

# Referee and Head Referee Manual

Revision History		
Revision	Date	Description
1.0	10/18/2024	Initial 2024-2025 Release
1.1	12/05/2024	<ul style="list-style-type: none"> <li>Added "Tracking Fouls" section</li> <li>Completed Safety section</li> <li>Added example HR warning table</li> <li>Removed reference to official Q&amp;A for the Referee meeting</li> <li>Added field setup procedure to required reading</li> <li>Added reference to Head Referee scoring system tablet notes</li> <li>Field Reset Procedure – Head Referees should check randomization of samples in submersible</li> <li>Added "Match Replays" section</li> </ul>

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## Overview

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**Roles Covered:** Referee, Head Referee

### Job Description - Referee

Referees have two main role distinctions: observing matches to call penalties and tracking the status of the match score. Four Referees will be assigned to each field. There will be two Referees responsible for tracking and calling penalties as they occur during the match. The other two Referees track the score for either the red or the blue alliance. After completion of the match, the Referees will work together to finalize the score and account for any penalties assessed during the match.

### Penalties

Referees observe matches, identifies rule violations, and "calls" them. Referees help the competitors to avoid breaking the rules of the game. Referees participate in deliberations regarding contested calls, working directly through the Head Referee.

### Scoring

Scoring Referees monitor the status of the game and scoring elements during match play. There will be one Referee assigned to the blue alliance side of the field, and the other to the red alliance side of the field. Some tournaments will track the status of the field on paper, using score sheets. Other tournaments may use live scoring, and the Referee will use an app installed on either a phone or tablet to track the status of the field

Requirements	
Technical	Medium
Physical	High
Administrative	High
Communication	High
Pre-event Training	High

### Time Commitment

Referees should expect to spend 10-12 hours at a full day event and 5-6 hours at a league meet. Approximately 6-10 hours of pre-event training and planning is required.

### Attire

- Comfortable closed-toe, closed-heel shoes, much of the day will involve standing and walking.
- ANSI Z87.1 certified safety glasses are required in the pit and competition areas.
- Some events will provide a black and white Referee shirt to help distinguish them from other field staff

### Prerequisites for Referee

To serve as a Referee:

- prior *FIRST* experience is required.
- must be 18 years of age or older, and post high school or equivalent

### Training and Certification

Read and complete all tasks listed in the [Pre-Event Training](#) section.

Volunteers must create an account on [www.firstinspires.org](http://www.firstinspires.org) and apply to the role. If you apply to an event role requiring training and certification, the 'Roles Missing Certification' section will appear on

your Volunteer Dashboard. Click on 'Review Outstanding Tasks', then click the 'Resolve' button. This will take you directly to the training site. Alternately, you may also click on the 'Trainings/Certification' button on the top right of the screen. If you have applied for a role but have not received access to the training, please email [FTCTrainingSupport@firstinspires.org](mailto:FTCTrainingSupport@firstinspires.org). A separate confirmation of the role assignment will come later.

Referees should speak to the Head Referee to find out what additional requirements, such as meetings before the event or run-throughs of the space before the event are required.

All volunteers are expected to read and comply with the [Volunteer Handbook](#).

## Roles and Responsibilities

**FIRST is fun for all.** The most important role of a volunteer is to provide a safe, fun and welcoming environment to all *FIRST* participants. When executing the duties of your role, always make decisions with the team experience in mind. Ask for help from event leadership if you feel your required duties conflict with the best team experience.

### Referee

Refereeing at *FIRST* competitions is different from a traditional sporting event in that the Referees at *FIRST* events help the competitors to avoid breaking the rules of the game. We like to remind team members if they are getting close to an infraction and warn them rather than watching passively. Continued violations of the game rules outlined in this manual and the game manuals should fall into fair and consistent enforcement. Penalties will be applied for these violations and could lead to disqualification of a team. A Referee must understand what constitutes a penalty and allow a team the opportunity to remedy the situation.

#### Experience and skills needed

- Ability to "take charge" and be assertive but friendly and tactful.
- Thorough knowledge of the competition, game, and rules of play.
- Strong assessment skills.
- Outgoing personality; high energy.
- Strong communication and diplomacy skills.
- Ability to collaborate with others, work as a member of a team.
- Attention to detail.
- Ability to move about the field.
- Ability to stand for long periods of time.

### Personal Demeanor

As a Referee, it is important to recognize the very public nature of your volunteer role as well as the close level of interaction with the students. Your actions are seen and heard by many participants and spectators at the tournament. The manner that you display in your actions frequently carries more weight with the students than what you say in your interactions with them.

As you are carrying out your responsibilities, keep in mind a few key thoughts:

- I am participating as a volunteer to help inspire students.
- I have many opportunities to serve as a mentor/teacher to those students during the event.

- My job is not to punish teams that commit rule violations. My job is to keep gameplay fair and equitable.
- I inspire better when it is obvious that I am having fun with the people around me while doing my job.

Keeping these thoughts in mind and focusing on having fun with the students will make for a great experience for all involved!

### Referee Best Practice

It is the intent of *FIRST* Tech Challenge and the game design committee to create rules to foster fair gameplay and encourage a level playing field. Overall, you and the entire Referee crew are here as mentors to the students. Your wish should be to see every team succeed. Although your job is to enforce the rules, you should do so in a nurturing, non-authoritarian fashion.

If a Referee finds themselves on the fence about a decision and unsure which way to make a call, they should consult with the rules and use the most appropriate rule to help guide their decision. If a Referee is unsure of a team in fact violating a rule and has difficulty making a determination, they should not penalize the team. If a quick determination cannot be made about a rule violation, it is best not to penalize a team.

Referees should feel empowered to apply the rule that best fits the situation, even if the situation falls into a gray area. If a situation arises where multiple rules can be applied, the Referee should use the rule that most closely fits the scenario.

A good Referee will:

- Warn a team if they are getting close to being penalized.
- Make the necessary calls, even if something happens unintentionally.
- Be fair and consistent to all teams.
- Be friendly and encouraging – make sure this is a fun and positive experience for all teams.
- Be sure of a call and stick to it, Referee decisions are final.
- Direct all match questions to the Head Referee. Do not discuss or argue rulings with team members (or others affiliated with the team such as coaches, parents, siblings, etc.).
- Attend the practice rounds in the morning to get an idea of the intensity of the gameplay. During practice matches the rules are not enforced, but this is an opportunity to instruct the drivers and pre-empt violations during the competitions.
- Not view any video replays or photographs of a match to make the call.
- Set an example by adhering to and enforcing *FIRST* safety rules.

## Before the Event

### Pre-Event Training

Referees must complete the required reading in this section and are required to pass a certification test prior to serving in this role. The Referee must be confident and comfortable with the game rules to be able to reliably make calls during the fast pace of a *FIRST* Tech Challenge event. Learning ahead of time will go a long way towards keeping the event running smoothly and on time.

Resources for training and certification:

Referee and Head Referee Pre-event Training List	
Requirement	Resource
Required	The Referee and Head Referee Manual (this document)
Required	<a href="#">Competition Manual</a> , specifically: <ul style="list-style-type: none"> <li><a href="#">Section 9 – ARENA</a></li> <li><a href="#">Section 10 – Game Details</a></li> <li><a href="#">Section 11 – Game Rules</a></li> <li><a href="#">Section 13 – Tournament</a></li> </ul>
Required	Team Updates - <a href="#">Combined</a> <ul style="list-style-type: none"> <li>Team Updates are posted on a bi-weekly (twice a month) basis. These releases occur on Thursdays at noon. Referees and Head Referees are required to read the team updates, and encouraged to sign up for the Team Update notification emails to help stay up to date.</li> </ul>
Required	<a href="#">Field Reset Procedure</a>
Encouraged	<a href="#">Competition Manual</a> : <ul style="list-style-type: none"> <li><a href="#">Section 12 – ROBOT Construction Rules</a> (specifically, rule R104 in section 12.1)</li> </ul>
Encouraged	<a href="#">Scorekeeper Guide</a> <ul style="list-style-type: none"> <li>Specifically, Referees should review the “Live Score Tracking Using a Tablet” section to view the screens that will be used to track scores and penalties</li> </ul>
Encouraged (New this season)	<p><b>(Head Referee Only)</b> <a href="#">Volunteer Q&amp;A System</a> - The Q&amp;A serves as a space for these volunteers to ask questions and receive official answers from <i>FIRST</i> Staff and our Global Key volunteers about the Competition Manual and its expected implementation.</p> <p>To access the Q&amp;A volunteers must have an active <a href="#">FIRST Dashboard account</a>, have applied to volunteer in the specific role for the 2024-25 INTO THE DEEP season, and have a signed consent and release form.</p>
Encouraged	Attend the <a href="#">monthly Referee/Head Referee conference calls</a>
Optional	watch the <a href="#">game animation video</a> for a general understanding of the game
Optional	<a href="#">FTC Q&amp;A System</a> - This is a resource for teams, however you may also find these useful for rule clarifications

## Event Day

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### Report Time

The Event Director or Volunteer Coordinator will confirm the time you should arrive typically via email the week before the event. In most cases Referees should arrive at the designated volunteer check-in time which is communicated by the Event Director.

When you arrive onsite check-in with the Volunteer Coordinator and report to the Head Referee.

### Referee Meeting

The Head Referee will hold a meeting the morning of the event with the Referees to talk about the flow of the day. This is a good opportunity for the Referee to know which field they will be working on (if there are multiple fields) and which Referees they are working with. The Head Referee should work with the Referees to come up with a communication plan to make sure penalties and scores are recorded correctly. It is important that Referees communicate well during the matches to ensure the matches run smoothly and on time.

### Drivers Meeting

Once teams have gone through judging and inspections, most events will hold a drivers meeting. This is an opportunity for the Head Referee to address the teams prior to the start of matches. A number of topics can be discussed in the drivers meeting, including safety reminders, or even rule infractions that the Referees or Head Referees have consistently seen at past events, to help teams avoid making the same mistakes at the current event. Some examples of topics for the drivers meeting include, but are not limited to:

- General safety reminders (wear safety glasses where required in the venue)
- Where the Head Referee question box is located
- Make sure drive team badges are worn and visible

The drivers' meeting is generally run by the Head Referee. However, Referees may provide input or assist at the request of the Head Referee. Referees considering volunteering as a Head Referee at future events are strongly encouraged to listen to the drivers meeting to learn the process and understand the management of the meeting.

## In Match

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This section will cover some of the responsibilities that a Referee will expect during the event while matches are being played.

### Recording Scores and Fouls

There should be 4 Referees for each field, two per alliance side of the field. The two Referees on each alliance side of the field split the scoring, one tracks the scoring achievements, while the other observes gameplay and tracks fouls.

### Live Scoring

Referees will, in most cases, use a smartphone or a tablet to track the status of the match using the [FTC Live](#), the local scoring system. The tablets are set up by the Scorekeeper for the Referees to use. Detailed guides on how to use the system can be found on our website.

Link to scoring system and scoring system guides: <https://www.firstinspires.org/node/5146>

## Referee Paper Scoresheets

Paper scoresheets can be used for those events that do not set up FTC Live. The paper scoresheets can be printed directly from the website. Instructions on how to fill out the scoresheets can be found in this document.

Link to paper scoresheets: <https://www.firstinspires.org/node/5146>

## Tracking Fouls

As described in section 13.4 of the competition manual, we do not ask Referees to self-track details on FOULS.

## Score Changes

Referees are human, and at times there could be a score that was either entered incorrectly or missed and must be added to the final score. In these instances, the Referee should have a discussion with the Head Referee. The Head Referee will discuss the concerns with the Referee crew to determine if a change needs to be made, and will take the appropriate next steps to make the necessary changes.

## Expansion Limits

Referees and Head Referees should be familiar with the rules that detail the horizontal expansion limits listed in the Competition Manual.

- Rule R104 - this robot construction rule outlines the robot horizontal expansion limits. Robots will be inspected prior to matches starting to ensure compliance with this rule, however, Referees and Head Referees should know and understand this rule.
- Rule G418 – this rule is specific to match play. Referees will watch for robots that expand beyond the horizontal limit during a match.

Referees may use arena elements to help gauge robot expansion. Referees are encouraged to not be overly punitive when enforcing this rule. If a robot extension seems questionable, but not an obvious violation of the rule, Referees should air on the side of giving the benefit to the team. Obvious and clear violations of the rule should be penalized per G418.

Please see this [helpful video](#) that recaps rule R104 and R418 as guidance for Inspectors and Referees.

## End of the Day

At the end of the day, Referees must return their scoring devices (smartphone or tablets) to the Scorekeeper/scoring tables. Be sure to check with the Head Referee or Event Director whether or not black and white Referee shirts (if provided) are to be returned at the end of the day. If possible, Referees may assist other volunteers with the teardown of the event.

## After the Event

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After the event is over your role has ended. Please do not provide additional feedback or commentary on any matches from the event after the event. Consider any referee discussion or calls from the event as privileged information that should be kept private.

If asked game or game play questions, you should direct teams/students/mentors/coaches to the official resources, the [FIRST Tech Challenge Team Q&A](#).

## Online Interactions

Referees and Head Referees need to be aware of their interactions with teams/coaches/mentors while active on social media or online communication platforms. Care should be taken to remember that



outside of an event, your role as a Referee/Head Referee has ended. You should refer all questions to sources for official answers like team Q&A forum.

Because of your volunteer role, teams may identify you as a source of information and support and seek you out to ask questions. You should avoid offering opinions on gameplay strategies, interpretations of rules, or critiques of videos of matches. Conversations that take place at events with teams, students or other key volunteers should not be shared or discussed.

## **Safety**

An important priority for all volunteers is to observe their event areas to help promote a safe and orderly space for all the participants. It's likely that various volunteers and event participants will bring concerns to your attention, but you should also be proactive in identifying areas of concern.

Prioritize working with the teams to help identify and correct potential safety issues in the area. Please review the section about [Team Interaction and Support](#) for the best ways to work with teams on making changes.

## Important Tools

### Public Schedule

The Program Delivery Partner or the Event Director should publish the public schedule of events before the event. This schedule will have a high-level overview of all the activities for the event. It's important that everyone at the event does their best to stay true to the public schedule so that teams and volunteers who have planned their day around these times have a good experience.

*Figure 1: Sample Public Schedule for a Typical FIRST Tech Challenge Event*

Time	Agenda
7:15am	Doors Open for Volunteers
8:00am	Doors Open for Teams
8:30am	Judging & Inspection Commences
10:35am	Inspection Deadline
10:40am	Opening Ceremony & Driver's Meeting
11:00am	Qualification Matches Commence
12:00am	Lunch Time
12:30pm	Qualification Matches Resume
3:15pm	Alliance Selection
3:45pm	Elimination Matches
5:30pm	Closing Ceremony, Awards and Advancement Announcement

On occasion things that happen out of the event's control may impact the schedule. In these cases, work closely with the event director to understand the updated agenda.

### Event Layout/Map

The Program Delivery Partner and Event Director should publish a map of the venue before the event. In some cases, details on the map might not be available until the day of the event.

The Event Layout / Map should detail the following:

- Load-In Path
- Parking for Personal Vehicles and Busses
- Team Check-in
- Volunteer Check-in
- Competition Area
- Pit Area (May include the [Pit Map](#))
- Judging Room Locations (if applicable)
- Safety Details as available (Emergency Exits, AED, Shelter in Place Locations)

### Match Schedule

The match list will be generated the day of the event after the teams have been confirmed. This schedule will list which teams will play in which Alliance (Red or Blue) and it will also list a match start time see Figure 2. Some events will have more than one competition field and/or more than one division and each division will have its own schedule.

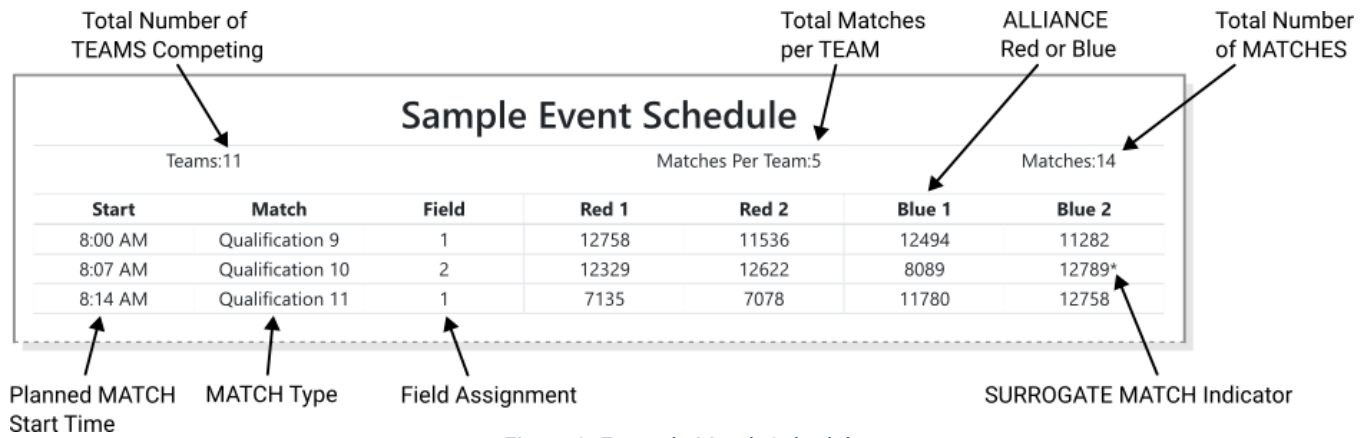


Figure 2: Example Match Schedule

## Pit Map

Pit maps are typically provided by either the Event Director or by the Scorekeeper. Having a map of where each team is in the pit is key, as teams, parents or queuers might need to find. Below are two sample pit maps in Figure 3 and Figure 4:

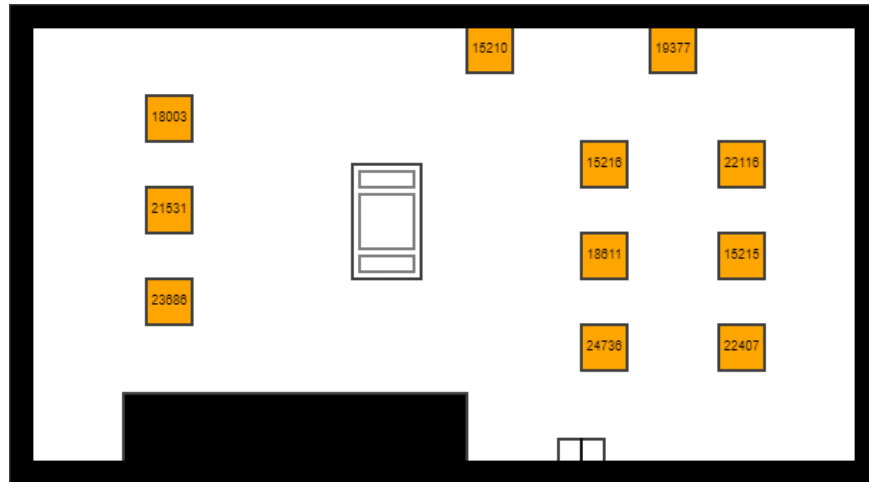


Figure 3: Example Pit Map for a small 12-team Qualifier Event

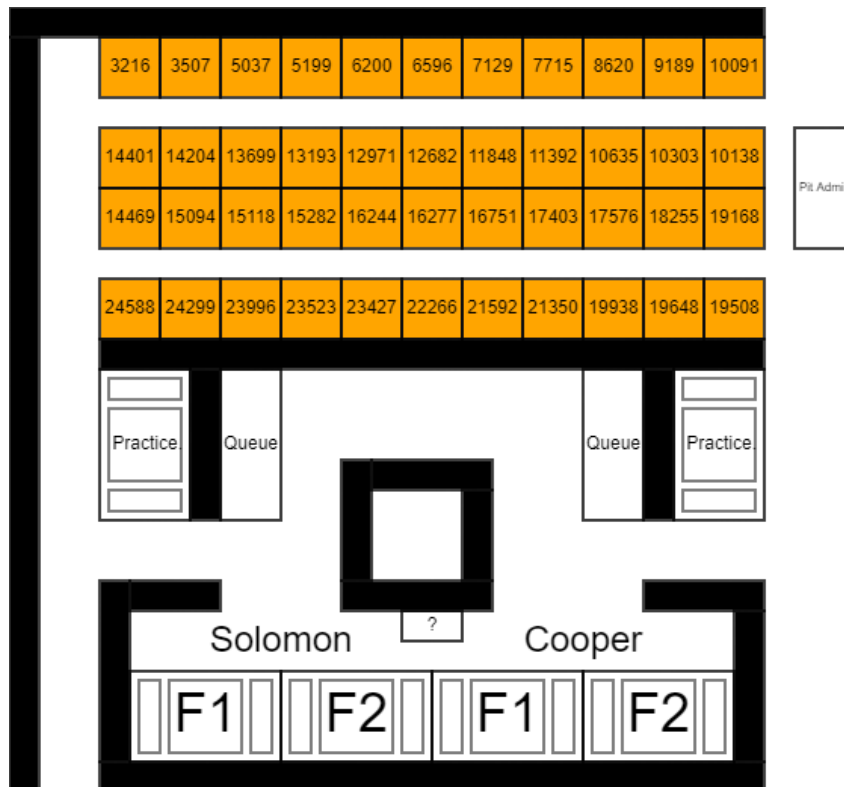


Figure 4: Example Pit Map for a Typical Regional Championship Event

## Useful Links and Information

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### On-Call Support Numbers

#### On-Call Support

These numbers are for *volunteer support only*. Teams should not use these numbers to call about rulings or technical assistance.

Administrative, Judge, Referee and Non-Technical Issues: (603)206-2412

Scoring System (FTC Live) or other Technical Issues: (603)206-2450  
Call or use the built-in chat feature on FTC Live

### Pre-Event Support

Mon – Fri 8:30am – 5:00pm Eastern Time (UTC-4 or UTC-5)  
Phone: (603)666-3906  
Email: [firsttechchallenge@firstinspires.org](mailto:firsttechchallenge@firstinspires.org)

### Program Resources



[FIRST Tech Challenge Website](#)



[Event Search](#)



[Game and Season Resources](#)



[FIRST Tech Challenge Blog](#)



[Volunteer Resources](#)



[Team Email Blasts](#)

### Feedback

We strive to create support materials that are the best they can be. If you have feedback about this manual, please email [firsttechchallenge@firstinspires.org](mailto:firsttechchallenge@firstinspires.org). Thank you!

# Head Referee Manual Supplement

Please make sure to read the entire Referee and Head Referee Manual. The duplicate Head Referee manual information has been removed from the Referee section above. The following section is meant to serve as a Head Referee supplement with information that applies only to the Head Referee role.

## Overview

### Job Description – Head Referee

In addition to the responsibilities of a Referee, the Head Referee also has additional roles and responsibilities. These include:

- serving as a knowledge reference and training resource for the Referee crew,
- monitoring the Referee crew to make sure they are making correct calls,
- communication with teams,
- helping manage tournament schedule,
- serving as a role model for *Gracious Professionalism*®.

### Time Commitment

Head Referees should expect to spend 10-12 hours at a full day event and 5-6 hours at a league meet. Approximately 6-10 hours of pre-event training and planning is required.

### Attire

- Comfortable closed-toe, closed-heel shoes, much of the day will involve standing and walking.
- ANSI Z87.1 certified safety glasses are required in the pit and competition areas.
- Some events will provide a black and white Referee shirt to help distinguish them

### Training and Certification

Volunteers must create an account on [www.firstinspires.org](http://www.firstinspires.org) and apply to the role. Upon application, training can be accessed from within the dashboard. If you have applied for a role but have not received access to the training, please email [FTCTrainingSupport@firstinspires.org](mailto:FTCTrainingSupport@firstinspires.org). A separate confirmation of the role assignment will come later.

New this year there is a [Volunteer Q&A System](#). The Q&A serves as a space for these volunteers to ask questions and receive official answers from FIRST Staff and our Global Key volunteers about the Competition Manual and its expected implementation.

To access the Q&A volunteers must have an active [FIRST Dashboard account](#), have applied to volunteer in the specific role (Head Referee) for the 2024-25 INTO THE DEEP season, and have a signed consent and release form.

## Roles and Responsibilities

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### Prerequisites for Head Referee

To serve as a Head Referee:

- Previous experience as a Referee
- 23 years of age or older, 21 with *FIRST* HQ approval

### Knowledge and Training Resource for Referees

The Head Referee serves as a role model and a knowledgeable resource for the Referee crew and the field staff. The entire Referee crew looks to the Head Referee to be a reference for all rulings on the field and for the interactions with the teams and coaches.

Take the time to study the relevant sections of the Competition Manual. Understanding the intent of the rules is critical to be able to explain as needed to the Referees.

Depending upon the Program Delivery Partner or Event Director, the Head Referee may be asked to help with the training for the Referee crew at the event.

Requirements	
Technical	Medium
Physical	High
Administrative	High
Communication	High
Pre-event Training	High

### Model for Gracious Professionalism®

As Head Referee, you serve in a very visible role in a tournament. You are frequently front and center and in the thick of the activity. As such, your actions are very noticeable. You should make sure to keep a professional demeanor in working with the entire Referee crew as well as all the field staff around the playing field. A light-hearted, friendly personal style around the field should help to keep the interactions with everyone, including the teams, friendly and cordial.

## Team Interaction and Support

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When interacting with teams please always consider the team's perspective. The teams have put significant time and effort into preparing for this event and may be feeling very stressed about everything working out as they have planned. **Today is a very big deal for the team and we are here to help!**

While it's our job to help guide the teams to a successful event, it's their responsibility to follow the rules and be on time for judging and matches.

If you feel there is an issue with an individual or individuals from a team that warrants specific intervention beyond just a kind reminder, please ensure the correct stakeholders for the team are aware. Here is a generally acceptable process when working with a student or team who you need to change their behavior:

The ABCs of Managing Team Behaviors	
<b><u>A</u>sk for an Adult</b>	Do not directly reprimand a student one-on-one without an adult from their team present. Ask the student to bring an adult who is responsible for the team to meet you, before moving forward with any discussion about the concerns at hand.
<b><u>B</u>e aware of the Environment</b>	Is the environment conducive for the feedback you are about to give? Is it loud in the area where you are? Are there other teams around that may hear the reprimand? Moving the conversation to a quieter, more private space as needed can be helpful.
<b><u>(Offer a)</u> Clear Explanation</b>	Explain the concern to the team and offer clear examples of the behavior that is concerning.
<b><u>D</u>iscuss any Questions</b>	Offer the opportunity for students and adults to ask clarifying questions
<b><u>E</u>xplain Next Steps</b>	Outline with the students and adults what the next steps are if the issue is not corrected. Certain behaviors may include the risk of yellow cards

**Note:** the only person at an event who can give an official warning or issue a yellow/red card is the Head Referee. Please refer these more severe issues to the Head Referee and notify the program delivery partner.

Be cautious about passing on any negative feedback about any teams directly to the Judges or Judge Advisor(JA), because it's not possible to know all the contributing factors around such a complaint or observation. If there are issues which are repeated or egregious follow the [FIRST Reporting Portal](#) process and inform the Program Delivery Partner. The Judge Advisor may seek feedback from the Event Director to determine if there is any relevant information to provide the judges for their evaluation process.

Teams may only be completely disqualified from awards consideration for very rare egregious actions and only with approval from FIRST HQ. The event director and/or JA should call the on-call number to discuss the issue.

## Emergencies

The Program Delivery Partner, Event Director and the event site host organization are responsible for having safety and security plans in place for each event. Included in the plan should be topics such as:

- A map of all the emergency exits
- Knowledge of where on-site medical support is located
- Shelter in place plans in the case of severe weather
- Evacuation plans

Teams should have their own safety plans before attending the event. FIRST provides a few resources to help teams plan including:



- [Team Member Safety at Events](#)
- [Preparing to Safely Attend a FIRST Event](#)

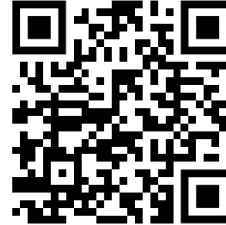
Two important links to have handy are the issue reporting link and Youth Protection Policy pages:

#### Report a Concern



[www.firstinspires.org/report](http://www.firstinspires.org/report)

#### Youth Protection Policy



[www.firstinspires.org/ypp](http://www.firstinspires.org/ypp)

#### Lost Children

FIRST Tech Challenge events can be very hectic, and it can be easy for a child to get lost amongst the shuffle of a busy event. Ensure you have a plan prior to the event in the instance of a lost child.

In some cases, the team roster will list Coach phone numbers which can be used to reunite team members, in some regions they collect "Day-of" cell phone numbers from each team at check in. Coordinate your plan with your program delivery partner.

Code Adam Guidelines ([www.missingkids.com/CodeAdam](http://www.missingkids.com/CodeAdam)) are also a great resource.

#### Medical Incident Reporting

Event volunteers are not responsible for diagnosing students, handing out medication, or first aid equipment. You and other event volunteers should refer medical issues and emergencies to a medical professional on site, such as an EMT. If an incident or illness occurs at an event, the event director, pit administrator, or another trained delegate should do the following:

- Call 911 if there is any question that the injured person/persons require medical attention.
- Respond to the scene immediately. Bring a clipboard, pen, or a tablet to complete the incident report on the [FIRST Reporting Portal](#).
- Complete the incident report for the injured party.

The event director or pit administration volunteers are responsible for completing incident reports. The incident reporting person should follow the best practices for incident reporting:

Best Practices for Incident Reporting	
<b>Be Calm</b>	Anyone handling incident reporting should have a calm demeanor. They should be able to collect information and talk to witnesses without assessing fault
<b>Be Concise</b>	In all conversations with the injured, witnesses, spectators, and/or media always say "the incident is being investigated" without any further comment. It is not the job of the report collector to provide any opinions on the situation at hand.
<b>Be Risk Conscious</b>	Do not imply liability or any payment, as no one knows for sure until all the facts are collected.

**Be Prepared**

Those taking in incident reports should be able to communicate with the insurance company if necessary. They should also be aware of who they need to share incidents with, including the local Program Delivery Organization or the event director.

Although most incidents will not result in a claim, it is better to act on the side of caution and report them. Should an incident result in a claim after the event, the documents will be on file, complete with witnesses and a written report.

**Non-Medical Incident Reporting**

Issues that are non-medical but are of a concern to a participant/participants should be reported. Anything that happens during an event that made a volunteer, team member or spectator feel uncomfortable or threatened should be addressed.

As appropriate and if you feel safe doing to, speak directly to the offending party and try to quickly and calmly defuse the immediate issue. Call the Event Director and/or the Program Delivery Partner and inform them of the issue and seek assistance as needed with any immediate remediation of the issue.

Ensure all issues are reported in a timely manner using the [FIRST Reporting Portal](#). Have the participants select the correct category for their report:

- **Youth Protection Concern:** encompasses a wide variety of one-time or ongoing issues such as suspected abuse, bullying, harassment, discrimination, questionable behavior, or violation to the FIRST Code of Conduct. Must involve a youth participate otherwise use the 'other' category.
- **Other:** For issues which do not fall under the Medical or Youth Protection Concern Categories.

**Answering Team Questions**

One of the key responsibilities for a Head Referee is to address questions from teams and to provide fair, consistent, rule-based answers to their concerns.

It is important to make sure to patiently listen to the questions from the students. Make sure to consider their points and to hear them out completely. They are often very passionate about their concerns and that passion typically becomes more heated if they are not allowed to clearly and completely express their concerns.

Do not allow a team to bring more than one student representative and one silent observer to the question box. If they do come with multiple members, politely remind them of the "one student limit" and wait to begin the discussion until they comply. Similarly, if an adult mentor or coach comes to the question box, politely remind them of the "students only" rule and ask them to send a student team member to ask any questions or to raise any concerns.

At the end of the discussion, it is a good idea to reinforce any positive behaviors displayed by the students. Thanking them for having a calm, intelligent discussion and wishing them good luck with the remainder of the tournament will help with keeping a positive environment around the playing field.

Don't be afraid to correct errors, but it's not possible to be perfect—do the best with what you see at during the match. The Referee crew are human. If, in consulting with your crew, you determine that the team has a valid concern, please reference [Score Changes](#) and [Match Replays](#) sections of this document for next steps.

Remember that while working with the students in the question box, the goal is to have a reasoned discussion, not an argument. The question box is not a courtroom. The discussion is not a trial.

## Event Flow

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### FTA and Head Referee Match Workflow

The key volunteer that owns the playing field is responsible for everything that occurs on the playing field. Specifying which key volunteer is in charge of the playing field and how field ownership transitions between these volunteers improves workflow efficiency. The recommended playing field ownership timeline is as follows:

1. The Head Referee owns the playing field starting when the *FIRST* Technical Advisor (FTA) signals to the Head Referee that the drive teams and their robots are ready to start the match and ending when the Referee crew signals to drive teams that they may remove their robots from the playing field. For example, the Head Referee owns the playing field during the following activities:
  - a) Verify robot physical setup in the arena
  - b) Informing drive teams that they may no longer touch their driver stations until the match starts.
  - c) AUTO
  - d) Transition between the AUTO and TELEOP periods
  - e) TELEOP
  - f) Post-match score certification
  - g) Signaling drive teams to remove their robots from the playing field
2. The FTA owns the playing field at all other times. For example, the FTA owns the playing field during the following activities:
  - a) Field reset
  - b) Robot setup on the playing field by the drive teams

Prior to the start of qualification matches, the FTA should meet with the Head Referee to confirm how they will work together across the match workflow timeline. The Head Referee should be familiar with the field ownership concept because it is described in the Referee manual.

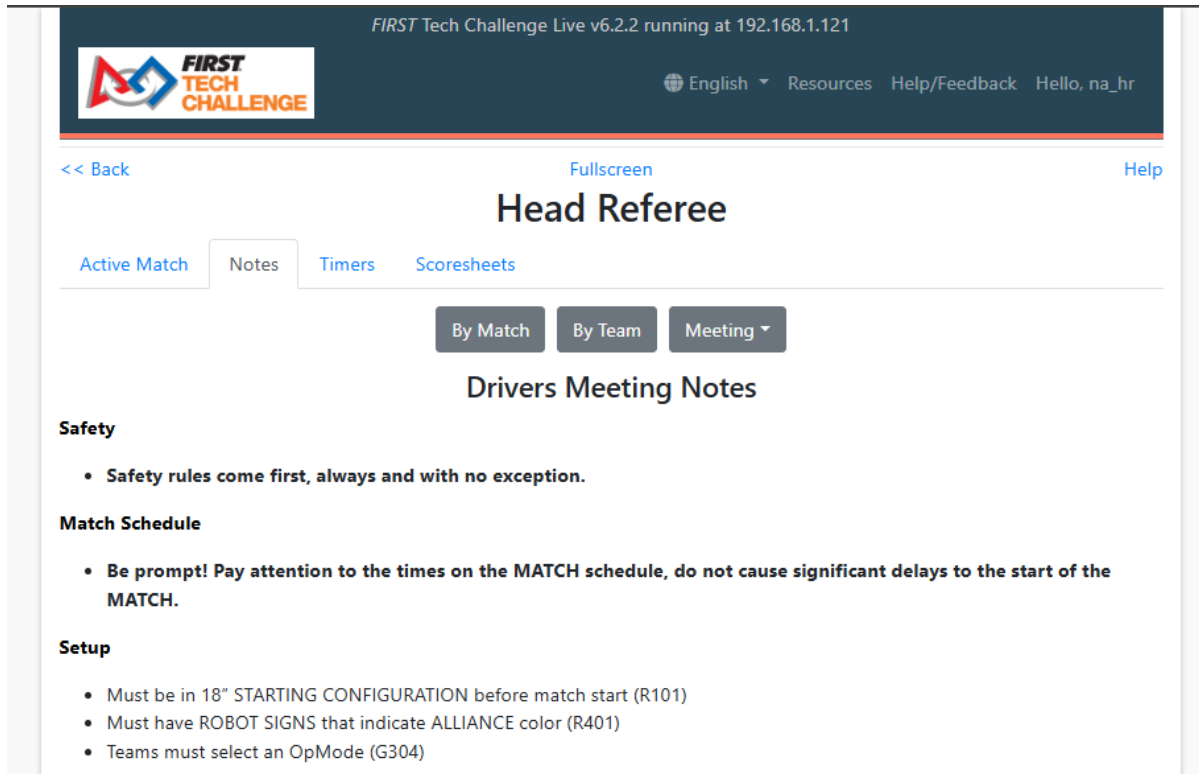
### FTC Scoring System

#### Head Referee Tablets

Head Referees are encouraged to use a tablet device to access the Head Referee features in the scoring system. Check with your Event Director or Program Delivery Partner to determine if you event will provide the device or if you can bring your own.

Your Scorekeeper can help you log into the Head Referee Account at the event which will give you access to several tools during the event, including an active match display, notes, timers, cycle time information and scoresheets.

To learn more about the different Head Referee features, select the “help” button in the upper right of the screen.



## Cycle Time Reports

Head Referees who are assigned to their events in the VMS (Volunteer Management System) will be able to access their system time reports after the event by logging into <https://ftc-scoring.firstinspires.org/> using their FIRST Dashboard login information.

## Referee Meeting

The Head Referee should plan to arrive at the event early to meet with the Referee crew. The Referees work very closely when assessing penalties and finalizing the score of each match. Having introductions in the morning as well as reviewing their assignments will make for a great start to the day. This is an opportunity to come up with a communication plan with all the Referees.

Recommended talking points are available in the Head Referee Scoring System Tablet under "Referee Score Tracking" > "Head Referee" > "Notes" under the "Meeting" drop down, or they can be found in the [Referee Meeting Talking Points](#) section.

## Drivers Meeting

One of the Head Referee's responsibilities is leading the driver's meeting that takes place the morning of the tournament, prior to the start of any matches.

The driver's meeting should emphasize key rules and interpretations and reiterate any recent changes or clarifications to the most current set of rules. It should serve to clarify any misunderstandings the teams may have about game or robot rules or of the scoring of the game.

The meeting is an opportunity to make sure that all the teams understand the match flow such as when and where they should queue, the order the robots should be placed onto the field, the sequence of the match, and the cue for the reset of the field and the removal of their robots. The Field Supervisor may

handle this part of the meeting. Also, the FTA may wish to communicate with teams during this meeting.

During the drivers' meeting the Head Referee should describe the process for teams to ask questions. Make sure to emphasize the timing for questions. It is also critical at the driver's meeting to point out the location of the question box where the team member should wait to ask his or her question.

Make sure to allow time for questions from the teams. Depending on the size of the tournament and the noise level where the driver's meeting takes place, you will possibly need to repeat questions so that all attending the meeting can hear the questions as well as the answers. Talking points are available in the Head Referee Scoring System Tablet under "Referee Score Tracking" > "Head Referee" > "Notes" under the "Meeting" drop down, or they can be found in the the [Drivers Meeting Talking Points](#) section.

### Field Reset and Setup Process

The Head Referee, along with the Field Supervisor, are responsible for the flow of the matches. From the end of the previous match, to the start of the next, the Head Referee and the Field Supervisor work together to ensure proper robot removal, score certification, field reset, etc. Each of these roles has their areas of responsibility. For the Head Referee specifically, those responsibilities are:

1. Confirm that the Referee crew has completed score certification. Make sure that teams do not enter the field to retrieve their robots until the score has been certified at the end of the match.
2. Notify teams to press the (■) stop button on their driver station app. This is an important safety step prior to teams retrieving their robots from the field.

The Head Referee is not responsible for checking the drivers stations to ensure that each team has pressed stop. However, they must make a clear announcement to all of the teams comply with the rule.

3. Allow teams to enter the field to retrieve their robots.
4. The Head Referee should check the samples in the Submersible prior to the start of the next match to ensure acceptable distribution. ([Field Reset Procedure](#))

## Score Changes

At times, Referees may incorrectly record a score and are instructed to discuss these discrepancies with the Head Referee.

If it is determined that a score change must be made due to an arena fault, and the exact score adjustment necessary to correct the issue is not known, please refer to [Match Replays](#).

If a score change is necessary and will change the outcome of a match, the Head Referee should be sure to alert the appropriate parties based on the following:

<b>Before match results have been posted</b>	<ul style="list-style-type: none"> <li>• Inform the Lead Scorekeeper not to post match results until the issue is resolved/scores are updated. This might require assistance from the Lead Scorekeeper to override the scores in the Referee tablets</li> <li>• Let the Emcee/Game Announcer know there will be a delay in match results</li> </ul>
<b>After a match results have been posted</b>	<p><u>Prior to publishing update match results:</u></p> <ul style="list-style-type: none"> <li>• Inform the Lead Scorekeeper that a match score must be changed, and the changes that must be made</li> <li>• Gather the teams impacted by the change to let them know prior to updated event results what is changing, and why it is changing</li> <li>• Let the Emcee/Game Announcer know that a previous match result will be updated and posted</li> </ul> <p><u>Once those parties have received proper communication:</u></p> <ul style="list-style-type: none"> <li>• Coordinate with the Lead Scorekeeper and Emcee/Game Announcer to have the updated match results posted and announced</li> </ul>

This need to pre-share the match outcome score changes is even more critical during the playoff portion of an event. Make sure to communicate with the Emcees and/or Game Announcers for the event prior to the beginning of the playoff matches to help them understand the timing of possible team challenges to help avoid premature announcement of match outcomes – and potentially incorrect identification of alliances advancing during the playoffs.

Taking the time to manage the announcement of match outcomes during playoff matches will help avoid considerable upset from the teams involved.

## Match Replays

Generally, match replays are rare and are a result of an arena fault. The circumstances in which a match should be replayed during an event are listed in T301 of the competition manual. The prerequisites for a replay are:

- At least one team in the match in question must request the replay
- The replay must be due to an arena fault or prematurely stopped match as described in the Competition Manual
- If due to an arena fault, the arena fault must have reasonably affected the outcome of the match as determined by the Head Referee

## Referee Conferences

Occasionally, during scoring or in answering a team's questions, it is useful to hold an impromptu conference with the Referees. This also encourages consistent application of the rules throughout the course of the day. Gather the crew and discuss the situation as needed. Make sure to allow the entire crew the opportunity to speak if they wish.

Sometimes a brief conference is a valuable tool for defusing dispute. As you listen to a team's questions it may be useful to step away, confer with your crew, and then provide the answer; even if the conference doesn't impact the decision, you would have made anyway. Taking the time to discuss the question with the crew helps the team feel that their concerns were heard, understood, and valued, even if the final decision doesn't go the way they are arguing for. Make sure that the short conference happens away from earshot of the teams that are asking (also away from others that may eavesdrop). Also keep in mind that the matches must keep moving forward; this meeting should be short in order to keep the match schedule moving on time.

## Alliance Captains Meeting

The Head Referee is responsible for having a brief meeting with the teams who are competing in the playoffs.

This short meeting is held just after the alliance selection. The Head Referee should explain a quick rundown of the playoff match flow as well as some of the rules listed on section 13.6 of the competition manual. In addition, you should emphasize a few key differences between the qualification matches and the playoff matches. Recommended talking points are available in the Head Referee Scoring System Tablet under "Referee Score Tracking" > "Head Referee" > "Notes" under the "Meeting" drop down, or they can be found in the [Alliance Captains Meeting Talking Points](#) section.

## Tracking Warnings and Cards

The Head Referee is expected to track verbal warnings, Yellow Cards, and Red Cards given to teams during the event. The Head Referee is encouraged to either use the notes feature on the Head Referee scoring tablet, or work with the scorekeeper to print out the Head Referee Tracking Report from the scoring system.

### Head Referee Tracking Report

		Test Event																		
#	Short Name	G101	G102	G201	G202	G203	G204	G205	G206	G208	G301Q	G301P	G409	G415	G416	G428	G501	G502	T205	Notes
208	Runic Robotics																			
327	The Lobotomists																			
731	Wannabee Strange																			
772	Golden Dragons																			
2901	Purple Gears																			
6996	Oncoming Storm																			
14825	Team Waffles																			
23350	Microchips & Queso																			
25959	Gigabytes of Guac																			

Each Head Referee can take notes in a way that is helpful for them. As an example, recording which matches verbal warning were given for each violation and when issues escalate to yellow or red cards taking a note as to which rule was violated.

## Head Referee Tracking Report

		Test Event																		
#	Short Name	G101	G102	G201	G202	G203	G204	G205	G206	G208	G301Q	G301P	G409	G415	G416	G428	G501	G502	T205	Notes
208	Runic Robotics										Q21							Q4		G502 YC in Q14
327	The Lobotomists												Q12							dmg 1x in Q12, another in Q20
731	Wannabee Strange	Q15																		egr. - YC G211
772	Golden Dragons																			
2901	Purple Gears																			G402 - Q3
6996	Oncoming Storm										Q13									
14825	Team Waffles	Q2																		Climbed Subersible
23350	Microchips & Queso											Q2								A3 - both
25959	Gigabytes of Guac											Q2								A3 - both

## Referee Meeting Talking Points

- Warn a team if they are getting close to being penalized.
- Make the necessary calls, even if something happens unintentionally.
- Be fair and consistent to all teams.
- Be friendly and encouraging – make sure this is a fun and positive experience for all teams.
- Be sure of a call and stick to it, referee decisions are final.
- Direct all match questions to the head referee. Do not discuss or argue rulings with team members (or others affiliated with the team such as coaches, parents, siblings, etc.).
- Attend the practice rounds in the morning to get an idea of the intensity of the gameplay. During practice matches the rules are not enforced, but this is an opportunity to instruct the drivers and pre-empt violations during the competitions.
- Not view any video replays or photographs of a match to make the call.
- Set an example by adhering to and enforcing FIRST safety rules.
- Remind the referees why they are there, to make this a memorable event for the students.
- Review each referee's assignment for the day
- Giving a high level overview of the game (if there are new referees)
- Go over important rule updates from most recent Team Updates
- Common rule violations to watch for



## Drivers Meeting Talking Points

The talking points below are to be used as a guide for the Head Referee. The rules listed are briefly summarized, and full rule details are listed in the Competition Manual.

<b>Safety:</b>
<ul style="list-style-type: none"> <li>• <b>Safety rules come first, always and with no exception.</b></li> </ul>
<b>Match Schedule</b>
<ul style="list-style-type: none"> <li>• <b>Be prompt! Pay attention to the times on the MATCH schedule, do not cause significant delays to the start of the MATCH.</b></li> </ul>
<b>Setup:</b>
<ul style="list-style-type: none"> <li>• Must be in 18" STARTING CONFIGURATION before match start (R101)</li> <li>• Must have ROBOT SIGNS that indicate ALLIANCE color (R401)</li> <li>• Teams must select an OpMode (G304)</li> </ul>
<b>AUTO to TELEOP Period Transition</b>
<ul style="list-style-type: none"> <li>• Automatic transition from AUTO to TELEOP period – teams should stay alert to pick up OPERATOR CONSOLES before TELEOP period begins.</li> </ul>
<b>Pinning</b>
<ul style="list-style-type: none"> <li>• Watch for Referee counting (be smart!)</li> <li>• Must separate/move by at least 24" for more than 5 seconds to stop pinning count.</li> </ul>
<b>Forced Penalties</b>
<ul style="list-style-type: none"> <li>• If a ROBOT is forced to break a rule by the opposing alliance, it is not counted as a FOUL (G210)</li> </ul>
<b>"Rough Play" – Destruction/Damage/Tipping:</b>
<ul style="list-style-type: none"> <li>• Interactive game – some contact is expected.</li> <li>• Do not <i>deliberately</i> damage opponent ROBOTS (G421)</li> <li>• Do not <i>deliberately</i> tip or entangle. Robot interactions where the opponent ROBOT cannot drive is deliberate and will be penalized (G422)</li> </ul>
<b>Play Smart, Be careful</b>
<ul style="list-style-type: none"> <li>• Do not interfere with the opposing ALLIANCES ROBOT, SCORING ELEMENTS, during AUTO (G404)</li> <li>• 1 SAMPLE or SPECIMEN at a time (G410)</li> <li>• More than MOMENTARY CONTROL of opposing ALLIANCES SAMPLES or SPECIMENS – penalized (G411)</li> <li>• Scoring opposing ALLIANCES SAMPLES or SPECIMENS penalized (G411)</li> <li>• Humans watch out for ROBOTS, ROBOTS watch out for humans (G419, G432)</li> <li>• Watch out for protected ZONES (G425, G426)</li> <li>• No contact with ASCENDING ROBOTS (G427)</li> </ul>
<b>Robot rules always apply:</b>
<ul style="list-style-type: none"> <li>• Horizontal expansion limits apply throughout the match (R401, G418)</li> <li>• Changes may need re-inspection! (I304)</li> <li>• Head Referee can request re-inspection at any time</li> </ul>
<b>Questions after matches</b>
<ul style="list-style-type: none"> <li>• No photos/videos (T201)</li> <li>• Questions during qualification MATCHES must be asked prior to ALLIANCE selection, or w/in 5 minutes of last qualification MATCH (T402)</li> <li>• Questions are asked in a designated spot – question box (describe where, remind teams they should bring supporting documentation to back up their question)</li> <li>• Only 1 student team member and one silent observer per team in the question box ONLY with <u>Head Referee</u></li> <li>• <b>Head Referee ruling is FINAL!</b></li> </ul>

## Alliance Captains Meeting Talking Points

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All the talking points from the driver's meeting still hold. Here are additional talking points that teams competing in the playoff matches should be aware of.

### **Match Setup:**

If robot placement order matters to either alliance, the alliance captain should inform the Head Referee before match set-up begins. Referee instructions are that robots are placed in the following order:

1. first red robots
2. first blue robots
3. second red robots
4. second blue robots

In playoff matches the alliance captain decides which robot places first within their ALLIANCE.

### **Playoff Matches (G301):**

There are no team requested timeouts. During playoff MATCHES, the expected start time of the MATCH is the time indicated on the MATCH schedule or 8 minutes from either ALLIANCE'S previous MATCH, whichever is later. A match may begin early if both alliances are ready to begin a match ahead of time.

### **Team Questions (T402 B)**

Questions must be asked before the current round is finished.

### **Disqualification/Yellow & Red Cards (section 10.6.3)**

- Disqualification of a team applies to the entire alliance
- Yellow card for 1 robot = yellow card for every robot in alliance
- Red card for 1 robot = disqualified robot = disqualified alliance = loss of match

## Paper Scoresheet Instructions

- Fill out the match number.
- Indicate which field the match is taking place (if there are multiple fields being played).



**Red Alliance**

Match: \_\_\_\_\_ Field: \_\_\_\_\_



- AUTO

AUTO Period			
SAMPLES		SPECIMENS	
HIGH BASKET	<div>a)</div> _____	HIGH CHAMBER	<div>b)</div> _____
LOW BASKET	_____	LOW CHAMBER	_____
NET	_____		
ROBOT	None	OBSERVATION ZONE	ASCENT Level 1
<div>c)</div> Robot 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Robot 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- For both robots on the alliance, record the number of SAMPLES placed in the HIGH BASKET, the LOW BASKET, and the NET. If none, write zero (0).
- For both robots on the alliance, record the number of SPECIMENS scored on the HIGH CHAMBER and the LOW CHAMBER. If none, write zero (0).
- For each robot on the alliance, check off if the robot navigated to the OBSERVATION ZONE, if they completed ASCENT Level 1, or none. Note that only one box will be checked per robot.

- TELEOP

## TELEOP Period

SAMPLES <span style="float: right;">d)</span>			SPECIMENS <span style="float: right;">e)</span>		
HIGH BASKET			HIGH CHAMBER		
LOW BASKET			LOW CHAMBER		
NET					

ROBOT	None	OBSERVATION ZONE	ASCENT Level 1	ASCENT Level 2	ASCENT Level 3
f) Robot 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Robot 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- d) For both robots on the alliance, record the number of SAMPLES placed in the HIGH BASKET, the LOW BASKET, and the NET. If none, write zero (0).
- e) For both robots on the alliance, record the number of SPECIMENS scored on the HIGH CHAMBER and the LOW CHAMBER. If none, write zero (0).
- f) For each robot on the alliance, check off if the robot navigated to the OBSERVATION ZONE, if they completed ASCENT Level 1, Level 2, or Level 3, or none. Note that only one box will be checked per robot.

### 5. FOULS

FOULS				
	# MINOR <span style="float: right;">g)</span>		# MAJOR	
Team #	No Robot	No Show	Yellow Card	Red Card
h)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- g) For both robots on the alliance, record the number of FOULS, either MINOR or MAJOR, during the match. If none, write zero (0).
- h) If either team did not bring a robot, did not show up to the match, or received a yellow or red card, make sure to write the team number on the blank line to the left, and check the appropriate box.