

Technician License Course
Chapter 9.3
Lesson Module 22
Mechanical Safety

<http://www.arrl.org/chpt-9-safety>

Mobile Installation Safety

9-11

- **Mobile Installations.**
 - Secure all equipment.
 - Place equipment where you can operate it safely while driving

Antenna Safety

9-12

- **Antenna installation.**
 - Clear of trees and power lines. [T0B04]
 - If it falls it won't hit anyone or cross power lines. 150% fall down area, 10 ft from power lines. [T0B06]
 - Never attach an antenna to a utility pole. [T0B09]
 - Towers should use proper grounding techniques. 8ft ground rod for each leg bonded to tower and each other. [T0B08]
 - Follow local zoning ordinances and FAA regulations

Tower Safety

9-13

- Tower climbing considerations.
 - Proper clothing, hard hat and eye protection. [T0B01]
 - Climbing harness and work boot. [T0B02].
 - Gin pole: used for lifting tower sections and antennas. [T0B05]
 - Don't climb a crank-up tower supported by its cable. [T0B07]
 - Don't work alone. [T0B03]

When should members of a tower work team wear a hard hat and safety glasses? (T0B01)

- * 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

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What is a good precaution to observe before climbing an antenna tower? (T0B02)

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

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Under what circumstances is it safe to climb a tower without a helper or observer? (TOB03)

- * 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 ground
- * D. Never

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Which of the following is an important safety precaution to observe when putting up an antenna tower? (T0B04)

- * 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

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What is the purpose of a gin pole? (T0B05)

- * 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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What is the minimum safe distance from a power line to allow when installing an antenna? (T0B06)

- * A. Half the width of your property
- * B. The height of the power line above ground
- * C. $\frac{1}{2}$ wavelength at the operating frequency
- * D. So that if the antenna falls unexpectedly, no part of it can come closer than 10 feet to the power lines

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

- * A. This type of tower must never be painted
- * B. This type of tower must never be grounded
- * C. This type of tower must never be climbed unless it is in the fully retracted position
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What is considered to be a proper grounding method for a tower? (T0B08)

- * 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

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

- * 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 wires
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