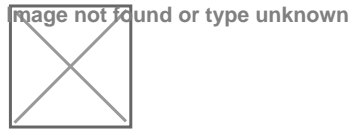


Q&A

VRC 2020-2021: Change Up



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 Change 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 Change Up rules questions.

- For event, registration, or other competition support questions, please contact your [REC Foundation Regional Support 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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"Locking" Balls in Corner Goals

G1

As documented in this thread on the forum: www.vexforum.com/t/ball-lockout-critical-flaw-in-game-design/80888

it is possible to "lock" balls in corner goals by shoving them into the tight space between the poles and the rings. Once "locked" balls are difficult to remove by hand and are extremely difficult for robots to remove. As Change Up is intended to be a back and forth game with copious amounts of descoring, it seems odd that this be possible. Did the GDC intend that this strategy be possible? If not, will the GDC consider making provisions to prevent balls from becoming "locked", such as by modifying the field specifications to include a stand off mounted to the bottom ring?

Here is a direct link to a picture:

www.vexforum.com/uploads/default/original/3X/6/f/6fe513ed40c912dd38536246de508b1a6cbdf6ef.jpeg

Answered by Game Design Committee

Thank you for bringing this to our attention. This question will be addressed in the May 25th Game Manual Update.

Definition of Owned balls at same height

G1

The definition of *Owned* states:

Owned - A Goal status. A Goal is considered Owned by an Alliance if its colored Ball is the vertically highest Scored Ball in that Goal.

The definition of *Scored* states:

Scored - A Ball status. A Ball is considered Scored in a Goal if it is not touching a Robot of the same color as the Ball and meets all of the following criteria.

- The Ball is fully or partially within the outer edge of the Goal.
- The Ball is fully below the upper edge of the Goal.
- The Ball is not contacting the foam tiles outside of the Goal.

What happens if two balls of opposing colors are *scored* in a goal, but neither is higher than the other? For example, see this picture: imgur.com/a/Kz5IOjz

Answered by Game Design Committee

What happens if two balls of opposing colors are *scored* in a goal, but neither is higher than the other? For example, see this picture: imgur.com/a/Kz5IOjz

This Goal would not be Owned by either Alliance.

Referee Certification and G12

G12

Hi, as I took the test to certify myself as a Head Ref, I noticed some discrepancies between questions on the test and rules in the game manual. Mainly, this question in Unit 5:

Consider this situation: A red Robot is trying to score a Ball in the center Goal and a blue Robot is trying to block that Ball from being scored. In that interaction, the Robots push on each other and both end up tipping over, entangled in each other and therefore are disabled in the middle of the field. If the referee determines that this was Match affecting, which robot(s) should be disqualified from the Match?

- The red Robot
- The blue Robot
- Both Robots
- Neither of the Robots

The test marks the correct answer as "The blue Robot", however I am confused as to how this is the case. G12 states:

Strategies aimed solely at the destruction, damage, tipping over, or Entanglement of opposing Robots are not part of the ethos of the VEX Robotics Competition and are not allowed. If the tipping, Entanglement, or damage **is ruled to be intentional or egregious**, the offending Team may be Disqualification from that Match. Repeated offenses could result in Disqualification from the entirety of the competition.

VEX Robotics Competition Change Up is an interactive game. Some **incidental** tipping, Entanglement, and damage may occur as a part of normal gameplay **without violation**.

Emphasis mine. By my interpretation of G12, and with the information that we have been given, neither robot should be DQed. This is because G12 makes no reference to whether the tipping was match affecting or not (indeed, at worlds match affecting or not has not had an effect on G12 rulings); it only prescribes a DQ if the tipping is ruled to be "intentional or egregious". Since we are not told whether or not the tipping was intentional or egregious (and common sense says it was not intentional due to the fact that the blue robot also tipped over), I do not see a reason that the blue robot should be DQed.

Is the interpretation of G12 correct in this question on the certification test? If yes, would the GDC please elaborate as to why that is the case?

Answered by Game Design Committee

Thank you for your question. After further review, we agree that the original wording of this question may not give enough contextual information to answer it correctly. This question has been re-written for the certification exam to give the necessary context clues.

As a reminder, general suggestions or feedback can always be directed to GDC@vex.com. Feedback or questions regarding the Head Referee Certification exam can be shared by clicking on the Feedback button within the certification course.

Reacting Against Multiple Sides of The Center Goal

G16

G16: Robots may not intentionally grasp, grapple or attach to any Field Elements. Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said Field Element are prohibited. The intent of this rule is to prevent Teams from both unintentionally damaging the field and/or from anchoring themselves to the field.

Minor violations of this rule that do not affect the Match will result in a warning. Match Affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee's discretion.

Field Element– The foam field tiles, field perimeter, white tape, Goal, and all supporting structures or accessories (such as driver station posts, field monitors, etc)

A team creates a square structure that surrounds the center goal in an effort to prevent the goal from being descored. If the structure were to remain stationary and not come in contact with the center goal, would the robot not be considered

grasping, grappling, or attaching to the goal since it is not reacting against any sides? See Figure 1 for a visual.

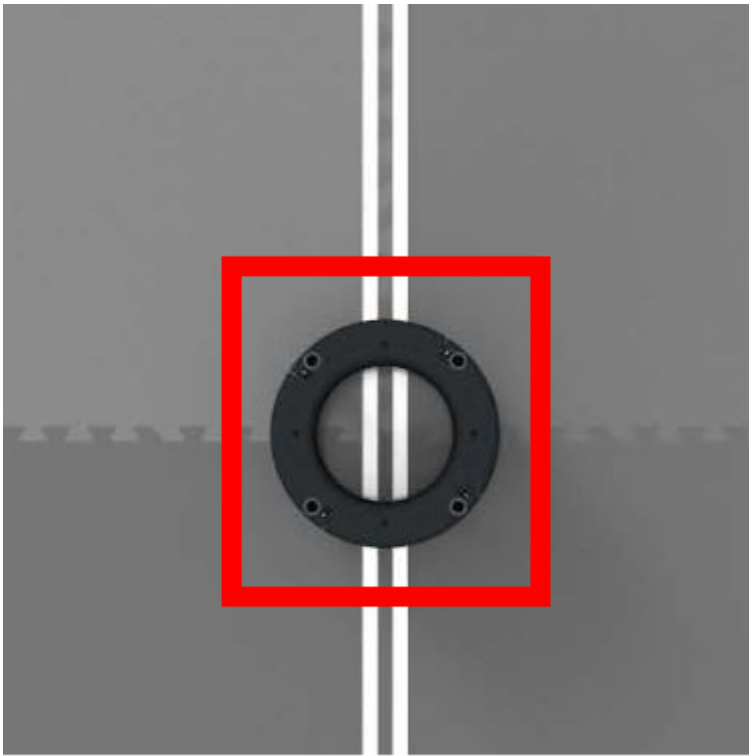


Figure 1

Say the same square structure is moved and is now in contact with the center goal at two different points. Would the robot now be considered grasping, grappling, or attaching to the goal since it is reacting against multiple sides? See Figure 2 for a visual.

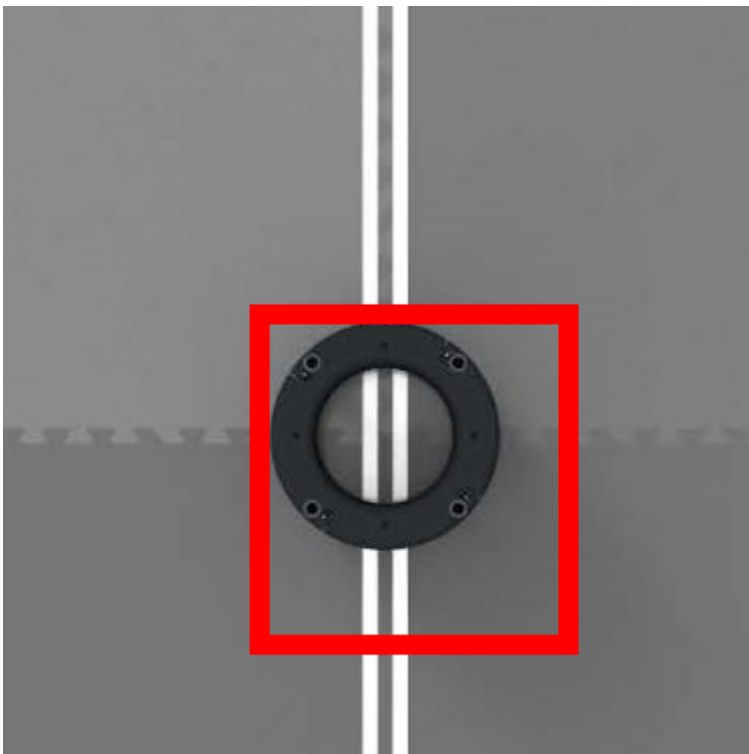


Figure 2

The square structure is now replaced with a circular structure. Is it moved against the center goal but is only in contact at one point. Would the robot not be considered grasping, grappling, or attaching to the goal since it is only reacting against one side instead of multiple sides? See Figure 3 for a visual.

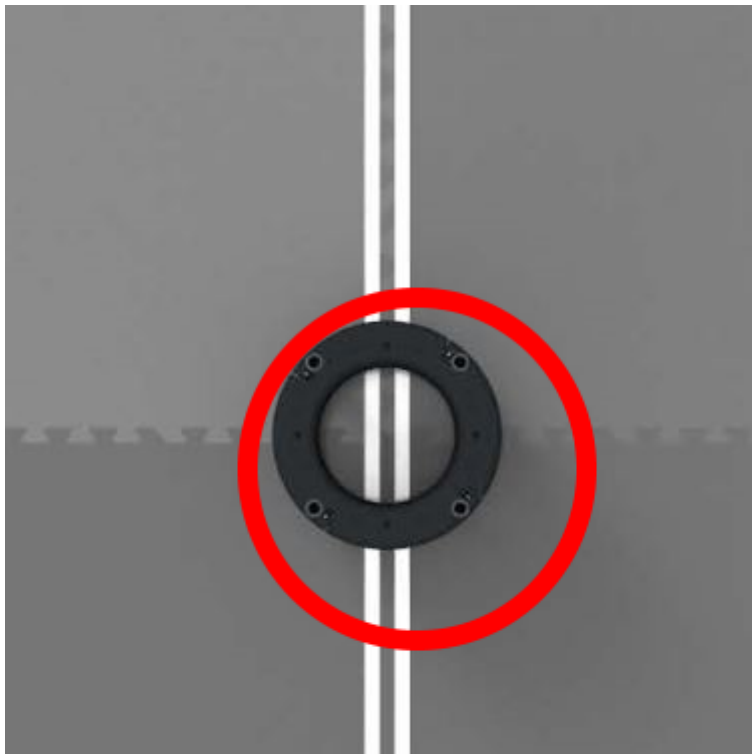


Figure 3

Answered by Game Design Committee

Thank you for quoting the relevant portions of the Game Manual and providing images of your scenarios.

For the purposes of answering this question, we are assuming that the red lines represent hypothetical structures that satisfy all Robot rules, and the only rule in question is G16. We are not making any assumptions or blanket statements about the height, rigidity, or other design characteristics of the mechanisms, as it would be impossible to issue a blanket ruling that would satisfy all possible hypothetical Robot mechanisms.

As noted in the quoted portion, one intent of G16 is to prevent teams from "anchoring" themselves to the field. The primary thought experiment that Head Referees should use to determine whether a Robot has "anchored" itself to a field element is to envision the Robot being pulled in any random direction by a strong force (such as a human or an opposing Robot).

When it is pulled in random directions, does the Robot "get stuck" on the field element? Does it run a risk of damaging the field? Does it run the risk of damaging itself (a la G5)?

Based on this thought experiment, the three hypothetical depictions would not be legal.

Clarification on Q&A <G16> Answer (Reacting Against Multiple Sides of The Center Goal).

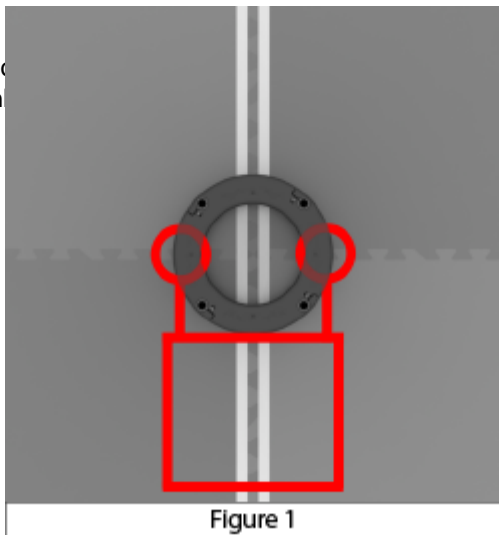
G16

A question about "Reacting Against Multiple Sides of The Center Goal" was answered here in the Q&A: www.robotevents.com/VRC/2020-2021/QA/603. The answer was along the lines of imagine pulling the mechanism in a random direction, to comply it should not "get stuck" or risk damaging anything. We are worried this could interfere with the more intended game play and have some further questions regarding this matter.

Figure 1 shows a hypothetical robot with intakes around a goal. It interacts with multiple sides of the goal in order to descore balls. "pulled in random directions" is a bit of a vague term; does it mean there needs to be at least one direction

for the robot
there is on

anything? If not how should a ref apply that to this case?.. since
anything can apply... Does this scenario comply with



<G16>?

Figure 1

Additionally, what about a mechanism that releases when pulled a substantial enough force, but small enough to definitely not damage the field elements? Figure 2 shows an example of such a mechanism; the mechanism has "doors" which are closed using rubber bands, meaning if pulled with enough force, open. If such a mechanism required definitively less force to open then would damage a goal, would it be legal to put it around the center goal?

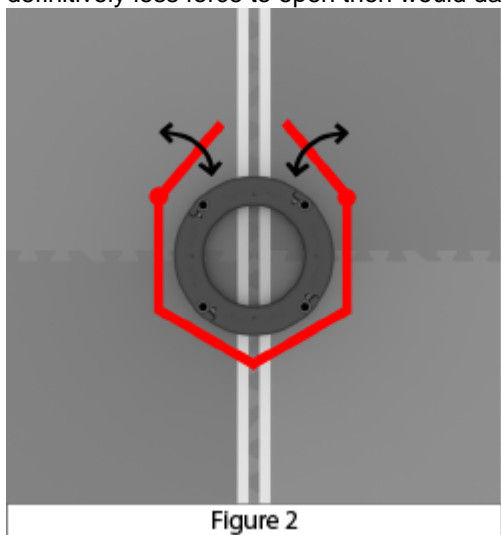


Figure 2

Finally, "pulled in random directions", from the linked Q&A answer it seems that directly up (lifting it) doesn't seem to be an option when doing this check, is that correct? If a mechanism can only be lifted up off a goal does it pass or fail the test to comply with <G16>?

Sorry for asking some slightly redundant seeming questions, we are just trying to be as thorough as possible.

Thank you from Vexmen Team 81K Magik

Answered by Game Design Committee

For reference, G16 reads as follows:

G16: Robots may not intentionally grasp, grapple or attach to any Field Elements. Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said Field Element are prohibited. The intent of this rule is to prevent Teams from both unintentionally damaging the field and/or from anchoring themselves to the field.

Minor violations of this rule that do not affect the Match will result in a warning. Match Affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee's discretion.

The relevant portion of the linked Q&A post is as follows:

As noted in the quoted portion, one intent of G16 is to prevent teams from "anchoring" themselves to the field. The primary thought experiment that Head Referees should use to determine whether a Robot has "anchored" itself to a field element is to envision the Robot being pulled in any random direction by a strong force (such as a human or an opposing Robot).

When it is pulled in random directions, does the Robot "get stuck" on the field element? Does it run a risk of damaging the field? Does it run the risk of damaging itself (a la G5)?

It may be more straightforward, albeit more verbose, to phrase as the following:

To test whether a Robot is violating G16, the Robot should be able to be pulled away from the Goal in some horizontal direction, without lifting the Robot off of the field tiles, and without damaging, disassembling, or violating any laws of physics of the Goal and/or Robot.

By this revised thought experiment, the two examples depicted would likely not be in violation of G16.

However, this judgment call is highly dependent on the specifics of the mechanism in question, how it interacts with the Goal, and any prior warnings/DQ's received by the Team. As always, it is impossible to provide a blanket answer that will definitively encompass all hypothetical mechanism designs and interactions. If a Team is concerned that a mechanism may dance on the edge of a potential G16 violation, we would advise them to design their Robot in such a way that it is abundantly clear to Head Referees that the Robot is not anchored, grappled, latched, clamped, or otherwise attached to the Goal.

G19 Goal Height Tolerance

G19

G19 states:

Be prepared for minor field variance. Field Element tolerances may vary from nominal by ± 1.0 ", unless otherwise specified.

The specification in Appendix A for the distance between the first and second rings of a wall goal is 6.13". By G19, distances ranging from 5.13" to 7.13" are legal. At the lower end of this tolerance, several issues emerge. At 5.2" (within tolerance as specified by G19), it becomes very difficult to descoring balls through the bottom. See this video as a demonstration:

youtu.be/ZBA2E7cu3XY

Additionally, when the goal is lowered by this amount, it becomes impossible to score three balls inside the goal. This is because the top of the top ball in a goal sticks out past the upper edge of the goal, and since the definition of scored states:

Scored - A Ball status. A Ball is considered Scored in a Goal if it is not touching a Robot of the same color as the Ball and meets all of the following criteria.

- The Ball is fully below the upper edge of the Goal.

The ball is therefore not scored.

Left as is, lowered but technically in spec wall goals have the potential to drastically affect gameplay of VRC Change Up. I ask that the GDC modify G19 to change the tolerance for the height of the goal rings to 0.5" or 0.25".

Answered by Game Design Committee

Thank you for bringing this to our attention. This question will be addressed in the May 25th Game Manual Update.

Discrepancies in Appendix A

G19

There are a several discrepancies between Appendix A and the rest of the manual, as well as within itself.

Sheet 5 of Appendix A states that the mass of the balls has a tolerance of ± 10 grams (see imgur.com/a/rbAGm4A). However, G19 in the game manual specifies tolerance to be ± 20 grams:

Ball tolerances and weights may vary from nominal to ± 0.10 " and 20 grams respectively.

Which of these is correct?

Sheet 6 of Appendix A shows a bracket connected to the third ring of the side wall goal (see imgur.com/a/hY2l0Bq). This bracket appears to secure the goal to the top of the field perimeter. This bracket also appears in the field CAD. However, there is no mention of this part in the field assembly instructions and no such part was included in the field element kit.

Does this part need to be used?

Answered by Game Design Committee

Thank you for bringing this to our attention. This question will be addressed in the May 25th Game Manual Update.

<T12> Alliance Selection Communication

G7 Tournament Structure

Hello, asking a question about communication devices being used during Alliance Selection. To clarify, communication devices such as using cell phones or headsets to communicate with their team members that aren't up near the fields for alliance selection. This is beyond just having notes/app on a device. These team members could be in the stands or in the pits.

A tangentially related rule is G7, which states: During a Match, each Team may have up to three (3) Drive Team Members in their Alliance Station and all Drive Team Members must remain in their Alliance Station for the duration of the Match. Drive Team Members are not allowed to use any sort of communication devices while in the Alliance Station. Devices with communication features turned off (e.g. a phone in airplane mode) are allowed.

It's clear that teams communicating from the stands or elsewhere to a drive team during a match is not ok. Does this also extend to alliance selection in terms of limited communication?

Answered by Game Design Committee

There are no rules preventing this, thus it is legal.

The Extent of Motor Modification

R22

What is considered modifying a motor? It has been previously ruled that removing the motor screws does not count, but does removing other parts count?

Similarly to a motor screw, the motor cap is a non-electronic part sold separately on the VEX website, so do you consider removing it from the motor a modification?

Furthermore, can they be modified? Can you cut a motor screw to be shorter or or add another hole in the motor cap for a screw?

Answered by Game Design Committee

Please see this similar Q&A post in the VEX U Q&A, which we believe answers your question. If it does not, please feel free to rephrase and re-submit.

www.robotevents.com/VEXU/2020-2021/QA/611

Tetherbots and R4

R4

R4 states:

Robots must be safe. The following types of mechanisms and components are NOT allowed: c. Those that pose an unnecessary risk of Entanglement

The definition of Entanglement states:

Entanglement – A Robot status. A Robot is Entangled if it has grabbed, hooked, or attached to an opposing Robot or a Field Element.

Say a Robot has multiple drive bases (known as a “tetherbot”) connected by V5 smart cables (the “tether”). In some past seasons it has been said that in order to satisfy R4c, the tether must be backed by a rigid material (see www.vexforum.com/t/answered-partner-minibot/27092). Is it still the case that tethers must be backed by a rigid material?

Answered by Game Design Committee

Say a Robot has multiple drive bases (known as a “tetherbot”) connected by V5 smart cables (the “tether”). In some past seasons it has been said that in order to satisfy R4c, the tether must be backed by a rigid material (see www.vexforum.com/t/answered-partner-minibot/27092). Is it still the case that tethers must be backed by a rigid material?

R4 does not provide any specific build guidelines. To minimize any risks of confusion or conflict during inspection, Teams should make it abundantly clear to Head Referees that their Robots do not pose any unnecessary risks of Entanglement.

It is impossible to issue a blanket ruling that would encompass all hypothetical Robot designs (or, in this case, rigid backing materials). In most cases, "cable carriers" made of VEX metal are typically sufficient for satisfying R4. However, we are not going to provide a definition of "rigid" or a guaranteed/recommended build solution.

Clarification of "Momentary" Possession

SG8 Referee Decisions

This question is posted based on a [VEX Forum thread](#) and on behalf of a frequent volunteer in Arizona.

According to <SG8>:

Robots may not have greater-than-momentary Possession of more than three (3) Balls of its opposing Alliance's

color at once.

Since "momentary" is not defined, would the following scenario be permitted within the rules?

Red *Robot* approaches a *Goal* containing one or more blue *Balls* while currently in *Possession* of three blue *Balls*. Red robot descends the *Balls* in the *Goal*, so that it is momentarily holding more than three blue *Balls*. Then, the *Robot* immediately ejects the additional blue *Balls*, so that the *Possession* of greater than 3 blue *Balls* is around 5 seconds long.

Is there any rule-of-thumb that referees should follow when considering similar scenarios?

Answered by Game Design Committee

The full text of SG8 reads as follows, with a portion bolded for emphasis:

<SG8> Possession is limited. Robots may not have greater-than-momentary Possession of more than three (3) Balls of its opposing Alliance's color at once. When two Robots from the same Alliance are working in tandem and blocking Balls, those Robots may not Possess a total of more than six (6) Balls of its opposing Alliance's color at once.

Robots that violate this rule must stop all Robot actions except for those actions that are attempting to remove the excess Ball.

Minor violations of this rule that are not Match Affecting will receive a warning. Match Affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee's discretion.

Provided that the Robot in question immediately ceases all other actions (e.g. driving, scoring, lifting a mechanism, intaking, etc), and ejects the extra Balls, this scenario would be legal.

Is there any rule-of-thumb that referees should follow when considering similar scenarios?

When a VRC-specific definition is not available, a standard dictionary definition should be used. The Oxford definition of "momentary" is "lasting for a very short time; brief".

It will be at the Head Referee's discretion if a given Robot has exceeded a "momentary" violation, if the violation is Match Affecting, and/or if the Team has received multiple warnings prior to this violation.

Intentional Autonomous Interference to Stop Autonomous Win Point

SG2

SG2: Stay on your side in Autonomous. During the Autonomous Period, Robots may not contact the foam tiles or Balls which are on the opposing Alliance's side of the Autonomous Line. Robots may not contact the Goals that are in the opposing Alliance's Home Zone.

Violations of this rule will result in the Autonomous Bonus being awarded to the opposing Alliance. Intentional, strategic, or egregious violations, such as intentional contact with an opposing Robot while completely across the Autonomous Line, will result in a Disqualification.

SG2 Establishes that intentionally interfering with an opponent's autonomous routine by crossing the center line and making contact with the opponent is grounds for a disqualification. However, intentional interference with the opponent's autonomous routine does not result in the opponent being granted the autonomous win point. Is this interpretation correct?

If this interpretation is correct, this would allow teams to play spoiler. A disqualification does not mean anything to the team playing spoiler as they were likely already ranked low and/or suspected they were going to lose the match anyway. However, by preventing the opposing alliance from earning the autonomous win point, the spoiler team can heavily influence the outcome of the tournament. The additional win point could be the difference between the team achieving the #1 rank in VRC or making the cut off for the elimination matches in VEXU.

Answered by Game Design Committee

SG2 Establishes that intentionally interfering with an opponent's autonomous routine by crossing the center line and making contact with the opponent is grounds for a disqualification. However, intentional interference with the opponent's autonomous routine does not result in the opponent being granted the autonomous win point. Is this interpretation correct?

Yes, this interpretation is correct.

If this interpretation is correct, this would allow teams to play spoiler. A disqualification does not mean anything to the team playing spoiler as they were likely already ranked low and/or suspected they were going to lose the match anyway. However, by preventing the opposing alliance from earning the autonomous win point, the spoiler team can heavily influence the outcome of the tournament. The additional win point could be the difference between the team achieving the #1 rank in VRC or making the cut off for the elimination matches in VEXU.

This type of unethical strategy would be out of line from the spirit of the VEX Robotics Competition; a team who would attempt this strategy would be at risk of a severe violation of G1 and/or the REC Foundation Code of Conduct. Violations of the Code of Conduct can result in Disqualification from a current Match, an upcoming Match, an entire event, or an entire competition season.

Intentional Use of a Center Ball for Interference

SG3 SG7

SG3: Keep Balls on your side in Autonomous. Balls that start fully on one side of the Autonomous Line may not contact the foam tiles on the opposite side of the Autonomous Line during the Autonomous Period.

Incidental violations of this rule and have no impact on the opposing Alliance will result in a Warning. Violations of this rule that affect the opposing Alliance's autonomous routine will result in the Autonomous Bonus being awarded to the opposing Alliance. Examples of affecting the opposing Alliance could include, but are not limited to, a Ball moving another Ball or getting in the path of a Robot.

Note: Balls that start on the Autonomous Line are not included in this rule.

SG7: Use Balls to play the game. Balls may not be used to accomplish actions that would be otherwise illegal if they were attempted by Robot mechanisms (e.g., Interfering with an opponent's Autonomous Period per <SG2>.)

The final note in SG3 states balls that start on the autonomous line are exempt from SG3. Does this mean robots may use the balls that start on the autonomous line to intentionally interfere with the opposing Alliance's autonomous routine? Or would this be a violation of SG7?

Answered by Game Design Committee

First, thank you for quoting the relevant rules in your question. However, there is one additional rule that is referenced in the Note, SG2:

<SG2> Stay on your side in Autonomous. During the Autonomous Period, Robots may not contact the foam tiles or Balls which are on the opposing Alliance's side of the Autonomous Line. Robots may not contact the Goals that are in the opposing Alliance's Home Zone.

Violations of this rule will result in the Autonomous Bonus being awarded to the opposing Alliance. Intentional, strategic, or egregious violations, such as intentional contact with an opposing Robot while completely across the Autonomous Line, will result in a Disqualification.

With that said..

The final note in SG3 states balls that start on the autonomous line are exempt from SG3. Does this mean robots may use the balls that start on the autonomous line to intentionally interfere with the opposing Alliance's autonomous routine?

No. It means that Robots may cause Balls that start on the Autonomous Line to contact the foam tiles on the opposite side of the Autonomous Line during the Autonomous Period without being considered a violation of SG3.

Or would this be a violation of SG7?

Using Balls, whether they start on the Autonomous Line or not, to intentionally, strategically, or egregiously interfere with the opposing Alliance's autonomous routine would be considered a violation of SG2 via SG7.

A Ball contacting a foam tile on the opposing side of the Autonomous Line, is not, in itself, a violation of SG2. It will be at the Head Referee's discretion whether a Ball which has crossed the Autonomous Line has interfered with an opponent's autonomous routine or not. Teams should bear this risk in mind when designing autonomous routines.

<SG8> Possession

SG8

QA 601 asked a similar question regarding to the definition of momentary already, so I will start on the other part.

<SG8> Possession is limited. Robots may not have greater-than-momentary Possession of more than three (3) Balls of its opposing Alliance's color at once. When two Robots from the same Alliance are working in tandem and blocking Balls, those Robots may not Possess a total of more than six (6) Balls of its opposing Alliance's color at once.

Robots that violate this rule must stop all Robot actions except for those actions that are attempting to remove the excess Ball.

Minor violations of this rule that are not Match Affecting will receive a warning. Match Affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee's discretion.

a) Is it a correct interpretation that the first and second sentence stands concurrently, which means that each robot may not possess more than 3 opponent balls at any time? Or is the first sentence only applied when two robots are NOT working in tandem and blocking balls? Does the second sentence only apply when blocking balls, or do they apply when there are balls inside robots as well?

In other words, are there any circumstances where one robot is allowed to possess more than 3 opponent balls at any given point?

b) Is it a correct interpretation that if the ball has been determined to have been greater-than-momentary possessed by the other team, then a violation has occurred, regardless of whether the other robot "stop all Robot actions except for those actions that are attempting to remove the excess Ball"? Or in the other word, is the actions after being determined in possession relevant in determining whether a violation has occurred?

c) In the case where there are multiple momentary possession of same/different opponent balls, do these add up to count as a "greater-than-momentary Possession"? If so, under what time frame would they need to be under?

Thanks,

Answered by Game Design Committee

a) Is it a correct interpretation that the first and second sentence stands concurrently, which means that each robot may not possess more than 3 opponent balls at any time? Or is the first sentence only

applied when two robots are NOT working in tandem and blocking balls? Does the second sentence only apply when blocking balls, or do they apply when there are balls inside robots as well?

In other words, are there any circumstances where one robot is allowed to possess more than 3 opponent balls at any given point?

No. At no point in any circumstance is one Robot allowed to Possess more than three opposing Alliance Balls for a greater-than-momentary amount of time.

SG8 includes a "red box", which helps to explain this further:

The intent of this rule is to prohibit each Robot from keeping more than 3 of the opposing Balls from being used by the opposing Alliance. It is anticipated that two Robots from the same Alliance will work together to Possess the opposing Alliance's Balls. When those Robots do this, as long as they are not Possessing more than 6 of the Opposing Alliance's Balls in total, and each Robot is not carrying or controlling more than 3 Balls, these Robots are not in violation of <SG8>.

The intent of the second sentence of SG8, and the red box explanation, is to reduce the need for Head Referees to "track" which Balls are being Possessed by which Robot, in a scenario where both Robots could satisfy the conditions for Possession.

b) Is it a correct interpretation that if the ball has been determined to have been greater-than-momentary possessed by the other team, then a violation has occurred, regardless of whether the other robot "stop all Robot actions except for those actions that are attempting to remove the excess Ball"? Or in the other word, **is the actions after being determined in possession relevant in determining whether a violation has occurred?**

[It seems like the verbiage of your two questions may be in conflict, so for clarity's sake, the following answer is intended for your second (bolded) question.]

Yes. Actions following a momentary excess Possession do determine whether a violation has occurred. If the following action is anything other than ejecting the excess Balls, then there has been a violation of <SG8>. This includes if the following action is inaction.

This could be viewed as an explicit clarification of "Match Affecting" in the context of this rule. Due to the dynamics of VRC Change Up, a momentary excess Possession could occur where would be impossible for a Head Referee to determine whether the action was Match Affecting or not. Therefore, momentary excess Possessions (that are immediately followed by ejecting the excess Ball) are an explicitly permitted exception to the Possession limit.

c) In the case where there are multiple momentary possession of same/different opponent balls, do these add up to count as a "greater-than-momentary Possession"? If so, under what time frame would they need to be under?

We are not going to provide a time frame during which Balls must be ejected; it should be unquestionably apparent to a Head Referee that the Robot in question has stopped all actions that are not in immediate pursuit of ejecting the Ball.

Teams who utilize this rule as a core part of their gameplay strategy should expect additional scrutiny from Head Referees, as they could be at risk of repeated warnings (that escalate to a Disqualification at the Head Referee's discretion), or of violating R29.

<R29> There is a difference between accidentally and willfully violating a Robot rule. Any violation of Robot rules will result in a Team being unable to play until they pass inspection (per <R3d>). In addition, **Teams who intentionally or knowingly circumvent or violate rules to gain an advantage over their fellow competitors are in violation of the spirit and ethos of the competition.** Any violation of this sort may be considered a violation of <G1> and/or the REC Foundation Code of Conduct.

<T2> Score Disputes — Opportunity for Score Verification

Rule <T2> reads as follows:

<T2> The Drive Team is permitted to immediately appeal the Head Referee's ruling. If the Drivers wish to dispute a score or ruling, those Drivers must stay in the *Alliance Station* until the *Head Referee* talks with them. The *Head Referee* may choose to meet with the Drivers at another location and/or at a later time so that the *Head Referee* has time to reference materials or resources to help with the decision. Once the *Head Referee* announces that his or her decision has been made final, the issue is over and no more appeals may be made. The *Event Partner* may not overrule the *Head Referee's* decision.

Violations of this rule may result in the *Team* being disqualified from the *Match* in question and/or the event and is up to the discretion of the *Head Referee*.

Based on <T2>, is it a correct interpretation that *Teams* must be given an opportunity to verify the score for a *Match* before being dismissed from the field? If so, to what extent is this opportunity for score verification *mandatory* versus merely *recommended*? It is my understanding that providing such an opportunity to *Teams* has historically been considered a good practice but never an explicit requirement.

The motivation for this question primarily concerns events which may be short on time, where *Teams* may be asked to wait for the score to be entered and published in the computer, at which point it will likely be too late to dispute the score.

Answered by Game Design Committee

As quoted, T2 states that after the Drive Team Members leave the Alliance Station, they may no longer dispute the score or any rulings. If a Team has concerns that there may be a possible scoring discrepancy, we suggest that they do not leave the Alliance Station until they see the score. If a referee forgets to show them a score, we suggest that they stay until they see it. The purpose of this interaction is to eliminate scoring mistakes as much as possible.

Robot Skills Scoring

It has been noticed by many teams in the Vex community that this year there is a good chance that a good about of teams will max out Driver Skills and some may also max out Programming skills. In fact this has already happened in Robot Skills by team 46535K on May 9th. The video can be found [here](#).

To keep this from happening there has been a few ideas that have floated around.

For VRC the ideas that have come up so far are as follows: adding pts for removing the blue balls, having the blue and red balls start on the field and both being scoring elements (potentially only one being used for ownership) this keeps the important aspect of coordinating colors and reducing the time for skills down to 45 or 30 sec (as in VexU Toss Up Skills).

Now for VexU and VAIC I would see it make sense that whatever changes are potentially made to VRC are made to both. However, I do not see this as enough and teams will still potentially have too easy of a time maxing out the score for Skills. The idea to keep this from happening is to have VexU and VAIC skills run on robot or if needed more specifically the 15" robot (as in VexU Turning Point).

I believe that these changes or others that the GDC imposes on Robot Skills will greatly improve the Skills challenges.

Thank you for your consideration.

Answered by Game Design Committee

Thank you for sharing your thoughts. However, per the [Q&A Usage Guidelines](#), this Q&A system is intended for specific VRC game rule clarifications only. Non-rule-specific questions, suggestions, or feedback can be directed to GDC@vex.com.