

Q&A

VIQRC 2023-2024: Full Volume

Tagged: SG4

Welcome to the official VEX IQ 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 VIQRC **Full Volume** 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.

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466: <SG4> introducing match loads with new all gray anti static tiles

19-Dec-2019

SG4

Now with the releasing of the all gray anti static tiles, does that mean now we can introduce match loads on the previous colored tiles?

<https://www.robotevents.com/VEXU/2019-2020/QA/412>

In this QA it was ruled that match loads **cannot** be introduced onto colored tiles.

<SG4> Match Load entry. Drive Team Members may introduce Match Loads during the Driver Controlled Period by placing them gently onto a gray foam field tile such that they satisfy the following conditions: a. Contacting the field perimeter wall on the side that coincides with their Alliance's Goal Zones and Alliance Station.

- b. Contacting the **gray** foam field tiles.
- c. Not contacting a Tower.
- d. Not contacting any Cubes besides another Match Load.
- e. Not contacting a Goal Zone or a Barrier.
- f. Not contacting a Robot.

Answered by committee

SG4 should be ruled as applicable for the fields at any given event. If the event is using anti-static tiles (i.e. all gray), then the Match Loads may be placed on the tile that would have otherwise been red/blue (provided that all other conditions in SG4 are met). Teams should be cognizant of the possibility that an event may use either of the two possible sets of field tiles, and plan to accommodate accordingly.

412: Introducing match loads, GRAY tiles <SG4>

10-Nov-2019

SG4

SG4 b. specifies match loads are required to be introduced onto GRAY foam tiles. The VRC Tower Takeover - Referee Training - Chapter 8: Cube Do's & Don'ts, at 1:22, it gives the thumbs up and a green check for match loads being introduced on a BLUE tile (https://youtu.be/ksrJ1_rdv0?t=80).

Are teams not allowed to introduce match loads onto red and blue foam field tiles? If they are restricted from those tiles, can you clarify that teams ARE allowed to introduce match loads onto their alliance's inner protected zone gray foam tile (providing the cubes satisfy SG4 and specifically aren't touching a barrier or goal zone)?

<SG4> Match Load entry. Drive Team Members may introduce Match Loads during the Driver Controlled Period by placing them gently onto a gray foam field tile such that they satisfy the following conditions: a. Contacting the field perimeter wall on the side that coincides with their Alliance's Goal Zones and Alliance Station. **b. Contacting the gray foam field tiles.** c. Not contacting a Tower. d. Not contacting any Cubes besides another Match Load. e. Not contacting a Goal Zone or a Barrier. f. Not contacting a Robot.

Answered by committee

Well.... good catch. Thank you for noticing this and bringing it to our attention!

Please see rule G22, which was primarily written to account for the unfortunate realization that we on the GDC are only human and mistakes sometimes happen:

The 2019 - 2020 Q&A is the ONLY official source for rulings besides the Game Manual. If there are any conflicts between the Game Manual and other supplemental materials (e.g. Referee Training videos, VRC Hub app, etc), the most current version of the Game Manual takes precedent.

253: < SG4 > Accidental Ball Possession Limit Exceeded and Remediation Options

26-Feb-2019

SG4

This is a multi-part question around < SG4 > The Possession limit of balls, and disqualifications.

These questions are related to the "Match Effecting" interpretations of excess ball possession.

< SG4 > Watch your Possession limit. Robots may Possess a maximum of one (1) Cap and two (2) Balls at a time. Note: Robots that interact with High Scored Caps while already Possessing a Cap will undergo additional scrutiny regarding this rule. 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.

During recent events as the pace of the game has picked up, it has become fairly common for robots to accidentally ingest more than the two-ball possession limit as the balls bounce around and ricochet into the intake mechanisms. At a recent event a team was disqualified for possessing 4 balls at the end of the match that were never used to score. Since the difference in the final score was 4-points and the two extra balls could have been used to score those 4 points the referee called for the disqualification as the possession was match effecting.

Definition: Part 1: Is there a scenario where accidentally possessing 3 or more balls is considered match effecting even if the balls are never used to score a flag? it has been argued that simply possessing excess balls is match effecting since the robot is now controlling balls that are not available for the opposing alliance to score (effectively "hoarding"). Therefore, If the balls in possession have the potential to score points that are equal to, or greater than the match differential, then should this be considered match effecting? (also similar to the point differential when caps that are knocked out of bounds being a match effecting disqualification)

Remediation Options?: Part 2: If simply exceeding the possession limit is not match effecting (i.e. Part 1), is it then permissible for a team announce to the referee that they have excess capacity and they intend to safely discharge the excess balls in such a way as to not attempt to score? (either through reversing the intake, or if that isn't possible, discharge the excess balls with the launcher directly and safely into the net while avoiding changing the state of any flag)

Part 3: Finally, if a team does score a flag while unintentionally possessing more than 2 balls, could the team: a. announce to the referee they intend to de-score the illegal flag (that is return the scored flag to its previous state) before scoring additional points so as to make the accidental score impossible to affect the match? b. after scoring the flag, announce to the referee they intend to safely discharge all remaining balls in possession before scoring additional points?

This post is for clarification for future occurrences, and in no way trying to modify a previous ruling.

Thank you!

Answered by committee

Part 1: Is there a scenario where accidentally possessing 3 or more balls is considered match effecting even if the balls are never used to score a flag?

Yes, for exactly the reason you imply - in a game with neutral Game Objects of a limited quantity, any additional Possession has the potential to limit the opposing Alliance's ability to play the game.

Part 2: If simply exceeding the possession limit is not match effecting (i.e. Part 1), is it then permissible for a team announce to the referee that they are have excess capacity and they intend to safely discharge the excess balls in such a way as to not attempt to score?

Discharging the extra Game Objects would not just be permissible, it would be required. If a Robot comes into Possession of more than the permitted number of Game Objects, then they should immediately attempt to rectify the situation. We would expect that the Head Referee would instruct the Team to do so, not the other way around as proposed here, but the philosophy is the same.

Part 3: Finally, if a team does score a flag while unintentionally possessing more than 2 balls, could the team: a. announce to the referee they intend to de-score the illegal flag (that is return the scored flag to its previous state) before scoring additional points so as to make the accidental score impossible to affect the match? b. after scoring the flag, announce to the referee they intend to safely discharge all remaining balls in possession before scoring additional points?

First, <SG4> does not contain "intentional" or "unintentional" verbiage, so whether they intentionally or unintentionally Possessed the extra Game Object is irrelevant; Toggling the Flag in this situation is a clear-cut violation of <SG4> (see [this similar Q&A](#) for more thoughts on this topic).

In general, it is a Team's responsibility to ensure that:

- a) Their Robots are designed to mitigate the possibility of controversial rulings (e.g. they cannot Possess more than the permitted Game Object limit), and
- b) Their strategies during a Match mitigate the possibility of controversial rulings (e.g. they do not Toggle Flags while Possessing three Balls).

We typically try not to comment on previous rulings (and appreciate that you did not ask us to). However, given the explanations above, the example that you provided is actually a pretty good one to demonstrate these principles.

At a recent event a team was disqualified for possessing 4 balls at the end of the match that were never used to score. Since the difference in the final score was 4-points and the two extra balls could have been used to score those 4 points the referee called for the disqualification as the possession was match effecting.

It is always difficult to provide a blanket ruling without the full context of a Match; however, based on the information given in this snapshot, this would be a correct interpretation of the answer provided above.

230: Blocking Opponent Shots, Possession limit.

3-Feb-2019

SG4

Hi There, per request of the GDC, I am not splitting up my questions.

This is the first question, and concerns "Possession", with the definition benign "a robot has possession of a game object if it is carrying, holding, or encompassing it". rule <SG4> outlines specific limits, where <robots may possess a maximum of one (1) cap and two (2) balls at a time>. The game manual also states that <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.>. If a team were to block opponent shots while at the possession limit, would they be breaking the rule.

In this instance, blocking a shot may involve interacting with 1 opponent shot, or 2 opponent shots using a legal vex material. If it is impossible to give a blanket ruling, if the balls were to glance off of a piece of aluminum or otherwise rigid material, would the robot be breaking the possession limit?

Answered by committee

In this instance, blocking a shot may involve interacting with 1 opponent shot, or 2 opponent shots using a legal vex material. If it is impossible to give a blanket ruling, if the balls were to glance off of a piece of aluminum or otherwise rigid material, would the robot be breaking the possession limit?

It is always difficult to provide a blanket ruling on a snapshot description of a hypothetical Robot and interaction. However, a "blocked shot" would typically not be considered Possession, provided the following assumptions are met:

- A "shot" is a Ball which has been launched through the air in the direction of the Flags.
- The "blocking Robot" is not violating any other rules, such as <SG2>.
- The "blocking Robot" does not meet the definition of Possession in order to block the shot:

A Robot has Possession of a Game Object if it is carrying, holding, or encompassing it.

The relevant [Referee Training video](#) provides the following "rule of thumb": if the Game Object turns with the Robot as the Robot turns, then it is probably being Possessed. For example, a flat vertical wall would not be considered Possession; a "catcher" would be considered Possession.

221: Indirect Possession

21-Jan-2019

G11 SG4 SG6

In a recent tournament, an opposing robot shot a ball at a flag. When the ball ricocheted off of the flag, it bounced into our robot into a place on the robot where it couldn't be dislogged. There was also another ball in the robot in a place where it couldn't be dislogged, as well as one more ball in the our robot's intake system or shooter. The referee warned our robot that it was over the possession limit and because the team didn't immediately fire the one ball out of their shooter, the referee made the decision to disqualify them from the match. They didn't get the win points for the match but their teammate did.

My interpretation of Rule G11 is that the other team forced our robot into a "possession" penalty and therefore our team should not have been penalized. The other team did not do this intentionally, so therefore they should not have been penalized either. Here is the exact wording of the rule. <G11> You can't force an opponent into a penalty. Intentional strategies that cause an opponent to violate a rule are not permitted, and will not result in an infraction on the opposing Alliance. 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.

Please clarify whether my interpretation of the rule is correct.

Answered by committee

Let's look at the specific rules in question, partially quoted here for reference:

<SG4> Watch your Possession limit. Robots may Possess a maximum of one (1) Cap and two (2) Balls at a time.

<SG6> Keep Game Objects to yourself. Robots may not intentionally drop or place Game Objects on an opponent Robot.

<G11> You can't force an opponent into a penalty. Intentional strategies that cause an opponent to violate a rule are not permitted, and will not result in an infraction on the opposing Alliance.

All three of these include the standard warning/Disqualification verbiage:

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.

It is impossible for us to provide blanket rulings based on a written description of a specific Match, which is why it's important to defer to the Head Referee who witnessed the interactions in person.

You note that the ricochet of the Ball into your Robot was incidental, so <SG6> and <G11> would not typically apply, as they both include "intentional" verbiage. <SG4> would then be the key rule to consider.

<SG4> does not include any "intentional" or "un-intentional" verbiage; thus, if the Robot in question is objectively Possessing (3) Balls, then it is objectively in violation of <SG4>. To ensure that the penalty for this violation remains a warning, we would advise Teams who find themselves in this situation to avoid doing anything which would be considered Match Affecting, such as using one of those Game Objects to impact their Alliance's score (i.e. shoot a Ball at a Flag).

In general, we would advise Teams to design their Robots to minimize these types of incidental or questionable interactions, thus minimizing the possibility of rulings that you would consider controversial.

2083: Can I reload immediately after scoring

4-Aug-2024

SC3 SG4

According to SC3, the ball can be scored by passing through the goal, while according to SG4, the ball can be considered 'loaded' if it scores or leaves the field. Does this imply that loading can occur after the ball has passed through the goal rather than after it has landed? <SC3><SG4>

Answered by committee

As described in clause A of rule <SG4>, the 'next' Ball can be Loaded after a previous Ball has been Scored or has left the Field. As described in rule <SC3>, a Ball is considered to have been Scored when it

... is no longer in contact with a Robot and has fully passed through a Target (i.e., from the "outside" of the Goal Wall structure into the "inside" of the Goal Wall).

There is no requirement that a Scored Ball land in the Pickup Zone before the next Ball is Loaded.

2067: SG4 Violation Notes example

19-Jul-2024

SG4

<SG4> Rule SG4 Violation Notes :

Due to the difficulty of determining Match Affecting implications of this rule, most Violations should be considered Minor. However, blatantly intentional and/or Match Affecting Violations (especially during Elimination Matches) may still immediately escalate to a Major Violation at the Head Referee's discretion. For example, a Top Ring that is removed with 5 seconds remaining by an Alliance who wins the Match by 1 point.

My question is: In this example, does it refer to the top ring being removed from the field, or is it sufficient just to remove it?

Also, is the five seconds mentioned just an example, or does this behavior have the potential to escalate to a major violation at any time during the match?

Answered by committee

All of the Violations Notes that follow rule [<SG4>](#) refer to Rings that are removed from the Field.

The example provided in the 4th Violation Note--in which a Top Ring is removed from the Field with 5 seconds remaining in the Match--is simply one example that could reasonably be escalated to a Major Violation by a Head Referee. As with many rulings, Head Referees must make [<SG4>](#) decisions based on the full context of the Match and we cannot provide a comprehensive list of scenarios and recommended outcomes.

2059: Wall Stake Descoring Legality

9-Jul-2024

SG4

[<SG4>](#) Per [<Sg4>](#), "Teams may not intentionally or strategically remove Scoring Objects from the field." Obviously, this applies to putting Mobile Goals and Rings out of the field intentionally.

However, when descoring Wall Stakes, it is hard to properly control the landing of Rings, especially without violating double possession per [<Sg6>](#) and prior Q and As.

Because [<Sg4>](#) includes talks about not strategically removing Scoring Objects from the field and also stated "Any Team that removes three (3) or more Rings from the Field in a single Match will receive a Major Violation," does that mean if a team goes to descoring a Wall Stake and has 3 or more Rings land outside the field, they are dqed? Or, to provide another scenario, if a team has 2 Rings land outside the field once when descoring a Wall Stake and later has 1 Ring land outside the field when descoring a Wall Stake, is that also a dq?

Furthermore, [<Sg4>](#) says "After a Team's third Violation of this rule (either Major or Minor), all subsequent Violations of this rule will immediately escalate to a Major Violation," which begs the question if a team when descoring Wall Stakes has 3 Rings land outside the field during the entire tournament, does the fourth lead to a dq?

I ask this question again because descoring a Wall Stake while keeping all the Rings in the field is extremely difficult meaning if this is the case, it would largely de incentivize teams from descoring Wall Stakes in the first place because of the risk of a dq, making them essentially "protected" to whoever got there first.

Thank you.

Answered by committee

... does that mean if a team goes to descoring a Wall Stake and has 3 or more Rings land outside the field, they are dqed?

Yes.

... if a team has 2 Rings land outside the field once when descoring a Wall Stake and later has 1 Ring land outside the field when descoring a Wall Stake, is that also a dq?

Yes.

... if a team when descoring Wall Stakes has 3 Rings land outside the field during the entire tournament, does the fourth lead to a dq?

Yes.

All of these scenarios and penalties are described in the Violation Notes for rule [<SG4>](#).

2052: <SG4d> - Additional Clarification on Robots in Loading Zone

28-Jun-2024

SG4

This question re-presents unanswered questions that I had added to [QA-2035](#) after the release of v1.0 of the Game Manual, but before that question was marked as answered.

[<SG4d>](#) reads:

No Robot(s) may be in the Load Zone at the time the Ball is released by the Loader.

In the v1.0 update to the Game Manual the image in Figure SG-4 now shows a Ball that is far enough into the Loading Station that it is unlikely the Loader has *just* stopped contacting the Ball. This seems to clearly indicate that the Loader releasing contact with the Ball is not the condition referred to by <SG4d>, which is a helpful clarification. The prior image showed a Ball on the Floor of the Field completely within the Loading Zone, but not contacting the Loading Station. This still leaves a significant gray area in the rule.

Is it legal for Robots to be in the Loading Zone when...

1. ...the Loader stops contacting the Ball, it is still contacting the Loading Station, but has not yet contacted the Floor of the Loading Zone? (This is at least strongly implied to be **NO** by the 1.0 update, but explicit clarification would definitely be appreciated)
2. ...the Ball has proceeded through the Loading Station, and is contacting the Floor of the Loading Zone, but is also still (or again) in contact with the Loading Station?
3. ...the Ball is in contact with the Floor of the Loading Zone (after being properly Loaded through the Loading Station), but not in contact with the Loading Station?

Additionally, if the answer to item 2 above is Yes, for the purposes of the Violation Note reading...

Robot contact with the Loading Station while a Ball is being Loaded is considered an egregious Violation of point D for the Robot's Team, and is an exception to all previous notes. Repeated occurrences by the same Robot, even if not Score Affecting, may escalate to a Major Violation for that Robot's Team at the Head Referee's discretion.

...would incidental contact with the Loading Station by a Robot retrieving the Ball be legal (subject to [<G7>](#))?

In other words, would it be correct to say that a Ball is considered as "*being* Loaded" from the time a Loader stops contacting the Ball (in accordance with <SG4c>) until the time it touches the Floor of the Loading Zone, at which point it should be considered as "*having been* Loaded"?

Answered by committee

Is it legal for Robots to be in the Loading Zone when...

1. ...the Loader stops contacting the Ball, it is still contacting the Loading Station, but has not yet contacted the Floor of the Loading Zone?
2. ...the Ball has proceeded through the Loading Station, and is contacting the Floor of the Loading Zone, but is also still (or again) in contact with the Loading Station?
3. ...the Ball is in contact with the Floor of the Loading Zone (after being properly Loaded through the Loading Station), but not in contact with the Loading Station?

The answer to all three is "Yes." If the human Loader is no longer contacting a Ball that is being (or has been) Loaded, it is legal for a Robot to enter the Load Zone.

A Ball is considered as "*being* Loaded" while it is in contact with a human Loader.

2032: Clarification on Ball Transfer Between Loaders During a Match

9-Jun-2024

SG4

In a regular match with two loaders, is it legal for one loader to retrieve balls from the pickup zone and then throw them to the other loader in the loading zone to reintroduce them back into the field? We could not find any rules in the game manual that prohibit this action.

Answered by committee

Currently, there are no rules that prohibit throwing Balls from one Loader to another in a safe and controlled manner. Rules [<S1>](#) and [<G3>](#) apply. As we progress through the season we will monitor feedback regarding thrown Balls, and we may re-evaluate this topic if it proves to be unsafe or undesirable.

2014: SG4 and AG5: Can one Robot possess both balls?

16-May-2024

SG4

[<SG4>](#)

[<SG5>](#)

Rule SG4 a. Just states "No more than two (2) Balls may be in play at any one time" I cannot find any limits to possession by one robot.

Answered by committee

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

1801: Supply Zone Block Orientation

30-Nov-2023

SG4

Does the orientation of the purple block matter when being returned to the supply zone after leaving the field? Can it be placed on its "side" as long as it is flat? [<SG4>](#)

Answered by committee

Does the orientation of the purple block matter when being returned to the supply zone after leaving the field? Can it be placed on its "side" as long as it is flat? [[<SG4>](#)]

The orientation of purple Blocks in the Supply Zone does not matter, and purple Blocks may begin the Match or be returned to the Supply Zone in any orientation that is flat to the Field floor.

1603: Returning Blocks to/in the supply zone during the match.

4-Aug-2023

SG3 SG4

Can you clarify to the parameters for which blocks can be legally returned to the supply zone, and for what is designated as "in" the supply zone. In SG4, it states that blocks are randomly loaded in the supply zone. Does this rule refer only to the period prior to the match? Or, to the manner in which blocks should always be placed in the supply zone? Do the parameters for which a block is designated as in/returned require it to be within the 3D confines of the supply zone? Does it have to be in contact with the floor? Is it transitive if it is placed inside a robot that is inside of the supply zone? Can it be placed under the control of, or touching, a robot? I feel that if these parameters are not determined, teams will start to take advantage of the omission and place blocks directly within mechanisms inside of the supply zone; unless, of course, that is something they are legally able to do by design. Thank you!

<SG3> Keep Blocks in the Field. Blocks that leave the Field during a Match may be returned to the Supply Zone by a Driver or Referee. Any Blocks which remain outside of the Field at the end of a Match will be considered "in" the Supply Zone (i.e., the Supply Zone will not be eligible to be Cleared). "Leaving the Field" means that a Block is outside of the Field Perimeter and no longer in contact with the Field, Field Elements, other Blocks, or Robots. If Blocks are removed from a Robot during a <G10> interaction, these Blocks are considered "out of the Field" as soon as they are no longer in contact with any Robots. If a Block is on its way out of the Field (as determined by the Head Referee), but is deflected back into the field by a Driver, field monitor, ceiling/wall, or other external factor, <SG3> would still apply. This Block should be considered "out of the Field" and removed or returned to the Supply Zone by a Head Referee. If the redirection occurred due to contact with a Driver, it will be at the Head Referee's discretion whether <G9> or <SG3> should apply.

[<SG3>](#)

<SG4> Blocks are randomly loaded in the Supply Zone. Prior to each Match, the Supply Zone will be filled randomly with eight (8) Purple Blocks and twenty-three (23) Green Blocks. a. Blocks will be randomly mixed by a field reset volunteer and/or the Head Referee. b. Blocks must be placed such that one face of each Block is "flat" on the Floor (i.e. not "stacked" or "tilted"). See images throughout this Game Manual for examples. c. Team members may not touch Blocks in the Supply Zone during pre-Match setup. Any contact will result in a re-randomization of the Supply Zone by the Head Referee

Answered by committee

Can you clarify to the parameters for which blocks can be legally returned to the supply zone, and for what is designated as "in" the supply zone.

A Block can be returned to the Supply Zone any time it is removed from the Field, including in the following scenarios:

1. A Block is being controlled by the Robot while the Robot is being handled under rule [<G10>](#) or clause 'b' of [<RSC5>](#).
2. A Block leaves the Field during gameplay as described in rule [<SG3>](#).
3. A Block is on its way out of the Field and is deflected back into the Field by an external object or factor as described in the blue box following rule [<SG3>](#).
4. A Block is within the chosen Starting Position for a reset as described in clause 'c' of rule [<RSC5>](#).

A Block is "in" the Supply Zone if it is within the 3-dimensional space described in the definition and illustrations of Supply Zone on page 13 of the game manual, and quoted below.

Supply Zone - An infinitely tall three-dimensional volume of the Field bordered by the outer edges of the red PVC pipe and the outer edges of the Field Perimeter (which coincides with the outer edges of the vertical red VEX IQ beams in 2 of the corners).

Rule [<SG3>](#) will be revised in the next game manual update to specify that a returned Block may not intentionally disturb or move other Blocks. Additional text will also reflect that if the Block is unable to be returned to the Supply Zone without disturbing or moving other Blocks, it may remain outside of the Field.

1583: Choosing Skills Fields

11-Jul-2023

SG4

Considering how each Skills field will be set differently due to the randomization aspect of Full Volume, I have two questions:

1. At what point should the supply zone on Skills fields be randomized? Should students be able to see how the field is set before they approach the field?
2. When multiple Skills fields are offered at an event, should teams be allowed to choose which field they compete on or should they be assigned? If they are to be assigned, what should that process look like?

[<SG4>](#)

Answered by committee

During a Robot Skills Match, we would expect that Teams encounter a degree of Supply Zone randomization that is similar to what they would see in a Teamwork Challenge Match (i.e., as defined in <SG4>).

Just as specific queuing procedures are outside of the scope of the Game Manual, the exact mechanism or process for handling this randomization will be at the Event Partner's discretion. It will likely vary depending on event size, number/location of fields, available volunteer resources, etc.

Some possible methods could include:

- A referee re-randomizing the Supply Zone while Teams are setting up their Robots
- A queuing volunteer assigning fields to Teams when they reach the front of the line

1530: <SG1><SG4><G17> Legality of Preload Placements

6-Jun-2023

G17 SG1 SG4

<SG1> Starting a Match. Prior to the start of each Match, the Robot must be placed such that it is:

[...]

c. Not contacting any other gray foam field tiles, including the Match Load Zones. d. Not contacting any Triballs other than a maximum of one (1) Preload. See rule <SG4>. e. Not contacting any other Robots. f. Not contacting any Barriers or Elevation Bars. i. Contact with the field perimeter and/or Match Load Bars is permitted, but not required. g. Completely stationary (i.e., no motors or other mechanisms are in motion).

<SG4> Each Robot gets one Alliance Triball as a Preload. Prior to the start of each Match, each Alliance Triball/Preload that is used must be placed such that it is: a. Contacting one Robot of the same Alliance color as the Preload.

<G17> Use Triballs to play the game. Triballs 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 routine per <SG9>.)

1. Can a Preload start in a Match Load Zone? Or does <G17> disallow it as per <SG1c>?
2. Can a Preload start contacting a Triball? Or does <G17> disallow it as per <SG1d>?
3. Can a Preload of one Robot touch the Preload of another Robot? Or does <G17> disallow it as per <SG1e>?

Answered by committee

Preloads would generally fall under the caveat listed in the "red box" of G17, quoted here for reference:

The intent of this rule is to prohibit Teams from using Triballs as "gloves" to loophole any rule that states "a Robot may not [do some action]". This rule is not intended to be taken in its most extreme literal interpretation, where any interaction between a Triball and a Robot needs to be scrutinized with the same intensity as if it were a Robot.

Yes, each of the scenarios listed in your question would be permissible. The requirements listed in SG4 should be the primary factor that Head Referees use to determine Preload legality.

151: Indirect Possession?

19-Nov-2018

SG4 SG7

Possession "...carrying, holding or encompassing" At a recent event a team was penalized for flipping a cap that had two ball resting on with another in their intake. They were said to be in violation of SG4 "Possess a maximum of one Cap and two balls at a time". Is flipping a cap with two balls on it considered possession of those two ball if there was no direct control of those balls?

Answered by committee

It is always difficult to issue a blanket ruling on a snapshot description of an action during Match. With that in mind, in addition to the definition of Possession, SG7 should also be considered.

Possession - A Game Object status. A Robot has Possession of a Game Object if it is carrying, holding, or encompassing it.

<SG7> Game Objects cannot be used to accomplish actions that would be otherwise illegal if they were attempted by Robot mechanisms.

A Robot which is using a Game Object to carry, hold, or encompass other Game Objects would be considered Possessing them.

Momentarily flipping a Cap, such that the two Balls on top of it fall off, would not be considered Possession. Lifting that Cap, such that the two Balls were lifted with it, would be considered Possession.

The relevant [Referee Training video](#) also uses the following guideline: if the Game Object turns with the Robot as the Robot turns, then it is probably being Possessed. This rule of thumb applies to the two examples given in the above paragraph.

1495: Wedges, G13, 14, SG4, and SG5

8-Mar-2023

G13 G14 SG4 SG5

Q and A [1119](#) states that the sizing box does not rotate with the robot.

Q and A [1206](#) states that rotating you bot out of size could result in either an SG4 and/or SG5 violation.

G13 states

Offensive Robots get the “benefit of the doubt.” In a case where Head Referees are forced to make a judgment call regarding a destructive interaction between a defensive and an offensive Robot, or an interaction which results in a questionable Violation, referees will err on the side of the offensive Robot (i.e., the Robot that is actively attempting to score points).

G14 states

Intentional strategies that cause an opponent to break a rule are not permitted, and will not result in a Violation for the opposing Alliance. Violation Notes: In most cases, if a Team causes their opponent to break a rule, the Head Referee will simply not enforce the penalty on that opponent, and it will be considered a Minor Violation for the guilty Team. **However, if the forced situation becomes Match Affecting in favor of the guilty Team, it will be considered a Major Violation.**

SG4 states

Robots may not expand beyond a horizontal area of 18” x 18” at any point during the Match prior to the Endgame.

SG5 states

Vertical expansion is limited. Robots may expand vertically within the following conditions: a. The Robot must not be contacting the gray field tiles in either Low Goal. b. No part of the Robot may exceed an overall height of 24”. This height limit is a “virtual ceiling,” meaning that no part of any Robot may ever exceed 24” above the foam tiles, regardless of Robot orientation. c. Any extensions or combinations of extensions above 18” must fit within a vertical cylinder 2” in diameter. d. There are no vertical expansion limits during the Endgame. e. Robots may not contact the High Goal, Discs which are Scored in the High Goal, or the horizontal supporting structures directly underneath the High Goal. This rule applies at all times, regardless of Alliance / High Goal color.

Scenario 1: While a blue robot is attempting to score, a red robot uses a wedge to immobilize the blue robot. The act of rotating the blue robot causes the blue robot to be longer than 18 inches and taller than 18 inches. The red robot backs off after 4 seconds to avoid trapping, then repeats the action again after waiting 4 seconds. This continues through the remainder of the match severely limiting blue's offensive capability. Red wins by a small margin. Could this be considered a match affecting G14 violation as blue should receive the benefit of the doubt?

Scenario 2: Everything plays out the exact same as scenario 1 except that the blue robot's drive team members make it clear that the red robot is forcing them out of size. This know makes the G14 violation intentional. Does this change the ruling?

Scenario 3: Everything plays out the exact same as scenario 2; however, the red robot causes the blue robot to touch the high goal support at multiple times during the match. Does this change anything as this risks damage to the field elements?

Thank you in advance.

Answered by committee

As stated in the Violation Notes for rule [<G14>](#), "In most cases, if a Team causes their opponent to break a rule, the Head Referee will simply not enforce the penalty on that opponent..." There is nothing Match Affecting about repeatedly being tipped out of size by a small amount, and in general this should not even result in a Minor Violation for the Robot that is tipped out of size.

1489: Robot out of size due to contact with opposing robot

4-Mar-2023

SG4

If, during a match, your robot is forced out of size because another robot tangles with your robot, for instance pulling a wire out which was previously secured. Does this count as pre-endgame expansion?

Answered by committee

We cannot provide a blanket answer that would encompass all possible hypothetical robot interactions, and a Head Referee's ruling would be made based on the larger context of any interaction. That said, we can provide the following general guidance for referees.

While rule <G14> states that you can't force an opponent into a penalty, clause B of rule <G12> specifies that some incidental Entanglement and damage may occur as part of normal gameplay without Violation. Finally, clause C of rule <R4> puts some responsibility on Teams to ensure that their Robot does not pose an unnecessary risk of Entanglement with other Robots.

In your scenario, the Head Referee would have to determine whether the Entanglement and resulting damage was intentional, accidental, or a side effect of a poor decision made during Robot design and construction. If it was deemed to be intentional Entanglement as prohibited by rule <G12>, the early expansion probably wouldn't result in an <SG4> violation. If it was deemed to be an accident or caused by a poor design decision, the expanded Robot would probably receive a Minor or Major Violation of <SG4> for the early expansion.

1467: <S2> Definition of Outside Face

19-Feb-2023

SG4 S2

In <S2> it states the following:

If a Robot 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, it will automatically receive a Disqualification for that Match.

What parts of the wall and other elements would be considered an outside face? A few spots that are in question are the following:

- A) The upward facing surface of the field perimeter / the top of the field perimeter
- B) The top side of the Roller brackets
- C) The outward face of the pole supporting the net
- D) On top of the Match Loader
- E) Underneath the Match Loader
- F) On legacy fields, the face of the field control tower that is closest to the inside of the field

Thank you for your time.

Answered by committee

As stated in rule <S2> and the Note at the end of rule <S2>, the intent of the rule is to ensure that Robots do not go out-of-bounds by **crossing the field perimeter**. [Q&A 1229](#) clarifies the intent of <S2>, and indicates that the top surface of the Field Perimeter is not considered to be outside the Field. Those two rules, and taking a "top-down" view of the Field perimeter and the objects on and around it, allow us to classify the elements in your question in terms of whether a Robot crosses the field perimeter when contacting them, and thus whether or not contact with them would generally violate <S2> if the expansion is otherwise inside the field. As with all rules, the final determination of whether a rule has been violated must be made by the Head Referee within the full context of the Match.

Inside the field, and generally not in violation of [<S2>](#):

- The top face of the field perimeter
- The rollers and their brackets (see related [Q&A 1457](#))
- The outer face of the poles that support the Nets
- Most of the Match Loader (see the next list for more info)
- Underneath the Match Loader, on the top surface of the perimeter

Probably outside the field, and generally in violation of [<S2>](#), earning a DQ:

- The outside edge of the Match Loader that extends slightly beyond the field perimeter
- The inside face of the legacy field control tower, unless it is clearly "above" the field perimeter and not beyond it

Note that [Q&A 1229](#) also specifies that an expansion that extends through a Net is in violation of [<S2>](#).

1439: SG4 - Participation in Endgame After Early Expansion Further Explanation Required

8-Feb-2023

SG4

We are requesting further clarification on this [q&a](#). We would like this ruling to be abundantly clear, as some tournaments are interpreting this issue differently.

According to SG4, a robot that early expands and "cannot rectify the Violation cannot participate in further gameplay." Our question is: does the robot have to retract back into the 18"x18"x18" before the endgame in order to "rectify the violation," or does the team have to wait until the endgame begins to engage in any other gameplay as this would be considered rectifying the situation because there are no expansion limits during this time?

For example: a blue alliance robot early expands and does not retract the expansion before the endgame. The robot sits idle for the rest of the match until the endgame. During the end game, this robot scores a roller for the blue alliance. This action causes the blue alliance to win the match. Is this considered a major violation and would result in a disqualification of the blue robot?

<SG4> [<SG4>](#)

Answered by committee

A Robot that is in Violation of rule [<SG4>](#) and that does not retract or remedy the expansion cannot participate in further gameplay. If a Robot chooses to continue playing the game, they will at a minimum receive a Minor Violation of [<SG4>](#). They *will not* receive points for tiles Covered in the Endgame. If the Head Referee determines that the expansion was intentional, strategic, and/or Match Affecting, the Team should receive a Major Violation and Disqualification for that Match.

The blue Robot in your example should receive a Major Violation and Disqualification for a Match Affecting Violation of [<SG4>](#).

Additional related Q&As:

- www.robotevents.com/VRC/2022-2023/QA/1232
- www.robotevents.com/VRC/2022-2023/QA/1290