9, G9

Electrical Safety, RF Exposure, Mechanical Safety

DON'T GET ZAPPED

Electrical Safety

T0A01 - Which of the following is a safety hazard of a 12-volt storage battery?

ANSWER:

T0A02 - What health hazard is presented by electrical current flowing through the body?

ANSWER:

T0A04 - What is the purpose of a fuse in an electrical circuit?

ANSWER:

T0A05 - Why is it unwise to install a 20-ampere fuse in the place of a 5-ampere fuse?

ANSWER:

T0A03 - In the United States, what is connected to the green wire in a three-wire electrical AC plug?

ANSWER:

T0A06 - What is a good way to guard against electrical shock at your station?

ANSWER:

T0B09 - Why should you avoid attaching an antenna to a utility pole?

ANSWER:

T0A07 - Which of these precautions should be taken when installing devices for lightning protection in a coaxial cable feed line?

ANSWER:

T0A11 - What kind of hazard might exist in a power supply when it is turned off and disconnected?

ANSWER:

T0A08 - What safety equipment should always be included in home-built equipment that is powered from 120V AC power circuits?

ANSWER:

T0B10 - Which of the following is true when installing grounding conductors used for lightning protection?

ANSWER:

T0B12 - Which of the following is good practice when installing ground wires on a tower for lightning protection?

ANSWER:

T0A09 - What should be done to all external ground rods or earth connections?

ANSWER:

T0B11 - Which of the following establishes grounding requirements for an amateur radio tower or antenna?

ANSWER:

T0A10 - What can happen if a lead-acid storage battery is charged or discharged too quickly?

ANSWER:

G0B01 - Which wire or wires in a four-conductor connection should be attached to fuses or circuit breakers in a device operated from a 240 VAC single phase source?

ANSWER:

G0B02 - According the National Electrical Code, what is the minimum wire size that may be used safely for wiring with a 20 ampere circuit breaker?

ANSWER:

G0B03 - Which size of fuse or circuit breaker would be appropriate to use with a circuit that uses AWG number 14 wiring?

ANSWER:

G0B04 - Which of the following is a primary reason for not placing a gasoline-fueled generator inside an occupied area?

ANSWER:

G0B05 - Which of the following conditions will cause a Ground Fault Circuit Interrupter (GFCI) to disconnect the 120 or 240 Volt AC line power to a device?

ANSWER:

G4C13 - Why must the metal enclosure of every item of station equipment be grounded?

ANSWER:

G4C07 - Why should soldered joints not be used with the wires that connect the base of a tower to a system of ground rods?

ANSWER:

G0B10 - Which of the following is a danger from lead-tin solder?

ANSWER:

G0B11 - Which of the following is good practice for lightning protection grounds?

ANSWER:

G0B12 - What is the purpose of a power supply interlock?

ANSWER:

G0B13 - What must you do when powering your house from an emergency generator?

ANSWER:

G0B06 - Which of the following is covered by the National Electrical Code?

ANSWER:

G0B09 - Which of the following is true of an emergency generator installation?

ANSWER:

DON'T GET RADIATED
RF Exposure

T0C01 - What type of radiation are VHF and UHF radio signals?

ANSWER:

T0C02 - Which of the following frequencies has the lowest value for Maximum Permissible Exposure limit?

ANSWER:

T0C03 - What is the maximum power level that an amateur radio station may use at VHF frequencies before an RF exposure evaluation is required?

ANSWER:

T0C04 - What factors affect the RF exposure of people near an amateur station antenna?

ANSWER:

T0C05 - Why do exposure limits vary with frequency?

ANSWER:

T0C07 - What could happen if a person accidentally touched your antenna while you were transmitting?

ANSWER:

T0C08 - Which of the following actions might amateur operators take to prevent exposure to RF radiation in excess of FCC-supplied limits?

ANSWER:

T0C09 - How can you make sure your station stays in compliance with RF safety regulations?

ANSWER:

T0C10 - Why is duty cycle one of the factors used to determine safe RF radiation exposure levels?

ANSWER:

T0C11 - What is the definition of duty cycle during the averaging time for RF exposure?

ANSWER:

G0A02 - Which of the following properties is important in estimating whether an RF signal exceeds the maximum permissible exposure (MPE)?

ANSWER:

G0A03 - How can you determine that your station complies with FCC RF exposure regulations?

ANSWER:

G0A04 - What does "time averaging" mean in reference to RF radiation exposure?

ANSWER:

T0C06 - Which of the following is an acceptable method to determine that your station complies with FCC RF exposure regulations?

ANSWER:

G0A01 -- What is one way that RF energy can affect human body tissue?

ANSWER:

T0C12 - How does RF radiation differ from ionizing radiation (radioactivity)?

ANSWER:

T0C13 - If the averaging time for exposure is 6 minutes, how much power density is permitted if the signal is present for 3 minutes and absent for 3 minutes rather than being present for the entire 6 minutes?

ANSWER:

G0A05 - What must you do if an evaluation of your station shows RF energy radiated from your station exceeds permissible limits?

ANSWER:

G0A07 - What effect does transmitter duty cycle have when evaluating RF exposure?

ANSWER:

G0A08 - Which of the following steps must an amateur operator take to ensure compliance with RF safety regulations when transmitter power exceeds levels specified in FCC Part 97.13?

ANSWER:

G0A09 - What type of instrument can be used to accurately measure an RF field?

ANSWER:

G0A10 - What is one thing that can be done if evaluation shows that a neighbor might receive more than the allowable limit of RF exposure from the main lobe of a directional antenna?

ANSWER:

G0A11 - What precaution should you take if you install an indoor transmitting antenna?

ANSWER:

G0B14 - What precaution should you take whenever you adjust or repair an antenna?

ANSWER:

G0A06 - What precaution should be taken when installing a ground-mounted antenna?

ANSWER:

T0B07 - Which of the following is an important safety rule to remember when using a crank-up tower?

ANSWER:

T0B08 - What is considered to be a proper grounding method for a tower?

ANSWER:

G0B07 - Which of these choices should be observed when climbing a tower using a safety belt or harness?

ANSWER:

T0B13 - What is the purpose of a safety wire through a turnbuckle used to tension guy lines?

ANSWER:

G0B08 - What should be done by any person preparing to climb a tower that supports electrically powered devices?

ANSWER:
