

Q&A

VEX V5 Robotics Competition 2024-2025: High Stakes

Tagged: SC3

Welcome to the official VEX V5 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 V5RC High Stakes 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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Index

[Ball Returning Out of Lower Goal](#)

[SC3 and Definition of a Stake](#)

[Scoring rings held by robot](#)

[Clarification with SC3 and SG4](#)

[Robot Pushes ball through Goal](#)

[SC3, definition of "inner edges" of rings](#)

[End of Game - Final Shot - 2 Balls Stuck - Switch Stuck](#)

[SC3 during auton - does bot need to drop stake](#)

[SC3 - Clarification on Rings Above Flexible Top](#)

[Balls failed to score and not left the field](#)

[Threshold for Scored Rings \(SC3\)](#)

[Can I reload immediately after scoring](#)

[SC3: Opposing colour ring on alliance wall stake](#)

[Potential match load loophole in skills](#)

[Robots contacting Blocks in a Goal transitively](#)

[<SG8> De-scoring of triballs](#)

[SC3; SC4: Are triballs legally scored in the goal also scored as being in the offensive zone](#)

[Scoring Disc at the Fence](#)

[SC3a - Definition of 'supported' by a Robot](#)

[<SC3> Disc Scoring in Low Goal - stacked discs](#)

2495: Ball Returning Out of Lower Goal

1-Feb-2025

SC3

We experienced a unique situation at a competition. A bot that is capable of launching two balls concurrently - one into the top goal and one into the bottom goal - launched both balls. The bottom ball cleared the switch, and fell to the floor behind the Goal Wall in the Pickup Zone. However, the TOP ball cleared the upper switch, went into the Goal Wall, and bounced back OUT of the lower goal. This ball was now back on the field.

<SC3> States that a ball that passes through a Target and then bounces back out into the playing field does not count as a scored ball and the ball remains in play.

Our question is since the ball passed into the Goal Wall, should it be counted as scored? This wasn't just bouncing off the switch and back in but physically went into the Wall and back out the other Goal.

What SHOULD happen in this situation? The ball has already been scored once and was not eligible for scoring again but we were unable to load another ball into the field.

- Should the referee pull the ball from the field?
- Should the referee direct a team member to pull the ball from the field?
- Should the team pick up the ball with the robot and throw it out of the field?

Everyone was uncertain about what should happen, so the team picked it up with the robot again and relaunched it into the Goal Wall. However, the score did not include the second score of the ball.

[<SC3>](#)

Answered by committee

[<SC3>](#) Clause A applies in this scenario, which is a failed scoring attempt. The first half of our response to [Q&A 2203](#) explains what should happen after a failed scoring attempt, and it sounds like the situation was handled correctly at your event by requiring the Robot to retrieve the Ball.

2440: SC3 and Definition of a Stake

15-Jan-2025

SC3

[<SC3>](#)

I know that there have been some questions about stakes and how the rings fall on the stake that they are counted as scored. I don't feel like they answer this question or situation. Should the red ring pictured be counted as the top ring of the mobile goal?



Answered by committee

Per clause A of rule [<SC3>](#), to be considered Scored on a Stake a Ring must (among other criteria) be "encircling" a Stake. That clause also states that, "In this context, "encircling" means that any part of the Stake is at least partially within the volume defined by the inner edges of the Ring."

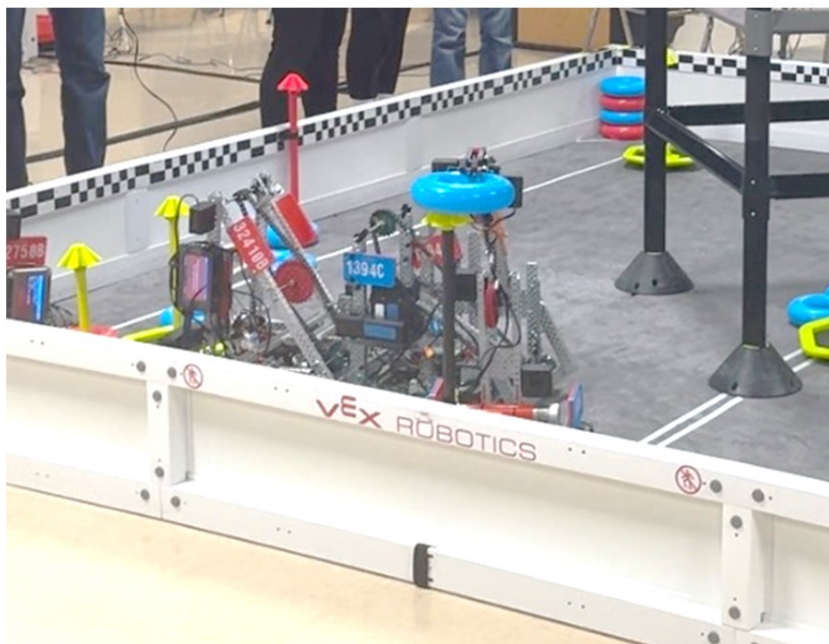
The game manual defines "Stake" as, "A vertical ½" (12.7 mm) Schedule 40 PVC pipe (gray, red, or blue) with a compliant barb at the top."

In the above picture, the Stake (which by the definition includes the barb) is within the volume of the inner edge of the Ring. Thus, this would count as Scored, and a Top Ring.

2366: Scoring rings held by robot

9-Dec-2024
SC3

[<SC3><SC3>](#) Q&A 2166 was helpful, thanks. We had an event at this weekend's tournament that spurred the need for additional detail. When the match ended the ring plane was below the wall stake tip, but the ring was still supported by the robot, and because of that was disallowed. I might be missing it, but I don't see that in the rules. Should the ring in this picture count at the end of a match?



Answered by committee

[<SC3>](#) was revised in version 2.0 of the manual (September 3, 2024) to allow Rings that are in contact with a Robot to count as Scored regardless of the Robot's Alliance color. If the Ring in the image meets all criteria of [<SC3>](#), then that Ring should be considered Scored on that Stake.

2336: Clarification with SC3 and SG4

29-Nov-2024
SC3 SG4

If the top ring on a stake still meets the criteria for being scored, satisfying the rules for SC3, but if the top ring on the stake is violating the Field (breaking the field perimeter) as per SG4, which takes priority?

Should the top ring be removed at the end of the match or should it be still counted as scored and left as is?

What should happen?

Answered by committee

A Ring that is on a Stake has not left the Field unless that Stake also leaves the Field. There is no rule that prohibits a Ring from breaking the perimeter of the Field.

2324: Robot Pushes ball through Goal

24-Nov-2024

SC3 SC4

<SC6> ***At league this past week we had a robot that would shoot the ball into the goal and it would miss occasionally hitting the target and go back into their loader. They would then use their flywheel to push the ball in. The robot touched the ball as it pushed it the entire way through goal. The robot was contacting the ball through its journey into the goal.

I took this to mean this is score impacting because according to SC3 below-- a scored goal is once a ball is no longer in contact with a robot and has fully passed through the target. I also conferred with our REC rep who was at league to make sure my interpretation was correct and he agreed with me. *

SC3--An Alliance Scores a Goal once a Ball 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).----

**** However- as I read on it says an addendum under SC4 of---don't over think this rule---- and there is no restriction on what type of robot action, mechanism, strategy or technique is used to score balls or clear switches. Which I think leaves some gray area as to is pushing considered a technique or strategy??? (See reference to SC4 below) **** We have some new teams who designed a Clawbot for this and I am afraid this may become a bigger issue at our league as they want to push the ball into the goal and drop it too. ** So clarification on if the robot is pushing a ball through the target/goal with a shooter, arm, flywheel, or another mechanism from their robot and the robot is still contacting the ball as it is going through goals is this illegal????

I believe what is trying to be said above in SC3 is that students are to engineer or program a solution that would make it so the ball is to not be touching both robot and goal to be considered scored, but the over thinking rule and part of SC4 leaves some gray area and the rule open to some debate on if this is strategy or action. Thanks**

<SC4> A Switch is Cleared once it has been struck by a Ball and is no longer parallel with the front face of the Goal Wall. Robots may not Clear Switches by contacting them directly (i.e., without it being part of the process of scoring a Ball through that Target).

Please don't over-think this rule.

Sometimes a Switch gets Cleared without scoring a Ball through the Target, or a Ball is Scored through a Target but the Switch is not Cleared. That's okay. Switches must be Cleared as part of normal gameplay, and by Balls, not Robots or humans. Beyond that, there are no restrictions on what type of Robot action, mechanism, strategy, or technique is used to Score Balls and Clear Switches.

<SC3>



<SC3> An **Alliance Scores a Goal** once a **Ball** 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**).

- a. A **Ball** that passes through a **Target** and then bounces back out into the playing field does not count as a **Scored Ball**, and the **Ball** remains in play.

Effectively, this should correspond with the **Ball** falling through the **Goal Wall** and landing in the **Pickup Zone**, and that “land in the **Pickup Zone** moment” can be used for most scoring needs. However, in the event of any jams or other malfunctions, the **Ball** is still considered **Scored** even if it does not touch down to the **Pickup Zone**. See <SG6>.

<SC4> A **Switch is Cleared** once it has been struck by a **Ball** and is no longer parallel with the front face of the **Goal Wall**. **Robots** may not **Clear Switches** by contacting them directly (i.e., without it being part of the process of scoring a **Ball** through that **Target**).

Please don't over-think this rule.

Sometimes a **Switch** gets **Cleared** without scoring a **Ball** through the **Target**, or a **Ball** is **Scored** through a **Target** but the **Switch** is not **Cleared**. That's okay. **Switches** must be **Cleared** as part of normal gameplay, and by **Balls**, not **Robots** or humans. Beyond that, there are no restrictions on what type of **Robot** action, mechanism, strategy, or technique is used to Score **Balls** and **Clear Switches**.

Violation Notes:

- *All **Violations** of this rule are inherently **Score Affecting**, and therefore **Major Violations**.*

Answered by committee

[<SC3>](#) specifies that a Ball cannot count as Scored while it is in contact with a Robot, even if the Ball meets the other requirement of having fully passed through a Target. Once the Robot in your scenario drops the Ball so they are longer in contact with it, the Ball will count as Scored. It is legal for a Robot to be in contact with the Ball as it is going through the Target.

[<SC4>](#), including the blue box note within it, defines the requirements for a Cleared Switch and makes it abundantly clear that a Robot is not allowed to directly contact a Switch to Clear it. It is legal for a Switch to be Cleared by a Ball that is in contact with or in the possession of a Robot.

It is also legal (but extremely risky) for a Robot to hold the Ball as the Ball passes through a Target and Clears a Switch; if the Robot directly contacts the Switch while Clearing it, the result will be a Major Violation of rule [<SC4>](#) and a Disqualification for that Match. That extreme risk is why the game manual includes the following [<SC4>](#) violation note:

Violations of this rule should be rare, as Robots should never be designed to contact Switches directly.

2315: SC3, definition of "inner edges" of rings

19-Nov-2024

SC3

The answer to [Q&A 2250](#) removed the shake test as a method of evaluating whether a ring is scored. Consequently, this leaves 2 criteria in rule [<SC3>](#) for a ring to be counted as scored:

- The Ring is "encircling" a Stake. In this context, "encircling" means that any part of the Stake is at least partially within the volume defined by the inner edges of the Ring...
- The Stake does not exceed its total permitted number of Rings (see definition of Stake). In the event of too many Rings on a Stake, the "highest" Rings will be removed.

The second bullet point regarding cases where a stake exceeds its permitted number of rings is relatively clear. However, the first one requires rings to be "encircling" the stake, and the meaning of this relies on the concept of "the volume defined by the inner edges of the Ring". We can see two different ways in which this phrase can be interpreted:

- The "inner edges" of the ring are taken to mean the very innermost circular boundary of the hole in the ring. This would mean that the "volume defined by the inner edges" would be the plane going across the hole in the ring at the point where the hole is the narrowest.
- The "inner edges" of the ring are taken to refer to all parts of the ring which face "inwards" - that is, if we placed the ring flat on a piece of paper and placed another piece of paper on top of the ring such that the ring is completely covered, the "volume defined by the inner edges" would be all the space between the two sheets of paper.

Two (rather crudely drawn) diagrams are provided [here](#) to illustrate these interpretations. In both diagrams, the red regions represent a cross-section of the ring taken along a vertical plane going through the center of the ring, and the purple regions represent the extent of the "volume defined by the inner edges". Which is correct?

Since the word "volume" is used, we are inclined to believe that the second interpretation is the correct one. However, the definition of a Stake is

A vertical ½" (12.7 mm) Schedule 40 PVC pipe (gray, red, or blue) with a compliant barb at the top, used for Scoring Rings.

Thus, the barb is also part of the Stake. When combined with the second interpretation, rings that are barely supported such as in [this image](#) would count as scored, but we have seen cases like this ruled as not scored at several competitions thus far.

Answered by committee

Prior to our ruling on [Q&A 2250](#), which was released on November 7th, the game manual allowed Head Referees to apply a theoretical "shake test" to determine whether or not a potentially-Scored Ring would fall off of a Stake. This language was removed in that Q&A, and will be removed from the game manual in the December 3 game manual update. It is expected that decisions regarding Scored Rings will have changed with that ruling. The Ring image linked in your final paragraph could reasonably have been ruled either way prior to that Q&A ruling.

Your second interpretation of 'inner edges' matches our intent. The inner edges of the Ring are all parts of the Ring which face 'inwards'; that is, if you placed the Ring flat on a piece of paper and another piece of paper on top of the Ring such that the Ring was completely covered, the 'volume defined by the inner edges' would be all of the space between the two sheets of paper.

Under criteria in rule [<SC3>](#) for determining whether or not a Ring is Scored, the Ring in your attachment should always be considered Scored.

2310: End of Game - Final Shot - 2 Balls Stuck - Switch Stuck

18-Nov-2024

SC3 SC4

At the end of a finals match recently, a robot capable of throwing a two balls at once launched balls before the buzzer. One ball went fully through the top goal, one ball went through the bottom goal, but not fully. If a straight edge across the face of the goal was used it would have contacted the ball that went through the bottom goal, but it did stay in this position after the match and the majority of the ball was through the goal. The top switch had been cleared earlier in the game, but the bottom switch had not. In the process of this final two ball shot, the switch was pinned between the two balls after the match at a 45 degree angle. Again, this was the final state of the match.

Per the most the game manual: [<SC3>](#) An Alliance Scores a Goal once a Ball 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).

A. Ball that passes through a Target and then bounces back out into the playing Field does not count as a Scored Ball, and the Ball remains in play.

[<SC4>](#) A Switch is Cleared once it has been struck by a Ball and is no longer parallel with the front face of the Goal Wall. Robots may not Clear Switches by contacting them directly (i.e., without it being part of the process of scoring a Ball through that Target).

My expectations for this situation is:

1 - The ball that passed through top goal counts as a goal as it fully went through the goal.

2 - The switch is considered cleared as it ended the match no longer being parallel with the front face of the goal wall per SC4.

3 - The bottom goal does not count as it still had a small portion of the ball that had not fully passed the plane of the goal established by its border and a straight edge going across would have touched the ball. The ball has not fully passed through the goal per SC3.

Please determine if this is the correct interpretation.

If this is the correct interpretation, please define passing through the goal in more detail for this static end of game occurrence? If a straight edge across the more forward 2x plates that create the border of the goal count as the goal plane for this situation or is it the 2x plates that are further back? Not to be too specific, but I am sure a situation where this difference determines an outcome will inevitably occur.

However, Q&A 2081 states If a Scored Ball gets stuck inside the Goal Wall structure and does not make it to the Pickup Zone, a referee must free it by carefully reaching into the Goal Wall. If this action takes place the ball that has not fully passed through the goal is likely to fall. If the second ball that is teetering then falls, is this ball scored as well?

If neither is correct, could you please explain how an end of game situation like this should be scored. I would also expect the possibility of the balls falling during inspection of this situation. What would be the correct procedure if the balls fell after the match ended and prior to touching the balls during inspection of a close call that was not visually obvious?

Answered by committee

My expectations for this situation is:

- 1 - The ball that passed through top goal counts as a goal as it fully went through the goal.
- 2 - The switch is considered cleared as it ended the match no longer being parallel with the front face of the goal wall per SC4.
- 3 - The bottom goal does not count as it still had a small portion of the ball that had not fully passed the plane of the goal established by its border and a straight edge going across would have touched the ball. The ball has not fully passed through the goal per SC3.

We agree with these interpretations.

In a case where a Head Referee must determine whether or not a Ball has fully passed through a Target, they should move a straight-edged tool or beam across the 2x beams that define the top and bottom boundaries of the Target. If a Ball falls during this assessment, it is likely that the straight edge contacted that Ball in order to move it, meaning that Ball had not passed fully through the Target and would not count as Scored.

2260: SC3 during auton - does bot need to drop stake

5-Nov-2024

SC3

Team is seeking confirmation that for rings to be scored the mobile goal needs to be released by the robot. Please confirm/clarify.

Answered by committee

There is no requirement in the rules that a Mobile Goal be released by the Robot in order for Rings on that Mobile Goal to qualify as Scored. Rings can meet the criteria to be Scored on a Stake regardless of contact with a Robot.

2250: SC3 - Clarification on Rings Above Flexible Top

3-Nov-2024

SC3

After serving as a Head Referee for my first tournament of the season, I would like some additional clarification on [<SC3>](#) as it pertains to Rings that end Autonomous or Driver Control periods positioned above the flexible top of Stakes. SC3 point a.) states (emphasis mine):

..."encircling" means that any part of the Stake is at least **partially within** the volume defined by the inner edges of the Ring

The red box text of SC3 states:

...if a gentle "shake test" would result in the Ring falling anywhere other than further onto its Stake, then it is most likely not Scored

[Q&A 2166](#) already describes that the flexible top is included in the Stake and that rings may be Scored if encircling only the flexible top. Two common scenarios came up at the tournament, [which are recreated here](#). In both scenarios, the flexible top of the Stake is inside the inner edges of the Ring, fulfilling the "partially within" phrase of SC3a.) In Scenario 1, the Ring would likely fall off the Stake if a "shake test" was performed as suggested by the red box text of SC3. In Scenario 2, the Ring is secure around the flexible top and would stay above of the flexible top of the Stake if a "shake test" was performed.

- Should a Ring above the flexible top failing a "shake test" on a Stake negate the "partially fulfilled" criteria of point a.) in a situation like Scenario 1 and cause the Ring to not be scored?
- If a Ring is on the High Stake or a Wall Stake in which the Stake cannot be easily shaken, should only the "partially within" criteria be used to determine if a Ring sitting above the flexible top of the Stake is Scored or not?
- If a Ring ends the Autonomous period in a position similar to Scenario 1 in which a "shake test" should be performed to determine if the Ring would stay on the Stake, I would not want to shake the Stake and cause the Ring to fall off as that would change the state of the game mid-match. In this scenario, should referees only use the "partially within" criteria of point a.) to determine Scored status?

Thank you for your time!

Answered by committee

The next update to the High Stakes game manual will remove the suggested "shake test," and this change is effective immediately. Referees should assess Rings against the criteria in [<SC3>](#) to determine whether or not they meet the definition of Scored.

2203: Balls failed to score and not left the field

18-Oct-2024

[SC3](#)

If a failed scoring attempt puts ball back inside the field, can it be retrieved by loader off the field or does it have to be picked up by robot? in scoring example SE3 - 4th bullet mentions ball that is not scored can be retrieved by loader If answer to above is No, Can such a ball be removed from by loader if the robot is reset to starting position mid match?

Answered by committee

If a failed scoring attempt puts ball back inside the field, can it be retrieved by loader off the field, or does it have to be picked up by robot?

In this scenario, Loaders are not allowed to reach into the Field to remove the Ball. The Ball must be picked up by the Robot.

Can such a ball be removed from the field by a loader if the robot is reset to starting position mid-match?

In Autonomous Coding Skills Matches, a Loader is only allowed to remove a Ball from inside the Field during [<RSC8>](#) interactions, when Balls must be removed from both the Field and from the Robot. In Teamwork or Driving Skills Matches, a Loader is only allowed to remove a Ball from inside the Field during rare [<G10>](#) interactions when a Ball is preventing the Robot from being legally placed. (Most [<G10>](#) interactions usually result in Balls being removed only from the Robot, not from the Field.)

2166: Threshold for Scored Rings (SC3)

30-Sep-2024

[SC3](#)

In all of the diagrams in the game manual, scored rings are down past the flexible top of the stakes. Does the flexible top count as part of the stake that the ring can encircle (SC3) or does it need to go past that portion of the stake to count? Thanks.

[<SC3>](#)

Answered by committee

Per rule [<SC3>](#), a Ring is considered Scored on a Stake if it is "encircling" any part of the Stake, which by the game manual's definition of "Stake" includes both the pipe and flexible top. The additional guidance from [<SC3>](#)'s red box also applies:

In the vast majority of common scenarios, a Scored Ring will be fully supported by the Stake, other Scored Rings, and/or the Stake's associated base (i.e., Mobile Goal, field wall, or Ladder). Although this support can be used as a visualization tool when judging edge-case Rings, it is not explicitly required. Another visualization tool is that if a gentle "shake test" would result in the Ring falling anywhere other than further onto its Stake, then it is most likely not Scored (this test does not apply to tipped Mobile Goals).

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.

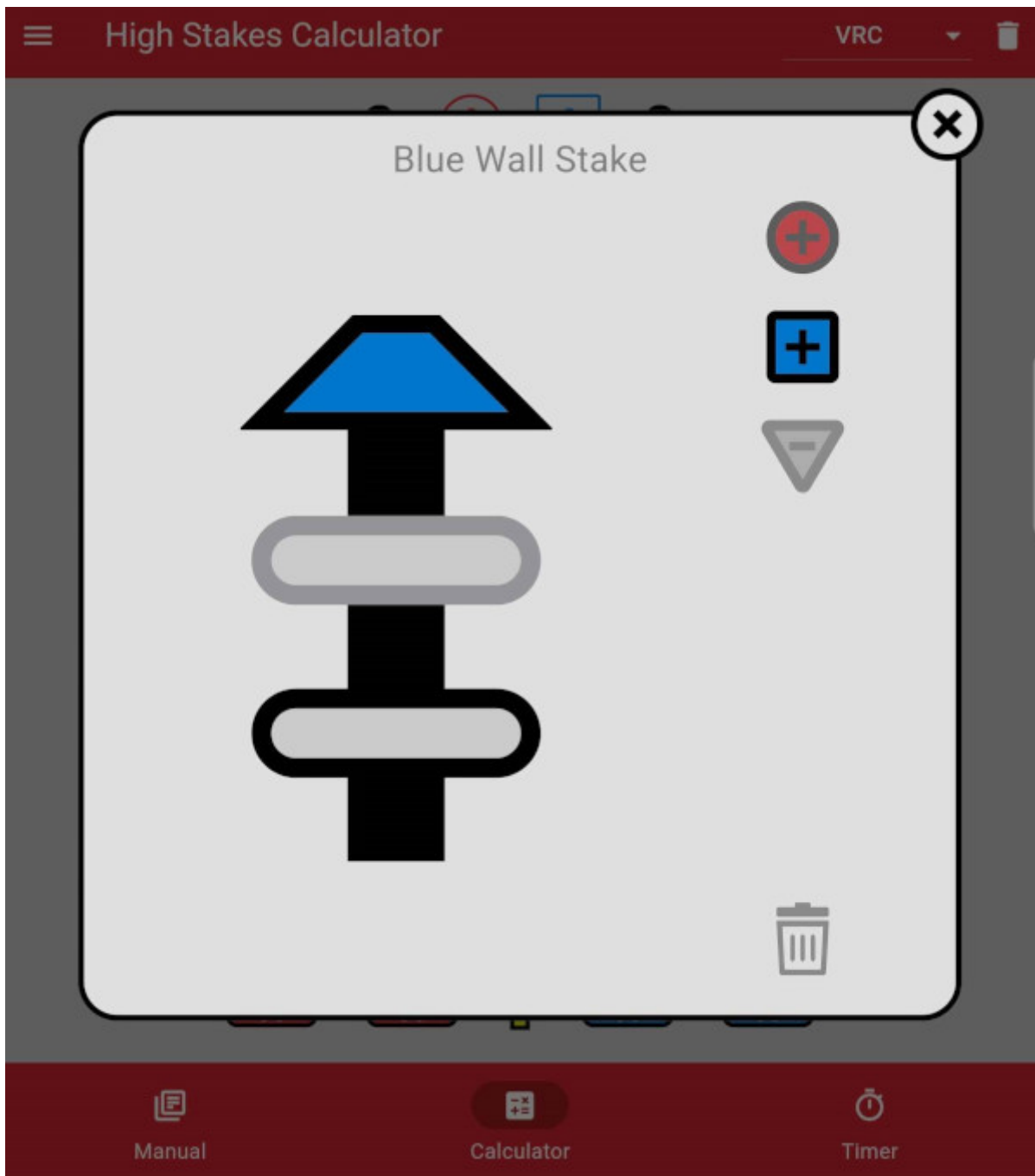
2060: SC3: Opposing colour ring on alliance wall stake

12-Jul-2024

[SC3](#) [SG10](#)

Can you clarify what should happen when an opposing colour ring is placed on an alliance wall stake.

Currently, the V5RC app does not allow this to happen - for example the red plus icon (+) is greyed out for the blue alliance wall stake, and does not do anything when pressed.



However, [<SC3>](#) and [<SG10>](#) do not prohibit a red robot placing a blue ring on the red alliance wall stake. Therefore we should assume it is legal.

Should the alliance wall stakes be scored as in the same way as neutral stakes at the end of the match?

Answered by committee

Can you clarify what should happen when an opposing colour ring is placed on an alliance wall stake.

If a Ring of the opposing color ends the Match in a Scored position on an Alliance Wall Stake, that Ring should not be considered as Scored, and will not earn points for either Alliance (it will still, however, count toward the maximum number of 2 rings that can be placed on an Alliance Wall Stake). If it is the furthest Scored Ring from the Stake's base, the next-lowest Scored Ring on that Stake should be checked against rule [<SC4>](#) to see if it meets the criteria for Top Ring status.

If a Team Scores a Ring on their opponent's Alliance Wall Stake, it is a Minor or Major Violation of rule [<SG10>](#).

1862: Potential match load loophole in skills

8-Jan-2024

SC3 SC4 SG6 RSC1

Our team recently competed at a competition and we have some concerns about how rules at the skills challenge were being interpreted, and to our knowledge the rules have been interpreted in the same way at other competitions, including at the Hollywood Blockbuster Signature Event. To start let us get some context as to which specific rules we are concerned about.

First is [Q&A 1177](#). The phrase “Two Drive Team Members loading in rapid succession, such that two incoming Match Loads (or hands) are never past the field perimeter at the same time” makes it clear that a team is not permitted to have more than one match load crossing the field perimeter at a time and doing so while introducing a match load into a match would be considered a violation of rule [<SG6>](#). In the context of skills matches this would involve the note on rule [<RSC1>](#)

Violation Note: In the Robot Skills Challenge, the standard definition of Match Affecting does not apply, since there is no winner and loser. When evaluating whether a rule Violation should be classified as a Major or Minor Violation in the context of this criteria, the term “score affecting” can be substituted for “Match Affecting”. A Violation is considered “score affecting” if it resulted in a net increase of that Team’s score at the end of the Match.

This would mean that if a team illegally match loaded a triball during a skills match and the same triball was scored at the end of the match it would be considered “score affecting” thus escalating to a Major Violation resulting in a score of 0 points for the skills match.

From here we can address our concern. This is how the rules have been interpreted:

If a team scores using an illegally introduced match load, they could be given the opportunity to rectify their violation and not have it be a “score affecting” result if the team uses the robot to take the illegally scored triball and descore it by putting it into an unscored state.

Essentially the logic boils down to “descore any illegal triballs to deescalate the offense from score affecting to a minor violation.” Here are some scenarios where this may apply:

Scenario 1: A team illegally match loads 2 triballs which land within the red offensive zone. The robot then removes 2 triballs from the red offensive zone either by placing them into the blue offensive zone or any match load zone. Thus the triballs in question will have moved from a scored state into a descored state.

Scenario 2: A team illegally match loads 2 triballs which land within the red offensive zone. The robot then removes 2 triballs from the red offensive zone and places them into a part of the field where they do not count for points. However, the team then proceeds to take the exact same triballs and scores them into the red offensive zone again. Thus the triballs in question will have moved from a scored state to an unscored state and back to a scored state.

Scenario 3: A team illegally match loads 2 triballs which land in the red offensive zone. The robot then makes physical contact with the triballs and drives away. Per rules [<SC3>](#) and [<SC4>](#) the triballs in question briefly would not have been considered scored if a robot of the same alliance color (in the case of skills this is red) is touching them. Thus the triballs in question will have moved from a scored state to an unscored state and back to a scored state.

What penalties, if any, would a team receive in any of these given scenarios? Our team hopes that this interpretation of the rules is not valid to begin with, however we wanted a clarification so we can best prepare for future events. Thank you!

Answered by committee

We believe that this is addressed by our answer to [this similar Q&A post](#). If it is not, please feel free to rephrase and re-submit.

1681: Robots contacting Blocks in a Goal transitively

8-Oct-2023

SC3

In some ways, this question is an extension of matters raised by:

- Q1676: [Touching Blocks after they have been Scored](#)
- Q1680: [Many implications of Robot parts falling into a Goal](#)

If a Match ends with a Robot still partially inside a Goal, there are some unclear matters.

Rule [<SC3>](#) is clear:

2. A Block is considered Scored in a Goal if...The Block is not contacting any Robots.

Thus, any Block contacting the Robot does not get counted. However:

1. What about Blocks contacting the Robot transitively? For example, Block A touching the Floor, Block B on top of A, the Robot touching only Block A. Since Block A is not considered Scored, we're interpreting this as Block B also not Scored, since the transitivity gets "broken" by an "invalid" Block. However, if Block A and C are both touching the Floor, and Block B is touching both A and C, then...yes? Shouldn't C and B be Scored, despite the Robot touching A and transitively/indirectly touching C and B? Or does the referee have to carefully determine which Blocks are in the transitive "chain" and which ones are not? And then calculate all Bonuses as if the chain of Blocks were gone?
2. What about Height bonuses? Again, if a Robot is touching (even slightly and immaterially) a Block, that Block and any blocks transitively touching it (this part is not 100% clear?) are also treated as if they were not in the Goal, right? Thus Height is calculated solely based on Blocks that are in no way touching or transitively/indirectly touching the Robot? This seems most fair since otherwise teams may exploit this to ensure a Height bonus by using the Robot to help raise the Blocks. This also makes Score calculation tricky for Height bonus: would you have achieved Height 3 if the robot were not present in the Goal?
3. What about Uniform bonuses? The touched Block clearly should be excluded from any Scoring. What about transitively touching Blocks? This has an interesting implication...strategy-wise. Suppose a team accidentally drops a purple Block into a Goal with all green Blocks. Clock says 2 seconds. You can opt to partially park (+5) or, even better,....drive to the non-Uniform Goal and reach in to touch the one purple Block. Per [<SC3>](#), the Driver has strategically invalidated the purple Block, thus earning a Uniform bonus for that Goal (+10). If we also add transitively touching Blocks as invalidated, then the Robot merely needs to touch a green block that transitively touches the purple Block, potentially risking invalidating the entire set of scored Blocks - although this scenario seems improbable in the wild.

Thanks for your consideration.

Answered by committee

If a Match ends with a Robot contacting a Block which would otherwise be considered Scored, then that Block is considered not Scored, per [<SC3>](#). That is the only Block which is considered not Scored; there is no mention of transitive contact in this evaluation.

One thing that may help scorekeepers and Head Referees is to physically remove any Blocks from the Goal that are being contacted (assuming that this can be done without disturbing other Scored Blocks). This will clearly indicate to all Teams and spectators the final state of the Goal.

With that visual in mind...

1. What about Blocks contacting the Robot transitively?

Transitive contact is irrelevant. If they are not contacting the Robot, then they are still considered Scored.

2. What about Height bonuses?

The Height bonus should be evaluated once any Blocks that were being contacted by the Robot are removed.

3. What about Uniform bonuses? The touched Block clearly should be excluded from any Scoring.

Correct.

Suppose a team accidentally drops a purple Block into a Goal with all green Blocks. Clock says 2 seconds. You can opt to partially park (+5) or, even better,....drive to the non-Uniform Goal and reach in to touch the one purple Block. Per <SC3>, the Driver has strategically invalidated the purple Block, thus earning a Uniform bonus for that Goal (+10).

Correct.

1532: <SG8> De-scoring of triballs

6-Jun-2023

SC3 SG8

Figures 28-31 mentions goals being open for 'De-scoring' , and triballs being 'safe', words which are not otherwise defined in the game manual. However <SG8> only mentions 'breaking the plane' of the goal:

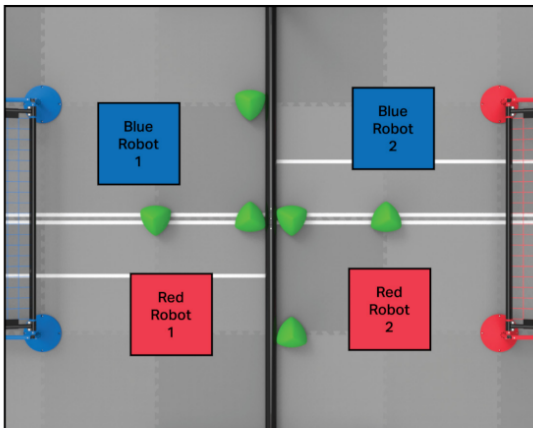


Figure 28: One Robot from each Alliance in their respective Offensive Zones; Triballs in Goals are safe.

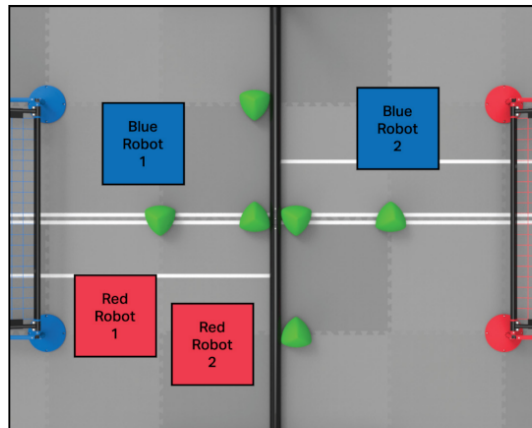


Figure 29: Both Red Robots are in the Blue Offensive Zone; Red Goal is open for de-scoring by a Blue Robot.

37

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<SG8> Stay out of your opponent's Goal unless they are Double-Zoned. During the time when an Alliance meets the definition of Double-Zoning, opposing Robots are permitted to "break the plane" of the Double-Zoning Alliance's Goal, such as to remove Triballs.

It is possible to cause a tribal to no longer be scored <SC3> without the robot breaking the plane of the goal. Is this legal when the opposing robots are not double zoning?

Answered by committee

Figures 28-31 mentions goals being open for 'De-scoring' , and triballs being 'safe', words which are not otherwise defined in the game manual. However <SG8> only mentions 'breaking the plane' of the goal:

This is correct. Encroaching on the space within an opponent's Goal ("breaking the plane") is the primary physical action that a Head Referee will be watching for to determine whether an SG8 Violation has been committed.

Non-defined mentions of "de-scoring" and Triballs being "safe" are meant to communicate the overarching intent behind SG8. This intent is to provide some level of protection for the space inside of Goals, and any Triballs

contained in that space.

It is possible to cause a triball to no longer be scored [<SC3>](#) without the robot breaking the plane of the goal. Is this legal when the opposing robots are not double zoning?

There are no rules explicitly preventing the action of causing a Triball to no longer be Scored in a Goal when not in a Double-Zoning situation.

However, as explained above, this is one of the intents of SG8. Therefore, any actions which directly or indirectly de-score Triballs from a Goal should be expected to see heavy levels of scrutiny from Head Referees. Interacting with an opponent's Goal in any way is an inherently defensive action, so Teams attempting such strategies should not expect any "benefit of the doubt" if they involve judgment calls relating to rules such as [<S1>](#), [<S3>](#), [<G3>](#), [<G6>](#), [<G7>](#), [<G15>](#), [<G17>](#), and/or [<SG5>](#).

1509: SC3; SC4: Are triballs legally scored in the goal also scored as being in the offensive zone

23-May-2023

SC3 SC4

The way the manual is currently written has a ball legally scored in the goal also legally scored in the offensive zone. This appearst to mean each triball legally in the goal is worth 7 points, 5 for the goal and 2 for the offensive zone..

From the definitions of goal and offensive zone:

Goal – The Alliance-colored, netted structure on either side of the field, one red and one blue, into which Triballs can be scored for points. As a Field Element, the term “Goal” refers to the net and all supporting structures / hardware (e.g. PVC pipes and plastic bases). For the purposes of scoring, the “Goal” refers specifically to the three-dimensional volume bounded by a vertical projection of the outermost PVC pipes onto the field and below the surface of the net.

Offensive Zone – One of two halves of the field, divided by the Barrier. See Figure 20. • Each Alliance has an Offensive Zone. An Alliance's Offensive Zone is on the side furthest from their Alliance Station and closest to that Alliance's colored Goal. • Each Offensive Zone consists of the gray foam tiles on one side of the Barrier. It is not a 3-dimensional volume. • The Long Barrier is not considered to be in either Offensive Zone. • The Match Load Zones are not considered to be part of either Offensive Zone.

There is a list of areas explicitly excluded from the definition of offensive zone, but the goal tiles are not among that list and the accompanying image shows the tiles under the goal to be colored as part of the offensive zones. Now the scoring rules:

SC3 A Triball is considered Scored in a Goal if it meets the following criteria: a. The Triball is not contacting a Robot of the same color Alliance as the Goal. b. At least two (2) corners of the Triball are within the Goal (i.e., are under the Net and have “broken the plane” of the outer edge of the PVC pipes that define the Goal volume).

SC4 A Triball is considered Scored in an Offensive Zone if it meets the following criteria: a. The Triball is not contacting a Robot of the same color Alliance as the Offensive Zone. b. The Triball is contacting the gray foam tiles within the Offensive Zone. Note: Offensive Zone scoring is based on contact with the gray foam tiles in each Offensive Zone. In the case of any close calls, referees may use a “paper test” (i.e. gently slide a piece of paper under the Triball) to determine which Offensive Zone it should be scored in. If the Triball is contacting both Offensive Zones, then it is not considered Scored in either Zone. See Figure 23.

Finally, I don't see anything in any of the other scoring rules that the triball must be exclusively scored as either in goal or in the offensive zone, therefore a triball legally scored in the goal is 7 points, not just five.

Is this the correct interpretation?

Answered by committee

Thank you for your question! The next version of the game manual will clarify that a Triball that is considered Scored in a Goal is not also considered Scored in that Goal's Offensive Zone.

1343: Scoring Disc at the Fence

14-Dec-2022

SC3

[<SC3>](#)

At the end of the match, if a disc is at the Fence, but is partially in the playing field and the 2 Point Zone (similar to Disc E in Figure 11 and 12), would we consider this disc to be worth 2 points by following the similar procedure as Disc E or would we not score this disc as it has not cleared the Fence completely?

Answered by committee

Thank you for your question! As described in rule [<SC2>](#), any Disc that has "broken the plane" of the 2-Point Goal Zone and is extending even slightly beyond the black Fence Line should be considered Scored in the 2-Point Goal Zone.

1299: SC3a - Definition of 'supported' by a Robot

15-Nov-2022

SC3

GDC,

SC3 a. states:

SC3 A Disc is considered Scored in the Low Goal for the Alliance corresponding to the color of the adjacent Barrier if it meets the following criteria: a. Not fully supported by a Robot of the same color Alliance as the Low Goal.

Figure 15 in the 2.2 game manual shows disc H being fully supported as an example.

Figure 15 in the 2.2 game manual shows disc I being scored while touching the grey tile, but leaning on a robot of the same color.

What about a disc that moves with a robot (IE mostly in an intake, or in the claw of the bot in the picture), but is touching the grey tile of the low goal? Previous seasons have had definitions of the term "supported" that meant moved with the robot, but could still be touching the tile. Can you please clarify this edge case in between H & I? Does supported mean not touching a tile at all? Or does it mean move with the robot but can be touching a tile?

Thank you for your time and consideration.

Answered by committee

Thank you for your question! In most cases, a "fully supported" Disc as described by rule [<SC3>](#) will not be touching a Field Tile (e.g., Disc H in Figure 15 of the Game Manual) and will be easy to identify. However, there are ways that a Disc can be touching a Field Tile while still being supported entirely by the Robot—for example, a Disc that is solidly inside a Robot's intake while also being in contact with a Field Tile. If the Head Referee were to hypothetically

move the Robot and the Disc were to move along with the Robot rather than falling to the Field Tile, the Disc should be considered fully supported by the Robot.

Note that the Head Referee should only move a Robot if it is absolutely necessary and only with extreme care to avoid affecting other Scored objects. In most cases, the Head Referee should be able to make this call without moving a Robot.

1289: <SC3> Disc Scoring in Low Goal - stacked discs

9-Nov-2022

SC3

Rule <SC3> A Disc is considered Scored in the Low Goal for the Alliance corresponding to the color of the adjacent Barrier if it meets the following criteria: a. Not fully supported by a Robot of the same color Alliance as the Low Goal. b. At least partially contained within the vertical projection of the Low Goal (i.e., "breaking the plane" of the Low Goal). c. Not contacting any field tiles outside of the Low Goal. d. Not contacting the Net. e. Not contacting the High Goal, or any of the supporting structures underneath the High Goal. Note: Discs which are Scored in a High Goal may not also count as being Scored in a Low Goal.

REFERENCE FIGURE 15

QUESTION - if disc is stacked on top of a scored disc in the low goal (with the bottom disc scored affirmatively in either a-e in above), what does a stacked disc on top of this = scored or un-scored? Figure 15th is not showing an example of this instance.

[<SC3>](#)

Answered by committee

Thank you for your question. As described in rule [<SC3>](#), a Disc must be **at least partially contained within the vertical projection of the Low Goal**. There is no requirement that a Disc be in contact with a Field Tile inside the Low Goal, so the "stacked Disc" in your scenario would be considered Scored in the Low Goal, providing it meets all of the criteria listed in rule [<SC3>](#).