Q&A

VIQC 2021-2022: Pitching In

Tagged: G16

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.
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<G16> Anchoring

9-Dec-2021
G16

<G16> "Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said Field Element are prohibited" "The intent of this rule is to prevent Teams from both unintentionally damaging the field and / or from ***anchoring*** themselves to the field."

Q: When a robot/mechanism reacts against only 1 side of a Field Element can this ever be considered anchoring?

> **Answered by committee**
>
> It is impossible to give a blanket answer to this question that would address all hypothetical Robot designs and mechanisms.
>
> Please see this related Q&A for additional "thought experiments" that can be used to determine whether a Robot has "anchored" to the field or not:
>
> https://www.robotevents.com/VRC/2021-2022/QA/845
>
> And this Q&A, which expands on why is difficult to objectively answer questions involving edge-case G16 calls:
>
> https://www.robotevents.com/VRC/2021-2022/QA/919
>
> If you would like a blanket clarification regarding a specific mechanism, please feel free to rephrase and re-post with a diagram or photo.

Clarification on Cantilever Parking

8-Nov-2021
G16

Hello,

Q&A 853

> If the Robot were to hypothetically cantilever itself against the lip of the Platform in order to "hover" just slightly off of the black supporting structures, this would very likely be considered "clamping" and/or causing an unnecessary risk of damage to the polycarbonate Platform (in the context of G16).

G16

> Don’t clamp your Robot to the field. Robots may not intentionally grasp, grapple or attach to any Field Elements. Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said Field Element are prohibited. The intent of this rule is to prevent Teams from both unintentionally damaging the field and / or from anchoring themselves to the field.
>
> Minor violations of this rule that do not affect the Match will result in a warning. Match Affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee’s discretion.

Change Up Q&A on G16

> To test whether a Robot is violating G16, the Robot should be able to be pulled away from the Goal in some horizontal direction, without lifting the Robot off of the field tiles, and without damaging, disassembling, or

> violating any laws of physics of the Goal and/or Robot.

Assuming the robot is removable from a horizontal direction like in the Change Up Q&A and isn't causing unnecessary risk to the Platform or Field Elements...
If a Robot were to only be contacting one surface of the Platform (the floor) would this be a legal way to park?
Does this change if a Robot is contacting multiple surfaces?

Thank you for your time!

Answered by committee

> Assuming the robot is removable from a horizontal direction like in the Change Up Q&A and isn't causing unnecessary risk to the Platform or Field Elements... If a Robot were to only be contacting one surface of the Platform (the floor) would this be a legal way to park?

Yes, especially given that this description is essentially the same as the standard action of a Robot driving up and Balancing on the Platform.

> Does this change if a Robot is contacting multiple surfaces?

This question cannot be answered with a one-size-fits-all blanket response. However, we will at least try to explain why this is the case.

Much like R12, determining whether a specific mechanism or strategy has violated G16 requires a certain amount of context and subjective human judgment.

To help guide Head Referees who are faced with this subjective decision, we have attempted to provide a few guiding principles to watch for.

One guideline that can be objectively interpreted in a "black-and-white" litmus test is "reacting against multiple sides of a Field Element". Therefore - any time a mechanism has been designed to intentionally react against multiple sides of a Field Element in an attempt to remain attached to that Field Element, it should be immediately apparent that the mechanism is at a severe risk of violating G16.

Other guidelines are more subjective, such as "what does 'anchor' mean" and "what constitutes a risk of field damage". To address these, we have attempted to provide general hypothetical principles that can be applied to real-world situations. Namely, ,the "horizontal-pull-away" thought experiment, and "cantilevering off of the polycarbonate Platform is probably causing a risk of field damage" (853).

We cannot provide any further hypothetical clarifications that are not simply restating what has already been said. If you would like a blanket clarification regarding a specific mechanism, please feel free to rephrase and re-post with a diagram or photo.

How to determine the violation of G16

17-Aug-2021
G16

I remember last season one Q&A answer states that the method of determine whether a robot is clamped to the field is to pull it in a horizontal direction. If the robot can be pulled in one direction then it is not considered a violation of G16. Is this method still valid for judging this season?And is there any criterion of the distance that the robot can be pulled and the force used for pulling?

Answered by committee

> Please review the Q&A Usage Guidelines before posting, specifically point 3, "Quote the applicable rule from the latest version of the manual in your question".
>
> Rule G16 reads as follows:
>
> > <G16> Don’t clamp your Robot to the field. Robots may not intentionally grasp, grapple or attach to any Field Elements. Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said Field Element are prohibited. The intent of this rule is to prevent Teams from both unintentionally damaging the field and / or from anchoring themselves to the field.
> >
> > Minor violations of this rule that do not affect the Match will result in a warning. Match Affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee’s discretion.
>
> We are not going to define the phrases "grasp", "grapple", "attach to", "react against", "latch", "clamp", or "anchor" any further than their dictionary definitions. They are intended to be "common sense" terms (in line with rule G3) that apply to the vast majority of Robot interactions found in a typical Match. If a Head Referee has determined that a Robot is doing any of these actions while interacting with a Field Element, then the Robot will be considered in violation of G16.
>
> If a Head Referee is faced with a questionable situation during a Match, the following "thought experiments" can be used to dig into the definitions of these words. However, these questions are only intended to guide in this judgment call process alongside the context of the Match; they should should not be used as airtight/foolproof/black-and-white criteria.
>
> - If the ground underneath the field were to suddenly disappear, but the Robot was able to "float" (think Wile E. Coyote), would the Robot be "pulled down" with the Field Element, or would the Field Element fall away from it?
> - If the Robot were to be gently pulled in any random horizontal direction opposite the Field Element in question, by any random amount of force, would the Field Element be "pulled" with it (or otherwise hinder the Robot's movement)?
> - How many sides of the Field Element is the Robot contacting? To determine how many of those sides are "contact" vs "reacting against in an effort to latch or clamp onto", how would the Robot respond if one of those sides were to vanish?
> - Is the interaction causing any risk of field damage that is higher than normal gameplay? (this is the primary reason for rule G16 in the first place)

Elevating a robot using the platform base

14-Aug-2021
G16

According to this Q&A https://www.robotevents.com/VRC/2021-2022/QA/818, the Platform includes the black plastic towers. Would this mean that if a robot was able to lift itself just using the towers, it could count as elevated? The definition for elevated is:

1. The Robot or Mobile Goal is contacting their Alliance Platform.
2. The Platform meets the definition of Balanced.
3. The Robot or Mobile Goal is not contacting any other Field Element, such as the foam field tiles or the field perimeter.

Now most methods of trying to lift using the tower would be a G16 violation, which states:

<G16> Don’t clamp your Robot to the field. Robots may not intentionally grasp, grapple or attach to any Field Elements. Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said

Field Element are prohibited. The intent of this rule is to prevent Teams from both unintentionally damaging the field and / or from anchoring themselves to the field.

However, through testing we found that there is a rectangular gap between the hinges and the tower, which is slightly smaller than a 2-wide c channel. If a robot were to stick a metal channel into there, and lift itself off of the ground using the channel, it could reach the definition of Elevated, as long as it doesn't cause the hinge to lift off of the tower, as per the definition of Balanced:

1. The Platform is roughly parallel to the field.
2. Both flat surfaces of the Platform hinges are contacting the Platform base, as shown in Figure 7.
3. Robots and / or Scoring Objects contacting the Platform in their Alliance Home Zone are not also contacting any other Field Elements, such as foam field tiles or the field perimeter

So would it be a legal strategy to elevate the robot using this method? It is reacting against multiple sides of the platform, but it is not latching on or clamping, and will fall out the moment the platform is tipped, so I don't believe it'd be a G16 violation.

> **Answered by committee**
>
> In version 2.0 of the Game Manual, the definition of Platform was updated to read as follows:
>
> > Platform - The 53.0” x 20.1” (1,346.2mm x 511mm) hinged polycarbonate device and the attached red or blue PVC pipes (highlighted below in Figure 17), located in each Alliance Home Zone, that sits 9.5” (241.5mm) high off of the ground when Balanced. The Platform is attached to a double hinge that allows it to tip towards the field in either direction.
>
> Q&A 818 was also updated accordingly.
>
> Under this revised definition, contact with the black supporting structures would cause the Robot to no longer meet the definition of Balanced.

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5-Apr-2021
G16 Referee Decisions

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> **Answered by committee**
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> ,

Further Clarification On G16

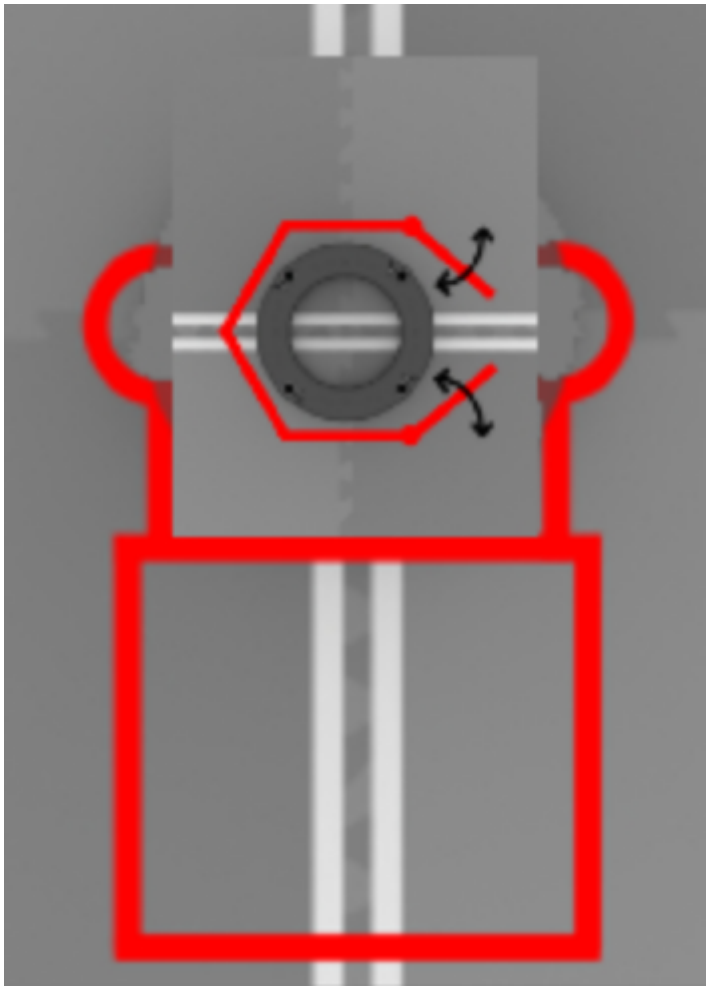
28-Aug-2020
G16

Assume that G16 is the only rule in consideration and the cage under discussion is the same as the one discussed in www.robotevents.com/VRC/2020-2021/QA/615

Is the use of a mechanism that makes the removal of a legal cage require a more accurate application of force, or require multiple applications of forces, legal? This would specifically mean that a safe application of force or combination of forces could remove the design without lifting the design or damaging the game pieces.

Example: a hypothetical robot wraps its intakers around a legal cage. The robot needs to be removed before the cage can be pulled away in some horizontal direction. (edited diagram originally sourced from Q&A 615 by Team 80X).

Thank you! -- Team 28007A



Answered by committee

There is not enough information given in this hypothetical, instantaneous example to provide a concrete answer. However, even if more information was given, it would still be impossible to issue a blanket ruling that would apply to all possible hypothetical interactions of this nature. Even if a video was provided of a whole Match, the answer would only be applicable to that particular Match and those particular mechanisms, and such an answer would not be helpful to Teams or Head Referees who find themselves in similar-but-slightly-different situations.

We would encourage you to consider the following possibilities, and walk through the logic provided in the previous Q&A's on this subject, alongside rules G5, G13, G16, and R29.

- If this question refers to two mechanisms on the same Robot, or two separate Robots
- If those two Robots were from the same or opposing alliances
- Match context prior to the interaction, e.g. if said interaction would be considered Match Affecting
- Match context after the interaction, e.g. if there were any damage to the Goal, or the opposing Robot (if one is present)
- Context of the mechanism(s) and/or Robot(s) in question, e.g. rule R29

Clarification on Q&A <G16> Answer (Reacting Against Multiple Sides of The Center Goal).

26-May-2020
G16

A question about "Reacting Against Multiple Sides of The Center Goal" was answered here in the Q&A: https://www.robotevents.com/VRC/2020-2021/QA/603. The answer was along the lines of imagine pulling the mechanism in a random direction, to comply it should not "get stuck" or risk damaging anything. We are worried this could interfere with the more intended game play and have some further questions regarding this matter.

Figure 1 shows a hypothetical robot with intakes around a goal. It interacts with multiple sides of the goal in order to descore ba vague term; does it mean there needs to be at least one direction for the robo e anything? If not how should a ref apply that to this case?.. since there is on nage anything can apply... Does this scenario comply with <G16>?

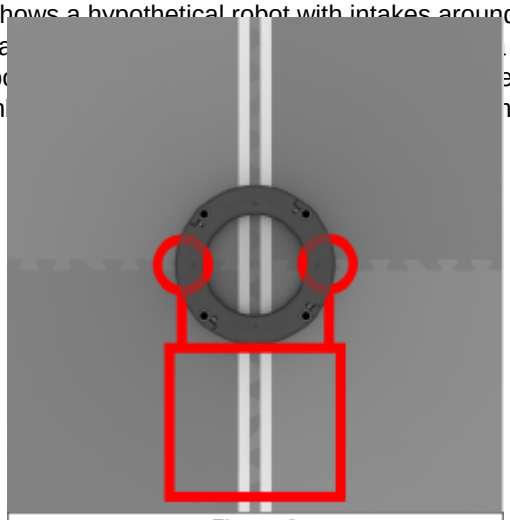


Figure 1

Additionally, what about a mechanism that releases when pulled a substantial enough force, but small enough to definitely not damage the field elements? Figure 2 shows an example of such a mechanism; the mechanism has "doors" which are closed using rubber bands, meaning if pulled with enough force, open. If such a mechanism required definitively less force to open then would damage a goal, would it be legal to put it around the center goal?

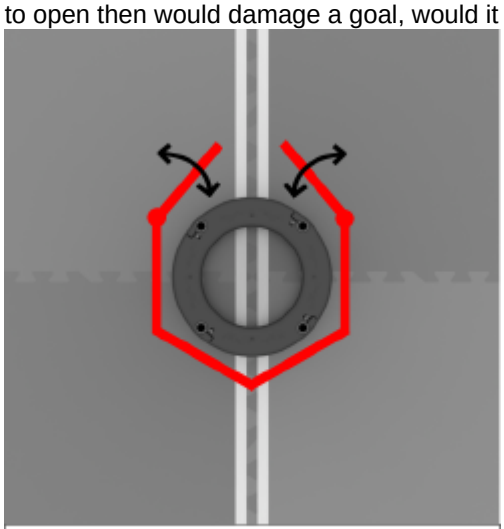


Figure 2

Finally, "pulled in random directions", from the linked Q&A answer it seems that directly up (lifting it) doesn't seem to be an option when doing this check, is that correct? If a mechanism can only be lifted up off a goal does it pass or fail the test to comply with <G16>?

Sorry for asking some slightly redundant seeming questions, we are just trying to be as thorough as possible.

Thank you from Vexmen Team 81K Magik

> **Answered by committee**
>
> For reference, G16 reads as follows:

> G16: Robots may not intentionally grasp, grapple or attach to any Field Elements. Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said Field Element are prohibited. The intent of this rule is to prevent Teams from both unintentionally damaging the field and/or from anchoring themselves to the field.
>
> Minor violations of this rule that do not affect the Match will result in a warning. Match Affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee's discretion.

The relevant portion of the linked Q&A post is as follows:

> As noted in the quoted portion, one intent of G16 is to prevent teams from "anchoring" themselves to the field. The primary thought experiment that Head Referees should use to determine whether a Robot has "anchored" itself to a field element is to envision the Robot being pulled in any random direction by a strong force (such as a human or an opposing Robot).
>
> When it is pulled in random directions, does the Robot "get stuck" on the field element? Does it run a risk of damaging the field? Does it run the risk of damaging itself (a la G5)?

It may be more straightforward, albeit more verbose, to phrase as the following:

To test whether a Robot is violating G16, the Robot should be able to be pulled away from the Goal in some horizontal direction, without lifting the Robot off of the field tiles, and without damaging, disassembling, or violating any laws of physics of the Goal and/or Robot.

By this revised thought experiment, the two examples depicted would likely not be in violation of G16.

However, this judgment call is highly dependent on the specifics of the mechanism in question, how it interacts with the Goal, and any prior warnings/DQ's received by the Team. As always, it is impossible to provide a blanket answer that will definitively encompass all hypothetical mechanism designs and interactions. If a Team is concerned that a mechanism may dance on the edge of a potential G16 violation, we would advise them to design their Robot in such a way that it is abundantly clear to Head Referees that the Robot is not anchored, grappled, latched, clamped, or otherwise attached to the Goal.

Reacting Against Multiple Sides of The Center Goal

13-May-2020
G16

> G16: Robots may not intentionally grasp, grapple or attach to any Field Elements. Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said Field Element are prohibited. The intent of this rule is to prevent Teams from both unintentionally damaging the field and/or from anchoring themselves to the field.
>
> Minor violations of this rule that do not affect the Match will result in a warning. Match Affecting offenses will result in a Disqualification. Teams that receive multiple warnings may also receive a Disqualification at the Head Referee's discretion.
>
> Field Element– The foam field tiles, field perimeter, white tape, Goal, and all supporting structures or accessories (such as driver station posts, field monitors, etc)

A team creates a square structure that surrounds the center goal in an effort to prevent the goal from being descored. If the structure were to remain stationary and not come in contact with the center goal, would the robot not be considered grasping, grappling, or attaching to the goal since it is not reacting against any sides? See Figure 1 for a visual.

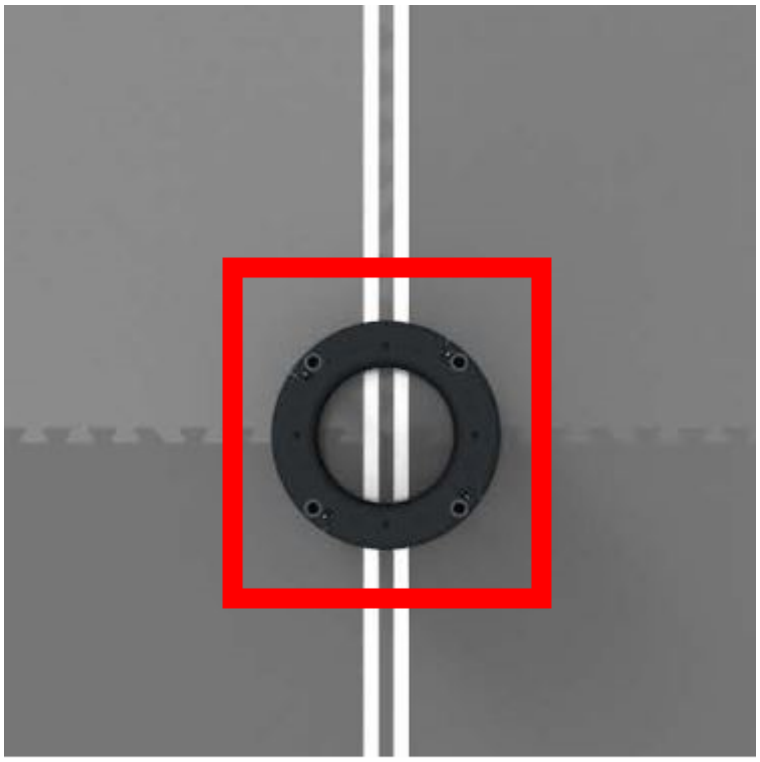


Figure 1

Say the same square structure is moved and is now in contact with the center goal at two different points. Would the robot now be considered grasping, grappling, or attaching to the goal since it is reacting against multiple sides? See Figure 2 for a visual.

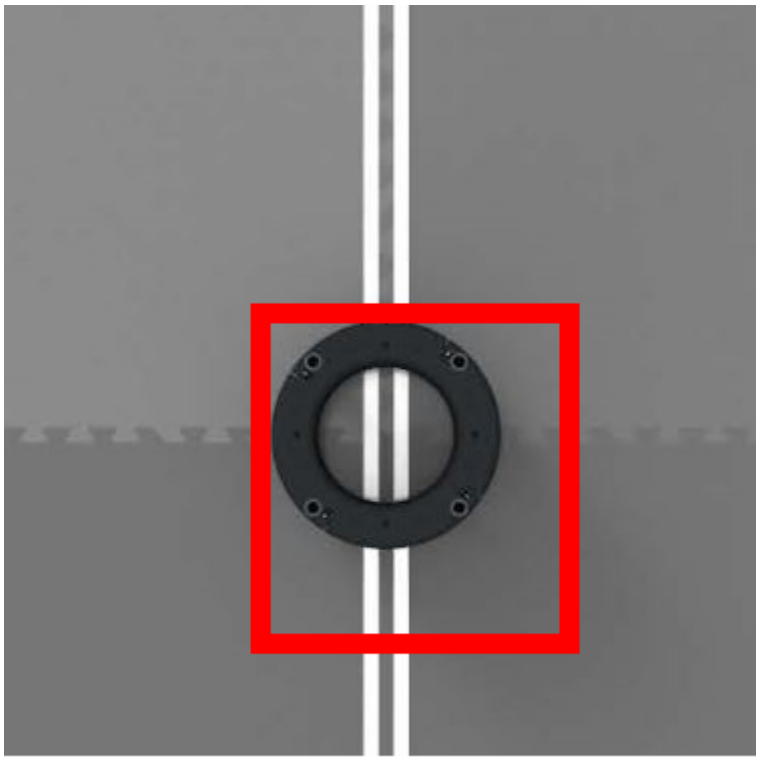


Figure 2

The square structure is now replaced with a circular structure. Is it moved against the center goal but is only in contact at one point. Would the robot not be considered grasping, grappling, or attaching to the goal since it is only reacting against one side instead of multiple sides? See Figure 3 for a visual.

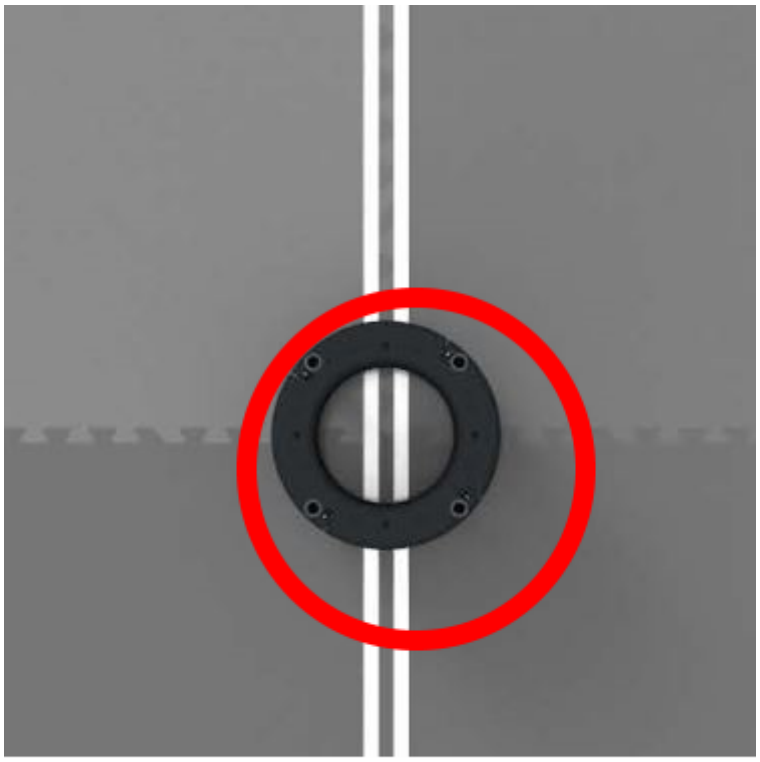


Figure 3

Answered by committee

Thank you for quoting the relevant portions of the Game Manual and providing images of your scenarios.

For the purposes of answering this question, we are assuming that the red lines represent hypothetical structures that satisfy all Robot rules, and the only rule in question is G16. We are not making any assumptions or blanket statements about the height, rigidity, or other design characteristics of the mechanisms, as it would be impossible to issue a blanket ruling that would satisfy all possible hypothetical Robot mechanisms.

As noted in the quoted portion, one intent of G16 is to prevent teams from "anchoring" themselves to the field. The primary thought experiment that Head Referees should use to determine whether a Robot has "anchored" itself to a field element is to envision the Robot being pulled in any random direction by a strong force (such as a human or an opposing Robot).

When it is pulled in random directions, does the Robot "get stuck" on the field element? Does it run a risk of damaging the field? Does it run the risk of damaging itself (a la G5)?

Based on this thought experiment, the three hypothetical depictions would not be legal.

Clarification on <G16>

10-Oct-2019
G16

Our team is seeking clarification regarding <G16> which states:

> "Robots may not intentionally grasp, grapple or attach to any Field Elements. Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said Field Element are prohibited."

Regarding the field perimeter, would touching both the metal frame and the polycarbonate sheet on the exterior of the field perimeter at the same time be considered legal, given that the robot is not contacting the interior of the field perimeter?

Answered by committee

> Regarding the field perimeter, would touching both the metal frame and the polycarbonate sheet on the exterior of the field perimeter at the same time be considered legal, given that the robot is not contacting the interior of the field perimeter?

We cannot provide a blanket ruling based on a the information provided of one possible hypothetical mechanism interaction.

In addition to “grasp, grapple, or attach to”, you can also look towards the key words “latch onto” and “anchor” to help understand the intent of this rule. Some additional synonyms that are covered by the intent of this rule are “grip”, “pinch”, or “clamp”. These are all terms that describe active retention of the Field Element, such that a robot mechanism is actively exhibiting force on multiple sides of it.

If this guidance is not enough to answer your question, please feel free to re-submit with further explanation, such as a photo or diagram, so that we can provide a more clear answer.

Other Questions

7-Jun-2018
Center Platform G16 SG10

Can a team extend tabs from their robot which extend out over the edges of the center platform to keep them on when an opponent is attempting to push them off? This is assuming they do not grapple the platform in any capacity, so they don't "exert force or pressure on opposite sides of an object to control its position."

Can a team use a potential energy based series of actions which begins as time runs out, enabling them to score or descore after time has expired?

Answered by committee

Please review the Q&A Usage Guidelines before posting, specifically points 3 (quote the applicable rule), 4 (make a separate post for different questions), and 5 (use specific and appropriate question titles).

- *Can a team extend tabs from their robot which extend out over the edges of the center platform to keep them on when an opponent is attempting to push them off? This is assuming they do not grapple the platform in any capacity, so they don't "exert force or pressure on opposite sides of an object to control its position."*

It sounds like you're referring to SG10, quoted here for reference:

<SG10> Don’t clamp your Robot to the field. Robots may not intentionally grasp, grapple or attach to any Field Elements, including the Platforms. Strategies with mechanisms that react against multiple sides of a Field Element in an effort to latch or clamp onto said Field Element are prohibited. The intent of this rule is to prevent Teams from both unintentionally damaging the field and/or from anchoring themselves to the field.

It is impossible to provide a blanket ruling on a hypothetical design. However, a static mechanism which extended past the edge of the Center Platform and did not clamp or anchor the robot to it would likely not violate this rule. A mechanism which reacted against multiple sides of the Center Platform, anchoring or latching the Robot to it, would likely violate this rule.

Of course, this assumes that no other rules, such as SG2, are violated in the process.

- *Can a team use a potential energy based series of actions which begins as time runs out, enabling them to score or descore after time has expired?*

Please see G16, quoted here for reference:

<G16> It's not over until it's over. Scores will be calculated for all Matches immediately after the Match, once all Game Objects, Field Elements, and Robots on the field come to rest.

Provided that no Robot or Safety rules were violated, there are no rules prohibiting this, and the scores would be calculated once all robots and game objects have come to rest. That said, please remember G2 - "common sense always applies in the VEX Robotics Competition".

Autonomous mode

11-Jan-2019
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.

Answered by committee

Please review the Q&A Usage Guidelines before posting, specifically point 2, "Read and search existing Q&A's before posting."

Your question appears to be similar to this Q&A post, as well as the other post that it links to. If these do not answer your question, please feel free to rephrase and re-submit.

https://www.robotevents.com/VIQC/2018-2019/QA/141

moving a robot during a match

10-Dec-2018
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.
2. Move the Robot to any legal Starting Position.
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.

Answered by committee

Please review the Q&A Usage Guidelines before posting, specifically point 2, *"Read and search existing Q&As before posting."*

This question is very similar to the following previous Q&A's:

https://www.robotevents.com/VIQC/2018-2019/QA/141

https://www.robotevents.com/VIQC/2018-2019/QA/108

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

Holding no escape except over center barrier or under horizontal elevation bars.

6-Oct-2023
G16

The definition of holding from the manual-

> Holding - A Robot status. A Robot is considered to be Holding if it meets any of the following criteria during a Match:
>
> Trapping - Limiting the movement of an opponent Robot to a small or confined area of the field, approximately the size of one foam field tile or less, without an avenue for escape. Note that if a Robot is not attempting to escape, it is not considered Trapped. Pinning - Preventing the movement of an opponent Robot through contact with the Field Perimeter, a Field or Game Element, or another Robot. Lifting - Controlling an opponent's movements by raising or tilting the opponent's Robot off of the foam tiles.

Is it considered holding if a robot's only avenue for escape is over the long barrier and that robot is not capable of going over the long barrier? Is it considered holding if a robot's only avenue for escape is under the horizontal elevation bar and that robot is not able to pass under the elevation bar because it is to tall?

Answered by committee

It is not the Head Referee's responsibility to know the capabilities of all Robots at an event, and recall which Robots can and cannot drive over Barriers or below Elevation Bars.

If a Robot is being Pinned against a Barrier or Elevation Bar, preventing movement, it qualifies as Holding and is limited to a 5-count as described in rule <G16>.

If a Robot is near a Barrier or Elevation Bar but not physically Pinned there by an opponent, the Barrier should be considered as an avenue of escape and the interaction will not qualify as Holding.

Further Clarity on <G16> Trapping while Match loading

4-Oct-2023
G16

In Q&A post 1658, it mentiones that "one robot (blue alliance) is match loading and an opposing robot (red alliance) comes and traps/defends them but the blue robot continues match loading"

The committee's response clarifies this is not trapping but does not clarify if this is pinning. The definition of pinning seems to be meet as the robot is pressed against the match load bar. Does attempting to escape need to be demonstrated to be pinning?

Holding - A Robot status. A Robot is considered to be Holding if it meets any of the following criteria during a Match:

Trapping - Limiting the movement of an opponent Robot to a small or confined area of the field, approximately the size of one foam field tile or less, without an avenue for escape. Note that if a Robot is not attempting to escape, it is not considered Trapped.

Pinning - Preventing the movement of an opponent Robot through contact with the Field Perimeter, a Field or Game Element, or another Robot.

Lifting - Controlling an opponent's movements by raising or tilting the opponent's Robot off of the foam tiles.

> **Answered by committee**
>
> The definition of Trapping states "if a Robot is not attempting to escape, then it is not considered Trapped".
>
> The definition for Pinning is intended to imply a similar sentiment in the phrase "preventing movement".
>
> If the opponent Robot is not attempting to move (e.g. continues receiving Match Loads), then it is a reasonable assumption that no movement is being prevented. Therefore, the Robot is not considered Pinned.

<G16> Trapping in Over Under

22-Sep-2023
G16

Hello referees of the VRC community! We have a few questions regarding trapping.

Scenario 1: For the first question, according to <G16> it defines the trapping rules. However, if one robot (blue alliance) is match loading and an opposing robot (red alliance) comes and traps/defends them but the blue robot continues match loading and does not attempt to free themselves. Does this count as trapping or not?

Scenario 2: For the second question, If two opposing robots are running into each other with triballs in between them and both robots end up not moving at all, does this count as trapping for either alliance? Please refer to the video below. Thank you for your time! https://youtube.com/shorts/95oabppnReY?feature=share

<G16>

> **Answered by committee**
>
> The definitions of Holding and its subsets--Trapping, Pinning, and Lifting--clearly describe the situations in which Teams should be penalized under rule <G16>:
>
> > **Holding** - A Robot status. A Robot is considered to be Holding if it meets any of the following criteria during a Match:
> >
> > - **Trapping** - Limiting the movement of an opponent Robot to a small or confined area of the field, approximately the size of one foam field tile or less, without an avenue for escape. Note that if a Robot is not attempting to escape, it is not considered Trapped.
> > - **Pinning** - Preventing the movement of an opponent Robot through contact with the Field Perimeter, a Field or Game Element, or another Robot.
> > - **Lifting** - Controlling an opponent's movements by raising or tilting the opponent's Robot off of the foam tiles.
>
> Because the blue Robot in Scenario 1 is making no attempt to free themselves, they are not being Trapped.
>
> Neither Robot in the video you provided with Scenario 2 meets the definition of Holding or its subsets. Both Robots have avenues of escape, their movement is not prevented (either Robot can back up), and neither is raising or tilted the other off of the foam tiles to control movement.

Application of <G16> on Alliance Robots

23-Jun-2023
G16

<G16> prevents lifting, pinning, trapping, or otherwise holding for more then a 5-count. However the definitions for lifting, pinning, trapping, and holding specify an opponent robot. To confirm, can you (as long as it pertains to all other rules, especially <G1>) as an intentional strategy lift **alliance** robots for the duration of the match?

Thank you for your time,

334V

> **Answered by committee**
>
> There are no rules preventing this, therefore it is legal.

<G16> What Constitutes the End of a Lift Hold?

6-Jun-2023
G16

> <G16> No Holding for more than a 5-count. A Robot may not Hold an opposing Robot for more than a 5-count during the Driver Controlled Period.
>
> […]
>
> A Holding count is over when at least one of the following conditions is met: a. The two Robots are separated by at least two (2) feet (approximately one foam tile). b. Either Robot has moved at least two (2) feet away (approximately 1 tile) from the location where the Trapping or Pinning count began. i. In the case of Lifting, this location is measured from where the Lifted Robot is released, not from where the Lifting began.
>
> Holding - A Robot status. A Robot is considered to be Holding if it meets any of the following criteria during a Match:
>
> […]
>
> • Lifting - Controlling an opponent’s movements by raising or tilting the opponent’s Robot off of the foam tiles.

Does a Holding count end if a Lifted Robot is no longer being Lifted but both Robots are still within 2 feet from where the Lift Robot was released?

> **Answered by committee**
>
> Thank you for your question. As described in rule <G16>, there are multiple ways to end a Holding count--regardless of whether the Robot is being trapped, pinned, or lifted. **The Holding count should end when the conditions in any one of Clauses A-D in rule <G16> is met.** There are potential scenarios in which Clauses A or C could end a Holding count for lifting while the two Robots remain within two feet of the release point.

Major Violation for Inverse Score Affecting?

7-Mar-2023
G16

Per <G15>, during the end game, if a robot's contact arm reaches over the fence and accidently moves a disc to a lower scoring zone (IE: moves a disc from 3 points -> 2 points), would this be a major violation?

<G16>

> **Answered by committee**
>
> The Violation Notes for rule <G15> specify that Score Affecting violations are Major Violations and should earn a DQ. However, per the definition of a Score Affecting Violation (on page 8 of the game manual at the time this answer was written), **a violation is Score Affecting if it *improves* the Team's or Alliance's score at the end of the Match**.
>
> Moving a Disc to a lower-scoring Zone in violation of <G15> should be considered a Minor Violation unless the action includes a G1, S1, or Code of Conduct violation or the Team has already received multiple Minor Violations for <G15> at the event (as described in the Violation flowchart in Figure 4 of the game manual).

What can a team do with a detached piece?

14-Nov-2018
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.
> 2. Move the Robot to any legal Starting Position.
> 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.

The team can reset the robot and fix it, but what if they want to just keep driving? Can the piece be removed from the field without resetting the robot? Or, to get the now "extra" piece off of the field would the team just reset the robot and simply set the extra piece to the side?

> **Answered by committee**
>
> > Or, to get the now "extra" piece off of the field would the team just reset the robot and simply set the extra piece to the side?
>
> This would be the correct option. The only time that Drivers have permission for reaching into the field and retrieving Robots (or Robot parts) is when they are doing so under the guidance of G16. Otherwise, this could be considered a violation of G8:

> <G8> Hands out of the Field. Drivers are prohibited from making intentional contact with any Field Element or Robots during a Match, except for the allowances in <G16>. Any intentional contact may result in a Disqualification. Accidental contact will not be penalized. However, accidental contact which affects the score of the Match may result in a Disqualification at the Head Referee’s discretion.

As always, the last portion of G16 is crucial when discussing these scenarios:

> 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.

Reset for parking or robot hang.

12-Nov-2018
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 committee**
>
> For Driver Skills Matches and Teamwork Challenge Matches, please see this similar Q&A:
> https://www.robotevents.com/VIQC/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.