

Team Update 08

GENERAL

- **VR Assets**
 - **From AutomationDirect:** You asked for it ... You got it ... A number of teams have requested the source files for the AutomationDirect VR Simulation so they can see how it was built and use it in their own projects. A link is now available at [here](#). Beware – it is HUGE - just under 6GB! Let us know if you do anything fun with it! FYI: It was built in UNREAL Engine using the Blueprint node-based programming. All assets were created in Blender.
- **Drawing Updates:** The [Team Version drawing packages](#) have been updated to correct a discrepancy between the Team Version LOADING STATION and the LOADING STATION on the official FIELD. The discrepancy leads to the HATCH PANEL being more difficult to remove from the Team Version than intended. See the drawing for TE-19108 for the corrected geometry of the part and an alternative fix that doesn't require the part to be recut.
- **Q&A Update:** [Q257](#) has been updated to reflect the change made to R12 below.

MANUAL

SECTION 4.8.1

Figure 4-25 has been updated to correct the orientation of the vision target tape on the left side LOADING STATION.

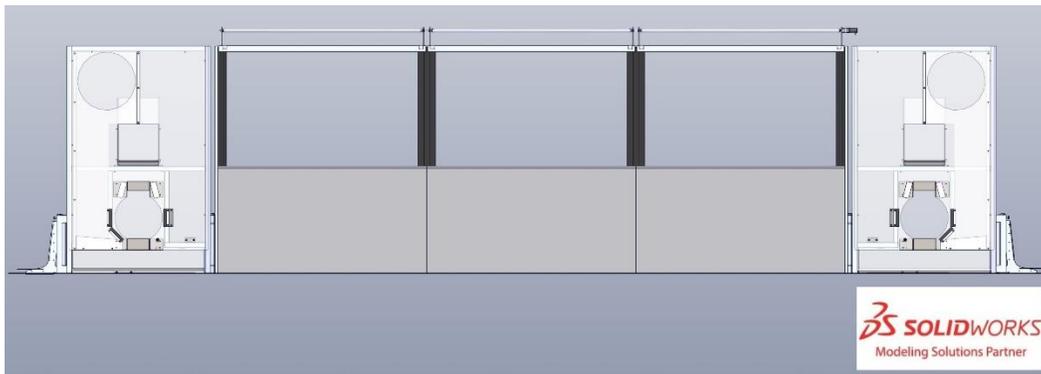


Figure 4-25 ALLIANCE WALL

SECTION 7

- C2. Be a good person.** All teams must be civil toward their team members, other team members, competition personnel, FIELD STAFF, and event attendees while at a *FIRST*® Robotics Competition event.

Violation: Behavior will be discussed with team or individual. Violations of this rule are likely to escalate to YELLOW or RED CARDS rapidly (i.e. the threshold for egregious or repeated violations is relatively low.)

Examples of inappropriate behavior include, but are not limited to, use of offensive language or other uncivil conduct.

We've learned that, although intended with no ill will, "clothes pinning" (a game played by some event participants where they try to clip a clothespin to an unsuspecting person) can and does make people uncomfortable. Understandable; it's unwelcome contact that may or may not have been from someone you know and trust. As a result, this is considered an example of uncivil conduct.

The activity known as 'the circle game' uses hand signals that can be negatively interpreted. As such, this game is considered an example of uncivil conduct.



SECTION 10.4

R12. The total cost of all items on the ROBOT shall not exceed \$5500 USD. All costs are to be determined as explained in the [Budget Constraints & Fabrication Schedule](#) section. Exceptions are as follows:

- A. individual items that are less than \$5 USD each, as purchasable from a VENDOR, and
- B. items from the current year's KOP, up to the KOP quantity (including the rookie KOP items). Identical **functional** replacements may be used to meet this criterion.

Teams should be prepared to disclose to Inspectors the cost of any non-KOP item and the total cost of the ROBOT. Teams should also be prepared to show that a particular item was received from *FIRST* Choice or a voucher in the current season if necessary.

Per I5, teams must be prepared to display a Bill of Material (BOM) to Inspectors during Inspection. The BOM may be displayed in either printed or electronic form.

Individual COMPONENTS or MECHANISMS, not excluded in R12, that are retrieved from previous ROBOTS and used on 2019 ROBOTS must have their un-depreciated cost included in the 2019 BOM and applied to the overall cost assessment.

Example 1: The Kickoff KOP checklist lists two (2) of motor controller XYZ in the Gray Tote distributed to rookie teams. Any team, including a veteran team that did not receive these items, can account for up to two (2) of them on the KOP checklist at a \$0 cost. Additional quantity of the same item would have to be accounted at the Fair Market Value.

Example 2: A team uses *FIRST* Choice credits, or a voucher, to acquire part ABC. This part, in the quantity obtained by the team via the KOP may be accounted at \$0. Additional quantity of the same item would have to be accounted at the Fair Market Value.

Example 3: Part ABC is available in *FIRST* Choice, but a team decides they have enough already on hand and does not acquire any through *FIRST* Choice. All of these items used on the ROBOT need to be accounted for at Fair Market Value as they did not come from the current year's KOP.

An "identical functional replacement" is an item which, to any reasonably astute observer, has the same form, fit, feature set, and function as the original component.

For example, any CIM motor can replace a CIM motor or a sheet of polycarbonate paid for completely by a voucher can be replaced with a sheet of polycarbonate of the same parameters (thickness, color, size, etc.). As another example, a motor controller that has the same form, fit, and function (i.e. controlling motors) as the original motor controller, but a different feature set (i.e. can communicate over CAN vs. the original controller which was PWM only) is not an identical functional replacement because the controllers' feature sets differ.

