



# Grand Blanc High School Robotics Team

## Initial Member Deliverables - Deploy Default Code



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Mentors to ask if you have questions about, and may sign off on this Challenge: Robin Barrie, Sean Lynch or Ryan Berry.

**Please refer to the flow chart on page 12 of the User Guide (linked below) to begin the troubleshooting process BEFORE asking for help. If you get stuck, start with the Troubleshooting Guide, then ask your VEX Team, THEN move to a Mentor.**

### BEFORE GETTING STARTED ON THIS DELIVERABLE:

1. Talk with your VEX Team Captain and/or Programming Student Team Member and ask to use the Robot for your Deploy Default Code Deliverable.
  1. If you ask, but your Team is using your robot, please graciously remind them that you need it for your Deliverables. If you still have any issues, talk to Clinton, Brandi or Cathy about it.
  2. **IMPORTANT NOTE: IF YOUR TEAM'S ROBOT HAS CODE ON IT ALREADY, YOU WILL BE OVERWRITING IT FOR THIS DELIVERABLE. ENSURE THAT THERE IS A BACK-UP COPY OF THE CODE.**
  3. Your Team cannot drive their robot while you are working on your Deliverable. Please work as efficiently as you can to complete your tasks.
2. You will need a laptop with Robot C Installed to complete this training:
  1. If you have a computer with RobotC installed, please use that instead of checking out a Team Laptop.
  2. If you need a computer, check the board in the conference room to see if a Programming Laptop is available to check out.
    1. Visit [www.team2337.com/checkout](http://www.team2337.com/checkout) on an internet connected device (yours or the Team's).
    2. BEFORE you leave the conference Room with the Laptop, check to ensure that you have:
      1. Programming Laptop (Black Asus Laptop - labeled 1, 2 or 3)
      2. Backpack
      3. Mouse
      4. Charging Cable
    3. If any items are missing, please inform one of the Mentors listed above BEFORE you get started.
3. Gather the following Materials from YOUR VEX Team:
  1. Robot (with at least two drive motors, each with a Motor Controller 29)
  2. Cortex (should be installed on Robot)
  3. Robot Battery (charged)
  4. Controller
  5. A-A USB Cable (orange)
4. Work alongside a Veteran Team Member to *carefully* unplug ALL motors and ALL Motor Controller 29s. Nothing should be plugged into the Cortex when you begin this Deliverable.

### Important Information:

1. You may work in the Wood Shop, Back Room, or Lunch Room.
  - a. *If you will be completing this task in the lunchroom, Team Members are required to sit so ALL laptop screens are visible from the lunchroom entrance.*
2. Please plug in the Laptop while you are working, so the battery won't be dead for the next person who uses it.
3. The Password for all Team Laptops is: 2337
4. At the end of the meeting, you MUST:
  - a. Clean your workspace AND the floor around you:
    1. Check the floor for any parts (washers, nuts, bolts, etc.) or trash
    2. Wipe off tables
    3. Push in Chairs
    4. Sweep the floor
  - b. If you are NOT done with your training:
    1. Return all materials to an area that has been designated by your Team, including anything that you've assembled.
    2. **DO NOT** complete the online check-in form!
    3. The Robot will be held for you for one additional meeting. If you do not show up for the next two meetings, your work will be disassembled, unless you have worked out a different agreement with your Team Captain.
  - c. If you are done with your training AND have had your Engineering Notebooks validated:
    1. Work with your Team Captain to determine what needs to be disassembled, and do it



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2. Put all of the tools and materials away, in the place designated by your Team Captain.
3. Check the Laptop in using the online form, available at [www.team2337.com/checkin](http://www.team2337.com/checkin)
4. Return the Laptop to the correct bin in the Conference Room,
5. Erase your name from the sign-out board, using a tissue and hand sanitizer.

### Engineering Notebook Entry Instructions:

Write an entry in your Engineering Notebook, using complete sentences or copy down the questions.

1. While you are working, document your process.
2. What problems or frustrations did you encounter while trying to deploy code?
3. Answer the following questions:
  - a. During which step(s) did you need to refer to the Troubleshooting Guide? Why? How did it help you?
  - b. What has this task taught you about programming that might help you, if you were a member of the mechanical or electrical team?
  - c. What do each of the LEDs on the Joystick mean?
  - d. Which ports on the VEX Cortex did you use for the Motors?
  - e. Did the motors stop after 3 seconds?
  - f. Did you enjoy this programming task? Why or why not?

### To Complete Your Challenge

1. Properly Pair a VEX Cortex with a VEXnet Joystick, using page one of the Cortex Microcontroller and VEXnet Joystick User Guide, available at: [http://content.vexrobotics.com/docs/VEXnet\\_Cortex\\_UserGuide\\_081811.pdf](http://content.vexrobotics.com/docs/VEXnet_Cortex_UserGuide_081811.pdf)
2. Follow the steps included in the “Downloading a Sample Programming” guide for instructions on how to download a sample program, aka Deploy Default Code. The file is available at: [http://cmra.rec.ri.cmu.edu/products/vex\\_online/programming/robotc/setup/download\\_sample/videos/download\\_sample.html](http://cmra.rec.ri.cmu.edu/products/vex_online/programming/robotc/setup/download_sample/videos/download_sample.html)
3. Print a copy of your code (use the conference room EngiPrinter – Brother HL-3170CDW series), and cut/paste it to your Engineering Notebook entry. Scissors and glue sticks are available (in the bins/drawers next to the brown desk) for your use while in the Conference Room. *Please do not take these materials out of the conference room.*
4. Double-check that your code has been deployed and is “working” on the Robot, and be prepared to demonstrate it.
5. Ensure that your Engineering Notebook entry is complete and legible.
6. Open the laptop you used to write the code, with RobotC visible and running.
7. Find one of the Mentors listed on the first page of this challenge and escort them to your work station,
8. Ask one of the listed Mentors to approve your Engineering Notebook entry and have your deliverables checklist validated.
9. Work alongside a Veteran Team Member to carefully plug back in ALL motors and ALL Motor Controller 29s. Your Team's Robot should be returned in the condition that it was in before you borrowed it.
10. Return your Team's Robot and all of the materials you used to their proper place in the Back Room.