

Q&A

VEX IQ Robotics Competition 2024-2025: Rapid Relay

Tagged: RSC4

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.

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

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

Index

[<RSC4> Can teams end a Skills Match early for any other reason than to record a Skills Stop Time](#)

[Skills Match Preload and Driver Station](#)

[Rapid loading rule violation](#)

[Clarification for Q&A 2192](#)

[Driver skills - Student stops driving to load during their drive time](#)

[Rapid Loading During Elimination and Finals Matches](#)

[Final Clarification on Rapid Load location \(hopefully\) - Qualification and Final rounds](#)

[Skills Challenge - Rapid Loading Placement- RSC4](#)

[About the number of players in the driving skills competition](#)

[Rapid loading during robot skills \(driving and autonomous\) challenges](#)

[Rapid Load Period Begins When?](#)

[Driver switch clarification](#)

[RSC4 Clarification](#)

[RSC4: 3 loaders in Autonomous Coding Skills?](#)

[Does rule <RSC4> applies to each session of the League](#)

[Robot Skills Clarifications](#)

2732: <RSC4> Can teams end a Skills Match early for any other reason than to record a Skills Stop Time

23-Jul-2025

RSC4 T4

<RSC4>

During robot skills matches teams often opt to end their skills match early if continuing may damage their robot or there's a problem with a sensor that would make continuing pointless (literally and figuratively).

At a recent event, a field tech asked the Event Partner to inform teams they could end their match early ONLY if they had informed the scorekeeper they would be recording a Skills Stop Time. The field tech wanted to reduce the number of early-aborted matches logged in the field's V5 Robot Brain, to make it easier for himself to determine if aborted matches were due to field faults. The Event Partner instructed that teams had to allow the timer (and thus their robots due to the method of field control being used at the event) to continue if they had not discussed a Skills Stop Time in advance. This was frustrating to teams and could have resulted in damage to students' robots, particularly if autonomous codes went awry. After discussion with a Head Referee, the decision was reversed and teams were again allowed to end their matches early, though a Skills Stop Time was only recorded if they'd discussed it in advance with the Scorekeeper at the field, as described in <RSC4>.

Can teams elect to end a Skills Match early for a reason other than recording a Skills Stop Time or does this scenario fall under <T4> The Event Partner has ultimate authority regarding all non-gameplay decisions during an event?

Answered by committee

Can teams elect to end a Skills Match early for a reason other than recording a Skills Stop Time or does this scenario fall under T4 The Event Partner has ultimate authority regarding all non-gameplay decisions during an event?

Teams can only end a skills Match using the process described in rule <RSC4>, and only if the Scorekeeper Referee has been notified before that Match. If a Team has a concern about Robot safety and believes that there is any chance they'll want to end the Match early, they should prearrange a Stop Time signal for that Match.

Because Skills Stop Time is a gameplay decision, rule <T4> does not apply and the rule must be followed as described in the game manual.

2727: Skills Match Preload and Driver Station

20-Jul-2025

RSC3 RSC4

Question about Skills matches:

1. Can the team choose which colour preloaded pin to use (e.g. red or blue), or does it have to be red?
2. Where is the Driver Station for Skills? Does the driver have to stay on the red side, or can they move around to the blue side as well?
 - o If the driver has to stay on the red side can the loader/ second driver move out of the red side to give direction and offer advice to the driver?

Answered by committee

Thank you for your questions. Rule [<RSC3>](#) will be clarified in the next game manual update to specify that the Robot receives one red Pin as a Preload in a Robot Skills Challenge Matches.

Regarding moving around the Field during a skills Match, clause D of rule [<RSC4>](#) reads,

Drive Team Members must remain in the red Driver Station during Driving Skills Matches, except when legally interacting with their Robot per rule [<GG10>](#).

This rule applies to all Drive Team Members in a Driving Skills Match.

2557: Rapid loading rule violation

19-Feb-2025

RSC4 T7

During our last VEX IQ competition, we noticed a significant rule violation that led to an unusual ruling. During autonomous a team was rapid loading from Starting Zone 1 instead of Starting Zone 2, which violates Rule [<RSC4>](#). However, when we raised this issue, the judges allowed the team to redo both of their autonomous runs despite Rule [<T7>](#) stating that match replays should only be granted under specific conditions.

This raises important questions: Should match replays be granted for rule violations that went unnoticed?

Answered by committee

As stated in rule [<T7>](#),

Match replays (i.e., playing a Match over again from its start) are at the discretion of the Event Partner and Head Referee.

The examples in [<T7>](#) are not all-encompassing, and the Head Referee and Event Partner can declare a Match be replayed at their discretion.

2476: Clarification for Q&A 2192

28-Jan-2025

RSC4 SG1

[<RSC4>](#)

Q&A 2192 states that "there is no requirement that a Rapid Load ball must be placed entirely within the volume of that Starting Zone, only that the Ball be contacting the Floor inside that Starting Zone"

Does this also apply to the optional second ball in Starting Zone 1 for Drivers Skills? Or does this ONLY apply to Rapid Load?

- Could the 2nd ball for Drivers Skills be placed directly in front of the robot in Starting Zone 2, where it touches not only Starting Zone 1 but also Starting Zone 2 at the same time? To be in compliance with [<SG1>](#) it cannot also contact the robot as a second pre-load, correct?

Answered by committee

Q&A 2192 states that "there is no requirement that a Rapid Load ball must be placed entirely within the volume of that Starting Zone, only that the Ball be contacting the Floor inside that Starting Zone"

Does this also apply to the optional second ball in Starting Zone 1 for Drivers Skills? Or does this ONLY apply to Rapid Load?

This logic also applies to the optional 2nd Preload Ball in a Skills Match. If used, the 2nd Preload must be touching the Floor in Starting Zone 1 to start the Match, but it doesn't have to be fully contained within Starting Zone 1.

Could the 2nd ball for Drivers Skills be placed directly in front of the robot in Starting Zone 2, where it touches not only Starting Zone 1 but also Starting Zone 2 at the same time? To be in compliance with SG1 it cannot also contact the robot as a second pre-load, correct?

Yes. The 2nd Preload could be in contact with both Starting Zones, but cannot be in contact with the Robot.

2417: Driver skills - Student stops driving to load during their drive time

30-Dec-2024

RSC4

[<RSC4>](#)

Once the controller hand off is complete, can the second driver set the controller down and be a loader?

The note under RSC4 says: Note: In both Driving Skills Matches and Autonomous Coding Skills Matches, any Driver who is not currently operating the Robot may also serve as a Loader (i.e., a Team may have two Loaders at any given time).

In other words, in driving skills, if the person who can drive the bot has set the controller down, can they serve as a loader?

Answered by committee

As described in the third paragraph of our answer to [Q&A 2359](#), "If a Team wishes the Robot to operate autonomously for the 2nd half of the Match, a 2nd Drive Team Member from that Team must be present in the Driver Station and take part in the Driver switch as described in rule [<G11>](#)." The current Driver cannot serve as a Loader simultaneously.

2414: Rapid Loading During Elimination and Finals Matches

26-Dec-2024

RSC4 SG5

[<SG5>](#) Q&A 2137 addresses [<RSC4>](#) Rapid Loading differences during Skills Matches (Autonomous and Driving) and states that the balls must be removed from the zone they are introduced into (Zone 2) by robot action. Does this apply to Elimination and Qualification matches as well or is it legal to introduce a Ball in one starting zone and have the robot remove it from another starting zone (i.e., introduce the ball into Starting Zone 2 and roll it into Starting Zone 1 where, by robot action, it is removed from Starting Zone 1)?

Answered by committee

A Ball introduced into Starting Zone 2 has left / been removed from Starting Zone 2 once the Ball has fully left the vertical projection of Starting Zone 2.

If the Ball is introduced into Starting Zone 2 by the Loader and rolls fully out of Starting Zone 2 into Starting Zone 1, the Ball has been removed from Starting Zone 2 via means other than a robot action, making this a violation of [<SG5>](#).

2392: Final Clarification on Rapid Load location (hopefully) - Qualification and Final rounds

16-Dec-2024

RSC4 SG5

For rule [<SG5>](#) Loading During the Rapid Load Period, it states that loaders "have the option to introduce Balls directly onto the Starting Zone (i.e. without using the Loading Station)." Please clarify that the teams can rapid load into EITHER starting Zone 1 or 2, or just starting Zone 2. Rapid Loading from Starting Zone 1 seems to give a decided advantage in terms of proximity to the Goals so I just wanted to verify WHERE teams can rapid load during the Rapid Load period, from Starting Zone 1, 2, or either. Thank you for your guidance.

Answered by committee

[<SG5>](#) does not restrict Rapid Loading to one Starting Zone or the other. During Teamwork Challenge Matches, Teams can Rapid Load into either Starting Zone 1 or Starting Zone 2.

For Driving Skills Matches and Autonomous Coding Skills Matches, [<RSC4>](#) restricts Rapid Loading to only Starting Zone 2.

2192: Skills Challenge - Rapid Loading Placement- RSC4

14-Oct-2024

RSC4

For skills challenges (both Driver and Autonomous), during the Rapid Load periods, balls can be loaded in Starting Zone 2. What is considered legal loading of the ball in rapid loading before a robot may retrieve it?

Does the full volume of the ball have to be within the full volume of SZ2? Does the ball just have to be touching somewhere in starting zone 2? Can the Ball be overhanging outside of the starting zone 2 as long as it's touching somewhere in SZ2? Can the ball be placed to the side of SZ2 as long as part of the ball is over the volume of SZ2?

Early videos of skill matches shows team are toeing the line of far forward they can stretch it to save time, so having a clear definition of 'placed' could be helpful.

(this could also pertain to [<rsc3>](#) based on response)

[<RSC4>](#)

Answered by committee

What is considered legal loading of the ball in rapid loading before a robot may retrieve it?

As described in clause B of rule [<SG5>](#), "Rapid Load Balls must be released by the Loader directly onto the Floor inside a Starting Zone before being contacted by a Robot." There is no requirement that the Ball be placed entirely within the volume of that Starting Zone, only that the Ball be contacting the Floor inside that Starting Zone. This would also apply to the the Ball described in clause A of rule [<RSC3>](#).

Clause D of [<SG5>](#) always applies, and Rapid Load Balls may only be removed from its Starting Zone by a Robot action. A Ball is removed from its Starting Zone when it is has fully left the vertical projection of that Starting Zone.

2163: About the number of players in the driving skills competition

30-Sep-2024

RSC4

[<RSC4>](#) About <RSC 4>; if a 4-player team is available, can two players play driver and two players play loader in a driving skill competition? Please help me, thank you.

Answered by committee

Per the definition of Drive Team Members in the game manual, each Team is limited to three (3) Drive Team Members (two Drivers and one Loader) for each Match.

2137: Rapid loading during robot skills (driving and autonomous) challenges

16-Sep-2024

RSC4

[<RSC4>](#) RSC4a states, "Starting Zone 2 (i.e., the one closest to the Loading Station) is the only Starting Zone that may be used for Rapid Loading." Does that mean the robot must come in contact with the ball in zone 2 prior to the ball leaving zone 2 or does it mean the ball must touch down in zone 2 but could roll into zone 1 prior to the robot coming in contact with the ball?

Answered by committee

A Rapid Load Ball must be retrieved from the specific Starting Zone it was introduced into, and may not leave that Starting Zone until it is removed by a Robot action. For example, a Ball that is Rapid Loaded into Starting Zone 2 cannot leave Starting Zone 2 until it is removed by a Robot action.

2135: Rapid Load Period Begins When?

15-Sep-2024

RSC4

[<RSC4>](#)

If a drive team in Skills, waits until there is 28 seconds left on the clock, does that mean they only have 28 seconds of Rapid load period?

Answered by committee

Yes. If a Team completes the Driver switch with 28 seconds left on the clock, they will have 28 seconds of Rapid Load period. We believe our answer to [this recent Q&A](#) also addresses this question.

2125: Driver switch clarification

7-Sep-2024

RSC4

For the purposes of [<RSC4>](#), is the Mid match driver switch defined as the moment the controller physically changes hands or a specific point in the driver switch period (such as the end)

Answered by committee

As described in [<RSC4>](#),

In Driving Skills Matches, the Rapid Load Period is defined as any time after the mid-Match Driver switch takes place.

Per rule [<G11>](#), the Driver switch may occur at any time "between twenty-five seconds (0:25) and thirty-five seconds (0:35) remaining in the Match."

Balls may be introduced as Rapid Loads in a Driving Skills Match at any time after the controller has been passed to the second Driver under clauses B & C of rule [<G11>](#)

2088: RSC4 Clarification

7-Aug-2024

RSC4

[<RSC4>](#)

In RSC4, bullet 1, it says that all Red Rings in the Match have been Scored on Stakes.

Am I interpreting it correctly to mean that **all 24** Red Rings must be scored before Blue Rings can be scored? Suppose only 20 Red Rings are Scored and all other criteria are met, do Blue Rings still get points as Top Rings?

Thank you.

Answered by committee

If **any** red Ring in a V5RC Robot Skills Challenge Match does not meet the criteria in rule [<SC3>](#) for being Scored on a Stake, the blue Rings in that Match have no point value.

For a blue Ring to have a point value in any position, all 24 red Rings must be Scored on Stakes and have point values (see [<RSC5>](#)) at the end of the Match.

2021: RSC4: 3 loaders in Autonomous Coding Skills?

21-May-2024

RSC4

[<RSC4>](#):

Note: In both Driving Skills Matches and Autonomous Coding Skills Matches, any Driver who is not currently operating the Robot may also serve as a Loader (i.e., a Team may have two Loaders at any given time).

What does it mean to be "operating the robot" during an Autonomous Coding Skills match? Assuming the robot is not being actively repositioned, would it be acceptable for all 3 drive team members to serve as Loaders during an Autonomous Coding Skills match?

Answered by committee

Because the game manual does not place limits on the number of Drive Team Members who may serve as Loaders in a Robot Skills Match, it is legal for all 3 to serve as Loaders during an Autonomous Coding Skills Match.

1797: Does rule <RSC4> applies to each session of the League

27-Nov-2023

RSC4

Vex IQ Full Volume Rules mention twice that "Each Team will get the opportunity to play exactly three (3) Driving Skills Matches and three (3) Autonomous Coding Skills Matches." RSC4

Does this apply to each session of the League in the League that offers Skills?

We have a small team (1970A) of 2 people and run into a problem that there were simply not enough time to do more than 3 attempts at Skills total. There was 1 Skills field, lots of teams. Kids started on a dot at 9:00am, managed to do 3 autonomous runs. As autonomous was deemed to be most crucial part, with driving part considered easy... But after that Team matches started and there was not enough time to complete even 1 Skills driving match in next 2 hours. Kids stood in Skills line for 20+ minutes, got called for a Teams match, had to abandon line.... repeat 4 times. Didn't get to the front of the line once... Skills field closed at 11:30. The end.

So in all honesty team was NOT given opportunity to do 3+3 matches. While doing everything they can to post score and basically staying in Skills line all the time when not engaged in Teams matches. Seems completely unfair and against the rule RSC4. So does that rule applies to each session of the League?

Subsequent Question: If the rule RSC4 doesn't apply to each session in the League... Than that logically means it doesn't apply to Leagues at all? Because on a page B5 of the Game Manual 2.1 it explains that Skill ranking at the Leagues are the best ranking from each session, and can't be combined. So if League doesn't have to provide opportunity for 3+3 Skills matches at each session, and the results can not be combined across different sessions, than in our case it's entirely possible that there will be no opportunity in all sessions - i.e. the entire League Event. When in this particular League agenda it says "Skills Challenge Offered: Yes" [<RSC4>](#)

Answered by committee

Yes. As described in the REC Foundation's [official Qualifying Criteria document](#), up to three Driving and three Autonomous Coding Skills Challenge attempts may be played by each Team in each league Ranking Session.

We suggest that you reach out to your [REC Foundation Team Engagement Manager](#) regarding your Team's experience at your local league, as that is beyond the scope of this Q&A and the GDC to address.

1365: Robot Skills Clarifications

5-Jan-2023

SC2 RSC1 RSC2 RSC3 RSC4 RSC5 RSC6

[<RSC7>](#)Here are a couple of questions regarding running teams during a skills match. As per the update on November 1, teams are supposed to be disqualified for coming into contact with anything outside of the field during endgame.

1. How do we mark team as *disqualified* during a skills match? As of December, Tournament Manager does not include an option to disqualify a team during a skills match. The definition of disqualification says that "A Team that receives a Disqualification in a Driving Skills Match or Programming Skills Match receives a score of zero (0) for that Robot Skills Match" Do I simply modify their score to be zero on everything?

2. Also, does the definition of breaking the field perimeter include the top of the field walls, or only the outside? (Would a team be in violation of S2 if a part of their robot is touching the top of the field wall, but not the outside perimeter?)
3. How strict are we supposed to be regarding the expansion rule before endgame (e.g., 18" exactly or 18" +/- 1")? Many teams may have intake rollers that break 18" during operation. There were also some teams with string that would sway outside of the 18" during driving. (One team also had a piece of metal partially detach and stick outside of 18"). Should we keep a sizing tool at the skills field to show teams what part of their robot would violate the 18" rule during operation?
4. Being able to eyeball the size of a robot on the field is slightly subjective and might cause problems with newer volunteers. What is the best method for teaching them how to spot a violation?
5. Finally, how do we resolve a dispute of a robot going oversize and entering endgame early? Depending on how strict we are supposed to be with the expansion limit, this will be a point of conflict. As per the manual, "The Head Referee has final authority regarding all Robot rules". Is this only for the designated Head Referee for the event, or does this include everyone that has been certified as a Head Referee by REC?

Answered by committee

Thank you for your questions.

1. How do we mark team as *disqualified* during a skills match?

The Scorekeeper should record a score of 0 for the Skills Match.

2. Also, does the definition of breaking the field perimeter include the top of the field walls, or only the outside? (Would a team be in violation of S2 if a part of their robot is touching the top of the field wall, but not the outside perimeter?)

Rule [S2](#) specifies that a Robot that comes in contact with the outside face of the Field Perimeter is in Violation of the rule. It does not address or include the top edge of the Field Perimeter.

3. How strict are we supposed to be regarding the expansion rule before endgame (e.g., 18" exactly or 18" +/- 1")?

Any horizontal expansion beyond 18"x18" prior to the Endgame is a Violation of rule [SG4](#), including swaying or dragging strings, flexible intakes that cause the Robot to expand beyond 18" while intaking a Disc, and partially detached Robot components that protrude or drag beyond the 18" size limit. When determining the correct penalty, the Head Referee must consider the clauses and Violation Notes of [SG4](#) as well as any steps the Team takes to remedy the Violation. Having a sizing tool available to the Head Referee at the Field is always a good idea.

4. Being able to eyeball the size of a robot on the field is slightly subjective and might cause problems with newer volunteers. What is the best method for teaching them how to spot a violation?

If your Head Referee and Scorekeeper Referees are available to help with Robot Inspection, it can provide hands-on experience and understanding of Robot sizing.

5. As per the manual, "The Head Referee has final authority regarding all Robot rules". Is this only for the designated Head Referee for the event, or does this include everyone that has been certified as a Head Referee by REC?

The Head Referee for the event (or, in the case of an event with multiple Head Referees, the Division or the Match) is the one person with final authority regarding all Robot rules and Match play. Other Referees may provide information about what they saw during a Match, and may advise the Head Referee as requested, but all rulings are based on the judgment of the Head Referee and must be made by the Head Referee.