Welcome to the official VEX IQ Challenge 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 VIQC Next Level 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 VIQC Next Level rules questions.

- For event, registration, or other competition support questions, please contact your REC Foundation Regional Support Manager.
- 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.
More than 4 low scored hubs
High scored if touching field perimeter?
Legality of "coaching" from the stands/audience by team members and adults
What if a robot continues lifting after the buzzer but the controller is down?
Do teams have to put their controllers down at the end of a match?

Hanging robots
Must drivers put controller down at the end of the match and do they lose a high hang if robot drops only because of putting controller down
Detached robot piece touching hub at end of match.

High hang from tower

Resetting for parking
Reset for parking or robot hang.

What can a team do with a detached piece?

Moving a robot during a match

Autonomous mode

Hub on barrier possession question
Pushing a hub over the barrier, off the floor for a moment

"Floor" and "Floor, field perimeter, or Field Elements (e.g. Barriers)"

Indirect removal of Bonus Hub from Post

Rule G17 Question
question on dragging the hubs

Sizing of Robots on the field

Qualified Drivers? Season commitment?
Do teams have to have 2 competitors?

Programming Skills and "G7"

High hanging if holding a hub that is below the 4" plane

Assist in hanging?

High hanging robot

Hanging

R5: Horizontal Expansion While Hanging & Tilted

When to Score High Hanging Robot

How do you score of hanging if a part of body fell off on the filed?
Define hold

High Scored Hub

High scored if supported indirectly by a hub

Will this hub sitting on "2" plate be considered as high scored?

Will the hub that contacts barrier on fence only or touches an unscored hub be considered as low score?

Holding and Stacking

Removing Bonus Peg while removing Bonus Hub

Is STEM Video the required method of Judging

Robot Design

Robot Build

Parking Zone

robot control working backwards

Parking Questions

permitted parts question

Tethered Driving

Sharing STEM Videos

Use of Parts to build Robot available for field setup

STEM Video bonus points

Signature Events

Cancellation

Online Challenges

Change What the Controller Buttons Do?

Students not enrolled in a traditional school

Disappearing Motors

Does Create Award Qualify you for state?

Driver Assist (Operator Assist)

2019-2020

Super Glue

Use of external chargers for remotes

Excellence Award at the 2019 World Competition

programmed challenge

autonomous restarts

Calibration

Are programming skills required to run the full 60 seconds?
Handling robot that is taller than 15"

Autonomous and controller

Cutting 12" Shafts

Smart cable repair

Size requirement for VEX IQ robot for 2018-2019? (Found the answer already)

Size Requirements

Making Smart Cords

Legal Parts Appendix

USB Brain Dongle During Match Play

Do overhanging wires count towards robot dimension and if so, are we allowed to use zip ties?

Can you use grease in VEX IQ?

Finals tiebreakers if tournament qualifies more than first place

Second set of tiebreakers in finals

2nd Tiebreaker Disadvantage

ONE STEM VIDEO Per event or Per season.

Movement before the beginning of the match

Scoring Software

Invitations to Worlds

Match Stop Time
More than 4 low scored hubs

Building Zones
If you have more than 4 low scored hubs in a single building zone and there are bonus hubs included, should the bonus hubs be given preference in scoring?

This is an example: photos.app.goo.gl/oEN3yjmbZDs1U5hS6

Answered by Game Design Committee

In the June 15th Game Manual update, the definition of Low Scored was revised to more clearly answer this question.

Note: Teams can receive points for a maximum of four (4) Low Scored Hubs in each Building Zone. If there are more than four (4) Low Scored Hubs in a Building Zone, points are awarded for the four (4) Low Scored Hubs that would receive the most points (e.g. any Bonus Hubs).

High scored if touching field perimeter?

Building Zones
> High Scored – A Hub is High Scored at the end of a Match if it meets the following criteria:

1. The Hub is completely or partially within the 3D volume of a Building Zone.
2. The Hub is not contacting the Floor or a Barrier.
3. The Hub is not contacting a Robot.
4. The Hub is contacting at least one Hub that would be considered Scored. a. Note: Low Scored Hubs that do not receive points (due to the Note above) may still be considered Scored for the purposes of point 4. Thus, contacting a Low Scored Hub that did not receive points still satisfies this requirement.

On point 2. The Hub is not contacting the Floor or a Barrier.

Does it matter if the hub is touching the field perimeter?

Answered by Game Design Committee

The definitions of Floor and Barrier are as follows:

Floor – The part of the playing field that is within the field perimeter. The white/black field tiles, and the blue VEX IQ parts that are used for terrain or Barriers, are considered part of the Floor.

Barrier – The blue and/or white VEX IQ parts that outline the Building Zones.

The field perimeter is not included in either of these definitions, and is not otherwise referenced in the definition of High Scored. So, contact with the field perimeter is not relevant in determining whether a Hub is High Scored.

Legality of "coaching" from the stands/audience by team members and adults
I have a question regarding the legality of students or adults calling out from the stands/audience to drivers during a match. By far the two most common examples I have seen of this are:

- Someone periodically calling out the remaining time in the match, particularly if the students on the drive team are unable to see a match timer.
- Someone calling out "Get the yellow hub" or "Go hang" near the end of the match.

I have never seen this done in a disrespectful way so assume for this question that nothing is being said in a derogatory or offensive manner.

I have been told "All Drive team members are in Drivers stations and are students. There are NO coaches - Thus the coaching from any location is illegal." and that teams could be disqualified because of this. The reasoning for this was based on their interpretation of the following from the game manual and Code of Conduct:

G1 In all aspects of the VEX IQ Challenge program, the Students make the decisions and do the work with adult mentorship. Code of Conduct: • Student-centered teams with limited adult assistance.
G3 When reading and applying the various rules in this document, please remember that common sense always applies in the VEX IQ Challenge.

Nothing in the above would apply to students "coaching." Also, "adult mentorship" and "limited adult assistance" could be interpreted to allow adult "coaching" during a match.

So, I have two specific questions.

1. Are students in the stands/audience allowed to call out time or things like "Go hang"?
2. Are adults in the stands/audience allowed to call out time or things like "Go hang"?

For completeness here are rules G1, G2, and G3 in their entirety.

G1 Treat everyone with respect. All Students and adults associated with a Team are expected to conduct themselves in a respectful and positive manner while participating in the VEX IQ Challenge. If Team members are disrespectful or uncivil to staff, volunteers, or fellow teams at an event, the team may be Disqualified from their current or upcoming Match. Judges may also consider team conduct and ethics when determining awards.

In all aspects of the VEX IQ Challenge program, the Students make the decisions and do the work with adult mentorship. The VEX community prides itself on being a positive learning environment where no one is bullied, harassed, or berated. Teams avoid placing unnecessary stress upon students and/or event volunteers; instead, challenging situations are viewed as teachable moments to model positive behaviors and good sportsmanship.

This rule exists alongside the REC Foundation Code of Conduct. Violation of the Code of Conduct can be considered a violation of <G1> and can result in Disqualification from a current Match, an upcoming Match, an entire event, or (in extreme cases) an entire competition season. The Code of Conduct can be found at link.roboticseducation.org/recf_codeofconduct.

G2 VEX IQ is a student-centered program. Adults may assist Students in urgent situations, but adults should never work on or program a Robot without Students on that Team being present and actively participating.

> Some amount of adult mentorship, teaching, and/or guidance is an expected and encouraged facet of the VEX IQ Challenge. No one is born an expert in robotics! However, obstacles should always be viewed as teaching opportunities, not tasks for an adult to solve without Students present and actively participating. > When a mechanism falls off, it is… > …okay for an adult to help a Student investigate why it failed, so it can be improved. > …not okay for an adult to put the robot back together. > When a team encounters a complex programming concept, it is… > …okay for an adult to guide a Student through a flowchart to understand its logic. > …not okay for an adult to write a pre-made command for that Student to reference.

G3 Use common sense. When reading and applying the various rules in this document, please remember that common sense always applies in the VEX IQ Challenge.
Answered by Game Design Committee

There is no one-size-fits-all blanket answer for this topic. In general, infrequent comments from the stands in the spirit of cheering on the students are aligned with the student-centered policy of the Game Design Committee and the REC Foundation.

Cheering from the stands, especially for a key end-of-match moment, is an exciting part of the VEX IQ Challenge's intensity; there is no positive learning experience to be gained by penalizing Student Drivers for receiving encouragement from their excited fans.

Similarly, calling out the amount of time remaining in a Match is a common practice for many play-by-play announcers, and is even included in the relevant Referee Training video as a suggestion to help with the 30-second Driver switch.

However - frequent, direct, and specific coaching instructions (“turn left, now pick up the Hub, now turn right, now go score”) would not be within the spirit of the various student-centered guidelines in the Game Manual, Code of Conduct, Judges Guide, etc.

What if a robot continues lifting after the buzzer but the controller is down?

Hanging   G10

Let's say that a team has latched onto the bar and they can push a button to lift the robot autonomously. So the team pushes the button and sets the controller down with 1 second left. The robot earns a low hang at the time the buzzer rings, but continues to lift until the robot high hangs. Should the robot get credit for this as the team was not controlling it, or should the referee try to determine where the robot would be hanging if it had stopped with the buzzer?

Thanks!

Answered by Game Design Committee

Please see G10, quoted here for reference:

<G10> When it’s over, it’s over. Scores will be calculated for all Matches immediately after the Match is complete and once all objects on the Field come to rest. Any Scoring, Removing, Parking, or Hanging that takes place after the Match due to Robots continuing to drive will not count.

Initiating an autonomous routine just before the timer hits zero that caused the Robot to continue moving would be considered Hanging after the Match, and would not count. In the case where a Robot does continue to move after the match, the referee should use their best judgment to determine if the Robot had made it to the High Hang point when the timer hit zero. If it is too close to call, then it should be considered a Low Hang.

Do teams have to put their controllers down at the end of a match?

Tournament Structure   Hanging   G10

At the 2018 VIQC World Championships teams were asked to put their controllers down at the end of a match. In addition I believe it is common practice for refs to ask them to.

The definition of match stop time says that students put their controllers down to set their match stop time if they want to end early.

As far as I can see the manual never states that teams must put their controllers down at the end of a match. This would possibly allow a team to hold onto their controller and keep pressing a button to keep their robot high hanging.
Please could you clarify what teams can/must do with their controllers at the end of a match. I request a rule be added that requires teams to put the controllers down as they can use software to hold the robot up if they want to.

**Answered by Game Design Committee**

The end of the match procedure is currently defined by G10:

<G10> When it’s over, it's over. Scores will be calculated for all Matches immediately after the Match is complete and once all objects on the Field come to rest. Any Scoring, Removing, Parking, or Hanging that takes place after the Match due to Robots continuing to drive will not count.

The key words in this rule are "Robots continuing to drive". The intent of this rule is for all Driver inputs and all Robot motion to cease at T=0. Holding a button down to continue moving after a Match would be outside the intent of this rule. However, a Robot holding its position steady (i.e. the default Driver Control behavior) would be permissible.

We highly recommend that Drivers place their controllers on the ground, or otherwise let go of them, to make it perfectly clear to referees that they have stopped driving. However, it is not an explicit requirement of the rule. We will look at clarifying this further in the August manual update.

---

**Hanging robots**

Some teams at one of my leagues are arguing that the Game Manual does not explicitly say that Low Hanging and High Hanging are scored at the end of the match the way Low Scored and High Scored do. They are claiming that they should get credit for hanging if they hang at the beginning of the match and then score hubs until the end of the match. The Referee Training Video Chapter 6 clearly states that referees score parking and hanging at the end of the match, but that video is not usually viewed by teams. My argument that referees can only check whether a robot is parked, low hanging or high hanging at the end of the match did not satisfy them. They are also not convinced that Rule G10 excludes their loophole. I ultimately relied on G10 in combination with the object of the game statement on page 3 to justify that referees only score robots hanging at the end of the match. It would help us put this issue to rest if you could provide a clarification that robots only score as Low Hanging and High Hanging at the end of the match.

**Answered by Game Design Committee**

Let's look at the referenced portion of G10:

<G10> When it’s over, it's over. Scores will be calculated for all Matches immediately after the Match is complete and once all Robots and Game Objects on the Field come to rest.

Then, a portion of the definition of Low Hanging (although this point will also apply to High Hanging, Parking, and all other forms of scoring):

Low Hanging – A Robot is Low Hanging if it is contacting the Hanging Bar, not contacting the Floor, and not Supported by any Hubs.

So - scores are calculated at the end of the Match, and Low Hanging has a very specific definition.

Thus, in order for a Robot to receive the points for Low Hanging, it must meet the definition of Low Hanging at the end of the Match.

Your interpretation was correct. Referees are not expected to remember if points have or have not accumulated during a Match, as points are not officially assigned until the Match is complete.
Must drivers put controller down at the end of the match and do they lose a high hang if robot drops only because of putting controller down

G10 Hanging

Hello,

At a recent match, another team was told they must put their controller down. Their robot was clearly high hanging. However, when releasing the button controlling the arm motors, it dropped. Only one point for parking was awarded. However, the rules state the scoring should occur immediately at the conclusion of the match after all components have come to rest. They were until being forced to drop their controller. Another rule says common sense should dictate enforcement of the rules. As it was ruled, both teams lost 3 points that was there when the match ended. It changed the placement of teams for Finals and resulted in a team earning a state spot that might not have otherwise. Followup question to be specific to Grant Cox's suggestion: Should the team have received a high hanging score?

Answered by Game Design Committee

We believe that this general question is answered by this similar Q&A post, and that your specific question is answered by this portion of that post:

The intent of this rule is for all Driver inputs and all Robot motion to cease at T=0. Holding a button down to continue moving after a Match would be outside the intent of this rule. However, a Robot holding its position steady (i.e. the default Driver Control behavior) would be permissible.

Thus, a Robot which can not High Hang without Driver inputs after T=0 should not receive points for High Hanging.

Detached robot piece touching hub at end of match.

Hubs: G11

If a piece of the robot breaks off and falls into the building zone, then contacts a hub, is the hub scored? Based on these definitions I would assume that it is not scored.

Low Scored – A Hub is Low Scored at the end of a Match if it meets the following criteria:

1. The Hub is contacting a Barrier or the Floor inside of a Building Zone.
2. The Hub is not contacting the Floor outside of a Building Zone.
3. The Hub is not contacting a Robot.

Robot – Anything that has passed inspection that a Team places on the Field prior to the start of a Match.

Here is an example: https://i.imgur.com/Htd4Lp0.jpg

Answered by Game Design Committee

The relevant rule in question here is <G11>, quoted here for reference:

<G11> Keep your Robot together. Robots may not intentionally detach parts or leave mechanisms on the Field during any Match. If an intentionally detached component or mechanism affects game play, the Team may be Disqualified at the Head Referee’s discretion.

If a Robot detaches a mechanism or component, it is no longer considered to be a part of that Robot. So, by itself, the detached mechanism does not immediately cause the Hub to violate point 3 of the Low Scored definition. However, it will be at the referee's discretion whether the detachment was intentional (and a violation of <G11>) or accidental.

If the referee determines that <G11> has not been violated, scoring a Hub which is contacting a detached part should
High hang from tower

**Hanging G12**

Is it permissible to high-hang from the tower (hanging structure), provided the robot is also in contact with the hanging bar (as per the definition of "high hanging")? In this scenario, the robot would be on the "outside" of the hanging structure.

Thanks.

**Answered by Game Design Committee**

It is always difficult to issue a blanket ruling based on a hypothetical scenario. However, as described, this sounds like it would be a violation of G12, quoted here for reference:

<G12> Don’t clamp your Robot to the field. Robots may not grasp, grapple, or attach to any Field Elements other than the Hanging Bar. Strategies with mechanisms that react against multiple sides of a Field Element (other than the Hanging Bar) in an effort to latch or clamp onto said Field Element are prohibited.

Thus, this would not be legal.

Resetting for parking

**G16**

This question came up as part of one of our practices with other schools. A team wanted to get a reset on their robot as time was running out so they could then move forward and park in the parking zone with time remaining. This would count under the using a reset as a strategy to gain an advantage and the points would be disqualified, correct? If that does occur and the referee does judge they've broken the rule, do they lose all points for the match, or just their parking points?

**Answered by Game Design Committee**

Let's take a look at the relevant portion of rule G16, quoted here for reference:

This rule is intended so Teams can fix damaged Robots or help get their Robots "out of trouble." It is not intended for Teams to use as part of a strategy to gain an advantage during a Match. If a Head Referee sees Teams strategically exploiting this rule, they may be Disqualified from said Match.

With this in mind, to answer your question specifically:

This would count under the using a reset as a strategy to gain an advantage and the points would be disqualified, correct?

Correct, if this was a strategic move. As it was posed as a concept during a practice for maximizing time efficiency, it is likely this was being discussed strategically. During a match, a referee can conclude if it was done strategically by looking at the context of the action. Was the robot damaged or otherwise in need of assistance (as put forth by G16), or was it simply too far away from the Hanging Structure? Has this team received similar warnings before?

If that does occur and the referee does judge they've broken the rule, do they lose all points for the match,
or just their parking points?

The penalty for breaking rule G16, as quoted above, is a Disqualification from the Match. The definition for Disqualification is as follows:

A Team that is Disqualified in a Match receives zero (0) points. If a Team is Disqualified in a Match, the Head Referee will notify the Team of their violation at the end of the Match. At the Head Referee’s discretion, repeated violations and Disqualifications for a single Team may lead to Disqualification for the entire event.

Reset for parking or robot hang.

Programming Skills Challenge G16

Please confirm:

1. It is NOT legal to reset a robot for parking during Driver Skills or a Teamwork challenge unless the robot is "in trouble".
2. It IS legal to reset a robot during an autonomous run to park or high hang. We can program the robot to set hubs and then pick the robot up and move it to a start zone and run a hang only program?

Rule PSC1 states you can handle the robot as many times as desired during an autonomous run. Rule G16 specifies the robot can only be handled during driver control if the robot is in trouble.

Answered by Game Design Committee

For Driver Skills Matches and Teamwork Challenge Matches, please see this similar Q&A: www.robotevents.com/VI QC/2018-2019/QA/108

For Programming Skills Challenge runs, <PSC1> is a specific exception that allows teams to reset their robots as a part of game strategy.

<PSC1> A Team may handle their Robot as many times as desired during a Programming Skills Match.

a. Upon handling the Robot, it must be immediately brought back to any legal Starting Position.

i. Drivers may reset or adjust the Robot as desired from this position, including pressing buttons on the Robot Brain or activating sensors.

What can a team do with a detached piece?

G16

What can a team do with a unintentionally detached piece if they want the extra piece out of the way but not to fix the robot?

The relevant rule:

<G16> 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. To do so, they must:

1. Signal the Referee by placing their VEX IQ Controller on the ground.
3. Any Hubs in possession of the Robot while being handled must be removed from the Robot and taken out of play for the remainder of the Match. Note: Any Hubs in the Starting Position may be moved out of
moving a robot during a match

G16
Are drivers allowed to pick up their robot and place it back in the starting position as a strategic move and not for one the circumstances outlined in rule G16. We saw a team pick up their robot and place it back in the starting position so it could obtain a hang within the time left. We were told at the competition that this is considered a strategic move and it allowed for VexIQ Next Level Challenge.

<G16> 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. To do so, they must:

1. Signal the Referee by placing their VEX IQ Controller on the ground.
3. Any Hubs in possession of the Robot while being handled must be removed from the Robot and taken out of play for the remainder of the Match. Note: Any Hubs in the Starting Position may be moved out of the Starting Position, provided that they are not moved into a Scored position and are not moved as part of a strategy to gain an advantage. This rule is intended so Teams can fix damaged Robots or help get their Robots "out of trouble." It is not intended for Teams to use as part of a strategy to gain an advantage during a Match. If a Head Referee sees Teams strategically exploiting this rule, they may be Disqualified from said Match.
Autonomous mode

Programming Skills Challenge  G16
In Autonomous mode as per <PSC1> A Team may handle their Robot as many times as desired during a Programming Skills Match.

We want to bring the robot back to base after the first mission (example push the hubs to the final target) and run the next mission (robot hang on the bar) from the base. Pls let us know if this is allowed.

Hub on barrier possession question

G17
When a hub is touching one of the barriers or the other beams that are attached to the floor, but not the floor, does it count as possessed?

I am especially interested in the case where a robot could be pushing two hubs into the building zone. If the robot approached the building zone in a perpendicular manner then they will both be off the floor for a moment as they are scored.

Pushing, shoving, pulling, or plowing multiple Hubs along the Floor, field perimeter, or Field Elements (e.g. Barriers) is not considered a violation, as long as these Hubs remain in contact with the Floor.
Pushing a hub over the barrier, off the floor for a moment

G17

We had a great event yesterday. We had a robot there that has an arm like the one in the video:

https://www.youtube.com/watch?v=X88uN83N2jl

At the 2:00 mark, you see it push two hubs over the barrier while keeping them tilted back.

Let's note <G17>

<G17> Hub control is limited. Robots may not directly or indirectly lift or hold more than one (1) Hub off of the Floor at a time. Pushing, shoving, pulling, or plowing multiple Hubs along the Floor, field perimeter, or Field Elements (e.g. Barriers) is not considered a violation, as long as these Hubs remain in contact with the Floor. However, if a Robot controls multiple Hubs that are not in contact with the Floor (such as pushing a Hub with two Hubs stacked on top of it), this would be a violation. Minor, momentary, or incidental violations of this rule that do not affect the Match will result in a warning. Score affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee's discretion.

The robot would tilt two hubs and push them over the bar while they were still tilted back. I can imagine that if I had a high speed camera the hubs would "drop" for a moment while coming off of the barrier and momentarily have contact with neither the barrier or the floor. The robot in question at my event would also have a hub in their claw while pushing the two along the floor.

While this would be "momentarily" losing contact with the floor, it would certainly be match affecting if it was part of their scoring strategy. Does this violate <G17>?

Answered by Game Design Committee

The robot shown in the video satisfies the intent of <G17>, and would not be considered a violation. This type of interaction is also addressed in the relevant VIQC Next Level referee training video, around 1:03 -

https://youtu.be/OwkNH95Hf7g?t=63

Trying to watch for an instantaneous disconnect from the Floor / Barrier, such as one that would require a high speed camera to detect, would be unrealistic for referees and teams alike.

<G17> "Floor" and "Floor, field perimeter, or Field Elements (e.g. Barriers)"

G17

<G17>, emphasis mine

<G17> Hub control is limited. Robots may not directly or indirectly lift or hold more than one (1) Hub off of the Floor at a time. Pushing, shoving, pulling, or plowing multiple Hubs along the Floor, field perimeter, or Field Elements (e.g. Barriers) is not considered a violation, as long as these Hubs remain in contact with the Floor. However, if a Robot controls multiple Hubs that are not in contact with the Floor (such as pushing a Hub with two Hubs stacked on top of it), this would be a violation. Minor, momentary, or incidental violations of this rule that do not affect the Match will result in a warning. Score affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee's discretion.

Whenever we see the word "Floor" in this rule, should we read it as "Floor, field perimeter, or Field Elements (e.g. Barriers)"?
**Indirect removal of Bonus Hub from Post**

**G17**

We are having a debate about G17 and whether it would apply to the removal of a bonus peg when a robot is holding one hub in its gripping mechanism? Example: Robot X has lifted a hub off of the ground and then uses that hub to knock the bonus hub off of its peg. Is this a violation of G17?

Because G17 uses language like "Hubs remain in contact with the Floor," I am proposing that it would be a violation since the Bonus Hub on the Peg is NOT in contact with the floor and Robot X already is lifting a different hub. Please correct me or clarify this specific situation.

<G17> Hub control is limited. Robots may not directly or indirectly lift or hold more than one (1) Hub off of the Floor at a time. Pushing, shoving, pulling, or plowing multiple Hubs along the Floor, field perimeter, or Field Elements (e.g. Barriers) is not considered a violation, as long as these Hubs remain in contact with the Floor. However, if a Robot controls multiple Hubs that are not in contact with the Floor (such as pushing a Hub with two Hubs stacked on top of it), this would be a violation.

**Answered by Game Design Committee**

This is legal.

The operative word in G17, in the context of this question, is "hold".

Robots may not directly or indirectly **lift or hold** more than one (1) Hub off of the Floor at a time.

The intent of G17 is to prohibit Robots from holding and controlling multiple Hubs in the air at a time, as demonstrated in the relevant Referee Training video. Instantaneous "nudging" to remove the Bonus Hub, especially if using a second Hub and the Robot is never in control of the Bonus Hub, would not be considered "lifting" or "holding".

**Rule G17 Question**

**Hubs G17**

Rule G17 states: Hub control is limited. Robots may not directly or indirectly lift or hold more than one (1) Hub off of the Floor at a time. Pushing, shoving, pulling, or plowing multiple Hubs along the Floor, field perimeter, or Field Elements (e.g. Barriers) is not considered a violation, as long as these Hubs remain in contact with the Floor. However, if a Robot controls multiple Hubs that are not in contact with the Floor (such as pushing a Hub with two Hubs stacked on top of it), this would be a violation.

This rule primarily refers to Robots which lift Hubs off of the Floor. Any mechanisms which are designed to lift Hubs can only do so one Hub at a time. If you design your Robot to only lift one Hub at a time, you will probably not violate this rule.

We need clarification on one design used by our students. Here is a [https://www.youtube.com/watch?v=usyzZAdXq2s](https://www.youtube.com/watch?v=usyzZAdXq2s) of the robot in action. The question is whether or not the robot is violating G17 after it scores the first hub, which remains seated on the grounded hub. The question is whether or not the robot should be considered lifting two hubs at the same time at this point.

Thank you for your input and clarification.
Thank you for the video and for quoting the relevant rule. It is always difficult to issue blanket rulings on specific Robot designs, so a video helps significantly in providing the best possible answer to your question. Let’s hone in on the following specific line of the blue box under G17:

Any mechanisms which are designed to lift Hubs can only do so one Hub at a time. If you design your Robot to only lift one Hub at a time, you will probably not violate this rule.

This design, by itself, is not inherently illegal. However, it absolutely contains the potential to violate G17, as it is designed to lift multiple Hubs at a time.

The question is whether or not the robot is violating G17 after it scores the first hub, which remains seated on the grounded hub. The question is whether or not the robot should be considered lifting two hubs at the same time at this point.

It is a semantic but worthwhile point to note that the first Hub is not necessarily considered Scored at this time, because the Robot is still contacting it. Even if the mechanism was somehow "floating" in the middle of the Hub, it would not be reasonable to consider this distinction abundantly clear to a Head Referee in the middle of a Match.

Because the mechanism is still in the same position that it was in when it was very clearly "controlling" the Hub (in the context of G17), and the Hub would definitely move with the Robot if it were to turn or move the mechanism further, the Robot would still be considered "controlling" the first Hub. Thus, this video would be considered a violation of G17. If the Robot could demonstrate visually and clearly that it was completely disengaged with the first Hub, such as by moving the mechanism out of the way, then it would be more likely to be considered legal.

---

**question on dragging the hubs**

**G17**

We have a robot like most where we pick one and drag 4 hubs. we are being told now at competition that if we drag 2 and they cross the blue bar at the same time it is considered both being lifted. Is this correct? If so what happens if you have one in the claw then you can not push or drag one over the blue while you have it. Please help

**Answered by Game Design Committee**

It is always difficult to provide a blanket ruling on a hypothetical robot design based on a snapshot description. With that being said, let’s take a look at G17, with a portion bolded for emphasis:

<G17> Hub control is limited. Robots may not directly or indirectly lift or hold more than one (1) Hub off of the Floor at a time. Pushing, shoving, pulling, or plowing multiple Hubs along the Floor, field perimeter, or Field Elements (e.g. Barriers) is not considered a violation, as long as these Hubs remain in contact with the Floor. However, if a Robot controls multiple Hubs that are not in contact with the Floor (such as pushing a Hub with two Hubs stacked on top of it), this would be a violation.

Provided that you can demonstrate / prove to a Head Referee that your mechanism keeps the Hubs in contact with the Floor and the blue Barriers as they cross, this should be legal. This concept is also covered in this similar Q&A post:


---

**Sizing of Robots on the field**

**G4**
Hello, Even though the robot in this link is slightly less than 20 inches long overall, it extends past the black line because it hits the wall in the back. Is this a violation of the sizing?

drive.google.com/open?id=1KccaBMoFNJzMay5YEYM2jxlpaEF5mQ4Q

Answered by Game Design Committee

Thank you for providing the image for clarification.

As shown, this Robot would violate the pre-match sizing restrictions displayed in G4 and Figure 11. The 1" of leeway over the Field Perimeter wall does not translate into allowing 1" beyond the black line. However, if this robot were to rotate 180 degrees from the orientation shown in the diagram, and the mechanism extended over the wall instead, this would be legal.

Updated on 1/14/19 for further clarity: Note that this restriction ONLY applies to G4 and the Starting Position. It does not apply to R5, the mid-match 11"x20" sizing restriction. From the diagram, it does not appear that this robot would violate R5, as long as it were able to start within the Starting Position.

<G6> Qualified Drivers? Season commitment?

G6

<G6> Drivers switch Controllers midway through the Match. Each team shall include two Drivers. Teams with only one Student in attendance at an event are granted an allowance to use another qualified Driver from the event. No Student may fulfill the role of Driver for more than one Team at a given event, or in a given season.

Does the Allowance to use another qualified driver bind that substitute driver to the team? Or, if there is a team "with only one Student in attendance" is the substitute driver exempt from the season rule as long as they only substitute for that day?

Answered by Game Design Committee

The intent of the more specific language in G6 was to penalize organizations that were using their best drive team to qualify multiple teams to their Regional / State / World championship. This behavior is not within the spirit of the VEX IQ Challenge.

Event Partners should bear in mind G3, and use common sense when enforcing this rule. It is not our intent to punish a Team who may change Drivers over the course of a season due to illness, changing schools, conflicts within a Team, graduating up to VRC, etc. We do not expect EP's and referees keep a roster of any student who has ever driven for a day.

To answer your specific question, a student who fills in as a "substitute" Driver for a single day/tournament due to a Team having only one student in attendance at the event would not fall under the intent of this rule.

Do teams have to have 2 competitors?

Other G6

Can a student compete solo as a team or does a team need to be made of 2 competitors?

Answered by Game Design Committee
Please review the Q&A Usage Guidelines before posting, specifically point 1, “Read and search the manual before posting”.

This is covered by the definition of “Team” in the Game Manual, as well as <G6>, both quoted here for reference:

Team – Two or more Students make up a team.

<G6> Drivers switch Controllers midway through the Match. Each team shall include two Drivers. Teams with only one Student in attendance at an event are granted an allowance to use another qualified Driver from the event.

---

**Programming Skills and <G7>**

G7

I was watching a YouTube video of a Programming Skills run and noticed that one of the drive team members was not in the driver station for the entire match but was interacting with the robot. The relevant video is: https://youtu.be/D_ykNTuTKTU?fbclid=IwAR0qXhqSJsMDala-rmbOyOc5u9Bb0AouxH7JX91E974CjuMIXTn_2J0TzFM

At our State Championship <G7> was enforced during Programming Skills (no students were allowed to wait outside of the driver station and pass the robot.) Will students be allowed to wait outside of the driver station during Worlds and interact with the robot?

**Answered by Game Design Committee**

This question has been answered by the April 5th Game Manual Update.

- d. During a Programming Skills Match, Drivers may move freely around the Field, and are not restricted to the Driver Station when not handling their Robot.

- i. The rest of <G7>, which states that Drivers are not allowed to use any communication devices during their Match, still applies.

- ii. An intent of this exception is to permit Drivers who wish to “stage” Robot handling during a Programming Skills Match to do so without excessive running back and forth to the Driver Station.

---

**High hanging if holding a hub that is below the 4" plane**

**Hanging**

Let's say a robot is holding a hub while hanging. The robot is either low hanging or high hanging, except that the hub that the robot is holding is either touching the floor or below the 4" plane. Do you consider only the robot or do you also consider a hub if the robot is holding it?

Low Hanging – A Robot is Low Hanging if it is contacting the Hanging Bar, not contacting the Floor, and not Supported by any Hubs. Referees can check to see if a Robot is Low Hanging by sliding a piece of paper between the Robot and the Floor, and can check to see if a Robot is supported by any Hubs by gently removing the Hub in question.

High Hanging – A Robot is High Hanging if it is contacting the Hanging Bar, is not supported by any Hubs, and is completely above a horizontal plane that is the height of an upright Hub above the Floor (roughly 4.0” or 101.6mm). Referees can check to see if a Robot is High Hanging by sliding a Hub underneath it, or by comparing its height to the bottom of the yellow decorative “4” plate on the Hanging Structure. Referees can check to see if a Robot is supported by any Hubs by gently
removing the Hub in question. A High Hanging Robot does not also count as a Low Hanging Robot.

**Answered by Game Design Committee**

As quoted, the definitions for Low and High Hang only refer to the Robot itself, not any Hubs that it may be holding.

In the case where the Hub is contacting the ground, referees should gently remove it to ensure that the Robot was not being Supported by the Hub (as quoted in the definitions of Hanging).

In the case where the Hub is not contacting the ground and there is question or confusion as to the Robot's height, the referee or the Student should feel free to remove the Hub to get an accurate measurement. Per G13, Robots should be designed to permit easy removal of Hubs after the Match is over, so this removal should not alter the Robot's Hang height in any way.

<G13> Robots must be designed to permit easy removal of Hubs from their Robot without requiring that the Robot have power or remote control after the Match is over.

Of course, if this removal resulted in any Robot adjustment (such as lifting the Robot higher), G10 could be invoked, and the Hang would be invalidated.

<G10> Scores will be calculated for all Matches immediately after the Match is complete and once all objects on the Field come to rest. Any Scoring, Removing, Parking, or Hanging that takes place after the Match due to Robots continuing to drive will not count.

---

**Assist in hanging?**

**Hanging**

Can a robot assist the other robot as it is hanging?

**Answered by Game Design Committee**

There are no rules prohibiting this, thus it is legal.

---

**High hanging robot**

**Hanging**

How much of the robot has to hang for the 4 points, is it the wheels or the entire robot including the frame?

**Answered by Game Design Committee**

Please review the [Q&A Usage Guidelines](#) before posting, specifically point 1 (*Read and search the manual before posting*) and 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.

In this case, your question is answered by the definition of High Hanging:

High Hanging – A Robot is High Hanging if it is contacting the Hanging Bar, is not supported by any Hubs, and is **completely** above a horizontal plane that is the height of an upright Hub above the Floor (roughly 4.0" or 101.6mm). **Referees can check to see if a Robot is High Hanging by sliding a Hub underneath it**, or by comparing its height to the bottom of the yellow decorative “4” plate on the Hanging Structure. Referees can check to see if a Robot is supported by any Hubs by gently removing the Hub in
question. A High Hanging Robot does not also count as a Low Hanging Robot.

Hanging

Does the robot need to have the ability to be removed from the hanging bar without the controller at the end of the match?

Answered by Game Design Committee

There are no rules explicitly requiring this. If pursuing design possibilities that would be difficult to remove from the Hanging Bar, Teams should be cognizant of the following rules:

<R14> The following types of mechanisms and components are NOT allowed:

a. Those that could potentially damage Field Elements or Hubs.

b. Those that could potentially damage other Robots.

c. Those that pose an unnecessary risk of entanglement.

<G11> Keep your Robot together. Robots may not intentionally detach parts or leave mechanisms on the Field during any Match. If an intentionally detached component or mechanism affects game play, the Team may be Disqualified at the Head Referee’s discretion.

R5: Horizontal Expansion While Hanging & Tilted

When a robot is hanging from the Hanging Bar, it can tilt at an angle to the floor.

A robot that is built below the 20 inch horizontal length limit might then be more than 20 inches (when measured horizontally) due to that tilt.

Would this be a violation of R5?

If so... what if the robot is swinging when it first pulls up onto the Hanging Bar and is moving in and out of that violation?

As a reference, it was ruled during "Bank Shot" that robot's expansion would be "measure as if the robot was sitting flat on the field" (see link below)


Thanks, Paul

Answered by Game Design Committee

It is always impossible to provide a blanket ruling on a hypothetical Robot design based on a snapshot description of an interaction during a Match. However, the answer given in the linked previous Q&A generally applies in this scenario as well, within the bounds of G3 (use common sense!).
Robot dimensions should be measured as though the Robot is resting on a flat surface. A Robot which swings from the Hanging Bar, but would be of a legal size if resting on a flat surface (in the same configuration / expansion / orientation) would not be in violation of R5.

**When to Score High Hanging Robot**

**Hanging**

A high hanging robot is defined as:

High Hanging – A Robot is High Hanging if it is contacting the Hanging Bar, is not supported by any Hubs, and is completely above a horizontal plane that is the height of an upright Hub above the Floor (roughly 4.0” or 101.6mm). Referees can check to see if a Robot is High Hanging by sliding a Hub underneath it, or by comparing its height to the bottom of the yellow decorative “4” plate on the Hanging Structure. Referees can check to see if a Robot is supported by any Hubs by gently removing the Hub in question.

G10 states:

When it’s over, it’s over. Scores will be calculated for all Matches immediately after the Match is complete and once all Robots and Game Objects on the Field come to rest. Any Scoring, Removing, Parking, or Hanging that takes place after the Match due to Robots continuing to drive will not count. a. Referees or other event staff are not allowed to review videos or pictures from the Match. b. If there is a concern regarding the score of a Match, only the Drivers from that Match, not an adult, may share their questions with the referee. c. This rule’s intent is for Driver inputs and Robot motion to cease at the end of the Match. A Robot that uses a brake mode to hold its position (such as to remain Hanging) would be fine.

If a team has automated the process of going to a high hang through programming a button push (i.e. they hit a button, and it takes 3 seconds for robot to get to the high hang position) but the timer/buzzer goes off during the process of the robot going to high hang, is this scored as a low or high hang?

It seems from G-10 ("scores will be calculated immediately after the match is complete") and G-10-c ("intent is for criver inputs and robot motion to cease at end of match") that it would score low-hang. Can you confirm or correct this interpretation?

**Answered by Game Design Committee**

Please see these similar Q&A's, which we believe answer your question.


If this does not answer to your satisfaction, please feel free to rephrase and re-submit.

**How do you score of hanging if a part of body fell off on the filed?**

**Hanging**

I saw a robot that a part of the body fell off, typically a part of arm, then at the end the robot hang the bar and barely not touching the ground. The reason why he got 2 points because his arm became shorter. With the fell-off arm, the robot might have been touching the ground even though the robot was hanging.

How do you judge this? The robot should get 1 point or 2 points?

What about in case that he intentionally got the arm fell off, or accidentally fell off?
Let's look at the full definitions of Low and High Hanging, quoted here for reference.

**Low Hanging** – A Robot is Low Hanging if it is contacting the Hanging Bar, not contacting the Floor, and not Supported by any Hubs. Referees can check to see if a Robot is Low Hanging by sliding a piece of paper between the Robot and the Floor, and can check to see if a Robot is supported by any Hubs by gently removing the Hub in question.

**High Hanging** – A Robot is High Hanging if it is contacting the Hanging Bar, is not supported by any Hubs, and is completely above a horizontal plane that is the height of an upright Hub above the Floor (roughly 4.0” or 101.6mm). Referees can check to see if a Robot is High Hanging by sliding a Hub underneath it, or by comparing its height to the bottom of the yellow decorative “4” plate on the Hanging Structure. Referees can check to see if a Robot is supported by any Hubs by gently removing the Hub in question. A High Hanging Robot does not also count as a Low Hanging Robot.

Both definitions refer only to the Robot as it is Hanging on the Hanging Bar. In the event of a broken Robot, Head Referees should not be expected to visualize where a Robot “would” be if the detached part were still attached.

Thus, if the mechanism(s) was/were still attached to the Robot by a cable or pin, then the lowest point of the Robot is (i.e. if there were a “dangling” part) would determine the Low/High Hanging status. For example, if the arm were attached and touching the Floor, then it would be considered a Park, not a Hang, and receive one point.

If the mechanism(s) is/are no longer attached, then Head Referees would judge the Low/High Hanging height based on the portion of the Robot which is Hanging from the Hanging Bar. If that portion of the Robot is not contacting the ground, then it would be considered Low (or High) Hanging, and receive the two (or four) points.

The scenario where a Robot intentionally or strategically detaches a mechanism would be covered by <G11>:

<G11> Keep your Robot together. Robots may not intentionally detach parts or leave mechanisms on the Field during any Match. If an intentionally detached component or mechanism affects game play, the Team may be Disqualified at the Head Referee’s discretion.

---

**Define hold**

**Hubs**

<G17> - Robots may not directly or indirectly lift or hold more than one (1) Hub off of the Floor at a time.

Does that mean they can hold it as long as it’s touching the floor?

Answered by Game Design Committee

In the June 15th Game Manual update, <G17> was revised to more clearly answer this question. If this is still not clear, please feel free to rephrase or re-submit.

<G17> Hub control is limited. Robots may not directly or indirectly lift or hold more than one (1) Hub off of the Floor at a time. Pushing, shoving, pulling, or plowing multiple Hubs along the Floor, field perimeter, or Field Elements (e.g. Barriers) is not considered a violation, as long as these Hubs remain in contact with the Floor. However, if a Robot controls multiple Hubs that are not in contact with the Floor (such as pushing a Hub with two Hubs stacked on top of it), this would be a violation.

This rule primarily refers to Robots which lift Hubs off of the Floor. Any mechanisms which are designed to
lift Hubs can only do so one Hub at a time. If you design your Robot to only lift one Hub at a time, you will probably not violate this rule.

The key part of this rule is "off of the Floor". Robots may manipulate multiple Hubs, so long as it is clear to the referee that they have remained in contact with the Floor.

**High Scored Hub**

From the definition of scored:

**Scored** – A Hub that is Low Scored or High Scored. High Scored – A Hub is High Scored at the end of a Match if it meets the following criteria:

1. The Hub is within a Building Zone.

Is it necessary that a high scored hub is completely within a building zone? If part of a hub is outside of the building zone should it be scored?

**Answered by Game Design Committee**

In the June 15th Game Manual update, the definition of "High Scored" was revised to more clearly answer this question.

1. The Hub is completely or partially within the 3D volume of a Building Zone.

Per this revised definition, a Hub which meets the other criteria and is partially outside of the Building Zone would still be considered Scored. See Figure 8 in the Game Manual for more clarification.

**High scored if supported indirectly by a hub**

If a hub meets the criteria of high Scored but is being supported by a hub that is held by the robot, should it count as scored?

An example is the bonus hub in the following: photos.app.goo.gl/UzWMvToqyFjHNmEC7

**Answered by Game Design Committee**

Let's look at the criteria for determining if a Hub is High Scored, for reference:

1. The Hub is completely or partially within the 3D volume of a Building Zone.
2. The Hub is not contacting the Floor or a Barrier.
3. The Hub is not contacting a Robot.
4. The Hub is contacting at least one Hub that would be considered Scored.

There is no criteria that mentions avoiding contact with Hubs that are contacted by (or supported by) Robots. In your image, the Bonus Hub is still contacting a Low Scored Hub (the orange Hub in the bottom-left), which satisfies criteria number 4. Criteria 1-3 are also being met, which means that yes, this Bonus Hub would be considered High Scored.
Will this hub sitting on "2" plate be considered as high scored?

Hubs
This is the translation for Chinese EP.

There is a hub that meets the criteria of high scored, but rests on the "2" plate near by building zone. Will this hub be considered as high scored? In another word, is it ok if team put a hub on the "2" plate?

See the photos.

photos.app.goo.gl/sp7ErjwRe2ZLjjoN9

Answered by Game Design Committee

The "2" plate has no influence on a Hub being Scored or not. The Hub in the photos meets all of the criteria for being High Scored - thus, it would count as High Scored.

1. The Hub is completely or partially within the 3D volume of a Building Zone.
2. The Hub is not contacting the Floor or a Barrier.
3. The Hub is not contacting a Robot.
4. The Hub is contacting at least one Hub that would be considered Scored.

Will the hub that contacts barrier on fence only or touches an unscored hub be considered as low score?

Hubs
This is the translation for Chinese EP.

See the photos here. photos.app.goo.gl/gDn9yaVK7yvvfWWh9

Will the hub that contacts barrier on fence only or touches an unscored hub be considered as low score?

Answered by Game Design Committee

Yes, this is correct. The Barrier pieces that are on the Field Perimeter walls are included in the Barrier. Thus, this Hub would satisfy the definition of Low Scored.

1. The Hub is contacting a Barrier or the Floor inside of a Building Zone.
2. The Hub is not contacting the Floor outside of a Building Zone.
3. The Hub is not contacting a Robot.

Holding and Stacking

Hubs
If a bot was to have a guide used for stacking, would it be considered "holding" if the bot only lifts one hub at a time. The bot wouldn't be moving multiple at a time but may be touching multiple stacked hubs while others are being added to a stacked pile held by a guide to avoid falling in the scoring zone.
Answered by Game Design Committee

Unfortunately, it is impossible to provide a blanket answer based on a snapshot description of a hypothetical robot design.

Let's look at the specific verbiage of G12:

Robots may not directly or indirectly lift or hold more than one (1) Hub off of the Floor at a time. Pushing, shoving, pulling, or plowing multiple Hubs along the Floor, field perimeter, or Field Elements (e.g. Barriers) is not considered a violation, as long as these Hubs remain in contact with the Floor. However, if a Robot controls multiple Hubs that are not in contact with the Floor (such as pushing a Hub with two Hubs stacked on top of it), this would be a violation.

This rule primarily refers to Robots which lift Hubs off of the Floor. Any mechanisms which are designed to lift Hubs can only do so one Hub at a time. If you design your Robot to only lift one Hub at a time, you will probably not violate this rule.

In general, a Robot which inadvertently bumps against Hubs which are stacked off of the Floor would not be in violation of this rule. However, if the Robot were to hold a Hub in place that was not touching the Floor, while lifting another Hub, this would likely be considered a violation of this rule.

To determine if a Hub is being "held" or not, try asking these questions: If the Floor were to fall away, but the Robot stayed in place, would the Hub fall with the Floor, or would it remain captive in the Robot? If the Robot turns, does the Hub turn with the Robot, or does it stay in place?

These are not rigid, hard-and-fast restrictions, but they do provide a guideline to start understanding what the difference between “touching” and "holding" would be.

Removing Bonus Peg while removing Bonus Hub

Answered by Game Design Committee

If it is clear that the damage to the Bonus Peg was accidental or incidental, then the points for a Removed Bonus Hub can be awarded. The team should receive a warning, as repeated violations of this in future matches could be grounds for a Disqualification.

If the damage to the Bonus Peg is an intentional part of match strategy, then the referee would have the right to consider this a violation of G12 and/or S1, and thus a Disqualification. This is most easily identified by repeated violations, or by a blatant lack of any attempt to Remove the Hubs correctly (e.g. by hitting the Bonus Peg with a static mechanism that couldn't possibly lift the Hubs vertically if it tried).

Permanently constructing Fields or Field Elements (i.e. gluing them together) is permissible, so long as it does not affect gameplay in any way. Examples of modifications that would affect gameplay would be making the Hanging Bar more...
rigid, having excess glue around the edge of Barriers affecting Hub motion, or impacting the traction between Robots and the Floor.

Is STEM Video the required method of Judging

**Tournament Structure**

Is the video submission for the STEM Presentation Awards a requirement? Can a local event skip the video judging process and do in person judging on the day of the event, instead?

If video judging is a requirement, would we be able to narrow down the top 5 STEM Presentations videos and perform in person judging with the top 5 video judging submissions?

Or must the determination of the STEM Presentation Award be made solely on the Video Submission prior to the start of the event?

**Answered by Game Design Committee**

The purpose of the VEX IQ Challenge Q&A System is to clarify rules for the VEX IQ Challenge game, Next Level. For questions related to judging, please post in the official Judging Q&A, located on the VEX IQ Forum:


Robot Design

**Other**

Is there a "preferred" (basic) design for the 2018-2019 VEX IQ robot? If so, where can I find it?

**Answered by Game Design Committee**

We recommend the "Flex" robot build, which can be found here:


Robot Build

**Other**

Is there a preferred robot build for the Next Level Challenge? We are new this year to robotics. As of now my kids have built the Clawbot IQ but I wasn't sure if that would be the best build for the competition.

**Answered by Game Design Committee**


If this does not answer your question, please feel free to re-phrase and re-submit.

Of course, the robot referenced in the above answer is only intended to be a basic starting point. The true intent of the VEX IQ Challenge is for students to experience the engineering design process as they develop and test their own solutions to the game!
Parking Zone

In regards to the parking zone, how much of the robot must be in the parking zone to count for 1 point? Does part of the robot need to cross the grid line or must at least one part of the robot touch the ground "to make contact" with the parking zone?

Answered by Game Design Committee

Please review the Q&A Usage Guidelines before posting, specifically point 1, "Read and search the Game Manual before posting."

This question is answered by the definition of Parked, quoted below and bolded for emphasis:

A Robot is considered Parked if it is **contacting the Parking Zone**.

So, to directly answer your question, yes, at least one part of the robot must touch the Floor inside the Parking Zone in order to count for points. Just "reaching across" (breaking an invisible vertical plane) is not sufficient to count for points.

This is also covered in more detail in the relevant Referee Training video: [youtu.be/04IO9YDimKc?t=261](https://youtu.be/04IO9YDimKc?t=261)

robot control working backwards

The control of our robot is moves in the opposite direction as we are expecting. What can we do to fix this problem?

Answered by Game Design Committee

The purpose of the VIQC Q&A system is to answer specific rules clarifications regarding this year's VIQC game. For technical support, please feel free to post on the community-based VEX IQ Forum ([www.vexiqforum.com](http://www.vexiqforum.com)), or contact support@vex.com.

Parking Questions

We have two questions about parked robots. 1) is it acceptable for the robot to be touching the vertical structures that hold the hanging rod? 2) Is it acceptable for both robots to be parked in the same zone (the same side of the hanging structure)? Thank you!

Answered by Game Design Committee

There are no rules prohibiting either of these questions. Thus, they are legal.

permitted parts question

Are spare parts from the Challenge Game Element kit allowed to be used in the robot design and build. The piece we are interested in using is part number 228-3196-1704
This part is a VEX IQ component specifically designed for use in Robot construction (as detailed in <R7c>) and appears in the VIQC Legal Parts Appendix, therefore it is legal.

Tethered Driving

understanding in advance that it puts a team at a great disadvantage, is it legal or acceptable for a team to drive their robot in a competition with the remote tethered to the robot?

No, this is not legal. Part of the standard inspection process includes demonstrating wireless operation, in compliance with R10.

< R10 > Robots are limited to one (1) VEX IQ Robot Brain.

b. Robots must use one (1) VEX IQ 900 MHz radio, VEX IQ 2.4 GHz radio, or VEX IQ Smart Radio in conjunction with their VEX IQ Robot Brain.

c. The only legal method of driving the Robot during Teamwork and Driving Skills Matches is the VEX IQ Controller.

Sharing STEM Videos

So I am collecting STEM videos for our first event. Is it appropriate to post all entries somewhere (like how all Online Challenge Entries get posted)? This is different because this is an ongoing competition, but on the other hand event partners (that are also team advisors) have the advantage of seeing the competition so I feel like maybe it should be shared. Thoughts?

Please review the Q&A Usage Guidelines before posting. This Q&A system is for specific rules clarifications only.

For competition support questions, please contact your REC Foundation Regional Support Manager, who can be located by visiting this page: www.robotevents.com/support

Use of Parts to build Robot available for field setup

Hi, As per parts list, this connector is allowed but wanted to double check if the exact number is ok too - 228-3943-277 I guess the difference is only due to the color. But still wanted to confirm.

Thanku Surabhi
Yes, this is legal.

The VIQC Legal Parts Appendix includes the following note:

"Note: Because VEX IQ parts come in many colors, any colors depicted in the renderings below may not necessarily reflect the colors of the final physical products."

This also applies to part number variations due to color. The "VEX IQ Part Number Information" portion of the Appendix explains this numbering structure. 228-2500-277 is listed as a legal part, so 228-3943-277 is considered legal as well.

---

**STEM Video bonus points**

We've just started the judging process for the first STEM videos of the season in our local area, and can't decide whether projects that have no credits at the end are eligible. Some of us think they're not, while others argue that 0 seconds is less than 15 seconds so they should. Can you clarify the intent of the bonus for us? We'd like to bring our judging into line with the intent, even if we don't get it right for this weekend's tournament. Thanks!

---

**Signature Events**

Where does one find out about the signature events? Thanks!

---

**Cancelation**

how can i cancel my registration for tournament?

---
Online Challenges

When does the voting window open for the Online Challenges?

Answered by Game Design Committee

Please review the Q&A Usage Guidelines before posting. The Q&A system is intended for specific rules clarifications regarding the current VEX IQ Challenge game, Next Level. For other competition support questions, please contact your REC Foundation Regional Support Manager. There is also a VIQC Online Challenge Q&A, found here:

www.vexiqforum.com/forum/vex-iq-challenge-discussion/online-challenge-q-a

Change What the Controller Buttons Do?

How can you change what the controller buttons do? For example if you want to make it so that the right joystick moves in the arm motor instead of the motor on the wheel. We looked in the menu options on the brain and on the VEX program, but can not find it. Thanks

Answered by Game Design Committee

Thank you for visiting the VEX IQ Challenge Q&A system. Please review the Q&A Usage Guidelines before posting. In general, the Q&A system is only intended to be used for official rules clarifications regarding the 2018-2019 VEX IQ Challenge game.

For technical support questions, please contact support@vex.com, or visit the VEX IQ Forums at www.vexiqforum.com.

Students not enrolled in a traditional school

How does the following apply to students not enrolled in a traditional school?

Student – Anyone born after April 30, 2005 (age 13 or lower) or enrolled in grade 8 or lower on April 30, 2019. Anyone enrolled in grade 9 on April 30, 2019 is only eligible to participate on a VEX IQ Challenge team when enrolled in a middle school or district, which includes grade 8, but not grade 10. Students are the individuals who design, build, repair, and program the Robot with minimal adult assistance.

- Elementary School Student - A Student enrolled in grade 5 or lower, or enrolled in grade 6 in a school which includes grade 5, but not grade 7 (e.g., K-6, 2-6, 3-6, 4-6, 5-6).
- Middle School Student – Any eligible Student that is not an Elementary School Student

If a home school family has students in grades through 6th, but no students older than that, can the 6th grader be defined as an elementary student? If a home school family has students in grades through 9th, but no students older than that, can the 9th grader participate in VEX IQ?

Perhaps it would be helpful to consider the size of the organization, as words like "school" have a hazy universal
If a home school family has students in grades through 6th, but no students older than that, can the 6th grader be defined as an elementary student?

This would be considered a "school" with grade 5, but not grade 7. Thus, the student could be considered an Elementary School Student.

If a home school family has students in grades through 9th, but no students older than that, can the 9th grader participate in VEX IQ?

This would be considered a "school" with grade 9, but not grade 10. Thus, the student could be considered a Middle School Student, assuming that they meet the necessary age requirement (born after April 30, 2005).

Perhaps it would be helpful to consider the size of the organization, as words like "school" have a hazy universal interpretation.

Thank you for this suggestion, we will keep it in mind for future version of the Game Manual. In general, questions about special team composition circumstances can also be passed along to your REC Foundation Regional Support Manager for clarification.

Disappearing Motors

Does anyone else have robots where the motors show up one minute, and then seem to have disappeared the next. My students continue to persevere and try to figure out how to get it back again by unplugging, replugging, and attaching to the VEX Utility to update/refresh and they eventually get them all to show up. I’m just concerned about all the time they spend with this troubleshooting, and I wonder if there’s a reason it keeps happening. The wires are not coming loose or getting unplugged when running. Thank you.

Answered by Game Design Committee

Thank you for visiting the VEX IQ Challenge Q&A system. Please review the Q&A Usage Guidelines before posting. In general, the Q&A system is only intended to be used for official rules clarifications regarding the 2018-2019 VEX IQ Challenge game.

For technical support questions, please contact support@vex.com, or visit the VEX IQ Forums at www.vexiqforum.com.

Does Create Award Qualify you for state?

Answered by Game Design Committee
Please review the Q&A Usage Guidelines before posting. The Q&A system is intended for specific rules clarifications regarding the current VEX IQ Challenge game, Next Level. For other competition support questions, including questions about awards, please contact your REC Foundation Regional Support Manager.

Driver Assist (Operator Assist)

Other
The team asked me if they could use Driver Assist (Operator Assist) as part of the driving skills match. Is it legal for a team to use a program triggered by a button on the remote as part of the driving skills match? I looked through all the manuals and forums but can not find anything regarding this. I wanted an official response from RobotEvents. This is my first year as a coach and wanted to make sure I didn't give them the wrong information.

Answered by Game Design Committee

Is it legal for a team to use a program triggered by a button on the remote as part of the driving skills match?

There are no rules prohibiting this. Thus, it is legal.

If attempting this type of strategy / design, please bear in mind <G10>, especially in the context of this related Q&A post.

<G10> When it's over, it's over. Scores will be calculated for all Matches immediately after the Match is complete and once all objects on the Field come to rest. Any Scoring, Removing, Parking, or Hanging that takes place after the Match due to Robots continuing to drive will not count.

2019-2020

Other
When we we be able to order next year's challenge kits? My kit was back ordered for five months this time and I want to get my order in ASAP for next year so my teams have a chance to compete.

Answered by Game Design Committee

Thank you for your post and for visiting the VIQC Q&A. Please review the official Q&A Usage Guidelines before posting. The intent of the Q&A is to provide official clarifications on specific VIQC Next Level rules.

For questions regarding product availability, please contact the VEX Robotics customer service team at sales@vex.com or 903-453-0802.

Super Glue

Other R7 R8
Can VEX IQ pieces be super glued on the robot

Answered by Game Design Committee
No, this would not be legal. Glue is not permitted within the confines of <R7> and <R8>.

Use of external chargers for remotes

Hello,

We in Hawaii have recently been told that we are no longer being allowed to use external chargers for our remote controllers. It is a concern for me as we have controllers suddenly die right before a match despite being fully charged. This happened to my middle school team this past weekend and they have decided to make the ruling for this upcoming elementary tournament this weekend. I feel that this unfairly affects teams with less resources or teams who are unable to have spare controllers at tournaments. I also see no advantages whatsoever that having external power to the kids remotes would give to a team. I understand that there was an official ruling for VRC - can we have one for VIQ? Thank you.

Answered by Game Design Committee

I understand that there was an official ruling for VRC - can we have one for VIQ?

There are no rules prohibiting the use of external power for VEX IQ Controllers, provided that no other rules are violated (such as <G7>, if the external power source had a communication feature enabled). Thus, it is legal.

Excellence Award at the 2019 World Competition

My question is mainly concerning the skills and the alliance portion of the award. According to the judges’ score sheet from the State level competition, in order for teams to qualify for the Excellence award, a team must rank in the top 5 skills and the top 8 of the alliance portion of the competition. Are these still the same cut-off numbers for World?

How is the Excellence Award being judged at the World competition? Our team has qualified to compete in the Excellence Award at the World competition. We would like to know how the skills and the Alliance portion of the Excellence award are going to be judged. Will it be the top 5 skills and top 8 alliance of all (400) competing teams or will the judges only consider the teams who have qualified to compete for the Excellence award using only those teams scores to determine the top 5 teams of skills and the top 8 teams from the alliance?

Also, is an excellence, design and STEM award given per division or only overall?

Answered by Game Design Committee

Please review the Q&A Usage Guidelines before posting. The Q&A system is intended for specific rules clarifications regarding the current VEX IQ Challenge game, Next Level. For other competition support questions, including questions about awards, please contact your REC Foundation Regional Support Manager.

programmed challenge

What exactly does a vex iq robot need to accomplish during the programming challenge?
autonomous restarts

Programming Skills Challenge
I have a team that is working on programming to move the three hubs on the left. If they don't get all three, they have time to reset and try again. DO the hubs have to stay where they have been shifted in the first try, or can they return the hubs to the starting position in the same 60 second time period?

Answered by Game Design Committee

Let's take a look at PSC1, which governs this interaction.

<PSC1> A Team may handle their Robot as many times as desired during a Programming Skills Match.

a. Upon handling the Robot, it must be immediately brought back to any legal Starting Position.

i. Drivers may reset or adjust the Robot as desired from this position, including pressing buttons on the Robot Brain or activating sensors.

b. If the Robot is possessing any Hubs when the Robot is being handled, these Hubs will be removed from the Field and can no longer be used.

c. If there are any Hubs in the Starting Position where the Robot is being placed, these may be moved out of the Starting Position, provided that they are not moved into a Scored position and are not moved as part of a strategy to gain an advantage.

Part C would be the only time when a Driver who is resetting the Robot would be permitted to move Hubs which have already been moved. If the Hubs have been moved into a Starting Position, they may be moved out of the Starting Position into a non-strategic location.

Moving them to a known location, such as resetting them to their initial locations for another attempt of the same autonomous program, would be considered strategic. Thus, it would be considered a violation of this rule, and would not be legal.

Calibration

Programming Skills Challenge
In the programming skill challenge, are you allowed to have your gyro sensor complete its calibration before the timer starts? For example, code the robot to have it calibrate at start and then begin its driving program once you touch the Touch LED. Or does the 3 second calibration time count as part of the 60 seconds? Thank you!
In the programming skill challenge, are you allowed to have your gyro sensor complete its calibration before the timer starts? For example, code the robot to have it calibrate at start and then begin its driving program once you touch the Touch LED.

Yes, this is permitted. Pre-match "calibration" can be considered part of the standard pre-match setup time, such as turning on the Robot, moving any mechanisms to their desired legal start position, etc.

As always, Teams should be mindful of event schedules and set their Robots up as promptly as possible. The definition of "prompt" is at the discretion of the Event Partner and Head Referee, and could depend on things like how much time is left for the Skills Challenge field to be open, how many Teams are waiting in line, etc. In general, 3 seconds to calibrate a gyro would be acceptable. 3 minutes to debug a program would not.

Are programming skills required to run the full 60 seconds?

Programming Skills Challenge

Howdy!

Programming Skills Match – An Autonomous period that is sixty seconds (1:00) long with only one (1) Robot on the Field.

For a Programming Skills Match, if a team runs a program that is short, can they end the match early and start scoring or should the referee still wait the full 60 seconds?

Thanks!

There are no rules which specifically prohibit or permit this.

This would be permitted, at the discretion of the Event Partner and/or Head Referee. If a Team knows that its program is short enough to warrant this, we would advise notifying the Scorekeeper Referee that is working at the Robot Skills Field prior to the run.

This would only be permitted if the "early end" is not being done for a strategic advantage, such as protecting a perfectly-balanced stack of Hubs that would fall over if they wait the full 60 seconds, or stopping a Robot program/movement which would continue operating in a Score Affecting manner.

Handling robot that is taller than 15"

Programming Skills Challenge

Within Rule <PSC1>, when team handles the robot and brings it back to back to any legal Starting Position, does the robot have to be within the 15” height limitation before starting their program again.

Example: Robot starts within legal size limits, the team start their program and the robot extends beyond 15” and picks up a bonus hub and moves back, team then handles the robot back to either legal starting position, the team removes the bonus hub from play, while the robot it's still above 15”, the team activates a sensor to start the next part of their program. During the entire time the robot is within 11x20 size limitation.
Let's look at the wording of rule <PSC1>, specifically part "a":

a. Upon handling the Robot, it must be immediately brought back to any legal Starting Position.

i. Drivers may reset or adjust the Robot as desired from this position, including pressing buttons on the Robot Brain or activating sensors.

So next, let's look at the definition of Starting Position:

Starting Positions – The two (2) designated 11” x 20” (279mm x 508mm) spots on the field where Robots must start the Match. Starting Positions are bounded by the inner edges of the long black lines, outer edge of the short black line, and the top most outer edge of the field perimeter. See Figures 2 and 11.

The definition of Starting Position does not include the 15” height restriction. The 15” height restriction is only referenced in <G4>, which describes pre-Match setup.

Thus, the Robot is not required to return to a 15” height after being handled within a legal <PSC1> interaction.

---

**Autonomous and controller**

**Programming Skills Challenge**

In the Game Manual it defines: Autonomous – A Robot that is operating and reacting only to sensor inputs and to commands pre-programmed by the Students into the Robot control system. The Robot is operating without input from a VEX IQ Controller.

And defines this Programming Skills Match specific rule: <PSC2> Teams must bring their VEX IQ Controller to the field with them. Although Drivers will start the Robot by pressing a button on the Robot Brain or manually activating a sensor, they may not otherwise engage the Robot with the VEX IQ Controller during the Programming Skills Match. The VEX IQ Controller must be turned OFF during the Programming Skills Match.

Our issue is with this sentence: “The VEX IQ Controller must be turned OFF during the Programming Skills Match.”

Our students have been using RobotMesh Studio to write their autonomous programs and it seems to always require the controller to be turned ON even for fully autonomous code to run. When it is turned OFF, the code halts until the controller is powered ON again. This seems to be a limitation of the framework and not controllable by the student. They are operating within the definition of “Autonomous” but the additional restriction on controller power status in <PSC2> will prevent them from being able to compete with the code they have already written.

Is it acceptable for the the VEX IQ Controller to be powered ON during the Programming Skills Match (solely to enable the code to function) if the controller stays in view of the judge(s) and they can confirm that no manipulation of the controller occurs throughout the autonomous run?

---

**Answered by Game Design Committee**

No, this would not be acceptable within the confines of <PSC2>. While we cannot provide technical support via the Q&A system, we can confirm that this should not be a limitation of any VEX IQ programming language, and would recommend reaching out to your software provider for assistance.

---

**Cutting 12” Shafts**

R13
is it legal to cut a 12" shaft to legal VIQC sizes?

Answered by Game Design Committee

In the interest of convenience for our teams and ease of the inspection process, this is legal.

Teams should remember to prioritize student safety at all times if attempting to cut metal shafts. Adult assistance is a must, and sharp edges should be sanded/de-burred. We would very strongly discourage the use of power tools in a pit space while at an event. Rotary cutters (Dremels) are not a typical sight in an elementary school. So, even though your team may be prepared with a vice and safety glasses, at best it may violate other venue / event rules or cause alarm for nearby teams, and at worst it could be considered a violation of the REC Foundation Code of Conduct.

Smart cable repair

R7  R8  R13

Hi, if a modular connector breaks a tab, how do we repair it to official Vex IQ specifications? Is it allowable for a team to cut off the bad connector and replace it with a new industry standard DEC 6P6C DEC modular connector using a DEC RJ11 crimp tool?

Answered by Game Design Committee

No, this would not be legal.

Size requirement for VEX IQ robot for 2018-2019? (Found the answer already)

R4

I couldn't find the size requirement of the IQ robot for this year, and I will assume it's the same from last year, but I couldn't remember the size requirement from last year as well. Do anyone know what that is, and where can you find that information on the website or manual?

Just found the answer to my own question: It's at page 19 on the game manual:

a. Only contact the Floor. b. Fit within an 11" x 20" (279mm x 508mm) area, bounded by the Starting Position (see Figures 2 and 11). c. Be no taller than 15" (381mm).

Answered by Game Design Committee

Thank you for searching the Game Manual, and editing your question with the result!

Size Requirements

R5

We are inquiring about the sizing requirements for bots. In previous years, there was a requirement that at no point could the robot go over 20" even diagonally. Is that no longer the case this year?

drive.google.com/file/d/1YVk34bULH5OFiBfihyxFceJsoiTb3Cfd/view

Based on the measuring tool we are well under the requirement, but we are over based on a 20" diagonal. Clarification would
be appreciated.

Answered by Game Design Committee

<R4> At the start of each Match, the Robot must satisfy the following constraints:

a. Only contact the Floor.

b. **Fit within an 11" x 20" (279mm x 508mm) area**, bounded by the Starting Position (see Figures 2 and 11).

c. Be no taller than 15" (381mm).

<R5> A Robot may not expand beyond its 11" x 20" (279mm x 508mm) constraint at any time during the Match. However, Robots are permitted to expand beyond their 15" (381mm) starting height constraint at any time during the Match.

The only horizontal sizing constraint in the VEX IQ Challenge is this 11"x20" rectangle. There is no point-to-point restriction on other internal distances.

We were unable to open your Google Drive link due to restricted sharing permissions, but as long as the Robot satisfies the constraints of R4 and R5, it should be legal.

Making Smart Cords

R7

Are teams allowed to make SMART Cords using cable and a crimper?

Answered by Game Design Committee

No, this is not legal.

Legal Parts Appendix

R7

Will the legal parts appendix be available this year? <R7> indicates that it will be:

Note: A comprehensive list of legal parts can be found in the VEX IQ Challenge Legal Parts Appendix, at [www.vexrobotics.com/vexiq/competition/viqc-current-game](http://www.vexrobotics.com/vexiq/competition/viqc-current-game)

However, it is not on the page.

Thanks!

Answered by Game Design Committee

Thank you for bringing this to our attention. The webpage has been updated to include these Appendices.
USB Brain Dongle During Match Play

While the students were working on their program, the micro usb port on the brain was strained and started causing connection failures when trying to update the brain. I was able to super glue a small dongle in place to allow them to connect it to the computer again, but wasn't sure if it would be considered legal in competitions.

It is permanently glued in place and has no affect on how the brain/robot operates during match play. If is tucked out of the way, could this be considered non-functional decoration as described in <R8>a?

<R8> Robots are allowed to use the following additional “non-VEX IQ” components: a. Appropriate non-functional decorations, provided that these do not affect the Robot performance in any significant way or affect the outcome of the Match. These decorations must be in the spirit of the event. Inspectors will have the final say in what is considered “non-functional”.

Answered by Game Design Committee

Yes, this would be legal, provided that it served no additional functions during a match. Plugging in a device with a secondary processor, like a phone or a Raspberry Pi, would be considered functional and would not be legal.

Do overhanging wires count towards robot dimension and if so, are we allowed to use zip ties?

Would zip ties be considered an approved, non-functional part as they don't contribute to the robot's capability or performance?

Answered by Game Design Committee

If used as a purely non-functional decoration, then zip ties would be legal.

If used in any functional manner, such as bundling cables, securing cables to VEX IQ structural parts, or securing VEX IQ structural parts together, then they would not be legal.

Can you use grease in VEX IQ?

<R8> Robots are allowed to use the following additional “non-VEX IQ” components:

a. Appropriate non-functional decorations, provided that these do not affect the Robot performance in any significant way or affect the outcome of the Match. These decorations must be in the spirit of the event. Inspectors will have the final say in what is considered “non-functional”. i. Any decorations must be backed by legal materials that provide the same functionality, (i.e. if your Robot has a giant decal that prevents Hubs from falling out of the Robot, the decal must be backed by VEX IQ material that also prevents the Hubs from falling out). ii. The use of non-toxic paint is considered a legal non-functional decoration. However, any paint being used as an adhesive or to impact how tightly parts fit together would be classified as functional. b. Rubber bands that are identical in length and thickness to those included in the VEX IQ product line (#32 & #64).

Can you use grease in VEX IQ? It's not specifically allowed it's come up a couple of times. Just want to make it clear. Thanks!
Finals tiebreakers if tournament qualifies more than first place

Tournament Structure
Teamwork Challenge Finals Matches

? If there is a tie for first place, the tied Alliances will each play one tiebreaker Match. The Alliance with the highest score in their tiebreaker Match will be declared the winner.

o If there is a tie in the tiebreaker Matches, a second set of tiebreaker Matches (one (1) per Alliance) will take place. The Team with the highest score in the second tiebreaker Match will be declared the winner.

? If there is a tie other than first place, the higher seeded Alliance will receive the higher rank. For example, if the #4 and #6 Alliances both post a score that ties them for 3rd place, the #4 Alliance will be considered the 3rd place Alliance, and the #6 Alliance would be considered the 4th place Alliance.

Answered by Game Design Committee

No, this would not be appropriate. Tiebreaker matches should only be played for first place, as quoted in the rules.

Second set of tiebreakers in finals

Tournament Structure
Teamwork Challenge Finals Matches ...

? If there is a tie for first place, the tied Alliances will each play one tiebreaker Match. The Alliance with the highest score in their tiebreaker Match will be declared the winner.

o If there is a tie in the tiebreaker Matches, a second set of tiebreaker Matches (one (1) per Alliance) will take place. The Team with the highest score in the second tiebreaker Match will be declared the winner. ...

? If there is a tie other than first place, the higher seeded Alliance will receive the higher rank. For example, if the #4 and #6 Alliances both post a score that ties them for 3rd place, the #4 Alliance will be considered the 3rd place Alliance, and the #6 Alliance would be considered the 4th place Alliance.

Is the second set of tiebreakers only for the teams that tied for all of the teams that initially tied?

(I also think it should read "The Alliance with the highest score...," not "The Team ...")
The second set of tiebreaker Matches is only played by the Alliances who tied for first place in their Finals Match, and only played if they tied again in their tiebreaker Match. The scores of other Alliances are not considered in these tiebreaker Matches.

Please also note the Match Stop Time provision for a Finals tiebreaker match, added in the June 15th Game Manual update. In the first tiebreaker Finals Match, a Match Stop Time will be recorded, and could be used to break the tie, should the Alliances tie again in their tiebreaker Match.

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. The Match Stop Time is rounded down to the nearest even number. For example, if controllers are set down when the displayed time is 13 seconds, the Match Stop Time is recorded as 12 seconds. If an Alliance does not finish the Match early, they receive a default Match Stop Time of 0 seconds.

If this does not answer your question, please feel free to rephrase and re-submit.

---

### 2nd Tiebreaker Disadvantage

**Tournament Structure**

It seems to me that if the 2nd tiebreaker that takes into account the match time is run one after the other, the second alliance would have an advantage knowing that once they reach the same score as the previous alliance they can set their controller down before the buzzer and win. Is that correct? Should/could both alliances be run at the same time?

**Answered by Game Design Committee**

The two tiebreaker matches should not be run simultaneously. The lower-seeded Alliance should play their match first, followed by the higher-seeded Alliance. This is a similar advantage that higher seeded Alliances have in a standard (no tiebreakers) Finals structure, as they will know what the "score to beat" is when going into their match.

This was included in the August 17th Game Manual update.

If there is a tie for first place, the tied Alliances will each play one tiebreaker Match. **The lower seeded Alliance will play their Match first, followed by the higher seeded Alliance.** The Alliance with the highest score in their tiebreaker Match will be declared the winner.

---

### ONE STEM VIDEO Per event or Per season.

**Tournament Structure**

Hi All, anyone know if the STEM video is one per event or one for the entire season. In other words, our kids will learn more as the year goes on however they want to submit a STEM research project for the first tournament - can they improve on the video / PPT and submit a revised version to subsequent tournaments?

Thanks! Keep calm and robot on.

**Answered by Game Design Committee**

The purpose of the VEX IQ Challenge Q&A System is to clarify rules for the VEX IQ Challenge game, Next Level. For
Movement before the beginning of the match

Tournament Structure

What should we do if a robot clearly starts before the beginning of the match? With the 3,2,1, GO! It's very easy for a team to get a half second head start. I've seen this happen a number of times and never been quite sure what to do about it. I would think that the only appropriate thing to do would be a DQ, but would it be possible to restart the match if necessary? This could be especially problematic during high stakes finals matches. Would it be a better practice to just not say 3,2,1 and just have the teams listen for the buzzer?

Answered by Game Design Committee

Would it be a better practice to just not say 3,2,1 and just have the teams listen for the buzzer?

This would be the preferred option, to ensure that any small delays (such as the announcer being out of sync with the TM operator) do not impact the match.

If a Team starts driving too early due to this type of delay, it is within the Head Referee's discretion to call for a replay and reset the Match. This accidental infraction should not be grounds for a Disqualification.

Scoring Software

Tournament Structure

Hello,

Where can I find the scoring software for VexIQ Next Level?

Answered by Game Design Committee

Please review the Q&A Usage Guidelines before posting. This Q&A system is for specific rules clarifications only.

For competition support questions, please contact your REC Foundation Regional Support Manager, who can be located by visiting this page: www.robotevents.com/support

Invitations to Worlds

Tournament Structure

I heard somewhere that Jan 15th was the date when it is decided officially how many Worlds invitations will be given at each state competition. Where can I find that information? Thanks!

Answered by Game Design Committee

Please review the Q&A Usage Guidelines before posting. The Q&A system is intended for specific rules clarifications regarding the current VEX IQ Challenge game, Next Level. For event, registration, or other competition support questions, please contact your REC Foundation Regional Support Manager.
**Match Stop Time**

**Tournament Structure**

I'm understanding the rule correct? The match stop time only comes into play during a tie breaker match.

Or should the match stop times be recorded throughout all qualifying and finals matches?

Where's what I saw at a tournament. During the finals, three alliances all scored 17 points, which was the high score for most of the finals rounds. It ended up that the top seated Alliance ended up beating that score so it wasn't ultimately an issue. But I can definitely see a scenario where at least a two way tie happens.

Ultimately, my question is, do refs and Tournament Managers need to worry about Match Stop Teams for most of the day? Or only in the case of a tie breaker?

Thanks.

---

**Answered by Game Design Committee**

Let's look at the definition of Match Stop Time from the Game Manual, with a portion bolded 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. The Match Stop Time is rounded down to the nearest even number. For example, if controllers are set down when the displayed time is 13 seconds, the Match Stop Time is recorded as 12 seconds. If an Alliance does not finish the Match early, they receive a default Match Stop Time of 0 seconds.

As well as the following portions of the "Teamwork Challenge Finals Matches" section:

- If there is a tie for first place, the tied Alliances will each play one tiebreaker Match. The lower seeded Alliance will play their Match first, followed by the higher seeded Alliance. The Alliance with the highest score in their tiebreaker Match will be declared the winner.

  - If there is a tie in the tiebreaker Matches, the Alliance with the higher Match Stop Time will be declared the winner.

  [...]

- If there is a tie other than first place, the higher seeded Alliance will receive the higher rank. For example, if the #4 and #6 Alliances both post a score that ties them for 3rd place, the #4 Alliance will be considered the 3rd place Alliance, and the #6 Alliance would be considered the 4th place Alliance.

Thus, Match Stop Time only becomes relevant during a tiebreaker Finals Match, and tiebreaker Finals Matches only occur if there is a tie for first place.