

Q&A

VIQRC 2023-2024: Full Volume

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.

Please review the [Q&A Usage Guidelines](#) before posting. This system is only intended for specific VIQRC Full Volume rules questions.

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 - For VEX technical support, contact support@vex.com or sales@vex.com.
- For game questions, suggestions, or concerns outside of specific and official rules questions, contact GDC@vex.com

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1739: Driving the Robot while one team member ("non-active driver") is outside of the Driver Station

1-Nov-2023

G8 G10 SG3

[<G10>](#)[<G8>](#)[<G10>](#) Allows for driver interaction with ("rescuing") the robot under certain circumstances. To do so, they must signal the Referee by placing their Vex IQ Controller on the ground. If the non-active driver is the one who leaves the Driver Station to "rescue" the robot, once the robot has been "rescued" and prior to the non-active driver returning to the Driver Station is the active driver allowed to pick up the Controller and start driving the robot? If not, when Blocks leave the field [<SG3>](#), if the non-driver leaves the Driver Station to place a block that has left the field into the Supply Zone, is the active driver allowed to continue to drive the robot?

Answered by committee

Thank you for your questions! Based on the requirements in rule [<G10>](#) the active Driver can resume driving once their Robot has been returned to a legal starting position, providing the Driver switch is correctly made as described in rule [<G11>](#).

The active Driver may continue operating the Robot while the non-active Driver returns a Block to the field. Rule [<G8>](#) will be revised in an upcoming game manual update to correctly reflect that Drivers may leave the Driver Station to return a Block to the Supply Zone as per rule [<SG3>](#).

1742: Accidentally Knocking Off Red Block

2-Nov-2023

G10 T8

According to the rules, a red block is considered scored if it is removed from the starting peg at the end of the match.

Removed – A red Block status. A red Block is considered Removed if it is no longer fully supported by a Starting Peg at the end of the Match.

What should be the result of a red block being accidentally knocked off the starting peg, either by a student interacting with their robot as allowed by [<G10>](#) or by bumping the edge of the field?

This should obviously be a DQ for the team that caused the red block to be removed. But based on [<QA1697>](#) it seems like the non-offending team should still get the points for the red block being removed. Is that the correct resolution?

Answered by committee

You are correct. If a Driver accidentally knocks a red Block off of its starting peg while interacting with the Robot or the Field, it should be handled as a Score Affecting Violation of rule [<G9>](#) and the Team should receive a Major Violation and Disqualification for the Match.

If the Disqualification occurs in a Qualifying Match, their Alliance Partner should receive the points for the red Block being removed. If the Disqualification occurs in a Finals Match, both Teams in the Alliance will be Disqualified as described in rule [<T8>](#).

1870: Clarification of a "damaged" robot for the Violation Note of <G10>

12-Jan-2024

[<G10>](#) Rule [<G10>](#) allows a driver to handle their robot mid-match. [<G10>](#) Handling the Robot mid-match is allowed under certain circumstances. If a Robot goes completely outside the playing Field, gets stuck, tips over, or otherwise requires assistance, the Team's Drivers may retrieve & reset the Robot.

The Violation Note with [<G10>](#) states "This rule is intended to allow Teams to fix damaged Robots or help get their Robots out of trouble".

Should the robot be considered "damaged" in each of these situations and the drivers be allowed to fix it:

1. A robot that has a part become misaligned (like a wheel, tread, rubberband or axle) without contacting anything on the field. (Design or build issue)
2. Another robot contacts it and a part like a rubberband or wheel gets misaligned. (External force to the robot)
3. The robot runs into a wall and a part becomes misaligned. (The robot itself is the cause of the contact)

Answered by committee

Rule [<G10>](#) provides Drivers with a way to repair damage to a Robot, regardless of whether it was caused by their own actions or outside forces.

Regarding whether or not a Team could legally repair their Robot in the specific situations you describe, It is impossible to provide a blanket answer that would encompass all possible hypothetical mechanisms and scenarios. In situations like these, the Head Referee must make a judgment call about whether the Robot requires assistance or the Team is attempting to strategically exploit rule [<G10>](#).

1951: Clarification of [<S1>](#) as it pertains to [<RSC5>](#) (autonomous) and [<G10>](#) (general) - robot motion while repositioning/repairing

12-Feb-2024

[S1](#) [G10](#) [RSC5](#)

[<G10><S1>](#)<https://events.vex.com/VIQRC/2023-2024/QA/1820>

Has there been a clarification or rule change since QA 1820 (linked above) has been issued? Specifically: 1 - If an intake is in motion can the robot be reset during autonomous periods without stopping the program first? 2 - If the robot's drive train is still running can the robot be reset while the wheels are in motion (waiting for the running program to stop before placing it on the field)? 3 - If [<S1>](#) has been clarified to mean all motion must stop before the robot can be positioned is it allowable to use a touch LED to perform this control instead of stopping the running program (e.g. to preserve gyro calibration)? 4 - Are the above questions applicable to driver skills and teamwork challenges as well (via [<G10>](#))?

We were informed that this was an official rule change or clarification "from just four days ago" but I can't find it in the Q&A and there isn't a game manual update that I can find that addresses it.

Answered by committee

Please see our response to this similar Q&A post, which we believe will answer your question. If it does not, please feel free to rephrase and re-submit.

<https://events.vex.com/VIQRC/2023-2024/QA/1948>

1819: Drivers leaning on elevated field, and trying to use remote after the buzzer to shut down their robot

9-Dec-2023

G11

In our blended Full Volume VexIQ league there are some drivers who lean on the table just a little bit. Are drivers allowed to "touch" the table by leaning on it? We are concerned that they could shift the board and possibly knock the red block down. Is there a rule against touching and leaning on the edge of the table that could be referenced?

Also, some drivers try to pick up their remote after the match has ended but before the scoring refs and head ref have approved the score. Sometimes drivers argue that they want to turn off a spinning motor. It is explained that they have to do that before the match ends, or wait until scoring is finalized. It would be helpful to site a rule about that too if one exists. <G11> seemed to be the closest.

<G11>

Answered by committee

In the future, please review the [Q&A Usage Guidelines](#) before posting, specifically point 4, "Make a separate post for each question."

In our blended Full Volume VexIQ league there are some drivers who lean on the table just a little bit. Are drivers allowed to "touch" the table by leaning on it? We are concerned that they could shift the board and possibly knock the red block down. Is there a rule against touching and leaning on the edge of the table that could be referenced?

Touching a field riser or table upon which a Field is placed is not explicitly disallowed. Many events discourage this behavior by setting Driver Stations a few inches back from the field (an exact distance for this is not specified or required). Contact with a Field directly during a Match may be considered a warning or Minor Violation of rule [<G9>](#).

If the contact results in a Score Affecting action (such as the red Block being Removed), this should be considered a Major Violation of rule [<G9>](#). Please see [this related Q&A](#) for more details.

Also, some drivers try to pick up their remote after the match has ended but before the scoring refs and head ref have approved the score. Sometimes drivers argue that they want to turn off a spinning motor. It is explained that they have to do that before the match ends, or wait until scoring is finalized. It would be helpful to site a rule about that too if one exists. <G11> seemed to be the closest.

There is no rules-bound requirement for Teams to let go of their Controllers at the end of a Match, outside of the Stop Time scenarios described by [<T13>](#) and [<RSC7>](#). Many Teams and events have adopted this behavior for all Matches as a way to clearly demonstrate to Head Referees that driver inputs have ceased (per [<SC1>](#)), but it is not technically required.

With that being said, yes, operating the Robot outside of the allotted time would be considered Violations of [<G11>](#) and/or [<SC1>](#). Please see [this related Q&A](#) regarding the subject of motors continuing to spin post-Match.

1869: G11 and related for 2 person team

12-Jan-2024

G11

(https://events.vex.com/storage/game_manual/VIQRC_2023-2024_Full_Volume/rules/G11.html) Please provide guidance on rules surrounding driver time limitations for our two person team. On a team with a total of only two students can the team drive two matches, giving each student a chance to start the drive in the relay portion? Separately, is a two person team limited to driving each type of challenge only once? Clarification would be greatly appreciated.

Answered by committee

There are no requirements regarding the order in which Drivers operate the Robot. Yes, it would be fine to "trade off" which Driver starts each Match.

There are no additional restrictions regarding this for Robot Skills Matches.

1798: Is driver allowed to have/use electronic timer.

27-Nov-2023

G3 SG1

We noticed that at some (Skill) Events, the timer is located in such a way that it's not visible to the driver. So we got the idea for the second driver to have simple electronic countdown timer attached to the wrist. Similar to like people attach phones when jogging. 2nd driver starts it at the start, and then both drivers can see it and know the time left.

At one of the events we were told it's not allowed. But I can not find anything about that in the rules. Seems like if it's not allowed, then any hand watches should not be allowed, which is silly.

Answered by committee

There is no rule that prohibits Drivers from using a timer during a Match. Per clause A of rule [<G8>](#), if a cell phone or other communication device is used as a timer, it must have all communication features turned off (e.g., be in airplane mode). Note that the official Match timer will still be used to determine the end of the Match (clause A of [<SC1>](#)) and the timing of the Driver switch ([<G11>](#)) in cases where an unofficial timer is also present.

1732: Students on VIQC and VRC teams and compete on same day

30-Oct-2023

G4

[<G4>](#)

I have 2 students on one of my VEX IQ Challenge teams who are also in an outside of school VRC team. We have a competition on Nov 11th that has been confirmed. This tournament will have VIQC and VRC competing at it. Both of their different teams are competing on that same day. It is different divisions (one is MS VIQC and the other is HS VRC). I know the rule is they can't be on two teams within the same division, but this is slightly different.

Will they be able to compete at the tournament under 2 different divisions? Or will they have to choose?

Answered by committee

The rules for VIQRC and VRC teams do not prohibit a Student from participating in both competitions.

However, in the situation you've described (in which a Student is on VIQRC and VRC Teams that are competing at the same event), students (especially Drive Team Members) should be expected to choose which Team they are competing with for the duration of that event. "Our driver is in a VIQRC Match" would not be considered an acceptable justification for being late to a VRC Match (or vice-versa).

1753: VRC and VIQRC team member

7-Nov-2023

Hi, our academy has both VRC and VIQRC teams. One of the student would like to play in both games. So is it possible for him to participate in the two different competitions?

Answered by committee

Yes, this would be legal as long as the Student meets the age requirements in the definitions of Student for each program.

1965: Adding Team Members for Worlds

22-Feb-2024

I have a team that has already qualified for VEX IQ worlds and they would like to add support members from another team. Is this permissible? I have read G4 and it does not provide complete clarity. Please advise. How are support members defined? [<G4>](#)

Answered by committee

As described in the first paragraph of rule [<G4>](#),

Each Team must include Drivers, Programmer(s), Designer(s), and Builder(s). No Student may fulfill any of these roles for more than one VEX IQ Robotics Competition Team in a given competition season.

Clause B of rule [<G4>](#) states that:

When a Team qualifies for a Championship event (e.g., States, Nationals, Worlds, etc.) the Students on the Team attending the Championship event are expected to be the same Students on the Team that was awarded the spot. Students can be added as support to the Team, but may not be added as Drivers or Programmers for the Team.

Clause B of rule [<G4>](#) is intended to provide a way for students whose Teams did not qualify for a Championship event to assist a qualifying Team in support roles and get the experience of a Championship event. These new support members may not fill a key role (Driver, Programmer, Designer, Builder, or Notebooker) on the new Team, except in instances where clause G4bi applies. Examples of legal roles for these support members include, but are not limited to: battery management, scouting, photographer, and videographer.

1718: Robot Sizing Tool vs G5

23-Oct-2023

[<G5>](#)

G5 limits length to 20 inches this year but the Robot Sizing Tool and assembly instructions are set to 19 inches still. Will you provide revised assembly instructions to ensure robots are consistently inspected at tournaments?

Thank you for bringing this to our attention. Updated instructions are now available:
https://www.vexrobotics.com/228-5293.html#attr-vex_docs_downloads

1680: Many implications of Robot parts falling into a Goal

7-Oct-2023

G6

The following happened during practice: part of the robot **broke off and fell into the Goal**. Many questions arose which later generated some discussion among the mentor/coaches in our organization. We believe these are not fully addressed in the Game Manual:

Does this situation:

1. Disqualify all/any of the Blocks already in the Goal?
2. Affect Uniform bonuses?
3. Affect current or future Height bonuses?
4. Affect the ability for the Driver to "collect" the detached Part as graciously allowed by [<G6>](#)?

Our thoughts are:

1. No Blocks are excluded from Scoring solely because of the broken off Part due to [<SC3>](#): the Part is no longer considered part of the Robot per [<G6>](#), thus [<G10>](#) doesn't apply. Blocks in the Goal are not being "controlled" by the Robot, so Blocks don't have to be removed from the Goal. However, if the Part prevents [<SC3>](#)'s transitive rule (breaks the contiguous connection from block-to-floor), then that does affect scoring. For example, you have Block A touching the floor, then the Robot Part, then Block B on it. If Block B is not touching Block A, then it doesn't not count as scored. We'd argue that if the two Blocks are touching each other, despite the Robot Part, then it counts as transitively touching the floor. For the same reason the transitive rule applies even if the Block is touching, say, the walls of the Goal itself.
2. No, it should not affect the Uniform Bonus: the scenario satisfies [<SC4>](#). Philosophically, the disconnected Part doesn't invalidate or make unfair the efforts of teams to keep the Goal Uniform. However, a rules clarification on this point might be a good idea.
3. This one's a tough one. A Robot Part occupies volume, potentially a lot of volume, and thus could make it easier for teams to achieve the Height Bonus, perhaps unfairly so. We propose that the definition of Fill Level 2 and 3 under [Game Specific Definitions](#) should perhaps updated to note that the Goal must be **occupied solely by Blocks**. Thus, a Robot Part invalidates Height 2 and 3 bonuses. But Height 1 bonus is retained. Such a rule update has the unfortunate effect of invalidating the hard efforts by teams during Teamwork matches to achieve Height >1 bonuses - but such is the hazard of designing a delicate bot?

EDIT 2023-10-08: One additional consideration: what if the Robot Part does **not** add any significant volume? For example, a single 1x2 connector pin falls into the Goal? Since there is a spectrum of possible Robot Part sizes which can affect Scoring, any rule clarifications may need to specify that the part's presence actually affects the score at the end of the Match? I say "at the end of the Match" because it's possible that a Part, say a 1x10 beam, slides into the Goal without touching any Blocks - but later new Blocks that are Scored are impacted by the presence of the beam. In that scenario, the Part affected the final score, but not at the moment that it fell into the Goal. Yet another consideration is that the part(s), even some 1x2 connectors, could potentially prevent even a Height 1 bonus by denying the Blocks contact with the Floor!

4. This one seems moderately clear. To collect the piece, the Driver must reach into a Goal mid-match and may touch and affect the position of the Blocks within. There's some fairness issues here: what if the blocks were carefully stacked or happened to be balanced to achieve a height bonus? What if the Driver's reach into the Goal causes the Blocks to eventually achieve a height bonus that was otherwise not destined to be? It seems that [<G9>](#) covers this situation: if there's a chance of touching a Block while collecting the Part, the Driver should not risk it.

However, perhaps it'd be prudent to modify [<G6>](#) to state (added part in bold):

can be either left on the Field or collected by a Driver (utilizing <G10>). **Drivers doing so should be careful to avoid violating <G9>.**

Note that this clarification of the relationship between G6 and G9 affects other scenarios too, for example a Part falling into the Supply Zone.

Thank you in advance for any guidance.

Answered by committee

Thank you for your questions. If a part detaches from a Robot and falls into a Goal, it should be left in place and ignored for scoring.

If the Head Referee determines that the part was intentionally detached in a Score Affecting Violation of rule [<G6>](#), it should result in a Major Violation and DQ for the Team that detached the part.

If the Head Referee determines that the part was detached accidentally, it's not a Violation of any rule and the Head Referee does not have to determine whether it was Score Affecting. Head Referees should advise Teams whose Robots detach parts in Goals to revise their design to prevent future occurrences; repeated incidents may start to look like an intentional pattern and lead to a Major [<G6>](#) Violation and DQ.

Given this, we can address your specific questions:

1. No.
2. No.
3. No.
4. Yes; the detached part must remain in the Goal until the Match has been Scored.

1695: Accidental damage the Field

13-Oct-2023

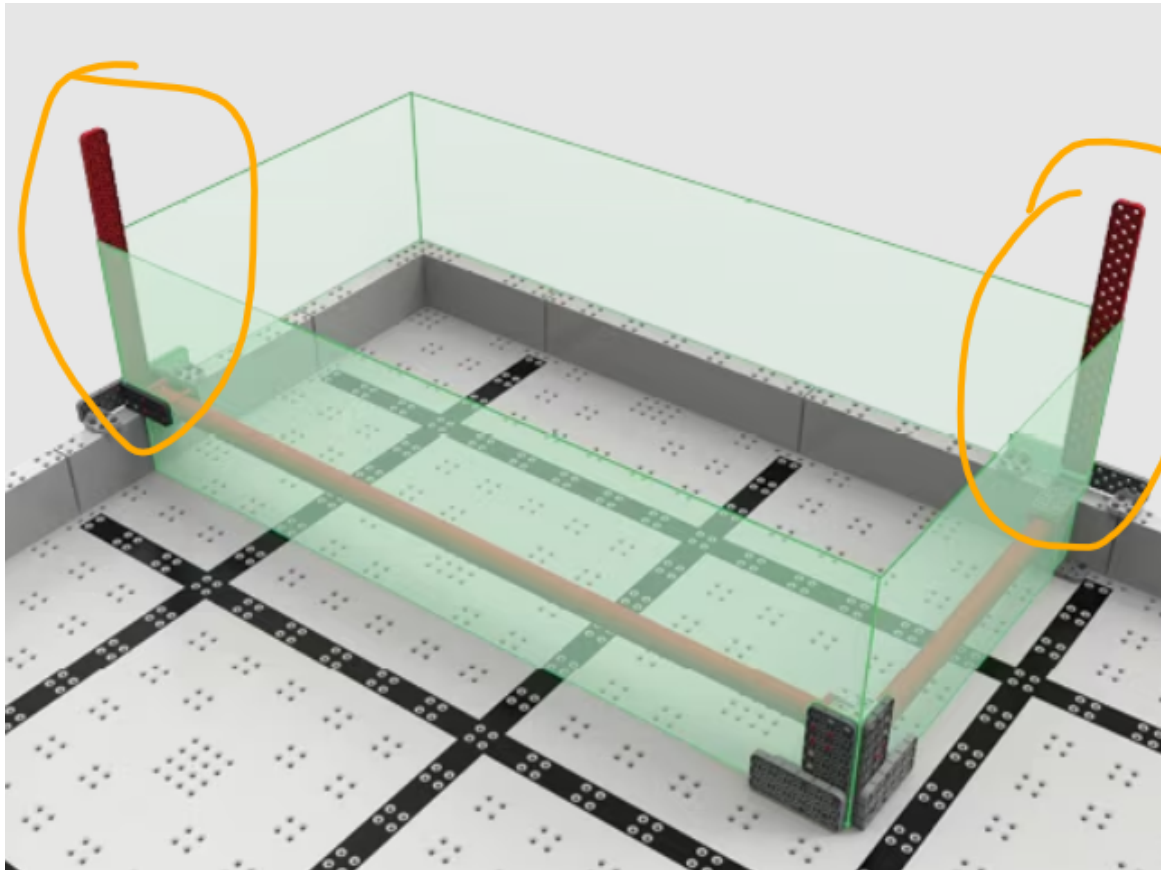
S1 G7

[<S1>](#) Stay safe, don't damage the Field. If, at any time, the Robot operation or Team actions are deemed unsafe or have damaged any Field Elements or Blocks, the offending Team may be Disabled and/or Disqualified at the Head Referee's discretion. The Robot will require re-inspection before it may again take the Field.

[<G7>](#) Don't damage the Field. Robot interactions which damage the Field or any Field Elements are prohibited.

Violation Notes: -In most cases, accidental Field damage should only be considered a Minor Violation / formal warning

Here are two rules related to damaging the field. The problem we face is that the two vertical red VEX IQ beams in two of the corners of the supply zone are easily broken. In a match, as we approached the supply zone, we accidentally hit and broke the red beam. The referee ruled that we damaged the field and caused a change in the score (5 points for partially parking). Consequently, we received a DQ. However, we believe that we had partially parked before causing the damage to the Field, and it occurred by accident. It should be considered a minor violation.



The red beam can fall off just from a light touch. If the team's robot accidentally breaks the red beam while retrieving blocks in the supply zone or while parking, would it be classified as a minor violation or a major violation?

If considered a major violation, is it due to the rules outlined in [<S1>](#), or is it upgraded to a major violation because of a minor violation under [<G7>](#) that results in a change in score?

Thank you for your reply.

Answered by committee

Because the red beams you've described can easily be knocked loose during normal game play, Head Referees are encouraged to follow the Violation Notes for rule [<G7>](#) and record accidental damage as a Minor Violation. The Head Referee should encourage Teams to be careful while in proximity to the red beams in order to avoid repeated Minor Violations.

*In most cases, accidental Field damage should only be considered a Minor Violation / formal warning

The Head Referee has some discretion if they feel the damage was egregious or intentional.

*Egregious, intentional, or repeated accidental / Minor Violations may escalate to a Major Violation at the Head Referee's discretion

1698: Where is the Driver Station

13-Oct-2023

G8

Figure 2 has a orange colored line outside of the field but it is not labeled. Is this supposed to be the Drivers Station (DS). I was at an event where the DS was behind the perimeter where the robots start (between goals I and II). Is this a safe

assumption?

[<https://content.vexrobotics.com/docs/23-24/viqr-c-fullvolume/online-manual/image/TopView-DS.png>]

(<https://content.vexrobotics.com/docs/23-24/viqr-c-fullvolume/online-manual/image/TopView-DS.png>)

[<G8>](#)

Answered by committee

Yes, the orange line in Figure 2 is the Driver Station.

1704: Clarification on Rule SG3

16-Oct-2023

G8 SG3

[<SG3>](#)

The update of Rule SG3 clears up my original question; however, I do have a follow up question. The rule currently says that if a Block leaves the Field, either the Driver or Referee can return it to the Supply Zone. I assume common sense applies, but for clarification, if the Driver is not allowed to leave the Driver's Station (Rule G8) and the Block falls out of the field on the opposite side of the field (out of reach), then the Referee would get the Block and either hand the Block to the Driver or place it back in the Supply Zone himself/herself?

Answered by committee

In this scenario, the Head Referee could permit the non-active Driver to leave the Driver Station and return a Block to the Supply Zone.

1710: Drivers returning blocks outside of the field to the supply zone

19-Oct-2023

G8 SG3

[<SG3><G8>](#)

SG3 states "Blocks that leave the Field during a match may be returned to the Supply Zone by a Driver or Referee." G8 states "Drivers must remain in their Driver Station, except when legally interacting with their Robot per <G10>." May a Driver leave their Driver Station to return a block to the Supply Zone? If yes, what actions do they need to take prior to leaving their Driver Station (i.e., signaling the Head Referee by placing their controller on the ground)?

Answered by committee

Please review the [Q&A Usage Guidelines](#) before posting, specifically point 2, "Read and search existing Q&As before posting." We believe that that our response to [Q&A 1704](#) answers your question. If it does not, please feel free to rephrase and resubmit.

1784: Are cables considered for size & parking?

21-Nov-2023

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).

1539: New Pneumatics count as motors?

12-Jun-2023

R12

We were very surprised and excited to see pre-orders open up for the new [IQ Pneumatics Kit](#). Thank you VEX Robotics for making that possible.

Since it's listed as VIQRC legal, we wondered: does it count in any way towards the 6 motor limit, per [<R12>](#)? Or will there be a separate limit established regarding pneumatics?

Clearly there must be an electric motor inside the pump - so one line of reasoning would count each pump as a single motor. That could make sense, but we wanted to know for certain. Any clarification here and in the next game manual release would be appreciated of course. Thank you.

Answered by committee

The rules pertaining to the use of the new VEX IQ Pneumatics Kit will be included in the June 27 update to the Full Volume Game Manual.

1540: Pneumatics limitations

12-Jun-2023

R12

[<R12>](#) Will there be any limitations to pneumatics? I am assuming it will be similar to VRC with a limit of 2 air tanks / control units.

Answered by committee

The rules pertaining to the use of the new VEX IQ Pneumatics Kit will be included in the June 27 update to the Full Volume Game Manual.

1611: In rule <R15>, are the subsections exemptions?

10-Aug-2023

R15

I've heard conflicting interpretations in conversation with others and was hoping for official clarification.

<R15> Modifications of parts. Parts may NOT be modified unless specifically listed as an exception in this rule. Examples of modifications include, but are not limited to, bending, cutting, sanding, gluing, or melting.

- a. Cutting metal VEX IQ or VEX V5 shafts to custom lengths.
- b. Bending parts which are intended to be flexible, such as string, rubber bands, or thin plastic sheets.
- c. Cutting VEX IQ pneumatic tubing to custom lengths

[<R15>](#)

Answered by committee

Thank you for your question! Yes, the subsections of rule [<R15>](#) are the permitted exceptions to the rule. This will be clarified in the next game manual update.

1645: Can the rubber bands be cut and joined with others? <R15>

11-Sep-2023

R15

[<R15>](#)

Can the rubber bands be cut and joined with others? That is to say, doing this to extend the piece and be used in collectors, for example, <R15> is not very clear at this point.

Answered by committee

Thank you for your question. Rule [<R15>](#) provides a full list of the VEX IQ parts that can be modified for use on competition Robots. This list does not include rubber bands, which cannot be cut for use on a Robot.

1757: Controller modification with VEX IQ parts

8-Nov-2023

R15

<R15> Can we modify the Gen 2 controller with VEX parts?

Answered by committee

No physical or electrical modifications are legal for the VEX IQ controller (e.g., drilling, gluing, dismantling, rewiring). An externally-attached piece (e.g., scuff controller or other piece that doesn't require alteration of the controller) would be allowed subject to Head Referee judgment and only if no other rules are violated.

If this does not answer your question, please feel free to rephrase and resubmit.

1702: Pneumatics Tubing

16-Oct-2023

R16

Rule <R16> states:

Pneumatics. Robots using parts from the VEX IQ Pneumatics Kit (228-8795) must satisfy the following criteria: No additional parts that are not included in the VEX IQ Pneumatics Kit (e.g., unofficial tubing or fittings).

However, the kits come with very little tubing which is cut into pieces based on robot needs, and it doesn't appear currently possible to buy more kits or IQ tubing.

Is it possible to use the V5 black tubing or is it potentially possible to revisit this rule similar to the rubber bands to allow outside sources of 4mm tubing?

Additionally the legal parts list doesn't show any of the Pneumatics Kit parts or tubing. I assume they are legal based on the rule book inclusion of them.

Answered by committee

Is it possible to use the V5 black tubing or is it potentially possible to revisit this rule similar to the rubber bands to allow outside sources of 4mm tubing?

The black tubing found in the V5 Pneumatics Kit is not compatible with VEX IQ pneumatics, and is not legal for use.

Legal replacement / additional VEX IQ Pneumatics Tubing can be found here: <https://www.vexrobotics.com/228-7728.html>

1706: Pneumatic tubing

16-Oct-2023

R16

<R16> unofficial tubing?? when we run out or cut tubing wrong where do we get replacement or can we get same 4mm tubing on amazon? please advise.. vex doesn't offer tubing for iq.

Answered by committee

Please see [this similar Q&A post](#), which we believe answers your question. If it does not, feel free to rephrase and re-submit.

1754: IQ Pneumatics wires too short

7-Nov-2023

R16

We are experimenting with Pneumatics and find the wires coming with Pneumatics Kit are quite short and this makes it very hard to attach the Pneumatics system to the robot properly. We found the extension cables available on VEX site but they are currently not allowed in IQ, would it be possible to make the extension cables also legal for IQ? [<R16>](#)

<https://www.vexrobotics.com/extension-cables.html>

<R16> Pneumatics. Robots using parts from the VEX IQ Pneumatics Kit (228-8795) must satisfy the following criteria: No more than two (2) Air Tanks, including any that aren't connected. No more than (1) Pneumatic Pump, including any that aren't connected. No additional parts that are not included in the VEX IQ Pneumatics Kit (e.g., unofficial tubing or fittings).

Answered by committee

No, using an extension cable between the Air Pump and Pneumatic Solenoid would not be legal.

The Pneumatic Solenoid connects to the Robot Brain with a standard VEX IQ Smart Cable, of which any legal length may be used.

1781: Plastic

21-Nov-2023

R3

[<R3>](#)

hi, are teams allowed to use the large field element plastic sheet on robot?

Answered by committee

No. The large field element plastic sheet is not legal for use on VIQRC Robots. Rule [<R6>](#) provides full guidance for legal Robot components, and a link to the [VIQRC Legal Parts Appendix](#). The legal plastic sheets are listed below and in that appendix.

- 228-2500-2710 - 2x12 Plastic PET Sheet
- 228-2500-2711 - 6x6 Plastic PET Sheet
- 228-2500-2712 - 6x12 Plastic PET Sheet
- 276-7735-710 - 2x12 PET Sheet
- 276-7735-711 - 6x6 PET Sheet
- 276-7735-712 - 6x12 PET Sheet

1931: SG2 - Horizontal Expansion is limited during a Match

4-Feb-2024

R3

[<SG2>](#) At a recent Elementary School only event, during a driving skills match, the "Head Referee" determined the robot on the field expanded beyond the 11" x 20" horizontal limits as set forth in <SG2> when an arm was raised that had a device attached to transfer blocks from the playing field to one of the goals even though it had "passed" inspection at

check-in. The team was disqualified and received a zero score for that particular skills challenge. Was the referee correct in disqualifying that team? Also, pursuant to <R3e>, could/should that team have been required to remedy their situation (exceeding horizontal expansion limits during a match) and be reinspected prior to participating any other (skills or team challenge) matches?

Answered by committee

This scenario is addressed by rule [<R3>](#), specifically clauses "d" and "e":

d. Robots which have not passed inspection (i.e., that are in Violation of one or more Robot rules) will not be permitted to play in any Matches until they have done so. <T6> will apply to any Matches that occur until the Robot has passed inspection.

e. If a Robot has passed inspection, but is later found to be in Violation of a Robot rule during or immediately following a Match, then they will be Disqualified from that Match and <R3d> / <T6> will apply until the Violation is remedied and the Team is re-inspected.

1516: Can robots start away from the field perimeter?

3-Jun-2023

SG1 R4

Regarding:

- [<R4> Starting Configuration:](#)

a. Only be contacting the Floor and/or the Field Perimeter.

and

- [<SG1> Pre-match Setup:](#)

Contacting the inside and/or top face of the Field Perimeter wall

The ambiguity around "and/or" is our point of inquiry (dictionary: <https://www.merriam-webster.com/dictionary/and%2For>):

Based on the definition and our understanding of "and/or", Rule R4 appears to allow contacting the floor *without* contacting the perimeter ("or"). Surely the intended conjunction is simply "and" here? Something like:

Be contacting the Floor **and** the Field Perimeter inside wall or top face.

Rule SG1 seems to be clearer: Must contact the inside or top face. A bot that only touches the top of the wall is not really materially different than one that only touches the inside wall. Nevertheless, clarification in the Q&A would be appreciated: it's OK for a bot to only touch the floor + **top of wall** but **not** the inside of the wall?

Is it possible that the intended phrasing is something more like:

Contacting the inside face of the Field Perimeter wall. Additional contact with the top face of the Field Perimeter wall is permitted, but not required.

Thank you for any clarification. Sorry, we obviously have some budding lawyers over here.

Answered by committee

Thank you for your question. Clause A of rule [<R4>](#) will be revised to read, "Only be contacting the Floor and the Field Perimeter" in the next game manual update.

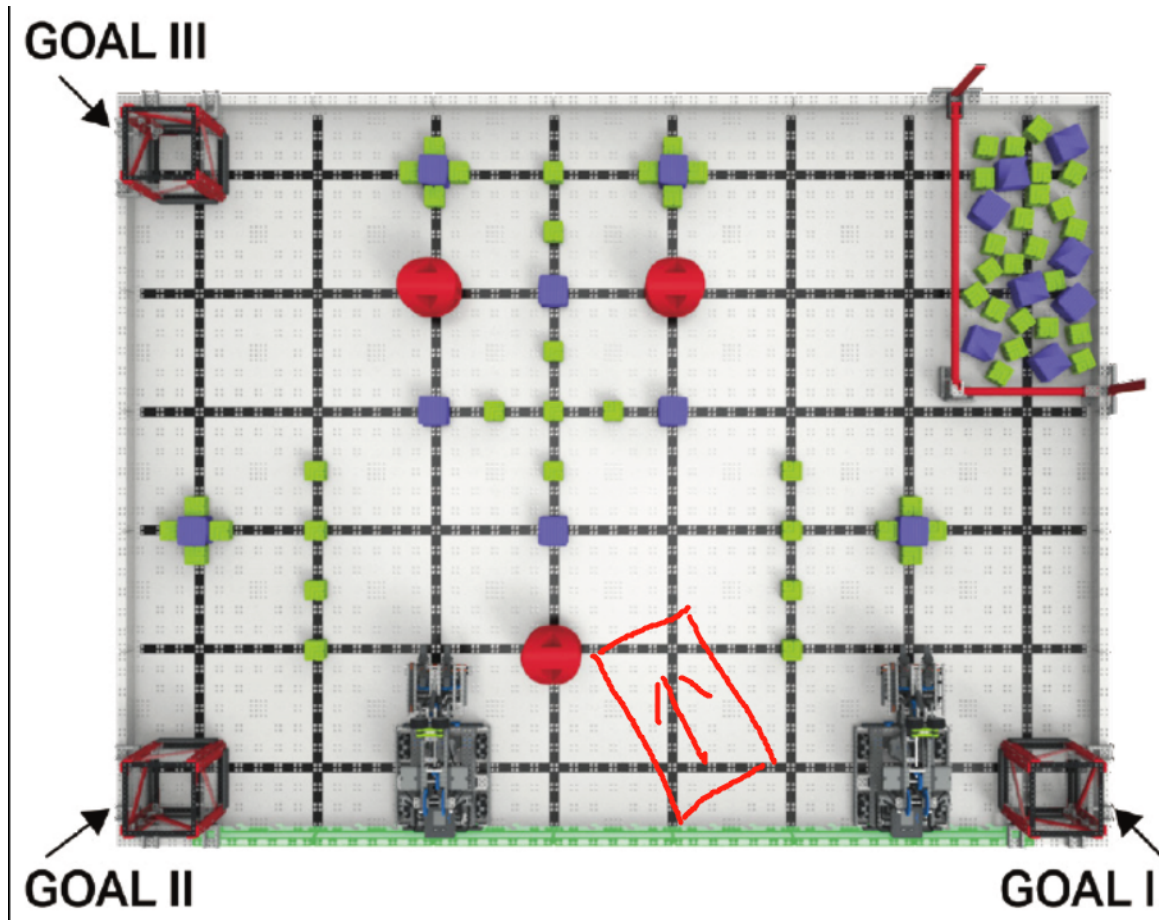
1568: Robot head orientation in starting configuration

22-Jun-2023

SG1 R4

[<SG1>](#)

There are no specific starting positions, as long as the above criteria are met. How about robot head orientation in starting configuration. Is it ok as the following picture shows.



Answered by committee

Provided the robot meets all of the criteria established in [<SG1>](#), including contact with the field perimeter, this would be a legal starting configuration.

1705: Interaction with Green Cube when Placing Robot in Starting Position

16-Oct-2023

R4

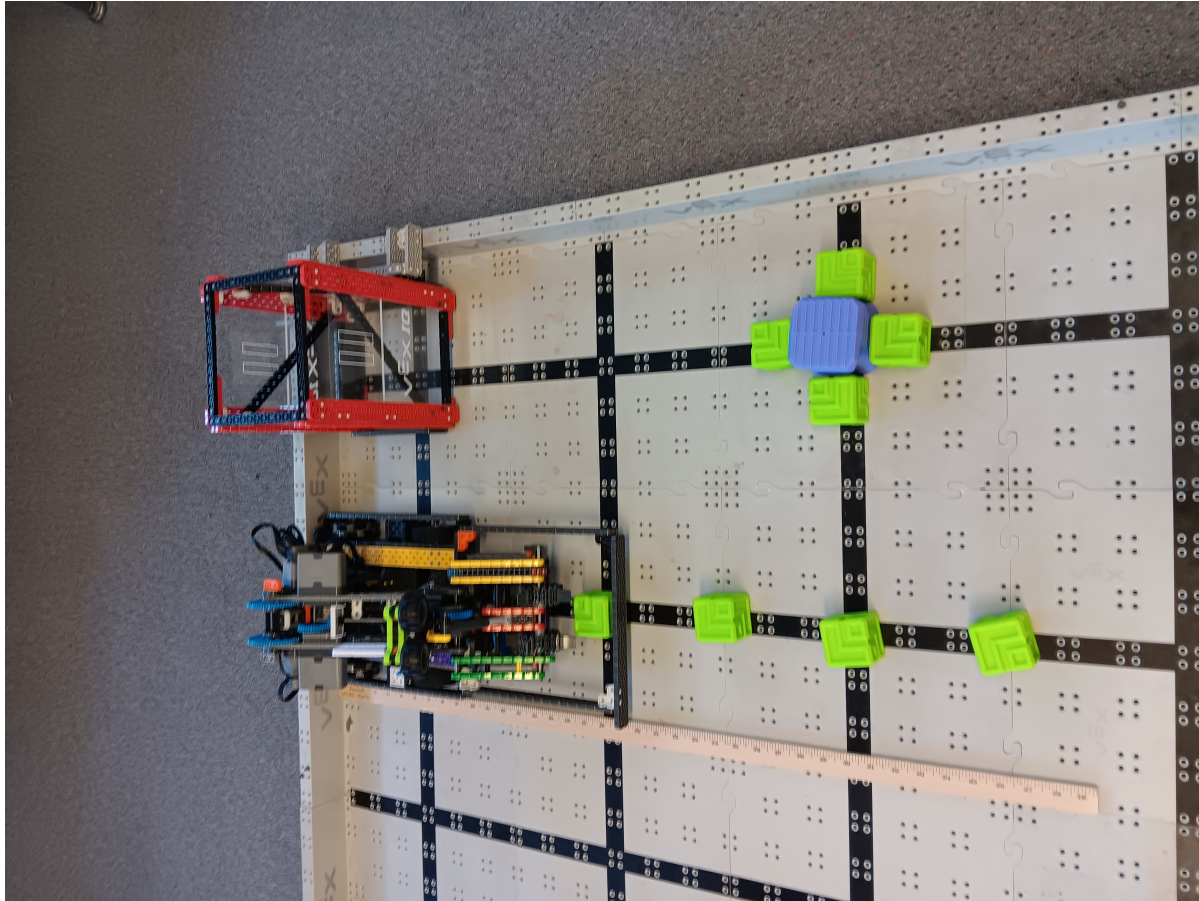
I helped with a tournament this weekend and had some questions about a way a team was placing their robot in the starting position.

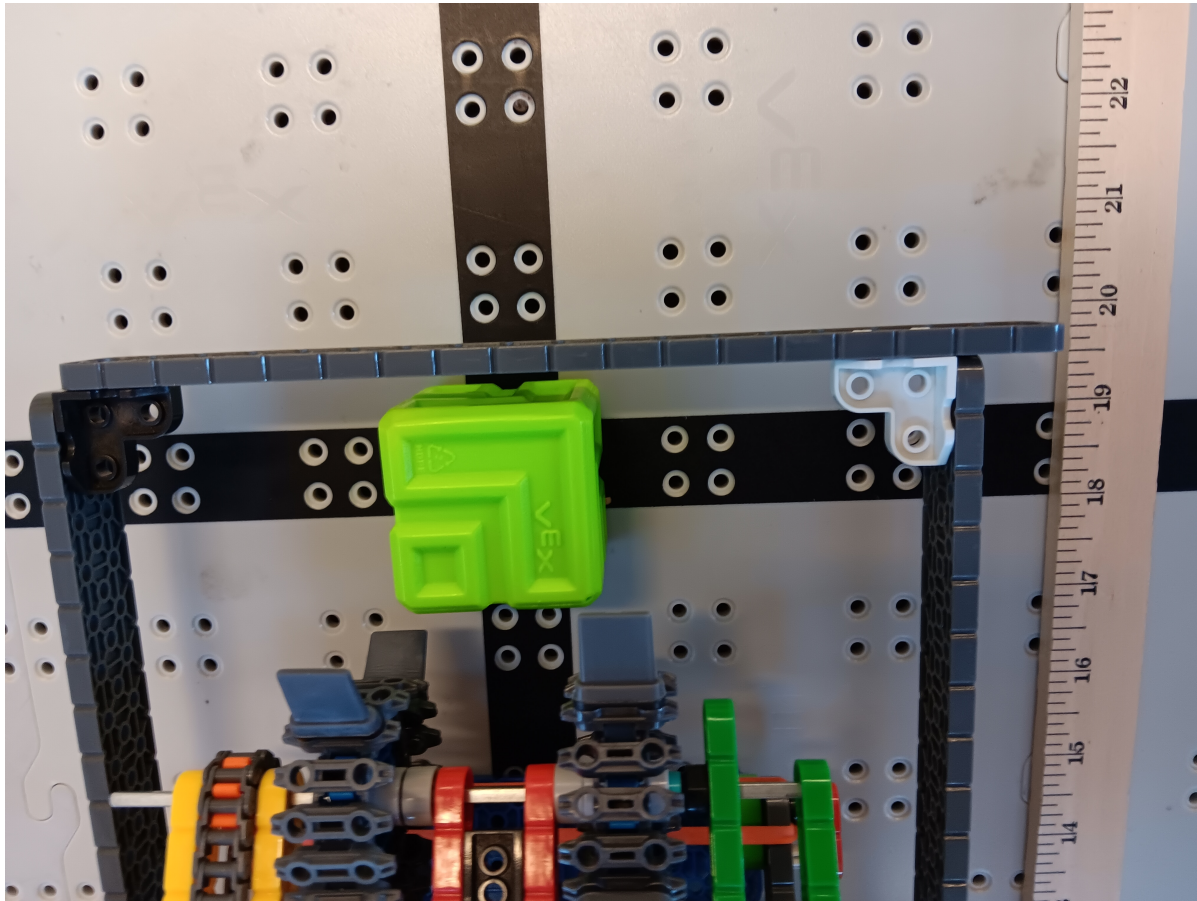
<R4>

This robot is within the 20x11x15 inch starting volume. It is touching the back wall and not touching any game elements. I believe this is a legal starting position.

Is it legal for the driver to lift the green block up, place the robot, and then return the green block to its position prior to the start of the match, as long as they put it within legal tolerances and not touching the robot?

If it is not considered legal for the student to pick up the green block and replace it, would it be legal to place this robot in this starting position if the student is able to maneuver it in such a way that it doesn't touch or disturb the placement of the green block, even though the block could be considered to be "inside" the robot?





Answered by committee

Drivers may adjust the position of a green Block that will begin the Match within their Robot's legal Robot starting position.

Per clause A of rule [<T6>](#), Teams must place their Robots on the field promptly and be ready to play. This would include any adjustments made to the position of a green Block.

As described in the [VIQRC Referee Guide in the REC Library](#), the Head Referee should check that all game objects--including any green Blocks that are adjusted by Drivers--are in the correct places before the Match begins and that all Robots are in legal starting positions.

1827: R4 Robot inspection configuration

14-Dec-2023

R4

(https://events.vex.com/storage/game_manual/VIQRC_2023-2024_Full_Volume/rules/R4.html)[<R4>]

R4.c.I : Robot starting configuration required to be inspected, if robot has more than one configuration - does the word configuration refer to different parts / mechanisms (ie an extra claw) or to the configuration of a robot, itself (ie an extended claw)? Our specific question is that our claw could be retracted and fit in the required footprint of R4.b -- but if extended, would not fit. Thanks! Pete Miller

Answered by committee

R4.c.I : Robot starting configuration required to be inspected, if robot has more than one configuration - does the word configuration refer to different parts / mechanisms (ie an extra claw) or to the configuration of a robot, itself (ie an extended claw)?

These are both possible applications of the word "configuration".

Our specific question is that our claw could be retracted and fit in the required footprint of R4.b -- but if extended, would not fit.

[<R4>](#) and [<G5>](#) refer specifically to starting configurations. In your example, if the Robot is never intended to start the Match with the claw extended (i.e. never violates G5), then that configuration would not apply to R4.

However, bear in mind that [<SG2>](#) still applies during Matches. Compliance with both [<R4>](#) and [<SG2>](#) are usually checked alongside each other during inspection, but can technically be handled separately. In your example, we would recommend incorporating a "hard stop" or software limit into any extendable mechanism, to more clearly demonstrate to inspectors that the Robot is prepared to comply with [<SG2>](#) during Matches.

1957: Fitting in the sizing tool

14-Feb-2024

R4

When using the sizing tool for robot inspection, if the robot width is exactly at 11" and fits flush against the sides of the sizing tool without bulging the sizing tool or any pieces of the robot, is that considered legal? Does a piece of paper need to fit between the robot and sizing tool to show it fits freely?

Answered by committee

Because the VEX IQ Robot sizing tool is built with IQ beams, the tool is "on pitch," and dimensions will be nearly exact. If a robot is designed to be on pitch and exactly 11" wide, it might slightly glide against the beams of the tool, which is fine. However, if there is any resistance, bowing, bending, etc. of the tool, the Robot does not meet the size requirements in rules [<G5>](#) and [<R4>](#).

1692: legality of weighted disc housing v slapshot disc

12-Oct-2023

R6

[<R6>](#) Looking for guidance on this. The 5x pitch weighted disc housing (228-2500-2248) is a legal part. However, the Slapshot disc (228-7506-002) are not. Having both in my inventory, they seem identical. Why can we not use the casings for Slapshot pucks in designs? It seems like an oversight, especially considering the photo for the pucks shows them built instead of in components.

Answered by committee

Thank you for bringing this to our attention. Yes, the Slapshot Disc (228-7506-002) should be legal for use. We will make sure the Legal / Illegal Parts Appendices are updated accordingly.

1711: PET Sheet Variety Pack for VexIQ

19-Oct-2023

R7

I would like to check if the following product is valid to be used on VexIQ <https://www.vexrobotics.com/276-8340.html> , the label on the page does not indicate that it can be used on said platform, but a similar one appears in the list of legal parts. Is it the same part that is on the legal parts list?

[<R7>](#)

<https://content.vexrobotics.com/docs/23-24/viqrc-fullvolume/legal-parts-051723.pdf>

Answered by committee

Thank you for your question. Yes, this is a legal part for use on VIQRC Robots, and the VEX Robotics website has been updated accordingly.

1992: Tape for Pneumatics Connection points

7-Mar-2024

R7

[<R7>](#) [<R15>](#)

In the IQ pneumatics kit, the tubing connects to the solenoids and the compressor simply by being pushed into place. Air often leaks or the tubing comes loose from the connection point through normal jostling during driving. In V5, tape is a legal non-Vex part for use in securing pneumatic connection points, however it's not listed as an acceptable part for IQ. Can teams use tape or is there another solution to this problem?

Answered by committee

Tape is illegal for use on VIQRC Robots for any purpose. For alternate solutions, we suggest contacting VEX Support (support@vex.com or sales@vex.com) or asking for advice from the community on vexforum.com.

1921: Can you use grease in VEX IQ?

1-Feb-2024

R8

[<R8>](#) Can you use grease in VEX IQ?

Answered by committee

No, grease is not permitted.

1994: LEDs in VEX IQ

8-Mar-2024

R8

[<R8>](#)

Would it be legal to have LEDs on an IQ bot? One of my students wants to try using the 3 wire port that powers the Pneumatic pump to power LEDs.

Answered by committee

No. It is not legal to use LEDs on a VIQRC Robot, other than those built into official components like the VEX IQ Touch LED sensor.

1859: License Plates and Paper Plates

8-Jan-2024

R9

[<R9><R9>](#)

I host quite a few events for first time teams with first time coaches. We always keep some extra license plates for teams who forget theirs, but I can only keep so many on hand. Last year, there was a paper template of temporary license plates that could be cut out and attached to the robot. I have been all over the REC library and good old Google and cannot find the VIQRC template anywhere, only the VRC one. Can you please share this template?

Thank you

Answered by committee

Ultimately, the only requirements for an unofficial License Plate is that it follows the dimensions listed in R9:

Any custom-made License Plates used must be the same length and height as the official License Plate (3.5" x 1.5" [88.9mm x 38.1mm]). They must not exceed the width of the official License Plate (0.25" [6.35mm]).

Although we do not have an official template to provide, cutting a piece of paper or cardstock to a 3.5" x 1.5" rectangle would meet these requirements.

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.

1797: Does rule <RSC4> applies to each session of the League

27-Nov-2023

RSC4

Vex IQ Full Volume Rules mention twice that "Each Team will get the opportunity to play exactly three (3) Driving Skills Matches and three (3) Autonomous Coding Skills Matches." RSC4

Does this apply to each session of the League in the League that offers Skills?

We have a small team (1970A) of 2 people and run into a problem that there were simply not enough time to do more than 3 attempts at Skills total. There was 1 Skills field, lots of teams. Kids started on a dot at 9:00am, managed to do 3 autonomous runs. As autonomous was deemed to be most crucial part, with driving part considered easy... But after that Team matches started and there was not enough time to complete even 1 Skills driving match in next 2 hours. Kids stood in Skills line for 20+ minutes, got called for a Teams match, had to abandon line.... repeat 4 times. Didn't get to the front of the line once... Skills field closed at 11:30. The end.

So in all honesty team was NOT given opportunity to do 3+3 matches. While doing everything they can to post score and basically staying in Skills line all the time when not engaged in Teams matches. Seems completely unfair and against the rule RSC4. So does that rule applies to each session of the League?

Subsequent Question: If the rule RSC4 doesn't apply to each session in the League... Than that logically means it doesn't apply to Leagues at all? Because on a page B5 of the Game Manual 2.1 it explains that Skill ranking at the Leagues are the best ranking from each session, and can't be combined. So if League doesn't have to provide opportunity for 3+3 Skills matches at each session, and the results can not be combined across different sessions, than in our case it's entirely possible that there will be no opportunity in all sessions - i.e. the entire League Event. When in this particular League agenda it says "Skills Challenge Offered: Yes" [<RSC4>](#)

Answered by committee

Yes. As described in the REC Foundation's [official Qualifying Criteria document](#), up to three Driving and three Autonomous Coding Skills Challenge attempts may be played by each Team in each league Ranking Session.

We suggest that you reach out to your [REC Foundation Team Engagement Manager](#) regarding your Team's experience at your local league, as that is beyond the scope of this Q&A and the GDC to address.

1626: Handling the robot in an autonomous coding skill match <RSC5>

27-Aug-2023

RSC5

As outlined in "<RSC5>", the rule specifies that any blocks controlled by the Robot while it's being handled must be removed from the Field. This raises the question of whether the operator(driver) should remove any remaining blocks from the robot during manipulation in the autonomous coding skill match. If the driver is found handling the robot with blocks still inside, should the Referee issue a warning immediately? If no warning is given and the autonomous skill match proceeds to completion, should this particular match be deemed disqualified?

Answered by committee

Teams must ensure that they remove controlled blocks when resetting the Robot under rules [<RSC5>](#) or [<G10>](#). Failure to do so will result in a DQ if the controlled Blocks are moved to a Scored position on the Field. Referees should monitor Robot resets closely, and require Drivers to remove controlled Blocks before the Robot resumes movement.

As described in rule [<RSC5>](#),

Any Blocks being controlled by the Robot while being handled must be removed from the Field, and can be returned to the Supply Zone by a referee or Driver. "Controlled" requires that the Robot was manipulating the Block and not simply touching it (e.g., if the Block moves with the Robot either vertically or while turning, the Robot is controlling the Block).

If the Driver returns the Robot to the Field while still controlling one or more Blocks, the Referee should instruct the Driver to retrieve the Robot, remove the Blocks, and return the Robot to the Field in accordance with clause A of rule [<RSC5>](#).

If the Driver fails to remove the controlled Blocks, and scores one or more of those Blocks in a Goal, it becomes a Score-Affecting Violation of rule [<RSC5>](#). In accordance with the definition of Violation and the flowchart on page 8 of the game manual, the Team should earn a Major Violation and Disqualification for the Match. Per clause B of rule [<T8>](#),

A Team that receives a Disqualification in a Robot Skills Match will receive a score of zero (0).

1820: Reset during Programming Skills: Can motor still be running?

10-Dec-2023

RSC5

Hi, For VEX IQ Full Volume Programming Skills challenge, during a reset to a legal starting position, can motors on the robot (for example, intake system) still be running, or must all components of the robot cease operation? I understand that, at the start of the skills run, no motors can be running; I just wanted to know if it was legal for motors to be running during a reset in the middle of the skills run.

Thanks!

Answered by committee

Please review the [Q&A Usage Guidelines](#) before posting, specifically point 3, "Quote the applicable rule from the latest version of the manual in your question". Often, you'll find that by quoting the rule, you'll answer your own question.

[<RSC5>](#) does not contain any requirement that motors stop moving during a mid-Match reset. Therefore, yes, it is legal, provided that the interaction does not pose any safety risks ([<S1>](#)) and is not used to directly interact with any Blocks or Field Elements during the reset ([<G9>](#)).

1948: Reset during programming skills - does the robot have to meet starting height requirement

10-Feb-2024

SG1 RSC5

At a recent event the skills referee interpreted rule [<RSC5>](#) "Upon handling the Robot, it must be immediately brought back to any legal Starting Position" to include that robots handled during the autonomous skills runs must meet ALL of the starting criteria of rule [<SG1>](#) which includes "Fit within an 11" wide x 20" long x 15" high".

Some teams had expanded vertically (for example raised a lift) - and were not allowed to start the second portion of their autonomous routes because the robot exceeded the 15" height limitation.

QnA 1820 (<https://events.vex.com/VIQRC/2023-2024/QA/1820>) clarifies that motors may be running when resetting during autonomous skills (which is counter to SG1).

I understand the requirements for resetting during autonomous skills to include starting against the wall of the field and not touching any blocks (from SG1) - but to *not* include the requirements for returning to the starting dimensions or stopping the motors. Is this correct?

Answered by committee

I understand the requirements for resetting during autonomous skills to include starting against the wall of the field and not touching any blocks (from SG1) - but to *not* include the requirements for returning to the starting dimensions or stopping the motors. Is this correct?

This is the intent for both [<RSC5>](#) and [<G10>](#) resets.

However, we acknowledge that this intent is ambiguous / not clearly stated in the rule as currently written. Absent any other clarification (i.e. prior to this Q&A post), it would not have been "wrong" for a Head Referee to judge this in either direction, as long as they were consistent within their event. We apologize for any confusion this may have caused, and will be sure that this is better clarified in future Game Manuals.

1980: Resetting the robot during autonomous skills challenge

29-Feb-2024

RSC5

During the resetting of a robot during a autonomous skills match can the player enter the field to retrieve their robot? If they do, what is the punishment if they accidentally move a block?

[<RSC5>](#)

Answered by committee

As described in the final paragraph of rule [<G10>](#),

If the Drivers cannot reach the Robot due to the Robot being in the center of the Field, the Drivers may ask the Head Referee to pick up the Robot and hand it to the Drivers for placement according to the conditions above.

This guidance also applies to rule [<RSC5>](#). A Team that enters the field in a way other than reaching in to retrieve a Robot during a Robot reset should receive a minor Violation of [<G9>](#) if the Violation does not affect the score of the Match (e.g., does not move any Blocks into scored positions).

[Q&A 1742](#) addresses cases in which the score is affected during a Robot reset, and specifies that those should be handled as Score Affecting Violations of rule [<G9>](#) that result in Disqualification for the Match.

1782: Timer ends while dumping blocks

21-Nov-2023

SC1

If a robot is dumping a full load of blocks into the scoring zone when the time ends and multiple blocks continue to fall in after time ends, how is the score determined if it is too hard to tell how many blocks fell after time ended? Any blocks still in contact with the robot shouldn't be counted that can be impossible to determine in some instances. Is there any penalty for continuing to dump after the buzzer or are the blocks just removed from the zone? [<SC1>](#)

Answered by committee

The December 5th Game Manual update included the following additions to rule [<SC1>](#), which should address your question. If not, feel free to rephrase and re-submit.

Any Scoring into Goals which happens after the Match, even if Robots have stopped moving, will result in that Goal being considered "empty". All Blocks in the Goal will receive zero points, and the Goal will not receive any points for a Uniform Bonus. The Goal will not have reached any Fill Level, therefore no Height Bonus will be awarded.

Violation Notes: A Team's first instance of Scoring a Block after the end of the Match will be considered a Minor Violation. Subsequent Violations will be recorded as Major Violations and Disqualifications.

1783: Points scored after the end of the match

21-Nov-2023

SC1

I have a question about a conflict between the answer given in Q1697 and [<SC1>](#). Part of the answer from the GDC stated, "Points scored during a Score Affecting violation should not be removed from the final score for an Alliance Partner that was not Disqualified." However, [<SC1>](#) a. states "Any Scoring which takes place after the Match due to Robots continuing to move will not count." My question involves three scenarios we recently saw at an event:

- (1) Robot was in the process of unloading Cubes into Goal 1 at 0:00; the driver had placed the controller down and the Robot did not move. Cubes continued to fall into the Goal. It was not clear exactly how many Cubes were in the Goal before time ran out.
- (2) Robot was in the process of unloading Cubes into Goal 1 at 0:00; the driver had placed the controller down and the Robot continued to lift, allowing more Cubes to rise above the top of the Goal and fall in. It was not clear exactly how many Cubes were in the Goal before time ran out.
- (3) Robot was in the process of unloading Cubes into Goal 1 at 0:00; the driver had placed the controller down and the Robot then drove forward until it became Partially Parked.

What should the ruling have been in each of these circumstances, given the apparent contradiction between [<SC1>](#) and the Q&A response quoted above? Would any of these scenarios merit a DQ for egregious score-affecting violations? Should the points scored after 0:00 been counted? Should the points have been counted, but only for the alliance partner?

Answered by committee

The December 5th Game Manual update included the following additions to rule [<SC1>](#), which should address your question. If not, feel free to rephrase and re-submit.

Any Scoring into Goals which happens after the Match, even if Robots have stopped moving, will result in that Goal being considered "empty". All Blocks in the Goal will receive zero points, and the Goal will not receive any points for a Uniform Bonus. The Goal will not have reached any Fill Level, therefore no

Height Bonus will be awarded.

Violation Notes: A Team's first instance of Scoring a Block after the end of the Match will be considered a Minor Violation. Subsequent Violations will be recorded as Major Violations and Disqualifications.

1810: Flywheel/Intake motion (not score affecting) after timer reaches zero

3-Dec-2023

SC1

[<SC1>](#)

Rule <SC1> states all scoring will take place after everything comes to a rest and that a pre-programmed routine violates the spirit of this rule. We held our first event and even though robots stopped their forward motion and were partially parked in the supply zone, they had flywheels/intakes still moving, but not score affecting as they were raised in the air.

There was some disagreement on how to interpret this rule. Because the next sentence states scoring which takes place while still in motion, wont count. Some felt the flywheel motion isn't scoring affecting and was fine, and some felt this rule means all motion must stop - period.

I would like clarification as there were multiple teams that had these pre-programmed flywheels/intakes and I want to make sure this is handled properly at future tournaments.

Answered by committee

This action would violate the spirit of [<SC1>](#), as mentioned in clause "a". However, because it was not Score Affecting, a warning or Minor Violation would be appropriate for the first occurrence. Repeated Minor Violations may escalate to a Major Violation at the Head Referee's discretion.

1817: December 6 revisions to VIQRC 2023-2024: Full Volume game manual rule SC1b

7-Dec-2023

SC1

[<SC1>](#)The addition of SC1b to the game manual seems counterintuitive. First, in a teamwork challenge match, the Alliance partner, through no fault of their own, is penalized for a violation of the offending team. I know of no other rule where the Alliance partner is penalized because of the rule violating team. Second, teams/alliances may purposely have to play below their full potential. Also, SC1b, seems to nullify aspects of SC1.

Scenario: Prior to the end of a match Alliance A-B has scored 2 level 2, uniform goals. The third goal is also uniform and just shy of reaching level 2. Instead of partially parking (5 points) Team A decides to take the blocks they have already accumulated and score them into the third goal for the purpose of having three level 2, uniform goals (10 points more than the highest common level of 1). With just seconds left in the match, Team A positions their robot to dispense the blocks into the third goal; vertically extends the block collection mechanism to it's desired height beginning to dispense blocks **via gravity flow** prior to the match timer going 00:00; and, ceases to control the robot (driver and program control). However, prior to all of the blocks being dispensed from the robot the timer turns 00:00 signaling the end of the match and blocks continue to **gravity flow** into the goal.

Under the above scenario, would all blocks deposited into a goal not count according to SC1b? I realize, at this time, there are two questions in Q&A that have not been answered that address some, if not all, of my concerns.

Answered by committee

Under the above scenario, would all blocks deposited into a goal not count according to SC1b?

This is correct. The third goal would be considered "empty", and the Match would be scored as having two level 2 Uniform Goals.

However, prior to all of the blocks being dispensed from the robot the timer turns 00:00 signaling the end of the match and blocks continue to **gravity flow** into the goal.

This is an accurate description of a scenario that SC1-b is intended to provide guidance for.

1831: Buzzer clarification

15-Dec-2023

SC1

With regard to any last second scores whether it is dropping a block or parking, is it the start of the buzzer or the completion of the buzzer that the score has to be completed by? There are a few last second scores at every event that are questionable and I have never really seen it clarified. [<SC1>](#)

Answered by committee

Per SC1:

The Match ends when the field timer display shows 0:00.

If an event is using sound, the buzzer sound should begin at the same moment when the display shows 0:00, and the two are effectively the same. However, in the case of any discrepancy (or an event not using audio), the field display takes precedence. The length of the buzzer sound is irrelevant.

1866: Knocking red blocks

11-Jan-2024

SC1

If a robot that is unable to pick up red blocks (e.g. clawbot) knocks a red block off a peg, does the team still get the 5 points with the block not being in a goal?

POST SCRIPT: not sure what rule is applicable, so will just pick random.

Answered by committee

Per the scoring table located before rule [<SC1>](#):

Each Red Block Removed from Starting Peg - 5 Points

The definition of Removed reads as follows:

Removed – A red Block status. A red Block is considered Removed if it is no longer fully supported by a Starting Peg at the end of the Match.

Yes, all Removed red Blocks receive 5 points, whether they are Scored in a Goal or not.

1883: Remove a team member from the list

19-Jan-2024

SC1

<SC1>Hello , we have a team member need to remove from the list. How can we remove the consent form from the team information and add a new one? And maybe any other steps need to do?

Answered by committee

Please review the Q&A Usage Guidelines. This question does not fall under the scope of the Q&A, and would be better suited for an alternative source of discussion such as an email to your region's RECF manager (<https://events.vex.com/support>).

1929: Edge of the supply zone, picture in manual does not match description

4-Feb-2024

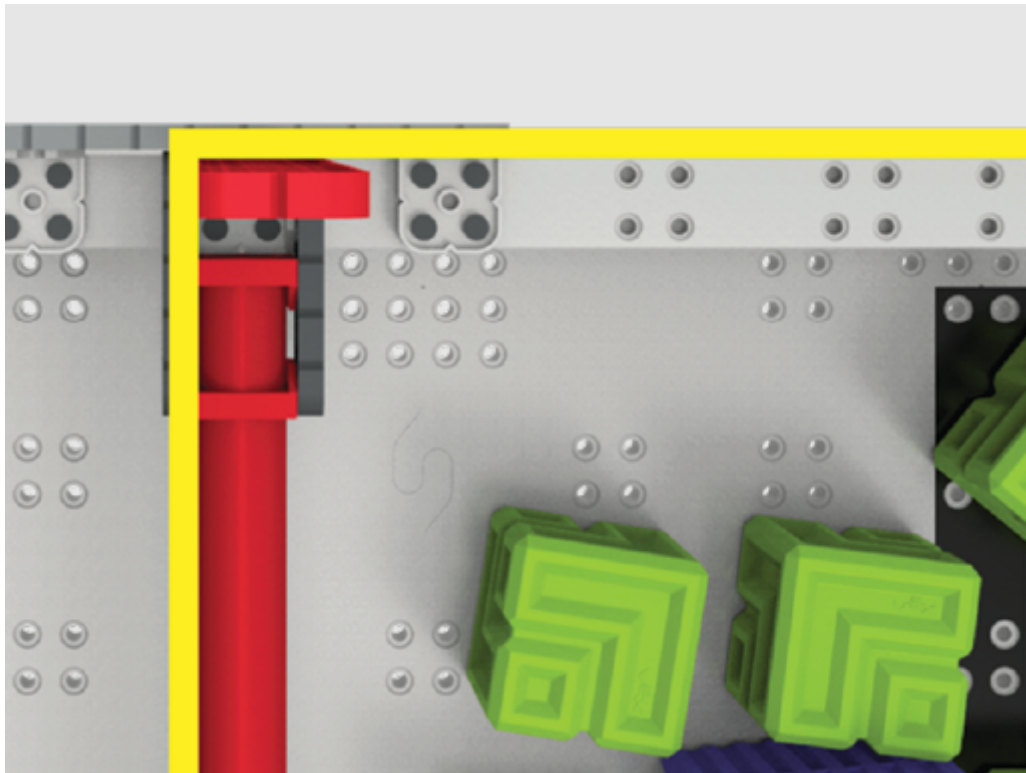
SC1

<SC1>

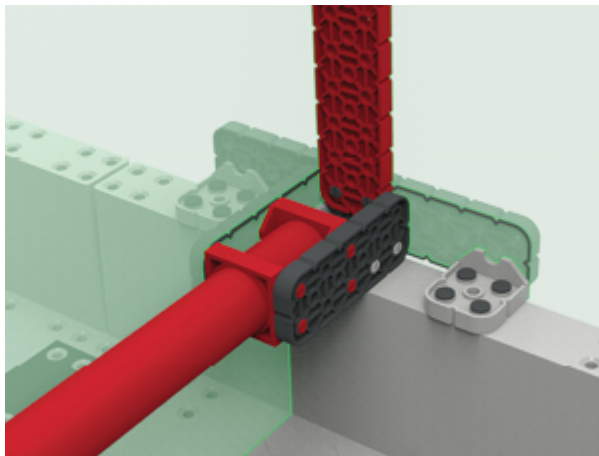
Not game rule - definition.

Supply Zone - An infinitely tall three-dimensional volume of the Field bordered by the outer edges of the red PVC pipe and the outer edges of the Field Perimeter (which coincides with the outer edges of the vertical red VEX IQ beams in 2 of the corners). A predefined number of Blocks begin the Match within the Supply Zone (see rule <SG4>). Teams can receive points for Clearing the Supply Zone, and for using it to Park Robots.

The Yellow line matches this description.



However, the pictures with the translucent green plane appear to be a little to the side, in line with the edge of the red 2x20 that is sticking out.



While it is only a small difference, should be go by the edge of the pipe or should we go by the edge of the 2x20?

Thanks!!!

Answered by committee

For the purposes of defining the Supply Zone, the edge of the red PVC pipe and edge of the red 2x20 beam can be considered functionally equivalent. If a Head Referee finds themselves in a situation where the 1.8mm gap between them is causing confusion, the note from [SC2](#) should apply:

Note: In cases where a Scoring status is "too close to call," Teams will be given the "benefit of the doubt," and the higher of the two possible Scoring statuses should be assigned. Head Referees will not be expected or required to define a perfect horizontal plane or check imperceptibly small measurements.

1955: Clarification of <SC1> as it pertains to "race to park" in the endgame

14-Feb-2024

SC1

Clarification of <SC1a> is requested for the following scenario:

All robot motion other than drive train has stopped (i.e. lifts, intakes, other motion is stopped). The robot is racing to the supply zone trying to park prior to the timer reaching 00:00. The robot continues driving into the supply zone after the timer reaches 00:00. a> the robot partial parks prior to the start of the buzzer b> the robot partial parks after the start of the buzzer

For scenario a, does the partial park count and is a minor/major violation issued? For scenario b, clearly the partial park doesn't count, but is a minor/major violation issued?

Does the same clarification apply to racing to removing a red block instead of parking?

<SC1b> and the violation notes only apply to blocks scored (so could apply to removing red blocks). Partial parking is not covered by a violation note. <SC1a> specifically states the intent is for all motion to cease when the timer reaches 00:00 and has a resolution for points scored after that. However, it does not mention issuing violations ("Any scoring...will not count" instead of "Any scoring...will not count and a minor/major violation will be issued"). It would seem that for things not covered by <SC1b> that the referee would simply note that the park (and the red block removal?) was after the end and isn't scored. However, the clarification <https://events.vex.com/VIQRC/2023-2024/QA/1810> makes it clear that flywheel motion, even if not score affecting, at the 00:00 timer mark is a minor/major violation.

Answered by committee

<SC1b> and the violation notes only apply to blocks scored (so could apply to removing red blocks). Partial parking is not covered by a violation note.

This is correct. "Buzzer-beater" movement or scoring that does not involve Goals will not result in the implications of clause "b" taking effect. (namely because, there is no Goal which can be set to "empty")

However, the clarification <https://events.vex.com/VIQRC/2023-2024/QA/1810> makes it clear that flywheel motion, even if not score affecting, at the 00:00 timer mark is a minor/major violation.

This is also correct. Clause "a" still applies to any type of motion after the end of the Match. Deciding the correct way to handle this motion requires a Head Referee judgment call based on the context of the Match / action.

Q&A 1810 described one possible context, in which a mechanism continues moving post-Match with no attempt made to stop its motion. This is outside the intent of <SC1> because, even if this motion is not Score Affecting, it still has significant potential to interfere with post-Match scoring, field reset, etc.

We would interpret the context described in this post to be more of a "buzzer-beater" scoring attempt. This scenario has a range of possible judgments that a Head Referee may make, and we will not be able to provide a "one-size-fits-all" answer.

For example, if it is a Team's first occurrence, and the moment when the Robot stopped moving is imperceptibly close to when the timer hit 0, then the Note from <SC2> may apply:

Note: In cases where a Scoring status is "too close to call," Teams will be given the "benefit of the doubt," and the higher of the two possible Scoring statuses should be assigned. Head Referees will not be expected or required to define a perfect horizontal plane or check imperceptibly small measurements.

However, if the Team has received prior warnings, or Violation is more egregious (e.g. multiple seconds of motion after the Match ends), then it may escalate at the Head Referee's discretion.

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.

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.

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.

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.

1683: Goal Height

8-Oct-2023

SC5

Where can find the specifications on how tall the goals are ? I looked through the game manual and couldn't find it there.

Answered by committee

Field drawings can be found in Appendix A: Field Overview and Specifications of the [PDF](#) and [html](#) versions of the game manual. Note that Appendix A is not included in the version of the game manual embedded in the VIQRC Hub app.

1687: Height Bonus Question

10-Oct-2023

SC5

[<SC5>](#)

Good Evening,

I just wanted to clarify that since A Height Bonus is awarded for the highest fill Level shared by all three Goals (<SC5>), if you only have blocks in 2 of the 3 goals, with the 3rd goal containing no blocks in it, will your height bonus be zero?

Answered by committee

Your interpretation is correct. As specified by the definition of Fill Level in the game manual, Fill Level 1 is reached when "At least one Block is contacting the Floor within the Goal."

1621: The goal was knocked crooked

20-Aug-2023

SC6

[<SC6>](#)

If the Goal is hit crooked, will the 3D space be crooked?

Answered by committee

As described in rule [<T10>](#) and quoted below,

Be prepared for minor field variance. Field Element tolerances may vary from nominal by up to ± 1.0 ", unless otherwise specified. Block weights may vary from nominal by up to ± 2 grams. Teams are encouraged to design their Robots accordingly. Please make sure to check Appendix A for more specific nominal dimensions and tolerances.

If a Goal is moved beyond these tolerances, the Head Referee must determine whether it was damaged by a Robot or moved out of tolerance during normal gameplay. If the Goal was damaged by a Robot, the offending Team may be disabled and/or Disqualified under rule [<S1>](#).

If a Goal goes out of tolerance as part of normal gameplay, a Match replay may be warranted as quoted below in clause #1 of rule [<T7>](#),

Match replays are allowed, but rare. Match replays (i.e., playing a Match over again from its start) must be agreed upon by both the Event Partner and Head Referee, and will only be issued in the most extreme circumstances. Some example situations that may warrant a Match replay are as follows:

1. Score Affecting "Field fault" issues.
 - a. Blocks not starting in the correct positions.
 - b. Field Elements detaching or moving beyond normal tolerances, not a result of Robot interactions.

If a Goal's configuration is altered slightly during gameplay, but remains within the tolerances allowed by [<T10>](#), Referees should remember this note in rule [<SC2>](#):

In cases where a Scoring status is "too close to call," Teams will be given the "benefit of the doubt," and the higher of the two possible Scoring statuses should be assigned. Head Referees will not be expected or required to define a perfect horizontal plane or check imperceptibly small measurements.

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.

1511: In <SG1> Did the rules mean to read "Between Goals I and II"

27-May-2023
SG1

[<SG1>](#)

3. States, "Contacting the inside/top face of the Field Perimeter wall that is between Goals II and III."

The Field Assembly Instructions place Goals I and II on the audience facing side of the competition field.

Answered by committee

You are correct! The criteria for Robot starting positions in rule SG1 is intended to refer to Goals I & II. This will be updated in the next Game Manual update.

1654: Is this starting legal?

21-Sep-2023
SG1

As the picture shows, when the robot starts, the part of the robot is above the block [<SG1>](#) without touch, is legal to start?



Answered by committee

This starting position would be allowed If the Robot meets all criteria of rule [<SG1>](#):

1. Not contacting any Blocks, Goals or their supporting structure, Starting Pegs, or other Robots.

2. Fit within an 11" wide x 20" long x 15" high (279mm x 508mm x 381mm) volume, as checked during inspection per [R3](#).
3. Contacting the inside and/or top face of the Field Perimeter wall that is between Goals I and II. See Figure 18.
4. Have no motors or other mechanisms in motion or "running" until the Match begins. Pre-charging a pneumatic system (i.e., having the Pneumatic Pump running prior to the Match) is the only permitted exception to this rule.

1714: Starting tolerance for the Blocks

21-Oct-2023

SG1 T7

Upon looking through the manual, i could not find reference to any tolerance for the starting position of the block. This makes the wording for [T7](#) 1)a. undefined and subject to interpretation. There is the general tolerance as defined in [T8](#) however this refers to Field elements, which the game Blocks are not apart of. Additionally a tolerance for the block starting position could affect the legal starting positions of robots per [SG1](#) as, hypothetically, the blocks may start offset from their "perfect" starting position and the game would still be allowed to start since the robot is not contacting a block that, if the block was perfectly positioned, it would be.

As such, could i get clarification on:

1. What is the tolerance of the "correct position" of the blocks? Both distance from their "perfect position"and, if possible, angle/orientation
2. can a block be moved within this tolerance (if provided) to allow for a robot to be in a legal starting position (i.e. not touching a block)? 2a) if not, would it be up to the head referee's judgment as to if the robot is starting legally with respect the the blocks starting position
3. If there is a tolerance, can a team ask for cubes to be set in specific positions/orientations?
4. can teams ask for cubes to be positioned closer to their "perfect position"? If so, and the team is never satisfied, can the head referee in their judgment determine that it is sufficiently close to its "perfect position" and start the match?

Answered by committee

1. What is the tolerance of the "correct position" of the blocks? Both distance from their "perfect position"and, if possible, angle/orientation

The following rules of thumb can be used:

- Red Blocks: The Block's curved face should be balancing on the two halves of the Starting Peg. Neither of the gray Starting Peg plates should be able to "nest" inside of the red Block's triangular notches.
- Purple Blocks: The angled corners should not cross over any black line. Similarly, the Block should not be covering any holes in the field tiles. [This example](#) would be at the edge of tolerance.
- Green Blocks: The angled corners should not cross over any black line. [This example](#) would be at the edge of tolerance.

2. can a block be moved within this tolerance (if provided) to allow for a robot to be in a legal starting position (i.e. not touching a block)?

Please see this similar Q&A: <https://events.vex.com/VIQRC/2023-2024/QA/1705>

3. If there is a tolerance, can a team ask for cubes to be set in specific positions/orientations?

Technically yes, but as always, [<T6>](#) ("Robots must be placed on the field promptly") and the note in [<RSC6>](#) ("the definition of 'prompt' is at the discretion of the Event Partner and Head Referee") would apply.

4. can teams ask for cubes to be positioned closer to their "perfect position"? If so, and the team is never satisfied, can the head referee in their judgment determine that it is sufficiently close to its "perfect position" and start the match?

We believe this is effectively the same question (and answer) as question 3 above. If this is not the case, please feel free to rephrase and re-submit.

1761: starting position robot hanging outside field perimeter

10-Nov-2023

SG1

[<SG1>](#)[<SG1>](#) Can a part of a robot hang beyond the outside of the field in order to touch the Field Perimeter wall? The robot in question is 20" long but has a triangle piece that extends about 1 inch past the outside of the Field Perimeter when the lower part of the robot is in contact with the perimeter. [<SG1>](#) Pre-match setup. At the beginning of a Match, each Robot must meet the following criteria:

1. Not contacting any Blocks, Goals or their supporting structure, Starting Pegs, or other Robots.
2. Fit within an 11" wide x 20" long x 15" high (279mm x 508mm x 381mm) volume, as checked during inspection per [<R3>](#).
3. Contacting the inside and/or top face of the Field Perimeter wall that is between Goals I and II. See Figure 18.

Answered by committee

There is no rule that requires a Robot to be fully contained within the Field Perimeter at the beginning of the Match. The starting position you describe would be legal as long as all criteria of rules [<SG1>](#) and [<R4>](#) are met.

1513: Clarification needed on SG2: horizontal relative to what plane?

2-Jun-2023

SG2

According to SG2 [<SG2>](#), it's clear that "Robots may not expand horizontally beyond the 11" x 20" starting dimension limit at any time during a Match."

Could we get clarification on "horizontally"? We believe there's two reasonable interpretations:

(A) Horizontal relative to the plane of the **field**, or (B) Horizontal relative to the plane of the robot's **starting footprint**

If it's relative to the field plane (A), that means that a bot that starts off 11x20x15 and then tilts at, say, 20 degrees to get up and over the SZ bar to fully park will be **in violation** of SG2 for the duration of the maneuver. Another way to think of this is that the **projection** of the bot onto the horizontal field plane exceeds 11x20. This has the implication that a 11x20x15 bot must take special measures to avoid ever exceeding the volumetric footprint of 11x20, right? Many bot designs that attempt to drive up and over the bar will likely fail this test, unless the bot is small or short and be careful if carrying a pile of blocks. Refs must also carefully watch for these "expansions via tilting" - which will be difficult to adjudicate fairly since the bots will presumably be in motion. The ref would have to eyeball whether the bot "expanded" via tilting; I'd expect many disagreements could arise over bad calls. Alternatively or additionally, inspectors would have to ask teams if the bot tilts at any time, and if so, measure the projection of the bot onto the field. This whole thing seems messy.

Personally, I'd advocate for interpretation (B). It's clean, easy to inspect for, and gives teams the latitude to come up with ways to go over the bar without having to worry about violating SG2.

Unless that's the intention - to challenge teams with this. But if that's the intention (which is fine!) please don't make it a subtle gotcha. Please state clearly that this is something teams must consider in bot design.

Thank you.

Answered by committee

(A) Horizontal relative to the plane of the **field**, or (B) Horizontal relative to the plane of the robot's **starting footprint**

Your interpretation "B" is correct.

1712: Figure 19 in Game Manual <SG2>

20-Oct-2023

SG2

In my VIQRC Hub Game Manual, <SG2> has a reference to Figure 19. that is not visible to my iPhone. I assume Figure 19 clarifies the horizontal length reference in a separate Q&A question.

Answered by committee

You are correct, and we've asked the VIQRC Hub developers to add it if possible. For future reference, the [PDF version of the game manual](#) is the complete and comprehensive reference document for the game, and includes appendices that are not available through the version in VIQRC Hub.

1774: SG2 Expansion from a claw swinging from front to back.

19-Nov-2023

SG2

[<SG2>](#)

Under rule SG2 if a claw goes 180 degrees (from front to back) and makes the robot longer due to the claw's base being positioned in the back of the robot is that a violation?

Answered by committee

The 11" x 20" dimension can be thought of as a "snapshot" / "single-moment-in-time" definition. If the Robot you describe measures more than the 11" x 20" starting dimension **at any time** while the claw moves through its arc, it would be a Violation of rule [<SG2>](#). To avoid penalties at events, we suggest that you slowly take the Robot through its full range of motion and check its size in as many configurations as possible before presenting it at inspection or putting it on the field for a Match.

1896: Robot Dimensions Swaying Bin

26-Jan-2024

<SG2>

Hello,

Our team has a robot similar to the hero bot with a lifting bin, but the bin width is about 10.5 inches wide. Similar to the Ben Lipper robot found on youtube: <https://www.youtube.com/watch?v=U4hfdVSlyDQ> There was a comment by a judge that when we raise the bin and turn right or left quickly, the bin may sway and make the robot exceed the 11" width limit and we were told we would get disqualified. It seems like any robot with an arm design with a lifting bin close to the width limitation has the potential of swaying further wide which would invalidate many robots from competing. Can you please clarify this rule, would this inadvertant, unintended swaying of the bin when it is raised be a violation of the SG2 rule?

Answered by committee

Yes, assuming the Robot actually exceeds the 11" measurement as its mechanism sways this would be a violation of rule <SG2>, which reads (bold added for emphasis):

Robots may not expand horizontally beyond the 11" x 20" starting dimension limit **at any time** during a Match.

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

4-Aug-2023

SG3 SG4

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

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

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

Answered by committee

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

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

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

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

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

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

1623: Blocks being placed back in supply zone and under control of robot.

25-Aug-2023

SG3

Can a block that is being returned to the field be placed into the direct control of a robot that is either partially or fully within the supply zones 3D confines as long as the block is placed within those 3 dimensional confines? An example of this would be to place a block on a robots conveyor or catapult mechanism that is hanging over, and in, the supply zone.

[<SG3>](#) Keep Blocks in the Field. Blocks that leave the Field during a Match may be returned to the Supply Zone by a Driver or Referee. Any Blocks which remain outside of the Field at the end of a Match will be considered "in" the Supply Zone (i.e., the Supply Zone will not be eligible to be Cleared). "Leaving the Field" means that a Block is outside of the Field Perimeter and no longer in contact with the Field, Field Elements, other Blocks, or Robots. If Blocks are removed from a Robot during a [<G10>](#) interaction, these Blocks are considered "out of the Field" as soon as they are no longer in contact with any Robots.

Answered by committee

The October 3rd Game Manual update included revisions to rule [<SG3>](#) which we feel answer your question. If anything is still unclear, please feel free to rephrase and re-submit.

1758: Red block placement of leaves field

9-Nov-2023

SG3

[<SG3>](#)[<SG3>](#) if a red block falls outside the field, do you put it back into the supply zone?!

Answered by committee

Yes. As described in rule [<SG3>](#),

Blocks that leave the Field during a Match may be returned to the Supply Zone by a Driver or Referee.

Additionally, as described in clause D of [<SG3>](#),

Any Blocks which remain outside of the Field at the end of a Match will be considered "in" the Supply Zone (i.e., the Supply Zone will not be eligible to be Cleared).

1583: Choosing Skills Fields

11-Jul-2023

SG4

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

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

[<SG4>](#)

Answered by committee

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

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

Some possible methods could include:

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

1801: Supply Zone Block Orientation

30-Nov-2023

SG4

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

Answered by committee

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

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

1811: T10 - Does the Field Variance Tolerance Cover Incorrectly Assembled Field Elements

3-Dec-2023

T7 T10

[<T10>](#) states (in part):

Field Element tolerances may vary from nominal by up to ± 1.0 ", unless otherwise specified.

At a recent event we noticed part way through the finals matches that the goals on the competition fields were not assembled correctly. The top horizontal beams were 10.5" above the field floor because the corner chassis connectors were placed in the highest pair of holes on the uprights, rather than the second-highest pair.

Should this sort of variance be considered a [<T10>](#) condition that teams should design around (meaning a robot would need to be designed to clear ~11.5" vertically for anything going over the top of the goal), or would it be a [<T7>](#) field fault?

Answered by committee

Yes, this would be included in the [<T10>](#) tolerance. Since there are no flexible Field Elements, improper assembly is the most common source of such variances. Of course, whenever a Team finds that a field has been assembled incorrectly, they should bring it to the attention of the Head Referee and/or Event Partner as soon as possible.

With that being said, a Match Replay is always an option at the Head Referee / Event Partner's discretion; the list of situations provided in [<T7>](#) are intended to be representative examples, not an all-inclusive list. In the case of improper field assembly, they will usually take the following considerations into account when making this decision:

- The severity of the error (e.g., on an Autonomous Coding Skills field, a Starting Peg in the incorrect location would be far more significant than a Starting Peg rotated in the wrong direction)
- If any Teams claim that the error was Score Affecting
- When the error was found (e.g., if the event has already run until Finals, then it is unlikely that the error impacted Teams directly enough to warrant concern)

1619: VIQRC events with multiple divisions should now copy Worlds clarification

16-Aug-2023

T17

[<T17>](#)

At the EP Summit it was announced that VIQRC events with multiple divisions should now copy Worlds, where each division has its own set of finals and then the winners play in an overall finals to determine the Teamwork Champions. Rule T17 does not seem to reflect that right now, it states:

"For tournaments that have more than 1 division, Teams will be ranked among all Teams in the event (i.e., there is no divisional ranking). The top Teams, regardless of division, will advance to the Finals Matches."

Can you confirm how VIQRC events with multiple divisions should be run this season? As stated in the game manual, or as described at the EP Summit. Thank you!

Answered by committee

Thank you for your question. For tournaments that have more than one (1) division, Teams will be ranked among all Teams in their specific division. Each division will have its own Finals Matches. The winners of each division will then have an overall event Finals. Any multi-division event must be approved by the REC Foundation EEM/RSM prior to the event, and divisions must be assigned in sequential order by Team number. This change will be reflected in the next game manual update.

1661: <T19> Clarification on tiebreaker matches

24-Sep-2023

T19

[<T19>](#)

Hello! Recently at an event we have found some confusion about the wording of T19, where different teams have interpreted it differently. I wanted to double check whether teams could request a stop-time in finals matches that have not gone to a tiebreaker match?

For instance lets say two teams both made finals, lets call them Alliance A and B, both of these teams notify the head ref that they wish to stop at some stage of the non-tiebreaker match.

Alliance A scores 95 points and requests to stop with 16 seconds remaining Alliance B scores 95 points and requests to stop with 13 seconds remaining

Given this was a standard finals match, should stop times be considered at all or ignored? Would this scenario lead to tiebreaker matches which than include a stop time?

Cheers

Answered by committee

Match Stop Times are only recorded for tiebreaker Finals Matches, as described in the definition of Match Stop Time in the game manual (bold formatting added for emphasis):

Match Stop Time – The time remaining (i.e., displayed on the timer or audience display) **in a tiebreaker Finals Match** when an Alliance ends the Match early by placing their controllers on the ground.

...and rule [<T13>](#) :

If the Match is a tiebreaker Finals Match, then the Match Stop Time will also be recorded.

Note that Skills Stop Time is separate from Match Stop Time, and is subject to different rules as described in Appendix B of the game manual.

To directly answer your question:

Given this was a standard finals match, should stop times be considered at all or ignored?

Match Stop Time does not exist / should not be recorded / can be ignored during a standard Finals Match.

1872: No show in Final match

14-Jan-2024

T5

<T5>[<T5>](https://events.vex.com/storage/game_manual/VIQRC_2023-2024_Full_Volume/rules/T5.html) . 1 team of an alliance doesn't show up in the** final match** so TMO tick no-show in TM app. The result is that both team get 0 point. So <T5> only applies for Qualification matches or TM app is bugged?

Finals Match # 2

Alliance

Goal #1

Goal #2

Goal #3

Blocks Scored

20

8

10

Fill Level

3

3

3

Uniform

☐

☐

☐

☐ Cleared Supply Zone

Red Blocks Removed from Starting Peg

3

Robot 1

Partially Parked

Robot 2

Partially Parked

For Finals Tiebreaker Matches Only (See Rule T19)

Match Stop Time

0

Team 1

Team 1

☒ No Show ☐ DQ

Final Score: 0

Team 2

Team 5

☐ No Show ☐ DQ

Final Score: 0

☒ These scores are official, click 'Unscore Match' to make the scores unofficial

Save Scores

Reset Scores

Unscore Match

View Score History (2)

Answered by committee

Thank you for bringing this to our attention. Rule T5 is intended to apply for both Qualification and Finals Matches. We have passed this along to the REC Foundation & Tournament Manager developers, and this should be fixed in an upcoming release.

In the future, questions relating to possible TM issues can always be directed towards your [REC Foundation representative](#).

1959: T5/T6/Head Ref Cert Unit 6 -- Presence of robots on field when nonfunctional in alliance match

15-Feb-2024
T5 T6

Relevant Sources: <T5> Be at your match on time. If no member of a Team is present in the Driver Station at the start of a Match, that Team is considered a “no show” and will receive zero (0) points. The other Team in the Alliance will still play and receive points for the Match.

<T6> Robots at the field must be ready to play. If a Team brings their Robot to the Field, it must be prepared to play (i.e., batteries charged, sized within the starting size constraint, etc.) Robots must be placed on the field promptly. Repeated failure to do so could result in a Violation of <G1> and/or removal of the Robot from the current Match at the Head

Referee's discretion.

Disablement – A penalty applied to a Team for a rule Violation. During Disablement, a Team is no longer allowed to operate their Robot, and the Drivers will be asked to place their Controller on the ground. A Disablement is not the same as a Disqualification.

Head Ref Unit 6 Quiz Question: What is the minimum requirement for a Team to get a score for a Match? Form *Correct* Answer: At least one member of the Team must be present in the Driver Station *Incorrect* Answers: The Team's Robot must be in the Driver Station or on the Field The Team's Robot must move during the Match At least one point must be Scored by the Team's Robot during the Match

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We had a rule opinion dispute as a tournament recently between the three Head Ref-certified individuals that were present regarding whether a team **MUST** place and leave their robot on the field for a match, specifically when the robot is nonfunctional.

Two of us felt that having a broken robot on the field was **NOT** a rule requirement and **MAY** be placed on the field, but may also be kept off the field, assuming it is not part of a strategy. Doing so would allow that team to keep the robot off the field as a potential obstacle/entanglement for the functioning robot.

The other Head Ref certified individual stated they and another ref, who worked for REC, had encountered the same issue at a prior event, and the REC representative stated that the nonfunctioning robot **MUST** be placed on the field and would be considered to have disabled status if it was not functioning by the time the match began, which gave the ref discretion to disable the nonfunctioning team and force them to place their controller down for the match.

From the first perspective, and according to the Unit 6 quiz, the only requirement for the team to receive an alliance score is simply to be present in the Driver's Station on time. The team need not place their nonfunctional robot on the field, and they have committed no violation to be subject to disablement. According to the incorrect answers in the Quiz, the teams robot need not be in the Driver Station or the Field, move during the match, or score a point. This would seem to coincide with the reading of T5.

Alternatively, T6 seems to suggest that if the robot is present, it **MUST** be placed on the field and not being ready to play would be a violation of T6 by bringing a nonfunctional robot to the field. Assuming this is a rule violation, then Disablement could be applied, and with the controller on the ground, the robot isn't going to move and thus remains on the field during the match.

So is the intent here in the Rules that a nonfunctional robot never be brought to the field, or else the kids are forced to place their nonfunctioning robot on the field? That seems like an odd conflict, as otherwise the Manual-suggested common sense would allow the kids to try their best to repair their robots even up to the point of stepping into the Driver Station for a match, just as we allow them to attempt to repair their robots midmatch.

Thank you for the clarification

Answered by committee

Provided a Drive Team Member is at the field for the Match, there is no requirement that they put the Robot on the field (for example, the Robot could remain in the Driver Station for the Match). Rule [<T6>](#) is intended to apply in situations where the Team plans to operate their Robot on the field during the Match and is delaying the event while they work to get the Robot ready to drive.

A Head Referee may require that a Robot be removed from the Field if it is not ready to play at the beginning of the Match (per [<T6>](#)) or if it does not meet all Robot inspection requirements (clauses C & D of [<R3>](#)).

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1503: Handling the robot in a match or skills

17-May-2023

In G10 it states when handling a robot mid match "Any Blocks being controlled by the Robot while being handled must be removed from the Field"

Do the students remove the block from the field and then put it in Supply Zone, or just put them directly into the Supply Zone?

Answered by committee

For future reference, please include all applicable rules in your question, per the [Q&A Usage Guidelines](#) before posting, specifically point 3, "Quote the applicable rule from the latest version of the manual in your question". In addition to G10, rule [<SG3>](#) states the following:

<SG3> Keep Blocks in the Field. Blocks that leave the Field during a Match may be returned to the Supply Zone by a Driver or Referee. Any Blocks which remain outside of the Field at the end of a Match will be considered "in" the Supply Zone (i.e., the Supply Zone will not be eligible to be Cleared).

"Leaving the Field" means that a Block is outside of the Field Perimeter and no longer in contact with the Field, Field Elements, other Blocks, or Robots.

If a Block must be removed during a G10 interaction, this Block would be considered "out of the Field" as soon as it is removed from the Robot, and may be immediately placed directly into the Supply Zone.

1504: Robot Size

17-May-2023

<G5> Robots begin the Match in the starting size. At the beginning of a Match, each Robot must fit within an 11" wide x 20" long x 15" high (279mm x 483mm x 381mm) volume, as checked during inspection per <R4>.

20inch = 508mm

Is the size of the robot for the 2023-2024 Full Volume either 19 inches or 20 inches?

Answered by committee

Thank you for pointing out this discrepancy in size. Rule G5 will be revised with correct metric limitations (279mm x 508mm x 381mm) in the next game manual update.