Feedback for FTC Robot Hardware

**General**:

* Recommended that you adjust the navigation bar on the side to be appropriate to the section divisions to make it easier for viewers (img 1)
* Change the color of the titles to be purple instead so that it matches team colors
* Include the logo, most likely at the top of the document
* Inside the header or footer, put a page number and “ftc robot build – 18225 high definition” because it looks more professional (ex. Look at top of a book)
* May be helpful to add a resources section at the bottom
* Add a tips and tricks section: special things to look out for, robots for inspiration, high definition stuff that is relevant

**Overview:**

* You may want to give a bit of introduction. Ex: “Hello, and welcome to FTC Build! This is the FIRST FTC Robot Mechanical Build Quick Guide, and by the end of this document, you and your FTC team should have the ability to build a complete robot. Let’s get started!”
* It may be helpful to add a section where it talks about where pieces are commonly bought. For example, REV Robotics has electronic pieces while GoBilda is typically for structural
* When you say robot size, that seems out of the blue. You probably should describe that ftc has these dimensions for you robot

**Sample Robot Structure:**

* Before diving into this, you might want to explain how everything is connected in FTC (Allen’s previous drawing in the programming presentation of his). New people will have a basic workflow and see what they are working towards
* Maybe add a section of recommended screwdrivers and tools needed to assemble this or helpful throughout a season
* The paragraph you add underneath the list is confusing w/o context. Probably wanna add those in the individual sections and then say “Let’s learn about each of these parts in more detail” or something like that
* This would also be a good place to add a view link to the Onshape document if they want to refer back to that as they read

**Control Hub:**

* Rename section to “Control/Expansion Hub”
* Having a diagram talking about driver to robot communication would be super helpful here: I know rev robotics gives a really nice one when you order pieces, so like a digital version of that would be great
* What is the use of the different types of ports? Motor and sensor might be recognizable, but others are confusing
* Pros and cons or comparison table between control and expansion hub may help – like why one might be better than the other

**Driver’s Station:**

* Add “” around what was sourced from the game manual
* Might want to talk about the Driver’s Hub in more depth
  + The control hub and drivers hub videos released on ftc youtube may be nice to add or important things talked about in that
* Pros and cons table with drivers hub and then the phone
* Again, adding a controls diagram section before this would be super helpful for understanding purposes
* Don’t reference to “bar.” Use numbers or use names such as the “current device” or “device battery” or something like that (img 2). Same thing with the menu to the left and right.
* Bold important terms or make a terms to definition table to make it easier for the readers
* How phone operates: I thought this was talking about building. It seems sidetracked when talking about phone. Either add this later in the document, or maybe switch this to the programming section
  + Might also want to explain the wifi thing and how to say which port is which sensor because that’s a complicated process (the configuration)

**Drivetrain:**

* Definition is confusing. May want to explain that the drivetrain includes the wheels/motors and stuff like that
* Maybe compare and contrast some of the designs. When people are starting out, they might only be looking at one benefit without looking at all pros and cons, making it harder for them later
* Page 8 is basically empty?
* Might want to add pictures of actual building too instead of just CAD – also might wanna add the recommended CAD softwares somewhere or a compare and contrast

**Arm:**

* Also write that many arms can be used
* Know this is basic, but might wanna add a simple definition for what the arm is, cause some people may think it is something different?
* Maybe want to talk about different possible arm mechanisms, or the common ones
* This is a good place to talk about how drawer slides are important, then add a link to high definition slides or other types of slides

**Sensors:**

* Sensor definition
* What are the different types of sensors in ftc – add a table

**Images:**

Image 1:

Graphical user interface, application

Description automatically generated with medium confidence

Image 2:

Text

Description automatically generated

