

Q&A

VIQC 2021-2022: Pitching In

Tagged: G6

Welcome to the official VEX IQ Challenge 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 Pitching In 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 Pitching In 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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Would it be a violation of the intent of <G6> to outsource fabrication of parts for a team

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>?

<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 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.

Drive Team Roles

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 Student

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.

G6 Clarification

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.

Contradiction between <G6> and <G7>

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.

Moving to a new school from China

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.

Students Part of Multiple Teams

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.

<G6> Drive Team Definition Clarification

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.

Participation in VRC and VEX IQ.

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).

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

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.

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 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.

<G6> and Substitute Drivers

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.

?G6?more than two drivers in a competition

G6

For example, if we have three team members, can all three of them take turns being the driver in a competition?

(ex) Student A is a builder and driver, Student B is a programmer and driver, Student C is a designer and driver

Answered by committee

Yes. Per the following portion of G6, this is legal.

Students may have more than one role on the team, e.g. the Designer can also be the Builder, the Programmer and a Driver.

G8B to G6B Clarification

G6 G8

Teams that exhibit the following behaviors may be in violation of <G8b>, and/or the RECF Code of Conduct, and should be prepared to share relevant health guidelines with RECF staff upon request:

Utilizing two drivers in Qualification matches, but utilizing only one Driver in Finals Matches or Robot Skills Matches.
Utilizing only one Driver in Matches, but permitting interactions in the pit area between multiple Students similar in nature to interactions that would occur between two Drivers in the Driver Station. Meeting outside of the event setting in a manner consistent with interactions that occur between two Drivers in the Driver Station, yet only utilizing one Driver in Matches.

If I attend an event with multiple teams from my organization where 1 team has a single driver following the rules laid out in G8. Can the EP/Head referee give the option of G6B or a mandated 35 second single driver (G8A) if the organization does not accept G6B?

G6B-If a Team attends an event with only one driver in attendance, then that team is granted an a

Would the team need to find another person with in the organization or a team outside the organiz

Answered by committee

If I attend an event with multiple teams from my organization where 1 team has a single driver following the rules laid out in G8. Can the EP/Head referee give the option of G6B or a mandated 35 second single driver (G8A) if the organization does not accept G6B?

It is difficult to provide a direct answer to this question as it is currently worded.

If a Team has only one Driver at an event, then that means they are doing so for one of two reasons.

1. The Team usually has two Drivers, but one of them was unable to make it to the event due to illness or other reasons (i.e. G6-B). Yes, in this situation, Teams have the option to choose whether they drive for 0:35 or find a qualified Driver from another Team.
2. The Team is operating under health and safety guidelines that prohibit them from allowing two Students to stand next to each other in the Driver Station (i.e. G8-B). It would stand to reason that a Team who is in this situation, and stating that their Driver is unable to stand next to a teammate in the Driver Station, would also not be able to exercise G6-B and stand next to a Student from another Team.

Teams do not really get to make a "choice" between these two scenarios, as these are both situations that are outside of a Team's control.

If the Team is utilizing a single Driver but doing so for strategic reasons, not health reasons, then they would not be operating under G8-B. The blue box in G8 provides some guidelines / examples for behaviors which would indicate this situation.

Would the team need to find another person with in the organization or a team outside the organization at the event?

In the context of the Game Manual, Teams from the same multi-Team organization are still considered separate Teams. In other words, the fact that two Teams come from the same multi-Team organization has no bearing on how to apply Team-related rules such as G6, G8, R1, or R2. To answer this specific question - yes, a Student from another Team within the same organization could be used to fulfill G6-b, provided that the rule is followed in its entirety.

Within a single event, a Driver may only drive for one (1) Team. If a Team attends an event with only one (1) Driver in attendance, then that Team is granted an allowance to use another qualified Driver from the Event. This substitute Driver is given an exemption for this event and may only Drive for this one Team at that event. Once the event is over, the substitute Driver will go back to his or her original Team. This exception is only granted if a Team has one (1) Driver in attendance due to reasons outside of the Team's control, such as illness.