
Technician Question Pool

July 2018 to June 2022

The MORE Project

<http://n2re.org/m-o-r-e-project>



Electrical Safety

No-Nonsense pages 51 - 52

Antenna and Tower Safety

Antenna safety is also of primary concern. There are two aspects of antenna safety: being safe when installing an antenna, and safely operating an antenna.



TOB04

Which of the following is an important safety precaution to observe when putting up an antenna tower?

- A. Wear a ground strap connected to your wrist at all times
- B. Insulate the base of the tower to avoid lightning strikes
- C. Look for and stay clear of any overhead electrical wires
- D. All of these choices are correct



TOB04

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TOB06

What is the minimum safe distance from a power line to allow when installing an antenna?

- A. Half the width of your property
- B. The height of the power line above ground
- C. 1/2 wavelength at the operating frequency
- D. Enough so that if the antenna falls unexpectedly, no part of it can come closer than 10 feet to the power wires



TOB06

What is the minimum safe distance from a power line to allow when installing an antenna?

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- B. The height of the power line above ground
- C. 1/2 wavelength at the operating frequency
- D. Enough so that if the antenna falls unexpectedly, no part of it can come closer than 10 feet to the power wires**



TOB09

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

- A. The antenna will not work properly because of induced voltages
- B. The utility company will charge you an extra monthly fee
- C. The antenna could contact high-voltage power lines
- D. All of these choices are correct



TOB09

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

- A. The antenna will not work properly because of induced voltages
- B. The utility company will charge you an extra monthly fee
- C. The antenna could contact high-voltage power lines**
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TOC07

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

- A. Touching the antenna could cause television interference
- B. They might receive a painful RF burn
- C. They might develop radiation poisoning
- D. All of these choices are correct



TOC07

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TOB01

When should members of a tower work team wear a hard hat and safety glasses?

- A. At all times except when climbing the tower
- B. At all times except when belted firmly to the tower
- C. At all times when any work is being done on the tower
- D. Only when the tower exceeds 30 feet in height



TOB01

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- C. At all times when any work is being done on the tower**
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TOB02

What is a good precaution to observe before climbing an antenna tower?

- A. Make sure that you wear a grounded wrist strap
- B. Remove all tower grounding connections
- C. Put on a carefully inspected climbing harness (fall arrester) and safety glasses
- D. All of these choices are correct



TOB02

What is a good precaution to observe before climbing an antenna tower?

- A. Make sure that you wear a grounded wrist strap
- B. Remove all tower grounding connections
- C. Put on a carefully inspected climbing harness (fall arrester) and safety glasses**
- D. All of these choices are correct



TOB03

Under what circumstances is it safe to climb a tower without a helper or observer?

- A. When no electrical work is being performed
- B. When no mechanical work is being performed
- C. When the work being done is not more than 20 feet above the ground
- D. Never



TOB03

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- C. When the work being done is not more than 20 feet above the ground
- D. Never**



TOB07

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

- A. This type of tower must never be painted
- B. This type of tower must never be grounded
- C. This type of tower must not be climbed unless retracted or mechanical safety locking devices have been installed
- D. All of these choices are correct



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- B. This type of tower must never be grounded
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TOB13

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

- A. Secure the guy if the turnbuckle breaks
- B. Prevent loosening of the guy line from vibration
- C. Prevent theft or vandalism
- D. Deter unauthorized climbing of the tower



T0B13

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TOB05

What is the purpose of a gin pole?

- A. To temporarily replace guy wires
- B. To be used in place of a safety harness
- C. To lift tower sections or antennas
- D. To provide a temporary ground



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TOB11

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

- A. FCC Part 97 Rules
- B. Local electrical codes
- C. FAA tower lighting regulations
- D. UL recommended practices



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T0B11

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

- A. FCC Part 97 Rules
- B. Local electrical codes**
- C. FAA tower lighting regulations
- D. UL recommended practices



TOB08

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

- A. A single four-foot ground rod, driven into the ground no more than 12 inches from the base
- B. A ferrite-core RF choke connected between the tower and ground
- C. Separate eight-foot long ground rods for each tower leg, bonded to the tower and each other
- D. A connection between the tower base and a cold water pipe



ES2 Q12 of 16

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TOB10

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

- A. Only non-insulated wire must be used
- B. Wires must be carefully routed with precise right-angle bends
- C. Sharp bends must be avoided
- D. Common grounds must be avoided



ES2 Q13 of 16

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TOB12

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

- A. Put a loop in the ground connection to prevent water damage to the ground system
- B. Make sure that all bends in the ground wires are clean, right-angle bends
- C. Ensure that connections are short and direct
- D. All of these choices are correct



T0B12

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

- A. Put a loop in the ground connection to prevent water damage to the ground system
- B. Make sure that all bends in the ground wires are clean, right-angle bends
- C. Ensure that connections are short and direct**
- D. All of these choices are correct



TOA09

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

- A. Waterproof them with silicone caulk or electrical tape
- B. Keep them as far apart as possible
- C. Bond them together with heavy wire or conductive strap
- D. Tune them for resonance on the lowest frequency of operation



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TOA09

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TOA07

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

- A. Include a parallel bypass switch for each protector so that it can be switched out of the circuit when running high power
- B. Include a series switch in the ground line of each protector to prevent RF overload from inadvertently damaging the protector
- C. Keep the ground wires from each protector separate and connected to station ground
- D. Mount all of the protectors on a metal plate that is in turn connected to an external ground rod



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TOA07

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

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- B. Include a series switch in the ground line of each protector to prevent RF overload from inadvertently damaging the protector
- C. Keep the ground wires from each protector separate and connected to station ground
- D. Mount all of the protectors on a metal plate that is in turn connected to an external ground rod**



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A non-profit initiative by the IEEE and ARDC to increase the numbers of youth (12-18) and non-males in Amateur Radio. Participants earn FCC licenses and receive free 2-way radios.

For MORE information: n2re.org/m-o-r-e-project
Dr. Rebecca Mercuri, Grant Administrator, rtmercuri@ieee.org

