



Hand Tools Lab

Program: Electrician Technician

Course: EL110 Basic Safety

Objectives: Under the supervision of your instructor, you should be able to:

- Visually inspect and identify the following tools to determine if they are safe to use.
- Demonstrate proper usage of tools.

Lab Equipment:

- Work benches

Required Tools:

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| • Pencil | • Diagonal Cutters |
| • Hacksaw | • Nut drivers |
| • Hammer | • Needle nose pliers |
| • Screwdriver flat head and Phillips | • Adjustable wrench |
| • Channel locks | • EMT Reamer |
| • Tape measure | • Chisel or punch |
| • Strippers | • Socket set |
| • Torpedo Level | • Torque wrench |
| • Clamp | |

Materials:

- 1 box 16 penny nails
- 8 foot- 4"X 4"
- 1 foot –½" EMT pipe
- ½" EMT compression connector

Safety (PPE):

- Safety glasses/goggles
- Hard Hat

Resources:

- N/A

Required Time: 300 Minutes

Shop Maintenance:

- All work will cease 20 minutes prior to the end of class.
- All work areas must be cleaned.
- Tools and equipment must be cleaned and returned to the designated areas (cage, tool room, cabinets etc.)
- Any broken or missing tools must be reported immediately.
- Tools and equipment are students' responsibility.



Procedures: (Eye protection must always be worn)

1. Layout all tools on the table, identify as many tools as you know by name and explain the use of as many tools as you know.
2. Visually inspect tools to determine if they are safe to use.
3. Hammer a 16-penny nail into a 4" X 4" post.
4. Cut a 2" piece of ½" EMT pipe using a hacksaw.
5. Ream a piece of ½" EMT pipe.
6. Install a ½" compression connector using channel locks.
7. Cut and strip pieces of 14/2 Romex using wire strippers.
8. Use a torque wrench.
9. Use a socket set.
10. Check the level of a door jam, table, and workbench using a level.
11. Measure the top of a door jam, the top of a table and the width of a workbench.
12. Put all tools and hardware back in the in their proper location in the lab.