

# Q&A

## VRC 2023-2024: Over Under

Tagged: SC6

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 Over Under 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 Over Under rules questions.

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  - For VEX technical support, contact [support@vex.com](mailto:support@vex.com) or [sales@vex.com](mailto:sales@vex.com).
- For game questions, suggestions, or concerns outside of specific and official rules questions, contact [GDC@vex.com](mailto:GDC@vex.com).

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## 2129: Scoring Clarification for <SC6> clause C situations, please

9-Sep-2024

SC6

<SC6> clause c states: \*If no Switches have been Cleared at the end of the Match, the maximum number of points that can be received for Passes is four (4). The only way this can occur is if Balls are repeatedly Passed and then sent out of the Field without being Scored.

This clause only addresses Passes ("the maximum number of points that can be received FOR PASSES is"). There is nothing in the scoring information that indicates that GOALS scored (in the odd case that the switch did not clear and <SC6> clause c. comes into play) will not receive points. Yet, in both the VIQRC Hub app scoring calculator as well as in one of the questions in the Head Referee Exam, scored goal(s) are not being accumulated in the absence of a cleared switch. Since this is likely the intended case based on the VIQRC Hub scoring calculator, then it should be clarified both here and in the manual that the goal points are not counted until a switch IS cleared (or vice-versa--if it never should have had that limitation, that the scored goals are being accurately counted in the software points accumulation).

Example: 1 Goal scored, 0 switches cleared, 3 passes = only 3 points (which is based solely on the clause c provision of no switches being cleared and passes being counted up to four points). Yet there is nothing in the scoring information that specifically addresses WHY the 1 scored goal is not being counted, yet that is the case. I feel this is important just in case anyone has need to use paper forms for scoring, since this is not clear.

### Answered by committee

There is no requirement that a Goal be Scored for a Switch to count as Cleared, or for a Switch to be Cleared for a Goal to count as Scored. This scoring logic should be correct in both Tournament Manager and VIQRC Hub for all Match types following an upcoming software update.

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## 2073: Clarification on SG6

29-Jul-2024

SC6

[<SG6>](#)

Does this mean that while possessing a mobile goal at the same time as plowing is illegal? My interpretation is that if I am possessing a mobile goal that I cannot plow a mobile goal, which essentially prohibits any mobile goal contact (that would move the mobile goals), aside from the one being possessed.

### Answered by committee

Yes, it is illegal for a Robot to plow any Mobile Goal(s) while that Robot Possesses a Mobile Goal. As stated in clause B of rule [<SG6>](#),

... Plowing an additional Mobile Goal while also Possessing one is considered a Violation of this rule ...

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## 1979: Height Guide Measurement Doesn't Match Game Manual

29-Feb-2024

SC6

<SC6> One of my students made 3D printed elevation tier stands to slide under the bot if the bot is hugged on the horizontal bar for elevation to aide scorekeeper referees. When the 3D printed tool was done the tool was bigger than the pole measures. I measured all the height guide poles we have and they are all off by .1" (so A tier is actually 3.6" and not 3.7" as it should be per page A17 in the Game Manual). Only A tier is off which is therefore making all the other tiers .1" off. In the Game Manual page A17 shows all of the tier measurements. **Is the game manual wrong? Or is was the Height Guide tool wrong?**

Image - Height Guide Off Based on Measurements [https://drive.google.com/file/d/1Gi3leK\\_\\_JIVagn-C5c9vjWybnFNcBqbl/view?usp=sharing](https://drive.google.com/file/d/1Gi3leK__JIVagn-C5c9vjWybnFNcBqbl/view?usp=sharing) Image - Height Guide Spec Page A17 [https://drive.google.com/file/d/18dmmFsDAAR7pU675F\\_3EcW2wK4jd7pIA/view?usp=sharing](https://drive.google.com/file/d/18dmmFsDAAR7pU675F_3EcW2wK4jd7pIA/view?usp=sharing)

### Answered by committee

Per rule <T10>,

Field Element tolerances and Triballs may vary from specified locations / dimensions; Teams are encouraged to design their Robots accordingly.

## 1910: Clarification regarding SC6 and Elevation Tier Definition

30-Jan-2024

SC6

SC6 states: <SC6>

Elevation Tier Definition:

A status that represents an Elevated Robot's height off of the field at the end of the Match. A Robot's Elevation Tier is measured by placing the Height Guide vertically next to an Elevated Robot and determining which letter-labeled segment of the Height Guide the lowest point of the Robot falls within. Each white line on the Height Guide is considered to be part of the letter-labeled segment immediately below that line. In other words, the Robot must be visibly "above the line" in order to move into the next Elevation Tier.

With the removal of the yellow cap it is now possible for the lowest point of the robot to be inside the pipe. With that in mind, how should we score in the following scenarios:

A - It is unclear whether the robot's lowest point is within the confines of the elevation pipe or outside the pipe and not obviously within a certain elevation tier

B - The lowest point of the robot is obviously within the confines of the elevation pipe and it is possible to confidently ascertain the elevation tier of the lowest part of the robot

C - The lowest point of the robot is obviously within the confines of the elevation pipe and it is not possible to confidently ascertain the elevation tier of the lowest part of the robot

Hopefully these scenarios will be rare!

### Answered by committee

For the purposes of measuring Elevation Tier height, any portions of the Robot inside the volume of the Elevation Bar can be ignored.

## 1756: Robot elevation status when fully supported by a triball

7-Nov-2023

SC6

<https://www.vexrobotics.com/over-under-manual#:~:text=The%20Robot%20is%20not,a%20Robot%E2%80%99sElevated%20status>

The definition of elevation states: "The Robot is not contacting any Field Elements other than those listed in point 1. This includes gray field tiles, the field perimeter, Goals, the opposing Alliance's Elevation Bar, etc. Contact with (or Possession of) Triballs is irrelevant when determining a Robot's Elevated status."

If a robot is fully supported by a triball and contacting an elevation bar, would it be considered elevated?

### Answered by committee

As you quoted from point 2a of the definition of Elevated:

Contact with (or Possession of) Triballs is irrelevant when determining a Robot's Elevated status.

A Robot that meets all of the criteria for Elevated while being fully supported by a Triball should be considered Elevated.

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## 1726: Elevation on the Long Barrier?

27-Oct-2023

SC6

<SC6> More the definition of Elevation to score SC6 than SC6 itself

During different tournaments, I have encountered different head refs interpreting the definition of elevation differently, including the league I am hosting. The specific portion is whether elevation on the long barrier without touching the color elevation bars is sufficient.

Part 1 of the Question: The definition in the manual (including latest updates is:

Elevated – A Robot status. A Robot is considered Elevated at the end of the Match if it meets the following criteria:

1. The Robot is contacting at least one of the following: a. One or more of their Alliance's Elevation Bars b. Any portion of the Barrier that is on their Alliance's side of the Neutral Zone (i.e., the three black PVC pipes that are attached directly to their Alliance's Elevation Bars). c. An Alliance partner Robot which meets the requirements of points 1-3 in this definition
2. The Robot is not contacting any Field Elements other than those listed in point 1. This includes gray field tiles, the field perimeter, Goals, the opposing Alliance's Elevation Bar, etc. a. Contact with (or Possession of) Triballs is irrelevant when determining a Robot's Elevated status.
3. The Robot is not contacting the yellow Elevation Bar Cap.
4. The Robot is not contacting an Alliance partner Robot that is not considered Elevated.

The two interpretations I have received are:

- A. If robot is sitting on the long barrier and touching one of the short barriers (on their Alliance's side of the neutral zone), they are only considered Elevated if they are also touching one of the color elevation bars.
- B. As long as the robot is on alliance's side of neutral zone they can use the the color elevation bars, the black long or short barriers to elevate as long as all other parts of the definition are satisfied. They don't have to be touching the alliance color elevation bar.

The way I read point 1. b. in the definition, "Any portion of the Barrier that is on the Alliance's side of the Neutral Zone. (i.e., the 3 black PVC pipes that are attached directly to their Alliance's Elevation Bars), interpretation B is the correct interpretation because the robot is on the Alliance's side of the neutral zone and satisfies all other points.

Can you confirm if I am correct or not? Appreciate a response prior to our next league event in 12 days.

Part 2 of the Question: The other part which does not appear to be as clear If I am reading the manual correctly, is the robot protected once elevated on the long bar side of the elevation bars? And are they protected while attempting to elevate on the long barrier? My read says other robots can still bump the long barrier but can they bump the robot attempting to elevate or already elevated on the long barrier?

### Answered by committee

Your interpretation in Part 1 of your question is correct. A Robot that is sitting on the long Barrier on their side of the Neutral Zone can be considered as Elevated if it meets all the criteria in the definition of Elevated.

For Part 2, per clause C of rule [<SG11>](#), a Robot that is attempting to Elevate on the long Barrier and that is not in contact with its Elevation Bars would be protected only once it meets the definition of Elevated. Once it is Elevated, opposing Robots may not contact it directly. There are no rules against bumping the long Barrier, at any time during the Match.

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## 1621: The goal was knocked crooked

20-Aug-2023

SC6

[<SC6>](#)

If the Goal is hit crooked, will the 3D space be crooked?

### Answered by committee

As described in rule [<T10>](#) and quoted below,

Be prepared for minor field variance. Field Element tolerances may vary from nominal by up to  $\pm 1.0$ ", unless otherwise specified. Block weights may vary from nominal by up to  $\pm 2$  grams. Teams are encouraged to design their Robots accordingly. Please make sure to check Appendix A for more specific nominal dimensions and tolerances.

If a Goal is moved beyond these tolerances, the Head Referee must determine whether it was damaged by a Robot or moved out of tolerance during normal gameplay. If the Goal was damaged by a Robot, the offending Team may be disabled and/or Disqualified under rule [<S1>](#).

If a Goal goes out of tolerance as part of normal gameplay, a Match replay may be warranted as quoted below in clause #1 of rule [<T7>](#),

Match replays are allowed, but rare. Match replays (i.e., playing a Match over again from its start) must be agreed upon by both the Event Partner and Head Referee, and will only be issued in the most extreme circumstances. Some example situations that may warrant a Match replay are as follows:

1. Score Affecting "Field fault" issues.
  - a. Blocks not starting in the correct positions.
  - b. Field Elements detaching or moving beyond normal tolerances, not a result of Robot interactions.

If a Goal's configuration is altered slightly during gameplay, but remains within the tolerances allowed by [<T10>](#), Referees should remember this note in rule [<SC2>](#):

In cases where a Scoring status is “too close to call,” Teams will be given the “benefit of the doubt,” and the higher of the two possible Scoring statuses should be assigned. Head Referees will not be expected or required to define a perfect horizontal plane or check imperceptibly small measurements.

## 1597: Elevation tiers

25-Jul-2023

SC6

The definition of Elevation Tiers is this: “A status that represents an Elevated Robot’s height off of the field at the end of the Match. A Robot’s Elevation Tier is measured by placing the Height Guide vertically next to an Elevated Robot and determining which letter-labeled segment of the Height Guide the lowest point of the Robot falls within. Each white line on the Height Guide is considered to be part of the letter-labeled segment immediately below that line. In other words, the Robot must be visibly “above the line” in order to move into the next Elevation Tier. See Figure 13.

**Note: There are no additional Elevation Tiers above the Height Guide. Robots which end the Match above the Height Guide will be considered to be at the maximum, Elevation Tier J.”**

Furthermore, the Elevation Bar yellow cap on are not allowed to be contacted per the definition of Elevated.

As it is now, the Height Guide currently has Tiers I and J above the yellow cap.

I imagine a scenario where a robot is somehow secured (whether its grabbing, holding, etc.) to the Elevation Bar just below the yellow cap and the main body of the robot can be lifted ABOVE the yellow cap. In this case, what is considered the lowest point of the Robot? As I interpret it, the lowest point would be the part that is grabbing the Elevation Bar just below the yellow cap. If that is accurate, what is the intention of Tiers I and J on the Height Guide if robots are unable to be considered Elevated in Tiers I and J, which are above the yellow cap? I would like to recognize/rewards students for accomplishing this feat.

Thank you for your time.

### Answered by committee

I imagine a scenario where a robot is somehow secured (whether its grabbing, holding, etc.) to the Elevation Bar just below the yellow cap and the main body of the robot can be lifted ABOVE the yellow cap. In this case, what is considered the lowest point of the Robot?

The lowest point of the Robot in this hypothetical scenario would be the bottom of the mechanism that is holding the Robot onto the Elevation Bar, likely in Tier H.

...what is the intention of Tiers I and J on the Height Guide if robots are unable to be considered Elevated in Tiers I and J, which are above the yellow cap?

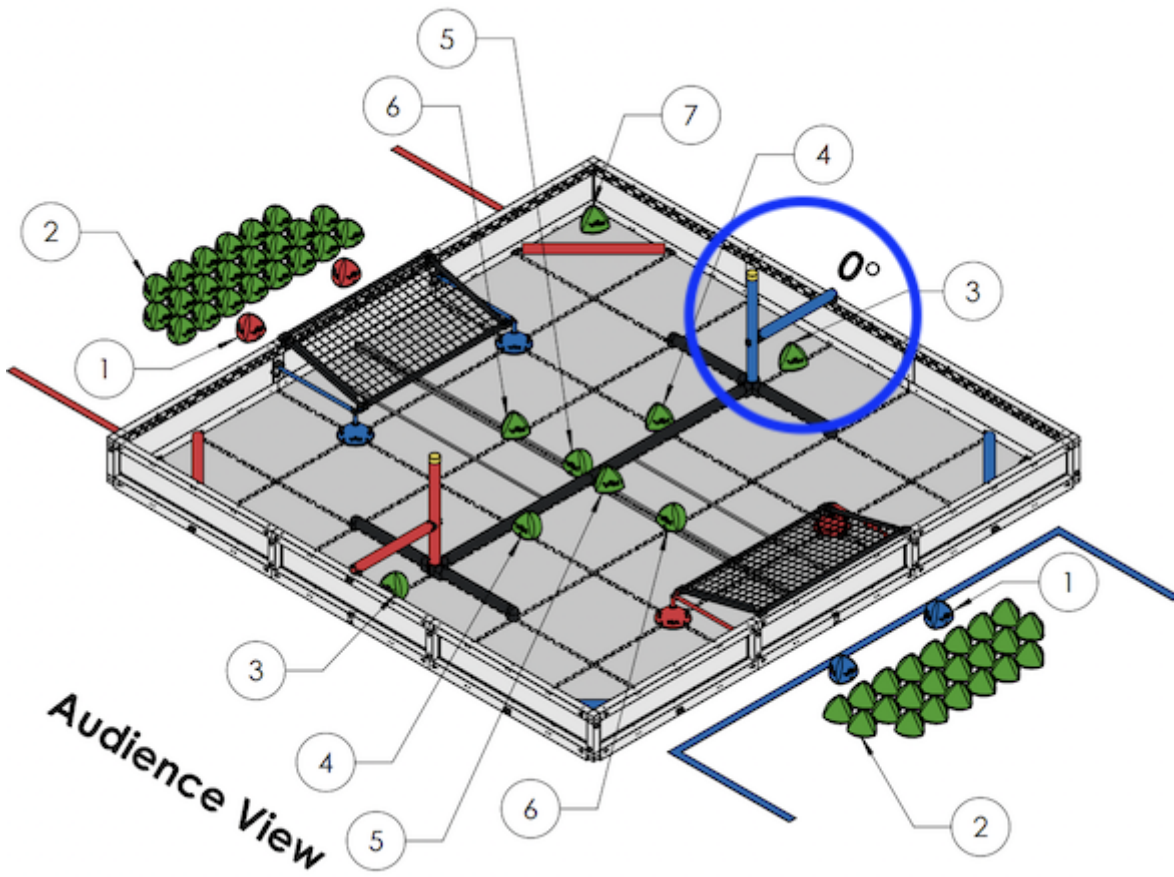
Because the lowest point of each Robot is assessed individually, there may be ways for a Robot to achieve these higher Tiers while still meeting the requirements of the definition of Elevated. We try to avoid suggesting specific strategies, but one possible method is shown in Figure 7 of the game manual as well as the [Over Under game video](#).

## 1566: Correct Elevation Bar Location For Portable Field Setup

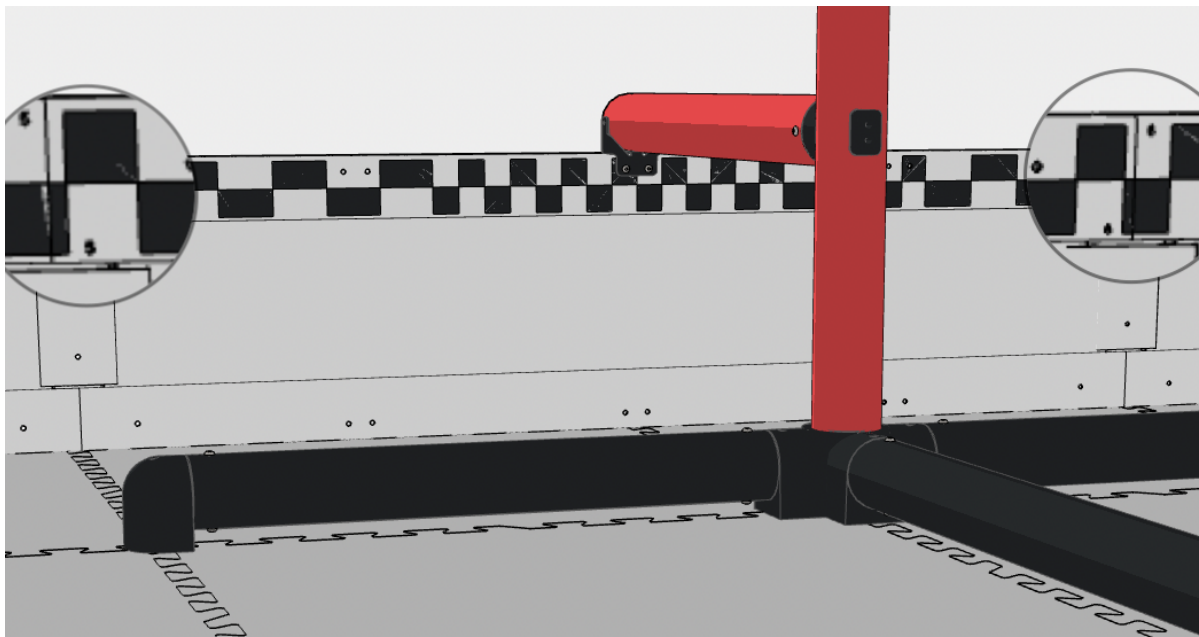
21-Jun-2023

SC6

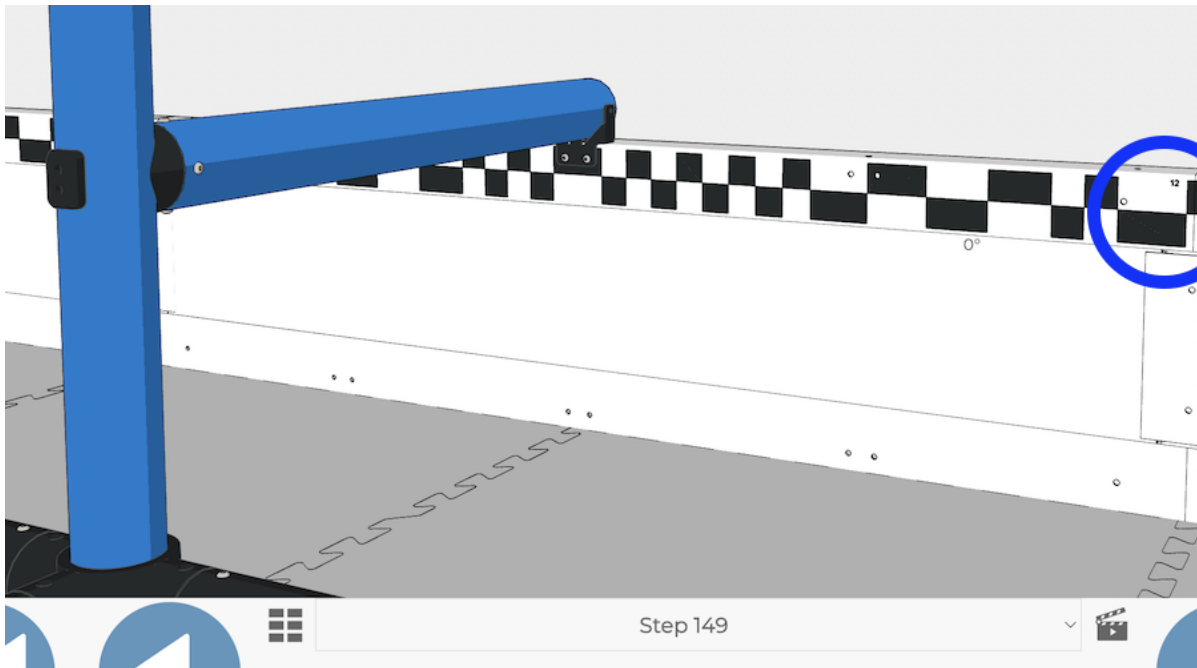
Game Manual Version 0.2 Released June 13, 2023 shows the portable field as being setup with the Blue Elevation Bar connected to 0° location which is on wall segment 11~12 on pages A5, A6, & A7.



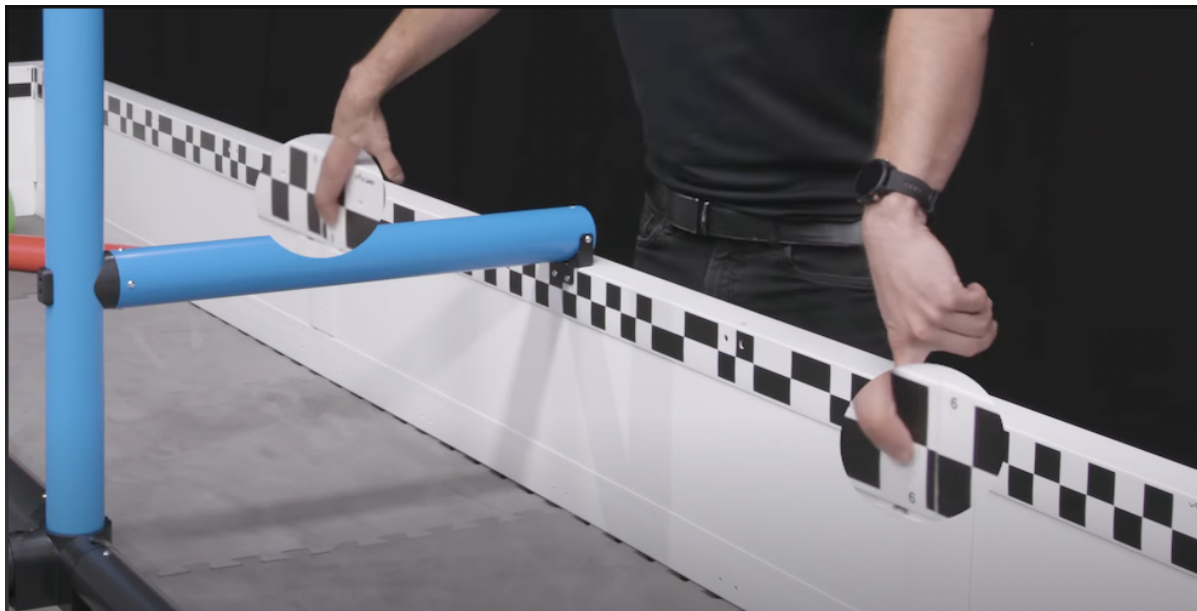
Step 101 of the digital online portable field setup instructions depicts the Red Elevation Bar as being attached to wall segment 5~ 6 while the Blue Elevation Bar is attached to wall segment 11~12







The [VRC Over Under | Field Tour | VEX Robotics](#) video at 8:33 states that the Blue Elevation Bar should be connected to wall segment 5~6 which is labeled as 180°



Based on the above information is the correct Blue Elevation Bar location Wall Segment 11~12 (0° location) as stated in the Game Manual and Online Build Instruction? If so, can a note be added to the Field Tour YouTube video to note the proper location so that teams using the GPS sensor do not run into issues with their programming.

<SC6>[<SC6>]

### Answered by committee

Thank you for your question! The blue Elevation Bar should be positioned at the 0° location of the portable field perimeter as correctly stated in the game manual and the online build instructions. We will work with the video production team to address this error in the Over Under Field Tour video.

As always, please remember the following note from page 5 of the Game Manual, which is also mentioned in the video:

If there are any conflicts between the Game Manual and other supplemental materials (e.g., Referee Certification courses, the VRC Hub app, etc.), the most current version of the Game Manual takes precedence.

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## 1349: <G1><SG8><SC6> Intentionally Violating Game Rules

19-Dec-2022

SC6 G1 SG8

I have been hearing about teams attempting to intentionally violate <SG8> in order to guarantee that their disks get scored in the high goal so that they can earn the autonomous win-point from <SC6>. From my perspective as a referee and others that I talked with, this is a blatant disregard for the rules and Code of Conduct and would constitute a <G1> violation if it occurs multiple times at a singular competition. Teams are entitled to a warning for the first offense in this scenario as is the ruling with anything pertaining to <G1>.

For example: In match 1, Team 1234A (Red) scores both rollers on its side to Red in autonomous, then it drives across the lines to line up along the blue barrier to guarantee that it makes its shot of two disks into the high goal. Blue wins autonomous due to Red crossing the line, but Red gets the win-point. The head referee notes this down in the match anomaly log. In match 4, Team 1234A (Blue) does the exact same strategy. This shows that it is intentional because it happened twice, even for different sides of the field. The team is given a "final warning" per <G1> for intentionally violating the rules. In match 8, Team 1234A (Blue) does the exact same strategy again. At the end of the match they receive a DQ per <G1>. In match 15, Team 1234A (Red) does the exact same strategy again. At the end of the match they are DQ'ed from the competition per <G1>.

Is this an appropriate response to seeing this strategy applied or should no action be taken as it also benefits the opposing alliance who would win autonomous each time this occurs? *I am only asking for if it is **the exact same strategy or a very similar one** due to the many different causes that may occur and have a robot cross over the autonomous line unintentionally.*

Is something going to be changed in the rules for <SC6> so that if you cross the autonomous line and violate <SG8> that you cannot earn the autonomous win-point?

Thanks for your time,

"Cowboy" Chris

### Answered by committee

Thank you for your question. If a Robot uses the other alliance's Barrier to square up before taking a shot at the High Goal during the Autonomous Period, it is a clearly intentional action and should be ruled as an intentional violation of <SG8>. As described by the 2nd Violation note for <SG8>, all intentional Violations are considered Major Violations and result in Disqualification of the Team. This includes the 1st Violation and all subsequent Violations that rely on this strategy, with no warning or Minor Violation for the first offense.

As described in Q&A 1142, an <SG8> Violation that does *not* result in a DQ has no effect on earned AWP's in that Match.

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## 1259: SC6 Win Point and Rollers

24-Oct-2022

SC6

SC6 States:

<SC6> The Autonomous Bonus is awarded to the Alliance who has scored the most Roller and Disc points at the end of the Autonomous Period. **An Autonomous Win Point is awarded to any Alliance that Owns two (2) Rollers**, and has

Scored at least two (2) Discs in their Alliance-colored High Goal at the end of the Autonomous Period

In the introduction Competition Video it states <https://youtu.be/wlZgvVDZc2Y?t=91> Each alliance has the opportunity to earn an Autonomous Win Point by **owning both Rollers on their side of the Field** and Scoring at least 2 discs in their High Goal.

There is a situation where someone's autonomous accidentally changes the roller to their opposing alliance color. For example, During the autonomous period, the Red Team Robot Shoots 2 discs into the red high goal, and turns 1 roller red. The blue team turns one roller red by mistake. This results in the red team owning 2 rollers and 2 discs in their high goal.

According to the rules of SC6 the red team gets a win point. According to the video, the red team does not get a win point as it is the opposing side of the field not their side of the field. We are to referee based on the Game Manual and Official Q&A. Does this mean the video is wrong?

### Answered by committee

Thank you for your question. As described on page 5 of the Spin Up Game Manual, "If there are any conflicts between the Game Manual and other supplemental materials (e.g., Referee Certification courses, the VRC Hub app, etc.), the most current version of the Game Manual takes precedence.

Rule [<SC6>](#) states that an Autonomous Win Point is awarded to any Alliance that Owns two (2) Rollers, and has Scored at least two (2) Discs in their Alliance-colored High Goal at the end of the Autonomous Period.

**Ownership of any two (2) Rollers on the Field at the end of the Autonomous Period will qualify towards a Team's completion of the AWP tasks.**

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## 1143: <SG8> <SC6> Double autonomous line violation and Autonomous bonus

29-Jun-2022

SC6 SG8

In <SG8> it states "All Violations of this rule (Major or Minor) will result in the Autonomous Bonus being awarded to the opposing Alliance."

In previous seasons a violation by both alliances resulted in no autonomous bonus and no autonomous points being awarded to either alliance however this is not mentioned in the spin up game manual version 1.0.

My questions are as follows:

1. What would the result for the autonomous bonus and autonomous points be in the event of independent violations on both alliances. e.g both alliances have a robot drive over the line independently of any interaction with each other
2. What would the result for the autonomous bonus and autonomous points be in the event of dependent violations e.g two robots becoming entangled and causing both robots to force each other to violate SG8 incidentally.

### Answered by committee

Please see rule G11, quoted here for reference:

<G11> All rules still apply in the Autonomous Period. Teams are responsible for the actions of their Robots at all times, including during the Autonomous Period. Any Violations committed during the Autonomous Period that affect the outcome of the Autonomous Bonus - whether they are Match

Affecting or not - will result in the Autonomous Bonus being automatically awarded to the opposing Alliance. If both Alliances commit Violations during the Autonomous Period that would have affected the outcome of the Autonomous Bonus, then no Autonomous Bonus will be awarded.

Violation Notes: The intent of this rule is to provide retribution for Violations committed during the Autonomous Period that are not Match Affecting, and therefore not Major Violations, but do affect the outcome of the Autonomous Bonus.

With that in mind..

1. What would the result for the autonomous bonus and autonomous points be in the event of independent violations on both alliances. e.g both alliances have a robot drive over the line independently of any interaction with each other

Provided that the Head Referee determines that these actions could have affected the outcome of the Autonomous Bonus, this would be an example of the final sentence of G11: *"If both Alliances commit Violations during the Autonomous Period that would have affected the outcome of the Autonomous Bonus, then no Autonomous Bonus will be awarded."*

There is no impact on the Autonomous Win Point.

2. What would the result for the autonomous bonus and autonomous points be in the event of dependent violations e.g two robots becoming entangled and causing both robots to force each other to violate SG8 incidentally.

It is impossible to provide a blanket answer that would encompass all hypothetical robot interactions and scenarios. The specifics of the interaction and greater Match / event context would be taken into consideration, alongside rules G1, G11, G12, G13, and G14, to determine an appropriate outcome.

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## 1142: <SC6> <SG8> violation effect on Autonomous Winpoint

29-Jun-2022

SC6 SG8

In tipping point crossing of the autonomous line resulted in the autonomous bonus AND the autonomous win point being awarded to the opponent. In Spin up the wording of the rule omits this only mentioning the autonomous bonus. <SC6> ...An Autonomous Win Point is awarded to any Alliance that Owns two (2) Rollers, and has Scored at least two (2) Discs in their Alliance-colored High Goal at the end of the Autonomous Period

<SG8> Dont cross the Autonomous Line All Violations of this rule (Major or Minor) will result in the Autonomous Bonus being awarded to the opposing Alliance.

My questions are

1. Will crossing of the line unintentionally or incidentally due to robot on robot interactions result in any change on the opponents winpoint. The previous season this held true but is omitted this season.
2. Will crossing of the line unintentionally or incidentally due to robot on robot interactions result in loss of the autonomous win point bonus for the alliance responsible for the violation e.g blue alliance scores both rollers, two discs and then crosses the line afterwards resulting in a loss of auton bonus.
3. Will crossing of the line unintentionally or incidentally due to robot on robot interactions which is then followed by completion of the win point task by the offending team in question while still in an offending position be considered an egregious violation and result in a disqualification, be scored or be ignored.
4. Will crossing of the line unintentionally or incidentally due to robot on robot interactions which is then followed by completion of the win point task by the offending team in question while no longer in an offending position (back on their side of the field) be considered an egregious violation and result in a disqualification, be scored or be ignored.

5. Will crossing of the line unintentionally or incidentally due to robot on robot interactions which is then followed by completion of the win point task by the offending team's alliance while the offending robot is in either an offending position or non-offending position be considered an egregious violation and result in a disqualification, be scored or be ignored.
6. Will crossing of the line unintentionally or incidentally due to robot on robot interactions which is then followed by completion of the win point task by the offending team's alliance while the offending robot is now in a non-offending position be considered an egregious violation and result in a disqualification, be scored or be ignored.

### Answered by committee

The Autonomous Win Point task has no relevance to the Autonomous Bonus, G11, and/or SG8. Rules G11 and SG8 refer to Robot actions, and would be handled the same regardless of whether the AWP was achieved or not, by either Alliance.

With this clarification in mind, we are having a difficult time interpreting how to respond to your specific hypothetical scenarios. If any of them are still applicable, please try to rephrase and re-submit. We would recommend developing a single scenario that represents your root question, using "red" and "blue" labels, and/or breaking it into multiple sentences.