Lead Robot Inspector Manual

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V26-27.1	Initial 2026-27 Season Release

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Overview

Roles Covered: Lead Robot Inspector

Job Description

The Lead Robot Inspector (LRI) supervises robot inspections at the event and supports a team of Robot Inspectors. The LRI oversees and supports the work of Robot Inspectors & Inspection Managers to ensure robots are legal and match-ready and assists teams with technical needs to get them match-ready. This is a highly responsible, detail-oriented, and team-facing role that requires leadership, rule knowledge, and technical competence.

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

Time Commitment

The Lead Robot Inspector should expect to spend 6-8 hours at a full day event. After the inspection process the LRI may be asked to perform re-inspections during the event and should be available to help answer team questions and work with the FTA and CSAs to help teams who may be having problems.

Approximately 6-8 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 or regional equivalent certified safety glasses are required in the competition areas and other areas as specified.
- As one of the event leaders, comfortable professional wear is encouraged

Training and Certification

Read and complete all tasks listed in the `Pre-Event Training` section.

Any volunteer who applies to a role will be able to get into the Learning Management System (LMS) using the '*FIRST* Training' button. Roles with the training required will appear in the 'roles missing certification' area. For more help, you can read more about how to access your training.

If you have applied for a role but have not received access to the training, please email training@firstinspires.org. A separate confirmation of the role assignment will come later.

The Lead Robot Inspector should speak to the FTA or Event Director 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 for a volunteer is to provide a safe, fun and welcoming environment for 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.

Lead Robot Inspector (LRI)

Robot Inspectors perform required inspections to ensure compliance with construction rules. Lead Robot Inspectors supervise the Robot Inspectors and act as a resource to the Robot Inspectors performing the inspections. The Lead Robot Inspector's responsibilities include:

- Collaborate with the Event Director to create an inspection schedule.
- Ensure the required robot inspection tools, materials and workspace are available on event day.
- Provide periodic inspection progress updates to the Event Director and *FIRST* Technical Advisor.
- Provide Robot Inspectors with guidance and enforcement on any rulings during inspection when necessary.
- Work with the FTA and Head Referee if a team is unable to pass inspection.
- Be a resource teams can request at any time during the event if they have questions about the inspection process or robot rules.

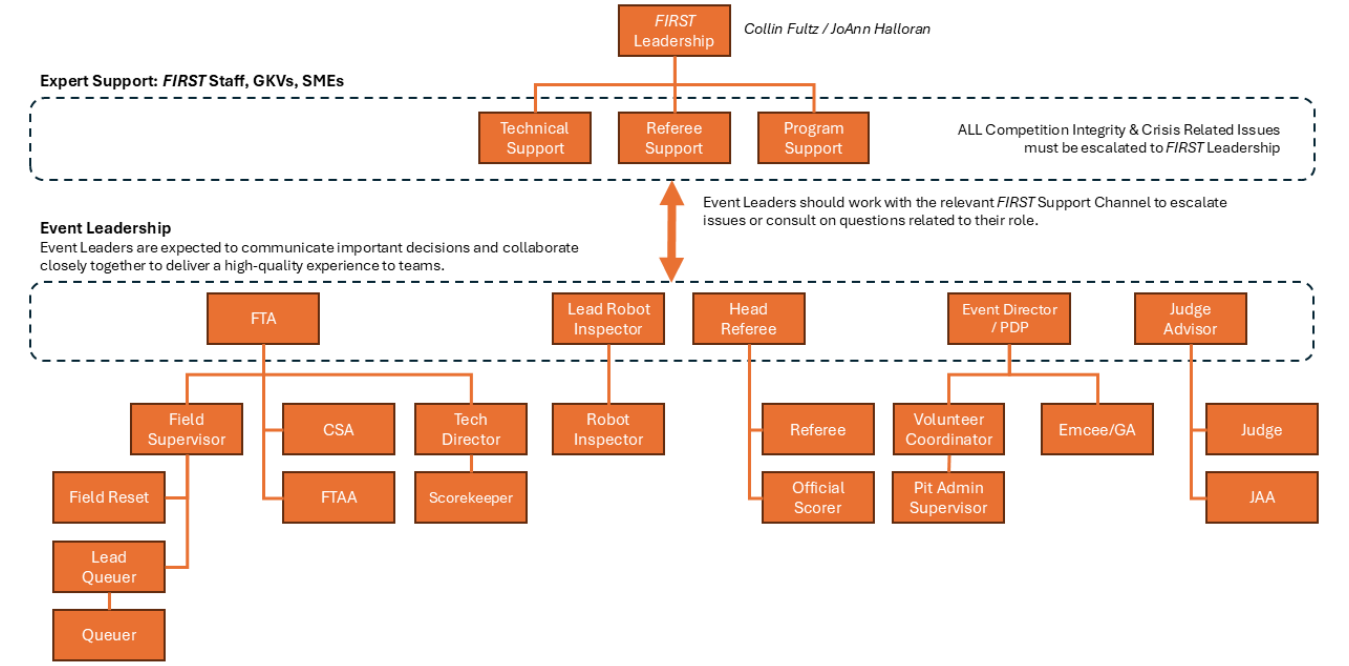
Prerequisites for Lead Robot Inspector

To serve as a Lead Robot Inspector, previous experience as a Robot Inspector is required.

Reporting Structure

The Lead Robot Inspector reports directly to *FIRST* Staff and Global Key Technology Volunteers. They collaborate with the other Event Leadership volunteers to successfully deliver a high-quality experience to teams.

FTC 2026-2027 Decision Authority Matrix



Before the Event

FIRST Tech Challenge tournaments squeeze a lot of activity into one day. One of the keys to running a smooth and successful event is for teams and volunteers to show up prepared. Teams spend countless hours preparing for competition day and we ask our volunteers to prepare for tournament day as well. Robot Inspectors must participate in training before volunteering at an event. They also must pass a certification test. Training and the certification test are provided by *FIRST* Headquarters.

Pre-Event Training

Before serving in the role, the Lead Robot Inspector must complete all required reading in this section and successfully pass the Lead Robot Inspector certification test. Additionally, they must first pass the Robot Inspector certification test before attempting the Lead Robot Inspector certification.

The table below outlines the additional training requirements specific to the Lead Robot Inspector role, beyond those listed in the Robot Inspector documentation.

Resources for training and certification:

Lead Robot Inspector Pre-event Training List	
Requirement	**Resource**
Required	Welcome to FIRST
Required	Complete and pass the Robot Inspector Certification
Required	The Lead Robot Inspector Volunteer Manual (this document)
Required	The Competition Manual – specifically:

Lead Robot Inspector Pre-event Training List	
	• Section 3: Competition Eligibility and Inspection (I) • Section 9: ARENA • Section 10: Game Details • Section 11: Game Rules (G) • Section 12: Robot Construction Rules (R) • Section 13: Tournament (T)
Required	Inspection Quick Reference
Encouraged	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 for the current season, and have a signed consent and release form.
Encouraged	Review the Competition Manual – specifically: • Section 8: Game Overview Or, watch the game animation video for a general understanding of the game.
Encouraged	Attend the Robot Inspector Volunteer Calls
Encouraged	Join the FTC Technology Support Volunteer Slack workspace
Optional	FTC Team Q&A System - This is a resource for teams; however, you may also find these useful for understanding what teams ask
Required	Complete the Lead Robot Inspector Certification Test in the *FIRST* Learning System; click on "***FIRST* Training**" in the left navigation "**Quick Links**" section to access this training. (For volunteers outside of North America without a *FIRST* Dashboard Account use the PDF to self-certify)

Event Day

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, the Lead Robot Inspector will need to arrive at the event as soon as the event opens for volunteers to ensure the robot inspection tables are setup up, and inspection staff are in place when teams start arriving for inspections. In rare cases, robot inspections might begin the day before the event and continue into the next morning in cases where teams weren't inspected the day before.

The Lead Robot Inspector should check in with the Volunteer Coordinator or Event Director.

Set-up

After checking in, the Lead Robot Inspector should confirm they have the appropriate resources and tools needed to complete robot inspections. Some items that are needed for robot inspection include:

Supplies:

- An 18in. x 18in. x 18in. (45.70 cm x 45.70 cm x 45.70 cm) robot sizing tool
- Inspection tablet or inspection checklists
  - Robot Inspection checklist
- Pens
- Tape measure
- Robot Sign Templates (US Letter | A4)
  - These are to assist teams that may show up to the event without their own robot signs.

Supporting documentation:

- Robot Inspector Manual (this document)
- Inspection Quick Reference
- Copies of the Competition Manual
  - Digital copies of the competition manual are accessible through the Robot Inspectors' tablet, which is the preferred method to access the manual. This ensures the inspectors are viewing the most current version of the manual.
- A copy of the `Registered Teams List`

> Most events will provide a tablet to the Robot Inspectors. This tablet is used for the Robot Inspector to conduct inspections and indicate which teams have passed inspection, and which teams are currently in the process of completing inspection. For those events not using tablets, paper copies of the checklists will be used for each team and team status should be tracked on paper.

Robot Inspection Process

The Lead Robot Inspector oversees the inspection process, helps inspectors with marginal calls & general knowledge of the inspection process. The LRI with support of the Event Director is empowered to alter the inspection process when necessary.

Always keep in mind that as a Lead Robot Inspector your role is not to fail a team. You are well-positioned and empowered to help teams pass inspection while ensuring a fair competition.

For details on the inspection process, please refer to the Robot Inspector Volunteer Manual.

It is the responsibility of the **Lead Robot Inspector** to:

- Oversee the inspection process and adapt the process where necessary.
- With the help of the FTA & Head Referee, make final calls on robot inspection items and robot construction rule interpretations.
- Provide as-needed guidance to Robot Inspectors.

- Ensure all teams are treated fairly and without a competitive advantage.

At anytime, and for any reason, a team in an inspection may request the Lead Robot Inspector to assist with the inspection. The Lead Robot Inspector should listen to the team's questions or concerns and provide help and guidance towards the best possible team outcome. Teams may also request the Lead Robot Inspector at any point during the event with questions or asking for help to comply with the rules. The Lead Robot Inspector should act as a resource to both teams and Inspectors to help everyone have a good experience.

Inspection Troubleshooting

Repeated Failures

If a team repeatedly fails inspection, the team should be identified to the Lead Robot Inspector and they should work directly with the team.

If a team cannot pass inspection, even with help. The Lead Robot Inspector, *FIRST* Technical Advisor, Event Director and/or Program Delivery Partner must decide how to proceed.

> The goal of the inspection process is to ensure all robots are safe and have no unfair advantage during the competition. Within these bounds, the Lead Robot Inspector is empowered to deprioritize some robot construction rules to allow a team to participate.

Re-inspection

If a team makes significant changes to their robot or their programming during the day, they must undergo another inspection. It is not unusual for a team to ask for a re-inspection of their robot. Only inspection items that are affected by the change are required to be checked.

> As an example, if a team adds a new actuator to their robot they should request a re-inspection. The inspector should verify the team is still under the motor limit, the added motor is legal, the robot still fits within sizing requirements, and any other relevant rules to the change. There is no need to check ROBOT signs or the OPERATOR CONSOLE if these items have not changed. Most re-inspections will be very quick and should not be a burden on teams or the LRI.

The Head Referee may ask for a re-inspection of a robot based on observations on the playing field. The Lead Robot Inspector will re-inspect the robot for the concern and report the results to the Head Referee. If the Lead Robot Inspector and Head Referee disagree, the Lead Robot Inspector should cite the supporting rule(s) and reason for the ready or not ready recommendation. The Head Referee has the final authority over allowing a robot to compete.

> It is unusual for late-season events for Head Referees to require many re-inspections. If a large number of re-inspections are occurring it may be necessary for the Lead Robot Inspector and Head Referee to work with all event leadership (see the Reporting Structure) to ensure event rules are consistent with global standards.

End of the Day

The role of Robot Inspector generally ends once inspections have been completed, which is prior to the start of matches. Many Robot Inspectors may choose to fill another role during the event or leave early. The Lead Robot Inspector is primarily responsible for conducting any re-inspections and being an inspection resource to the teams during the event. If possible, the Lead Robot Inspector may assist with the teardown of the event.

Team Interaction and Support

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	
Ask for an Adult	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.
Be aware of the Environment	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.
(Offer a) Clear Explanation	Explain the concern to the team and offer clear examples of the behavior that is concerning.
Discuss any Questions	Offer the opportunity for students and adults to ask clarifying questions
Explain Next Steps	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.

Volunteers should not provide feedback about team behavior to the Judges. Concerns about team behavior should be handled through the normal escalation channels as described in Section 1 of the Competition Manual. If there are issues which are repeated or egregious follow the process for Reporting Other Issues or Concerns 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. Here are some team-focused recommendations for Preparing to Safely Attend a *FIRST* Event.

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) are also a great resource.

Medical Incident Reporting

Event volunteers are not responsible for diagnosing student injuries, 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 whether the injured person/persons require urgent medical attention.
- Respond to the scene immediately. Bring a clipboard, pen, or a electronic device to complete the incident report on the *FIRST* Reporting Portal.
- Complete the incident report for the injured party.

www.firstinspires.org/report

The Event Director or Pit Administration volunteers are responsible for completing incident reports.

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.

Youth Protection Reporting

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

www.firstinspires.org/report

As appropriate and if you feel safe doing to, speak directly with 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. Youth Protection Concerns 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.

Reporting Other Issues or Concerns

Feedback about issues such as game play, rule changes, awards, and event management (other than medical/safety issues) are considered program related concerns and not youth protection issues and should be shared with FIRST via customerservice@firstinspires.org or by contacting support.

help.firstinspires.org/s/contactsupport

Please note that match results and award results are final and that we will not review match videos.

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.

Safety Glasses and Closed Toe Shoes

All volunteers, teams, coach/mentors, and spectators are required to have safety glasses and wear closed toe shoes while in the competition areas and in the pit when robots are active or situations require the use of safety glasses (using high speed drills, etc). It is important to watch out for anyone entering these areas without proper personal protective Equipment (PPE) and to ask them to put on proper PPE before entering. Some events will have spare safety glasses to pass out. Other events may not have spares to provide.

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 is 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.

Time	Agenda
7:15 am	Doors Open for Staff & Key Volunteers
7:30 am	Judges and Inspectors Report
8:00 am	Doors Open for Teams
8:30 am	Judging & Inspection Commences
10:15 am	Team Check-in Hard Deadline (Check the Competition Manual)
10:30 am	Match schedule is generated and distributed to teams. (Check the Competition Manual) *Note to Scorekeeper: 6 Matches total* (Check the Competition Manual)
10:40 am	Drivers' Meeting with Head Referee & Opening Ceremony
11:00 am	Qualification Matches 1 - 8 *Note to Scorekeeper: 7-minute cycle-time*
12:00 pm	Lunch
12:45 pm	Qualification Matches 9 - 45 *Note to Scorekeeper: 5-minute cycle-times*
3:50 pm	Qualification Matches Projected End
4:00 pm	Alliance Selection
4:20 pm	Double Elimination Rounds 1 - 4
5:10 pm	Award Ceremonies Start & Double Eliminations Round 5
6:20 pm	Projected End of Event
7:00 pm	Doors Close
Occasionally 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.	

SAMPLE

Figure 1: Example Schedule for a 30 Team Event

Registered Teams List

The Program Delivery Partner may provide a list of teams registered for the event or the scorekeeper can export a report of all the registered teams for the event. Sometimes this list may change the day of the event based on which teams show up. The Scorekeeper report will have the most accurate information about who is competing at an event. Notes that teams may be competing only in the judging portion of the event and not have a robot present.

Test Event Teams

Number	Team Number	Name	Affiliation	City	State	Country	Rookie Year
1	1	Team Unlimited	PTC & FTC1 Team Unlimited 4-H Club	Sharon	MA	USA	2007
2	7	Tactical Sheep	TechBrick Education/DoD STEM&TechBrick Education	Aberdeen Proving Ground	MD	USA	2007
3	16	bigskyrobotics		missoula	MT	USA	2007
4	18	Techno Chix	Girl Scouts Heart of the Hudson	Port Chester	NY	USA	2007
5	22	100 Scholars	100 Black Men of Atlanta/Georgia Power/Johnson Research and Development/NCR/Lockheed Martin & 100 Black Men of Atlanta, Inc.	Atlanta	GA	USA	2007
6	25	Rock N' Roll Robots	Girl Scouts of Greater Los Angeles/NASA&Girl Scouts	Pasadena	CA	USA	2007
7	99990	Off-Season Demo Team	Off-Season Demo Team				1992
8	99991	Off-Season Demo Team	Off-Season Demo Team				1992
9	99992	Off-Season Demo Team	Off-Season Demo Team				1992
10	99993	Off-Season Demo Team	Off-Season Demo Team				1992
11	99994	Off-Season Demo Team	Off-Season Demo Team				1992
12	99995	Off-Season Demo Team	Off-Season Demo Team				1992
13	99996	Off-Season Demo Team	Off-Season Demo Team				1992

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Figure 2: Competing Team Report

Volunteer Roster

The Volunteer Coordinator or the Program Delivery Partner will have access to a list of applied and assigned volunteers for the event.

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)

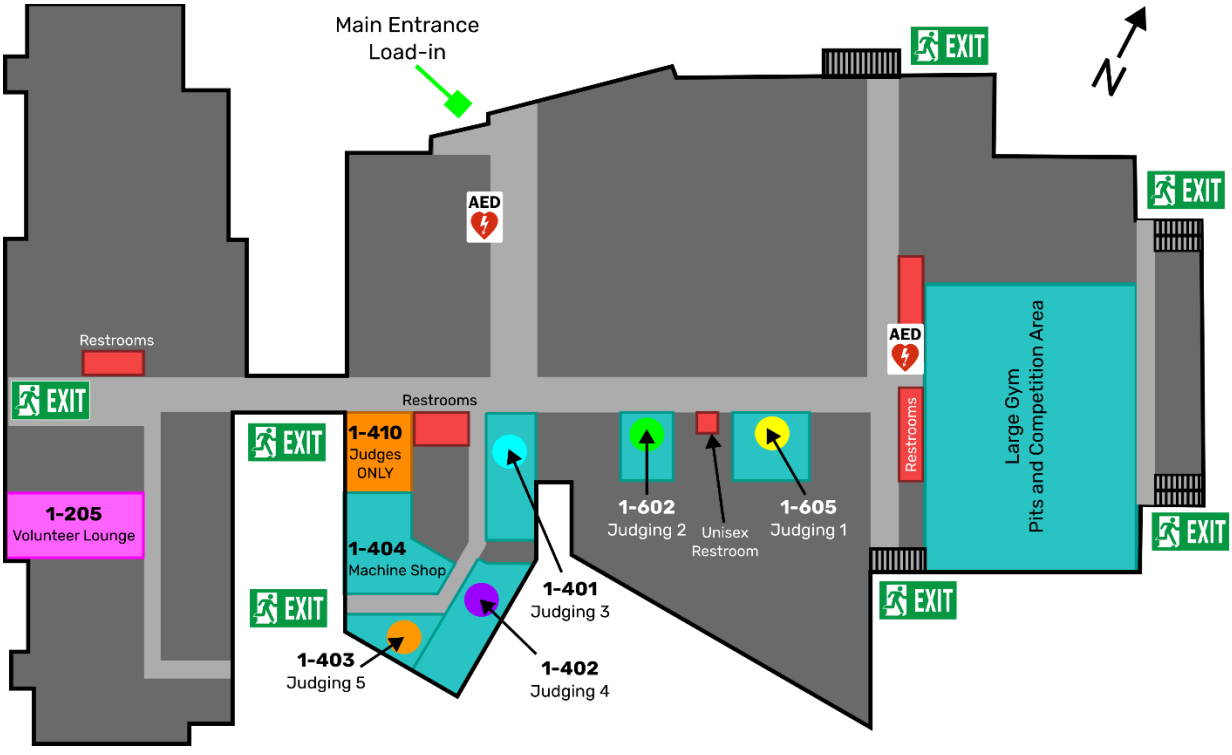


Figure 3: Example Event Map

Judging Schedule

	Panel 1 *Room 1605*	Panel 2 *Room 1602*	Panel 3 *Room 1401*	Panel 4 *Room 1402*	Panel 5 *Room 1403*
08:30 AM –	22077 Marcus Minions	8204 Blue Machine	–	27534 RoboChargers - Yellow	25783 Tech Titans
08:50 AM –	13542 RoboChargers - Blue	21171 ITKAN Robotics - M12	27532 RoboChargers - Orange	23344 Technical Turbulence	27536 RoboChargers - Gold
09:10 AM –	26300 Anomaly	27533 RoboChargers - Purple	20482 Wylie E. Robote	12430 Dub East	26693 Triad Robotics
09:30 AM –	23434 Cristo Rey Dallas Robotics	7172 Technical Difficulties	18871 RoboChargers - Green	18227 Area 52	19991 Chuckleheads
09:50 AM –	26542 Apex Genesis	13537 RoboChargers - Red	19564 ITKAN Robotics - MAS	19990 Marcus de-TECH-tives	13552 RoboChargers - Pink
10:10 AM –	27531 RoboChargers - Cyan	24563 Flower Mound Firewall	26722 Tech Support	27535 RoboChargers - Silver	20483 Wall East

Figure 4: Example Judging Schedule

Match Schedule

The match list will be generated on 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 5. Some events will have more than one competition field. Some events will have more than one division, in which case each division will have its own schedule.

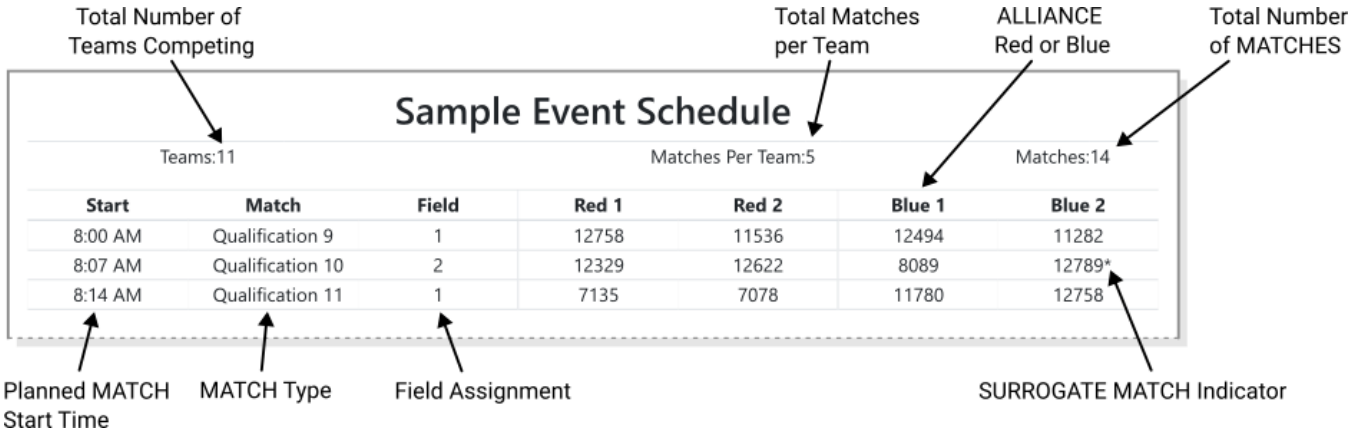


Figure 5: Example Match Schedule

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 6 and Figure 7. Pit Maps created in the *FIRST* Event Portal will appear on the FTC Events page.

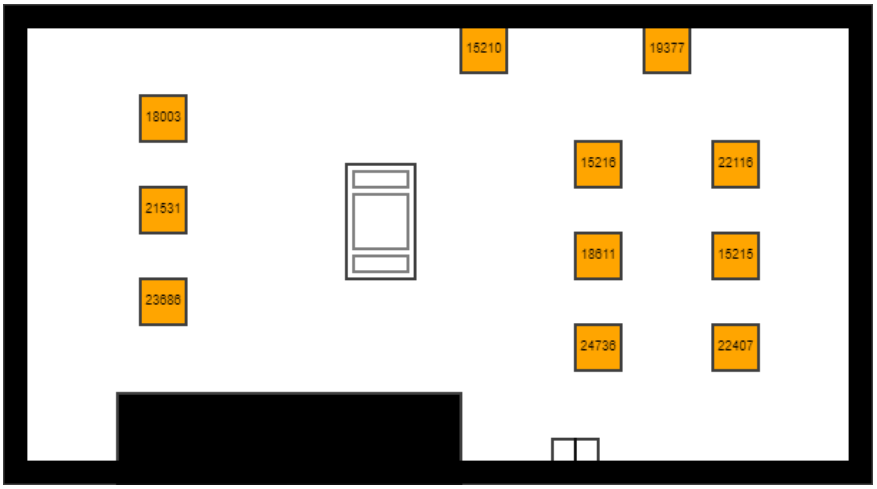


Figure 6: Example Pit Map for a small12-team Qualifier Event

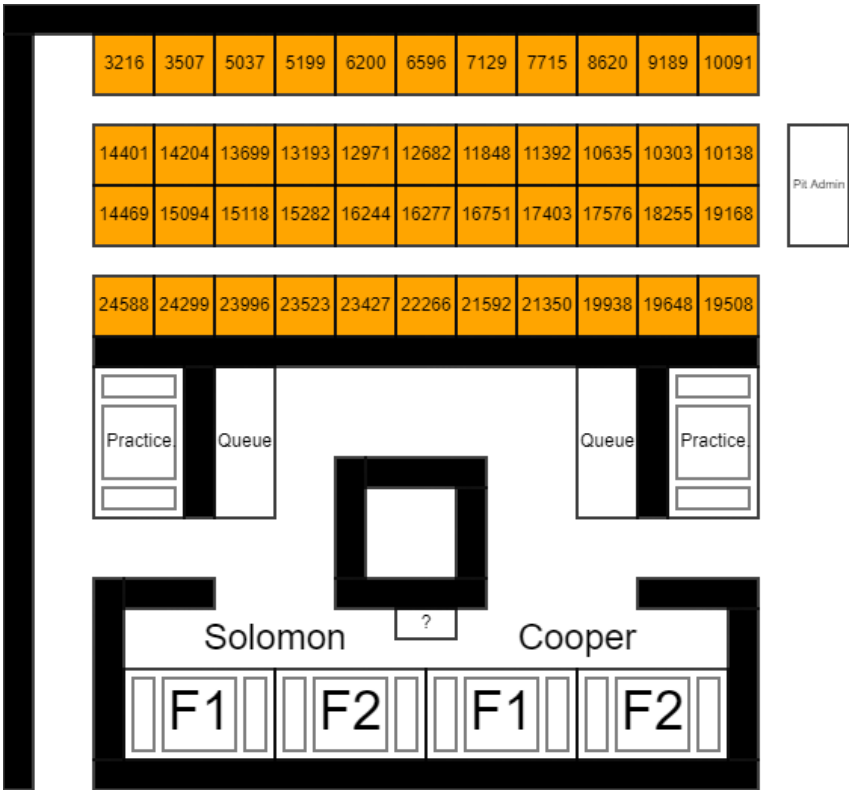


Figure 7: Example Pit Map for a Typical Regional Championship Event

Useful Links and Information

On-Call Support Numbers

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** available for events with internet access

Pre-Event Support

Mon – Fri 8:30am – 5:00pm Eastern Time (UTC-4 or UTC-5)
Contact Support including live chat or email customerservice@firstinspires.org

Program Resources

Event Search ftc-events.firstinspires.org	Game and Season Resources ftc-resources.firstinspires.org/ftc/game
FIRST Tech Challenge Blog	Event Resources ftc-resources.firstinspires.org/ftc/event
FIRST Tech Challenge Website firstinspires.org/robotics/ftc	Volunteer Resources ftc-resources.firstinspires.org/ftc/volunteer

Feedback

We strive to create support materials that are the best they can be. If you have feedback about this manual, please email customerservice@firstinspires.org or by contacting support. Thank you!