BIOBUZZ™
PRESENTED BY RTX

FIRST TECH CHALLENGE

Volunteer Briefing

Official Scorer + Referees

2026-27 BIOBUZZ™

Acknowledgement of Country

I acknowledge the Traditional Custodians of the land on which Macquarie University stands – the Wallumattagal Clan of the Dharug Nation – whose cultures and customs have nurtured, and continue to nurture, this land since time immemorial. I pay respects to Elders, past and present.

About this session:

1. **Goal: Provide information on season specific details, not event-specific details.**
    a. There's a lot of changes to how we approach our roles this season.
    b. *Your event and head referee may run things slightly differently, so please do check in with them if you're ever unsure.
2. **Information relevant to each role is labeled, colour-coded, or indicated at the bottom of the slide:**
    a. OS = Official Scorer
    b. R = Referee
    c. HR = Head Referee
3. **TL,DR: slides provide extra context that can be revisited later**
    a. There will be a lot of words on these slides to provide additional context, act as a quick reference pdf, and so that this info can be read later if that is preferred over a long video. Not everything that is written will be talked about, these slides will be sent out afterwards.
    b. If you would like to discuss a topic, feel free to raise it!
4. **Let's have a conversation!**
    a. If you have questions or comments, feel free to unmute after each slide or type in chat.

Today’s Topics

General Info (OS, R, HR)	• Recommended Reading & Relevant Links • Volunteering 101 • Season Changes • Field crew (new role!)
Game & Scoring (OS, R, HR)	• 2026-27 BIOBUZZ Field & Scoring Elements • Scoring 101 • Match flow
Refereeing (R, HR)	• Strategic • Calling Rule Violations • Noteworthy Rules • Scenarios
Head Referee (HR)	• Scoring Tablet: Notes Feature • Misc topics • Event Support / Slack

Relevant Links

Highlighted cells indicate **REQUIRED** readings/trainings. Feel free to learn from any of these resources if you're curious!

Resource	Link	OS	R	HR
Competition Manual	ftc.game/manual	Optional: Sections 1, 9, 10	Sections 1, 9, 10, 11	Sections 1, 3, 4, 5, 9, 10, 12, 13, & 14
Volunteer Manuals	ftc-resources.firstinspires.org/ftc/volunteer	Optional: Official Scorer	Referee	Official Scorer, Referee, Head Referee
Training Modules	https://training.firstinspires.org/pages/event-volunteers • https://ftc-resources.firstinspires.org/ftc/archive/2027/event/official-scorer-training • https://info.firstinspires.org/hubfs/web/program/ftc/Referee_Training.pdf	Optional: Welcome to FIRST, Official Scorer	Welcome to FIRST, Official Scorer, Referee	Welcome to FIRST, Official Scorer, Referee, Data Protection & Privacy, Head Referee
Team Updates	https://ftc-resources.firstinspires.org/ftc/game/tu-combined		Required	Required
Escalation Guidelines	https://ftc-resources.firstinspires.org/ftc/event/escalation-guidelines		Required	Required
Event Guides	ftc-resources.firstinspires.org/ftc/event			• Field Operation Guide • Field Mitigation Guide • Field Reset Guide
Team Q&A	https://ftc-qa.firstinspires.org/			
Volunteer Q&A	https://volunteer-qa.firstinspires.org/boards/2027/FTC/HR	N/A	N/A	Encouraged
Volunteer Webinars	https://ftc-resources.firstinspires.org/ftc/volunteer/calls			Encouraged
FTC Referee Slack	https://ftcreferee.slack.com/	N/A		Encouraged
Event-day Support	#all-event-support (in slack, event HR only)	N/A	N/A	Encouraged

Ethos of a Volunteer

- **Gracious Professionalism**
  - Act with respect and kindness at all times, and help teams compete at their best.
- **Inspire the students**
  - We want to provide a positive and healthy learning environment. Keep in mind that for a lot of these students, FIRST events are the first time they interact with adults and professionals who aren't family or from school. Be inspiring, ask them about what they do on their teams, and celebrate their achievements!
- **Model safe behaviour**
  - Wear safety glasses and enclosed shoes. Tie up long hair and remove any dangly clothing or accessories
- **Help the teams have fun**
  - If you see any teams having trouble, please help them out or find someone who can help.
  - Referees: help the teams understand the spirit of the rules so that they can avoid penalties.
- **Our goal as the referee scorer team is to make sure teams have a fair and consistent event**
  - Be impartial and communicate conflict of interest
  - Each competition stands alone - don't bring history to the competition

Role-Specific Expectations

- **Do not review photos or videos throughout the event**
  - You should only act on your observations during the match.
  - Teams often try to show us livestream footage. Kindly let them know that you aren't able to watch it, and send them to the question box.
- **Consider anything you know as a referee/official scorer as confidential**
  - You'll hear a lot of information on how and why certain decisions were made - please keep this to yourselves both during and after the event.
- **Direct team members to the question box if they ask you about rules or match results**
  - If they ask a logistics question that you know the answer to, feel free to answer.
- **Let your head referee know about any conflicts of interest**
  - Siblings, parents, mentors, etc
- **Be equally friendly to all teams!**
  - If you accept pins from one team, accept them from all teams!

STEM For Everyone

FIRST is committed to fostering, cultivating, and preserving a culture of unity. We embrace and celebrate our global community. Exploring, developing and implementing strategies to ensure opportunities for any young person who engages in our programs is critical for FIRST to fulfill its mission. ALL young people should have the opportunity to become science and technology leaders who have the skills, confidence and resilience to build a better world.

The **Hidden Disabilities Sunflower scheme** is increasingly recognised in Australia. Hidden disabilities include intellectual disabilities, learning difficulties, mental health conditions and many others. Sunflower lanyards discreetly indicate that a person may need additional time, support or understanding during the event.



Youth Protection Policy

We ask that all volunteers hold themselves to a high standard of behaviour and at all times act as role models for the young people at the event. Please show kindness and patience to all participants.

FIRST has a strict Youth Protection Policy (YPP). Volunteers must:

- Avoid one-on-one interactions with students and under-18 volunteers
- Refrain from making physical contact with students
- Use respectful language and tone at all times

https://www.firstinspires.org/resource-library/youth-protection-policy

Event Day

- **Attire:**
  - Safety glasses, *comfortable* closed-toe shoes, hair tied up
  - Make sure you can squat, kneel, and stand comfortably
  - Referees can choose to wear a personal referee shirt if event does not provide one
- **Bring:**
  - Drink bottle
- **You'll be provided with:**
  - Scoring devices, Referee flags, Event shirts
- **Depending on guidance from your tournament director, you may not need to show up until:**
  - Recommended: Attend the driver's meeting
    - HR will provide teams with general reminders and information on procedures such as flow of traffic.
  - Must: Attend practice matches, as well as any ref/scorer meetings on the day
    - HRs will notify you if timings change.

Season Changes

1. **Competition Integrity Contract**
2. **STRATEGIC keyword** (covered in Referee section)
3. **Official Scorer role** (covered in Official Scorer section)
4. **Miscellaneous**
    - 1-2 student representatives for alliance select
    - No longer required to have students for inspection
    - T301: max 2 people per team for question box, including 1 student who is ideally actively participating in the conversation
    - No more displaying a physical card

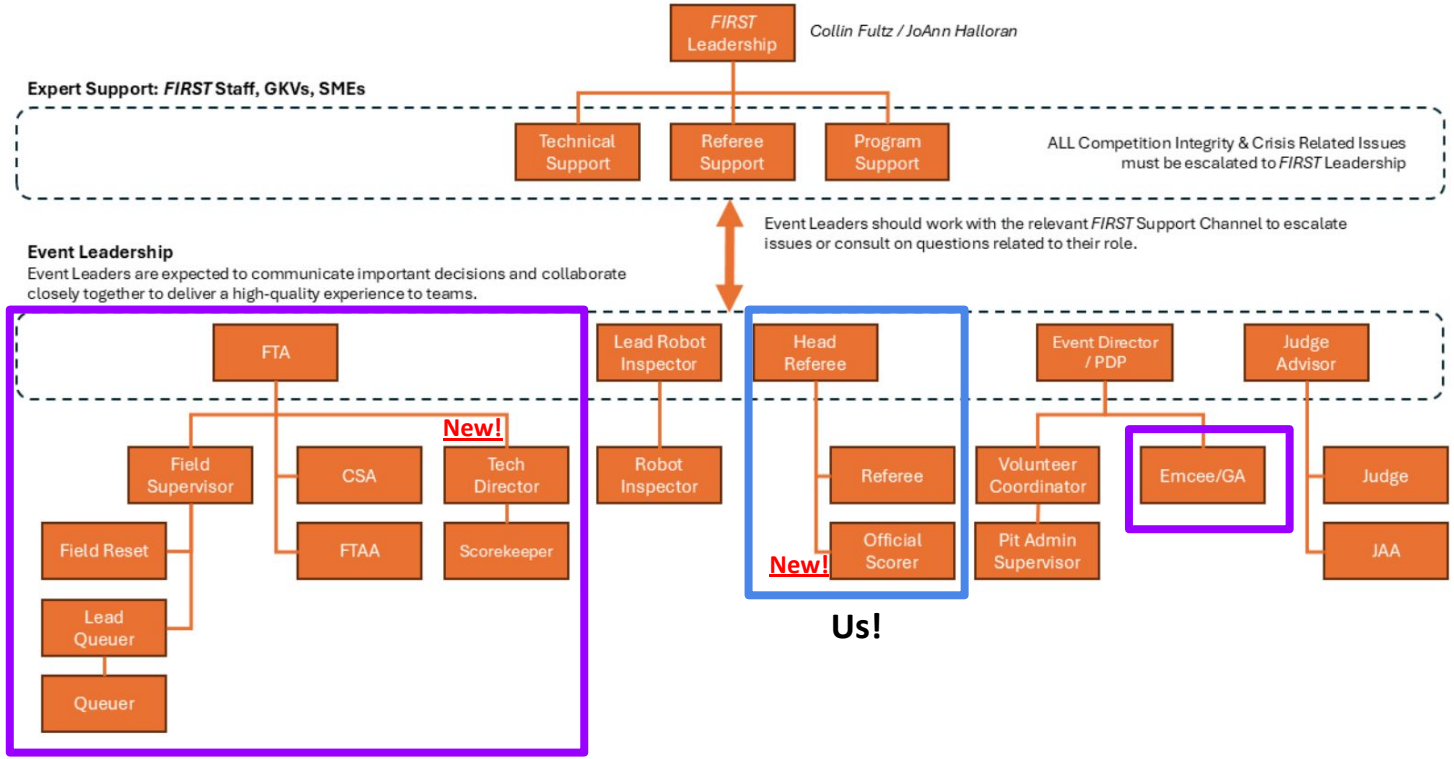
Competition Integrity Contract

Outlines behaviour expectations for FTC participants

Sporting Ethics Code	Behaviour Guidelines
• We Don’t Cheat. • We Always Behave with Integrity. • We Play the Game as Intended. • We Know Our Team Doesn’t Enforce the Rules.	• We Focus on Journey, Before Destination. • We Behave with Respect and Good Sportsmanship. • We Help Each Other. • We ‘Take the High Road.’ • We Respect Property and Facilities. • We Build a Positive Culture of Safety. • We Make Healthy Choices. • We’re All on the Same Team.

Field Crew

At the field, we will work very closely with the roles highlighted in purple. More details on each role can be found at: ftc-resources.firstinspires.org/ftc/volunteer



Field Crew

The role of a referee has now been split up into two roles.

- Referees observe gameplay, call violations, and validate scoring during post-match reviews
- New! Official Scorers will observe and input scoring achievements
    - At some events, they may need to input fouls that were called by Referees.

For each match, our crew consists of 1 Head Referee, 2 Referees, and 2 Official Scorers. More are usually assigned so that everyone can take a break throughout the day.

Here are some roles that may be relevant to scorers and referees:

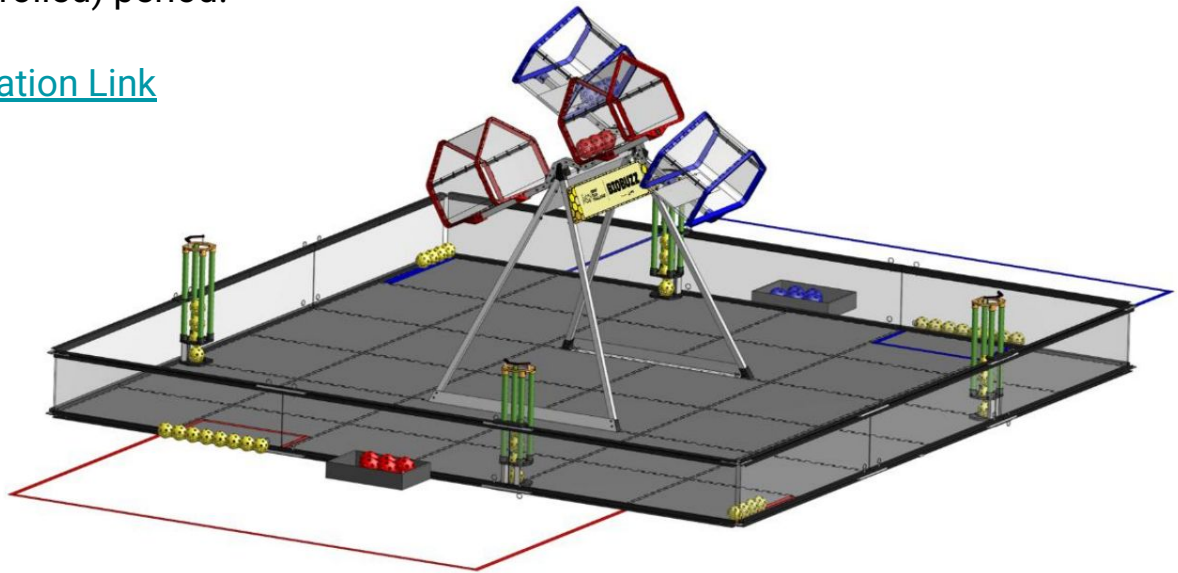
1. **Field Reset:** restores the field back to playing conditions.
    a. They may need work around you to pick up scoring elements that have escaped the field and return them to the field or to drive team students.
2. **Field Supervisor:** Ensures the field is suitable for gameplay. We may communicate with them if there are any issues with the field.
3. **FTA/FTAA/CSA:** May need visibility to diagnose robot issues, E.g connection issues.
4. New! **Technical Director:** Sets up devices. (This role may be fulfilled by the FTA).

2026-2027 BIOBUZZ

The 2026-2027 BIOBUZZ game is played on a 12’ x 12’ field. During qualification matches, four teams are randomly selected and assigned to RED or BLUE alliance.

Matches are 2.5 minutes in length and involve a 30sec Autonomous and 2min Teleoperated (Driver-Controlled) period.

Game Animation Link



Field Elements

Each HIVE consists of two CELLS.

Pollen



Nectar

Flower

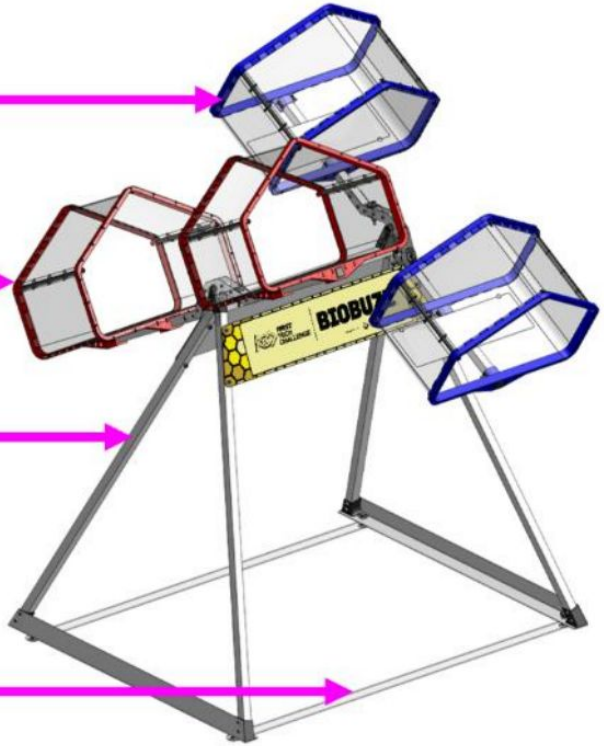


HIVE -BLUE

HIVE -RED

Frame

Under TILE Strip

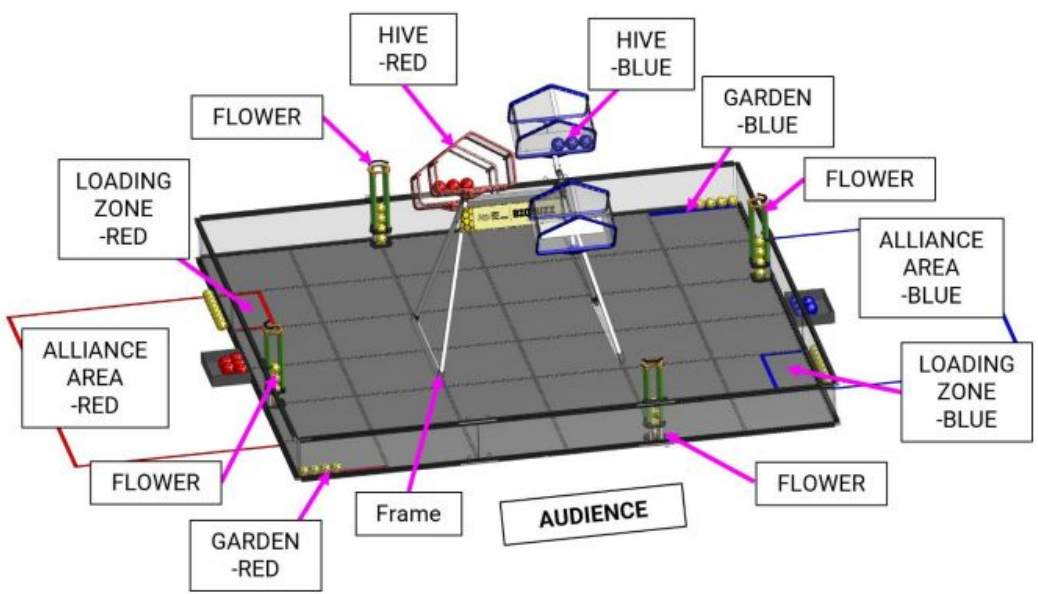


Gameplay

Teams score points by:

- Moving or parking the robot by the end of AUTO and TELEOP
- Launching scoring elements into the HIVE to tip it.
- Filling the FLOWERS (small towers) with scoring elements.
- Having scoring elements in the GARDENS or CELLS at the end of the game

Figure 9-1 BIOBUZZ (queue area, FIELD display, and optional media area not pictured)

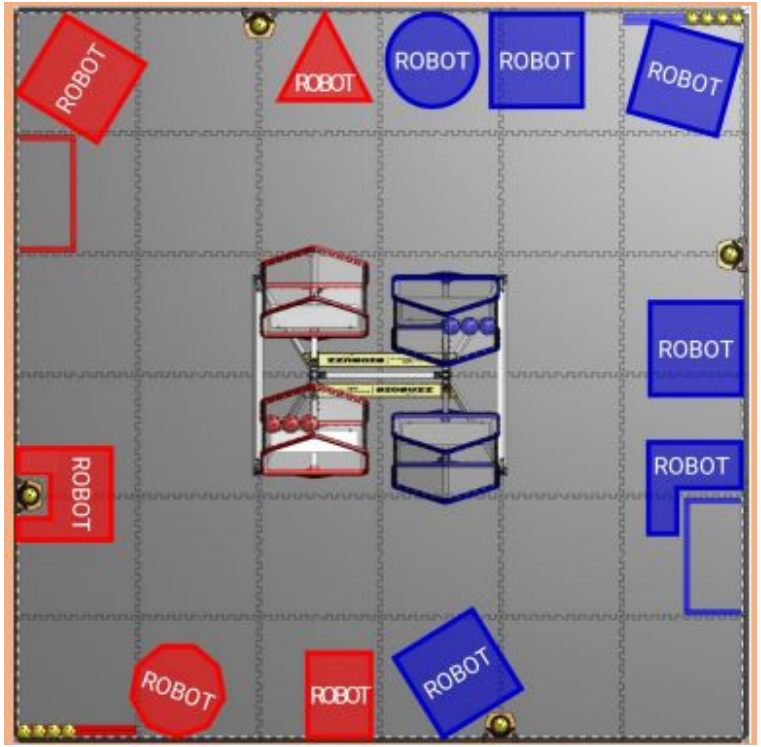


Setup

(G304) Robots must be set up as follows:

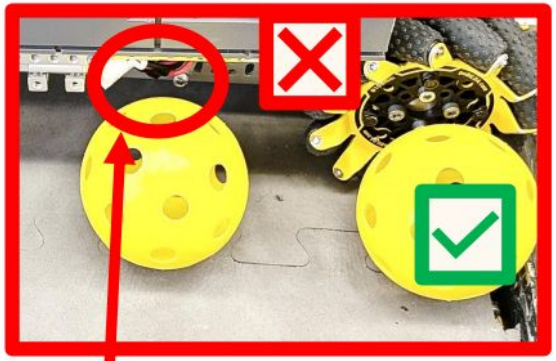
- on its own ALLIANCE's side of the FIELD
- touching the FIELD perimeter wall,
- not contacting or in the scoring volume of a FLOWER
- not in the LOADING ZONE,
- Within its STARTING CONFIGURATION
- in contact with exactly 4 POLLEN pre-loads fully contained on its own ALLIANCE side of the FIELD
- fully motionless, OpMode initialised

Note: This means that 4 POLLEN stacked in a pyramid with only the bottom 3 touching the robot would not be legal.

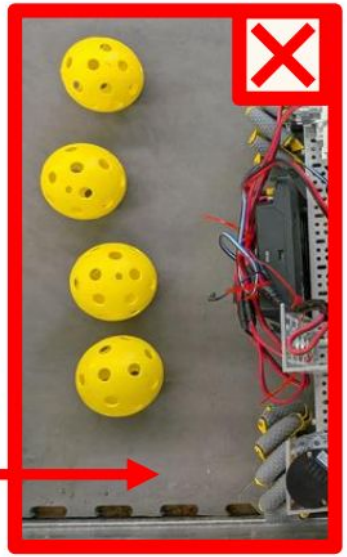


Setup

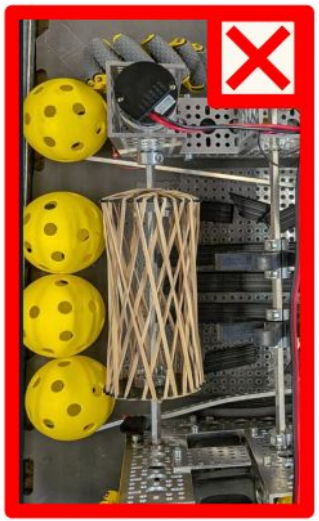
Pre-MATCH Setup – ROBOTS & Pre-Load POLLEN



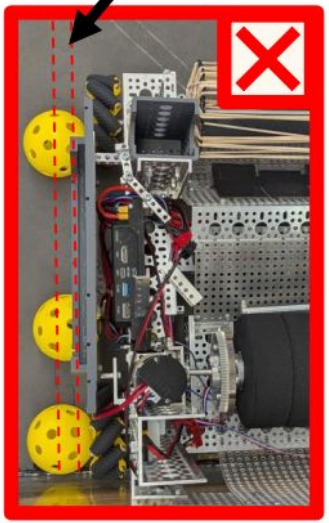
Pre-load POLLEN is not contacting the ROBOT.



These are examples of invalid ROBOT and pre-load positions. Teams should be asked to make the required adjustments and corrections before the MATCH begins.



ROBOT must contact the wall directly, not indirectly through the pre-load POLLEN.



ROBOT & pre-load POLLEN is over the centerline TILE seam "X."

Scoring Criteria (LEAVE/PARK)

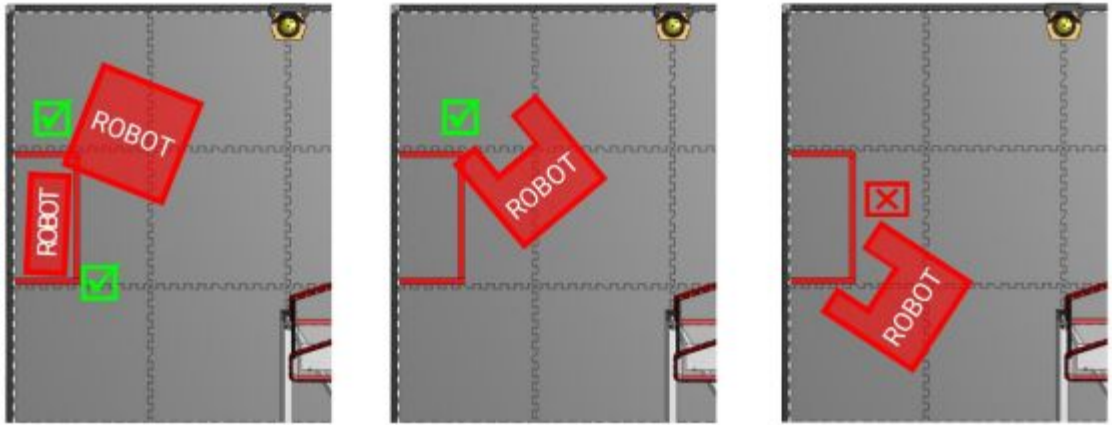
LEAVE

To qualify for LEAVE points, a ROBOT must move so that it is no longer contacting the perimeter wall.

PARK

To qualify for PARK points, a ROBOT must move so that it is at least partially in the LOADING ZONE. (Figure 10-7)

Figure 10-7: LOADING ZONE PARK Examples



Note: LEAVE is assessed at the end of AUTO.
E.g. If a robot "leaves" its starting location and PARKs while touching the field perimeter inside the loading zone, it does not qualify for LEAVE points.

Note: PARK is assessed at the end of AUTO and the end of TELEOP.

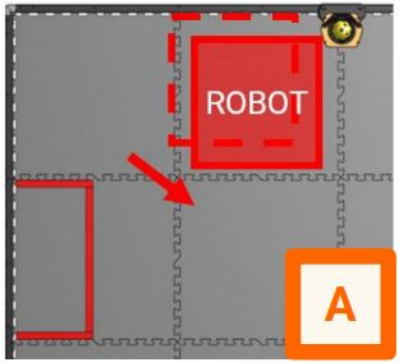
Note: The "end" of AUTO and TELEOP are when T=0 for each time period, or can be indicated by the start of the buzzer. LEAVE and PARK are assessed in that moment.

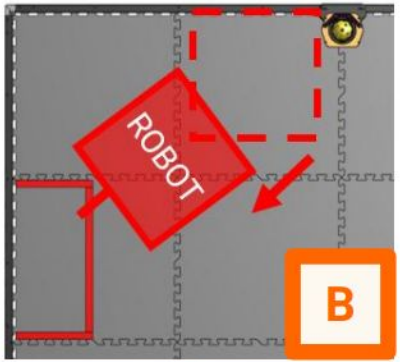
Movement during/after the buzzer do not affect this assessment and may be subject to G403/404.

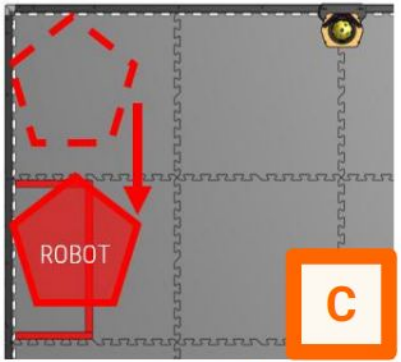
Official Scorers have low visibility of the loading zone. Referees should help by announcing LEAVE and PARK achievements.

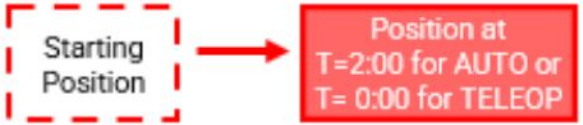
Scoring Criteria (LEAVE/PARK)











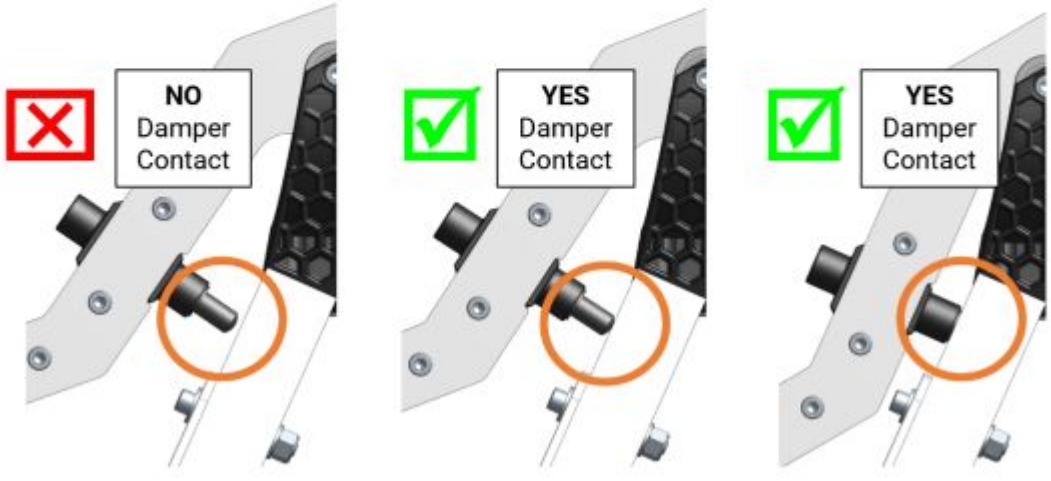
Scenario	A	B	C
LEAVE	**Yes**	**Yes**	No
PARK	No	**Yes**	**Yes**

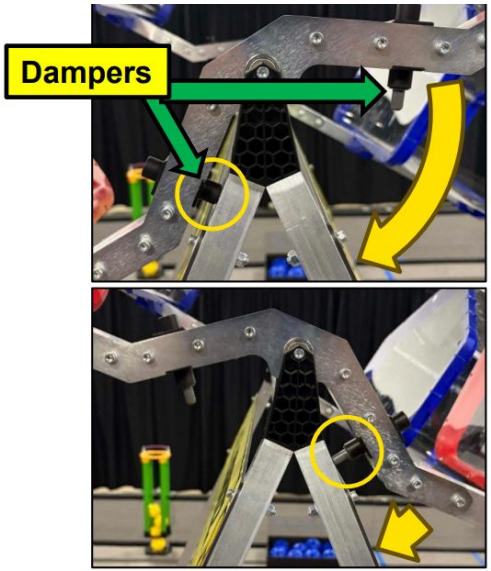
Scoring Criteria (HIVE)

The HIVE is considered TIPPED when:

A. it moves from one stable state to the other stable state with the downwards-facing CELL becoming the upwards-facing CELL, and
B. subsequently, the damper on the HIVE that was previously not contacting the frame begins to contact the frame.

Figure 10-3: HIVE damper and frame





You are not expected to watch to this level of detail. Teams may need to pause launching to make it clear and unambiguous that a TIP has occurred.

Teams should only launch into upward facing CELLs, as per G417.

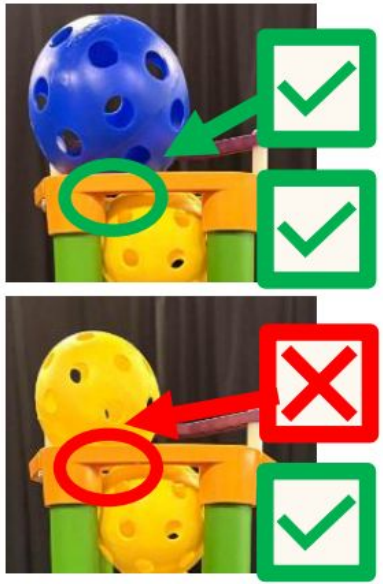
NOTE: HIVE TIPs scoring continues until all SCORING ELEMENTS and ROBOTS have come to rest at the conclusion of the MATCH.

Scoring Criteria (FLOWERS)

Scoring Volume is shown in purple, between the bottom face of the top ring, and the top face of the middle ring.

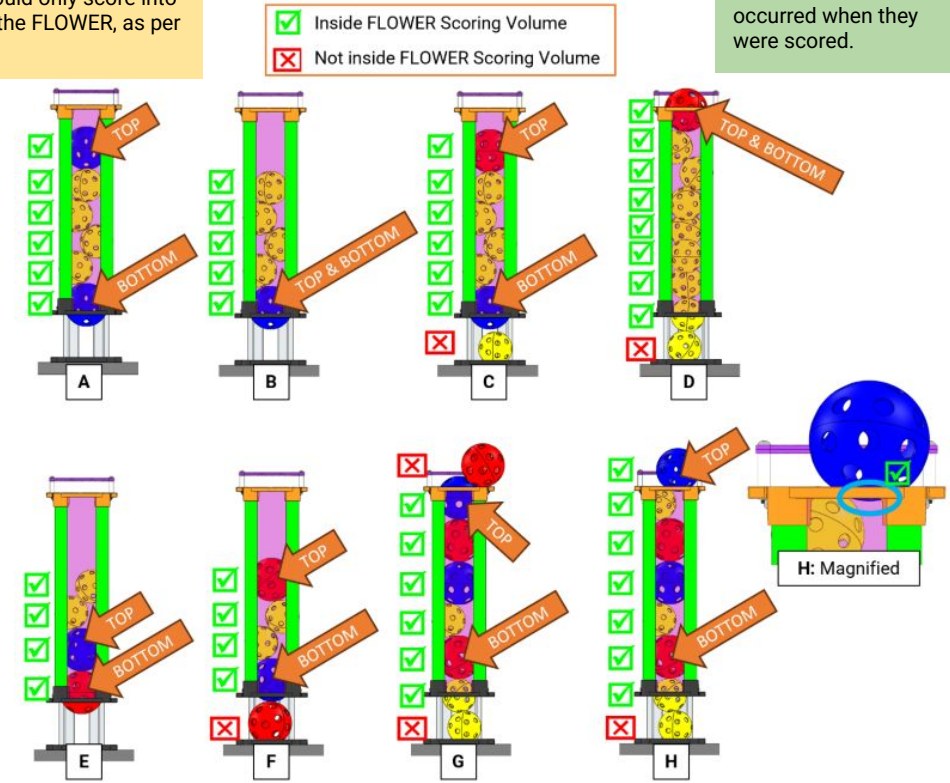


NOTE: FLOWER scoring continues until all SCORING ELEMENTS and ROBOTS have come to rest at the conclusion of the MATCH.



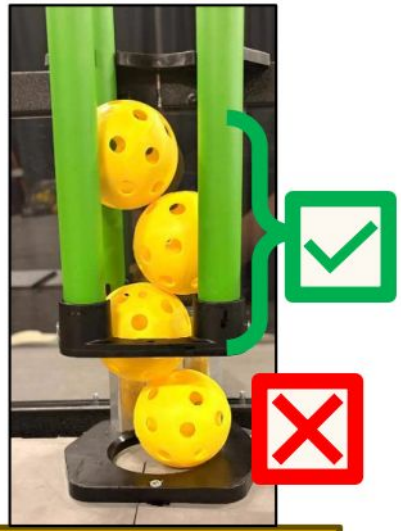
Teams should only score into the top of the FLOWER, as per G417.

Figure 10-5: FLOWER Ownership

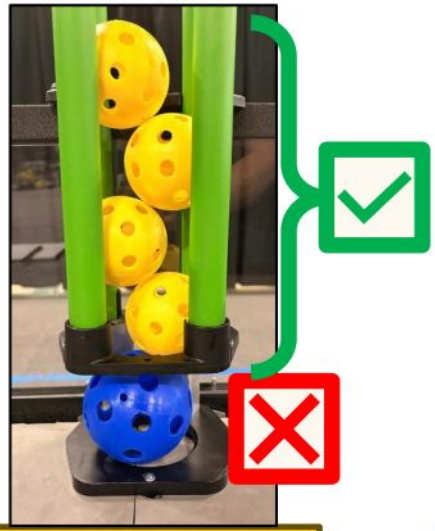


SCORING ELEMENTS in the FLOWER scoring volume should always be scored, in the order they are in, whether or not a violation occurred when they were scored.

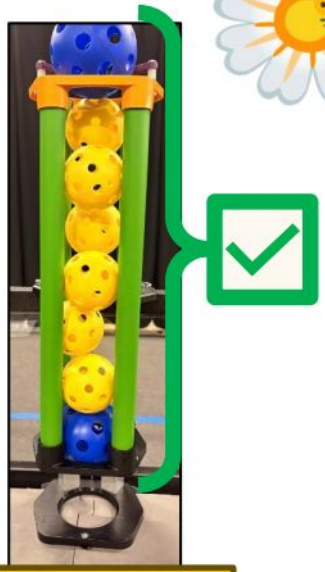
Scoring Criteria (FLOWERS)



Input all 3 POLLEN partially or fully in the FLOWER scoring volume. **The bottom-most POLLEN does not meet scoring criteria** – it is not in the FLOWER scoring volume.



All 4 POLLEN are in the FLOWER scoring volume. **The blue NECTAR does not score.** It is not in the FLOWER scoring volume.



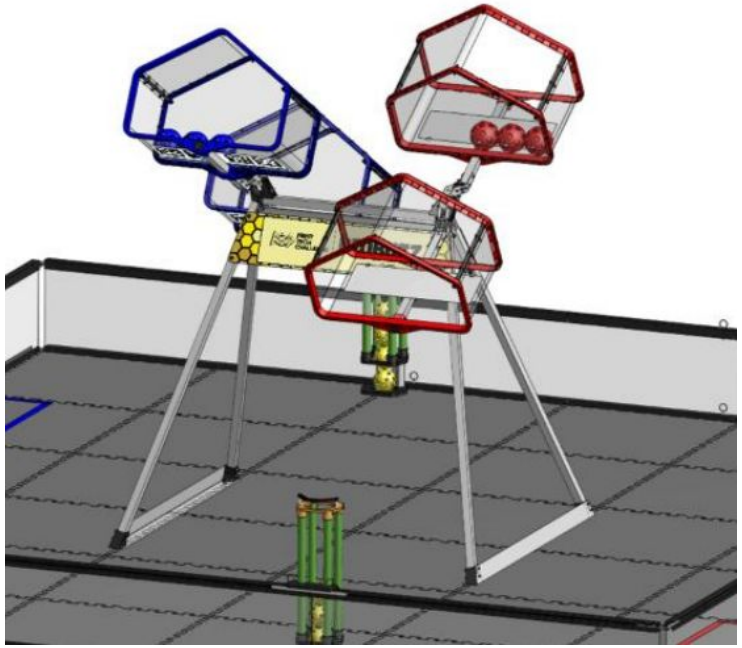
Input all 2 NECTAR and 6 POLLEN shown. **All are in the FLOWER scoring volume.**



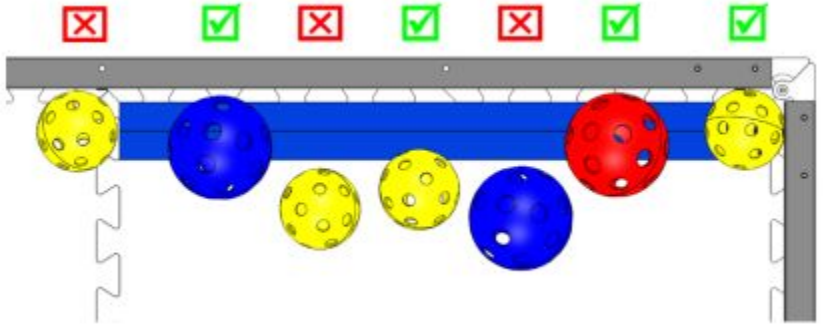
Input all 6 POLLEN and 1 NECTAR partially or fully in the FLOWER scoring volume. **The bottom POLLEN and top POLLEN shown do not score.**

Scoring Criteria (CELL & GARDEN)

Any scoring elements remaining in the corresponding upward facing cell will earn points.

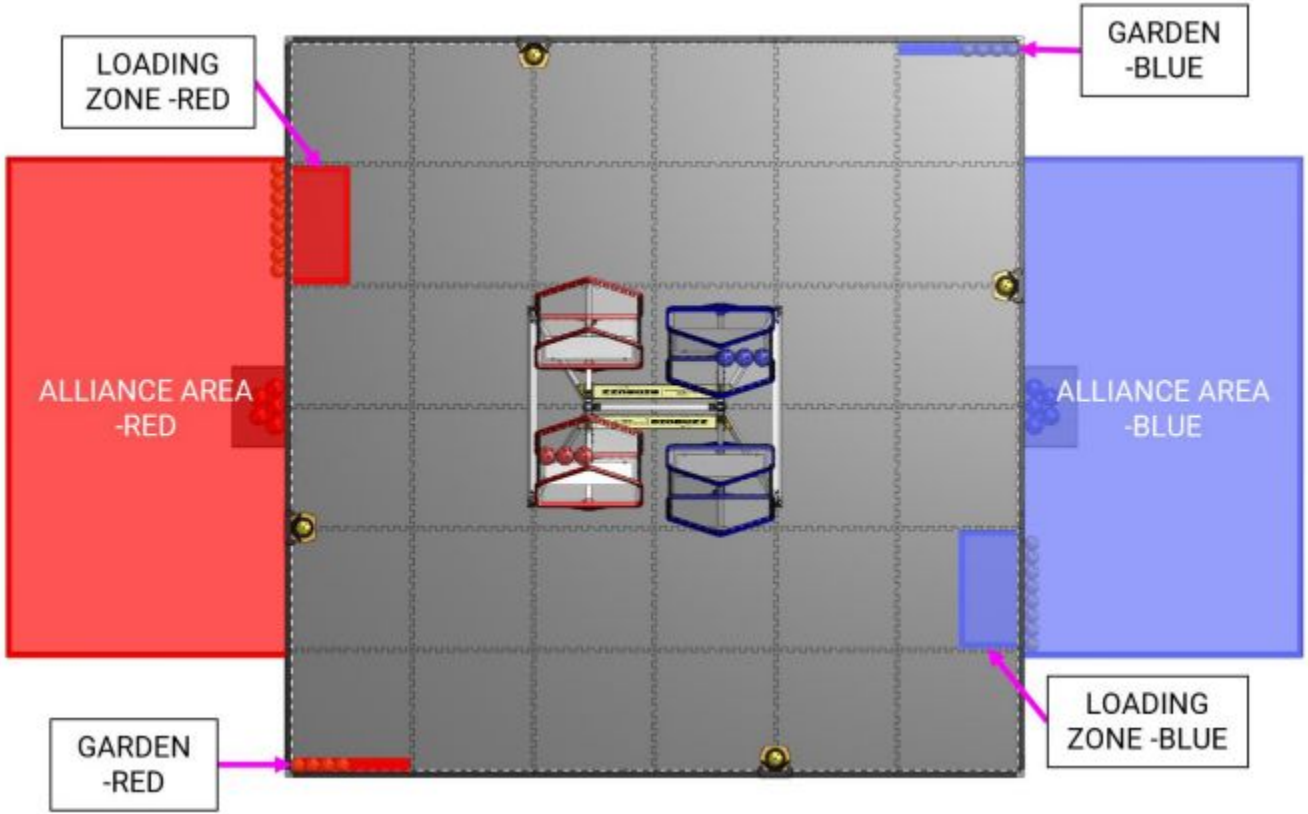


Any scoring elements remaining in the GARDEN will earn points for the ALLIANCE that the GARDEN belongs to.



NOTE: CELL and GARDEN scoring occurs after SCORING ELEMENTS and ROBOTS have come to rest at the conclusion of the MATCH.

Field

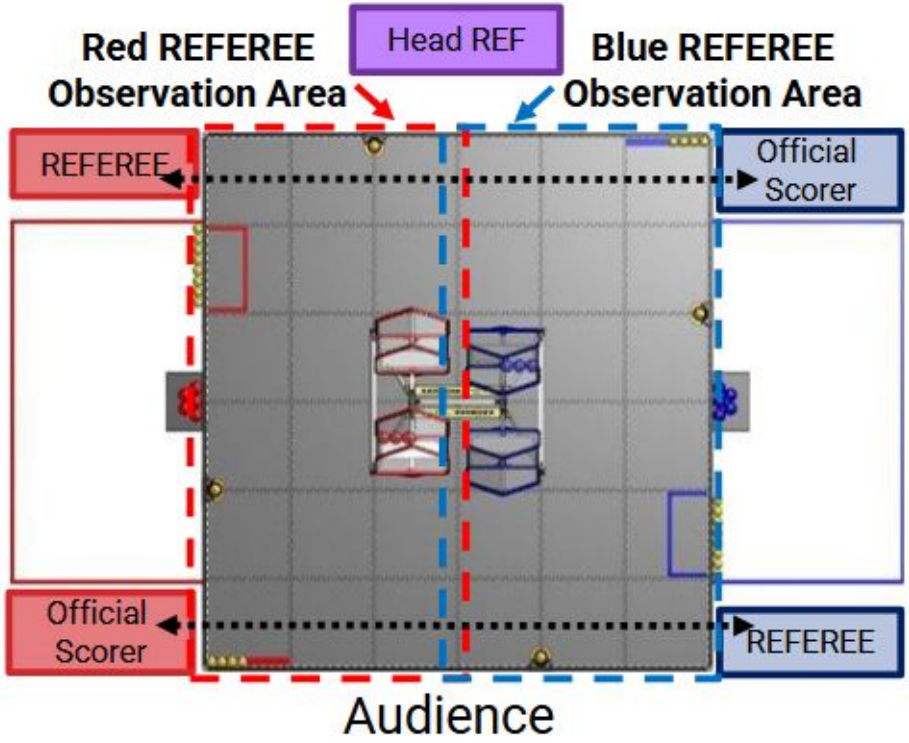

LOADING ZONE -RED
GARDEN -BLUE
ALLIANCE AREA -RED
ALLIANCE AREA -BLUE
GARDEN -RED
LOADING ZONE -BLUE

Positions

Official scorers do not have a good sightline to assess parking, referees will need to help at the end of AUTO and TELEOP.

Field staff are staged as follows:

- **Official Scorers** are by the GARDENs.
- **REFEREES** are at the other corners of the field, and will need to communicate with Official Scorers
  - <u>on the same side of the FIELD</u> about LEAVE/PARK during MATCHES and confirm their scoring post-MATCH.
  - <u>across from them</u> regarding FOULS during a MATCH *(If no ref tablets)*
- **Head referee**: at the rear of the FIELD
- Other FIELD STAFF (e.g. FTA, Announcer) may be around the FIELD.
- No one should be statically standing in front of the FIELD during a MATCH. Stand to the side where possible



Signaling

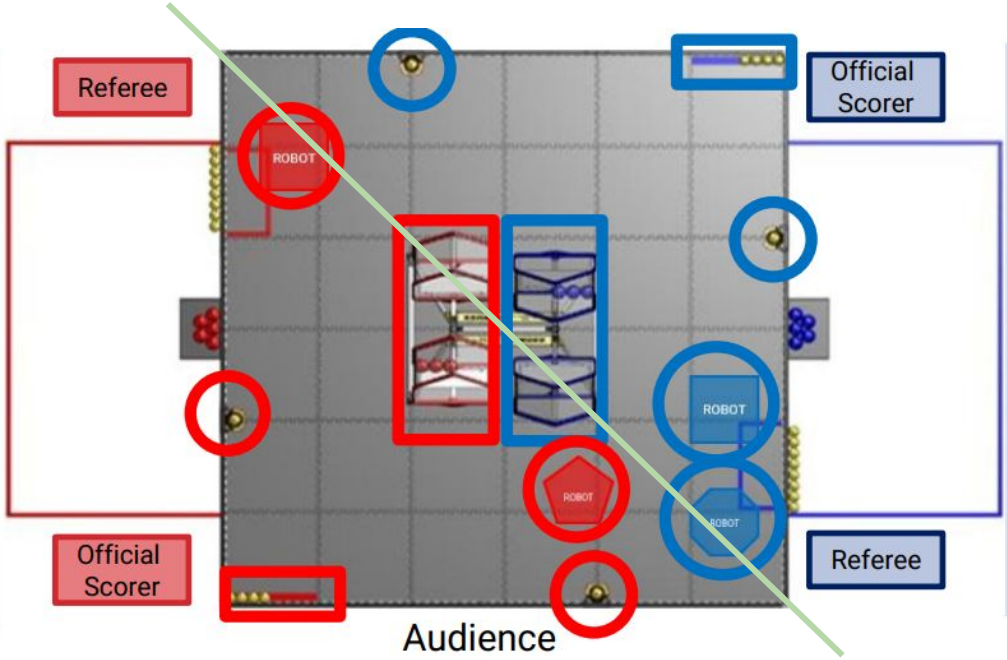
At the end of AUTO and TELEOP, referees should help official scorers by communicating which robots have achieved LEAVE and PARK.

E.g. “2 Leave, XXXXX park”

Scoring Responsibilities

Red Alliance Wall Official Scorer Scoring Responsibilities

- Red HIVE TIPS
- Red Alliance Robot LEAVE & PARK
- FLOWERS circled in Red
- Red GARDEN
- Remaining SCORING ELEMENTS in Red HIVE



Blue Alliance Wall Official Scorer Scoring Responsibilities

- Blue HIVE TIPS
- Blue Alliance Robot LEAVE & PARK
- FLOWERS circled in Blue
- Blue GARDEN
- Remaining SCORING ELEMENTS in Blue HIVE

Scoring Assessment Timings

This list is written in order of priority.

During Auto	• HIVE Tips
At the end of Auto	• Leave & Park (AUTO T=0, at the start of the buzzer) • HIVE Tips • **Submit AUTO**
During Teleop	• HIVE Tips • Flower (*In the last minute of TELEOP)

At the end of Teleop	• Park (T=0, at the start of the buzzer)
	• HIVE Tips (Until everything has come to rest)
	• Pollen & Nectar (when everything has come to rest)
	  ○ remaining in HIVE
	  ○ In GARDEN
	  ○ In FLOWER
	• **Submit for TELEOP, confirm with referees before submitting final scores**

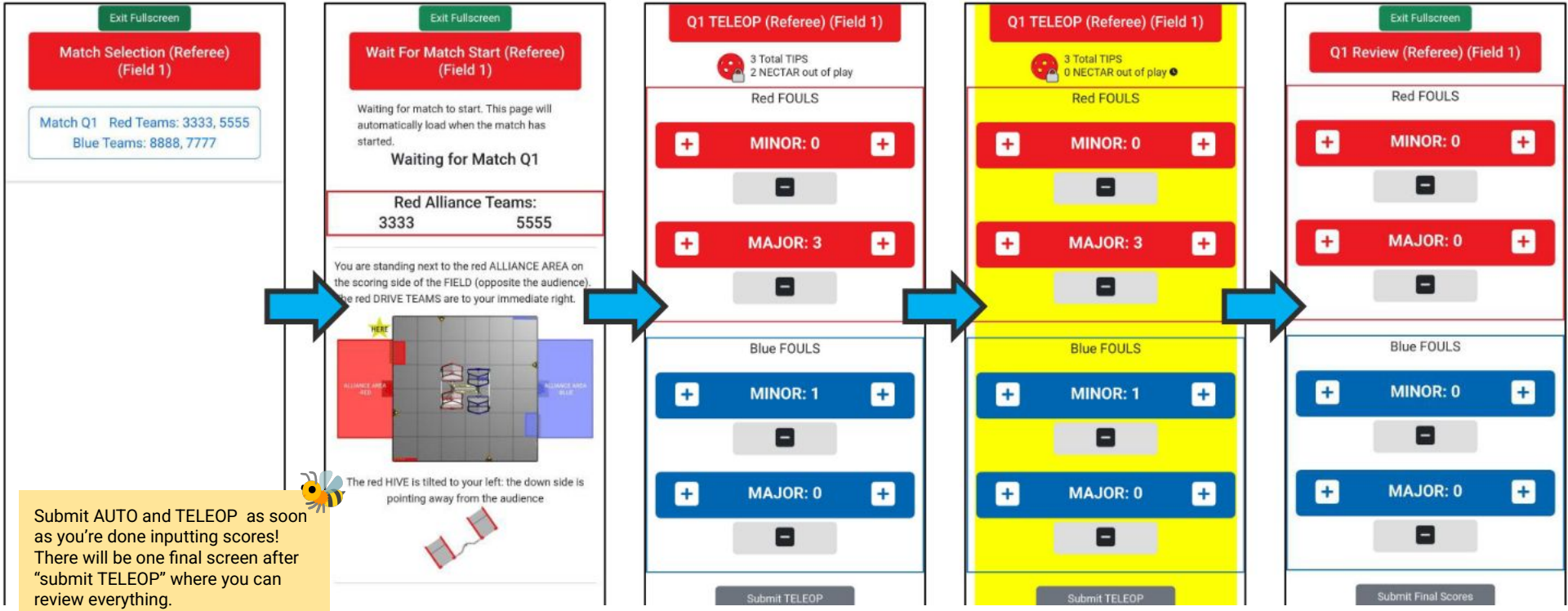
FLOWER achievements before 1 minute remaining still should be scored, but subject to G410.

Scoring Assessment Timings

Scoring Achievement	Track Live?	When is final assessment made?
LEAVE	NO	at 2:00 (end of AUTO)
PARK	NO	at 2:00 (end of AUTO) & at 0:00 (end of TELEOP)
HIVE TIP	**YES**	**LIVE**
NECTAR + POLLEN in each FLOWER	Yes*	After SCORING ELEMENTS and ROBOTS have come to rest at the conclusion of the MATCH.
NECTAR + POLLEN Remaining in CELL	NO	
NECTAR + POLLEN In GARDEN	NO	

Scoring Tablet - Referees

The “X NECTAR out of play” feature can be used to check teams haven’t entered NECTAR early (G426).



Submit AUTO and TELEOP as soon as you’re done inputting scores! There will be one final screen after “submit TELEOP” where you can review everything.

Scoring Tablet - Official Scorers

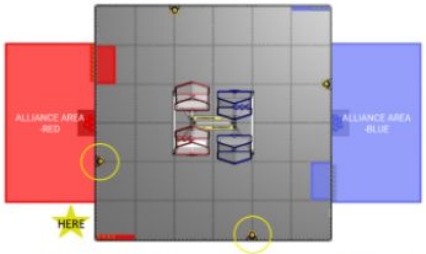
Q1 Pre-Match Setup (Scorer)

Red Alliance Teams:

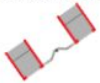
Team 7777 Present: No Team | No Robot | Present

Team 909 Present: No Team | No Robot | Present

You are standing next to the red ALLIANCE AREA on the audience side of the FIELD. The red DRIVE TEAMS are to your immediate left. The red GARDEN is in your corner. There is a FLOWER 1.5 TILES to your left, and a FLOWER 4 TILES down the audience wall. Those are the two FLOWERS you are responsible for scoring.



The red HIVE is tilted to your left: the down side is pointing away from the audience



Q1 AUTO (Scorer)

Edit Pre-Match Setup

HIVE TIPS − 1 +

4 NECTAR out of play

Red 1 LEAVE (7777): No | Yes

Red 1 PARK (7777): No | Yes

Red 2 LEAVE (909): No | Yes

Red 2 PARK (909): No | Yes

Submit AUTO

This score exceeds the physical limits of the FLOWER. Please contact support.

FLOWER Scoring Help

Note: FLOWER Scoring Help is only available during Final Review (post-MATCH).

Q1 TELEOP (Scorer)

HIVE TIPS − 1 +

3 Total TIPS
2 NECTAR out of play

Red ALLIANCE Wall FLOWER: + Red | + Blue | + POLLEN

Audience Wall FLOWER: + Red | + Blue | + POLLEN

R X
B X
R X
P X
P X

P X
P X
P X
B X

Red 1 PARK (7777): No | Yes

Red 2 PARK (909): No | Yes

HIVE remaining POLLEN & NECTAR − 0 +

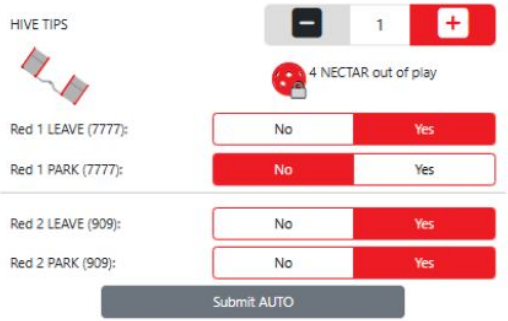
GARDEN POLLEN & NECTAR − 0 +

Submit TELEOP

Scoring Tablet - Official Scorers



Pre-Match Screen
No Team -> no representatives and no robot
No Robot -> has representatives but no robot
Present -> robot and drive team at the field



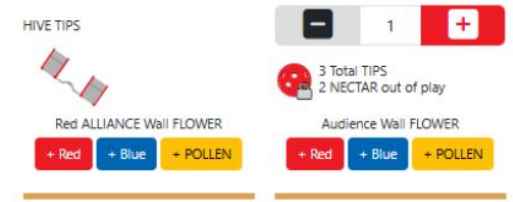
AUTO Screen
AUTO HIVE TIPS are scored until TELEOP starts.

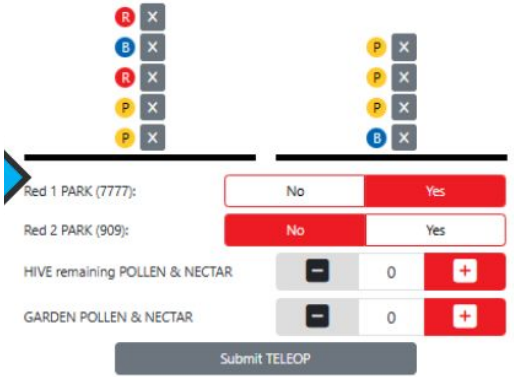
LEAVE: No longer touching field perimeter at the end of AUTO.

PARK: At least partially in the LOADING ZONE at the end of AUTO.

Make sure to check which robot is awarded the achievements.

Submit AUTO and TELEOP as soon as you're done inputting scores! There will be one final screen after "submit TELEOP" where you can review everything with referees.





TELEOP Screen
HIVE TIPS are scored throughout TELEOP until everything comes to rest after TELEOP. This is the priority.

FLOWER scoring should be updated throughout the MATCH to show what is currently is in each FLOWER Scoring Volume – in order -- regardless of how it got there.

At the end of the match: POLLEN & NECTAR remaining in CELL and GARDEN are scored after the end of TELEOP, until everything comes to rest.

PARK: Assessed at T=0. Make sure to check which robot is awarded the achievement.

Double check **FLOWER** scoring.

Match Flow

Rotate positions every 5 matches in qualification matches, every 3 in playoffs.

Before the Match

1. Referees: Verify the correct teams are present and robots are set up legally.
2. Official Scorers: Confirm team/robot status on tablets.
3. Indicate when you are in position and ready for the match (E.g. thumb up in front of you)
4. When ready, the Head Referee holds a sustained thumb up overhead until the match starts.

During the Match:

5. Official Scorers observe scoring, Referees watch gameplay and communicate violations.

After the Match:

6. Referees and Official Scorers: Submit teleop as soon as you are done with initial inputs.
7. Referees review scoring inputs with Official Scorers. When ready, submit final scores.
8. Referees and Head Referee: Discuss penalties as necessary, submit final scores on referee tablets after confirming with Head Referee. Official scorers should not be involved in this.
9. Head Referees and/or their delegates: explain any verbal warnings or fouls to affected teams.
10. Teams pick up robots, field is reset. Keep an eye out for any teams at the question box.

Scoring Element Reintroduction

Throughout the match, scoring elements may escape the field as a result of normal gameplay. Focus on your scoring and refereeing jobs first, field reset and other field staff will usually handle their reintroduction. In the scenario where you need to reintroduce a scoring element, here is what to do:



- **Pollen:** Reintroduced into the field at the nearest convenient location



- **Nectar:** Should be returned to the alliance of the corresponding colour.
  - Remember that drive coaches cannot handle scoring elements (G424)
  - Try not to distract students while they are focused. The human player is usually the best recipient.



Scoring elements should not be re-entered in a position that impacts the MATCH when re-entering them into the FIELD. This includes:

- on/into ROBOTS, or
- in a location that would score (i.e., in the GARDEN, in a FLOWER).

Any Questions?

This is the end of the topics relevant to official scorers.

STRATEGIC

Unless otherwise stated, violations apply per team. For example, an alliance may be given 2 MAJOR FOULS and 2 YELLOW CARDS “Per MATCH”, if both teams strategically violate a rule with this violation.

Many violations this year start with a VERBAL WARNING and escalate further if STRATEGIC.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per MATCH, if STRATEGIC.

The greater penalty (in this case, MAJOR FOUL and YELLOW CARD) must be determined based on the STRATEGIC criteria and additional scrutiny.

Head referees use VERBAL WARNINGS to have a conversation with the team:

- Part of a dynamic feedback loop
- Provide teams with feedback on what the referees perceive as STRATEGIC or not.

VERBAL WARNINGS should include enough information to be used by teams to avoid greater penalties, including forewarning that they will see additional scrutiny over similar violations in the future, if applicable.

Note: There is no distinct quantity of VERBAL WARNINGS that escalates to a STRATEGIC violation. (i.e., this is not “3 strikes you’re out.”)

STRATEGIC: Criteria

This is an important term to understand this year. Additional information can be found at:

- Competition Manual, section 10.6
- Escalation Guidelines

Quick STRATEGIC Check

Ask	STRATEGIC indicators	Non-STRATEGIC indicators
Advantage	Scoring, access, position, or other benefit	No meaningful benefit
Team-controlled	Deliberate, continued, or reckless action	Accident, failure, or loss of control
Foreseeable	Benefit was predictable or team was previously warned	Result was unforeseeable
Response	Team continued, repeated, or used the situation	Team promptly corrected it

STRATEGIC: Criteria

Determining whether a violation is STRATEGIC, use this three-part test:

1. **Was a rule violated?** Identify the rule and apply its stated violation.

2. **Did the action create or seek a competitive advantage?** The advantage does not need to change the final score. It may involve scoring, access, position, time, opponent restriction, RANKING POINTS, or protection of an existing advantage.

3. **Was the action aimed at gaining that advantage?** Use observable evidence. An admission is not required. Consider whether the action was deliberate, reckless, continued after the concern became apparent, or produced a foreseeable benefit.

STRATEGIC: Additional Scrutiny

A lot of these decisions this year will be context-based, and orange boxes of rules provide additional situations or behaviours that may invite additional consideration from referees.

If you're not sure a violation was STRATEGIC, give the team the benefit of the doubt. Scrutiny increases as conduct repeats, after VERBAL WARNINGS, and in playoffs. A team's reputation or experience is never evidence of intent.

In general, a team may face additional scrutiny from REFEREES who will determine if there is a STRATEGIC violation when either:

A. multiple warnings are given during an individual MATCH for the same violation that individually can be perceived to be accidental or unforeseeable, or
B. multiple VERBAL WARNINGS are issued to a team over multiple MATCHES for the same violation that individually can be perceived to be accidental or unforeseeable.

Accidental situations that are then deliberately used to a team's advantage will be viewed as STRATEGIC.

Escalation Guidelines: Additional Scrutiny

More consistent with an error (non-STRATEGIC)	Requires additional scrutiny: Likely STRATEGIC	Evidence of STRATEGIC
• isolated occurrence, • plausible connection to normal play, • immediate effort to stop or correct, • candid explanation consistent with observations, and/or • no meaningful benefit or benefit promptly relinquished.	• repeated outcome, • meaningful advantage, • inconsistent explanation, • conduct recurs in similar circumstances, • prior VERBAL WARNINGS have been issued, and/or • correction is partial or temporary.	• planning or coordination is directly observed, • systems or safeguards are circumvented, • facts are concealed or misrepresented, • conduct continues after a clear warning, and/or • advantage is knowingly retained.

STRATEGIC: Accidental

Accidental or unforeseeable occurrences cannot be STRATEGIC.
An unexpected ROBOT action that is promptly corrected and provides no meaningful advantage is generally accidental. Continuing the same action after its benefit becomes apparent, exploiting a loophole, or accepting a violation because its benefit outweighs its consequences should be evaluated as STRATEGIC or egregious behavior.

ACCIDENTAL BECOMES STRATEGIC
A ROBOT unexpectedly loses communications in part of the FIELD that prevents the opposing ALLIANCE from accessing SCORING ELEMENTS:
NOT STRATEGIC: When communications are restored, the team immediately attempts to correct the situation and gains no additional meaningful advantage.
STRATEGIC: When communications are restored, the team recognizes that the position restricts an opponent and deliberately keeps the ROBOT positioned there. The accidental situation is now being used for advantage. **Note:** The FTA can be used as part of the fact-finding process if a team claims technical difficulties.

STRATEGIC: Communication

This slide is mainly for head referees, but at times, they may ask a referee to act as their delegate and assist in communicating with teams.

When providing a VERBAL WARNING or greater penalty, we want to be consistent and clear in how we communicate that to the team. Below are some examples. We don't need to recite this, but providing feedback in a structured manner is important.



VERBAL WARNING explanation:

- *"The REFEREES observed your ROBOT CONTROLLING more than 4 SCORING ELEMENTS. However, it wasn't perceived to be STRATEGIC because the control was brief, without a meaningful advantage, and was quickly reversed."*
- *"The REFEREES observed your ROBOT catch a SCORING ELEMENT that fell out of a HIVE CELL during AUTO. This instance was not perceived to be STRATEGIC because it appeared to be an accident, the ROBOT dropped it as soon as TELEOP started, and there was no real benefit, but it may receive additional scrutiny and could be perceived as STRATEGIC in a future MATCH if this continues to occur predictably and is used advantageously."*

Warnings vs VERBAL WARNINGS

Warning Types:

1. a REFEREE observes a rule violation during a MATCH and indicates a warning during the MATCH. They indicate the violation by pointing and verbalizing the violation.
    a. This can help teams avoid greater penalties (major foul + yellow card)
    b. E.g. “Red, powered movement!”
2. A REFEREE gives a team a proactive “caution” to help prevent a violation.
    a. E.g. “Hey don’t enter that NECTAR yet!”
    b. No need to wave a flag, we don’t want to make a team stressed.
    c. Make sure to be consistent with all teams!

VERBAL WARNING: <u>after a MATCH,</u> the Head REFEREE or a REFEREE they delegate informs the team of the violation observed.

Rules

- This year, *most* rules are VERBAL WARNING. MAJOR FOUL + YELLOW CARD if STRATEGIC.
- MINOR FOULS are all related to human interactions

Rules: Motion & Control Hub

Last season, we saw a lot of penalties around timings of when drive teams interact with their control hubs. Most of the time, it was because students were excited or tunnel visioned while driving, and not realising the time. The same rules exist, they're now all Verbal Warnings -> Major + YC.

G401 ***Don't interact with a ROBOT during AUTO.** As soon as the countdown to start the MATCH begins and until the end of AUTO, DRIVE TEAM members may not directly or indirectly interact with a ROBOT or an OPERATOR CONSOLE, with the following exceptions:

A. to press the (▶) start button within a MOMENTARY margin of the start of the MATCH,
B. to press the (■) stop button at the team's discretion, or
C. for personal safety or OPERATOR CONSOLE safety.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per MATCH, if STRATEGIC.

G403 ***ROBOTS are motionless between AUTO and TELEOP.** Any powered movement of the ROBOT or any of its MECHANISMS is not allowed during the transition period between AUTO and TELEOP.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per MATCH, if STRATEGIC.

G404 ***ROBOTS are motionless at the end of TELEOP.** ROBOTS must no longer have powered movement after the end of TELEOP until the Head REFEREE or their designee signals that teams may retrieve their ROBOTS.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per MATCH, if STRATEGIC.

Teams may attempt to "beat the buzzer" in an attempt to park. Because we are taking a snapshot at T=0, there is no meaningful advantage, so please be patient and work with teams on understanding this rule before considering escalations to strategic.

Rules: AUTO Interference

G402 **No AUTO opponent interference.** During AUTO, a team may not disrupt AUTO for the opposing ALLIANCE.

Violation: MAJOR FOUL per MATCH. MAJOR FOUL and YELLOW CARD per MATCH, if STRATEGIC.

During AUTO, FIELD columns A, B, C constitute the red side of the FIELD, and columns D, E, F (Figure 9-5) constitute the blue side of the FIELD. Each ALLIANCE has priority over those FIELD and SCORING ELEMENTS on their side of the FIELD.

Navigating into the opposing ALLIANCE'S side of the FIELD during AUTO is a risky gameplay strategy that may be seen as STRATEGIC.

Examples of actions that are considered disruption of AUTO include but are not limited to:

A. CONTROLLING SCORING ELEMENTS located on the opposing ALLIANCE'S side of the field, and
B. contact an opposing ROBOT on their side of the FIELD.

SCORING ELEMENTS that happen to enter the other side of the FIELD after being deflected by another object in the FIELD (e.g., FIELD element, ROBOT) will likely not be penalized.

Head Referees are best positioned to watch for this.

Note that this is a maximum of one MAJOR FOUL + YELLOW CARD **per match, per team**, as opposed to per instance from prior years.

While a team can only receive one YELLOW CARD per match for a "per MATCH" violation, they can receive a second YELLOW CARD in the same match if violating a *different* rule.

Rules: CONTROL

Make sure to read all the orange boxes in the manual!

CONTROL Definition

an action by a ROBOT in which the SCORING ELEMENT is fully supported by or stuck in, on, or under the ROBOT or it intentionally pushes a SCORING ELEMENT to a desired location or in a preferred direction (i.e., herding). CONTROL requires contact with a ROBOT, either directly or transitively through other SCORING ELEMENTS. Typically, CONTROL requires one of the following to be true:

A. The SCORING ELEMENT is fully supported by the ROBOT

B. The ROBOT is moving the SCORING ELEMENT in a preferred direction with a flat or concave face of the ROBOT

G407 **No more than 4 at a time.** A ROBOT may not simultaneously CONTROL more than 4 SCORING ELEMENTS.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per MATCH, if STRATEGIC.

G408 **Don't CONTROL opponent NECTAR.** A ROBOT may not CONTROL the opponent's NECTAR.

Violation: VERBAL WARNING. YELLOW CARD per MATCH, if STRATEGIC.

G409 **Don't catch SCORING ELEMENTS.** A ROBOT may not catch or deflect a SCORING ELEMENT released by a TIPPED HIVE unless and until that SCORING ELEMENT contacts anything else besides that ROBOT.

Violation: VERBAL WARNING. YELLOW CARD per MATCH, if STRATEGIC.

It is not the intent to punish accidental catches of scoring elements for robots that happen to be under a hive.

Examples of "not CONTROL"

Examples of interaction with a SCORING ELEMENT that are not "CONTROL" and would not be a violation of this rule include, but are not limited to:

D. "bulldozing" (inadvertent contact with a SCORING ELEMENT while in the path of the ROBOT moving about the FIELD)

E. "deflecting" (being hit by a SCORING ELEMENT that bounces into or off a ROBOT), or

F. SCORING ELEMENTS that have been LAUNCHED by a ROBOT that are no longer in contact with the ROBOT.

REPEATED instances are likely to be STRATEGIC, even if MOMENTARY.

REPEATED instances of a ROBOT CONTROLLING 5 or more SCORING ELEMENTS are likely to be perceived as STRATEGIC, even if the ROBOT has a "keep 4 and discard the rest" sorting mechanism.

REPEATED instances of a ROBOT CONTROLLING an opponent's NECTAR are likely to be perceived as STRATEGIC, even if the ROBOT has a sorting mechanism that automatically discards opponent NECTAR by returning it to approximately its original state.

Rules: FLOWER

G410 **NECTAR only goes into FLOWERS with one minute left.** ROBOTS may not enter NECTAR into the FLOWER scoring volume until the last 60 seconds of the MATCH.

Violation: MAJOR FOUL per NECTAR.

See Section 10.5.2 FLOWER Scoring Criteria for details on the FLOWER scoring volume.

The primary FIELD timer display is the cue to indicate when there is 60 seconds left in the MATCH.

Teams are encouraged to make it obvious and unambiguous to REFEREES that they are not placing NECTAR into a FLOWER too early.

Rules: Hoarding

Note that there is no quantity specified. This rule is looking for the intent to prevent access.

G411 ***Do not hoard SCORING ELEMENTS.** An ALLIANCE may not STRATEGICALLY prevent the opposing ALLIANCE from accessing SCORING ELEMENTS.

Violation: MAJOR FOUL and YELLOW CARD per MATCH.

An ALLIANCE using their own NECTAR and/or POLLEN for scoring is not a violation of this rule.

Corralling relevant SCORING ELEMENTS into a limited portion of the FIELD and/or actively positioning a ROBOT to prevent opposing ALLIANCE access is a violation of this rule. A GARDEN is not a protected zone.

Rules: Intended Scoring Methods

Scoring is only allowed via intended methods. E.g. ROBOTS may not TIP the HIVE via LAUNCHING into a downward-facing CELL, nor hold POLLEN on the side of the FLOWER in order to be within the scoring volume.

G417 **ROBOTS may not meddle with the HIVE Structure.** ROBOTS may not manipulate the motion of the HIVE in any way other than by LAUNCHING SCORING ELEMENTS into an upward-facing CELL.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per MATCH, if STRATEGIC.

HIVES are designed and intended to only have a TIP induced by LAUNCHING POLLEN and NECTAR into an upward-facing CELL. Any other interaction with the HIVE that causes or could cause or impeding a TIP is a violation of this rule.

G418 **ROBOTS may not meddle with FLOWERS.** ROBOTS may not enter SCORING ELEMENTS into or remove SCORING ELEMENTS from a FLOWER except:

A. only enter POLLEN and NECTAR into the top of a FLOWER, and
B. only remove POLLEN from the bottom of a FLOWER.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per MATCH, if STRATEGIC.

The FLOWERS are designed and intended to only allow POLLEN and NECTAR to enter through the top of the top ring and only allow POLLEN (not NECTAR) to be removed from the bottom of the middle ring. Any other actions to score or remove SCORING ELEMENTS from the FLOWER are considered a violation of this rule.

Rules: ROBOT-on-ROBOT Interactions

Damage/functional impairment (G419) or attachment to/entanglement (G420) with exposed or unprotected COMPONENTS or MECHANISMS in the course of normal gameplay is not likely to be considered a violation.

Note: It is challenging to high-speed ram in FTC due to inherent limitations. Not all bumping/ramming meets the threshold of being high-speed ramming.

Note, G419 and G420 are mutually exclusive. A single ROBOT to ROBOT interaction which violates more than 1 of these rules results in the most punitive penalty, and only the most punitive penalty, being assessed.

G419 ***Do not damage an opponent ROBOT.** A ROBOT may not damage or functionally impair an opponent ROBOT.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per instance, if STRATEGIC. MAJOR FOUL and RED CARD per instance if STRATEGIC and opponent ROBOT is unable to drive.

G420 ***Do not tip or entangle.** A ROBOT may not attach to, tip over, or entangle an opponent ROBOT.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per instance, if STRATEGIC. MAJOR FOUL and RED CARD per instance, if STRATEGIC and either CONTINUOUS or opponent ROBOT is unable to drive.

These rules haven't really changed other than that a VERBAL WARNING is needed for non-STRATEGIC violations.

Rules: Humans

G425 ***DRIVE TEAMS, watch your reach.** Once a MATCH starts, a DRIVE TEAM member may not directly or indirectly:

A. contact a ROBOT,
B. contact a SCORING ELEMENT in contact with a ROBOT or TILE,
C. disrupt SCORING ELEMENT scoring, or
D. contact a FIELD element.

Violation: VERBAL WARNING. MAJOR FOUL and YELLOW CARD per MATCH, if STRATEGIC.

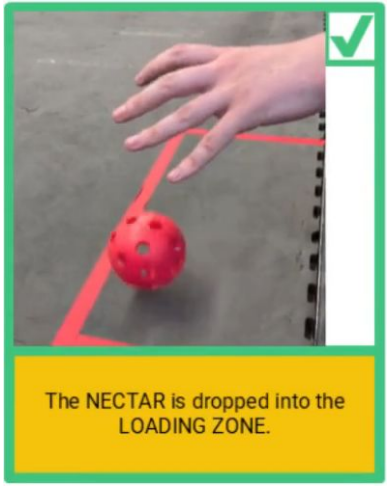
G427 **Humans, only enter NECTAR via the LOADING ZONE.** NECTAR may not be introduced to the FIELD, except as follows:

A. without the use of a tool,
B. by a DRIVE TEAM member of the ALLIANCE of the corresponding color, and
C. such that NECTAR contacts the TILE within the LOADING ZONE before contacting a ROBOT or a FIELD element.

Violation: MINOR FOUL per NECTAR.

G428 **Humans, don't remove SCORING ELEMENTS from the FIELD.** DRIVE TEAM members may not remove SCORING ELEMENTS from the FIELD.

Violation: MINOR FOUL per SCORING ELEMENT.



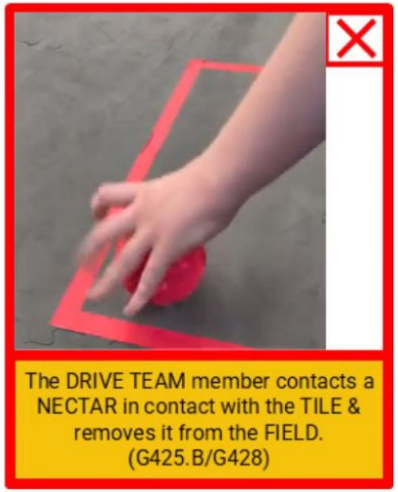
The NECTAR is dropped into the LOADING ZONE.



The NECTAR is tossed into the LOADING ZONE and it rolls out.



The NECTAR is in contact the TILE when the DRIVE TEAM member is still contacting it. (G425.B)



The DRIVE TEAM member contacts a NECTAR in contact with the TILE & removes it from the FIELD. (G425.B/G428)

Rules: Humans

Scoring app will indicate how many NECTAR should be out of play (in the NECTAR box)

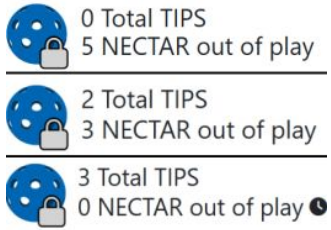
G426 **Humans may not enter NECTAR onto the FIELD early.** DRIVE TEAM members may not enter NECTAR onto the FIELD except:

A. for each time the HIVE of their corresponding ALLIANCE color is TIPPED, one additional NECTAR may be entered for that ALLIANCE, or
B. when 60 seconds or less remain in the MATCH, all remaining NECTAR can be entered

whichever comes first.

Violation: MINOR FOUL per NECTAR.

NECTAR that leaves the FIELD may be re-entered by the ALLIANCE at any time. NECTAR does not have to be entered into the FIELD immediately when a HIVE TIP occurs.



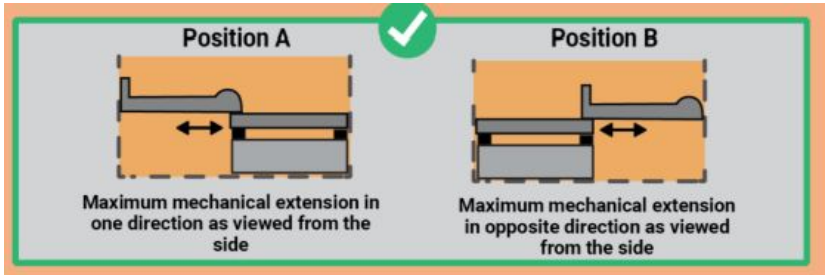
Rules: Construction

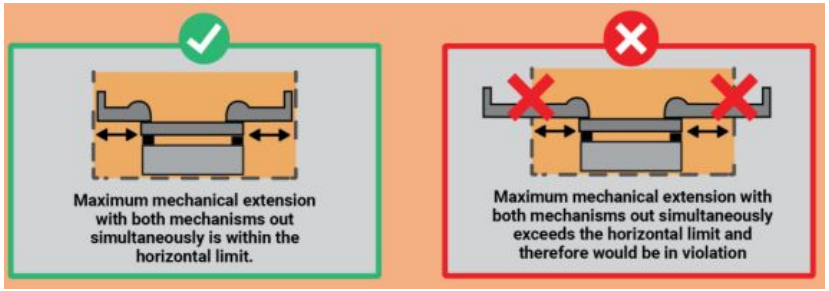
Trust the robot inspectors to do their job. This is context for G416. ROBOTS may expand to 18x24x29”.

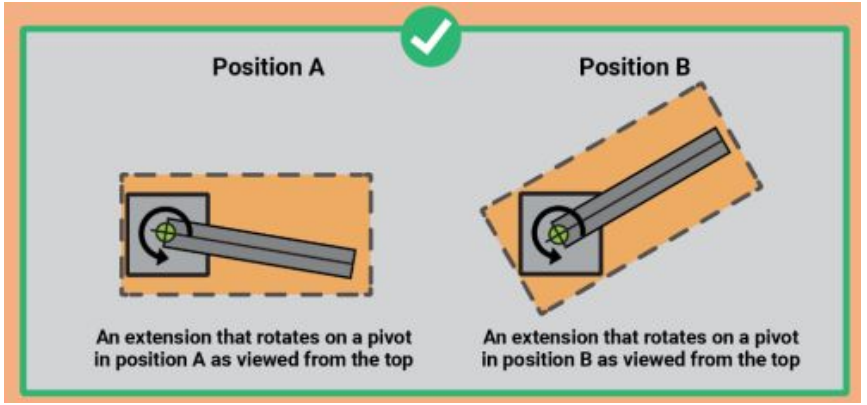
G416 **ROBOTS have construction limits.** ROBOTS may not violate the limits outlined in R105 during the MATCH. ROBOTS may not:

A. expand such that they exceed the expansion limits noted in R105.A or R105.B, or
B. deliberately detach parts per R105.C.

Violation: VERBAL WARNING. MAJOR FOUL per instance, if STRATEGIC.







You can use field structures to gauge size:

Tiles are 24”

Lowest point of the **HIVE** is 30.6” off the ground.

Rules: PINNING

PINNING results in **MAJOR** FOULS this year, as opposed to MINOR FOULS in previous years.

G421

PINNING Scenario		REFEREE Action
REFEREE determines PIN is occurring: ROBOT is **preventing the movement** of an opponent ROBOT by **contact**		Start a 3 second count
	After the first 3 seconds counted	Call a MAJOR FOUL
	For every subsequent 3 second count until the pin is cleared	Call a MAJOR FOUL
After PIN count has started		
	If ROBOTS separate by at least 2 ft (61 cm)	Pause the count
	If either ROBOT has moved 2 ft (61 cm) from where PIN initiated	Pause the count
After PIN count has been paused		
	If ROBOT waits for at least 3 seconds before attempting to PIN the same ROBOT again	Clear the PIN count
	If ROBOT **does not** wait for at least 3 seconds before attempting to PIN the same ROBOT again	Resume the PIN count & FOULS

2 ft (61 cm) is approximately one TILE length

Calling Rule Violations

To indicate a violation, referees should <u>give a verbal indication, AND use their flag</u> in one of the following ways:

- **Warning:** Point with the flag (flag does not go overhead).
- **Pin Count:** Point with the flag, and count while indicating with your other hand.
- **Minor foul:** Flag wave overhead.
- **Major foul:** Flag wave and an “X” overhead.

If multiple REFEREES flag simultaneously, indicate which of you has “made the call” and has responsibility for inputting it.

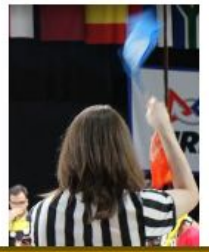
Examples of how to give verbal indications:

- E.g. “Blue, you are controlling a red nectar”
- E.g. “Red Pin, 1…2…3…”
- E.g. “Red, overpossession”

Make the necessary calls, even if something happens unintentionally.



REFEREE indicates a Red warning with a flag point



REFEREE flags a Blue MINOR FOUL with a flag wave



REFEREE flags a Blue MAJOR FOUL with a flag wave and an “X”

Pin Count

Example (blue on red pin in the middle): https://youtu.be/DH8gT_3iDLo?t=9604



This pin was started when blue pushed red against the field perimeter and prevented their movement.

There is a brief pause when the robot moves ~2ft away, but the pin count then continues because the pinning robot moves back into range.

The counting goes: 1…2…3…*flag + X*
…2…3…*flag + X*
…2…3…*flag + X*…

The indication of a MAJOR FOUL happens on counts 4, 7, and 10, to indicate that 3 seconds have passed.

If you're not confident in your coordination skills, practice this beforehand! It takes a little practice to get this motion right.

Rules: Cheat Sheet

Head Referees will usually bring some copies of a cheat sheet. You can keep these in your pockets for quick reference.

These do not replace the game manuals nor are an official resource, but are quite helpful for quickly remembering details.

You will likely be provided a copy on the day.

DISCLAIMER: This cheat sheet is not a replacement for consulting the Competition Manual for full text and understanding. This is an UNOFFICIAL resource.

		RULE	Base Violation	Greater Penalty	Greater Penalty Trigger
PRE-MATCH	G301	Don't delay MATCHES.	ⓘ VW	→ ✕ MAJOR	If SubTP, 2min
	G302	Limit what your bring to the FIELD.	**No MATCH start**	→ 1) ⓘ VW → 2) 🟨 YC	1) If used 2) If SubE
	G303	ROBOTS on the FIELD must come ready to play a MATCH.	**No MATCH start**	→ 1) DISABLED → 2) 🟥 RC	1) If NQR 2) If Robot Plays
	G304	ROBOTS must be set up correctly on the FIELD.	**No MATCH start**	→ **DISABLED or Removed**	If NQR
	G305	Teams must select an OpMode.	**No MATCH start**	→ DISABLED	If NQR
TELEOP AUTO	G401	Don't interact with a ROBOT during AUTO.	ⓘ VW	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
	G402	No AUTO opponent interference. [Per MATCH]	✕ MAJOR	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
	G403	ROBOTS are motionless between AUTO and TELEOP.	ⓘ VW	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
	G404	ROBOTS are motionless at the end of TELEOP.	ⓘ VW	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
SCORING ELEMENT	G405	Keep SCORING ELEMENTS in bounds. [Per ELEMENT]	✕ MAJOR	-	-
	G406	Do not damage or make a mess in the ARENA.	ⓘ VW	→ 1) ✕ MAJOR + 🟨 YC → 2) DISABLED	1) If STRATEGIC 2) If Damage
	G407	No more than 4 at a time. CONTROL SCORING ELEMENTS.	ⓘ VW	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
	G408	Don't CONTROL opponent NECTAR.	ⓘ VW	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
	G409	Don't catch SCORING ELEMENTS.	ⓘ VW	→ 🟨 YC (Per MATCH)	If STRATEGIC
	G410	NECTAR only goes into FLOWERS with one minute left. [Per NECTAR]	✕ MAJOR	-	-
	G411	Do not hoard SCORING ELEMENTS. [Per MATCH]	✕ MAJOR + 🟨 YC	-	-
ROBOT	G412	ROBOTS must be under control.	DISABLED + ⓘ VW	→ 🟨 YC (Per MATCH)	If SubE
	G413	ROBOTS must stop when instructed.	ⓘ VW	→ 🟥 RC	If STRATEGIC
	G414	ROBOTS must be identifiable.	ⓘ VW	→ 🟨 YC	If STRATEGIC
	G415	Watch your ARENA interaction. [Per MATCH]	ⓘ VW	→ 1) ✕ MAJOR + 🟨 YC → 2) DISABLED	1) If STRATEGIC 2) If Damage
	G416	ROBOTS have construction limits. Expansion or detached parts.	ⓘ VW	→ ✕ MAJOR	If STRATEGIC
	G417	ROBOTS may not meddle with the HIVE Starcture.	ⓘ VW	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
	G418	ROBOTS may not meddle with FLOWERS.	ⓘ VW	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
OPPONENT	G419	Do not damage an opponent ROBOT.	ⓘ VW	→ 1) ✕ MAJOR + 🟨 YC → 2) ✕ MAJOR + 🟥 RC	1) If STRATEGIC 2) Unable to Drive
	G420	Do not tip or entangle.	ⓘ VW	→ 1) ✕ MAJOR + 🟨 YC → 2) ✕ MAJOR + 🟥 RC	1) If STRATEGIC 2) Unable to Drive
	G421	There is a 3-count on PINS.	✕ MAJOR	→ ✕ MAJOR **every 3 sec**	-
HUMAN	G422	DRIVE TEAM stays in the ALLIANCE AREA.	ⓘ VW	→ ▲ MINOR	If STRATEGIC
	G423	DRIVE COACHES and other teams: hand off the controls.	ⓘ VW	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
	G424	DRIVE COACHES, SCORING ELEMENTS are off limits.	ⓘ VW	→ ▲ MINOR	If STRATEGIC
	G425	DRIVE TEAMS, watch your reach.	ⓘ VW	→ ✕ MAJOR + 🟨 YC	If STRATEGIC
	G426	Humans may not enter NECTAR onto the FIELD early. [Per NECTAR]	▲ MINOR	-	-
	G427	Humans, only enter NECTAR via the LOADING ZONE. [Per NECTAR]	▲ MINOR	-	-
	G428	Humans, don't remove SCORING ELEMENTS from the FIELD. [Per ELEMENT]	▲ MINOR	-	-

KEY	
2min	Disabled if not match-ready AND not making good-
NQR	Disabled if not a quick remedy
Plays	If non-inspected ROBOT participates in MATCH
SubE	If subsequent violation during event
SubTP	If subsequent violation during same tournament phase

Last Updated 2026-Oct-23
as of Team Update 6

BIOBUZZ

Quick STRATEGIC Check

Ask	STRATEGIC Indicators	Non-STRATEGIC Indicators
Advantage	Scoring, access, position, timing, or other benefit	No meaningful benefit
Team-controlled	Deliberate, continued, or reckless action	Accident, failure, or loss of control
Foreseeable	Benefit was predictable or team was previously warned	Result was unforseeable
Response	Team continued, repeated or used the situation	Team promptly corrected it

		RULE	Base Violation	Greater Penalty	Greater Penalty Trigger
GAME	G101	Humans, Stay off the FIELD during the MATCH.	ⓘ VW	-	-
	G102	Be careful when interacting with ARENA elements.	ⓘ VW	-	-
CONDUCT	G201	Be a good person.	ⓘ VW	→ 🟨 YC	If SubE
	G202	Follow the Competition Integrity Contract (CIC). See Section 1.5.	ⓘ VW	→ 🟨 YC or 🟥 RC	If SubE
	G203	Show up to your MATCHES.	**DISQUALIFIED**	-	-
	G204	Do not expect to gain by doing others harm.	✕ MAJOR	→ ✕ MAJOR + 🟨 YC	If REPEATED
	G205	Egregious or exceptional violations.	🟨 YC or 🟥 RC	-	-

2.2.5 Additional STRATEGIC Scrutiny

More consistent with an error	Requires additional scrutiny: Likely STRATEGIC	Evidence of STRATEGIC violation
• isolated occurrence, • plausible connection to normal play, • immediate effort to stop or correct, • candid explanation consistent with observations, and/or • no meaningful benefit or benefit promptly relinquished	• REPEATED outcome, • meaningful advantage, • inconsistent explanation, • conduct recurs in similar circumstances, • prior VERBAL WARNINGS have been issued, and/or • correction is partial or temporary	• planning or coordination is directly observed, • systems or safeguards are circumvented, • facts are concealed or misrepresented, • conduct continues after a clear warning, and/or • advantage is knowingly retained

R105 Expansion Limits

Figure 12-1: Expansion Limit – Top View

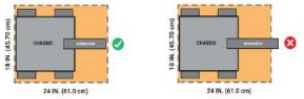
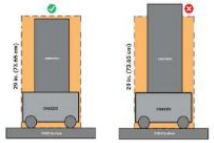


Figure 12-2: Expansion Limit – Side View



SCORING		AUTO	TELEOP
LEAVE		3	-
PARK		6	-
HIVE	HIVE TIP	20	20
	POLLEN and/or NECTAR remaining in CELL	-	2
FLOWER	Bottom NECTAR Bonus	-	5
	POLLEN and/or NECTAR in an owned FLOWER	-	2
GARDEN	POLLEN and/or NECTAR in GARDEN	-	1
	Bonus: 2 ROBOTS fully returned to BASE	-	10
MINOR FOUL	5		
MAJOR FOUL	20		

Ranking Points *All Other Events
SWARM RP: LEAVE + PARK ≥ 16
POLLINATOR 1 RP: # of TIPS ≥ 4
POLLINATOR 2 RP: # of TIPS ≥ 7

Figure 11-1: Examples of allowed ROBOT starting locations

