

Q&A

VIQRC 2023-2024: Full Volume

Tagged: G6

Welcome to the official VEX IQ Robotics Competition Question & Answer system, where all registered teams have the opportunity to ask for official rules interpretations and clarifications. This Q&A system is the only source for official VIQRC **Full Volume** rules clarifications, and the clarifications made here from the Game Design Committee (GDC) are considered as official and binding as the written [Game Manual](#) itself.

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

- For event, registration, or other competition support questions, please contact your [REC Foundation 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

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619: Would it be a violation of the intent of <G6> to outsource fabrication of parts for a team

17-Jun-2020

G6

Suppose team A has CNC gear and team B does not and does not have experience using such machinery. Team A offers to cut plastic for team B from team B's CAD file without team B being present at the facility. Team A is offering their services to others. Would team A be assuming role of "Builder" for team B, and presumably all other teams using their service.

By extension could team A also offer service to provide pre-assembled subsystems to teams that submit designs if they have all the parts handy.

My understanding of <G6> intent is that teams must function with the equipment and abilities they have - that all components should be of their own making.

Answered by committee

Please review the [Q&A Usage Guidelines](#), specifically point 3, "Quote the applicable rule from the latest version of the manual in your question."

In general, the intent of <G6> is as stated in the first sentence of the rule:

The Robot must represent the skill level of the Team.

As well as its closing line and "red box":

Violations of this rule will be evaluated on a case-by-case basis, in tandem with the REC Foundation Student Centered Policy as noted in <G2>, and the REC Foundation Code of Conduct as noted in <G1>.

Event Partners should bear in mind <G3>, and use common sense when enforcing this rule. It is not the intent to punish a Team who may change Team members over the course of a season due to illness, changing schools, conflicts within a Team, etc. Event Partners and referees are not expected to keep a roster of any Students who has ever driven for a day. This rule is intended to block any instance of loaning or sharing Team members for the sole purpose of gaining a competitive advantage.

The definition of Builder is as follows:

Builder – The Student(s) on the Team who assemble(s) the Robot. An Adult cannot be the Builder on a Team. Adult are permitted to teach the Builder associated concepts, but may never be working on the Robot without the Builder present and actively participating.

The definition of Designer is as follows:

Designer – The Student(s) on the Team who design(s) the Robot to be built for competition. An Adult cannot be the Designer on a Team. Adults are permitted to teach the Designer associated concepts, but may never be working on the design of the Robot without the Designer present and actively participating.

With the above context in mind, hopefully it is clear that it is impossible to provide a blanket answer that would cover all hypothetical Team-to-Team circumstances. The ruling would be evaluated on a case-by-case basis (as noted in <G6>), and would depend on the specifics of the situation at hand.

Suppose team A has CNC gear and team B does not and does not have experience using such machinery. Team A offers to cut plastic for team B from team B's CAD file without team B being

present at the facility. Team A is offering their services to others. Would team A be assuming role of "Builder" for team B, and presumably all other teams using their service.

By extension could team A also offer service to provide pre-assembled subsystems to teams that submit designs if they have all the parts handy.

Some "thought experiment" questions to ask in these situations would be:

- Can the Student(s) from Team B consider themselves to be the Designer of the part? That is, can they support the engineering design process that was used to arrive at the part in their Engineering Notebook, provide examples of prototypes, explain why the part is an effective part of their overall Robot?
- The definition of Builder states that it represents the Students who "assemble" the Robot. Did the Student(s) from Team B "assemble" their Robot? When no VRC-specific definition is available, a standard dictionary definition is used. *"Assemble: to fit together the separate component parts of (a machine or other object)".*
- Are the Student(s) from Team B "present and actively participating" in the assembly and/or design of their Robot?
- Is anyone involved (from Team A or Team B) violating the Student-Centered policy per <G2>, or the Code of Conduct via <G1>?

56: <G6> Qualified Drivers? Season commitment?

21-Aug-2018

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 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.

557: Drive Team Roles

19-Feb-2020

G6

<G6> Drive your own Robot. Each Team shall include up to three (3) Drive Team Members. No Drive Team Member may fulfill this role for more than one Team in a given competition season.

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

Team.

Would a student programmer be allowed to assist another programmer on a team? Also would a drive team member be able to fulfill the requirement for a programmer while still being a drive team member. Finally what are the restrictions on programmers on what they can, be, or do as the rules are vague on their role with a team. I am a little confused if programmers have any restrictions like drive team members.

Answered by committee

Would a student programmer be allowed to assist another programmer on a team?

Yes, this would be legal.

Also would a drive team member be able to fulfill the requirement for a programmer while still being a drive team member.

Yes, this would be legal.

Finally what are the restrictions on programmers on what they can, be, or do as the rules are vague on their role with a team

Programmers are the ones who write the code that gets downloaded onto the Robot. They may not be adults.

422: G6 Clarification

13-Nov-2019

G6

G6 states "Each team shall include up to three Drive Team Members. No Drive Team Member may fulfill this role for more than one Team in a given competition season." We have two of our three members not available for a tournament. From what I understand, another member from our organization (that is on another team not competing in the tournament) is not allowed to come to a tournament and coach our driver, but I wanted to make sure. Does this just apply to the driver? Or does this mean even the coaches. Thanks!

Answered by committee

The definition of Drive Team Member is as follows:

Drive Team Member(s) - Up to three (3) Students who are allowed in the Alliance Station during a Match for each Team. Only Drive Team Members are allowed to touch the controls at any time during the Match or interact with the Robot as per <G9>. Adults are not allowed to be Drive Team Members. Per <G6>, Drive Team Members may only fulfill this role for one Team.

From a rules (G6) perspective, there is no difference between a Drive Team Member who touches the controls, and a Drive Team Member who coaches another Drive Team Member. Therefore, what you are describing would not be legal.

394: Contradiction between <G6> and <G7>

26-Oct-2019

G6 G7

So there's <G6>

<G6> Two Drivers per Team. **Each Team shall include two Drivers.** No Driver may fulfill this role for more than one Team at any given event, or in a given season. Teams with only one Student in attendance at an event are granted an allowance to use another qualified Driver from the event. That Driver may now only drive for the team the Driver is subsuming in for, for the duration of the event. ...

And <G7>...

<G7> Drivers switch Controllers midway through the Match. In a given Match, no Driver shall operate a Robot for more than thirty-five (0:35) seconds. The two Drivers must switch their controller between twenty-five (0:25) seconds and thirty-five (0:35) seconds remaining in the Match. The second Driver may not touch his/her Team's controls until the controller is passed to him/her. Once the controller is passed, the first Driver may no longer touch his/her Team's controls. **Note: If only one Driver is present (i.e. the Team has not exercised the allowance in <G6>), this rule still applies, and they must cease Robot operation after thirty-five (0:35) seconds.**

<G6> says you have to have two... It says teams **shall** have two drivers, and gives them an out if only one kid shows up.

<G7> says that teams don't have to follow <G6> and may proceed with one driver.

So, a couple of practical questions...

Why does <G6> say "shall include two drivers" when it's OK if they don't? Am I missing something?

For the 0:35, can it be that last or first 0:35 seconds? Or can the students start at 0:50 and end at 0:15?

Answered by committee

We are going to begin by reminding everyone of G3:

<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.

Your first question was as follows:

Why does <G6> say "shall include two drivers" when it's OK if they don't? Am I missing something?

While the GDC is made up of a cross-functional team of educators, engineers, and former competitors, we admittedly do not have anyone with experience writing regulatory law. So, occasionally, a grammatical misunderstanding will slip through.

In determining how to respond to this question, we discovered [this reference material from the FAA](#) regarding usage of the word "shall":

Nearly every jurisdiction has held that the word "shall" is confusing because it can also mean "may, will or must." Legal reference books like the Federal Rules of Civil Procedure no longer use the word "shall." Even the Supreme Court ruled that when the word "shall" appears in statutes, it means "may." [...] "In most legal instruments, shall violates the presumption of consistency...which is why shall is among the most heavily litigated words in the English language."

In the future, we will look to avoid the word "shall" in favor of more clear verbiage such as "may", "must", or "must not".

To be clear:

- The intent of G6 is to tell Teams that they must plan to have 2 Drivers, and that these Drivers are part of that Team for the entirety of the event and season.
- The intent of G7 is to tell Teams that both Drivers need to drive for half of the Match.
- The intent of the one-Driver exception in G7 is to acknowledge that occasionally, circumstances outside of a Team's control may arise where only one Driver is present (such as illness, inclement weather, etc), and to

- provide that Team with the opportunity to still compete on a comparable playing field as two-Driver Teams.
- The intent of the Note in G7 is to acknowledge that some Teams may still elect not to utilize the exception provided, and prevent the scenario where making that choice provides them with a competitive advantage over two-Driver Teams.

For the 0:35, can it be that last or first 0:35 seconds? Or can the students start at 0:50 and end at 0:15?

The Driver switch occurs between 0:25 and 0:35 seconds into the Match. If there is no second Driver, then no switch will occur, and the single Driver will cease operation at the end of the Driver switch period, with 0:25 seconds left on the clock. Starting at 0:50 and ending at 0:15 (two times which have no audio cue) would create unnecessary confusion for Head Referees and is not within the intent of this rule.

352: Moving to a new school from China

9-Sep-2019

G6

We have a new student who has moved to the USA from China. The student competed as a VEX drive team member in China before coming to the USA. Now that the student has moved to our district, can the student be a member of one of our school's VEX teams?

Answered by committee

Please remember to quote the applicable rule from the Game Manual in your question. Rule G6 states the following:

<G6>Drive your own Robot. Each Team shall include up to three (3) Drive Team Members. No Drive Team Member may fulfill this role for more than one Team in a given competition season.

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

An exception is allowed if one (1) Student on the drive team or a programmer on the Team cannot attend the event. The Team can make a single substitution of a Drive Team Member or programmer for the Championship event with another Student, even if that Student has competed on a different Team. This Student will now be on this new Team and may not substitute back to the original Team.

Violations of this rule will be reviewed by the REC Foundation and may result in one or both Teams being disqualified for the event or the remainder of the season with all trophies and awards won that season being nullified.

As with all rules, this rule should be read with <G3> ("use common sense") in mind. The intent of <G6> is to prevent the same Student driver to operate / compete with multiple Robots across multiple Teams simultaneously. If a Student permanently changes Teams for reasons including (but not limited to) illness, changing schools, or conflicts within a Team, then that Student may drive the new Team's Robot, regardless of whether or not the Student drove the previous Team's Robot.

341: Students Part of Multiple Teams

30-Aug-2019

G6

Are students allowed to be members of multiple teams for building and programming of robots?

1. Example 1: Student A has contributed to building a robot on TEAM01, but later in the season is moved to TEAM02 and then helps this team build. Student A only ever drives for TEAM01. Is this permitted?
2. Example 2: Student A has contributed to building a robot on TEAM01 and has contributed programming a robot on TEAM02 throughout the season. Student A only ever drives for TEAM01. Is this permitted?
3. Example 3: Student A has contributed to building a robot on TEAM01 and has contributed to programming a robot on TEAM02 throughout the season. Student A drives for TEAM01 at League event #1, then at drives for TEAM02 at League Event #2. Is this permitted?

The only rulings I can find that are restrictive are related to driving the robots for multiple teams but not about the designing and building aspects. <G6> Two Drivers per Team. Each Team shall include two Drivers. No Driver may fulfill this role for more than one Team at any given event, or in a given season. Teams with only one Student in attendance at an event are granted an allowance to use another qualified Driver from the event. That Driver may now only drive for the team the Driver is subsuming in for, for the duration of the event.

Answered by committee

The first portion of G6 explicitly refers to Drivers. Drivers may only drive for one Team, and if a Driver switches Teams mid-season, then that switch is permanent.

The second portion of G6 continues beyond the portion that you have quoted, to state the following:

When a team qualifies for a Championship event (e.g., States, Nationals, Worlds, etc.) the Students on the team attending the Championship event are expected to be the Students on the Team that were awarded the spot. Students can be added as support to the team but should not be added as driveteam members or programmers for the team.

An exception is allowed if one (1) Student on the drive team or a programmer on the Team cannot attend the event. The team can make a single substitution of a drive team member or programmer for the Championship event with another Student, even if that Student has competed on a different team. This Student will now be on this new team and may not substitute back to the original team.

It is understood and expected that builders and programmers on Teams within the same "organization" (which is not a defined term in the VIQC Game Manual) will likely help each other to some degree. There are no rules prohibiting this.

G6 does not say that Students are not permitted to be a programmer for more than one Team. What it says is that if a Student is not the programmer for a Team that qualifies to a Championship, they cannot then join the Team as their programmer unless that Team's existing programmer cannot attend the Championship.

For example: Let's say that I program the robots for teams 123A and 123B. If either of these teams make it to States, then I can go to States with one or both of these teams. However, if I never helped the C team and only the C team goes to States, then I may not join this team to make them better at Programming unless the C-team programmer cannot make it, then and only then may I be that single substitution.

It is kind of like a trade deadline in professional sports. Once a Team gets to the point in the season where they have qualified to a Championship, then they can no longer adjust the key players on that team, including programmers. Drivers have an earlier "trade deadline" - they are locked into a Team as soon as they attend any official event. G6 has two separate, independent parts in this context - we will work to make this more clear in future seasons.

312: <G6> Drive Team Definition Clarification

28-Jun-2019

G6

Rule <G6> states "Drive your own Robot. Each Team shall include up to three (3) Drive Team Members." and details that drivers and programmers may not be shared between teams. If a team has 5 team members that want to actively drive during season, can all 5 members drive during a competition as long as they follow the Game Definition that states "Drive Team Member(s) - Up to three (3) Students who are allowed in the Alliance Station during a Match for each Team. " ?

Answered by committee

If a team has 5 team members that want to actively drive during season, can all 5 members drive during a competition as long as they follow the Game Definition that states "Drive Team Member(s) - Up to three (3) Students who are allowed in the Alliance Station during a Match for each Team."

Yes, this would be legal.

306: Participation in VRC and VEX IQ.

18-Jun-2019

G6

Is a student allowed to be on both a VRC and VEX IQ team?

and

Is a student allowed to be on a drive team for VRC and a drive team for VEX IQ in the same season?

There are applicable rules in both manuals but neither of them say anything about the other game.

Answered by committee

Is a student allowed to be on both a VRC and VEX IQ team?

Is a student allowed to be on a drive team for VRC and a drive team for VEX IQ in the same season?

There are no rules prohibiting either of these scenarios, thus they are legal, provided that no other rules are violated (i.e. provided that the definition of Student is met for each program).

290: Does <G6> the "Drive your own Robot" rule apply to scrimmages?

29-May-2019

G6

Regarding rule <G6> "Drive your own Robot. Each Team shall include up to three Drive Team Members. No Drive Team Member may fulfill this role for more than one Team in a given competition season."

In general does this rule apply to scrimmages? If so, then when does the "competition season" start? In our region there are many summer camps, and scrimmages that occur before school starts, and before any qualifying events. Teams that attend summer scrimmages may or may not intend on staying together when school starts. Do they need to be concerned about violating <G6>?

Answered by committee

The Game Manual describes a set of rules used to play Tower Takeover. It is up to any given tournament organizer to determine the application of that ruleset that best fits their tournament structure. In this context, "tournament organizer" does not mean "Event Partner", it means "governing organization", such as the REC Foundation, SkillsUSA, CREATE, TSA, or any other organization that utilizes Tower Takeover as their game.

For the purposes of this answer, in the context of this Q&A system, it is a fair assumption that you are referring to official VEX Robotics Competition events governed by the REC Foundation. So, the [VRC Qualifying Criteria document](#) defines the way in which VRC Tower Takeover rules are applied to official REC Foundation tournaments.

VRC official qualifying events (Tournaments and Leagues) must meet the following criteria:

[...]

Qualifying events must follow the rules and guidelines in these documents and manuals:

1. Official Game Manual including tournament/alliance selection guidelines.

Scrimmages, internal practices, or other non-REC-Foundation-sanctioned gatherings are not considered official Tournaments by this document. Therefore, there is no expectation by the GDC that an unofficial event has rigidly followed the Game Manual as an official qualifying Tournament would.

To be more explicit - in the context of G6, a rule which spans multiple events, there is no expectation by the GDC that unofficial events should factor into its enforcement at an official Tournament.

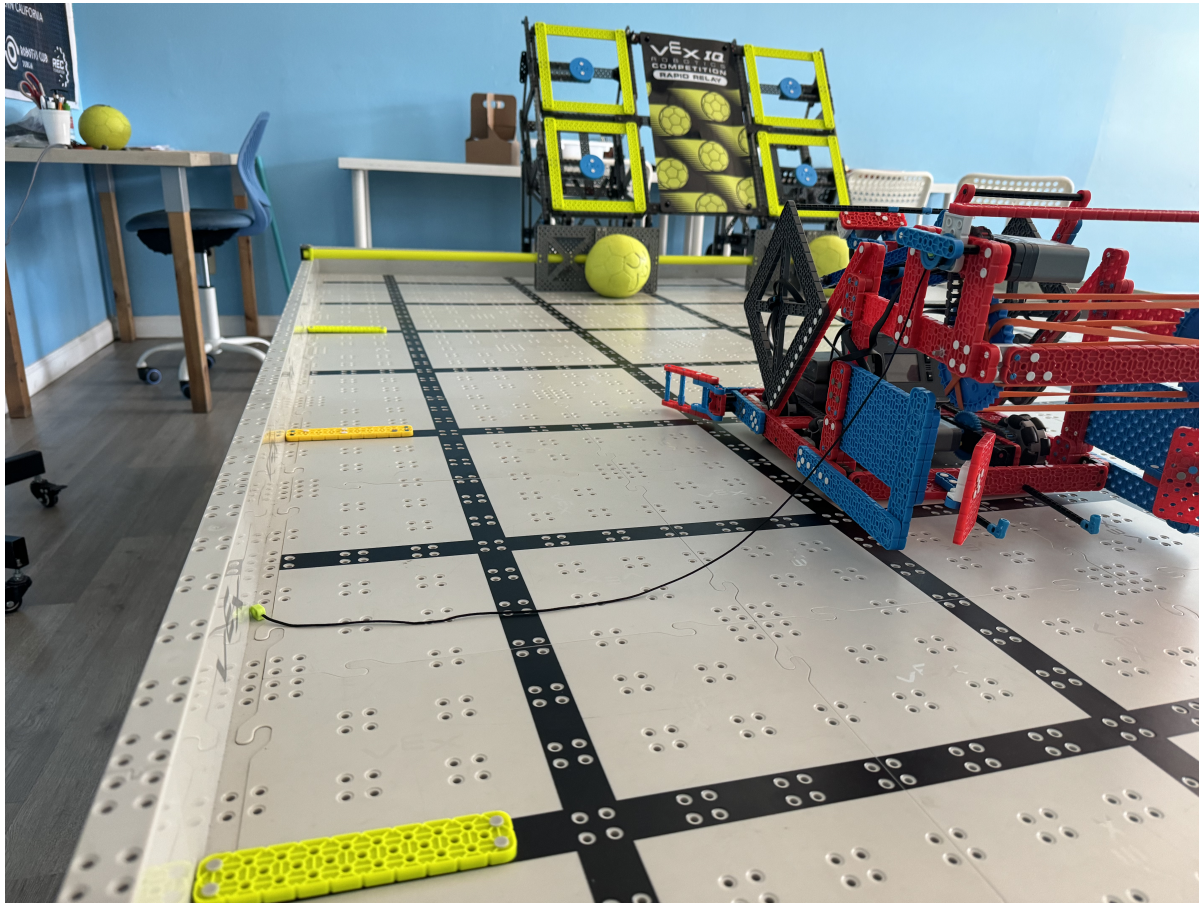
2277: Can EP/JA deny a team's design base on their assumption?

10-Nov-2024

G6 SG1

<G6> We were at an IQ event yesterday and my team has a string attached on a pulley design, which is attached to their roller shaft. They use this design to start a match having the robot being in the center of the field, while the string is touching the field wall, as they start the roller, the string will be retracted back inside of their robot. The EP/JA did not let our team use this design on the base of this might potentially tangle other robots. So he was assuming that our design will malfunction. Which does not make any sense to me. We see robots coming apart, or pieces falling in the field all the time, should those robot be banned from the matches? And we try to be understanding and respectful, and asked respectfully see if we can use the design in skills at least, there is no other robot for us to tangle in skills. But the answer is no. We can not use the string at all. That threw out our opportunity to do autonomous skills since our route was written based on the robot starting in the middle of the field and all the headings are based on that. This is legal VEX IQ part, even used in the swish bot design, please help me understand why a legal design using legal part would be banned by an EP/JA base on the reason that they think this might not work well.

For your reference, attached is the picture of the design.



Answered by committee

[Q&A 2213](#) specifically rules this strategy and part legal. Although the final determination of the legality of specific parts and mechanisms must be made by the Head Referee at your event, we do not feel that a string used for this purpose is a significant entanglement risk--particularly when it is retracted when the Robot moves.

Additionally, we sincerely hope that the Event Partner and Judge Advisor weren't part of the decision to disallow this part. While rule [<T4>](#) gives the Event Partner ultimate authority over non-gameplay decisions, it is the Head Referee who has final authority on all gameplay and robot rulings (rule [<T1>](#)).

2174: Parts Knocked Off Mid-Match

4-Oct-2024

G10 G6

Rule <G6> includes the note:

Note: Adding or replacing mechanisms on a Robot mid-Match is considered a Violation of the intent and spirit of this rule.

Does this mean that if a piece breaks off a robot Mid-Match the team members are not allowed to repair it, as allowed in <G10>? What is considered a mechanism? Is it one piece or a collection of pieces(how many?)?

I understand that teams should not use part detachment as a part of their team's strategy, but is the intent of this rule to not allow team members to repair their robots Mid-Match?

Answered by committee

Repairing a Robot, or reattaching parts of the Robot that fall off during a Match, is allowed. Rule [<G10>](#) and its note specifically allow Drive Team Members to fix damaged robots during a match.

The note you quoted from rule [<G6>](#) is intended to prevent Drive Team Members from swapping one mechanism for another or adding entirely new parts to the Robot mid-Match. Swapping one set of parts for another, or adding new pieces to a Robot during a Match, is *not* allowed.

We will attempt to clarify this language in the next game manual update, and for future seasons.

2056: Unattached parts

6-Jul-2024

G6

G6 states that we cannot detach parts or leave parts on the field, but it does not mention if we could start the match with detached parts that stay contained within the robot itself.

example using detached round pieces to help a contraption roll around the robot sort of like ball bearings

Answered by committee

Provided the detached part remains contained within the Robot and does not separate from the rest of the Robot, this could be allowed. As described in rule [<R3>](#) clause F, the final determination of whether a specific mechanism can be used on a Robot will be made by the Head Referee at the event.

If any part or mechanism, including this one, detaches from the Robot and is left behind on the Field, it is a violation of rule [<G6>](#).

202: Do teams have to have 2 competitors?

7-Jan-2019

Other G6

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

Answered by 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.

1960: Contact with piece of other teams robot

18-Feb-2024

G6 states:

Keep your Robots together. Robots may not intentionally detach parts during the Match or leave mechanisms on the field. Note: Parts which become detached unintentionally and therefore a Minor Violation are no longer considered “part of a Robot,” and should be ignored for the purposes of any rules which involve Robot contact or location (e.g., Scoring, Double-Zone, etc.) or Robot size.

The definition of elevated states:

Elevated – A Robot status. A Robot is considered Elevated at the end of the Match if it meets the following criteria: The Robot is contacting at least one of the following: One or more of their Alliance’s Elevation Bars Any portion of the Barrier that is on their Alliance’s side of the Neutral Zone (i.e., the three black PVC pipes that are attached directly to their Alliance’s Elevation Bars). An Alliance partner Robot which meets the requirements of points 1-3 in this definition The Robot is not contacting any Field Elements other than those listed in point 1. This includes gray field tiles, the field perimeter, Goals, the opposing Alliance’s Elevation Bar, etc. Contact with (or Possession of) Triballs is irrelevant when determining a Robot’s Elevated status. The Robot is not contacting the yellow Elevation Bar Cap. (VEX U and VAIRC only) The Robot is not contacting an Alliance partner Robot that is not considered Elevated.

A part falls off a red alliance robot (a rubber band in the example picture shown below) and becomes entangled with a blue alliance robot. The blue alliance robot goes to elevate at the end of the match, and they meet all of the points listed above. However, the piece of the red alliance robot is in contact with both their robot and the ground. How should this be scored? Nothing seems to disqualify a team from being elevated, but what would be the best way to prove that a part did not originate from their robot? Additionally, would this scenario be any different if the rubber band had fallen off of the other red alliance robot.

And example photo. The orange rubber band is not part of the team who elevated's robot.

https://media.discordapp.net/attachments/1118549255578210336/1208808131451424868/IMG_3933.jpg?ex=65e4a14d&is=65d22

Answered by committee

A part falls off a red alliance robot (a rubber band in the example picture shown below) and becomes entangled with a blue alliance robot. The blue alliance robot goes to elevate at the end of the match, and they meet all of the points listed above. However, the piece of the red alliance robot is in contact with both their robot and the ground. How should this be scored? Nothing seems to disqualify a team from being elevated, but what would be the best way to prove that a part did not originate from their robot? Additionally, would this scenario be any different if the rubber band had fallen off of the other red alliance robot.

Cases like the one you've described are subject to the Head Referee's judgment, although we can provide some very general guidance.

If it is clear that the disqualifying piece (in your case, an orange rubber band) did not originate with the Robot, the Head Referee could reasonably rule that the Robot still qualifies as Elevated. For example, it's not difficult to deduce what happened when a broken orange rubber band is caught on a Robot that doesn't use orange rubber bands anywhere, but another Robot on the Field includes them.

However, if the Head Referee determines that the part could have originated with that Robot, it will count as being part of that Robot and will invalidate the Elevation.

1680: Many implications of Robot parts falling into a Goal

7-Oct-2023

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

Does this situation:

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

Our thoughts are:

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

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

4. This one seems moderately clear. To collect the piece, the Driver must reach into a Goal mid-match and may touch and affect the position of the Blocks within. There's some fairness issues here: what if the blocks were carefully stacked or happened to be balanced to achieve a height bonus? What if the Driver's reach into the Goal causes the Blocks to eventually achieve a height bonus that was otherwise not destined to be? It seems that [<G9>](#) covers this situation: if there's a chance of touching a Block while collecting the Part, the Driver should not risk it. However, perhaps it'd be prudent to modify [<G6>](#) to state (added part in bold):

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

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

Thank you in advance for any guidance.

Answered by committee

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

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

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

Given this, we can address your specific questions:

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

1266: Does rule <G6> apply to Scrimmage?

30-Oct-2022

G2 G6

Hello GDC: In the rule <G6>, it is stipulated that players who play certain roles must meet some special conditions to switch teams. The assignment of players' work is mainly based on engineering notes.

However, on Scrimmage for practice purposes, players are not registered before the competition, and there is no need to submit engineering notes on the day of the competition, so does this rule still apply?

Is it a violation of <G6> or <G2> if a player attends the Scrimmage temporarily with another team because they want to increase their practice opportunities?

Answered by committee

Thank you for your question. Unofficial scrimmages and practices are not required to follow the rules in the Spin Up Game Manual, and <G6> does not apply.

Because all aspects of the VEX Robotics Competition should be student-centered, Teams should follow rule <G2> during all activities—whether the Team is at official events or unofficial practices/scrimmages.

1262: About <G6> Rules Interpretation and Different Situations

26-Oct-2022

G6

Hello, for the 2022-23 VRC Spin Up rules of <G6> Different coaches in our region have different interpretations, so we are very confused and would like to ask the official to help us and get a formal official explanation. We think this is a very important issue because it will seriously affect the players' rights to participate in the competition

I would like to ask you to determine which solution is feasible or illegal through the following example, or how should it be handled? Thank you for your help.

Example 1: During the 10/24 game, Team A participated in the team of 01234A as the "Driver". 11/2 In another different match, team A switched to the team of 01234B and acted as the "Driver".

Example 2: During the 10/24 game, Team A participated in the team of 01234A as the "Driver". 11/2 In another different match, team A was replaced by team 01234B and acted as the "Programmer".

Which of the above two options is feasible?

If the type of competition is scrimmage, is this rule still established?

In addition, we would like to confirm the appropriate handling of the following situations:

- a. When participating in the ABC competition, player A participates in the team of 01234A. When participating in the XYZ competition, player A switches to the team of 01234B.
- b. On Day 1 of the ABC game, player A belongs to 01234A Day 2 of the ABC game, player A belongs to 01234B
- c. During the 10/24 game, player A's name appeared in 01234A and 01234B at the same time. What should I do?
- d. Player A originally belonged to 01234A, but 01234B advanced to the World Championship. They need more players. Can player A join 01234B?
- e. If there is a player in 01234B and there is a car accident on the "day" of the competition, can player A of 01234A go to assist 01234B?
- f. Player A is a member of 01234A, but due to the epidemic, he can only participate in 01234B to watch the "practice game". During the game, he does not participate in any game behavior or play, and only communicates with the off-field team during non-match periods. 01234B Did not get any awards at the end of the competition.
- g. Player A is a member of 01234A, but due to the epidemic, he can only participate in 01234B to watch the "practice game". During the game, he does not participate in any game behavior or play, and only communicates with the off-field team during non-match periods. 01234B won the practice match "champion" at the end of the game

Please ask REC's Q&A or GDC to assist in arriving back, thank you very much for your help.

Answered by committee

Thank you for your questions. When interpreting rule <G6> it is important to consider this statement from the rule's red box:

This rule is intended to block any instance of loaning or sharing Team members for the sole purpose of gaining a competitive advantage.

When any Student switches Teams, they should ensure that the original team's Robot, code, and other work represent the skill level of the remaining members of the team as described in <G6> and <G6aii>.

In answer to your specific examples and scenarios:

- Example 1, in which Student A fills the role of Driver for multiple Teams during a single event, **is not allowed** in the VEX Robotics Competition. No Student may fulfill the roles of Driver, Programmer, Designer, or Builder for more than one VRC Team in a given competition season.
- Example 2, in which Student A fills the role of Driver for one Team during an event and the role of Programmer for another Team during the same event, **is not allowed** in the VEX Robotics Competition. No Student may fulfill the roles of Driver, Programmer, Designer, or Builder for more than one VRC Team in a given competition season.
- Scenarios A & E, in which Student A moves from Team A to Team B between events or before an event, **may be permissible under rules <G6ai> and <G6aii> if the move is for a valid, non-strategic reason**. Student A will then be a member of Team B, and ineligible to participate as a member of Team A.
- Scenario B, in which Student A moves from Team A to Team B between the days of a multi-day event, **would be discouraged but may be permissible under rules <G6ai> and <G6aii> if the move is for a valid, non-strategic reason**. Student A will then be a member of Team B, and ineligible to participate as a member of Team A.
- Scenario C, in which Student A participates with both Team A and Team B during a single event, **is not allowed if they are fulfilling the role of Driver, Programmer, Designer, or Builder for the Teams**.
- Scenario D, in which Player A wished to move from Team A to Team B for the World Championship, **is permissible under the specific restrictions of rule <G6b> and its sub-clause**.

- Scenarios F & G, in which Player A attends an event with Team B to observe but does not participate as a Driver, Programmer, Designer, or Builder, **are permissible**.

1182: G6: Single driver; meaning of "after 35 seconds"

20-Aug-2022

G6

<G6> Drivers switch controllers midway through the Match.

a. In a given Match, only two (2) Drivers may be in the Driver Station per Team. No Driver shall operate a Robot for more than thirty-five seconds (0:35). The two Drivers must switch their controller between thirty-five seconds (0:35) and twenty-five seconds (0:25) remaining in the Match. The second Driver may not touch their Team's controls until the controller is passed to them. Once the controller is passed, the first Driver may no longer touch their Team's controls.

b. Drivers are the only Team members that are allowed to be in the Driver Station. No Adults are permitted in the Driver Station.

Note: If only one Driver is present (i.e., the Team has not exercised the allowance in <G4>), this rule still applies, and they must cease Robot operation after thirty-five (0:35) seconds.

I can see two possible interpretations of the note at the end of G6:

1. The single driver must cease robot operation after 35 seconds of *the match* (i.e., they must drive for the first 35 seconds, and stop driving with at least 0:25 left on the clock)
2. The single driver must cease robot operation after 35 seconds of *robot operation* (i.e., they can drive for any period of 35 consecutive seconds within the 60-second match)

Which interpretation, if either, is correct?

Answered by committee

I can see two possible interpretations of the note at the end of G6:

1. The single driver must cease robot operation after 35 seconds of *the match* (i.e., they must drive for the first 35 seconds, and stop driving with at least 0:25 left on the clock)
2. The single driver must cease robot operation after 35 seconds of *robot operation* (i.e., they can drive for any period of 35 consecutive seconds within the 60-second match)

Which interpretation, if either, is correct?

The first interpretation is correct. The single Driver may only drive for the first 35 seconds of the Match and must put the controller down at or before 0:25 on the match timer. This will be clarified in an upcoming Game Manual update and corrected in the corresponding questions in both the VEX IQ Head Referee certification course and the Driver training course.

109: <G6> and Substitute Drivers

16-Oct-2018

G6

This question was asked in the VEXiQ Q&A: "<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?"

And responded to: "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."

Would VRC Event Partners have similar flexibility in enforcing this rule due to circumstances stated above?

Answered by committee

As always, this rule should be read with <G2> in mind, and the spirit of the answer that was given in VIQC applies to VRC as well. The intent of <G6> is to not allow the same Student driver to operate / compete with multiple Robots across multiple Teams simultaneously. If a Student permanently changes Teams for reasons including (but not limited to) illness, changing schools, or conflicts within a Team, then that Student may drive the new Team's Robot, regardless of whether or not the Student drove the previous Team's Robot.

Conversely, a Student driver who is still associated with another Team *may not* fill in as a "substitute" driver for a single day. VRC does not require more than one Student for any given Match, like VIQC does, so "substitute" drivers should never be necessary.