Fuses Lab

Program: Electrician Technician

Course: EL140 – Residential Applications

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

- Identify a fusible disconnect.
- Demonstrate how to lockout/tagout a disconnect switch.
- Verify if voltage is present in a disconnect switch.
- Replace fuses in a disconnect switch.
- Test continuity on a fuse.

Required Tools:

- 1 – multi-meter
- 1 – fuse puller
- 1 – lockout/tagout for breaker

Materials:

- 1 – disconnect

Safety:

- Safety Glasses

Resources: N/A

Required Time: 60 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 be always worn)*

1. Verify that the breaker that controls the disconnect switch is off.
2. Install lockout/tagout on breaker switch.
3. Pull handle on disconnect switch up, into the "off" position.
4. Take the multi-meter and check for voltage at the disconnect by doing the following:
    a. Put one lead on the ground
    b. Put the second lead on the power coming in above the fuse.
    c. Check the second fuse by following the same procedure.
5. Once power is determined to be off (have the instructor verify), use the plastic fuse puller to remove the fuse from the fuse holder by grabbing the fuse in the middle and pulling.
6. Remove both fuses.
7. Change your multi-meter setting for continuity or ohms.
8. Put one lead at each end of the fuse and test.
9. If the fuse is good (listen for the audible tone or ohm measurement in ohms.), then replace the fuse back in the holder by following these steps.
    a. Grab the fuse in the middle
    b. Make sure the writing on the fuse is face up and pointed toward you.
    c. Put the fuse back in the holder making sure you can read the label and that the fuse is securely in place.
10. If the fuse is bad (no tone or ohm measurement), replace the fuse with a new fuse and follow the guidelines in step #8
11. Close disconnect door and remove lockout/tagout.