

## **Q0 Coral replacement scoring in auto**

**Q:** If a CORAL scored in AUTO is removed in AUTO and a different CORAL is scored in that location again during TELEOP, will the AUTO points associated with the original CORAL scored be restored, in similarity to 6.5.1?

**A:** The final assessment of CORAL scored in AUTO is made at 3 seconds after the ARENA timer displays 0:00 following AUTO per Section 6.5, bullet A. Any CORAL scored and removed before this point will not be counted. Putting CORAL on that location in TELEOP will assign it only TELEOP points.

( Asked by **2530** answered Jan 8th 25 )

## **Q1 Quantity of forced algae clearing out of the processor**

**Q:** Must the HUMAN PLAYER remove ALL ALGAE from the PROCESSOR when it is scored, or is the HUMAN PLAYER only obligated to remove any ALGAE from the PROCESSOR that would directly inhibit teams from scoring any additional ALGAE?

**A:** Please see [Team Update 02](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate02.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **2530** answered Jan 10th 25 )

## **Q2 Keeping Algae in non-designated areas around the processor**

**Q:** May a HUMAN PLAYER keep ALGAE in non-designated areas, such as the floor of the PROCESSOR AREA, for storage if the designated ALGAE holders have been filled?

**A:** Please see [Team Update 02](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate02.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **2530** answered Jan 10th 25 )

## **Q4 Returning algae to the field**

**Q:** May a HUMAN PLAYER return ALGAE into the FIELD in an action that does not clearly indicate intent to scored the ALGAE into the NET?

**A:** There is no requirement that a HUMAN PLAYER must put ALGAE into the NET when returning it to the FIELD provided they do not violate !G432.

( Asked by **2530** answered Jan 8th 25 )

## **Q5 Coopertition Bonus Requirement**

**Q:** There is potential contradiction in the Coopertition Bonus requirement. The wording in section 6.5.3 states "both ALLIANCES score at least 2 ALGAE in their PROCESSOR". The description in Table 6-2 simply states "at least 2 ALGAE scored in each PROCESSOR". Must the Algae be scored in the PROCESSOR by their respective ALLIANCES, or does it suffice simply that algae is scored?

**A:** Please see [Team Update 02](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate02.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **9496** answered Jan 10th 25 )

## **Q6 Outer Diameter of Cage and Coral Reef Pipe**

**Q:** The game manual (Update 1) states that the cage is made of "Each CAGE is ... made of 4 steel 1 in. Schedule 40 pipes". The Game manual says the REEF "pipes are made out of 1-¼ in. Schedule 40 Steel." Do these measurements refer to the inside or outside diameter of the pipes? Plumbers (and hardware stores) categorize pipes by their inside dimension, while FRC normally references outside dimensions. Please clarify. Thank you!

**A:** Those dimensions refer to the nominal size of the pipe which for small sizes is neither the exact inside nor outside diameter (though it is close to the inside diameter). For more detailed information about pipe dimensions, refer to the [official Field drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>).

( Asked by **877** answered Jan 8th 25 )

## **Q7 [AUTO RP] If the A-Stop is pushed, would the robot be then classified as not "Enabled"?**

**Q:** In 6.5.4, it is stated that AUTO RP - all enabled ROBOTS LEAVE and at least 1 CORAL scored in AUTO If the A-Stop is pushed, would the robot be classified as not "Enabled", hence as long as 1 coral is scored, and all other robots LEAVE, the alliance would be eligible for the Auto RP?

**A:** Please see [Team Update 02](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate02.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **10131** answered Jan 10th 25 )

## **Q9 Contact with the anchor**

**Q:** Does G419 include all contact with the anchor or just contact in an attempt to climb? If a robot were to make accidental contact with the anchor while crossing, would they have to correct the situation in under 3 seconds to keep their alliance eligible for the barge RP?

**A:** Revised 2/28: See Team Update 13 for revised wording to G419.

( Asked by **48** answered Jan 14th 25 )

## **Q10 CORAL placed in AUTO but not scored until TELEOP**

**Q:** A CORAL is placed on an L3 BRANCH during AUTO such that it is contacting an ALGAE, but otherwise meets the conditions to be scored as per 6.5.1. During TELEOP, the ALGAE is removed without disturbing the aforementioned CORAL, fulfilling the scoring requirements for said CORAL. Does the CORAL get scored for 6 points, as it was placed on the L3 BRANCH during AUTO, or 4 points, as it is never considered scored until after the after the AUTO scoring period ends?

**A:** The final assessment of CORAL scored in AUTO is made at 3 seconds after the ARENA timer displays 0:00 following AUTO per Section 6.5, bullet A. As noted in Section 6.5.1, A CORAL is scored on L2-L4 BRANCH if the BRANCH is inside the volume of the CORAL *and* the CORAL is not in contact with a ROBOT or an ALGAE. This means that any CORAL placed but touching ALGAE at the assessment point following AUTO will not be counted.

( Asked by **2191** answered Jan 8th 25 )

## **Q11 Robot Weight limit in Match configuration**

**Q:** What's the weight limit of the robot without bumpers and battery? (Referring to rules I103, R408, R103) We are confused by the different wordings in the rules.

**A:** The maximum weight of the robot without BUMPERS and battery is specified in !R103.

( Asked by **1747** answered Jan 8th 25 )

## **Q12 Bumper Thickness**

**Q:** R402 and R404 state hard parts must not extend beyond a maximum of 1.25", is there a minimum requirement for the thickness of the hard parts of the bumper?

**A:** No, there is no minimum thickness for BUMPER hard parts.

( Asked by **3683** answered Jan 8th 25 )

## **Q13 Algae Placement at Match Start**

**Q:** Will the Algae placed in the reef always be in the same position to start each match?

**A:** Yes. ALGAE are staged as described in Section 6.3.4.2.

( Asked by **1747** answered Jan 8th 25 )

## **Q14 Failed to score Corel on the pipe and....**

**Q:** Say a robot is trying to score on L2, L3 or L4 on the reef but didn't make it. Corel get dropped to the back of the pipe. In what way will the coral be counted as a L1. Is it A) physically contact through surface shown in figure 5-7. B) projection area contact through surface. C) completely inside through surface. D) other

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. L1 CORAL scoring is described in Section 6.5.1 which requires either "contacting the trough" (as depicted by the green surfaces in Figure 5-7) or being "fully or partially supported by a CORAL in contact with the trough."

( Asked by **5516** answered Jan 10th 25 )

## **Q15 Confusion between rules R101 \*ROBOT PERIMETER must be fixed.and R401\*Bumpers all around.**

**Q:** In R101 it shows an image of a U-shaped robot for calculating robot perimeter but in R401 it says that there may no opeing greater than 31 mm in the bumpers around the robot perimeter. Can you have a U-shaped robot or not?

**A:** Figure 8-1 in rule !R101 shows how the ROBOT PERIMETER is determined and intentionally includes a segment where the robot has no material along the ROBOT PERIMETER, to illustrate how the PERIMETER crosses this gap. As you've noted, per R401, BUMPERS must cover the entire ROBOT PERIMETER with the exception of "gaps of less than 1 ¼ in. (~31 mm)" so the ROBOT in Figure 8-1 would have BUMPERS covering along the outside of the entire red dashed line.

( Asked by **6854** answered Jan 9th 25 )

## **Q16 Scoring in the Processor**

**Q:** Does the Algae need to be scored in the processor that is within your alliance area or can your robot go past your alliance cages to score in your processor that is located in the opposing alliance's area? The game reveal video and description shows the algae being scored in the opposing alliance's processor that is located within your alliance area but it does not clarify if that is the case always or optional. For example, during AUTO or TELEOP, can you score the Algae in your own processor?

**A:** The Red ALLIANCE PROCESSOR (which will award points to the RED ALLIANCE) is on the same side of the FIELD as the Red ALLIANCE REEF and ALLIANCE AREA. The Blue ALLIANCE PROCESSOR AREA is located next to this PROCESSOR so the ALGAE scored in the RED PROCESSOR is retrieved by a Blue HUMAN PLAYER. Scoring in the other PROCESSOR is not prohibited but will award points to the opposing ALLIANCE.

( Asked by 5427 answered Jan 8th 25 )

## **Q17 Minor CAGE disruption with ALGAE**

**Q:** Rule G406 prohibits "deliberately" using a SCORING ELEMENT to cause an OPPONENT CAGE to swing (amplifying difficulty for a climb). If a ROBOT attempts to collect an ALGAE that is contacting an OPPONENT CAGE, this would be a deliberate act. An indirect result of this deliberate action may be that the CAGE then goes into motion, which may amplify the challenge of climbing to the OPPONENT ALLIANCE. Would this be a violation of G406?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, !G406 requires that the "attempt to ease or amplify" be deliberate, not just that the action be deliberate. For example, a ROBOT launches an ALGAE at its NET which bounces off the NET and ends up lodged in the opponent's REEF, this is unlikely to be perceived as a deliberate "attempt to ease or amplify" even though the ROBOT action of launching the ALGAE was deliberate.

( Asked by 4276 answered Jan 10th 25 )

## **Q18 Maximum height extension limit**

**Q:** What is the maximum height/vertical extension once the robot leaves its starting configuration? R105 refers only to horizontal extension.

**A:** There is no rule that limits the height of a ROBOT after the match begins. However teams should keep safety in mind when designing ROBOTS. Teams should keep in mind !G413, !G420, and that some venues may have lower ceilings than others, and should be considered when designing their ROBOTS. Additionally, please refer to !R104 which provides STARTING CONFIGURATION and as noted in the blue box of !G104, ROBOTS need to be safely transported off the FIELD and back to the pits after the MATCH, and there may be bystanders, doorways, or height restrictions along the route.

( Asked by **1672** answered Jan 10th 25 )

## **Q19 May a robot be in contact with more then one CAGE at the end of the match.**

**Q:** Could a ROBOT score the climb at the end of the match while touching more than one CAGE? The rule says the climb is scored if the ROBOT is in contact with \*a\* CAGE, but it does not say that it may be in contact with \*only one\* CAGE.

**A:** Please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate01.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **151** answered Jan 14th 25 )

## **Q20 algae on opposing team's reef**

**Q:** Can a team remove algae from the opposing teams reef?

**A:** There are no rules preventing this provided !G410 is not violated.

( Asked by **5561** answered Jan 9th 25 )

## **Q21 Do Algae in the barge count towards the barge points for ranking?**

**Q:** Do Algae in the barge count towards the barge points for ranking?

**A:** No.

( Asked by **5561** answered Jan 9th 25 )

## **Q22 Is there any coating on the branches?**

**Q:** Is there any specific coating on the branches?

**A:** As noted in the [FIELD drawing package](<https://firstfrc.blob.core.windows.net/frc2025/FieldAssets/2025FieldDrawings.pdf>), specifically drawings GE-25301, the scoring pipes are powder coated.

( Asked by **4546** answered Jan 10th 25 )

## **Q23 During Cage Scoring - contact with Game Element**

**Q:** If during a Cage climb, our robot come into contact with a Coral or Algae which are in contact of the ground. Does our Cage climb count? This is if we are NOT actively using the Game Element to help us climb.

**A:** Per Section 6.5.2 part A, a ROBOT may be in contact with a SCORING ELEMENT and still count for CAGE points.

( Asked by **4546** answered Jan 10th 25 )

## **Q24 Momentary touching of the net**

**Q:** If a robot or part of a robot momentarily and accidentally touches the net would our alliance still be assessed a major foul even if we do not de-score an algae ?

**A:** !G420 does not have any exceptions. MOMENTARY or inconsequential contact would still be a violation of this rule.

( Asked by **1076** answered Jan 10th 25 )

## **Q25 Bumper Maximum Height**

**Q:** R402, Part B states that the bumper backing has to be at least 4 and 1/2 in, but no maximum limit is included. R402, Part A states that the minimum depth of foam padding is 2 and 1/4in and the height is at least 4 and 1/2in. Figure 8.4 shows us that the backing can be bigger than the padding. Would it be allowed for a bumper backing to be 10in and the padding to be 5in?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. Generally, there are no rules preventing a team from having the backing be taller than the padding as long as all other rules are followed.

( Asked by **6510** answered Jan 10th 25 )

## **Q26 BUMPERS with Pool Noodles Height Placement**

**Q:** R407.C states that "placing the top of a foam cylinder such that it ends right at or just above the BUMPER ZONE" is an example of an illegal BUMPER which acts as a wedge. In Figure 8-4, a BUMPER with cylindrical padding (e.g. pool noodles) is shown. Since pool noodles can be considered as a "foam cylinder," at what distance must the top of this BUMPER be placed above the BUMPER ZONE height of 5 3/4 in. to not be considered as a wedge/illegal bumper? For example, radius of the pool noodle?

**A:** Apologies for the confusion, please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate03.pdf>) which removes that example from !R407. A pool noodle used as part of padding may be located with the top at the top of the BUMPER ZONE without violating !R407.

( Asked by **1468** answered Jan 14th 25 )

## **Q27 Robot Contact with Net**

**Q:** A) Can a robot touch the outside of the NET? B) If a ROBOT is extending around the NET, and an opponent robot pushed our ROBOT into the NET while playing defense, is that a penalty and for who? C) If a ROBOT touches the NET with a controlled algae, but not with a robot part and does not disrupt scored algae, is that a penalty?

**A:** A) No, the NET is both sides of the material defined in 5.4.2 B) We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. However, if a REFEREE perceives that a strategy is clearly aimed at forcing the opponent ALLIANCE to violate a rule, then !G210 is violated. C) No, !G420 does not count contact transitively through SCORING ELEMENTS.

( Asked by **2832** answered Jan 10th 25 )

## **Q28 Robot Match Starting Position**

**Q:** Can you define the word "overlap" in G303.D? Does it mean break one OR both vertical edge planes of the tape? AKA, do we have to fully cover the tape from one edge to the other, or can we do one side only?

**A:** There is no specific *FIRST* Robotics Competition definition for the word overlap. Merriam-Webster defines overlap as "to extend *\*over\** or past and *\*cover a part\**" (emphasis added). Applied to the starting condition specified in !G303-D this means that the ROBOT can be covering any part of the ROBOT STARTING LINE.

( Asked by **2832** answered Jan 10th 25 )

## **Q29 rule 5.2 Why is there a new rule this year for robot carts to be 30 inches?**

**Q:** for rule 5.2 in the safety manual, Why are we calling a standard door 30 inches? ADA compliant doors are 32 inches when the door is opened 90 degrees, which is what my team just built a brand new cart to. MOST robots are wider than 30 inches with bumpers on the robots, our smallest robot was 30.5 inches with bumpers, and our largest was 36 inches. Why can't our cart be no wider than the robot with bumpers or equivalent to a standard ADA compliant door at 32



inches.

**A:** The purpose of this Q&A is to answer questions regarding the rules of REEFSCAPE. We do not comment on why rules are created. We do want to highlight that !E702 has been a rule within the Event Manual for several years though and is considered an evergreen rule. Feedback on rules may be provided via Team Support at [customerservice@firstinspires.org](mailto:customerservice@firstinspires.org).

( Asked by **8709** answered Jan 10th 25 )

## **Q30 Re-processing of missed Algae**

**Q:** Can you re-process algae if the human player misses the barge?

**A:** Yes.

( Asked by **5822** answered Jan 11th 25 )

## **Q31 Does contact with the top of the cage immediately disqualify the hang**

**Q:** The rules state that robots cannot make contact with the top of the cage or the chain, however, it doesn't specify if you aren't allowed to make contact ever or if it's not allowed to make contact once you're done hanging and the match is over

**A:** There is no restriction on when a !G419 violation can happen. Thus the violation can happen before, during, or after a climb or at any point in the MATCH. However once the MATCH is over, In-MATCH rules are no longer assessed. That being said teams should be aware that exploiting the 3-second window after a MATCH has ended is a violation of !G211 shown in the blue box example F (which can be assessed at any time, unlike In-MATCH rules) and could rapidly escalate to a RED CARD.

( Asked by **8057** answered Jan 10th 25 )

## **Q32 End game extension**

**Q:** During the end game can a robot extend below the bumpers?

**A:** !G414 applies at all times during the MATCH. If the extension would take the BUMPERS out of the BUMPER ZONE with the ROBOT placed on a flat floor, this would violate !G414.

( Asked by **2054** answered Jan 10th 25 )

## **Q33 Clarification on Question 4 and rule G432, returning algae to field after it's processed**

**Q:** In the answer to Question 4, you stated "there is no requirement that a HUMAN PLAYER must put ALGAE into the NET when returning it to the FIELD provided they do not violate rule G432." Would an alliance violate G432 if a HP passes algae either under or over the barge back to their alliance. I'm assuming the HP only passes algae when the path is clear of an opposing alliance robot.

**A:** Generally a HUMAN PLAYER attempting to return an ALGAE to any specific place on the field from their PROCESSOR AREA without interfering with opponent ROBOTS, opponent CAGES, or opponent REEFS is not a violation of !G432. However we cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE.

( Asked by 648 answered Jan 10th 25 )

## **Q34 G418 Transitive Contact**

**Q:** Does G418 include transitive contact through a scoring element? If a robot is contacting a scoring element that is contacting a cage would this be a violation of G418?

**A:** !G418 does not include transitive contact. However intentionally using a SCORING ELEMENT to amplify the challenge of climbing a CAGE for the opposing ALLIANCE would be a violation of !G406 and could be considered a violation of !G211 part J or K.

( Asked by 231 answered Jan 10th 25 )

## **Q35 Using Coral to dislodge Algae and G406**

**Q:** Would a team deliberately using a CORAL to dislodge ALGAE staged on BRANCHES of the REEF be a violation of G406?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally using a SCORING ELEMENT for a purpose other than scoring that SCORING ELEMENT that eases or amplifies a challenge associated with a FIELD element would be considered a violation of !G406.

( Asked by 1676 answered Jan 10th 25 )

## **Q36 Scored Criteria for ALGAE in NET**

**Q:** Does an ALGAE have to be completely contained within the perimeter of the NET to be counted as scored? Or is the ALGAE scored as soon as any part of it is within the volume of the upwards vertical projection of the NET.

**A:** Please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate03.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by 231 answered Jan 14th 25 )

## **Q37 G420 While Scoring**

**Q:** Is G420 intended to apply to robots scoring algae? Section 6.5.1 states that ALGAE is scored once it is above the net and within the perimeter of the net. If a robot in the process of scoring in their own NET is still touching an ALGAE that has partially crossed the vertical projection of the NET, would this be a violation of G420?

**A:** Please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate03.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by 231 answered Jan 14th 25 )

## **Q38 G409 Excessive Violation**

**Q:** If a robot is in CONTROL of only two CORAL (and no other SCORING ELEMENTS) multiple times within a match, will this be considered an excessive violation of G409? The blue box description of excessive violations does not explicitly cover this and seems to imply that it only becomes excessive if the robot is in CONTROL of 3 or more SCORING ELEMENTS, which would not be the case.

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. However it is likely that many individual violations of !G409 would be considered excessive and is also subject to potentially violating !G211 for subsequent violations of any rule.

( Asked by 231 answered Jan 10th 25 )

## **Q39 G409-B While Scoring on L1**

**Q:** If a robot is scoring CORAL in L1 and uses one CORAL or a robot component to move an already scored CORAL out of the way to make room for the held CORAL, would that be considered controlling both at the same time? The scored CORAL is being moved to a desired location (G409-B) that will allow the unscored CORAL to be placed.

**A:** Please see [Team Update 02](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate02.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **231** answered Jan 13th 25 )

## **Q41 HUMAN PLAYER interaction with CORAL STATION**

**Q:** Is a HUMAN PLAYER allowed to reach past the clear plastic guards on the coral station, so long as no part of the HUMAN PLAYER enters the boundary of the FIELD and the HUMAN PLAYER does not contact a robot transitively through a CORAL?

**A:** Per !G431, A DRIVE TEAM member may not extend into the CHUTE. The CHUTE is shown in Figure 5-18.

( Asked by **3100** answered Jan 10th 25 )

## **Q42 Robot holding algae over the net?**

**Q:** If a robot in the process of scoring is contacting Algae while the Algae is partially or completely over the Net, does that count as touching Algae that is scored in the Net as per 6.5.1 and would be a penalty as per G420?

**A:** Please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate01.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **3847** answered Jan 14th 25 )

## **Q43 Extra Coral during Autonomous**

**Q:** G401 says that a drive team member may not contact anything in front of the white line during autonomous. G402 says that a drive team member cannot interact with their robot during autonomous. It then also states that "A HUMAN PLAYER feeding CORAL to their ROBOT is an exception to this rule. This is curious, as you would have to violate G401 in order to be the Human player feeding CORAL to your robot mentioned as the exception.

**A:** We can't comment on questions that are overly broad, vague, and/or include no rule references. We recommend reading Section 6.3.1 regarding DRIVE TEAM staging for the MATCH and if you still have a question, please rephrase as a question and submit again.

( Asked by **6964** answered Jan 10th 25 )

## **Q44 Algae Score Timing**

**Q:** Are algae scored in the net counted at the end of the match (+3 seconds) or as they are scored? If an algae is scored in the net, then is knocked out later by another algae being scored, such that two algae were "scored" in the net but only one remains at the end of the match, is that 4 or 8 points?

**A:** Per section 6.5 all scores are assessed and updated throughout the MATCH. Meaning that if an ALGAE that is scored in the NET is knocked out, it's associated points would also be removed when that occurs.

( Asked by **1540** answered Jan 10th 25 )

## **Q45 Auto RP: 1 each or 1 total**

**Q:** Does the Auto RP require that all robots score at least one coral (as implied in the game animation) or that at least one coral is scored by the entire alliance?

**A:** One CORAL scored by the entire ALLIANCE is the correct parsing of the AUTO RP criteria.

( Asked by **1540** answered Jan 10th 25 )

## **Q46 Which driver stations determine each cage's height**

**Q:** The first sentence of this section states that each team controls the height of the cage "closest" to their driver station, but the rightmost cage is physically closest for both DS 2 and DS 3, which would mean that one cage is not controlled and one cage is controlled by two teams, which is not what is shown in the graphic. Can you provide clarity on what "closest" means?

**A:** Please refer to Figure 6-4 which shows the CAGES associated with each DRIVER STATION.

( Asked by **1540** answered Jan 10th 25 )

## **Q47 Coral RP Requirements with Coop activated**

**Q:** Does the Coral RP with coopertition activated require that 5 coral be scored in total, spread across at least 3 of the levels, or that 3 of the 4 levels have 5 coral each?

**A:** The correct interpretation is that 3 of the 4 levels need to have at least 5 CORAL each.

( Asked by **1540** answered Jan 10th 25 )

## **Q48 Cage contact in Auto and Teleop**

**Q:** Would a robot that contacts the opposing alliances cages during the autonomous period and remains in contact at the end of the period, and therefore the start of teleop, be in violation of both G405 and G418, or just G405?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally if a ROBOT is violating different rules in both AUTO and TELEOP, both rules have been violated.

( Asked by 1540 answered Jan 14th 25 )

## **Q49 Dislodging scored algae**

**Q:** Is it a violation of G406 for a robot to launch algae at the opponent's net, such that the robot is not contacting the algae when the algae is contacting the net, with the intent of dislodging the opponent's already-scored algae? What if this occurs unintentionally?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, if a ROBOT is using a SCORING ELEMENT to deliberately amplify the challenge for the opposing ALLIANCE, !G406 has been violated. Depending on the exact circumstance, !G211 may also be violated.

( Asked by 1540 answered Jan 11th 25 )

## **Q50 Who can use stepstools**

**Q:** Are there any restrictions on which driveteam members can use the stepstools? If a team brings four of their own stools, could they give one to each driveteam member? Could a human player in the processor area use a stool?

**A:** As noted in the Blue Box, "the accommodation is available to anyone who has another physical disability that obstructs their view of the FIELD." Additionally, please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate03.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by 1540 answered Jan 14th 25 )

## **Q51 HP Coral interaction during auto**

**Q:** Is it a violation of G402 for a human player to feed coral to another team's robot during the autonomous period?

**A:** Please see [Team Update

02](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate02.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **1540** answered Jan 10th 25 )

## **Q52 Human player processor area position restrictions**

**Q:** Can any portion of the human player at the processor area cross the plane of the field wall, without contacting anything inside the field, when shooting algae into the net?

**A:** No. Entering the vertical projection of the FIELD would be considered entering the FIELD and thus be a violation of !G101.

( Asked by **1540** answered Jan 11th 25 )

## **Q53 Cage points while contacting another qualified alliance robot**

**Q:** Would a robot qualify for deep cage points if it were in contact with a deep cage (and no other cages) and also in contact with an alliance robot qualified for shallow cage points? To clarify, the scenario under consideration is one robot (A) hanging on a shallow cage and lifting an alliance robot (B) off the ground. Robot B then contacts a second, deep cage while not in contact with the shallow cage that A is hanging from.

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. The scoring criteria in Section 6.5.2 makes no differentiation between the type of CAGE either ROBOT is contacting.

( Asked by **1540** answered Jan 11th 25 )

## **Q54 Using Wifi at Events**

**Q:** E109 says that teams should not use power, Internet or phone lines provided by the venue. Can teams use internet or phone access that is not provided by the venue? Specifically can teams set up a WIFI hotspot for communications within the team?

**A:** Teams can use internet or phone access that is not provided by the venue but DRIVE TEAMS should be aware of !G302. Teams cannot set up a WIFI hotspot per !E301.

( Asked by **6223** answered Jan 11th 25 )

## **Q55 Coral placed on branches near Algae but not touching**

**Q:** If a coral is placed onto a branch such that it is not in contact (touching) the algae (yet the algae is touching the branches), does it still count?

**A:** Yes. The only requirements for a CORAL scored on L2-L4 BRANCH is that the BRANCH is inside the volume of a CORAL, the CORAL is not in contact with a ROBOT or an ALGAE, and only 1 CORAL can be scored per BRANCH.

( Asked by **8089** answered Jan 14th 25 )

## **Q56 Is L4 Coral that is not in contact with algae that is below it still counted**

**Q:** In 6.5.1 SCORING ELEMENT Scoring Criteria it states "A CORAL is scored on L2-L4 BRANCH if the BRANCH is inside the volume of the CORAL and the CORAL is not in contact with a ROBOT or an ALGAE." Does this mean that L4 coral will only be counted as scored if it is not touching the algae like at 0:33 in the 2025 Field Tour Video: Reef, or is L4 coral always counted even if there is a algae between L3 and L4 even if it is contact with the coral?

**A:** Per Section 6.5.1 one of the criteria for a CORAL to be scored is "the CORAL is not in contact with...an ALGAE." If a CORAL is contacting an ALGAE, it is not scored. Please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate03.pdf>) for additional clarification on the interaction between ALGAE staged at the start of the MATCH and L4 CORAL.

( Asked by **4180** answered Jan 14th 25 )

## **Q57 Taking coral from Human Player in AUTO**

**Q:** Are there any rules about a robot taking a coral in auto from the coral station (human player)?

**A:** Please refer to Section 6.3.1 for where DRIVE TEAMS are staged and refer to !G401 and !G402.

( Asked by **9247** answered Jan 11th 25 )

## **Q58 Confirming what defines the NET**

**Q:** Can you confirm that in regards to rule G420. The NET only constitutes the mesh and rope board (similar to the item sold by AndyMark as am-5522) and does not include any of its supporting structure of the BARGE including the zip ties, pipes, support arms, or truss. Thank you, we appreciate all your hard work in getting the game details answered.

**A:** The NET as defined in section 5.4.2 is the knit polyester mesh with a sewn cord border. This



does not include the structure of the BARGE including zip ties, support arms, or truss.

( Asked by **3847** answered Jan 11th 25 )

## **Q59 Penalty for violating G406**

**Q:** Are we correct that violating G406 in the process of scoring BARGE/CAGE points would incur a MAJOR FOUL, but would still score said points (if all criteria are met) and would not result in any further penalty, even if repeated in subsequent qualification matches, presuming no other rules (such as G408 or R206) were violated? For example, we are unclear if G211 would apply if the violation of G406 was deliberate.

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, a single, non-egregious violation of !G406 would be assigned a single MAJOR FOUL and there is no mechanism for invalidating BARGE points based on rule violations. Deliberately using a SCORING ELEMENT in violation of !G406 in order to gain BARGE points and achieve an RP may be considered egregious per !G211, particularly if repeated during the event.

( Asked by **9496** answered Jan 11th 25 )

## **Q60 Alliance Selection Timer and Team Eligibility**

**Q:** According to T605, alliance captains that receive a T605 violation for one round of alliance selection will only be able to select another team after all other alliance captains have picked/received a T605 violation. Suppose the captain of alliance 1 receives a T605 violation and it next goes to the captain of alliance 2. Would the captain of 2 be able to pick the captain of 1, or can they only pick those seeded lower?

**A:** No, per Section 10.6.1, "The ALLIANCE selection process consists of rounds during which each ALLIANCE CAPTAIN invites a team ranked below them in the standings to join their ALLIANCE." Additionally, !T605 defines what is a valid team selection.

( Asked by **2635** answered Jan 11th 25 )

## **Q61 Follow Up to Q34 G418 Transitive Contact and G406**

**Q:** Does the answer to Q34 mean that in order for the situation described (transitive contact with an opponent CAGE through a SCORING ELEMENT) to be penalized, the contact has to be a G406 violation? In that case, is it required that the CAGE is both put into motion and remains in motion until a robot attempts to hang from it?

**A:** !G406 does not require the attempt to be successful in order for it to be a violation. Only that a deliberate attempt was made.

( Asked by **231** answered Jan 14th 25 )

## **Q63 BYPASSED ROBOTS**

**Q:** What is necessary to have a BYPASSED ROBOT? The manual states only that it is "unable or ineligible to participate in that MATCH, as determined by the FTA, LRI, or Head REFEREE". For example, if a ROBOT is known to have functional problems that leave it incapable of effectively competing in MATCH, can the DRIVE TEAM bring it to the FIELD and request for it to be BYPASSED, even if it can connect to the FMS? Would such a BYPASSED ROBOT then be eligible for PARK points at the end of the MATCH?

**A:** BYPASSING a ROBOT is a decision generally made by the FTA when ROBOTS cannot connect or stay connected to the FIELD. A ROBOT'S ability to effectively compete in the MATCH is not a factor in this decision. FTAs work with DRIVE TEAMS to troubleshoot and help diagnose causes for a ROBOT not connecting to the FIELD prior to the start of a MATCH. This effort is done with the expectation that the team wants to participate in the MATCH. During the process of troubleshooting if the FTA cannot find a solution in a timely manner, or per request by the DRIVE TEAM, they may BYPASS the ROBOT. A team who tries to convince another team (regardless of which ALLIANCE) to be BYPASSED or not show up to a MATCH would likely be considered egregious and be in violation of !G211. Every ROBOT on the FIELD is eligible for MATCH points and penalties, regardless of its BYPASSED or ENABLED state.

( Asked by **9496** answered Jan 23rd 25 )

## **Q64 Extension limit into the PROCESSOR**

**Q:** Are robots allowed to have extensions enter the PROCESSOR which are within the 1.5 foot extension limit beyond the frame perimeter?

**A:** The PROCESSOR openings are considered part of the field as shown in Figure 5-2, and would not be a violation of !G413. However TEAMS should be careful of passing outside the PROCESSOR opening as that would be a violation of !G413. Teams should also be careful of activating the scoring sensors with their ROBOT which is likely a violation of !G211 blue box example G.

( Asked by **3648** answered Jan 14th 25 )

## **Q65 Can the robot frame extend above the bumper zone?**

**Q:** According to R101, the perimeter of the robot must be within the bumper zone which is 2 ½ in to 5 ¾ in above the floor. In past years, there had been a rule that limits the frame height of the robot to inside this zone, but we have been unable to find this in the 2025 manual. Does this mean that the height of our frame can be more than 5 ¾ inches above the ground?

**A:** There is no rule limiting the height of the frame. As a friendly reminder, past season game manuals have no standing on the current season's rules.

( Asked by **236** answered Jan 14th 25 )

## **Q66 Effect on BARGE RP with Conflicting (G428 or G418) and G419**

**Q:** What happens when either G418 (An Opponent's CAGES are off-limits in TELEOP) or G428 (CAGE protection) and G419 (ANCHORS are off-limits) are violated in the same match. How is the BARGE RP awarded? The Violation of G418 & G428 results in the "opposing ALLIANCE is awarded the BARGE" but the Violation of G419 results in "the ALLIANCE is ineligible for the BARGE RP" What happens if one ALLIANCE violates G418 or G428 and the other ALLIANCE violates G419 in a Qualification MATCH?

**A:** Please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate03.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **3928** answered Jan 14th 25 )

## **Q67 Cage Points for Climbing both the Shallow and Deep Cages at the same time**

**Q:** The definition for scoring related to Cage Points in 6.5.2 is "To qualify for CAGE points, a ROBOT must be contacting a CAGE [...], not contacting the carpet". This implies a robot that has successfully climbed one type of CAGE and is contacted or supported by another would gain the points for both. This interpretation seems to be supported by 6.5.4 definition of a climb. Does a team that contacts/is supported by a deep AND shallow CAGE while climbing awarded 18 points and a Ranking Point?

**A:** Please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate03.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **4180** answered Jan 14th 25 )

## **Q68 Using Wireless Controllers**

**Q:** We have wireless PlayStation 4 controllers. The Game Manual doesn't mention wireless controllers, but section 8.9 OPERATOR CONSOLE restricts wireless communication. Can we use them to control our robot if connected to the operating console via a cable, effectively making them wired?

**A:** As long as wireless functionality is either disabled (when possible), or not in use (if not possible to disable) and the only communication is via a cable, then it is allowed to be used.

( Asked by **4930** answered Jan 14th 25 )

## **Q69 Can one robot CONTROL game pieces in possession of another robot?**

**Q:** G409 describes CONTROL as applying "either directly or transitively through other objects". Are other robots exempt from this "other objects" classification? If a robot is pushing an opposing robot to a desired location or in a preferred direction (ex: by "herding" the opposing robot), does that constitute CONTROL of any game pieces the opposing robot holds?

**A:** No, a ROBOT controlling a SCORING ELEMENT and pushing an opponent ROBOT also in control of a SCORING ELEMENT, is not in violation of !G409.

( Asked by **1700** answered Jan 15th 25 )

## **Q70 G435 Violation during Auto if at least 5 ALGAE score in the PROCESOR**

**Q:** G404 says "In AUTO, a HUMAN PLAYER may not enter ALGAE onto the field." G435 says "The PROCESSOR AREA has a storage limit. [...] HUMAN PLAYERS may not store more than 4 ALGAE in the PROCESSOR AREA". If an alliance scores 5 ALGAE in their processor during AUTO would it force the other alliance to be in violation of at least one of these rules?

**A:** No, !G435 has an exception for HUMAN PLAYERS making a good faith-effort. A HUMAN PLAYER waiting until they are allowed, and then entering ALGAE to the field to be in compliance with !G435 would be an example of a good-faith effort.

( Asked by **4180** answered Jan 13th 25 )

## **Q71 Chain to Barge Attachment**

**Q:** If the Eye Nut Assembly (connecting the chain to the BARGE) becomes loose/unscrewed due to CAGE interaction (assuming no ROBOT contact with the ANCHOR), is this considered an ARENA FAULT, field damage (G416), or just something for teams to be aware of when setting up for a match? Is there a torque spec on this Eye Nut, or is there an alternate retaining method?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, as noted in Section 10.2, if a FIELD ELEMENT breaks due to normal, expected game play or ROBOT abuse of FIELD elements that affects the outcome of the MATCH for their

opponents, it is considered an ARENA FAULT. A broken FIELD element caused by ROBOT abuse that affects the outcome of the MATCH for their ALLIANCE is not an ARENA FAULT. There is no torque spec for the eye nut. Teams should alert the FIELD staff if they believe the CAGE attachment is loose or does not meet the provided tolerance.

( Asked by **2399** answered Jan 15th 25 )

## **Q72 What counts as de-scoring?**

**Q:** Given scoring criteria in 6.5.1 and the no de-scoring rule G410, does a robot contacting CORAL on the opposing alliance's reef momentarily cause the CORAL to not meet the scoring criteria and therefore be de-scored? For example contacting, but not removing, a scored CORAL on a branch while removing ALGAE from the opponents reef. Would this incidental contact result in a MAJOR FOUL and YELLOW CARD for every instance of contact with a CORAL even if it remains on the BRANCH?

**A:** Please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate03.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **3538** answered Jan 14th 25 )

## **Q73 Is algae in the net scored at the end of auto and end of teleop?**

**Q:** Is algae in the net scored at the end of auto and the end of teleop? for example, if there are 2 algae in the net at the end of auto, it scores as 8 points. At the end of Teleop of the same match there are 5 algae scored, for 20 points. Would the scoring show 20 points (total at the end of Teleop) or 28 (total at end of auto + total at end of Teleop

**A:** For scoring actions based on object state (e.g. scoring CORAL on the REEF or ALGAE in the NET), each SCORING ELEMENT will only be scored once. Scoring 2 ALGAE in the NET in AUTO and 3 more in TELEOP would be scored as 20 points (2 AUTO ALGAE \\* 4 points + 3 TELEOP ALGAE \\* 4 points).

( Asked by **4089** answered Jan 15th 25 )

## **Q75 Rotational Orientation of Cages**

**Q:** When field is set up is there a tolerance on the rotational orientation of the cages with respect to the barge?

**A:** No.

( Asked by **365** answered Jan 14th 25 )

## **Q76 Cage Hang Height**

**Q:** Under section 5.4.1, cages are hung "such that the bottom of the cage is 2 ft. 6-1/8 in. (~77 cm) and 3-1/8 in. (~79 mm) from the carpet" for a shallow cage and deep cage, respectively. The cage is assembled in a way that the vertical pipes stand proud of the bottom plate of the cage. Does the distance refer to distance between the floor and the pipe or the distance between the bottom plate?

**A:** The measurements in 5.4.1 are from the carpet to the lowest point of the CAGE, which is the bottom of the vertical pipes. Please see the [official Field Drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>) for more details.

( Asked by **2635** answered Jan 15th 25 )

## **Q77 Closed-cell foam on outside of robot frame**

**Q:** R101 requires a ROBOT FRAME that is comprised of fixed, non-articulated structural elements. Would a fixed frame built of 1x2" aluminum tubing, faced (on the outer face) with 1/4" closed-cell foam, meet this definition? The foam surface would define the ROBOT PERIMETER and the bumpers would be placed against it and connected to the 1x2 aluminum using a rigid fastening system. My question is about the legality of the foam outer surface of the frame, not other aspects of the frame or bumper system.

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. In general, small deflections created by a flexible material would not be considered as an articulating element, but the ROBOT PERIMETER would be measured in its resting state.

( Asked by **2465** answered Jan 15th 25 )

## **Q78 G411 and Moving Algae already on a reef**

**Q:** G411 prevents a team from placing algae on their opponents reef and it is legal to interact with algae already on an opponents Reef, such as to remove it. Is it legal for a robot to move algae that is already on an opponents reef to a different position on that reef. If the algae momentarily stops touching the reef and then touches the reef again because of a robot's action is that counted as placing Algae? Or if a robot hits the Algae, it stops contacting the reef and then bounces on the reef?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE.

Generally, any action that involves placing ALGAE on the opponents REEF that appears to the REFEREE as deliberate would be violating !G411

( Asked by **3847** answered Jan 15th 25 )

## **Q79 Kraken x60 Anderson Adaptors and Custom Circuits**

**Q:** Hello, with the new addition of the kraken x60 anderson powerpole adaptor boards companies like WCP and refire solutions have allowed teams to tap into the power of their motor and supply sensors. Could a team take that power and CAN and input it into a PCB to make it a custom circuit and power multiple sensors that go on the can bus. Examples of using multiple devices - CANcoders, LaserCANs or CANrange

**A:** There are no rules explicitly prohibiting connecting the power downstream of a Kraken x60 Powerpole Adapter to multiple devices provided all wiring is 22AWG or larger per !R622.

( Asked by **9450** answered Jan 16th 25 )

## **Q80 Soft fastening covers of adjacent BUMPER segments**

**Q:** Thanks for adding the "Separate segments" sub-figure to Figure 8-6 in Team Update 01! That update inspired this question. I cannot find any rules forbidding attaching the covers, as defined in R402C, of adjacent BUMPER segments to each other, provided such fasteners do not constitute hard parts per R404. Example soft fasteners include hook and loop tape and Scotch Dualock. Are there any rules forbidding soft fasteners between the fabric of adjacent bumper segments?

**A:** Soft fasteners between adjacent segments would be considered "Soft fasteners used to secure Padding or Cover" permitted per !R404 as updated in [Team Update 06](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate06.pdf>). These fasteners must comply with all other rules including being either "backed by the hard parts of the BUMPER" or not located on "outward facing surfaces of the BUMPER" to comply with !R411.

( Asked by **1071** answered Jan 24th 25 )

## **Q81 Maximum Character Count of Optional Question in Executive Summaries**

**Q:** The Submitted Awards webpage (<https://www.firstinspires.org/resource-library/frc/submitted-awards>) states that "Each executive summary is limited to 500 characters, including spaces and punctuation (with an exception of the last question)." I cannot find a maximum length for this last question. What is it?

**A:** Apologies for not having the character limit on the webpage, we have updated the [Submitted Awards webpage](<https://www.firstinspires.org/resource-library/frc/submitted-awards>) to include this number for ease. As noted in the submission portal, the optional feedback question is limited to 250 characters. This also includes spaces and punctuation.

( Asked by **1071** answered Jan 17th 25 )

## **Q82 CORAL RP, same REEF scoring pipe or not?**

**Q:** To get this ranking point, should all CORAL be on the same REEF scoring pipe (aka the whole pipe filled with CORAL) or as long as all 4 or 3 (in case of corporation) level are achieved in alliance's REEF no matter which pipe is used.

**A:** There is no requirement of which BRANCHES within a level must have CORAL to count toward the CORAL RP. For example, if at least 5 CORAL are scored on any of the BRANCHES which make up Level 2, then Level 2 will count as one of the levels needed to achieve the CORAL RP. Teams should keep in mind that only one CORAL can be scored per BRANCH.

( Asked by **5516** answered Jan 15th 25 )

## **Q83 Do Cages rotate freely?**

**Q:** Are the Cages setup so that they rotate freely? Can a cage be rotated clockwise in such a way that the chain can be bound up causing the cage to rotate counter clockwise once the impetus is removed?

**A:** The eye nut attached to the BARGE and eye hook attached to the CAGE are tightened such that they do not rotate. Rotating the CAGE twists the chain.

( Asked by **4160** answered Jan 16th 25 )

## **Q84 G409 Enforcement at CORAL STATION**

**Q:** Does pushing multiple CORAL with the intent to remove them from the ground or clear the area in front of the CORAL STATION AREA wall for preferred ROBOT positioning/alignment with the wall count as CONTROL of more than 1 CORAL and violate G409, fall under exception A for "bulldozing," or be considered intentional "herding" if the intent is to clear space rather than push them to a specific location?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. However clearing an area of CORAL to gain access to the CORAL STATION is likely not a violation of !G409 as the ROBOT is likely not moving CORAL in a preferred direction as it is just out of their way.



( Asked by **4476** answered Jan 21st 25 )

## **Q85 What is meant by the word "end" in Rule G421?**

**Q:** Does a robot have to stop or pause in the opponent's zone to qualify as "ending" in that zone? Or can a robot move continuously through the opponent's zone without pausing or stopping and not violate G421?

**A:** Please see [Team Update 03](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate03.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **1678** answered Jan 16th 25 )

## **Q86 Clarification regarding rules G210 & G421**

**Q:** If a robot is pushed across the midline into the opposing zone by a defending robot and another robot from the same alliance is already in that zone, is that a violation of G421? If this is a violation, would the defender who causes another robot to violate G421 more than once be in violation of G210?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. However the blue box of !G210 gives examples of violations of this rule. Example D states "A blue ALLIANCE ROBOT, pushing a red ALLIANCE ROBOT from fully outside and far from (i.e. more than 4 ft. (~121 cm)) the blue BARGE ZONE through the blue BARGE ZONE while another red ROBOT is already on the opposing ALLIANCE's side of the FIELD and the REFEREE perceiving that the blue ROBOT is deliberately making the red ROBOT violate !G421." Additionally, violations of !G210 forced in this manner will not result in an assignment of a penalty to the targeted ALLIANCE.

( Asked by **1678** answered Jan 16th 25 )

## **Q88 Limits on bumper backing material**

**Q:** 1. Can the bumper backing material in R402B be comprised of multiple different materials? 2. Must the backing material sit entirely outside the frame perimeter, or may some of it sit inside the frame perimeter? 3. May the backing material be shaped to serve functional or protective purposes beyond simply backing the soft parts, so long as other rules are met, such as R404.

**A:** Yes, BUMPER backing may consist of multiple different materials. There is no requirement that BUMPER backing sit entirely outside the FRAME PERIMETER. There are no restrictions on the functional purpose of BUMPER backing.

( Asked by **2177** answered Jan 16th 25 )

## **Q89 Is using the VH-109's POE passthrough legal?**

**Q:** Does R617-A and R617-B, stating "No other electrical load shall be connected..." to the PDP/PDH, prohibit using the VH-109's POE passthrough to power a camera or other device, as they would be indirectly connected to the same terminal/channel? Since R617-C doesn't mention restrictions for the PDP 2.0, is POE passthrough allowed with the PDP 2.0? The "How to Wire an FRC Robot" guide suggests POE passthrough is permitted regardless of the power distribution device. Is this interpretation correct?

**A:** Apologies for the delay. Please see [Team Update 08](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate08.pdf>) for information on legal use of the VH-109 POE passthrough. If that doesn't answer your question, please rephrase and resubmit.

( Asked by **5026** answered Jan 31st 25 )

## **Q90 G412 Short Distance**

**Q:** Is there a general definition of "short distance"? Would this definition be the same for all "short distances" mentioned in the blue box of G412?

**A:** Please see [Team Update 05](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate05.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **231** answered Jan 21st 25 )

## **Q91 Can the 1/4 in protrusion limit be utilized?**

**Q:** According to section 8.1 rule R101, "minor protrusions no greater than ¼ in. (~6 mm) such as bolt heads, fastener ends, weld beads, and rivets are not considered part of the ROBOT PERIMETER." If a team wants to support the bumper from the bottom using a piece of metal that is no greater than 1/4 in out of their frame perimeter, does that count as allowed under the R101 rule?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. In general, something like a bracket or flange would be included as part of the ROBOT PERIMETER, as opposed to the examples shared in R101.

( Asked by **10558** answered Jan 21st 25 )

## **Q92 Moving staged algae within reef**

**Q:** G411 prevents introducing algae on an opponents reef, but 6 pieces are staged on the reef to start the match. If a robot can move these 6 algae while continuously contacting the reef branches (Example: rolling the algae over L4, or compressing the algae between branches without violating G408) is any rule violated? The opposing alliance maintains full access to all FIELD elements (G406), but the algae SCORING ELEMENTS are in a more difficult position.

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, there are no rules stating that staged ALGAE can be removed from the opponent's REEF. However, if a team tries to make the ALGAE harder to acquire this would likely be a violation of !G406 and teams should also keep in mind !G409, !G410, and !G427.

( Asked by **6364** answered Jan 21st 25 )

## **Q94 Distribution of CORAL that are not pre-loaded**

**Q:** Section 6.3.4.1, part c, states that CORAL that are not pre-loaded are divided "evenly" between CORAL STATIONS. If there is an odd number of CORAL remaining after pre-loading is complete, how are they split amongst CORAL STATIONS?

**A:** FIELD STAFF will randomly determine which CORAL STATION has the extra CORAL. Per Section 6.3.4.1, part B - a CORAL not pre-loaded in a ROBOT is staged with CORAL in the corresponding ALLIANCE AREA. As a reminder, HUMAN PLAYERS may move CORAL between CORAL STATIONS if they wish during TELOP provided they do not leave the ALLIANCE AREA as noted in !G429.

( Asked by **1071** answered Jan 21st 25 )

## **Q95 Robot Battery**

**Q:** We have identified a source for batteries for the robot, which can supply the Duracell Platinum DUR12V-18. However, the list of approved batteries in the game manual specifies the Duracell Ultra (P/N DURA12-18NB). Upon reviewing the specifications, the two batteries appear to be identical. Would the Duracell Platinum DUR12V-18 be permitted for use in competition?

**A:** The list of batteries in !R601 is not exhaustive. Any battery which meets the criteria in !R601 A through F is permitted. We cannot comment on legality of specific parts beyond those specified in the Game Manual.

( Asked by **6978** answered Jan 21st 25 )

## Q96 Use of Electromagnet

**Q:** Are teams allowed to use an electromagnet on the robot during the end game to hold the cage in place while they attach a clamp that enables them to climb? This could help them keep the cage in place and not swing away while trying to place a clamp on the cage.

**A:** We cannot comment on part/design legality, previous calls of Head REFEREES or LRIs, or questions that are overly broad, vague, and/or include no rule references. Please consult [Section 1.10](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>) and, if needed, resubmit a different question.

( Asked by **4655** answered Jan 21st 25 )

## Q97 G412 Launched Definition

**Q:** Does the definition of launched for CORAL require an active mechanism? In past years "active mechanism" has been used in the manual for rules regarding "launching" but it is not in the current rule.

**A:** There is no requirement for a ROBOT to have an active mechanism in order to violate !G412. As a friendly reminder, past season game manuals have no standing on the current season's rules.

( Asked by **231** answered Jan 21st 25 )

## Q98 Reef Scoring Pipe Height

**Q:** In reviewing the team field drawings, evergreen drawings and the field tour videos, the reef scoring pipes at L2 and L3 each have different heights between the three different resources. For example L3 is listed at 46.99 on drawing GE-25301, but it is 47.59 on drawing GE-25300, and in the field tour video it is 48.00 inches. Can you please verify the height that will be used on the field at competition. Thank you.

**A:** The exact height of the L3 pipe on the REEF assembly on the field is 47.59 in. as shown in drawing GE-25300. The GE-25301 drawing shows the dimensions of the Scoring Pipe by itself and not the height it sits when installed in the assembly. The Field Tour video gives an approximate height for ease of understanding. Keep in mind that dimensions on the REEF and other structures have a tolerance of +/- 1/2 in. to accommodate variances in manufacturing and assembly.

( Asked by **2601** answered Jan 21st 25 )

## Q99 Bumper Fastening

**Q:** Can bumpers be attached to the robot outside of the bumper zone, so long as they are also attached rigidly inside of the bumper zone?

**A:** There is no requirement that the BUMPER Fastening System (per !R402-D) be located within the BUMPER ZONE.

( Asked by **1540** answered Jan 21st 25 )

## **Q100 R621 and Devices Downstream from a SparkMax**

**Q:** Does R621 prevent the usage of a Rev Through Bore Encoder powered via a SparkMax since it is an "other electrical load," or would it be considered part of the same "branch circuit" and therefore legal? Is the answer the same for a powered limit switch (such as a break beam sensor) powered via the Data Port on the SparkMax?

**A:** Devices connected to the accessory ports provided on approved motor controller are not considered another "electrical load" and are not a violation of !R621.

( Asked by **3419** answered Jan 21st 25 )

## **Q101 HUMAN PLAYER Entering CORAL into Opposing ROBOT**

**Q:** During a match, if a HUMAN PLAYER enters a CORAL through the CORAL STATION, and the CORAL lands in a ROBOT of the opposing ALLIANCE, would this action violate rule G210? Additionally, does the intent of the action affect this?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. However, intentionally dropping CORAL into an opponent ROBOT such that it would violate !G409 is generally a violation of !G210

( Asked by **1306** answered Jan 21st 25 )

## **Q102 Are we allowed to use bumpers as a counterweight?**

**Q:** Our team uses two-piece bumpers. Is it against the rules to make one half heavier than the other to act as a counterweight, assuming that the weight is added through legal means (i.e. using steel as a backing material on one side and plywood on the other) and the bumpers are still compliant with R408?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. There are no rules specifying that the bumper needs to have uniform construction on all sides.

( Asked by **9277** answered Jan 21st 25 )

### **Q103 If the cage is swinging causing the robot to contact the floor is it still off the ground?**

**Q:** If the cage is swinging causing the robot to contact the floor transitively, does it still qualify for cage points?

**A:** No.

( Asked by **1296** answered Jan 22nd 25 )

### **Q104 When will 2025 Avatar submission system open?**

**Q:** When will the 2025 Avatar submission system open which is at following link? <https://frc-events.firstinspires.org/services/avatar>

**A:** The scope of this Q&A system includes and is limited to questions about the [Game Manual](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>), [Awards](<https://www.firstinspires.org/robotics/frc/awards>), and/or [official Field drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>) are posted to the Q&A System (for questions about other topics, please contact Team Support at [[firstroboticscompetition@firstinspires.org](mailto:firstroboticscompetition@firstinspires.org)](mailto:firstroboticscompetition@firstinspires.org)).

( Asked by **5514** answered Jan 22nd 25 )

### **Q105 Is a HUMAN PLAYER allowed to operate the robot?**

**Q:** Table 6-1 states that a team can have up to 3 human players and drivers total, so in practice 1 team could have 2 or even 3 human players. Would a human player who starts the match as 6.3.1D states "...HUMAN PLAYERS are staged in their CORAL STATION AREAS", be permitted to operate their team's robot during the match in addition to their traditional human player role granted they stay the alliance area laid out in figure 5-4 which includes the coral station area?

**A:** There are no rules prohibiting DRIVE TEAM members from switching between the roles of DRIVER and HUMAN PLAYER throughout the MATCH. However, teams should be careful to not violate !G401, !G402, !G429, and !G433.

( Asked by **694** answered Jan 22nd 25 )

## Q106 Redundant Power for VH-109 Radio From Separate Channels

**Q:** The recommended wiring diagram provided by Vivid-Hosting for the VH-109 radio shows the radio powered by both PoE and the Weidmuller terminals, with power sourced from **\*\*two separate\*\*** channels on the PDH. R621 states "each branch circuit must be protected by 1 and only 1 circuit breaker or fuse". Is it acceptable to wire the two power inputs of the VH-109 to two separate channels per the manufacturer's recommendation, or must all sources of power for the radio come from a single channel.

**A:** Apologies for the delay. Yes, the VH-109 may be powered using both the POE input and 12V terminal input from separate channels of a power distribution device.

( Asked by **548** answered Jan 31st 25 )

## Q107 Cage definition and specs

**Q:** Section 5.4.1 defines the size and material used in the structure of the cage., how it is suspended, and their location. Can you tell us what is the official weight of the cage is (not including the chain, carabiners or eyebolt assembly, just the pipes and plates) since our prototype is not an official replica?

**A:** As a friendly reminder, the purpose of this Q&A is to answer questions regarding the [Game Manual](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025FRCGameManual.pdf>), [Awards](<https://www.firstinspires.org/robotics/frc/awards>), [official Field drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>), and/or [Event Rules](<https://www.firstinspires.org/sites/default/files/uploads/frc/EventRulesManual.pdf>). Any measurements or materials information beyond what's already provided in [official Field Drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>) and other tools available on the [Playing Field page](<https://www.firstinspires.org/robotics/frc/playing-field>) must be derived by the team.

( Asked by **2495** answered Jan 24th 25 )

## Q108 G412 Launched Clarification

**Q:** The answer to Q97 along with TU05's definition of "a short distance" suggests that a robot that incidentally bumps into a coral on the floor causing it to roll more than 3 feet, a likely occurrence in our opinion, will be subject to a major penalty. Could you confirm that this is the intention?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE.

As noted in the blue box, "A CORAL is considered launched if it is shot into the air, kicked across the floor, or thrown in a forceful way." Generally, a ROBOT that bumps into a CORAL would not be considered launched. Teams should also be aware of !G409.

( Asked by **4061** answered Jan 27th 25 )

## **Q109 2025FieldDrawings-FieldLayoutAndMarking tape colors**

**Q:** Sheet 4 of 2025FieldDrawings-FieldLayoutAndMarking shows RED color tape for both PROCESSOR areas and BLUE color tape around both REEFs. Other sheets in the drawing show the proper colors. Should Sheet 4 match the other sheets?

**A:** Please see [Team Update 07](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate07.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **58** answered Jan 28th 25 )

## **Q110 Coral Station opening size**

**Q:** Section 5.6.2 Coral Station states that the opening is 7" tall with a sloped tunnel of 55 degrees. A 4" PVC will not fit through this opening. The pipe outside dimension is 4.5", and  $\sin(55) = 0.5736$ , therefore opening =  $4.5/0.5736 = 7.85" = 7 \frac{7}{8}"$ , which should probably be 8".

**A:** As a friendly reminder, the Q&A is not a place for overly broad, vague, and/or questions that include no rule references. Please consult [Section 1.10](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>) and, if needed, resubmit a different question. The 7" vertical opening dimension described in Section 5.6.2 is correct.

( Asked by **6512** answered Jan 28th 25 )

## **Q111 Cage build Tolerance?**

**Q:** In Section 5.4.1, the Cage specifics don't have a margin of error for the width or height of the cage. Is there any significant margin of error to account for?

**A:** Detailed dimensions and tolerances for field assemblies can be found in the [official Field Drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>). Specifically, the CAGES can be found in drawings GE-25201 and GE-25202. Placement of the CAGE relative to the carpet (and associated tolerancing) is shown in the BARGE drawing, GE-25200.



( Asked by 4905 answered Jan 27th 25 )

## **Q112 Must bumpers present a vertical surface through their entire height?**

**Q:** R407 includes the language "interacting with other BUMPERS", but the examples in the blue box make no distinction for location. May portions of a bumper that sit outside of the bumper zone utilize softer/harder foam, rounded profiles, or tapered/stepped padding, since the intended interaction between bumpers is within the bumper zone?

**A:** Per !R407, BUMPERS must not act as wedges when interacting with other BUMPERS regardless of height. While !R405 guarantees that BUMPER to BUMPER interaction will happen within the BUMPER ZONE it does not prevent BUMPER to BUMPER interaction above this zone.

( Asked by 2177 answered Jan 28th 25 )

## **Q113 How do various bumper extension limits apply to corners?**

**Q:** Can 4" thick bumpers extend fully into the corner, creating a diagonal measurement from the corner that is greater than 4", or is this illegal per R403, forcing the bumper to be radiused to maintain that 4" measurement from the corner? Likewise, can 1.25" thick "hard parts" bumper backing material extend into the corner such that the diagonal measurement is greater than 1.25", or is that illegal per R404, forcing the hard parts to be radiused to maintain the 1.25" limit?

**A:** Yes, the padding & hard parts measurements should be made perpendicular to the FRAME PERIMETER edges (or an imagined extension of them into the corner) such that a legal BUMPER can be extended into the corner without requiring parts be radiused. Please be aware of the exception of the minimum padding described in !R406 which should be measured radially from the corner as shown in Figure 8-6.

( Asked by 2177 answered Jan 28th 25 )

## **Q114 Reloading Coral**

**Q:** G402 says that a drive team member cannot interact with their robot during autonomous, but leaves an exception for coral feeding. G401 says that a drive team member may not contact anything in front of the white line during autonomous, but contains no exception for coral feeding. Can coral be fed to the robot during AUTO, without violating G401?

**A:** !G401 applies to DRIVE TEAM members "staged behind a HUMAN STARTING LINE". The HUMAN STARTING LINES do not extend into the CORAL STATION AREA, therefore

!G401 does not apply to DRIVE TEAM members using the CORAL STATION to enter CORAL onto the FIELD.

( Asked by **10152** answered Jan 28th 25 )

## **Q115 For BUMPERS, can backer rod be used inside hollow pool noodles?**

**Q:** Per R402, Padding can be constructed of pool noodles (hollow or solid) or backer rod. Is it permissible to have backer rod inside hollow pool noodles, as long as the stacked rods are identical?

**A:** Yes, as stated in !R402, padding may consist of one or more of the materials listed as long as the result is a minimum of 2 ¼ in. (~58 mm) and at least 4 ½ in. (~114 mm) tall. Note that padding should be uncompressed and per the Blue Box below !R402, "Teams should be prepared to provide information about the padding material used in their BUMPERS".

( Asked by **20** answered Jan 28th 25 )

## **Q116 Custom circuits: adapter boards.**

**Q:** Similar to Q79 regarding COTS Powerpole adaptor boards for the Kraken x60, our team has created a functionally identical board that utilizes Wago connectors instead of Powerpoles. The board retains the same power rating as the COTS versions and has been successfully used on our robot all off-season events. Since this modifies the connector type but not the fundamental functionality of the board, would this custom board be considered legal for competition?

**A:** Per !R621, the listed devices (WCP-1380, RF-4003) are the only permitted exceptions.

( Asked by **5687** answered Jan 28th 25 )

## **Q117 Battery terminal**

**Q:** We have a sponsor that donated batteries to our team this year. The batteries clearly meet A-E of R601. We are unsure of component F: nut and bolt style terminal. The battery has a F13M5 terminal. This requires a bolt connecting to a nut that is internal in the battery. Does this meet the nut and bolt requirement? The battery is Discover D12180

**A:** We cannot comment on specific part/design legality. Per the Blue Box below !R601, "'Nut and bolt style" refers to any style battery terminal where the connector is secured to the battery using a threaded fastener."

( Asked by **5024** answered Jan 29th 25 )

## **Q119 Is it possible to score CORAL in multiple places simultaneously?**

**Q:** Hi HQ, we understand that only one CORAL can be scored per BRANCH. Can, however, a CORAL be scored on two different levels simultaneously? For example if a CORAL is hanging off of an L2 BRANCH meeting the criteria to be scored on L2, but is also partially supported by a CORAL scored in the trough, does this mean that the CORAL is scored on both L1 and L2, thus scoring points for both, or does one point value supersede the other?

**A:** Please see [Team Update 08](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate08.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by 5347 answered Jan 31st 25 )

## **Q120 CORAL in the PROCESSOR protocol and legality**

**Q:** Hi HQ, we were looking at rules G435 (clearing the PROCESSOR AREA) and rule G407 (only eject SCORING ELEMENTS through PROCESSOR). We were wondering what the HUMAN PLAYER in the PROCESSOR AREA should do if a CORAL enters through the PROCESSOR. Would the protocol just be to move it out of the way? Also, would it be acceptable to eject CORAL through the PROCESSOR to begin with?

**A:** !G433 states that CORAL may only be entered onto the FIELD by a HUMAN PLAYER or DRIVER through the CORAL STATION. Per !G406 ROBOTS may not deliberately place CORAL into the PROCESSOR. If a CORAL is placed in the PROCESSOR and rolls into the PROCESSOR exit (e.g. past the sensor), HUMAN PLAYERS may move CORAL out of the way or hand it to FIELD STAFF. Per !G211, HUMAN PLAYERS should be careful to not trigger the sensor so it is recommended to only handle CORAL if it rolls into the PROCESSOR exit.

( Asked by 5347 answered Jan 31st 25 )

## **Q121 Clarification of Q66 and interactions between G428, G419, and G210**

**Q:** I would like clarification on Q66 and TU03. What happens if, for example, during the last 20 seconds of a match a Blue robot contacts a Red robot eligible for Deep Cage points such that the Red robot contacts their Anchors for longer than 3 seconds? Is the Red alliance still eligible for the Barge RP and do they automatically receive it? Does the Red alliance still receive the 12 match points associated with that robot's Cage? What fouls are assigned if any, and to who for which rule violations?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be

determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, a ROBOT that forces an opponent ROBOT to violate a rule would be a violation of !G210 and the original rule violation would not be applied. Additionally, please see [Team Update 08](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate08.pdf>) for an update to !G419. If that doesn't answer your question, please rephrase and resubmit.

( Asked by **6352** answered Feb 3rd 25 )

## **Q122 Bumper-like protection for robot superstructure**

**Q:** We want to add a small bumper-like pad to the side of our robot's superstructure to protect it in case of tipping over. The superstructure occupies the full width of the frame perimeter, so this pad would form a fixed extension outside the frame perimeter. Given that it is above the bumper zone and obeys all the rules for bumper construction, is such a fixed extension allowed as a part of our overall bumper configuration?

**A:** Please see [Team Update 09](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate09.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **100** answered Feb 4th 25 )

## **Q124 Drive Team Driver Designation**

**Q:** Teams often use different numbers of people to drive their robot. For the purposes of substituting a STUDENT TECHNICIAN as a HUMAN PLAYER per section 6.2, how is the number of HUMAN PLAYERS on an ALLIANCE determined? Does staging a STUDENT member of the DRIVE TEAM in the ALLIANCE AREA behind the HUMAN STARTING LINE mean that those STUDENTS are DRIVERS?

**A:** Please see [Team Update 09](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate09.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **2137** answered Feb 4th 25 )

## **Q125 Contacting an Anchor**

**Q:** In the answer to Q9 you said that G419 only grants exceptions for contact with an anchor that is momentary and inconsequential, but I am looking for clarification. If a robot is completing a climb, either deep or shallow, and the robot swings such that a part of it makes momentary, but possibly repeated, contact with the anchor chain due to swinging, would the climb count?

**A:** Revised 2/28: Please see Team Update 13 for revised wording to G419

( Asked by **3984** answered Feb 4th 25 )

## **Q126 Updated G419 and PARK eligibility for BARGE RP**

**Q:** With the G419 change in TU 08, a robot is ineligible for CAGE points if violated. The BARGE ZONE is defined as a infinity tall volume. PARK is defined as a state in which a ROBOT'S BUMPERS must be partially or completely contained in their BARGE ZONE at the end of the MATCH. Would a robot violating G419 (thus ineligible for CAGE points) still receive points for a PARK which count towards the BARGE RP?

**A:** Yes.

( Asked by **5934** answered Feb 4th 25 )

## **Q127 R709 May a switch, RPM, or Cat5 pigtail be used with the VH-109?**

**Q:** May a team wire the roboRIO to the VH-109 (either Rio or Aux 1 or Aux 2 ports) via a network switch, via an RPM, Via a CAT 5 ethernet pigtail, or a combination of any of them?

**A:** Please see [Team Update 09](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate09.pdf>) which adds "Cat5 Ethernet pigtail" to !R703-B and !R703-C. Configurations using a VH-109 radio not specifically mentioned in !R703-B or !R703-C, such as via a network switch, or via an RPM when using an AUX port, are not permitted.

( Asked by **3847** answered Feb 4th 25 )

## **Q128 Can teams use the RIO port to connect directly to other components directly ?**

**Q:** Hi GDC, With team update 8 R703 we see that to plug into the rio port we would need to use some sort of POE injector. If teams decide to choose option C and plug into AUX 2 can we then use the RIO port to connect to another device such as limelight or a raspberry pi or is the RIO port completely off limits this year?

**A:** If the roboRIO ethernet is wired per !R703-C, the RIO port of the radio may still be used and would be considered "PoE passthrough" subject to !R626. Note that this port will have the voltage input to the 12V terminals applied as PoE to that port, ensure any connected devices are compatible with this configuration.

( Asked by **614** answered Feb 4th 25 )

## Q129 Bumper covers

**Q:** Rule R402C distinguishes upward, outward and downward faces of the bumper. While Rule R411 only discusses the outward facing surface. Do bumper covers that face upwards or downward need to be the alliance colour? Do reversible covers need to show the current alliance colour on upward, outward, and downward faces? Is it legal to just cover the upward and outward face and not the downward face when the reversible part is flipped down?

**A:** Please see [Team Update 09](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate09.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by 4729 answered Feb 5th 25 )

## Q130 Clarification on Using Ethernet Cable for Power

**Q:** As revised by Team Update 8, R622 permits running power through a single pair of Cat5e/6/7/8 cable if fused at no more than 1A. Does this mean both conductors of the pair must be used in parallel at the same potential (as in one pair for power and a second pair for ground)? Or can one conductor in the single pair be used for power and the other for ground?

**A:** "Single pair" as used in !R622 refers to using 1 wire of the cable pair as power and the second wire as ground. "2 pairs" refers to using 2 wires as power and 2 as ground.

( Asked by 1058 answered Feb 3rd 25 )

## Q131 Reaching into the Coral Station

**Q:** Can parts of a robot's mechanism reach into the Coral Station Chute every time it retrieves a Coral from the Station if it is less than momentarily (<3 sec)? Would this violate the blue box clause D of G413?

**A:** Per !G413 part A, a ROBOT may contact within the CHUTE for instances that are less than MOMENTARY. A ROBOT which does so repeatedly would not be considered a violation. ROBOTS that reach beyond the CHUTE would likely be DISABLED per !G413. A ROBOT that extends into the CHUTE for a greater than MOMENTARY amount of time consistently would be a violation similar to Blue box example D.

( Asked by 555 answered Feb 3rd 25 )

## Q132 G412 "Bulldozing" versus "kicking across the floor"

**Q:** G409 describes bulldozing as an exception to CONTROL. G412's blue box includes "kicked across the floor" which is what would likely happen while bulldozing. If we're driving and make

contact with a CORAL bulldozing it, is this a G412 violation if it travels greater than 3ft? The rule doesn't specify an active MECHANISM so it feels like this will result in a lot of nuisance fouls if any kicking across the FIELD of greater than 3ft is a launch

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Per the blue box of !G412, A CORAL is considered launched if it is shot into the air, kicked across the floor, or thrown in a forceful way. If it appears to a REFEREE that the action is launched, !G412 would be violated. If it appears to a REFEREE that the ROBOT is not in CONTROL and it is bulldozing, !G412 would not be violated.

( Asked by **3481** answered Feb 3rd 25 )

## **Q133 Clarification on R411**

**Q:** R411 reads "Each ROBOT must be able to display red or blue BUMPERS to reflect their ALLIANCE color, as assigned in the MATCH schedule distributed at the event (as described in section 10.1 MATCH Schedules). Contrasting markings on outward facing surfaces of the BUMPER, other than the following, are prohibited:" Does any Backing or Fastening System as prescribed in R402 need to match the alliance color displayed on the BUMPER Cover?

**A:** Please see [Team Update 09](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate09.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **33** answered Feb 4th 25 )

## **Q134 Redundant Power for VH-109 Radio From Combined Channel. Is it legal?**

**Q:** To iterate on Q106, can one channel of power from PDH/PDP, spliced to 2 after coming out of PD (per R618) used to Redundant Power (double power) VH-109? Or if using Redundant Power two power source must come from two separate channel of PD.

**A:** Yes, a single legal power source (per !R617) could be split after the power distribution device (per !R618) and used to supply power to both the PoE and 12V terminals of the VH-109.

( Asked by **5516** answered Feb 3rd 25 )

## **Q135 Bumper Backer and team numbers, sponsor logos.**

**Q:** Following on from Q88, that the backer has few restrictions: 1. Would it be legal to present team numbers on the backer, above the legal foam area, instead of on the fabric? 2. If the numbers are on the fabric, would it be legal to have sponsor logos on the backer, above the

bumper?

**A:** Please see [Team Update 09](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate09.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **4362** answered Feb 4th 25 )

## **Q136 Coral L1 Eligibility, meaning of support**

**Q:** Hi FIRST, we wanted to get some clarification on the scoring criteria for CORAL scored on L1. We understand that if a CORAL is supported by another CORAL that is in contact with the trough, both CORALS are scored on L1. Does support necessarily mean that the CORAL in question has to be contacting a CORAL contacting the trough? For example, if you have 3 CORAL stacked vertically with only the bottom one contacting the trough, would all three CORAL be scored, or just the bottom two?

**A:** In order for a CORAL to be scored on L1 it must be either contacting the trough or in contact with another CORAL in contact with the trough. Stacking any CORAL beyond that does not meet the criteria in section 6.5.1.

( Asked by **5347** answered Feb 6th 25 )

## **Q137 L1 CORAL Contacted by an opponent robot.**

**Q:** Hi FIRST, we noticed that the scoring criteria for CORAL on L2-L4 is defined such that it can be contacted by an opponent ROBOT and still be counted. However, we noticed that for L1 CORAL, the manual does not mention that the CORAL can be contacting an opponent ROBOT and says that if it is contacting any ROBOT, it is not scored. We were wondering if this was a mistake or if this is the correct interpretation, would be that if an opponent ROBOT is contacting a L1 CORAL, it is not scored?

**A:** Please see [Team Update 10](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate10.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **5347** answered Feb 7th 25 )

## **Q138 Does ALGAE contacting a CORAL scored in L1, descore it?**

**Q:** Hi FIRST, we noticed that in the field tour videos, it is mentioned that ALGAE contacting a CORAL makes it ineligible for this to be scored, but not contacting ALGAE is not mentioned in the scoring criteria for L1 of the REEF. If a CORAL is scored on L1, can it be contacting an



ALGAE?

**A:** ALGAE is not considered when scoring on L1 as it is not included in the Scoring Criteria in Section 6.5.1.

( Asked by **5347** answered Feb 6th 25 )

## **Q139 Clarification on R411 and R412 bumper markings**

**Q:** We are considering using printed fabric as bumper covers this season and would like to make the bumpers beautiful. Referencing the images: <https://imgur.com/a/utLUF5w> 1. Do the stenciled numbers "pass" (the width of each of the major strokes is well over 0.5" and the numbers are well over 3.75" tall)? 2. Do the "rope" numbers also "pass" (size is same, but does the black outline make them "\*not\* white Arabic numerals"? 3. Does the background pattern represent a "contrasting marking" (R411)?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. Generally, see the Blue Box below !R412-A for more information about gaps in a font. Black outlines are not considered " only white Arabic numerals". Many fabrics contain patterns due to the weave, or reinforcing or ripstop elements, and such patterns are not necessarily considered contrasting markings, provided the pattern is still entirely red or blue (as noted in !R411) and does not compromise the ability to distinguish the numbers "from as far as approximately 60 ft. (1 829 cm)" per !R412.

( Asked by **97** answered Feb 6th 25 )

## **Q140 Clarification on R602**

**Q:** For rule R602, can we confirm that there is no limit on the number or total capacity of the batteries, and the stated limit applies to each battery individually?

**A:** Yes, R602 has no restriction on the maximum number of battery packs. Each battery pack must individually meet the requirements of R602.

( Asked by **8089** answered Feb 13th 25 )

## **Q141 How is "tight connection" for bumpers and Frame Defined in 402-D?**

**Q:** R402-D: Fastening System – BUMPERS must attach to the ROBOT PERIMETER with a rigid fastening system to form a tight, robust connection to the main structure/frame. What is the definition of tight for 2025? What is the maximum allowable gap between the frame and the backing of the bumper. In 2024 this was defined by max 1/4" gap.

**A:** Previous season rules do not apply to 2025. There is no specified maximum gap between the BUMPER and ROBOT PERIMETER. The phrase "tight, robust connection" refers to the quality and rigidity of the connection and there is no specific objective criteria.

( Asked by **5126** answered Feb 10th 25 )

## **Q142 Are separate high bumpers allowed**

**Q:** As requested, we are rephrasing Q122. Our robot includes the common ring bumper design in the bumper zone: assume this bumper is completely compliant with all rules. Our design also includes an \*exact copy\* of this ring bumper, but displaced 30 inches upwards. Is this configuration allowed?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. Per !R405, all BUMPERS must have padding and backing filling the BUMPER ZONE. Any BUMPER-like construction located at another height does not meet this criteria and is therefore not a BUMPER and must be located inside the ROBOT PERIMETER per !R102.

( Asked by **100** answered Feb 10th 25 )

## **Q143 Rule 703 Ethernet Cable**

**Q:** When not using POE to power the radio, can a Cat5 ethernet cable be used to directly connect the RoboRIO ethernet port to the RIO port on the VH-109 radio? The response to Q127 references a Cat5 ethernet pigtail addition in Update 09, but it seems to be associated with the RPM. From Update 09..."the port labeled "RIO" of a VH-109 radio via (either directly, or via a Cat5 Ethernet pigtail) an RPM," ...

**A:** No, per !R703-B the roboRIO Ethernet port may only be connected to the VH-109 "RIO" port via an RPM, PoE injector cable or adapter, or an Ethernet cable that has been modified to remove the PoE wires going into the roboRIO. An Ethernet pigtail may be used in addition to, but not in place of, one of the required components or cables.

( Asked by **6099** answered Feb 10th 25 )

## **Q144 R105 Coral Inclusion in Robot Extension Limits**

**Q:** The robot is limited in extending beyond its perimeter to 1' 6". Does CORAL count towards this extension limit? For example, if a robot is holding a CORAL and the tip of the CORAL is over the extension limit from the robot, but no part of the robot ever extends beyond the 1' 6" limit, is it a violation of R105?

**A:** No, CORAL does not count towards ROBOT extension limit listed in !R105.

( Asked by **4959** answered Feb 10th 25 )

## **Q145 Climbing the cage**

**Q:** While climbing, the chain rubs a random spot on the robot. Is this a violation?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Per !G419, a ROBOT may not contact the ANCHORS. Exceptions are granted for actions that are MOMENTARY and inconsequential.

( Asked by **7039** answered Feb 10th 25 )

## **Q146 G419 and Multiple Attempts**

**Q:** If a team gets a G419 penalty for touching the anchor, can a team completely disengage from the cage and reattempt a climb for points? Or are they ineligible for climb points for the rest of the match.

**A:** They are ineligible for the rest of the MATCH.

( Asked by **2832** answered Feb 10th 25 )

## **Q147 R103 R601 R609 Main Power Wire Max Cable Length Clarification**

**Q:** FRC2025 Game Manual Req R103, Sub-bullet B, includes language "..battery and its .. half of the Anderson [connector] .. including no more than 12 in. .. per leg.." Some teams interpret this to specify a max wire length between Robot Battery and Power Distribution Module. Q1) Is the word "half" above used colloquially or specifically? Q2) Are there any Main Power Wire min/max cable length requirements (total or per leg) between Robot Battery and Power Distribution Module?

**A:** The usage is colloquial and refers to the portion of the cable on the battery side of the SB connection. There is no restriction on the length of cable used on the ROBOT side of the SB connection.

( Asked by **7111** answered Feb 10th 25 )

## **Q148 Can you extend below the robot to lift onto the cage?**

**Q:** Can you extend below the robot to lift onto the cage?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. Please see !R405 and the associated Blue Box and if you have a specific question, please rephrase and resubmit.

( Asked by **8731** answered Feb 10th 25 )

## **Q149 Connecting devices via ethernet with new R703 rule and disallowment of network switches**

**Q:** The answer to Q127 seems to disallow the use of network switches as per there absence in R703-B and C, so when using the VH-109 does that make other devices (i.e. limelight, RPi, etc) not usable? This seems to be a change in reference to Team Update 09, the only similar question is Q128 and predates this change.

**A:** !R703 only restricts the connection between the VH-109 and roboRIO. It does not restrict using the remaining ports of the VH-109 for any other purpose.

( Asked by **2984** answered Feb 10th 25 )

## **Q150 Playing audio to the drivers during competition?**

**Q:** This is a question regarding the legality of playing audio cues to drivers, most likely using wired or wireless earbuds. We want to play a sound que every time something is at the limit or the movement is lined up since its easier than visual cues, but some rules seem vague like 6.3.2 saying you cannot have control devices worn by the human players must be disconnected before the match can begin. Does this imply that it is legal if you wait to plug it in until autonomous ends? or is it not legal

**A:** Generally, as noted in Section 6.3.2, Any control devices worn or held by their HUMAN PLAYERS and/or DRIVERS during the MATCH must be disconnected from or set on or beside the OPERATOR CONSOLE before the MATCH can begin. Teams should also keep in mind !G302 and !R905.

( Asked by **6894** answered Feb 10th 25 )

## **Q151 Deflecting coral from the coral station**

**Q:** Can a robot deflect coral from the coral station before it lands on the floor to guide it to a desired location?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Per !G412, A ROBOT may not launch CORAL unless their BUMPERS are partially in their

REEF ZONE.

( Asked by **3276** answered Feb 10th 25 )

## **Q152 R401 - Bumper notch?**

**Q:** Per rule R401, it reads that gaps of less than 1 1/4 inches are allowed between adjacent bumper segments. Would a notch of less than 1 1/4 inches along the bumper backing be permitted if it does not completely separate bumper segments? In other words, the backing is under the 5 3/4" height requirement (but still above the chassis frame) for a section less than 1 1/4" without creating a new bumper segment.

**A:** No, all BUMPERS must meet all applicable rules (e.g. !R402, !R403, !R404, !R405) across their entire cross-section.

( Asked by **9055** answered Feb 10th 25 )

## **Q153 Control of REV Servo Hub and R712**

**Q:** Per R506, a REV servo hub is permitted to be used to control servos. However, R712 states "Each...servo controller...shall be connected to a corresponding port...on the roboRIO". For servo controllers, it states that the "corresponding port" is a PWM port. How should a team use a REV servo hub in accordance with R712?

**A:** Please see [Team Update 11](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate11.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **1024** answered Feb 11th 25 )

## **Q154 Modification of Kraken X60 Powerpole adapter board**

**Q:** Are modifications to Kraken X60 Powerpole boards (WCP-1380, RF-4003) used to power downstream devices per R621 permitted?

**A:** Please see [Team Update 11](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate11.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **1024** answered Feb 11th 25 )

## **Q155 Human Players and G411?**

**Q:** May a human player attempt to throw an algae on their opponent's reef in an attempt to descore the coral that is on the reef by either having the algae contact the coral at the end of the match or by knocking the coral off the reef? Would this be a violation of G432?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, using an ALGAE to try to de-score other SCORING ELEMENTS would likely be considered as amplifying the challenge for the opponents and may be subject to !G432. If a REFEREE infers that the action is deliberate, !G211 may also be called.

( Asked by **3847** answered Feb 10th 25 )

## **Q156 FIRST Championship Playoff Ties**

**Q:** Hi FIRST, quick question... We saw that in section 13.4 the manual says that Einstein Finals are replayed if they end in a tie. We were wondering if this includes all of the Championship Matches on the Einstein Field or just the Final Matches amongst the two Final Alliances?

**A:** This only refers to the Finals MATCHES between the last two ALLIANCES.

( Asked by **5347** answered Feb 11th 25 )

## **Q157 Applying power to a robot mechanism after a match**

**Q:** The rules make it clear that the robot will be powered down at the end of the match. Is it possible to wire a single motor on the robot such that it can be powered either by the main robot electronics, or an external source? i.e. would physically disconnect motor from the main electronics and plug into external source, OR provide wire-or connector if allowed. This would allow bringing a small external source to rotate a mechanism to allow disengaging from the deep cage (for example).

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. However, !R204 states that ROBOTS must allow removal of SCORING ELEMENTS from the ROBOT and the ROBOT from FIELD elements while DISABLED and powered off. Teams are also encouraged to consider !G501 when developing their ROBOTS.

( Asked by **589** answered Feb 18th 25 )

## **Q158 COACH Interaction with OPERATOR CONSOLE**

**Q:** Is there a violation of the rules if a COACH interacts with the OPERATOR CONSOLE of their team (i.e. to catch a falling OPERATOR CONSOLE, to move/secure it on the shelf, etc), so long as they do not directly "operate" the ROBOT?

**A:** There are no rules preventing a COACH from interacting with an OPERATOR CONSOLE provided they align with !G430 which states that the ROBOT can only be operated by the DRIVERS and/or HUMAN PLAYERS of that team. Note that it may not be possible for REFEREES to distinguish whether some interactions with the OPERATOR CONSOLE such as interacting with the keyboard or mouse are "operat(ing)" the ROBOT, such actions may be considered a violation of !G430. !G401 allows any DRIVE TEAM member, COACH included, to cross the line in AUTO for safety reasons (i.e. catching a falling OPERATOR CONSOLE).

( Asked by **1071** answered Feb 13th 25 )

## **Q159 Using multiple fabrics on the same bumper**

**Q:** When assembling bumpers, does the entire bumper need to be made of the same fabrics, or can multiple fabrics be used? If multiple fabrics can be used, must the different material span the entire length of a side, or can it just be a portion of the bumper? Can different fabrics be layered on top of a base layer, or must the bumpers have a consistent thickness?

**A:** There are no rules stating that the BUMPER cover must be composed of a single type of cloth as long as !R411 is followed.

( Asked by **4946** answered Feb 13th 25 )

## **Q160 Pool noodle modification**

**Q:** In 2024 our R408c did not allow modification to pool noodles. I see nowhere in the rules modifications besides in R406 and compression in R405. Can we shave off a quarter of an inch off the width of a 2.75 inch pool noodle? The intent was to use 2 pool noodles to cover a 5.5 inch backer, but yet stay within the 4 inch limit of the robot perimeter when we include a 3/16 inch buffer between the robot perimeter, 3/4 inch plywood, 1/2 floor tile and pool noodle now shaved down to 2.5 inch.

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. Previous season rules do not apply to 2025. Generally, there are no rules regarding modifications to BUMPER padding as long as all other rules are followed.

( Asked by **4213** answered Feb 13th 25 )

## **Q161 Clarification on Q32 regarding bumper zones during climbs**

**Q:** When climbing on the cage, does the bumper zone apply to the arena floor, or will it apply to a hypothetical floor under the robot's drivetrain? In other words, when a robot climbs 1 inch, would the bumpers still have to be 2 3/4 inches to 5 1/2 inches off the floor, or would it have to

be between 3 3/4 inches to 6 1/2 inches off the actual floor (2 3/4 to 5 1/2 off the "floor" created by the climb)?

**A:** Per !R405, this measurement is intended to be made as if the ROBOT is resting on a flat floor (without changing the ROBOT configuration), not relative to the current height of the ROBOT from the FIELD carpet at any given time.

( Asked by **753** answered Feb 11th 25 )

## **Q163 High bumper backing with multiple sections**

**Q:** Q25 states that there are no rules preventing a team from having the backing be taller than the padding, Q88 states that there are no restrictions on the functional purpose of BUMPER backing, would it be against the rules to use 2 polycarb backing sheets as part of the rear bumper backing to protect from the cage, with a gap between the 2 pieces, the backing would be within the hard parts thickness limit, and would be 2 separate pieces, and the bumper would meet the minimum height requirement?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. There are no rules requiring BUMPER backing to be a consistent height provided it meets the minimum criteria along the entire length of the BUMPER.

( Asked by **1458** answered Feb 13th 25 )

## **Q164 Diameter of Cage Cutout**

**Q:** What is the diameter of the circular cutout in the bottom panel of the cage?

**A:** As a friendly reminder, the purpose of this Q&A is to answer questions regarding the [Game Manual](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025FRCGameManual.pdf>), [Awards](<https://www.firstinspires.org/robotics/frc/awards>), [official Field drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>), and/or [Event Rules](<https://www.firstinspires.org/sites/default/files/uploads/frc/EventRulesManual.pdf>). Measurements and dimensions are provided in [official Field Drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>) and other tools available on the [Playing Field page](<https://www.firstinspires.org/robotics/frc/playing-field>). Any additional measurements or materials beyond what's already provided must be derived by the team.

( Asked by **2234** answered Feb 13th 25 )



## **Q165 Clarification on specific area of cage contact to robot while climbing**

**Q:** The drawing shows the cage parts as illegal to touch during climb colored in green. This includes the top surface of each of the pipes (F. "the upper end surfaces of cage pipes"), while the remainder of the pipe in red is a surface allowed to touch. If the cage is leaning on an angle so that the cage touches the robot on the 'tangent' of the pipe near the top, at the very intersection point where the red part of pipe and the green top surface of the pipe meet --- Is that illegal?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. The vertical surface of the CAGE pipes is not considered part of the ANCHOR, up to and including the edge between the vertical surface and "the upper end surfaces of cage pipes". However teams should be aware that climbs are evaluated and scored by human volunteers and it is possible that close contact to the ANCHORS may be considered as contacting the ANCHOR. Teams are encouraged to make sure that it is obvious and unambiguous that the scoring criteria is met.

( Asked by **7660** answered Feb 13th 25 )

## **Q166 Branch Circuit Clarification**

**Q:** When using the REV PDH, R615 and R617 each require use of a channel from the 20-22 group. Is the remaining fused channel considered a "WAGO connector pair" per R610, meaning that it may be used to power a branch circuit? The headline appears to disagree (it says "breaker"; no mention of "fuse"), but Section 1.7 says the headline doesn't apply in the event of a disagreement.

**A:** Yes, the remaining smaller PDH channels are considered a WAGO connector pair and may be used provided all other appropriate rules are followed.

( Asked by **695** answered Feb 13th 25 )

## **Q167 PDH Fused Channels & Custom Circuits**

**Q:** Per R620 the only time a 20A Fuse/ATM-style breaker is permitted in the PDH fused channels is to power a PCM or PH. May a single 20A ATM-style breaker be used in the Rev PDH fused channels to power a custom circuit (for example powering a vision coprocessor), in lieu of any other 20A Fuses or breakers in those channels?

**A:** No

( Asked by **1806** answered Feb 18th 25 )

## **Q168 What constitutes as the ANCHOR regarding the inside of the pipes?**

**Q:** Hi FIRST, we know that the ANCHOR is defined as "A collection of surfaces at the top of a CAGE", we also saw that the inside surface of the pipes is considered part of the ANCHOR. Does this mean that only the inside surfaces of the pipes near the top of the CAGE are considered part of the ANCHOR, or could a ROBOT contact the bottom inner surfaces of the pipes? In short, are the entirety of the inside surfaces of the CAGE pipes considered part of the ANCHOR, or just the surfaces near the top?

**A:** The ANCHOR includes the entirety of the inside surfaces of the CAGE pipes.

( Asked by 5347 answered Feb 13th 25 )

## **Q169 Zip ties to fasten bumper pool noodles to wood bumper frame**

**Q:** Can zip ties be used to fasten pool noodles to the wood backing that our robot's bumpers are mounted to? We are using plywood and pool noodles covered with fabric for our bumpers; can we attach the pool noodles to the wood with zip ties? Just to be clear, we are not mounting the bumpers to our chassis with zip ties, only the pool noodles to the wood frame.

**A:** Per !R404 cable ties are considered a hard part of the BUMPER and may not extend more than 1 1/4" from the ROBOT PERIMETER.

( Asked by 192 answered Feb 18th 25 )

## **Q170 G420 - What counts as descoring?**

**Q:** Hi FIRST, we were wondering about rule G420 and what counts as descoring? Rule G420 says a MAJOR FOUL is given for touching the NET/ALGAE scored in the NET, and an additional MAJOR FOUL for descoring ALGAE. Does descoring an ALGAE in this case require the ALGAE to leave the NET, or would brief contact with an ALGAE count? Ie: if a robot briefly contacts an ALGAE in the NET, thus causing the ALGAE to briefly not meet the scoring criteria (because of ROBOT contact), would this count as descoring?

**A:** Please see [Team Update 14](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate14.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by 5347 answered Feb 21st 25 )

## **Q171 What is considered the Robot Starting Position?**

**Q:** Can you the robot start from either side of the barge on the black line?

**A:** As long as all rules in G303 are followed, a ROBOT can start in any location along their ROBOT STARTING LINE.

( Asked by **103** answered Feb 18th 25 )

## **Q172 Pushing a robot out of Starting Position**

**Q:** Would a robot that pushes another robot off of the ROBOT STARTING LINE count as two robots leaving the ROBOT STARTING LINE and thus count towards the AUTO ranking point?

**A:** A ROBOT LEAVE is assessed based on the movement of the ROBOT and does not depend on what caused that movement.

( Asked by **5424** answered Feb 18th 25 )

## **Q173 Is the color for the reef indicated in the field drawings correct?**

**Q:** Drawing GE-25301 in the Field Drawings indicates the reef is powder coated with RAL-4003 "Heather Violet" or equivalent. RAL-4003 appears to be definitively more pink than the scoring pipes in the official field photos and on the week zero competition field. RAL-4008 "Signal Violet" appears that it may match the actual color of the field elements. It appears a typo or clerical error may be at play here. Can you confirm the correct color for the reef scoring pipes?

**A:** Please see [Team Update 13](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate13.pdf>). If that doesn't answer your question, please rephrase and resubmit.

( Asked by **4967** answered Feb 19th 25 )

## **Q174 Robot Expansion limits in all directions simultaneously.**

**Q:** Per G415, Robot Expansion Limits, it is not clear if the robot can extend the to the limit in all directions at the same time. Example, can an arm deploy to the front and a sweeper mechanism deploy to the side (90 degrees from the front)? Further, could the robot extend a mechanism in all 4 directions simultaneously if within the the 1ft. 6in. limit? Thank you.

**A:** There are no restrictions on how many sides a ROBOT can extend from, given that each extension is less than the 1ft 6in limit from their respective side of the ROBOT PERIMETER (see example D from the !G415 Blue box).

( Asked by **10014** answered Feb 18th 25 )

## **Q175 Requirements for Stool Access**

**Q:** What are the requirements to use the stool at the CORAL STATION? Section 5.6.2 claims that is available to individuals who are shorter or have disabilities obstructing their view of the field. Our team would like to build and bring our own stool to an event up to the specs in the Game Manual, as our HUMAN PLAYER prefers using it to see out onto the FIELD better. However, our HUMAN PLAYER is of average height. Would they still be allowed to use the stool?

**A:** No, as noted in the Blue Box, "It is specially intended to allow individuals who are shorter, better sightlines onto the FIELD; however, this accommodation is available to anyone who has another physical disability that obstructs their view of the FIELD."

( Asked by **1306** answered Feb 21st 25 )

## **Q176 Does the opposing alliance need LEAVE for AUTO RP?**

**Q:** Table 6-2 states that for AUTO RP to be scored "all non-BYPASSED ROBOTS LEAVE and at least 1 CORAL scored in AUTO". Does this require all opposing alliance robots to LEAVE, and does the opposing alliance receive RP even if they do not score coral?

**A:** The AUTO Ranking Point is scored per ALLIANCE. As such only all of the non-BYPASSED teams on a given ALLIANCE need to LEAVE in order to be eligible for the AUTO RP, given that a CORAL is also scored for that ALLIANCE.

( Asked by **10152** answered Feb 21st 25 )

## **Q177 total weight as it effects bumpers**

**Q:** In looking at total weight as it effects bumpers. The Rule R407 states bumpers with a 's' + the robot weight must be less than 135lbs. Do both (red and blue) bumpers together count toward the weight of 135lbs? or does a single bumper (ie red or blue) + robot weight = 135lbs Assuming the robot with of 115lbs can a single bumper weight 20lbs. -or- Does total bumper set (ie both) can wieght 20lbs.

**A:** !R408 is assessed with a single BUMPER assembly (i.e. the configuration in which the ROBOT would play a MATCH)

( Asked by **3218** answered Feb 18th 25 )

## **Q178 Pneumatics regulator**

**Q:** Can parallel regulators be connected between the high pressure side and the low pressure side?

**A:** No, per !R808 "Working air pressure ... must be provided through a \*single\* primary adjustable, relieving, pressure regulator."

( Asked by **1720** answered Feb 18th 25 )

## **Q179 Bumper zone while extending below bumpers and wheels**

**Q:** When climbing the deep cage, robots are likely to extend a mechanism below their bumpers and wheels to aid in the climb. While not obvious while climbing, if the robot were removed from the cage and placed on a flat floor, the mechanism may cause the robot to tilt to one side or the other, lifting the bumpers out of the zone on one side, while they would remain in the zone if the robot were balanced on the mechanism. Is this illegal per R405 and example 2 from the blue box?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. Generally, if the ROBOT placed on a flat floor would always result in the BUMPERS being outside the BUMPER ZONE, this is a violation of !R405. If the ROBOT can be positioned on the floor (without changing configuration) such that the BUMPERS remain in the BUMPER ZONE, the benefit of the doubt is provided to the team with regards to compliance with !R405 and the ROBOT will be subject to !G413 and/or !G414 if the BUMPERS exit the BUMPER ZONE during the MATCH.

( Asked by **7028** answered Feb 21st 25 )

## **Q181 Bumper Stepping Above Bumper Zone**

**Q:** The answer to Q112 states that R407 applies even outside of the bumper zone. Figure 8-4 shows a bumper with backing that extends higher than the padding. Does this configuration fall under item C in the blue box of R407, making it an illegal wedge, as the padding is "stepped" down to zero?

**A:** No, BUMPER backing and/or fastening systems extending above the padding do not constitute "stepped" padding.

( Asked by **1540** answered Feb 20th 25 )

## **Q182 R501 - Motor legality**

**Q:** In R501, one of the motors listed under allowable motors is am-3104. One of our members is using an am-3103 motor on a prototype mechanism, and we wanted to see if that motor is still allowed on the bot. We saw that the am-3104 is allowed, and we believe that it is an upgraded version of our motor. Is am-3103 an allowed motor or does it need to be switched to am-3104?

**A:** Yes, this assembly uses a legal motor. The am-3103 part number is an assembly of an am-3104 with a gearbox attached.

( Asked by **3822** answered Feb 20th 25 )

## **Q183 Legality of Using ALGAE to Dislodge ALGAE from the REEF**

**Q:** Does G406-E allow using ALGAE to dislodge another ALGAE from the REEF? The rule explicitly forbid using CORAL for this purpose, but it is unclear whether the same applies to ALGAE. Would this action be considered legal, or would it violate G406 or any other rule?

**A:** The examples provided in the blue box of !G406 is not an exhaustive list. Deliberately using the ALGAE to dislodge another ALGAE would likely be a violation of !G406. As a friendly reminder this would also likely be a violation of !G409 as controlling 2 ALGAE at a time is violation of that rule.

( Asked by **1772** answered Feb 21st 25 )

## **Q184 Swerve shield as part of bumpers**

**Q:** Can the fastening system rule be leveraged to include plastic swerve protectors as part of the bumper, that would start in the backing and end inside the robot perimeter?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. Generally, there are no explicit restrictions on additional functional purposes of BUMPER backing or fastening systems provided all BUMPER rules are followed.

( Asked by **5990** answered Feb 20th 25 )

## **Q185 Bumper Hard Parts Extension into Frame**

**Q:** R404 states that bumper hard parts must not extend "from" the ROBOT PERIMETER more than 1 1/4". Does that restrict how far hard parts can extend into the robot's frame?

**A:** No, the 1 1/4" is outward from the ROBOT PERIMETER. There is no restriction for extending into the ROBOT PERIMETER.

( Asked by **2106** answered Feb 21st 25 )

## **Q186 Alliance Coral for AUTO RP**

**Q:** Table 6-2 states that for AUTO RP to be scored "all non-BYPASSED ROBOTS LEAVE and at least 1 CORAL scored in AUTO". Does this require all alliance members to score coral or just 1?

**A:** Please see !Q45 If that doesn't answer your question, please rephrase and resubmit.

( Asked by **10152** answered Feb 21st 25 )

## **Q187 G409: Contacting scored CORAL on L2-L4 while attempting to score other CORAL**

**Q:** If a robot attempts to score CORAL on level 2-4 but also inadvertently contacts another CORAL that is placed/scored on one of the REEF BRANCHES, is that a violation of G409? For example, a robot's mechanism briefly grazes or slightly pushes a CORAL on L3 while scoring another CORAL on a L3 branch adjacent to the scored CORAL. We believe that this does not satisfy either conditions A or B, as the robot is not supporting or intentionally pushing the second CORAL in a preferred direction.

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, inadvertent contact with a scored CORAL on L2, L3, or L4 would not be considered CONTROL.

( Asked by **1468** answered Feb 21st 25 )

## **Q188 First legal Relays**

**Q:** I have a question about R504, we are looking to use some relays for electromagnetic solenoids and the relays allowed by FIRST in the manual (as far as i can tell) have all been discontinued, is there any recommendation for sourcing these parts, or a new relay FIRST can add to the legal parts so teams can actual buy actively supported products?

**A:** !R504 includes both devices that are and are not currently commercially available. Additional devices will not be added to !R504 this season.

( Asked by **233** answered Feb 21st 25 )

## **Q189 Can the pit area be fully surrounded with removable objects?**

**Q:** Does there need to be a clear path from the pit to the Aisle under E503 "\*\*Keep aisles clear. Aisles must be kept clear.", or can easily removable objects such as inflatable mattresses be placed blocking the path out of the pit?

**A:** Aisles must be kept clear at all times.

( Asked by **10152** answered Feb 24th 25 )

## **Q190 Leaving Algae in the Processor**

**Q:** As modified by TU14, G435 allows no more than a total of 4 ALGAE to be stored in 2 specific areas: the holders on top of the processor, and the end of the exit ramp. It does not address whether other ALGAE may be stored in other portions of the PROCESSOR AREA. Should G435 be read to say "HUMAN PLAYERS may not store more than 4 ALGAE in the PROCESSOR AREA, ALL OF WHICH MUST BE STORED in the following locations....", or is storage of additional ALGAE elsewhere in the PROCESSOR AREA permitted?

**A:** !G435 lists the allowed places ALGAE may be stored. ALGAE not stored in one of the two listed locations would be in violation of !G435. Exceptions are granted to HUMAN PLAYERS making a good-faith effort to move the ALGAE from one of the allowed locations, to the other or entering it back onto the FIELD.

( Asked by **5607** answered Feb 24th 25 )

## **Q191 Coverage of an ALLIANCE'S color on BUMPERS**

**Q:** Must the entirety of a ROBOT's upward, outward, and downward faces of its BUMPER cover (other than items A-D listed in R411) match the color of its ALLIANCE?

**A:** Yes.

( Asked by **1071** answered Feb 26th 25 )

## **Q192 Battery cable size modifications, and limits.**

**Q:** Would the following battery CS be legal - 4/0 awg size cabling with 4/0 lugs and Anderson SB350 cables, connected conventionally from battery through the main breaker to the PDP2.0 - Trimming COTS Battery lugs to fit onto terminal. Keeping large amounts of an upsized connector. Only modified to fit onto the battery/breaker/PDP terminals as a 6awg implementation would - Adhesive/zipties used to secure Anderson or cabling to battery for management



**A:** We cannot comment on part/design legality, previous calls of Head REFEREES or LRIs, or questions that are overly broad, vague, and/or include no rule references. Please consult [Section 1.10](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>) and, if needed, resubmit a different question.

( Asked by **9072** answered Mar 5th 25 )

## **Q194 Compression lugs as an allowed component in the main power path**

**Q:** Compression lugs aren't listed as an allowed component in the main power path in R609 or shown in Figure 8-8, are lugs counted as part of the wire? If so can lugs be modified to better fit on a robot so long as they maintain at least 6 awg equivalency?

**A:** Good catch! Please see [Team Update 16](<https://firstfrc.blob.core.windows.net/frc2025/Manual/TeamUpdates/TeamUpdate16.pdf>) which adds language to !R609 regarding cable lugs.

( Asked by **9072** answered Mar 5th 25 )

## **Q195 Attaching/routing wires/connectors to batteries with fasteners(tape, glue, zipties, clips)**

**Q:** Are handles/wires/connectors allowed to be attached to batteries using tape, glue, clips, brackets, zipties, etc. as fasteners to aid with cable routing and management and securing connectors (ex. sb50, 120, 350) in place?

**A:** Per !R710-F "Fasteners (including adhesives) may be used to...secure cables to the device." though any fastener which pierces the case of the battery would be considered unsafe per !R203.

( Asked by **9072** answered Mar 3rd 25 )

## **Q196 How far does the cage eyebolt extend inside the cage?**

**Q:** How far does the cage eyebolt extend inside the cage, below the top plate?

**A:** As a friendly reminder, the purpose of this Q&A is to answer questions regarding the [Game Manual](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025FRCGameManual.pdf>), [Awards](<https://www.firstinspires.org/robotics/frc/awards>), [official Field drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>), and/or [Event Rules](<https://www.firstinspires.org/sites/default/files/uploads/frc/EventRulesManual.pdf>). Any measurements or materials information beyond what's already provided in [official Field

Drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>) and other tools available on the [Playing Field page](<https://www.firstinspires.org/robotics/frc/playing-field>) must be derived by the team. Note that the washers shown in the CAGE eye-bolt assembly may be located above or below the CAGE in order to fine tune the hanging height of the CAGE.

( Asked by **1051** answered Mar 3rd 25 )

## **Q197 Bumpers interact with bumpers**

**Q:** R405 states All BUMPERS must have padding (per R402-A) supported by backing (per R402-B) entirely filling the BUMPER ZONE, a space between 2 ½ in. (~63 mm) and 5 ¾ in. The 2025 FRC Inspection Checklist states BUMPERS must entirely fill the space between 2 ¾" and 5 1/2" above the floor. Which is correct?

**A:** As noted at the top of the BUMPER section on the [Inspection Checklist](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025FRCInspectionChecklist.pdf>), "rules in this section have the ¼ in. tolerance applied. ROBOTS must meet the dimensions specified in this checklist for compliance."

( Asked by **3767** answered Mar 4th 25 )

## **Q198 Bumper number outline**

**Q:** We have white numbers on our bumpers, following the directions in the manual. However, we used a sharpie to put an outline around them, not on the numbers, but on the fabric. It actually makes the numbers easier to see. Now, the inspectors have told us this is a violation as the numbers are not white. They admit they are white, but say that the outline is in the shape of a number, therefore, we have black numbers on our bumpers (hard to argue with that). Is this really a violation?

**A:** We cannot comment on part/design legality, previous calls of Head REFEREES or LRIs, or questions that are overly broad, vague, and/or include no rule references. Please consult [Section 1.10](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>) and, if needed, resubmit a different question.

( Asked by **245** answered Mar 10th 25 )

## **Q199 Which pairs should be cut/powerd in a radio-to-roboRIO ethernet cable?**

**Q:** When connecting the roboRIO to the VH-109 according to R703B, the rule specifies that "the appropriate wires [are] removed on the roboRIO end". Which wires must be removed? Where should teams find this information published? If the ethernet cable is instead used as a passive PoE injector, per R616, which wires must be connected to the power source, and with which

polarity?

**A:** We are working with Vivid Hosting to get this information published as part of the VH-109 documentation. In the meantime, pins 4/5 (generally blue + white/blue pair) are the PoE positive voltage, and the pair that must be removed if connecting to a roboRIO. Pins 7/8 (generally brown + white/brown pair) are the PoE ground.

( Asked by **695** answered Mar 4th 25 )

## **Q200 OPERATOR CONSOLE weight in rule I103**

**Q:** In rule I103, it is unclear whether or not the OPERATOR CONSOLE is included in the 150 lbs weight limit or if it is excluded. Is the OPERATOR CONSOLE included in the 150 lbs weight limit in I103?

**A:** No, the OPERATOR CONSOLE and exceptions listed in !R103 are not included in this weight.

( Asked by **3729** answered Mar 3rd 25 )

## **Q201 G435 clarification for when there is no human player in the processor area**

**Q:** In the scenario where the red ALLIANCE chooses to not put a HUMAN PLAYER in their PROCESSOR AREA, and the blue ALLIANCE scores ALGAE in their PROCESSOR, how will major fouls be assessed? The red ALLIANCE is not making a good faith effort to return the ALGAE, but without a HUMAN PLAYER to return the ALGAE the blue ALLIANCE would be limited in the number of ALGAE they can score by the size of the exit ramp. Would field reset volunteers clear the exit ramp to allow blue to continue scoring.

**A:** !G435 states that ALGAE may not be stored in the PROCESSOR AREA above certain limits in two distinct areas. Any ALGAE over 1 in the PROCESSOR exit or 3 in the top holders would be in violation of the rule. An ALGAE is scored in the PROCESSOR only if it has passed through the opening of the PROCESSOR and by the sensor array. Any ALGAE that do not pass the sensor are not counted as scored.

( Asked by **8513** answered Mar 10th 25 )

## **Q202 Non-student representative during alliance selection a registered team mentor**

**Q:** During alliance selection, teams are allowed to send 2 student representatives and one non-student to advise them. Does the non-student have to be a registered mentor member of the team they are advising? For example, if a mentor helps out with more than one team, but is officially

registered with their primary team, can they assist with a secondary team's alliance selection?

**A:** Per !T602, the non-STUDENT should be a representative from the team.

( Asked by **3865** answered Mar 5th 25 )

## **Q203 Material Discrepancy in Black HDPE Field Elements**

**Q:** There is a difference between the game manual for the black REEF base and the actual element on competition fields. The game manual specifies "HDPE, Black Matte Finish" for the REEF base, but the actual REEF has what appears to be a pebbled glossy finish. This difference negatively impacts laser time-of-flight sensors, as the textured glossy surface causes beam scattering that doesn't occur with matte black HDPE. Is the REEF base supposed to be "Matte Black HDPE" across all competition fields?

**A:** While we can confirm that FIELD plastic is consistent between all events, a quick search reveals that terminology of this plastic is not-consistent between vendors. As such while the plastic sourced for the FIELD is named "HDPE, Black Matte Finish" from our vendor, it might not be the same as a similarly named plastic from other vendors.

( Asked by **2491** answered Mar 10th 25 )

## **Q204 Can teams disconnect the cage from the chain after the match?**

**Q:** After the match, in order to more safely retrieve the robot, can a team disconnect a cage from the chain by unclipping the carabiner. They would then remove the cage from the robot while the robot is on the ground. If this acceptable, should teams leave the cage for field staff to attach properly or reattach it themselves? Please assume this can all be done quickly, without violating G501.

**A:** No, teams should not be touching the carabiners or altering the FIELD in any way. FIELD staff are the only ones able to alter CAGE heights or remove CAGES. If removing the CAGE from the carabiner allows for more safe removal of the robot at the end of the match, teams can work with FIELD staff and ask them for assistance in detaching the carabiner. Teams should also keep in mind !G501.

( Asked by **3538** answered Mar 10th 25 )

## **Q205 Coatings on Bumper Covers?**

**Q:** Hi FIRST staff and GDC, hope your week is going well! The parenthetical in R404 references "coatings" as being allowed past the 1 1/4 inch hard parts limit. Does this allow teams to apply chemical coatings (such as Lemon Pledge) to bumper covers?

**A:** We cannot rule absolutely on specific ROBOT components, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. Generally, team applied coatings are permitted as long as they do not contaminate the FIELD or other ROBOTS in violation of !R203 and/or !R205.

( Asked by **401** answered Mar 5th 25 )

## **Q206 Definitions and Allowable Uses of Lubricants under R205**

**Q:** Does a product (eg. Lemon Pledge) have to be marketed as a lubricant to qualify as a lubricant under R205? R205 specifies that "lubricants may be used only to reduce friction within the ROBOT," does this disallow applying lubricants to bumper covers to reduce friction between the bumpers and game pieces?

**A:** No, any product either sold as a lubricant or used as a lubricant (applied for the purpose of reducing friction) would be considered a lubricant per !R205. Lubricants may be applied to the BUMPERS provided they do not contaminate the FIELD or other ROBOTS.

( Asked by **401** answered Mar 5th 25 )

## **Q207 Is a Processor Human Player Required**

**Q:** Rule G435 states: "The PROCESSOR AREA has a storage limit. HUMAN PLAYERS may not store more than 4 ALGAE in the PROCESSOR AREA." If there is no human player in the processor area, than the human player cannot be said to be storing the algae in any location so a team without a processor human player would not be in violation of this rule. However, it seems that at early events, alliances received major fouls if they had no human player in the processor area. Is a processor human player required?

**A:** Updated 3/13/2025: See Team Update 17.

( Asked by **175** answered Mar 10th 25 )

## **Q208 Does utilizing different bumper padding heights between bumper sections constitute a wedge**

**Q:** Are bumpers required to be a uniform height and thickness around the entirety of the robot to not be considered a wedge per R707 C? If one area of the bumper padding is 4.5in tall and 2in thick where the rest of the bumper padding is 5in tall and 3in thick, would the edges of that section count as an illegal wedge? If the 4.5x2in profile was extended across the full front of the robot with the rest being 5x3in, would the front corners of the bumpers then count as an illegal wedge?

**A:** We cannot rule absolutely on hypothetical ROBOT designs, and the final decision as to legality of a particular ROBOT lies with the Lead ROBOT Inspector (LRI) at each event. Generally, padding stepped in height and/or thickness horizontally would not "act as a wedge when interacting with other BUMPERS".

( Asked by **9101** answered Mar 10th 25 )

## **Q210 FIRST Championship Criteria**

**Q:** This year teams will qualify for the FIRST Championship in the Regional system by winning the impact award, the engineering inspiration award, being the winning team alliance captain, or being the winning team's first alliance pick. Then, the rest of the teams are placed in the Regional pool. On March 12th they are going to invite teams from weeks 1 and 2. Exactly how many teams will be invited to the FIRST Championship from the regional pool that have not already qualified at that time?

**A:** We cannot state exactly how many slots will be released as there are many factors. As mentioned in a previous [blog](<https://community.firstinspires.org/2025-regional-advancement-webpages>): Our goal is to release enough slots each week so that the same proportion of Championship slots have been filled as events have been completed. For example, 47 of 69 (~68%) Regional Events will be completed after Week 4, and we plan to have approximately the same percentage of Regional slots filled by that point as well.

( Asked by **5913** answered Mar 10th 25 )

## **Q211 Determining bumper compliance**

**Q:** Is a robot in full compliance with R405 if its Robot Perimeter is fully covered by bumpers that have padding, supported by backing between 2 ½" and 5 ¾" from the Floor when the robot is in its Starting Configuration?

**A:** No, as detailed in Example 2 of the Blue Box, !R405 is not assessed only in STARTING CONFIGURATION: "Example 2: A ROBOT deploys a MECHANISM which lifts the BUMPERS outside the BUMPER ZONE (when virtually transposed onto a flat floor). This violates this rule."

( Asked by **5436** answered Mar 12th 25 )

## **Q212 G414 during climb**

**Q:** Most robots that we observed climb Cages (Deep or Shallow) in our Week 1 competition raised off the floor such that the bottoms of at least some of their bumpers were more than 2 ½" above the floor, i.e. outside of the definition of the Bumper Zone in the glossary. Is G414 enforced when a robot is climbing? G414 states "\*Keep your BUMPERS low. BUMPERS must

be in the BUMPER ZONE (see R405). Violation: MINOR FOUL.”

**A:** Per R405, measurement of the BUMPER ZONE is intended to be made as if the ROBOT is resting on a flat floor (without changing the ROBOT configuration), not relative to the current height of the ROBOT from the FIELD carpet at any given time.

( Asked by **5436** answered Mar 10th 25 )

## **Q213 Impact of no human player in processor area**

**Q:** If there is not a HUMAN PLAYER positioned in the PROCESSOR AREA, and the opposing ALLIANCE scores ALGAE into the PROCESSOR, what is the impact of G435? Notably, because there is no one to clear the PROCESSOR exit ramp, when a second ALGAE is scored, is there a violation of G435 as long as two ALGAE remain in the PROCESSOR exit ramp? Note that this was observed in Qualification MATCH 9 at ONWEL, and no penalties were called in that instance, though we are not clear why.

**A:** We cannot comment on part/design legality, previous calls of Head REFEREES or LRIs, or questions that are overly broad, vague, and/or include no rule references. Please consult [Section 1.10](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>) and, if needed, resubmit a different question.

( Asked by **9496** answered Mar 10th 25 )

## **Q214 Does TU13 apply to 6.5.2 regarding inconsequential contact of the anchor**

**Q:** This is a follow up to Q125. Does Team Update 13 apply to 6.5.2 as well? Is it the intent of TU13 and G419 to allow inconsequential contact of the anchor to still count for cage climb? If a robot has inconsequential contact of the anchor and is not penalized under G419, does that inconsequential contact DURING THE CLIMB mean points will not be awarded for a legal climb by section 6.5.2 assuming all other criteria are met for a legal climb.

**A:** A ROBOT contacting an ANCHOR (which includes the chain) at the time of assessment does not meet the criteria in section 6.5.2 and does not qualify for CAGE points.

( Asked by **4122** answered Mar 10th 25 )

## **Q215 Design sharing**

**Q:** Rule R303 says "Create new designs and software, unless they're public" and rule I101 says "It's your team's ROBOT. The ROBOT and its MAJOR MECHANISMS must be built by the FIRST Robotics Competition team". If a team shares their design with another team (privately, not "public") and both teams compete with nearly identical robots, would that not be against the

spirit of those rules?

**A:** Per the Blue Box below !I101: "Neither this rule nor the language in this blue box define specific thresholds for how much of a MAJOR MECHANISM must be the result of the team's effort. This rule expects and requires the team's honest assessment of whether they built the MAJOR MECHANISMS of their ROBOT." Teams can end up with identical or near identical robots through a variety of collaborative processes, many of which comply with !I101.

( Asked by **4153** answered Mar 12th 25 )

## **Q216 Scoring in the other alliance's processor for coopertition bonus**

**Q:** Suppose the red alliance has no robots that are capable of scoring algae in the processor. Would a blue alliance robot be legally allowed to score algae in the red processor for the coopertition bonus? Would the blue robot be carded for throwing the match? Would the algae scored by blue into the red processor count for any points for the red alliance? Regardless of whether the algae counts for points for either alliance, would it count towards coopertition bonus?

**A:** Please see !Q16. If that doesn't answer your question, please rephrase and resubmit.

( Asked by **2635** answered Mar 12th 25 )

## **Q217 legality of zip ties**

**Q:** Is it legal to use zip ties to secure objects for the purpose of robot balance modification provided everything is properly secured and no safety hazards are present.

**A:** Ballast must be properly secured in order to comply with !R203 as described in Example J. While each application is unique due to weight of ballast, rating of cable ties, etc., cable ties are often not sufficient to secure ballast due to the substantial acceleration robots may be subjected to.

( Asked by **1771** answered Mar 12th 25 )

## **Q218 G412 Launching While Herding**

**Q:** If a Robot is considered to be herding a CORAL that is on the ground (meaning a referee has determined that they are "intentionally pushing a SCORING ELEMENT to a desired location or in a preferred direction") and the CORAL ends up more than 3ft from the robot, would this be considered launching?

**A:** Please see !Q108. If that doesn't answer your question, please rephrase and resubmit.



( Asked by 231 answered Mar 12th 25 )

## **Q219 Is mounting a motor to a bumper a violation of R409?**

**Q:** Provided the bumper meets the other requirements of 8.4, would R409 prohibit mounting a motor to a bumper? The bumper would not be articulated, but would have moving parts that remain inside the frame perimeter. R409 \*BUMPERS shouldn't move. BUMPERS must not be articulated, relative to the ROBOT PERIMETER.

**A:** Yes, the motor which is part of the BUMPER would be articulated in violation of !R409.

( Asked by 2521 answered Mar 12th 25 )

## **Q220 G412 Inverse of Blue Box Example: Launching While a Robot is Herding Coral**

**Q:** This is a follow-up/clarification of Q218. Q108 does not specify that the robot has been confirmed to be controlling the coral. My question deals with a situation where a robot is definitely (in the judgement of the referee) controlling coral in a "herding" fashion. The G412 blue box specifies that if the coral is only pushed a "short distance" then it will not be considered launched. In the situation I am asking about, the coral is pushed farther than this "short distance". Is this launching?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, if a robot is herding a CORAL and the CORAL goes beyond the short distance outside the REEF ZONE, it would be considered a violation of !G412 as it would likely be considered "kicked across the floor to a desired location or in a preferred direction."

( Asked by 231 answered Mar 17th 25 )

## **Q221 Consequences of an Accidental 6.3.1 C Violation**

**Q:** If a match starts while a DRIVE TEAM is in violation of 6.3.1 C (e.g., no human player staged in their processor area), and the Head Referee did not notice or warn the team before the match began, how is the situation handled? Specifically, would this be considered an ARENA FAULT?

**A:** Yes this would be considered an ARENA FAULT as described in Section 10.2, part D "errors by FIELD STAFF." We cannot comment absolutely on hypothetical scenarios if it will cause a replay. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. If, in the judgment of the Head REFEREE, an ARENA FAULT occurs that affects the outcome of the MATCH and any team on the affected

ALLIANCE desires a replay, the MATCH will be replayed. Note that an ARENA FAULT that does not affect MATCH outcome, in the judgement of the Head REFEREE, does not lead to a MATCH replay.

( Asked by **4909** answered Mar 17th 25 )

## **Q222 Clarification needed on the outside perimeter of the robot?**

**Q:** Our robot is 27.5 by 27.5 inches wide. In addition to this we have a one-inch addition (non articulating) made of one by one box extrusion along the sides that is 14-inches long and centered. This 1 by 1 holds the bumper on. The manual states the outer perimeter can be defined by a string. Is our robot perimeter a square at 29.5 x 29.5 square or is it an octagon as defined by a string?

**A:** We cannot comment on part/design legality, previous calls of Head REFEREES or LRIs, or questions that are overly broad, vague, and/or include no rule references. Please consult [Section 1.10](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>) and, if needed, resubmit a different question.

( Asked by **5282** answered Mar 17th 25 )

## **Q223 Can you cheesehole (make holes in) the hard backing of your bumpers?**

**Q:** For bumper weight, we want to cheesehole the backing of the bumpers. This would be the "hard part" of the bumpers. Is this legal?

**A:** There are no rules preventing a team from drilling holes into the BUMPER backing. Teams should be aware that BUMPERS are required and should ensure their BUMPERS are robust and will last throughout the entire event.

( Asked by **192** answered Mar 18th 25 )

## **Q224 Human Player in Processor Area Allowed to Score After Time Expires**

**Q:** At the Utah Regional in Semi-Final 10-1, the human player in the algae processor area scored an algae into the barge after time expired, playing a deciding role in the elimination match. Is a human player allowed to score after the robots on the field have been disabled due to time expiration?

**A:** Please consult [Section

1.10](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>), we cannot comment on previous calls of Head REFEREES. That being said, there are no rules that limit when HUMAN PLAYERS can enter ALGAE onto the field, except for !G404. ALGAE in the NET is scored 3 seconds after the ARENA TIMER reaches 0:00 as described in Section 6.5.

( Asked by **3200** answered Mar 18th 25 )

## **Q225 Arena Fault**

**Q:** Is there any number of, or circumstance of, a valid arena fault where the response from field staff is you should have caught it and told us in pre match and will not be granted a replay

**A:** We cannot comment on part/design legality, previous calls of Head REFEREES, FTAs or LRIs, or questions that are overly broad, vague, and/or include no rule references. Please consult [Section 1.10](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>) and, if needed, resubmit a different question.

( Asked by **1771** answered Mar 18th 25 )

## **Q226 COACH Interaction with OPERATOR CONSOLE and elements of the field that connect to it**

**Q:** Is it legal for a COACH to reconnect a disconnected ethernet cable or associated USB to Ethernet adapter to an operator console. under the assumption it is undeniable and unambiguous to the refs that all that occurred was the reconnection of the disconnected device.

**A:** !G430 specifies who the "ROBOT shall be operated (...) by". Whether a particular interaction with the OPERATOR CONSOLE is likely to be "operating" the ROBOT is up to the judgement of the REFEREES.

( Asked by **1771** answered Mar 17th 25 )

## **Q227 Arena fault**

**Q:** Is it the responsibility of teams to call out potential Arena faults before a match in relation to pre match game piece setup.

**A:** Per Section 6.8, DRIVE TEAMS should alert the FIELD STAFF to any missing or damaged SCORING ELEMENTS prior to the start of the MATCH.

( Asked by **1771** answered Mar 17th 25 )

## **Q228 G425 Pin Count Pausing**

**Q:** G425 specifies criteria to pause/clear a pin count (A,B,C) and describes when the count should start (when a robot is "preventing movement by contact"). Once a pin count has been started, should the count continue if none of A,B,C have been met but the robot is also no longer "preventing movement by contact"?

**A:** Yes.

( Asked by **231** answered Mar 17th 25 )

## **Q229 Powering the VH-109 with channel other than 20-22, providing a 10A ATO breaker or fuse**

**Q:** In R617-C, Any channel on a PDP 2.0 is acceptable for powering the VH-109, provided a 10A fuse or breaker is installed. R617-B indicates that on the PDH, only channels 20-22 are acceptable. Is there a reason R617-B does not also include "directly to the terminals of any non-switchable channel on the PDH with a 10A fuse or circuit breaker installed in the associated fuse holder."

**A:** The scope of this Q&A system includes and is limited to questions about the interpretation of the [Game

Manual](<https://firstfrc.blob.core.windows.net/frc2025/Manual/2025GameManual.pdf>), [Awards](<https://www.firstinspires.org/robotics/frc/awards>), and/or [official Field drawings](<https://www.firstinspires.org/robotics/frc/playing-field#FIRSTDrawings>). For suggestions, please contact Team Support at [[firstroboticscompetition@firstinspires.org](mailto:firstroboticscompetition@firstinspires.org)](mailto:firstroboticscompetition@firstinspires.org).

( Asked by **1918** answered Mar 17th 25 )

## **Q230 Eligibility for FIRST Impact Award at more-than-2nd in-district events**

**Q:** The FIRST website is unambiguous that district teams aren't eligible for the FIRST Impact Award at inter-district or Regional events. Can a team interview for and win the FIRST Impact Award at a third or fourth (or fifth, YOLO!) in-district event, earning them the DCMP slot under Section 11.2-A while earning zero points for it under Section 11.2-B?

**A:** Yes, per the [Submitted Awards webpage](<https://www.firstinspires.org/resource-library/frc/submitted-awards>), "Teams are eligible for the *FIRST* Impact Award at each Regional or District event at which they compete."

( Asked by **1293** answered Mar 20th 25 )

## **Q231 Responsibility for Unintended G409 Due to CORAL Stuck in a Defender's Robot**

**Q:** G210 states that an intentional act forcing an opponent to violate G409 is a penalty. If CORAL unintentionally gets stuck in our robot while defending, causing a G409 violation, who is responsible? Is it our responsibility to avoid controlling multiple CORAL, or does the opposing HUMAN PLAYER have a responsibility to avoid unintentionally causing a second CORAL to enter our robot?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. !G210 requires an action "clearly aimed at forcing the opponent ALLIANCE to violate a rule." A HUMAN PLAYER who, in the judgement of a REFEREE, is attempting to provide CORAL to an ALLIANCE ROBOT, either directly or via the carpet, is performing an action "consistent with standard gameplay" and would not be in violation of !G210 even if an unintentional result of the attempt is an opposing ROBOT violating !G409.

( Asked by 836 answered Mar 24th 25 )

## **Q232 Legality of Positioning Under CORAL STATION to Cause an Unintentional G210**

**Q:** If no robots are being defended at a CORAL STATION, but a HUMAN PLAYER is entering CORAL for a ground-intaking robot, is it legal for us to position ourselves under the station so that the HUMAN PLAYER unintentionally delivers CORAL into our robot—when we already have a CORAL—causing a G210 violation?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. !G210 requires an action "clearly aimed at forcing the opponent ALLIANCE to violate a rule." A HUMAN PLAYER who, in the judgement of a REFEREE, is attempting to provide CORAL to an ALLIANCE ROBOT, either directly or via the carpet, is performing an action "consistent with standard gameplay" and would not be in violation of !G210 even if an unintentional result of the attempt is an opposing ROBOT violating !G409. Additionally, a team who is intentionally trying to make another team violate !G210 would be in violation of !G210 as they are taking an action that is "clearly aimed at forcing the opponent ALLIANCE to violate a rule."

( Asked by 836 answered Mar 24th 25 )

## **Q233 G210 Violation When CORAL Bounces Off the Station Into a Defending Robot**

**Q:** If our HUMAN PLAYER is delivering CORAL toward midfield for a ground-intaking robot while avoiding a defending robot under the CORAL STATION, does G210 apply if a CORAL bounces off the station and unintentionally lands in the defending robot, causing them to receive a G409 penalty?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. !G210 requires an action "clearly aimed at forcing the opponent ALLIANCE to violate a rule." A HUMAN PLAYER who, in the judgement of a REFEREE, is attempting to provide CORAL to an ALLIANCE ROBOT, either directly or via the carpet, is performing an action "consistent with standard gameplay" and would not be in violation of !G210 even if an unintentional result of the attempt is an opposing ROBOT violating !G409.

( Asked by **836** answered Mar 24th 25 )

## **Q234 Clarification on Bumper Color rules**

**Q:** We've seen over the past few years some bumpers that fit into the traditional "Red" and "Blue" seen on most robots. The Rule for bumper color states that a team must be able to display Red and Blue bumpers, and we have seen variations from very pale red to very dark navy blue. We were hoping to get some clarification on what "Red" and "Blue" are intended to mean, and whether the colors of Pink and Teal would fit as they are definitively "Not Blue" for pink and "Not Red" for Teal

**A:** There is no *FIRST* Robotics Competition specific definition of red or blue. Colors that are typically regarded as shades of red or blue (e.g. navy or crimson) are permitted. The criteria is not "not blue" or "not red".

( Asked by **2890** answered Mar 25th 25 )

## **Q235 Would HUMAN PLAYER ALGAE throws deflecting off of a robot violate G407?**

**Q:** Would a HUMAN PLAYER in the PROCESSOR AREA attempting to throw ALGAE into the NET (or otherwise into the ARENA), only to have that ALGAE deflect off of a ROBOT and bounce out of the ARENA be considered a violation of G407?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, a REFEREE has to infer that the ROBOT action was deliberate for !G407 to be violated.

( Asked by **1712** answered Apr 1st 25 )

## **Q236 Limitations on Playoffs Pit Crew?**

**Q:** Section 10.6.5 specifies that "each team is permitted to have up to 3 additional pit crew members." What does this mean? May those 3 team members accompany the drive team to queue between playoff matches? Can FIELD STAFF or event staff put limitations on this? Can they change the number of allowed pit crew? Can they change when in playoffs pit crew is allowed? We see no provision in the rules for limitations or exceptions but if they do exist can you please add them to the manual?

**A:** Pit crew members may accompany the DRIVE TEAM to the queue and are expected to help DRIVE TEAM members to service the ROBOT as needed (safely). There are no provisions for exceptions where FIELD STAFF can eliminate or modify this allowance. Events can choose where the pit crew members are able to be during MATCHES but typically they are expected to stay with the TECHNICIAN or ROBOT cart. Events are able to choose if they can provide alternative playoff pits pending space available but all teams still competing must be offered a space equally.

( Asked by **401** answered Apr 2nd 25 )

## **Q237 Team Media at FRC Events**

**Q:** The first sentence of section 5 and the definition of ARENA in the glossary both list a "team media area" as a required element to play Reefscape. Can events disallow team media or opt to not provide a team media area? We see no provision for this in the manual.

**A:** Apologies for the confusion. The intent of that language was to include the "team media area" as part of the ARENA if it is present, not to imply that a "team media area" is an element "required to play REEFSCAPE presented by Haas". At this point in the season we do not intend to revise the Game Manual language but will review this language for next season.

( Asked by **401** answered Apr 2nd 25 )

## **Q238 Auto points and ranking points after leaving the line**

**Q:** During the Auto period, if a robot leaves the line and performs an auto routine by placing coral and/or algae and then ends the auto routine on the black line, are the ranking points and leave points no longer valid?

**A:** Yes. To qualify for the AUTO RP, all non-BYPASSED ROBOTS must LEAVE and at least 1 CORAL scored in AUTO. To qualify for LEAVE points, a ROBOT must move such that its BUMPERS no longer overlap its ROBOT STARTING LINE at the end of AUTO.

( Asked by **103** answered Apr 7th 25 )

## Q239 Assessing Fair Market Value

**Q:** If a team purchases a COTS item from a vendor for a price under \$600, and later the FMV of the item increases to above \$600 because the vendor raised the prices, is the team still allowed to use this item on their robot because it's FMV now exceeds the R301 limit? If so, can other teams also use that COTS item as well despite the FMV? Does purchase timeline or purchase year matter? If not, do teams need to monitor the market price of COTS parts near the limit after purchasing items?

**A:** Generally FMV should be assessed within the timeframe of the current season (i.e. since approximately May 2024) per the Blue Box below !R301: "This price must be generally available to all *FIRST* Robotics Competition teams throughout the build and competition season (i.e. short-term sale prices or coupons do not reflect FMV)." Teams are not expected to need to monitor prices within a season per the same Blue Box: "however teams are only expected to make a good faith effort at determining the item price and are not expected to monitor prices of ROBOT items throughout the season. The FMV is the cost of the item itself and does not include any duties, taxes, tariffs, shipping, or other costs that may vary by locality."

( Asked by 3538 answered Apr 8th 25 )

## Q240 What orientation is the eyebolt supposed to be tightened onto the cage?

**Q:** When you look at the drawing GE-25231 Cage Assembly in the FIRST official field drawings, it states "Assembly is the same for all colors of Cages". It also shows that the eye bolt is aligned with a flat edge of the cage. Will the cages be assembled per FIRST field drawings?

**A:** There is no specified required direction for the eyebolt. Apologies for any confusion but the image must show the eyebolt in a direction for it to be in the image and it was not meant to imply that there is a required direction.

( Asked by 2767 answered Apr 9th 25 )

## Q241 Algae landing on the reef penalties

**Q:** If a robot launches algae from one side of the field to the other and it lands on the opponent's reef and descors some number of coral (either knocking them off or touching them), are there penalties for putting algae on their reef or descoring the coral? Does it matter if the refs deem it unintentional?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, !G411 is only violated if deemed deliberate. If CORAL is de-scored, !G410 would not be called because it requires direct ROBOT actions.



( Asked by **3847** answered Apr 9th 25 )

## **Q242 Human Player Wandering Foul Count**

**Q:** If a human player starting in the processor area wanders into their alliance area and then returns to the processor area later in the match, is that one or two wondering fouls?

**A:** We cannot comment absolutely on hypothetical scenarios. The ultimate decision would be determined by the REFEREES at your event, with the final call made by the Head REFEREE. Generally, !G429 is called each time a DRIVE TEAM member violates the rule and a HUMAN PLAYER would be violating it each time they are outside their ALLIANCE AREA or PROCESSOR AREA.

( Asked by **3847** answered Apr 8th 25 )

## **Q243 Can FTC Relic Recovery foam cubes be used as bumper material?**

**Q:** I have many blocks left over from the FTC Relic Recovery game and would like to use them. I have tested them against floor tiles, which are legal, and they seem to be the same or just a little less dense than tiles. Would that material be legal to use as padding?

**A:** Allowable BUMPER padding materials are listed in !R402-A. Relic Recovery Glyphs were made from 2lb/ft<sup>3</sup> polyethylene foam which complies with !R402-A-ii.

( Asked by **4585** answered Apr 8th 25 )

## **Q244 Magnets to grab cages.**

**Q:** Can a permanent magnet be used to gain control of the cages? If so, is there a limit to how strong it can be?

**A:** There are no rules which explicitly prohibit the use of magnets when interacting with CAGES and no specified maximum strength for magnets. Teams should consider the potential hazards of strong magnets and employ additional safety measures (such as covers or other protective features) if necessary to ensure compliance with !R203.

( Asked by **4585** answered Apr 8th 25 )

## **Q245 Can a HUMAN PLAYER return an ALGAE to the ROBOT straight from PROCESSOR?**

**Q:** If a HUMAN PLAYER hands off a scored ALGAE back to the ROBOT, assuming they keep their body outside of the FIELD, and the ROBOT does not reach outside the field to grab that ALGAE, does this violate any rules? I know that the HUMAN PLAYER can throw the ALGAE back onto the field, and they don't necessarily have to aim for the NET, but I cannot find any specific details on whether both the ROBOT and the HUMAN PLAYER can be in contact with an ALGAE at the same time.

**A:** No. Per !G413-A, the ROBOT or anything it CONTROLS cannot contact anything outside the FIELD. Additionally, HUMAN PLAYERS should be aware that reaching over the guardrail and onto the field is considered a violation of !G101.

( Asked by **1778** answered Apr 9th 25 )

## **Q247 T605 and Invited Team Response**

**Q:** Does T605 imply that the only response an invited student representative can respond with is to accept or decline? Does a team that does not immediately accept or decline an invitation (for example stall or say they need time to respond) invoke T605 and they are assumed to have declined?

**A:** Per the text below !T602, "The invited team's representative must either accept or decline the invitation **\*\*immediately\*\***." (emphasis added). A team not prepared to accept in invitation immediately will be assumed to be declining.

( Asked by **1071** answered Apr 14th 25 )

## **Q249 Cell Phone use in ARENA**

**Q:** With the rise of WpiCal, Nexus, and online scouting apps, are teams allowed to use cellular devices before or after a match while touching ARENA carpet?

**A:** !G302 only limits items brought "for use during a MATCH".

( Asked by **2832** answered Apr 14th 25 )