



# Technician License Course Chapter 9

## Lesson Module 22 Mechanical Safety



**ARRL** *The national association for  
AMATEUR RADIO*

# Mobile Installations

Consider the physical safety of yourself and your passengers.

- Secure all equipment in the vehicle.
- Place equipment where you can operate it safely while driving.
- Consider a radio with a detachable control head.
- Don't block your vision.
- Don't try to operate in heavy traffic.
- Stop the vehicle to make adjustments.
- Know whether mobile operation is legal in your state.
- Don't drive under an eight foot clearance with a ten foot antenna.



# Home Antenna Installation

You may need to erect towers or masts to support an antenna. Respect gravity.

- Check for local zoning codes and homeowners association by-laws.
- Place antennas so they are away from power lines.
  - If it falls it should have 10 feet of clearance.
  - Guideline: 150% of total height from power lines
- Towers should use proper grounding techniques.
  - Eight foot ground rod connected to each tower leg and ground rods separated by over eight feet.
  - Ground rods connected together and to building ground with heavy wire.
  - Local electric codes cover grounding.



# Tower Climbing Safety

Climbing towers alone is never safe. It is common for amateurs to help each other with tower work. Tragedies can happen. Follow safety guidelines.

- Required equipment (double check condition)
  - Proper clothing, hard hat and eye protection.
  - Climbing harness.
  - Gin pole: used for lifting tower sections and antennas.
  - Tools and ropes
- Don't climb a crank-up tower supported by its cable. Fully nest it or block it if necessary, so it can't fall.
- One member of the crew should observe safety.

