

# HANDS-ONELECTRICAL troubleshooting

## **Hands-On Electrical Troubleshooting**



### **Training Description:**

This intensive one-day hands-on seminar covers the troubleshooting and repair of control circuits and components. The novice, as well as the experienced electrician, will learn how to safely and efficiently build, troubleshoot, and repair motor control circuits using the hands-on troubleshooting methods covered in this seminar. The attendee will build circuits on realistic training panels that contain a motor starter, relays, terminal strips, push buttons, selector switches, and limit switches. After the circuits are built, the instructor will introduce a realistic fault into the circuit. With the instructor's help, you will be asked to repair the faulty circuit by using your multimeter and the techniques learned earlier in the day.

**This seminar is hands-on** and is very practical in its approach to troubleshooting. The examples you will be shown are applicable to practice in any facility. To insure the quality of this program, this seminar has limited seating. As a result, this seminar fills up quickly, so register early.

**REMEMBER:** Attendees should bring a multimeter, preferably the one they use on the job, with them for this hands-on training.

### **Training Topics:**

#### **MULTIMETER BASICS**

- Ranging
- Reading Multimeters

#### **WHAT IS CONTINUITY**

- Checking Fuses
- Checking Contacts
- Opens & Shorts

#### **RELAYS**

- Ice Cube Relay
- Time Delay Relays
- Machine Tool Relays

#### **THE MOTOR STARTER**

- Pre-wire
- Auxiliary Contacts
- Overload Contacts
- Troubleshooting

#### **TROUBLESHOOTING STEPS**

- Narrowing the Problem
- Half-Splitting Method

#### **THE HANDS-ON PANEL**

- Panel Orientation
- Safety

#### **BUILD AND TROUBLESHOOT CIRCUITS**

#### **CLASS DISCUSSION AND REVIEW**



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