

Q&A

VEX IQ Robotics Competition 2024-2025: Rapid Relay

Tagged: RSC8

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 Rapid Relay 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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2888: Early End in Autonomous Coding Skill Match

30-Oct-2025

RSC8

In rule RSC8, Team may ask to Early End in Skill Match. But in Autonomous Coding Skill Math, the robot may still moving when Team ask to Early Stop, so how the Scorekeeper Referee to record Stop Time, the instance which they ask to stop, or the robot stop in Field?

If the answer is the first one, how did the Scorekeeper Referee do when the robot change the score (such as nested more Pin, contact a Stack) after the timer stop.

Answered by committee

Thanks for your question.

Per clause A of [<RSC8>](#), the Robot must come to rest for a Skills Stop Time to be possible. Rule [<RSC5>](#) allows Teams to handle their Robot for any reason during an Autonomous Coding Skills. Drivers and field staff could agree on something like "we'll put our controllers down, pick up the Robot, and stay STOP!" as the prearranged signal.

2586: can we retrieve the ball after a missed so called "china loading"

27-Feb-2025

G10 RSC8

Many teams are doing so called "China loading" now where the ball is retrieved directly from the loading station after it leaves the loader's hand and before it touches the ground of either left or right side.

Some teams are also use 2 very long wall riders to align the robot, an example of this is shown in <https://www.youtube.com/shorts/mjQIXh7A7rc>.

The drawback of this approach is that if the robot enters the loading zone too late and the ball falls to the ground, the 2 wall riders will block the partner's robot from retrieving that ball as well.

According to [<RSC8>](#), all balls on the field can be retrieved if the robot is reset back to the starting zone, does this apply to team match event as well? It seems didn't mentioned according to [<G10>](#)

If this is not allowed, according to <https://events.vex.com/VIQRC/2024-2025/QA/2174>, reattaching parts is allowed, can the team members simple remove the 2 wall riders during a reset, this will unblock the path and at least allow the partner robot to retrieve the ball in the loading zone.

Answered by committee

According to RSC8, all balls on the field can be retrieved if the robot is reset back to the starting zone, does this apply to team match event as well?

No. [<RSC8>](#) only applies in Autonomous Coding Skills Matches. Balls on the Field during a [<G10>](#) reset remain in play and cannot be contacted by Drive Team Members unless they are being controlled by the Robot that is being handled, as described in clause B of [<G10>](#).

If this is not allowed, according to <https://events.vex.com/VIQRC/2024-2025/QA/2174>, reattaching parts is allowed, can the team members simple remove the 2 wall riders during a reset, this will unblock the path and at least allow the partner robot to retrieve the ball in the loading zone.

No. The Robot in your scenario is not broken, disabled, inoperable, or stuck, and the Violation Note following rule [<G10>](#) would apply if the Team were to handle the Robot. Resetting this Robot would count as a strategic exploit, and should result in a Major Violation and Disqualification for the Match if the reset Robot participates in later game play.

Additionally, per rule [<G6>](#), "Robots may not intentionally detach parts or leave mechanisms on the Field during any Match." This would apply in situations where a Team intentionally removes Robot parts or mechanisms during a legal (or illegal) Robot reset under [<G10>](#).

2554: Handling Robots during an Autonomous Coding Skills Match.

18-Feb-2025

RSC8

Handling Robots during an Autonomous Coding Skills Match. per the rulebook "A Team may handle their Robot as many times as desired during an Autonomous Coding Skills Match. Upon handling the Robot, it must be immediately brought back to Starting Zone 2. Drive Team Members may reset or adjust the Robot as desired from this position, including pressing buttons on the Robot Brain or activating sensors." Does readjusting the robot include extending out the extenders on the robot that may have been disrupted during an earlier run of the robot. Intent behind the question - the team intends to pick up the robot and reset the robot in another place within the starting zone, and will again extend the extenders on the robot to be in contact with the perimeter wall . [<RSC8>](#)

Answered by committee

Does readjusting the robot include extending out the extenders on the robot that may have been disrupted during an earlier run of the robot.

Yes, a Team can "re-extend" a retracted or folded part of the Robot during a reset under rule [<RSC8>](#), providing no new parts are added during the reset.

2475: Clarification for Q&A 2232

28-Jan-2025

RSC8 SG6

[<RSC8>](#)

Is the answer to Q&A 2232 from October 28, 2024 still accurate? I am confused about whether this is correct:

"When a Robot is reset under rule [<RSC8>](#) in an Autonomous Coding Skills Match, all Balls should be removed from the Robot and the Field. Balls can then be reintroduced through the Loading Station or as Rapid Loads.

If a Ball is stuck in a Switch at the time of a Robot reset in an Autonomous Coding Skills Match, it should be removed from the Field by a referee or Drive Team Member when the Robot is reset. If a Switch is held in a Cleared position (no longer parallel with the front face of the Goal Wall) by the Ball that will be removed, that Switch should be manually moved into a "fully" Cleared position during the reset. The Ball that was stuck in the Switch should not be counted as a Goal."

This is the only place that I have seen the option to remove a ball that is stuck in a Switch vs being stuck in the Goal Wall. [<SG6>](#) seems to contradict this ability to remove the ball.

Does this only apply during Autonomous? And is the intent to not just retrieve the ball but also result in a cleared switch?

Answered by committee

Does this only apply during Autonomous?

Yes. This only applies in Autonomous Coding Skills Matches.

And is the intent to not just retrieve the ball but also result in a cleared switch?

Yes, but this only applies in Autonomous Coding Skills Matches.

2423: hand gesture

8-Jan-2025

G8 RSC8

In autonomous coding skill drive, are we allowed to use hand gesture? For example, the driver/loader will not touch the robot, just hand gesture to interact with the sensors. The following rules did not say if driver can use hand gesture without touching the robot. Is hand considered as "any communication devices". Is hand gesture considered as "A team may handle their robot as many times as desired during an autonomous coding skill match"? Dose the loader considered as "A team" since loader could also use hand gesture.

The rest of <G8>, which states that Drive Team Members are not allowed to use any communication devices during their Match, still applies. <RSC8> Handling Robots during an Autonomous Coding Skills Match. A Team may handle their Robot as many times as desired during an Autonomous Coding Skills Match.

During an Autonomous Coding Skills Match, Drivers may move freely around the Field, and are not restricted to the Driver Station when not handling their Robot.

Answered by committee

Manually triggering sensors or activating any controls on the VEX IQ Controller is not allowed during an Autonomous Coding Skills Match, except during <RSC8> interactions (as described in RSC8ai).

Note: this answer was revised on January 16, 2025 to reference RSC8 interactions.

2406: Rapid reload during auto

20-Dec-2024

RSC8

With the rule change allowing a missed shot to be retrieved and either returned through the loading station or rapid reloaded, I have a question: If a team is running their autonomous code and a ball misses its shot (requiring the team to reach into the playing field), does the robot need to be reset to its legal starting position during this process?

Answered by committee

Initiating the process of handling the Robot as laid out in [<RSC8>](#) is what allows a Team to retrieve Balls from on the Field. Teams cannot retrieve missed shots from the Field unless the Robot is also being handled and reset.

2377: Autonomous driving question

11-Dec-2024

RSC8

[<RSC8>](#) During autonomous driving, after you drive the first ball up to the goal and shoot can you then pick up the robot and place it into loading zone 2 so that it can take another ball from there? Or does it have to be autonomously driven in to this zone? If you can pick it up and put it in zone 2 can you then begin a new program that drives the robot to the goal again?

Answered by committee

When a Team chooses to reset their Robot during an Autonomous Coding Skills Match under rule [<RSC8>](#), they may pick up the Robot, reset it to a legal starting position in Starting Zone 2, and resume or start any precoded routine by pressing a button on the Robot Brain or manually activating a sensor (as described in rule [<RSC9>](#)).

Students may also repair the Robot during a reset, or interact with the Robot Brain to select a new program.

2338: Autonomous Skill reset

30-Nov-2024

RSC8

According to RSC8 [<RSC8>](#) The team can reset the robot in the autonomous skill, do the team have to take the robot of the field and move it to the zone 2? or can the student just push the robot on the field and make it slide to the other student. So in conclusion is that do the reset need the robot to move while it is off the field? or can we remain contact to the field and pass it to the other teammate?

Answered by committee

... can the student just push the robot on the field and make it slide to the other student. ... can we remain contact to the field and pass it to the other teammate?

There are no rules preventing this, therefore it is legal.

2317: Autonomous Skills Rapid Load Clarification

20-Nov-2024

RSC8

Per our understanding, after the match has begun, adding balls to the field can be done either by the (1) loading station or (2) Rapid Load.

[<RSC8>](#)

There is nothing in the <SG4> rules that prohibit the robot from being in Starting Zone 2 when the Rapid Load balls are loaded. Can you confirm that this is allowed?

Specifically, we're looking at code that would require resetting the robot in Starting Zone 2 per the rules, placing two Rapid Load balls on the field (also) in Starting Zone 2, and then running the robot forward to pick them up before continuing to the Goal Wall to score.

Answered by committee

You are correct. There is nothing in the rules that prohibit the Robot from being in Starting Zone 2 when a Ball is Rapid Loaded in a Match, provided the human Loader and the Robot are not in contact with a Ball at the same time.

2243: Balls In The Field After Robot Reset- Autonomous Match

30-Oct-2024

RSC8

What happens with the balls that are not scored but end up on the field perimeter when retrieving and resetting the robot during Autonomous Match? Can the loader retrieve and "Rapid Load" the balls as well? Thank you

Answered by committee

When a Robot is reset in an Autonomous Coding Skills Match as described in rule [<RSC8>](#), every Ball should be collected and handed to a Loader, regardless of its current location. Balls can then be returned to the Field through the Loading Station or as Rapid Loads, with a maximum of 2 Balls "in play" at any one time.

2232: Clarification of removal of balls due to RSC8 and Q&A 2193

28-Oct-2024

RSC8

Given the change to [<RSC8>](#) from [Q&A 2193](#), are the balls in the scenarios listed in [Q&A 2152](#) considered in the field and must be removed when resetting the robot via [<RSC8>](#)?

Answered by committee

When a Robot is reset under rule [<RSC8>](#) in an Autonomous Coding Skills Match, all Balls should be removed from the Robot and the Field. Balls can then be reintroduced through the Loading Station or as Rapid Loads.

If a Ball is stuck in a Switch at the time of a Robot reset in an Autonomous Coding Skills Match, it should be removed from the Field by a referee or Drive Team Member when the Robot is reset. If a Switch is held in a Cleared position (no longer parallel with the front face of the Goal Wall) by the Ball that will be removed, that Switch should be manually moved into a "fully" Cleared position during the reset. The Ball that was stuck in the Switch should not be counted as a Goal.

2213: <SG1> Using string to contact Starting Zone in Autonomous Skills

22-Oct-2024

RSC8

SG1

Hello!

Recently at a competition we had a team that had a really impressive autonomous run and was using a strategy where they would pull the robot back to Starting Zone 2 but instead of contacting the inside of the field perimeter they would pull a piece of string that would contact the wall to satisfy the starting conditions in [<SG1>](#), contacting the inside of the field perimeter. Given robot expansion sizes, this would remain within the horizontal expansion limits specified in the game manual.

Would this approach be legal and does it fit within the spirit of the rules?

Cheers

Answered by committee

Assuming the Robot meets all of the following conditions, there is no rule against this strategy.

- Uses only VEX IQ-legal string (with connectors on the ends, as included in the [VEX IQ Winch and Rope Pack](#))
- Follows the guidelines for Robot resets in [<G10>](#), [<RSC8>](#), and [Q&A 2141](#)
- Meets the requirements of clauses A & B of [<SG1>](#) for each reset
- Remains within the size limits in [<SG2>](#)
- Breaks no other rules

2152: Definition of controlling in the context of <RSC8> and <G10>

24-Sep-2024

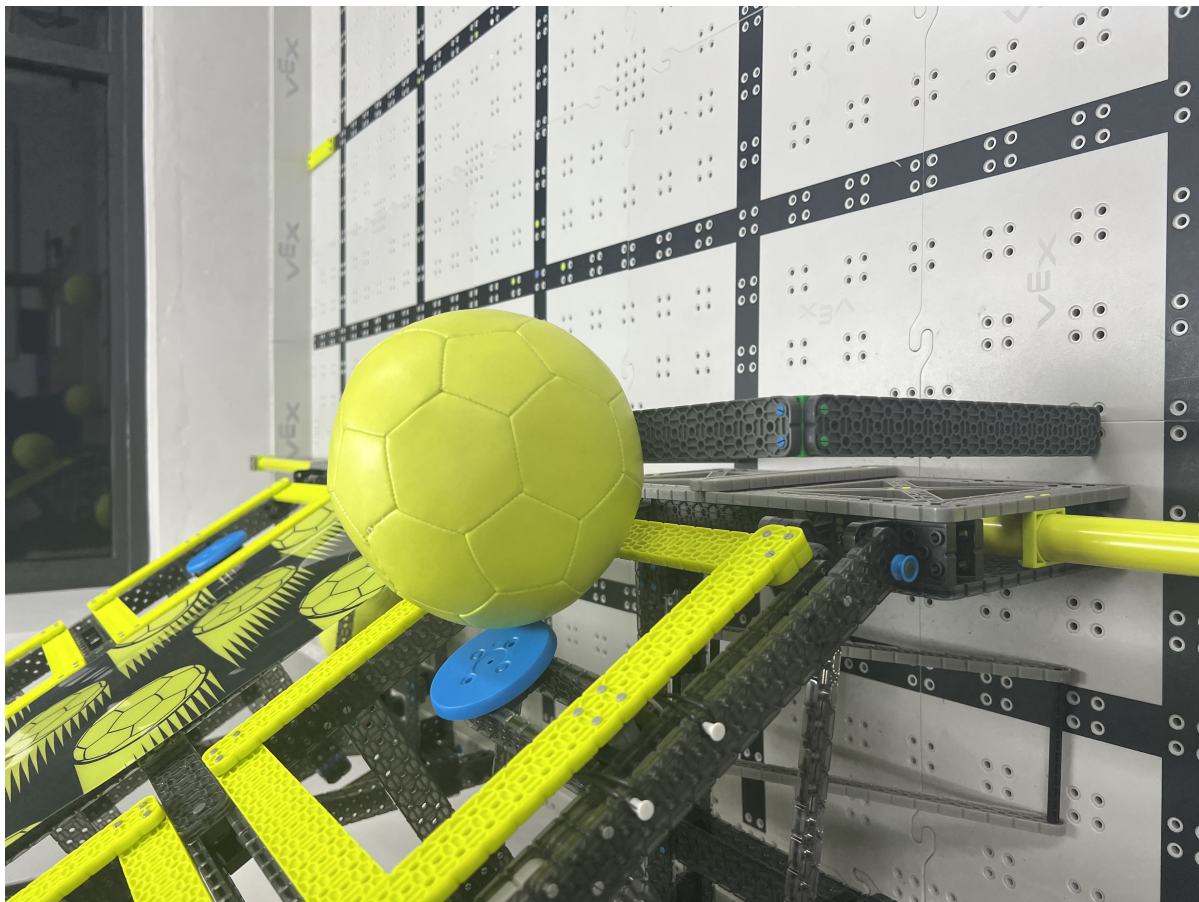
G10 RSC8

[<G10>](#) provides a definition of "controlled" for teamwork matches, but [<RSC8>](#) is listed as an explicit exception to [<G10>](#). Should the definition for "controlled" from [<G10>](#) also apply to [<RSC8>](#)?

Secondly, if a robot is partially surrounding a ball, or the ball is in a concave part of the robot but not contacting it, would the ball still be considered being controlled? If the robot's concavity results in the ball being moved when the robot turns as per [<G10>](#), should this still be considered controlling the ball?

Thirdly, if a robot is supporting a ball that is also supported by the goal or goal wall, is this considered controlled by the robot? This could involve three scenarios after the robot is pulled away:

1. the ball remains partially in the goal due to the switch mechanism squeezing it,
2. the ball falls down onto the field tiles, out of the goal once the robot is handled (attached image).
3. the ball falls through the goal wall, would the ball be considered scored or removed?.



Answered by committee

Thank you for your questions!

Yes, the definition for "controlled" in rule [<G10>](#) applies to rule [<RSC8>](#). The blue box following rule [<RSC8>](#) will be revised in the next game manual update to read (bold added here for emphasis), "This rule is an explicit exception to **rule <G9> and the Violation Note for <G10>**, and may be used as part of a Team's strategy for Autonomous Coding Skills Matches. Driving Skills Matches are still governed by [<G9>](#) & **the Violation Note for <G10>**, especially for strategic violations." This change is effective immediately.

Yes, as described in clause Bi of rule [<G10>](#), "... if the Ball moves with the Robot either vertically or while turning, then the Robot is "controlling" the Ball."

If a Ball is supported between the Robot and the Goal Wall at the beginning of a robot reset under either [<G10>](#) or [<RSC8>](#), if the Ball falls through the Goal Wall or remains 'stuck' in a Target after the Robot is removed, that Ball should not be considered as controlled by the Robot. If the Ball falls into the field or otherwise moves with the Robot, it should be considered as controlled by the Robot. Teams should be very careful in these scenarios to avoid intentionally moving a Ball through a Target during a Robot reset to ensure that it is clear to the Head Referee that the Team is not using the reset as a strategy to score the Ball.

2141: Question about Auto Part for skills challenges

19-Sep-2024

RSC8

[<RSC8>](#) First, does the robot have to touch the inner wall of the field at the beginning of the competition? Second, after the team member touches the robot, must the robot retouch the inner wall of the external wall of the site again? Or the robot can be placed directly in the Zone 2?

Answered by committee

Yes, the Robot has to meet criteria A & B of rule [<SG1>](#) at the beginning of every Match and after every use of rules [<G10>](#) and/or [<RSC8>](#) to legally reset the Robot during a Match. This includes contacting the inside of the Field Perimeter wall.