

Q&A

VRC 2022-2023: Spin Up

Tagged: Field Specifications

Welcome to the official VEX Robotics Competition Question & Answer system, where all registered teams have the opportunity to ask for official rules interpretations and clarifications. This Q&A system is the only source for official VRC Spin Up rules clarifications, and the clarifications made here from the Game Design Committee (GDC) are considered as official and binding as the written [Game Manual](#) itself.

Please review the [Q&A Usage Guidelines](#) before posting. This system is only intended for specific VRC Spin Up rules questions.

- For event, registration, or other competition support questions, please contact your [REC Foundation Manager](#).
 - For VEX technical support, contact support@vex.com or sales@vex.com.
- For game questions, suggestions, or concerns outside of specific and official rules questions, contact GDC@vex.com.

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1490: Portable field-T21 considerations

7-Mar-2023

Field Specifications

<T21>Our organization used portable fields at all our events this season, culminating with the Michigan MS State Championship. To provide better durability of the field sections during transport and storage (we transport and store the fields in 12' sections), several modifications were made, which we believe fall within the allowances of T21 (that is, the same modifications were incorporated onto all fields); however, the example are declared to be a non-exhaustive list. Please clarify if the following modifications would be acceptable under rule T21 (and Appendix A). For additional pictures/references, please see this white paper:

https://drive.google.com/file/d/1opaMXpOuQ0x7uk_RQIRVnlw6Jw_a_xDm/view?usp=share_link

1. Additional screws and nuts, installed into every "nut pocket" provided on the connector pieces, which greatly enhances the rigidity of the field walls when moved about in 12' sections.
2. A 12' strip of reinforcing gaffer's tape along the bottom of each wall section, placed such that the tape is not visible when the field is in use.
3. A 12' strip of gaffer's tape (could be various colors to allow color-coding of each field) along the upper rail on the outside vertical surface. The location would not be visible inside the field perimeter, but rather would be similar to applying sponsor decals and/or banners to the outsides of the perimeters.
4. Mechanically attaching the field perimeter to field risers using a clamp installed through the "strap slots" in the lower center side rails. The clamp keeps the fields from creeping off the risers during competition. Web straps are no longer needed, but could be put back in place if necessary to meet the requirements of Appendix A; however the straps become "decorative" when the field is clamped to the risers. <T21>

While these questions are obviously being asked after the fact, clarification of these points will be helpful in future interpretation of T21 and are of interest to other EP's who have seen our white paper and are considering the use of portafields.

Answered by committee

These modifications do not affect gameplay, and would be permissible under rule <T24> if applied to all Fields of that type in compliance with rule <T21>.

1428: Roller Mounts

4-Feb-2023

Field Specifications

<T24>We are at a competition where the rollers are spinning freely and do not have the stand-offs mounted from underneath. We want to know if this is legal since this completely affected our autonomous code since the rollers do not have any resistance.

Answered by committee

If a Roller or other Field Element is found to be broken or incorrectly assembled, it should be brought to the attention of the Event Partner and/or Head Referee. As described in point a.iii. of rule <T7>, a Field Element that detaches or moves beyond normal tolerance may warrant a Match replay at the discretion of the Event Partner and the Head Referee.

Rule <T3> also applies. Teams are encouraged to check the Field before each Match, and raise issues before the Match or before they leave the Alliance Station following the Match.

1396: Replace net frame couplers with PVC Sch 40

21-Jan-2023

Field Specifications

The black PVC/plastic couplers that come with the net frame breaks easily. Is it okay to replace the black couplers with 1/2 inch schedule 40 couplers and paint them black or leave them unplainted under the net sleeve? Thank you.

Answered by committee

This modification/repair would be permissible under rule [<T24>](#).

1393: Width of strip between autonomous line tape

18-Jan-2023

Field Specifications

I've looked high and low, and can't seem to find any guidance on the exact dimension or range of dimensions for the strip between the two white tape autonomous line strips.

What should the spacing be for the autonomous line tape strips?

Answered by committee

Thank you for your question. Page A-16 of the Spin up Game Manual shows the relative locations of objects on the field, including the Autonomous Lines. The space between the lines is intended to be approximately 2", but as indicated by rule [<T25>](#) that distance may vary from nominal by ± 1.0 ". This measurement will be added to Appendix A in the next game manual update.

1333: Height of blue dispenser

8-Dec-2022

Field Specifications

My team was wondering what is the height of the blue dispenser. We have yet to receive our game elements and I can't find it in the field or game manual.

Thanks

Answered by committee

The heights of portions of the blue Dispenser (in both raised & lowered configurations), and measurements for all other Field Elements, can be found in Appendix A of the [Slapshot Game Manual](#).

1242: Driver station

18-Oct-2022

Field Specifications

Hi, Just checking on the driver station. Is the driver station on either side of the field along the 8ft and if so do both teams have to be on the one side or can the teams split to one per side? Or is it exactly as shown in the game manual being one specific side?

Driver Station - The region behind the *Field*, where the *Drivers* must remain during their *Match* unless legally interacting with their *Robot*.

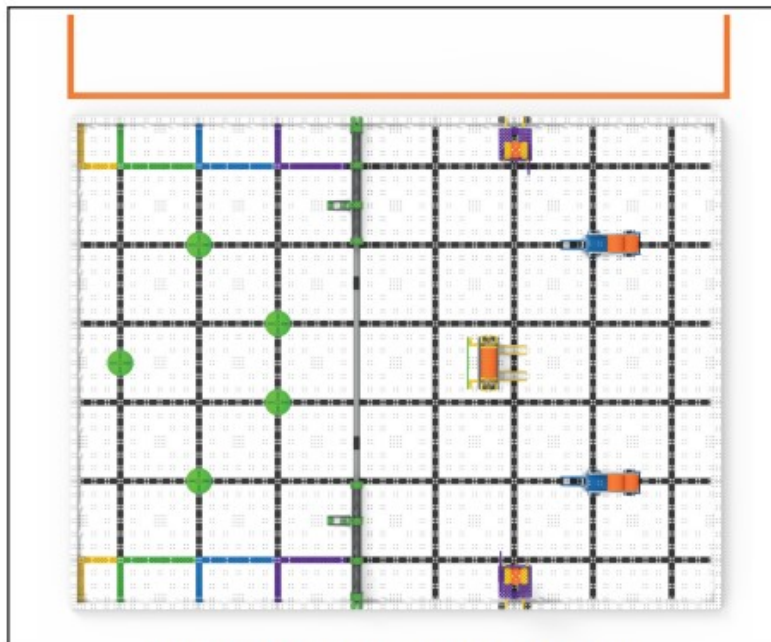


Figure 3: The Driver Station configuration for VIQC Slapshot.

Answered by committee

The Driver Station indicated in Figure 3 of the Slapshot game manual identifies the region where Drivers **must** remain during the Match unless legally interacting with the Field. From the Drivers' perspective, the Dispensers should always be on the left portion of the Field, and the Goal Zones should be to the right.

There are no alternate Driver Station configurations for VIQC Slapshot.

1220: Net Assembly: Cross Post Connector Keeps Slipping Down Vertical Post

4-Oct-2022

Field Specifications

GDC,

On our practice fields, the top crossbar that holds the net up keeps slipping down the side support posts, even though the plastic brackets are tightened down as much as possible. Would it be permissible to attach the plastic bracket to the vertical post instead of the cross post and then have the cross post resting into the clamp per the pictures below? This will prevent the cross bar from slipping down the post although it does slightly change the dimensions between the two vertical posts. If this is not permissible, what other modification would be allowed to keep that joint from slipping down the vertical post? Adding tape or a screw below the clip so it won't slip further down?

Picture of cross bar that slipped down the vertical support post:



Pictures of cross bar with clip rotated 90 so it's sitting on the vertical post with the cross post in the clip:





Thank you for your time and consideration.

Answered by committee

Yes, this is fine.

1216: <SG6b> and the Nature of Introducing Match Loads

1-Oct-2022

Hello,

Rule SG6 in the VEX Spin Up manual generally lays out the guidelines for introducing match loads. However, we have some questions about some edge-case scenarios in terms of introducing discs through the loader.

SG6b states:

Match Load Discs must be introduced by a Drive Team Member placing them gently **onto a Loader**.

1. Because of the specific wording "onto a Loader", we assume that this would make it illegal to [stack discs on top of each other as shown in this image](#), and then pass all of them through the loader simultaneously because only the bottom disc in the stack would be considered loaded "onto" the loader. Is this the correct assumption?
2. The definition of a loader in the game manual is very broad. The manual defines the loader as a "metal ramp" that is used to introduce match loads. The loader design includes two flanges that act as guard rails for the disc, but it's not clear whether these flanges are included in the definition of a loader. If they were included as part of the loader, it would be possible to load discs by placing them [on top of the guard rails as shown in this image](#). Is it legal to load discs on the guard rails of the loader, or are the guard rails not included in the definition of the loader, meaning that the discs must be passed specifically through the flat portion of the loader?

Thank you in advance for your time.

Answered by committee

Provided that no other portions of SG6 (or any other rules) are Violated, these would both be permissible.

1181: <SG9> and <SC5> Disc and Endgame Clarification

20-Aug-2022

In the Vex season, Tipping Point, goals that exited the field intentionally or not, were not placed back into the field during the remaining 30 seconds in the match. While Tipping points rules do not apply to this current season, is this true of the discs (During the endgame of the match discs that exit the field, intentionally or not are not placed back in)?

Furthermore, <SC5> subsection C states, "The field tiles located in the Low Goals do not count towards Cover points (i.e., they will not be Covered by either Alliance)." If a robot were to deploy an endgame mechanism, such as a string, and said string were to deploy and touch a few tiles, then contact the "low goal region", would the string be in direct violation of this rule, and therefore not receive any points for the tiles covered, or would the tiles not in the low goal count toward the endgame bonus, neglecting the fact that the string is touching the low goal area?

While the manual mentions <SG9>, Keep Discs in the field, there is no clarification on other non-Field element objects. My questions are:

1. If in the endgame, a team were to deploy a string, and said string would NOT contact any tiles (except for the ones the rest of the robot was touching) but would go over the wall of the field, and NOT contact the ground outside the field, would the robot receive any violations?
2. If in the endgame, a team were to deploy a string, and said string would NOT contact any tiles (except for the ones the rest of the robot was touching) but would go over the wall of the field, and WOULD contact the ground outside the field, would the robot receive any violations?
3. If in the endgame, a team were to deploy a string, and said string WOULD contact multiple field tiles, but would go over the wall of the field, and would NOT contact the ground outside the field, would the robot receive any violations?

4. If in the endgame, a team were to deploy a string, and said string WOULD contact multiple field tiles, but would go over the wall of the field, and WOULD contact the ground outside the field, would the robot receive any violations?

Thank you for your time.

Answered by committee

The final section of this answer has been updated to reflect changes to <S2> and <SG4> in the November 1 Game Manual update.

Please review the Q&A Usage Guidelines before posting, specifically point 4, "Make a separate post for each question.". In the future, this question is an example of one that should have been multiple posts - one for the Disc question, a second for the Endgame Low Goal question, and a third for the Endgame out-of-bounds questions.

In the Vex season, Tipping Point, goals that exited the field intentionally or not, were not placed back into the field during the remaining 30 seconds in the match. While Tipping points rules do not apply to this current season, is this true of the discs (During the endgame of the match discs that exit the field, intentionally or not are not placed back in)?

No. The only comment in the Game Manual that refers to when a Disc will be returned to the field is SG9-b, quoted here with a portion bolded for reference:

b. Discs that leave the field during Match play, whether intentionally or unintentionally, will be returned to the field at a location nearest the point at which they exited. Referees will return the Discs to the field **when it is deemed safe to do so, at the leisure of the referee.**

In most circumstances, referees should be able to re-introduce a Disc if it exits the field during the Endgame. However, circumstances may also exist where a Disc does not get re-introduced, such as if it is shot wide by a Robot with 1 second left. Teams should be prepared for both possibilities.

Furthermore, <SC5> subsection C states, "The field tiles located in the Low Goals do not count towards Cover points (i.e., they will not be Covered by either Alliance)." If a robot were to deploy an endgame mechanism, such as a string, and said string were to deploy and touch a few tiles, then contact the "low goal region", would the string be in direct violation of this rule, and therefore not receive any points for the tiles covered, or would the tiles not in the low goal count toward the endgame bonus, neglecting the fact that the string is touching the low goal area?

The only rule which applies to Low Goals during the Endgame is SC5-c, as quoted in your question. Contact with the Low Goal tiles can be effectively ignored; it does not have any bearing on other tiles being Covered by the same Robot.

While the manual mentions <SG9>, Keep Discs in the field, there is no clarification on other non-Field element objects. My questions are:

[questions 1-4 snipped for brevity]

All four of these hypothetical scenarios would be governed by the November 1 update to rules <S2> and <SG4>.

As a consistent means to ensure the safety of participants, spectators, and event venues, the November 1 Game Manual update included the following additions to rules <S2> & <SG4>:

A Robot which comes in contact with anything outside of the field during the Endgame period or due to an early expansion, including the floor or the outside face of the Field Perimeter, will automatically receive a Disqualification for that Match. This interaction will be exempted from rule <G14>, and Teams will be responsible for the effects of their own Endgame expansions, although <G1> will still apply.

18-Jul-2022

Field Specifications

Can EP draw arrows on the Purple Dispenser to show the correct direction to turn the purple dispenser?

Answered by committee

Yes, this is fine.

1147: Barriers Ripping Field Tiles

6-Jul-2022

Field Specifications

The red and blue barrier assemblies are ripping field tiles within an hour of light practice. See the images below for examples. Our EEM advised us to pose this question on this Q&A.

"Light practice" to our team means that we have driven the robot at a slow speed and, as such, has contacted the barrier at a slow speed. That contact with the barrier causes the barrier to gradually move and rip the field tile. Continued contact in this manner results in rips of 6-8 inches after a few interactions with the barrier. We have talked with other teams who are experiencing the same. Two of the images below are ours and one is from another team.

There are two issues with ripped tiles: 1.) the cost to replace them (\$250 for a set), and 2.) the barriers no longer stay in place which results in field barriers (far) outside of their normal ± 1 " tolerances, according to <T25> of 2022 – 2023 Game Manual Version 1.0, which states "Be prepared for minor field variance. Field Element tolerances may vary from nominal by ± 1.0 ..."

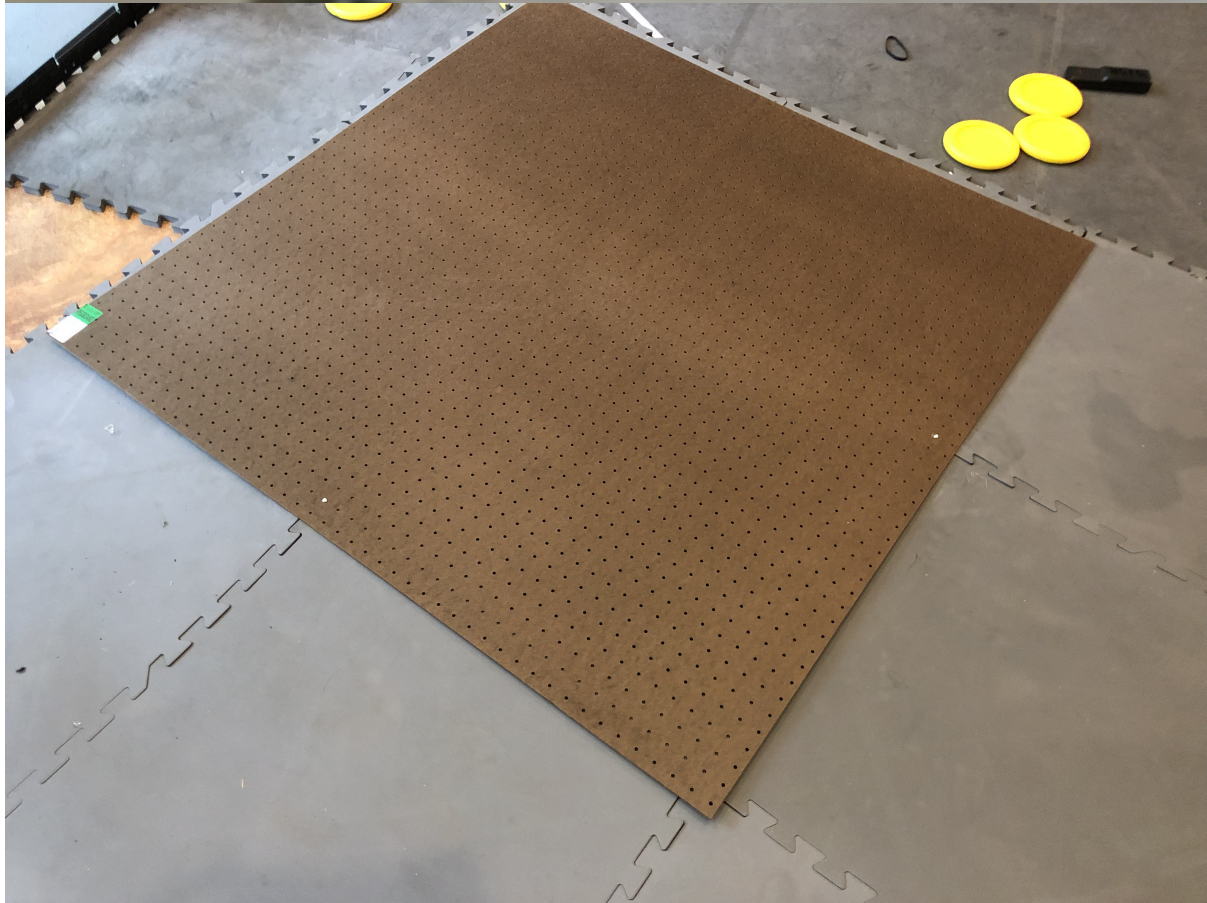
We have assembled the field to the instructions in 275-1501-750 Rev8 (Field Perimeter Instructions, pp. 5-11).

At this rate of damage, the competitions, scrimmages, and practice field will be out of spec within minutes, seconds if game play is aggressive. Teams and Event Partners surely cannot afford to replace tiles after every few light interactions with the barriers.

A solution we came up with is noted in the picture below. We bought two 4'x4' pegboards (1/8") from a local retailer for \$11 each - one pegboard for each barrier. We removed the metal plates attached to the barrier and attached the pegboard using the screws supplied with the barrier; they line up with the holes on the pegboard. To prevent the pegboard from slipping on our ceramic tile floor, we threw down about 10 thin broken rubber bands under the pegboard. This fully solved the issue, and it does not materially impact the height of the tiles. Will GDC please offer an alternative solution or approve this one?







! [img]

Answered by committee

Appendix A in the August 2 Game Manual update included an approved modification to the Spin Up field to solve this problem.

A small circle base plate can be added to the center hole of each Low Goal to provide additional support.

1136: Be prepared for minor field variance?

23-Jun-2022

Field Specifications

The spin up game manual is lacking the traditional "Gxx Be prepared for minor field variance" rule of past seasons. Other than the tolerances already listed in the definition of "Disc" and SG5, could the GDC clarify other field variances. Specifically:

1. Placement of the discs
2. the autonomous line

Answered by committee

This information can be found in rule T25, quoted here for reference:

<T25> Be prepared for minor field variance. Field Element tolerances may vary from nominal by ± 1.0 ", unless otherwise specified in this Game Manual, official Q&A, or Appendix. Disc weights may vary from nominal to ± 7 grams. High Goal heights may vary from nominal to ± 1.0 " (25.4mm). Teams are encouraged to design their Robots accordingly. Please make sure to check Appendix A for more specific nominal dimensions and tolerances.

Disc placement at the beginning of Matches may vary from nominal to ± 1 " (25.4mm).

1135: Field Specifications- Roller Screws Catching

18-Jun-2022

Field Specifications

Today we assembled our field, and we noticed a potential issue with the rollers. When the roller is rotated, the heads of the screws used to attach the PVC pipe to the ratcheting mechanism strike the pointers used for scoring. The force required to overcome this is many times greater than the normal force to overcome the rubber ratchet. Here is a video demonstrating this:

https://youtu.be/t_gfeBj7rEs

It is unclear from the field specifications in appendix A of the game manual whether this behavior is intended. Can the GDC please clarify if it is intended?

Answered by committee

It is unclear from the field specifications in appendix A of the game manual whether this behavior is intended. Can the GDC please clarify if it is intended?

Yes, the Roller in the linked video appears to be assembled correctly, and this is an intended function of the Roller design.

1133: High Goal Chain Modification

15-Jun-2022

Field Specifications

The chains on the high goal easily come off when discs are shot into the goal. With just with a few shots, multiple chains can come off. Today, with one disc, two chains came unhooked from the top of the goal. This will greatly compromise robotics teams' ability to shoot discs into the high goal during a match. I imagine that several chains toward the back of the high goal will come off by the end of a match. **Will VEX or the REC Foundation offer a solution to this problem before official tournaments begin (i.e. zip-tying them to the top of the goal)?** Thank you.

Answered by committee

Yes, using small zip-ties around the hooks where the chains attach to the High Goal is permissible, provided that the modification does not impact gameplay. Further documentation / explanation will be provided in an upcoming Game Manual update, and this post will be updated as well once it is available.

1130: Transparent panels in portable field perimeter

10-Jun-2022

Field Specifications

<T21> Fields at an event must be consistent with each other. There are many types of permissible aesthetic and / or logistical modifications that may be made to competition fields at the Event Partner's discretion. [...] Examples of these modifications may include, but are not limited to:

- Elevating the playing field off of the floor (common heights are 12" to 24" [30.5cm to 61cm])
- Field control systems (see <T22>)
- Field display monitors
- Field perimeter decorations (e.g., LED lights, sponsor decals on polycarbonate panels)
- Field perimeter type (see <T23>)
- Utilizing the VEX GPS Field Code Strips

We would like to replace the opaque panels included with the portable competition field perimeter with clear polycarbonate to improve audience and referee visibility.

Would this be considered a permissible aesthetic modification under T21, provided that all fields used for head-to-head matches would be portable fields with clear polycarbonate panels?

Answered by committee

As described in the August 2 Game Manual update to rule [<T24>](#), replacing the opaque field walls on the VEX Portable Competition Field Perimeter with transparent panels is not a permissible modification and is not allowed.

1109: Variance in the mass of discs

1-Jun-2022

Field Specifications

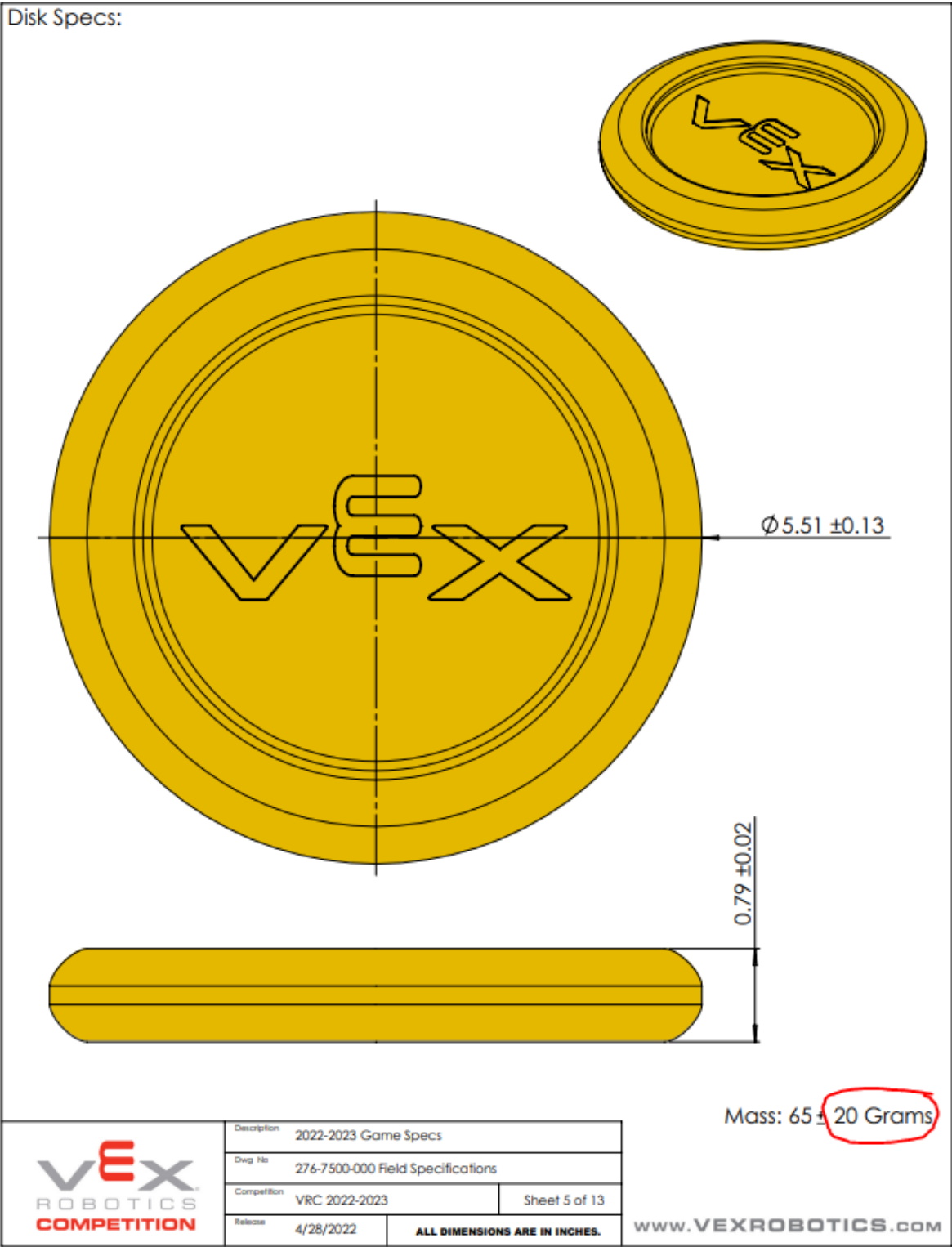
Appendix A on page A-9 of the Game manual states that the mass of a Disc is 65 grams, ± 20 grams (see attached picture)

The definition of Disc states:

Disc
dime

Weig

Since these
tolerance in
nearly twice



Thank you.

Answered by committee

Thank you for bringing this to our attention. The correct tolerance is +/- 20 grams. This will be corrected in the June 14th Game Manual update.