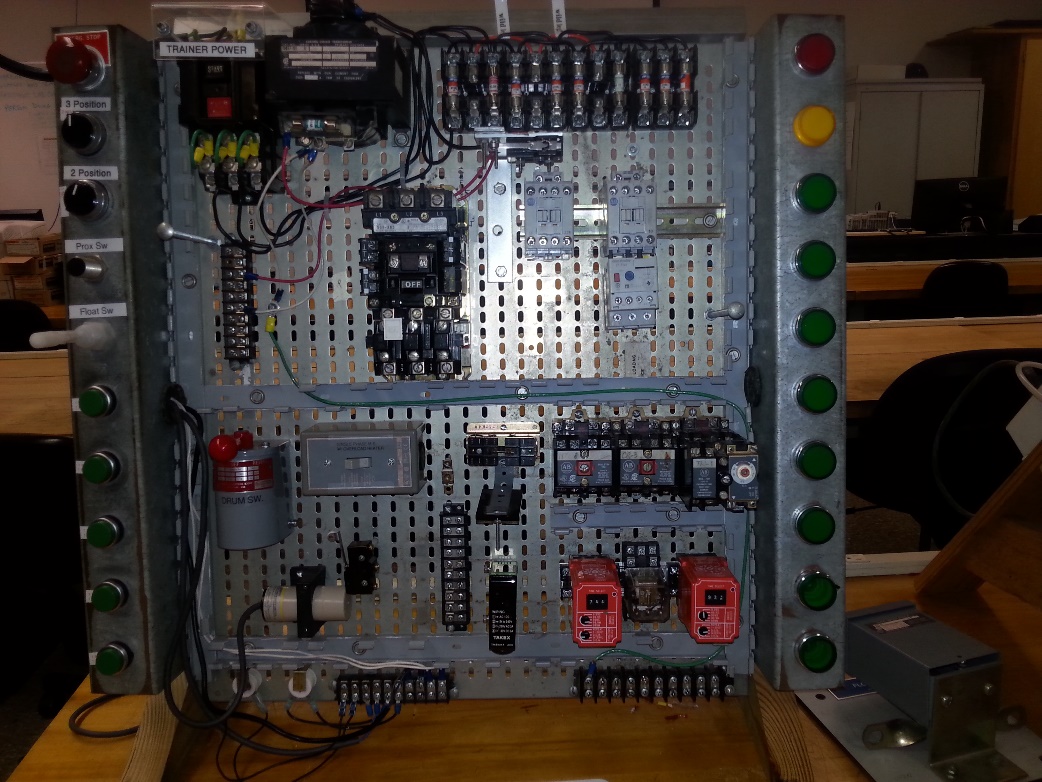
lab 1 Voltage Checks.

MIKE hASSELL | Emech 1250 Motors and Controls

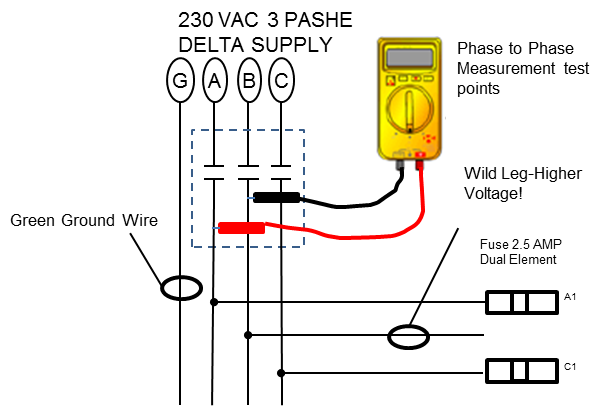
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| STUDENT NAME: |  |

Before doing any wiring on the trainer, you need to verify that the trainer is not energized, ie…not connected to a power source. Perform the following 4 steps to confirm the trainer is not energized.

1. **PPE (personal protective equipment)**: Required for all live voltage work.
   1. Blue arc flash rated lab coat.
   2. Hard hat with arc flash shield. Should have shield down while doing all live voltage checks and trouble shooting.
   3. Rubber insulated gloves and leather glove protectors. Remove any watches or rings from hands. Gloves can be damaged by these items.
   4. Standard ANSI safety glasses.
2. **Trust but Verify:** Get Digital Multi-Meter and set the meter to measure Voltage AC.
   1. While standing on the rubber insulation mat at the front of the classroom, test the meter operation to a known source. In our case, the power strip plugged into the 120 VAC outlet.
   2. **Measured Value\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_VAC**.
3. **Seven Check System (SCS):** Perform the 7 voltage checks that were discussed earlier in class.
   1. **(#1-3) Measure voltage Phase to Phase.** ***If any voltages higher than mV are present, Stop and notify the class instructor! Do not attempt to wire or touch anything on the trainer.***
   2. **A to B\_\_\_\_\_\_\_\_\_\_\_\_Volts A to C\_\_\_\_\_\_\_\_\_\_\_\_Volts B to C\_\_\_\_\_\_\_\_\_\_\_\_Volts**
   3. **(#4-6) Measure voltage Phase to Ground.** ***If any voltages higher than mV are present, Stop and notify the class instructor! Do not attempt to wire or touch anything on the trainer.***
   4. **A to Gnd\_\_\_\_\_\_\_\_\_\_Volts B to Gnd\_\_\_\_\_\_\_\_\_\_\_Volts C to Gnd\_\_\_\_\_\_\_\_\_\_\_Volts**
   5. **(#7) Verify Meter Operation:** Confirm meter to same known source as done in step 2. **Measured Value** \_\_\_\_\_\_\_\_\_\_\_\_**VAC**

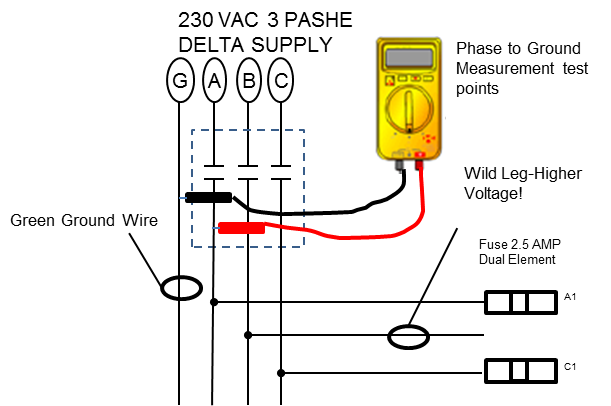


1. With Electrical Trainer De-energized, measure voltage at following locations.

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* 1. **A to B\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  2. **B to C\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  3. **A to C\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  4. **A to Gnd\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  5. **B to Gnd\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  6. **C to Gnd\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**

1. With Electrical Trainer Energized, measure voltage at following locations



* 1. **A to B\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  2. **B to C\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  3. **A to C\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  4. **A to Gnd\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  5. **B to Gnd\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**
  6. **C to Gnd\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts**

1. **Measure X1 to X2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Volts (Red and White Wires on the terminal strips)**