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Grand Blanc High School Robotics Team
2015 Electrical Deliverable
Electrical Component Board Wiring Challenge



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Mentor(s) to ask if you have questions about this Challenge: Clinton Bolinger or Cathy Fillwock

Gather the following Materials:

1. One of the Electrical Wiring Challenge Component kits from the conference room
2. 6 large zip-ties from the toolbox AND 6 small zip-ties from the toolbox

Challenge Instructions:

1. Using zip-ties, attach all of the components in the kit to their appropriate location(s) on the component board.
2. Using the wire provided in the kit, wire all of the components to the best of your ability.
 - a. Connect the two Jags to two of the 40amp circuits on the Power Distribution Board - **SEE THE INSTRUCTIONS ON THE NEXT PAGE BEFORE ATTEMPTING TO USE THE WAGO TOOL.**
 - b. Connect the two Jag PWM wires to the Digital Sidecar
 - c. Connect the main Power Breaker to the Power Distribution Board
 - d. Connect the Anderson Battery Connector to the Main Breaker
3. You will not need to attach a power source.

Engineering Notebook Entry Instructions:

1. Take notes while you are working and discuss any difficulties that you may have.
2. Answer the following questions:
 - a. Did you enjoy this wiring task? Why or why not?
 - b. What difficulties did you run into while wiring the components?
 - c. What did this task teach you about wiring that may assist you if you are a member of the programming or mechanical team?
 - d. Why are proper wiring techniques important?
 - e. Why is it important to use the right tool and the right materials for each job?

To Complete Your Challenge:

1. Ensure that your Engineering Notebook entry is complete first.
2. Find one of the Mentors listed on this deliverable and escort them to your workstation to inspect your completed work.
3. Ask one of the Mentors listed on this deliverable to approve your Engineering Notebook entry and have your deliverables checklist validated.
4. Detach all wires from the components (do not cut wires).
5. Cut zip-ties to remove components from the board.
6. Put all of the materials, tools and resources back in the designated bin, and return the bin to the appropriate place in the conference room.
7. Place these instructions back in the orange binder in the conference room, and put the binder back into the green bin.
8. Recycle, dispose, or put away any leftover material or used/unused zip-ties.
9. Leave your workspace cleaner than it was when you found it.



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Using the Wago Connector Tool:

1. Take care to insert directly at a fixed angle, pressing straight in
2. Do not pry.
3. The goal is to open the spring by pressing in the tool, not by prying

