

Q&A

VIQRC 2023-2024: Full Volume

Tagged: SC4

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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2033: Rapid Relay - Ball stuck in the switch mechanism

11-Jun-2024

SC4

[<SC4>](#) What is the course of action if a ball is stuck in the switch mechanism. We have seen the ball balance on the frame of the goal without dropping into the collection area. Is it left to balance?

Thanks for any clarification on this issue.

Answered by committee

If a Ball becomes stuck in a Switch mechanism, it should be cleared by a Robot as part of game play and should not be manually adjusted by a referee or Drive Team Member.

If there are repeated instances of a Ball becoming stuck in a Switch mechanism, it may be an indication that there has been a Field assembly error.

2023: Should a switch's status be "fixed"?

22-May-2024

SC4

[<SC4>](#)

It's rare, but we have seen already that a ball can go through a goal and not flip the switch.

It's also rare, but we have also seen a ball clear a switch but not go into the goal.

Should the switch's status reflect if a ball has scored in the goal, or should it be left as it is?

Answered by committee

Referees should not manually alter the status of a Switch, even in cases where a Goal is Scored without Clearing the Switch or a Switch is Cleared without a Goal being Scored.

We expect these edge cases to be rare, although we understand that they have occurred legally in early-season game play. The blue box in rule [<SC4>](#) will be revised in the June 25th game manual update to better reflect this reality.

In cases where a Switch is Cleared in Violation of rule [<SC4>](#), it should still be counted as Cleared but should also be recorded as a Major Violation and Disqualification in accordance with the Violation Notes for [<SC4>](#).

If there are repeated instances of a Switch not being correctly Cleared, it may be an indication that there has been a Field assembly error.

1894: Uniform goal

25-Jan-2024

SC4

[<SC4>](#) clarify uniform goal. If you have 2 green and 2 purple in the same goal is that uniform?

If that is considered uniform. Do the opposite colored blocks have to be equal to be considered uniform. example 3 green 3 purple uniform 3 green 2 purple not uniform

Answered by committee

As described in Clause B of rule [<SC4>](#), all Blocks which are Scored in a Goal must be of the same type for a Goal to be considered Uniform.

There are three types of Block: green, purple, and red. If a Goal includes more than one of these types, it cannot qualify as Uniform.

1877: Determining contact between objects

17-Jan-2024

SC4

In a recent competition, a situation arose where a robot elevated in the last few seconds of the match very close to the field wall. Since the robot would not be considered elevated if it were contacting the field wall, the referee did a paper test between the robot and the field wall. The paper failed to go through. However, after a bright light was shined on the area in question, a very small gap between the robot and the field wall was visible.

In the note under SC4, referees may use a paper test to settle situations where a triball is close to the border between offensive zones and it is difficult to tell which side it is scored for, if at all. However, in other situations where contact is relevant, should a paper test be used? Additionally, in an event where a paper test fails but the existence of a gap can be seen (and is agreed upon by everyone), should it be considered to be contacting or not? (Does visual evidence override the paper test?)

Answered by committee

The paper test is only a suggested tool to help a Head Referee evaluate whether or not a Robot meets the criteria of not touching the field wall. The rule is not "if a referee cannot place a piece of paper between your robot and the wall..."

Head Referees may use other, self-selected tools (e.g., the flashlight you've described) to help assist their decision making, as long as the method is similarly not easily refutable & is applied consistently during an event. In every case, as described in the first paragraph of rule [<T3>](#):

Once the Head Referee announces that their decision has been made final, the issue is over and no more appeals may be made (See rule [<T1>](#)).

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.

1779: <SC4> <SC5> Alliance Triball contacting two offensive zones

20-Nov-2023

SC4 SC5

An Alliance Triball at the end of the match is contacting both offensive zones and not contacting a robot of the same color. The note below SC4 states that "If the Triball is contacting both Offensive Zones, then it is not considered scored in either Zone." SC5 states that "Alliance Triballs may be scored in any Goal or Offensive Zone, and always count toward the same color Alliance as the Triball." Given this scenario should the Alliance Triball be scored since the offensive zone it is in is irrelevant, similar to how Alliance Triballs in a goal are treated under SC5?

Answered by committee

As you quoted from the note following [<SC4>](#),

If the Triball is contacting both Offensive Zones, then it is not considered scored in either Zone.

This includes Alliance Triballs.

1697: Calculating the Match Score when there is a Score Affecting violation

13-Oct-2023

SC4 SG2

Should points scored by a Score Affecting violation be removed from the final score for the partner that was not Disqualified, regardless of the impact to the final score.

Scenario: Team 123A expanded horizontally while clearing out one or two cubes from the supply zone-. The supply zone was eventually cleared out by 987X, the non-violating team. Should the 20 points be removed from the final score?

[<SG2>](#)

The second scenario, is when Team 123A places a green block in a goal that has 2 purple blocks while 123A is illegally expanded horizontally. Removing/not counting the green block removes one point from the final score but adds 10 points for establishing a uniform goal. Or is this scenario even Score affecting since it results in a net loss of 9 points, hence only a minor violation is issued to 123A for expansion ?

[<SC4>](#)

Answered by committee

Should points scored by a Score Affecting violation be removed from the final score for the partner that was not Disqualified, regardless of the impact to the final score.

No. Points scored during a Score Affecting violation should not be removed from the final score for an Alliance Partner that was not Disqualified.

Or is this scenario even Score affecting since it results in a net loss of 9 points, hence only a minor violation is issued to 123A for expansion ?

This scenario is not Score Affecting, and should only result in a Minor Violation. The definition of Score Affecting reads as follows:

- Score Affecting – A Violation which **improves an Alliance's score** at the end of a Match.
-

1676: Touching blocks after they have been scored

3-Oct-2023

SC4

I cannot find any mention of this but are there any limitations on touching or handling the blocks once they have been scored in a zone? Two examples:

1. Scoring a block of the wrong color and, if your robot is able, reaching in and removing the block to maintain a uniform color. [<SC4>](#)
2. Manipulating a red block that gets stuck on top of the scoring zone to allow it to fall in. [<SC6>](#)

Answered by committee

Rule [<SG3>](#) requires Teams to "keep blocks in the Field." As long as Team and Robot actions meet all of the criteria of this rule, there are no other rules that limit Teams from moving blocks into or out of Goals or around the field.

1634: Clarification of Intent of SC4 and SG8

31-Aug-2023

SC4 SG8

The *intent* of <SG8> appears to be to prevent descoring of triballs scored in goals, except when double zoning. However <SG8> allows alliance triballs scored in the opposing alliance goal to be removed. In addition <SC4> states that a triball is scored if two points are within the 3D volume of the goal, and it is not in contact with an robot of the same color as the goal, however this allows robots descoring opposing alliance triballs scored in their goal simply through contact. Is this an intended part of the gameplay of Over Under? Thank you for your time, 334V

Answered by committee

Yes.

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.

1488: Contact Zone

4-Mar-2023

SC4

[<SC4>](#)

My team sets up in the expansion zone and touches the contact zone without going over the fence. I cannot find anything in the roles that says that's necessary. What's the official policy?

Answered by committee

Currently, this is permitted.

However, the April 5 Game Manual update for VEX Worlds will include further clarifications. Specifically, going "around" the Fence (i.e. outside of the Field) and/or "through" the Fence structure will both be prohibited.

1449: Bonus arm and touching fence

11-Feb-2023

SC4

[<SC4>](#) can the bonus mechanism be touching the fence anywhere to be counted? our mechanism when we throw it at times rest on the fence is this legal or is the arm not allowed to touch the fence at all?

Answered by committee

There is no rule against contacting the Fence during a Slapshot match, provided no other rules are broken in the process and that no damage is caused to the Fence.

1407: Contact Bonus - A point bonus achieved at the end of a Match.

24-Jan-2023

Could you please provide clarification on the definition of "end of Match." I cannot find anything that states "when" or at what time a driver is supposed to go to the expansion zone and extend their robot. I noticed one team not receive any points for extending their robot prior to the last ten seconds of the match, even though they placed the remote down to signal they were done with 19 seconds left on the clock. The other team was clearly not done and had continued driving until the last 3 seconds on the clock when they deployed their expansion over on the other side. Can one team decide to be done earlier and that constitutes the "end of Match" for them? [<SC4>](#)

Answered by committee

All Match scoring, including Contact Bonuses, is based entirely on the locations and states of Robots and Discs immediately after the Match ends as described in rule [<SC1>](#)--regardless of how or when they got there.

Teams may legally expand across the Fence and contact a Contact Zone as described in rule [<SC4>](#) at any time during the Match while in contact with an Expansion Zone. However, based on the definition of Contact Bonus, the point bonus achieved is only earned if the Robot meets the requirements of [<SC4>](#) when the Match timer reaches zero (0) and everything has come to rest as described in rule [<SC1>](#).

1337: Bonus points for partner DQ'ed due to illegal expansion at non-expansion zone

9-Dec-2022

G13 G14 SC4

Does alliance partner get the contact bonus from the other partner during qualifications if the other partner touch down for contact bonus but didn't expand in the legal expansion zone?

Here is a link to Q & A about some of the confusion but it doesn't answer everything clearly.

<https://www.robotevents.com/VIQC/2022-2023/QA/1306>

So from my understanding is if an contact arm is expanded beyond the horizontal size limitation of 11x19 inches and isn't touching the expansion zone floor and doesn't affect the score, then that is a minor violation. Teams will need to pull their robot off the field, contract the arm and reset robot into the starting position before they can start controlling the robot again.

However based on the Q&A, if a robot touches a contact zone for additional points but is not touching the expansion zone floor, that team is automatically DQed for that match since their expansion makes the robot larger than the size limitations when the robot isn't touching the expansion zone and the contact arm is game affecting since the contact arm results in additional points.

During qualifications matches in past years if a team is DQed, the other team still gets the total points from the match and the team that is DQed gets zero. So for example last season if a team got balls in the high goal but then were DQed, those balls still counted as points to the other team.

So here is my question, if say a alliance partner touches a contact zone and says gets 20 additional points for contact but their robot isn't touching the expansion zone floor, they would get an automatic DQ. Does those 20 points still count towards the match and the other team? [<G13><G13><SC4>](#)

Answered by committee

So here is my question, if an alliance partner touches a contact zone and gets 20 additional points for contact but their robot isn't touching the expansion zone floor, they would get an automatic DQ. Do those 20 points still count towards the match and the other team?

Yes. The non-Disqualified Team will receive the full score for the Qualification Match, including the Disqualified Team's Contact Bonus, unless that Team has also earned a Disqualification.

Note that in Finals Matches, the Disqualification would extend to the Alliance Partner, and both Teams would receive a score of 0 for the Match.

1306: Robot touching contact zone at end of match when sitting slightly outside of expansion zone?

19-Nov-2022

SC4 G13 G14

[<G13>](#)

[<G14>](#)

[<SC4>](#)

What happens when a robot is accidentally outside of the expansion zone at the end of the match, but has made contact with a contact zone across the fence?

Crossing the fence accidentally has already been answered (on here) as a minor violation if not score-affecting.

But does contact in a contact zone "affect the score," and thus elevate it to a major violation?

In our case, the student was standing on the opposite side of the field and couldn't see that his tire was *slightly* outside of the expansion zone. In fact, it was an Omni wheel, and the wheel was actually *over* the expansion zone, but just barely not touching the light gray plastic, because of the curvature of the wheel rubber.

There were two discs inside the relevant zone. The judges said, "That would be +2 points for contact, so it's score affecting, so it's a Major Violation, which results in disqualification and a score of 0."

But it seems more logical (and charitable) to say, "Since you weren't quite in the expansion zone, accidentally, the +2 points don't count, so this isn't score affecting, so it's a minor violation."

This has happened to three different teams, so far today, in our first regional tournament. In each case, the judges ruled a major violation and disqualified the teams.

There are several rules that could be clarified here.

Answered by committee

Thank you for your question. Rule [<SC4>](#) specifies that a Robot achieves a Contact Bonus if any part of the Robot is contacting the Floor inside of a Contact Zone. Because [<SC4>](#) doesn't mention an exception for rule [<G14>](#), this bonus is earned whether the Robot is or is not in violation of [<G13>](#) or [<G14>](#).

If a Robot earns a Contact Bonus while *not* in contact with an Expansion Zone, it becomes a Score Affecting violation of rule [<G14>](#) (and [<G13>](#) if it expands horizontally beyond 11"x19" in the process) if at least one Disc is in the Goal Zone that corresponds to that Robot's Contact Zone.

Because there are no specific Violation notes for rules [<G13>](#) or [<G14>](#), the flowchart on page 9 of the Slapshot Game Manual should be used to determine the appropriate violation. In this case, if there is at least one Disc in the Goal Zone that corresponds to the Robot's Contact Zone, the Violation is Score Affecting and should result in a Major Violation and DQ.

Based on the scenarios you've described, the Head Referee correctly interpreted these rules and their intent.

1166: Spinning the roller using the gear and not the PVC pipe

27-Jul-2022

SC4

According to the game manual, rule SC4: <SC4> A Roller is Owned by an Alliance if the area between the Roller's pointers is entirely that Alliance's color, when viewed from above. If a Roller is "too close to call" between two states, then referees are advised to give the "benefit of the doubt" to the color that is within the two pointers. For example, in Figure 16, if either Roller was positioned such that the color boundary was directly beneath the pointer and it was "too close to call," then it should be considered Owned by the blue Alliance.

My team cannot find anywhere in the rules where it states how the roller has to be turned. They have built a mechanism that turns the gear that the roller is attached to. Would this be a legal way to turn the roller?

Answered by committee

My team cannot find anywhere in the rules where it states how the roller has to be turned.

As a general rule of thumb - if there are no rules prohibiting something, then it is legal.

As long as no rules are Violated, such as damaging a Field Element (S1), this would be legal.