

Q&A

VRC 2021-2022: Tipping Point

?????: G20

Welcome to the official VEX 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 VRC Tipping Point 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.

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943: Mobile Goal Branches Becoming Removed from Mobile Goal Bases

24-Nov-2021

G20 Scoring

Hello there!

This season, Mobile Goal Branch structures will occasionally become disconnected from a Mobile Goal Base [as part of normal \(video 1\) match play \(video 2\)](#). The questions below reference the following scoring criteria, rule, and definition.

Scoring Notes:

1. Rings can be Scored in Mobile Goal Bases, or on Mobile Goal Branches. In order to be considered Scored in either position, a Ring must first meet the following prerequisite criteria:
 - Not contacting a Robot of the same color Alliance for which the Rings would receive points
 - Not contacting any Field Elements, such as gray foam field tiles, the Platform, or the field perimeter
 - Not contacting any Rings which are not considered Scored (i.e. Rings which are contacting a Robot or a Field Element)
- 2b. To be considered Scored on a Mobile Goal Branch, a Ring must:
 - Meet the prerequisite definition of Scored in Note 1
 - Also be “encircling” a Mobile Goal Branch
 - In this context, “encircling” means that any part of the Mobile Goal Branch is at least partially within the volume defined by the outer edges of the Ring

G20:

Match replays, i.e. playing a Match over again from its start, are at the discretion of the Event Partner and Head Referee, and will only be issued in the most extreme circumstances. Some example situations that may warrant a Match replay are as follows: a. Match Affecting “field fault” issues. iii. Field Elements detaching or moving beyond normal tolerances (Not as a result of Robot Interactions).

Definition of Field Elements:

The foam field tiles, field perimeter, white tape, Platforms, and all supporting structures or accessories (such as driver station posts, field monitors, etc).

G20aiii mentions replays being allowed for Field Elements becoming outside of tolerance. However, the scope of Field Elements does not include a Mobile Goal or its respective Mobile Goal Branch(es) as they are categorized as Scoring Objects. Therefore, the separation of the Mobile Goal Branch(es) from a Mobile Goal Base [as part of normal match play](#) alone does not constitute a replay per G20aiii, even if match affecting, correct?

If a Mobile Goal Branch structure becomes separated from a Mobile Goal Base [as part of normal match play](#), and one or more rings meet the scoring criteria for a ring on a branch (example video 2), any rings on Mobile Goal Branches would be considered scored as there is no requirement the Mobile Goal Branch still be attached to a Mobile Goal Base, correct?

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As quoted, G20 notes that the items listed are example situations only, not an all-inclusive list. A Mobile Goal becoming disassembled would be considered an extreme circumstance, and would likely be grounds for a Match replay at the discretion of the Head Referee and Event Partner. (provided, of course, that it was not the direct/intentional result of a Robot action, i.e. a violation of R4 or S1).

In most cases, a Branch being pulled out of a Mobile Goal Base occurs due to the collar underneath the Mobile Goal coming loose or being under-tightened during assembly. Event Partners are advised to check these collars periodically throughout an event to make sure that they have not worked themselves loose due to rough gameplay.

716: Ball Locking at Remote Events

22-Dec-2020

G19 G20

G19: Field Element tolerances may vary from nominal by $\pm 1.0"$, unless otherwise specified. Ball tolerances and weights may vary from nominal to $\pm 0.10"$ and 10 grams respectively. Ball placement at the beginning of Matches may vary from nominal to $\pm 1.5"$. The bottom opening of Goals between the lowest two rings has a dimensional tolerance of $-0.0 / +0.5"$. Teams are encouraged to design their Robots accordingly. Please make sure to check Appendix A for more specific nominal dimensions and tolerances

G20: Match Replays, i.e. playing a match over again from its start, are at the discretion of the Event Partner and Head Referee, and will only be issued in the most extreme circumstances listed but not limited to the following:

- a. Field Fault issues that have directly affected Match play.
 - i. Game Elements not in the correct positions
 - ii. Tape lines lifting
 - iii. Field Elements detaching or moving beyond normal tolerances that is not a result of team play violations.
 - iv. Autonomous Period or Driver Controlled Period ending early
 - v. Field Control disconnecting and disabling Robots. Not to be confused with a Robot that trips its own PTC and has to reboot to reconnect the robot to controller, or teams with controllers that have bent pins that affect only their alliance Field Control tower.
- b. Game Rule issues that affect the outcome of a match.
 - i. Referee disables a robot for a misinterpretation of a rule violation.
 - ii. Referee starts the Driver Controlled Period without determining the outcome of the Autonomous winner.
 - iii. The field is reset before a score is determined.

As per the May 25th update, a 4" standoff or 2x 11" zipties must be added to the corner goals to prevent balls from becoming locked <Q&A599>. When using the ziptie option, it can be easy for the ziptie loop to slide outside of the accepted tolerance as specified in Appendix A (1.25" to 4.75" measured from top face of the goal's bottom ring) as a result of normal gameplay. This is especially true in situations like Remote Skills Events and Live Remote Tournaments where the Head Referee is unable to directly assess how well the zipties have been installed.

Say during a Remote Skills Event or Live Remote Tournament, a situation arises where a ball becomes locked in a corner goal as a result of a ziptie loop sliding out of tolerance and violating G19. But, it is unclear if the ziptie loop was already out of tolerance before the match started or became out of tolerance during the match as a result of normal gameplay. G20aiii states a field fault can be "Field Elements detaching or moving beyond normal tolerances that is not a result of team play violations." Since only the team is capable of physically interacting with their own field in a remote event, would the ziptie loop being out of tolerance be considered "a result of team play violations" and not result in a replay?

In a related scenario, a team fails to install the standoffs or ziptie loops to the corner goals after being reminded via email and/or the team meeting for a remote event. During one of their matches, a ball becomes locked and the team requests a replay due to a field fault. Would the failure to install standoffs and/or ziptie loops be "a result of team play violations" and not result in a replay?

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Since only the team is capable of physically interacting with their own field in a remote event, would the ziptie loop being out of tolerance be considered "a result of team play violations" and not result in a replay?

Just as it is the Team's responsibility to ensure that their Robot is built as intended (and legally) during an in-person event, it is also their responsibility to ensure that the playing field is set up correctly during a Live Remote Tournament. Therefore, this would not be considered eligible cause for a Match replay in most circumstances.

1075: Is the "discretion" wording in the header of <G20> overridden by the "must" wording in <G20.b> in the 2.4 version of the rules?

21-Feb-2022

G20 Referee Decisions

I am head referee at an upcoming event and have a question about the 2.4 change in the match replay rule wording.

<G20> Match replays are allowed, but rare. Match replays, i.e. playing a Match over again from its start, are at the discretion of the Event Partner and Head Referee, and will only be issued in the most extreme circumstances. Some example situations that may warrant a Match replay are as follows: ... b. A V5 Robot Brain lockup that is outside of the Team's control and results in a complete shutdown of the Robot. To qualify for a Match replay, all of the following criteria (shown below) must be met:

This new wording is contradictory. The words in the header of the rule are "at the **discretion**", "Some **example** situations", and "**may** warrant a Match replay" while subpart b uses the language "**must** be met."

So which is it, do I have the discretion to choose when the match will be replayed on a white screen taking into consideration the criteria i-iv listed under subpart b (as when I decide if a field issue is match affecting and should be replayed) or does the "must" wording in subpart b override the header text?

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This may be an oversimplified analogy, but it might help to clear up some confusion.

If you are faced with a locked door, you "may" choose to open that door or not. However, before you decide to open the door, you "must" have the key required to open that door. Granting a replay is the locked door; the "white screen" criteria is one key that can be used to open that door.

Teams may request a replay at any time, for any reason. In most cases, these requests are denied. However, we have identified one particular form of Robot Brain lockup that is verifiably outside of the Teams' control. If a Robot is not responding, and a Team is requesting a replay, criteria i-iv can be used to determine whether they are experiencing this true "white screen" lockup.

Similarly, just because a Team experiences this lockup, does not immediately mean that a Match replay should occur - this is still within EP / Head Referee discretion. Some examples may be, if it occurs in the last 5 seconds in a non-Match-Affecting manner, if the situation has occurred multiple times and the Team has refused assistance with technical troubleshooting, etc.

1009: G20 VI White Screen Devices Don't Blink Red

20-Jan-2022

G20

In <G20 vi> it states that

A V5 Robot Brain lockup that is outside of the Team's control and results in a complete shutdown of the Robot. This condition can be identified by the V5 screen turning completely white, becoming unresponsive to any inputs from Controllers or sensors, and all connected devices blinking red at their Smart Port connections. The Robot must meet all of these criteria in order to qualify for a Match replay

White screens constantly happen where devices are not in a state of blinking but do not have lights on at all. This has resulted in many matches not resulting in a replay despite being out of the teams control. Should the rule be reworded or is this the intended effect?

Edit: This [video](#) shows a white screen and the motors at the bottom have no lights.

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This will be addressed in the February 1 Game Manual update.