

Q&A

VEX V5 Robotics Competition 2024-2025: High Stakes

Tagged: SC7

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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2292: Clarification on SC7 and SG9: Protection when holding mobile goals

12-Nov-2024

SC7 SG9

[<SC7>](#)

Hello!

If RED1 is elevated at Level 2, and is currently holding a mobile goal underneath itself, If BLUE1 pushes the mobile goal, causing RED1 to fall off the ladder, is RED1 offered protections from SG9?

Our main concern is that as per SC7 RED1 would not be considered to have "Climbed to a Level" as it is contacting a mobile goal.

Would the correct interpretation of this scenario be to assume that as RED1 was on a "higher level" regardless of whether it meets the definition of "climbed to a level", that BLUE1 can not cause a destructive incident with RED1 to remove it from the ladder?

Essentially, is a robot offered the same protections from SG9 if it is climbing the ladder with a Mobile Goal?

Cheers

Answered by committee

Note: As of the January 28, 2025, game manual update, a Robot may be in contact with a Mobile Goal and still be considered as having Climbed to a Level. Portions of the original question no longer apply, and our answer has been revised to reflect the revised rule.

Essentially, is a robot offered the same protections from SG9 if it is climbing the ladder with a Mobile Goal?

Yes. A Robot meets the definition of Climbing and receives the protections of rule [<SG9>](#) even if it Climbs with a Mobile Goal.

2209: Switches becoming Un-Cleared During the Game

21-Oct-2024

SC1 SC4 SC7

Per [<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. If a switch is cleared and then through normal game play the switch returns to the uncleared position where it remains till the end of the match, per [<SC1>](#) scoring statuses are evaluated after the match ends should the switch be evaluated based on the final position, even though [<SC7>](#) states that rapid relay is designed to be scored in real time.

Example: A ball becomes wedged in the switch, without fully passing through the target, holding the switch in a partially flipped position. The ball is later dislodged by a robot and falls back into the field, which causes the switch to return to its starting position, and is untouched till the end of the match.

How should cleared switches be scored with respect to <SC1> and <SC7>?

Answered by committee

Based on the nature of the game, Passes and Goals must be scored in real-time, so [<SC7>](#) states that "Passes and Goals should be recorded at the time they occur." Cleared Switches are only evaluated and recorded at the end of

the Match, per [SC1](#).

2196: Tier 4 Climb Point Value

15-Oct-2024

SC7

[SC7](#)

Hello,

Based on the diagram given in rule SC7 on page 28 of the 2.1 game manual, there is a level 4 above the 3-4 plane. However, the scoring chart on page 18 does not contain a point value for a level 4 climb. Would a level 4 hang be worth 0, 12, or some other larger value of points? (While this is only realistically feasible using the VURC buddy climb rules, it is still possible in V5RC given the high stake is in level 4, hence why I am asking here).

Thank you for your time.

Answered by committee

Thank you for your question. Level 4 only exists for the purpose of [SG3](#) in limiting vertical expansion. For scoring, a Level 3 Climb is as high as it goes.

2139: SG9 and Defense

16-Sep-2024

SC7 SG9

[SG9](#)[SC7](#)

SG9a states:

- a. If the two Robots are not at the same Level, the higher Robot has the "right of way." i. Point A especially applies if one Robot is not Climbing, i.e., is still in contact with the Floor. Driving directly into a Climbing Robot will always incur a Minor Violation at a minimum, even if no damage occurs.

Does "Climbing" in SG9ai refer to the criteria for "Climbed to a Level" defined by SC7? For example, RED1 is attempting to climb and BLUE1 is on the ground trying to defend them. Is it legal for a BLUE1 to drive into RED1 to stop them from climbing if RED1 is touching the ladder but still contacting the tiles? If not, what criteria should referees use to determine when a robot starts "climbing"?

Answered by committee

Thank you for your question, and for allowing us to clarify the intent of rule [SG9](#). The definition of Climb will be revised as follows in the next game manual update, and this change is effective immediately.

Climb - A Robot action. A Robot is considered to be Climbing if it has intentionally grasped, grabbed, or attached itself to the bottom/black rung of the Ladder and/or a higher point of the Ladder. In most cases, this means a Robot mechanism will be reacting against multiple sides of a rung or vertical section in an effort to latch, clamp, or hook onto the Ladder. See [SC7](#) for the criteria for a Robot to be considered to have Climbed to a Level.

As stated in Clause Ai of rule [SG9](#), "Driving directly into a Climbing Robot will always incur a Minor Violation at a minimum, even if no damage occurs."

2093: Clarification on SC7/G17 and Elevation with Assistance from Rings

7-Aug-2024

SC7 G17

[<SC7>](#) [<G17>](#)

Hello!

At our season opener we encountered a situation where a team managed to become high-centered on a ring whilst contacting the ladder, being off the ground and thus meeting all criteria of SC7: > a) The Robot is contacting the ladder > b) The Robot is not contacting any other Field elements, including the gray foam tiles. > c) The Robot is not contacting any Mobile Goals. > d) The Robot's lowest point is past that Level's minimum height from the gray foam tiles.

As the definition of a Field Element does not include game elements such as Rings, would this mean this robot if meeting all other points of SC7 is considered elevated? Additionally, G17 stipulates that

Scoring Objects may not be used to accomplish actions that would otherwise be illegal if they were attempted by Robot mechanisms

Would a robot becoming high-centered on a ring and achieving a Level 1 Elevation be considered in violation of G17 as the ring is acting as a "glove" to prevent them from touching the ground?

If the above is legal, are teams allowed to employ strategies to achieve Level 1 Elevations by sitting on rings?

Furthermore, as the team is now no longer contacting the level 0-1 plane, are the team now able to break the level 2-3 plane as a result of sitting on a ring?

Cheers

Answered by committee

Note: As of the January 28, 2025, game manual update, a Robot may be in contact with a Mobile Goal and still be considered as having Climbed to a Level. Portions of the rule quoted in the question no longer apply.

Contact with a Ring does not affect whether a Robot is considered to have Climbed to a Level as described in [<SC7>](#).

If the above is legal, are teams allowed to employ strategies to achieve Level 1 Elevations by sitting on rings?

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

Furthermore, as the team is now no longer contacting the level 0-1 plane, are the team now able to break the level 2-3 plane as a result of sitting on a ring?

Yes.

1988: Regarding the valid triball

3-Mar-2024

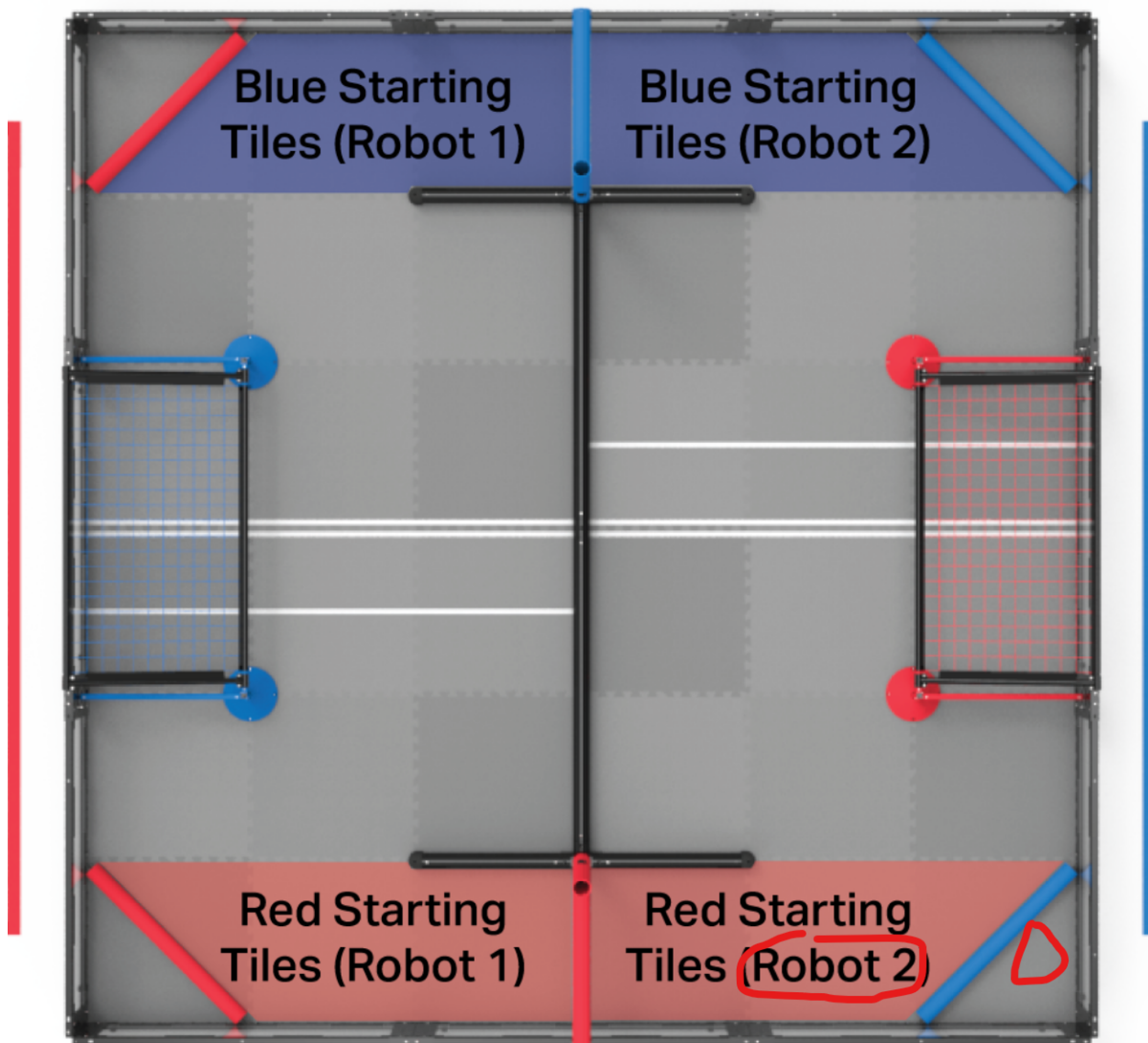
SC7

[<SC7>](#)

<SC7> An Autonomous Win Point is awarded to any Alliance that ends the Autonomous Period with the following tasks completed::

a. Removed the Triball from the Alliance's Match Load Zone that coincides with their Starting Tiles. For example, in Figure 21, the red Alliance must remove the Triball that begins in the bottom-left Match Load Zone, adjacent to Robot 1's Starting Tiles.

I am confused about it. What if Robot 2 alone removes the triball that begins in the bottom-right Match Load Zone? Basically, the rule doesn't say in order to get the AWP for the Red alliance team, both robot should get individual triball or either one of them should get the corresponding triball, or only Robot 1 should get the ball? Thanks.



Answered by committee

As you quoted in your question, to earn the Autonomous Win Point (AWP) an Alliance must have "Removed the Triball from the Alliance's Match Load Zone that coincides with their Starting Tiles," among other tasks. The Match Load Zone you refer to in your question (the bottom-right in the image) belongs to the opposing Alliance and is not relevant to completing the AWP tasks.

1907: Can a team surrender the autonomous bonus for an autonomous win point?

Can a team surrender the autonomous bonus for an autonomous win point? Was at a tournament a team crossed under the elevation crossbar touching the tile on the other side to get the autonomous win point. Is this right should the team get the win point? SC7-d not violated any other rules. But touching the tile on the other side is a rule violation.<SC7>

Answered by committee

As stated in your post, one of the requirements listed in <SC7> is that the Alliance has not violated any other rules. Contacting tiles in a different Offensive Zone is a violation of <SG9>, and would therefore make the Alliance ineligible for the Autonomous Win Point.

1897: License Plate - Parking

27-Jan-2024

SC7 R9

<SC7><R9> License Plate – A physical component on the Robot that displays the Team's VEX IQ Robotics Competition number. The License Plate must have a length and height of 3.5" x 1.5" (88.9mm x 38.1mm) and must not exceed a width of 0.25" (6.35mm) per <R9>.

An Official License Plate, being a physical component of the robot, is the only part of the robot breaking the plane would the robot be counted as partially parked?

Would a Printed Plate, that counts only as a non-functional decorations, count as partially parked if it was only part breaking the plane?

Answered by committee

Non-functional decorations are still considered part of the Robot, and are therefore bound by standard rules, such as starting size.

Yes, a Robot with a License Plate that is partially in the Supply Zone would receive credit for being Partially Parked.

Similarly, if a Robot were Fully Parked in all ways *except* for its License Plate, it would only receive credit for being Partially Parked.

1784: Are cables considered for size & parking?

21-Nov-2023

SC7 R1 R4

This has come up with my teams in previous years, but hasn't mattered much. With this year's supply zone and fully parking, it has now become an important question. When determining size restrictions of a robot, do loose cables count? Is it the same ruling when considering a breach of the parking zone? I see two possible solutions:

- Either they do not count for size and do not count for parking (ie a cable over the zone is not a partial park, or a cable outside the zone with the rest of the robot inside is still a full park)
- or they do count for size (cables must be within starting size configuration) and do count for parking (ie a cable over the zone is a partial park and a cable outside the zone with the rest of the robot inside is not a full park)

Obviously I can teach kids about proper cable management, but they resist without explicit rulings. There is a note in R1 about subsystems 2&3 being a part of the robot, but I am still unclear if that includes cables as it specifies motors but not cables.

Thank you!

Answered by committee

When determining size restrictions of a robot, do loose cables count? Is it the same ruling when considering a breach of the parking zone?

Yes, loose cables count as part of the Robot when determining whether or not the Robot is within the size limits, and when determining whether a Robot is Partially or Fully Parked. Everything attached to the Robot counts as part of the Robot (e.g., cables, non-functional decorations, Robot Brain, shafts, etc.). If a cable or other part comes loose but remains connected to the Robot it still counts toward the Robot's size and the horizontal expansion limits in rule [<SG2>](#). In most cases when a loose or dragging part is *not* being used to score points, this type of SG2 Violation would be a Minor Violation and a warning (unless repeated).

1771: SC7a triball removal clarification

15-Nov-2023

SC7

Suppose that robot Red1 in figure 21 is able to successfully remove a triball from the match load zone, but in the process moving, accidentally hits the triball such that it lands back in the same match load zone. Would this still count as successfully completing SC7a?

Answered by committee

If the Triball falls back into the Match Load Zone, or is otherwise returned to the Match Load Zone by the Robot that removes it, it will not count as having completed the condition of clause A of [<SC7>](#).

As stated in rule [<SC7>](#) and bolded for emphasis,

An Autonomous Win Point is awarded to any Alliance that has completed the following tasks **at the end of the Autonomous Period...**

Much like evaluation of Scoring statuses at the end of the Match (see rule [<SC1>](#)), the outcomes of the Autonomous Period (including AWP) can only be determined when Triballs, Field Elements, and Robots have come to rest.

1752: Parking <SC7>

7-Nov-2023

SC7

Do robots need to be contacting the floor to be considered parked, or can they be sitting on top of blocks that have not been cleared from the supply zone just as long as the robot is within the boundaries of the supply zone? [<SC7>](#)

Answered by committee

Per the definition of Parked in the General Definitions section of the game manual, the only requirement for a Parked status is that the Robot be partially or fully within the Supply Zone. There is no requirement that the Robot be contacting the floor.

Parked – A Robot status at the end of the Match. • Partially Parked – A Robot is Partially Parked if it is partially within the Supply Zone. • Fully Parked – A Robot is Fully Parked if it is fully within the Supply Zone. • Double Parked – An Alliance is Double Parked if both Robots are Fully Parked.

1713: Win Point Match Load Condition A

20-Oct-2023

SC7

[<SC7>](#)

For Condition A in SC7 for the conditions of the Autonomous Win Point, it states "Removed the Triball from the Alliance's Match Load Zone that coincides with their Starting Tiles. For example, in Figure 21, the red Alliance must remove the Triball that begins in the bottom-left Match Load Zone, adjacent to Robot 1's Starting Tiles." Does the robot have to physically remove the triball from the loading area on its own or can the robot touch the match load pole and a drive team member load the match load on the robot and still meet condition A? We are a little confused by this because we know that Autonomous means no humans. Thank you, have a great weekend!

Answered by committee

Per rule [<G9>](#), Drive Team Members are not allowed to reach into the field during the Match to contact the Triballs that begin the Match on the field, including the Triballs that begin the Match inside the Match Load Zones. A Robot must physically remove the Triball from the Match Load Zone on its own to meet the conditions of rule [<SC7>](#).

1694: Entering opponents goal

13-Oct-2023

SC7 SG8

[<SG8>](#) <SG8(d)> states "Stay out of your opponent's Goal unless they are Double-Zoned." (d) "Entering an opponent's Goal is not permitted at any time during the Autonomous Period."

[<SC7>](#) <SC7(d)> states "An Autonomous Win Point is awarded to any Alliance that has completed the following tasks at the end of the Autonomous Period:" (d) "Not violated any other rules."

Many teams are pushing (or attempting to push) their alliance triball under the opponents goal for the five points in the Autonomous Period. While it is possible, it is not easy at all to score the triball without the robot breaking the plane. SG8(d) is very clear that you can't enter the opponents goal (break the vertical plane with your robot) in auton.

1. If, while scoring their own Alliance Triball in the opponents goal, the robots breaks the plane, a) is it a minor or major penalty? b) If it is a minor penalty that affects the winner of the Autonomous Bonus, is it then a major penalty (awarding the Autonomous Bonus to the opponent)? c) To determine if it is autonomous impacting - is it a five point differential (the difference between the triball scored in a goal (5 points) and a triball touching your robot (0 points)) or is it a three point differential (the difference between the triball scored in a goal (5 points) and a triball scored in the offensive zone (2 points))?
2. Does this also mean loss of AWP (whether it is a major or minor) via SC7(d) even if all of the tasks to achieve the AWP were completed without violation (essentially, this violation did not help them complete the tasks needed for AWP).

EDIT: Including question about how to score a potentially illegally placed triball.

Answered by committee

1a & 1b: If a Robot breaks the plane of the opponent's Goal while Scoring their Alliance Triball during the Autonomous Period, the Head Referee will first need to determine whether that Alliance outscored their opponent and by how much.

- If their score is more than five points higher than their opponent's, the infraction did not affect the outcome of the Autonomous Period and they should be awarded the Autonomous Bonus.
- If their score is 0-5 points higher than their opponent's, the infraction has affected the outcome of the Autonomous Period and the Autonomous Bonus should be awarded to their opponent as described in rule [<G12>](#).

Any Violations committed during the Autonomous Period that affect the outcome of the Autonomous Bonus—whether they are Match Affecting or not—will result in the Autonomous Bonus being automatically awarded to the opposing Alliance.

In either case, the [<SG8>](#) Violation should be recorded for consideration at the end of the Match to determine whether or not the Violation was Match Affecting and should receive a Minor or Major Violation. Match Affecting can **only** be determined at the end of a Match once the scores have been calculated.

1c: Because the Alliance Triball begins the Match in contact with the Robot, and unscored, it is counted as a 5-point differential in this scenario.

2: Yes. Rule [<SC7>](#) says explicitly (bold text added for emphasis):

An Autonomous Win Point is awarded to any Alliance that has completed the following tasks at the end of the Autonomous Period: d. Not violated **any** other rules.

1691: <SC7> Alliance triball scored for AWP

12-Oct-2023

SC7

[<SC7>](#)

- <SC7b> reads "Scored at least one Alliance Triball in the Alliance's own Goal."
- The definition of Alliance Triball is "Alliance Triball – One of **four** Triballs, two per Alliance, that are Alliance-colored instead of green. Alliance Triballs may be used as Preloads or Match Loads."

A scenario that teams have interpreted differently:

RED1 removed triball from Match Load Zone and touched the Elevation Bar successfully. RED2 does not move. BLUE1 legally (without breaking the plane) scores a blue alliance triball into Red Goal. BLUE2 does not move. At the end of the autonomous period, since it is specified in <SC7b> as having to be in the Alliance's **own** Goal, but does not specify that it has to be the alliance's **own** Triball, is this an AWP for RED?

Additionally, <SC7> does read that the AWP "is awarded to any Alliance that has completed the following tasks". It can be interpreted that the RED alliance did not complete that task, the BLUE alliance did. I know that previous year's rulings do not impact this year's rulings, but the context is good to understand the different interpretations - in previous years, if the one alliance did something to aid the opposing alliance achieve the AWP, it was counted.

Answered by committee

Additionally, <SC7> does read that the AWP "is awarded to any Alliance that has completed the following tasks". It can be interpreted that the RED alliance did not complete that task, the BLUE

alliance did.

This is the correct interpretation. SC7-b is intended to imply that the Alliance has Scored at least one of their own Alliance Triballs into the Alliance's own Goal. This clarification will be reflected in an upcoming Game Manual update.

1657: Possession | Scoring Multiple Triballs While Possessing One

22-Sep-2023

SC7

Hi, From Rule<SG7>, it states that "Robots are free to incidentally drive through Triballs on the field while Possessing a Triball." Furthermore, from the Game-Specific Definitions, "pushing/plowing Triballs is not considered Possession."

Linking back to our question, we have two scenarios that question the extent of these rules.

Scenario 1 (<https://youtube.com/shorts/U6c3klIiqXo?feature=share>): Demonstrated above, multiple triballs are originally in front but not within the Goal, and our robot, possessing one triball with our intake, pushes them in. Would this be considered both possessing and scoring multiple triballs at the same time?

Scenario 2 (<https://youtu.be/cIMt3Ld1e90>): In the video, multiple triballs are shown in the red offensive zone under the red elevation bar. Furthermore, our robot (blue team) possessing one triball with our intake, plows through the triballs to our own blue zone. In doing so, the triballs originally in the red offensive zone would be in the blue scoring zone instead. Would this be considered an illegal act of possessing multiple triballs whilst scoring?

Thank you for your time.

Answered by committee

The October 3rd Game Manual update included revisions to the definitions of Possession and Plowing, as well as rule <SG7>, that we hope help to answer this question.

If the face on the front of the Robot in the linked videos is flat, which it appears to be from this angle, then this would likely be considered Possessing 1 Triball, and Plowing 2 or more Triballs. There are no rules prohibiting this.

Rule <SG7> only refers to Possessing more than one Triball at a time, regardless of what is being done with them (scoring, moving around the field, etc).

1587: SC7 Alliance Match Load Zone clarification

15-Jul-2023

SC7

<SC7>

I have a question regarding the criteria for the Autonomous Win Point.

<SC7a> indicates that the triball must be removed from the alliance match load zone that corresponds with their starting tiles. It also provides reference using figure 21 of a possible scenario for the red alliance.

For clarification, due to not being able to cross into the opposing zone, the only valid cases of robots removing the triball are blue robot 2 and red robot 1, for the purposes of the Autonomous Win Point?

Answered by committee

Yes, this would be a correct interpretation.

1548: Clarification on SC7

15-Jun-2023

SC7

The current wording of <SC7> states that the four autonomous objectives by "at the end of the autonomous period". This implies that these objectives, specifically emptying the match loader, can be undone before the end of the autonomous period. The only potential rule violation would be <SG9> through <G17>, however, the tribal isn't interfering with the opponents autonomous play. Provided below is an example match; BLUE1 empties the match loader, and BLUE2 pushes their alliance tribal into the blue alliance goal, before contacting the elevation bar. RED2 scores 5 triballs in the alliance goal, while RED1 waits until the final 3 seconds before shooting a tribal into the blue match loader closest to the blue alliance's starting location. Does Blue receives an autonomous winpoint? Red receive three autonomous bonus? Red1 receives a violation? Thank you for your time, 334V

Answered by committee

Thank you for your question! Clause A of rule [<SC7>](#) specifies that an Alliance must remove "the Triball from the Alliance's Match Load Zone that coincides with their Starting Tiles", among other tasks. If an opponent Robot--either accidentally or intentionally--causes a different Triball to end the Match in that Match Load Zone as described in your scenario, it will not negate the Alliance's progress toward the Autonomous Win Point and the Alliance may still be considered to have removed the starting Triball.

In your scenario, the blue Alliance should receive an AWP, the red Alliance should receive the Autonomous Bonus, and RED1 should receive a Minor Violation of [<SG9>](#).

These clarifications will be reflected in the June 27 game manual update.

1519: <SC7> Limitations on Rules That Prevent Autonomous Win Point

6-Jun-2023

SC7

<SC7> An Autonomous Win Point is awarded to any Alliance that has completed the following tasks at the end of the Autonomous Period:

[...]

d. Not violated any other rules.

<S4> Wear safety glasses. All Drive Team Members must wear safety glasses or glasses with side shields while in the Alliance Stations during Matches.

If a Drive Team Member is breaking <S4>, will this prevent their Alliance from being awarded the Autonomous Win Point?

Answered by committee

Thank you for your question. Per the [VRC Referee Guide](#), it is part of the referee's pre-match task list to verify that all Drive Team Members are wearing safety glasses as described in rule [<S4>](#). A Match should not begin until all Drive Team Members are wearing safety glasses. If safety glasses are not available, the affected Drive Team Member(s) cannot be present in the Alliance Station for the Match.