

Field Inspector Manual

Revision History			
Revision Date Description			
1.0	10/16/2024	Initial 2024-2025 release	
1.1	10/24/2024	Update role requirements to table format	

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Overview

Roles Covered: Field Inspector, Lead Field Inspector

Job Description

The field inspection process is in place to ensure that every team and their robot can successfully compete in a match. The Field Inspector will go through the robot inspection checklist which includes verifying settings on the team's Android devices, running a practice match, and instructing teams about a tournament's unique match play procedures.

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

Time Commitment

A Field Inspector should expect to spend 2-3 hours at a full day event and 1-2 hours at a league meet. Field inspections happen at the beginning of the tournament; therefore, Field Inspectors might also serve in another role once field inspections are complete. If a Field Inspector has indicated in their application, they are available for the full day, the Event Director may assign them another role once inspections are completed. Approximately 4-6 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.

Training and Certification

Field Inspectors must complete the required reading in this section prior to serving as an inspector. The Inspector must be confident and comfortable with the robot construction rules to be able to assist teams at 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:

Requirement	Resource	
Required	The Inspection - Field Manual (this document)	
	Competition Manual:	
Required	 <u>Section 3 – Competition Eligibility and Inspection</u> 	
	 <u>Section 12 – ROBOT Construction Rules</u> 	
	Team Updates - <u>Combined</u>	
	 Team Updates are posted on a bi-weekly (twice a month basis. 	
Required	These releases occur on Thursdays at noon. Field Inspectors are	
	required to read the team updates, and encouraged to sign up for	
	the Team Update notification emails to help stay up to date.	
	the Team Update notification emails to help stay up to date.	



Requirement	Resource
Encouraged	Competition Manual, specifically: • Section 9 - ARENA • Section 10 - Game Details • Section 11 - Game Rules • Section 13 - Tournament
Encouraged (New this season)	 <u>Volunteer Q&A System</u> - The Q&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. To access the Q&A volunteers must have an active <u><i>FIRST</i> Dashboard account</u>, have applied to volunteer in the specific role for the 2024-25 INTO THE DEEP season, and have a signed consent and release form.
Encouraged	Attend the monthly Inspection conference calls
Optional	watch the game animation video for a general understanding of the game
Optional	<u>FTC Q&A System</u> - This is a resource for teams, however you may also find these useful for rule clarifications

Volunteers must create an account on <u>www.firstinspires.org</u> 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 <u>FTCTrainingSupport@firstinspires.org</u>. A separate confirmation of the role assignment will come later.

Field Inspectors should speak to the 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. The approximate training time is 6 hours.

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 Field Inspector

Field Inspectors perform mandatory field inspections to ensure that every robot can successfully compete in a match. Lead Field Inspectors supervise the Field Inspectors and act as a resource to the field inspectors performing the inspections. The Lead Field Inspector's responsibilities include:

• Collaborate with the Event Director and Lead Robot Inspector to create an inspection schedule.



- Assure that the required field inspection tools and materials are available on event day.
- Work closely with the Lead Robot Inspector so that the entire inspection process runs smoothly, and all robots pass inspection before the opening ceremony.
- Provide periodic progress updates to the Event Director and FIRST Technical Advisor.

Prerequisite for Lead Field Inspector Role

- Familiarity with the *FIRST* Tech Challenge control system; experience with devices using the Android operating system.
- Previous experience as a field inspector is required.
- 21 years of age or older.

Field Inspector

The field inspection process is in place to ensure that every robot can successfully connect wirelessly and compete in a match. The field inspector must also go through the field inspection checklist which includes verifying settings on the team's Android devices and reminding the teams to arrive on time for each match.

Prerequisite for Field Inspector Role

• Familiarity with the *FIRST* Tech Challenge control system; Experience with devices using the Android operating system.



Before the Event

FIRST Tech Challenge tournaments squeeze a lot of activity into one day. One of the prerequisites 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 event day as well. Field Inspectors are required to participate in training prior to the event. This online training is provided by *FIRST* Headquarters.

It is important prior to the event that the Field Inspector reviews the resources listed in the Training and Certification section of this document. To access the appropriate training materials to fulfill this role, make sure to apply to the position in the volunteer registration system. Upon application, an email will be sent providing access to the Field Inspector training folder which includes a copy of this manual, call schedules for robot and Field Inspector monthly key role discussion calls, and recordings from past calls. The most current version of the Competition Manual is located on our <u>Game and</u> <u>Season Page</u>.

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, Field Inspectors will need to arrive at the event as soon as the event opens for volunteers to ensure Inspectors are in place when teams start arriving for inspections.

When Field Inspectors arrive onsite, check-in with the Volunteer Coordinator and report to the Lead Field Inspector. Lead Field Inspectors report to the *FIRST* Technical Advisor.

Set-up

After checking in, Field Inspectors should check to make sure they have the appropriate resources and tools needed to complete field inspections. Some items that are needed for robot inspection include:

- Inspection tablet or inspection checklists*
- Team List
- Pens

* Most events will provide a tablet to the field inspector(s). This tablet is used for the Field Inspector to indicate which teams have passed inspection, and which teams are currently in the process of completing inspection. For events not using tablets, paper copies of the checklists will be used for each team.

Inspections Begin

Field inspections generally take place at the beginning of the event. The Inspections run concurrently with robot inspections (where the Robot Inspectors inspect the team's robot hardware) and team judging appointments. Robots are not required to pass robot inspection before attending field inspection. Each field and robot inspection should take approximately 10-15 minutes.

It is the responsibility of the field inspector to:

• Greet the team. Inspectors are generally the first volunteer a team will interact with.



- Verify that the team's driver station and robot controller have the correct hardware, software, and operating system.
- Verify that the driver station and robot controller's settings follow the rules in the Competition Manual, Section 12 (specifically R707, R710, R713, R718).
- Conduct practice matches to ensure the drivers station connects using Wi-Fi with the robot controller, and to confirm the driver station can properly control the team's robot.
- Help the team to be successful.
- Be fair and apply the same level of thoroughness to every team.
- Treat all teams with Gracious Professionalism®.

Field Inspection Process

The field inspection is independent of robot inspection. The field inspection generally takes place at the competition fields in order for the team to demonstrate that the robot functions as it should per the <u>Competition Manual</u> rules. If inspection times are not scheduled, teams may do the field inspection first if they find the line too long at the robot inspection station (and vice versa).

The field inspectors' core responsibilities are:

- <u>Checking the driver station and robot controller for the correct settings</u>.
- Make sure the driver's station wirelessly connects with the robot controller.
- Reviews the field inspection checklist.
- Verifies robot performance by running a practice match.

Always keep in mind that as a field inspector your role is not to fail a team. You are in a role to help a team pass inspection while keeping within the rules so that they can compete.

The Inspection Checklist (<u>Combined Robot and Field Inspection</u>) is found on the *FIRST* website. This is the complete list of the items a Field Inspector will need to check off to pass a team through the field inspection. In addition, this document outlines the manual steps a Field Inspector can take to make sure the driver's station and robot controller are configured properly and can connect to each other over Wi-Fi.

Robot Operation Inspection

The robot performance inspection is a vital test to ensure that a robot will operate successfully in its first qualification match and for the competition. Field inspection verifies that the driver station can wirelessly control the robot; the robot operates as expected during a practice match; and the robot is programmed to start and stop when commanded by the driver station.

Once the Field Inspector has confirmed that the driver station has connected with the robot controller, they should run a brief practice match. Field Inspectors should gather up to 4 teams on the field at a time to run the robot operation inspection. Ideally, the inspection process should involve multiple robots on a field to simulate what would happen in a real match and reduce the time required for field inspection. Teams should run their complete 30 second autonomous period so that the field inspector can confirm that robots remain motionless at the end of the auto period. The field inspector should then instruct the teams to run their teleop mode. The Event Director may elect to run a full two-minute driver-controlled match period during field inspection if there is sufficient time in the event schedule.



Teams that are not going to operate their robots during the auto period at this event are not required to demonstrate the autonomous phase of match play during field inspection. These robots should remain motionless on the playing field.

Queueing Process

The last steps in the field inspection are about educating the teams on the flow of the day, and basic rules. The teams need to be reminded that they should not make any software changes after they are queued for a match; last-minute software changes could hinder a team's performance on the field. Teams are, however, allowed to continue making minor mechanical fixes to their robot.

Teams should also be reminded to adhere to the match schedule, and promptly show up to the field at their scheduled match time. As with all competitions, sometimes the matches could run early or late. Although these circumstances are usually communicated to them in the pit area, it is a best practice to remind teams early in the day that they should be diligent about when their matches are so they can be on time.

Disabling a Robot

The Field Inspector should be prepared to tell the teams during the Field Inspector what it means to disable their robot, if instructed to do so by the Referee during a match. There are a few steps that a Field Inspector should instruct the team to do:

- 1. The team must first drive their robot to a neutral position on the playing field.
- 2. The team should press the "Stop" button on the driver station.
- 3. The team should then place all components of their driver station on the stands provided in the competition area or on the alliance station floor.
- 4. The team must not touch their driver station or robot until the match is complete and are instructed by the referee or field personnel to do so.

Robot Sensor Calibration

Playing field lighting has a significant effect on a robot's vision and color sensors. Teams require a brief period on each of the competition playing fields to calibrate their robot's sensors under competition lighting conditions. Events may specify a window of time for sensor calibration or teams may have extra time during field inspection to collect sensor calibration data. The Event Director and Lead Field Inspector will select the time for robot sensor calibration. Since sensor calibration time may vary from event to event, the time selected should be announced to teams.

Inspection Troubleshooting - Repeated Failures

If a robot repeatedly fails inspection, identify the team to a control system advisor (if there is one present at the event), or the Event Director and request that they find someone to work directly with the team. Our goal is for every team to be successful, so please make every effort to assist the team.

If a team is unable to pass inspection by the time inspection is over, even with assistance, the program delivery partner or Event Director must decide how to proceed. Program Delivery Partners/event directors are encouraged to call the *FIRST* HQ support line if they need assistance.

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 is our job to help guide the teams to a successful event, it is 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		
<u>A</u> sk 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.	
<u>B</u> e 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) <u>C</u> lear 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 clarifyin questions		
<u>E</u> xplain 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.

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.

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

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 pit and competition areas. 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 volunteers staffed at the pit entrance with spare safety glasses to pass out. Other events may not have spares to provide.

End of the Day

The role of the Field Inspector generally ends once inspections have been completed, which is prior to matches beginning. Therefore, some Field Inspectors choose to leave the event once inspections have been completed. However, some Field Inspectors may choose to fill another role during the event and will be present for the duration of the event. If possible, Field Inspectors may assist other volunteers with the teardown of the event.

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.

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

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

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.

Registered Teams List

The Field Inspector should be provided with a team list by the Event Director or Volunteer Coordinator. The list will show the teams that must be inspected on event day.

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:

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- 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)

Judging Schedule

Since inspections happen concurrently with team judging appointments, it may be helpful for Inspectors to receive a copy of the judging schedule. This will show which teams are in judging at what time, which may help Inspectors to coordinate inspections with other available teams while other teams are participating in their judging interview.



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.



?

Figure 3: Example Pit Map for a Typical Regional Championship Event

Cooper

2

Solomon



Screen Steps: Field Inspection for the Robot Controller

REV Control Hub

The REV Robotics Control Hub lacks a built-in touch-screen. An Inspector needs to use a connected driver station device to inspect the control hub remotely.

Field Inspection Steps for the Control Hub		
11492-c-Rc 95.0% Leri Leri 1115-Rc 1115-Rc 1115-Rc 1115-Rc 112-B8 V 112-B8 V 112-B8 V 12-B8 V Autoemola Teacp =	Have the team verify that the driver station is connected to the Control Hub and that there are active ping times being displayed on the main driver station screen.	
11482-c-Rc Extended to the second to the	Select the menu in the upper right-hand corner (represented by the three vertical dots) and then select the "Self Inspect" option from the pop-up menu.	
Inspect Driver Station Greates a self-inspection report for the driver Inspect Robot Controller Creates a self-inspection report for the robot centroler	Select the "Inspect Robot Controller" option from the "Inspection Reports" screen. This will display the remote inspection report for the Control Hub.	



Field Inspection Steps for the Control Hub			
Bobot Controller Inspection Report Manufacturer: REV Robotics Madel: Control Hub v1.0 Android Version: 1.1.1 Hub Firmware: [Control Hub 18.2 Battery Level: X RC Password: X WiFi Finabled: X WiFi Connected: X WiFi Connected: X MiFi Access Point 11115-RC Apps Installed: X Robot Controller: 6.0 Driver Station: X Software courtesy of Team HazMat 9277 8-10650	Check the inspection report to see if there are any issues that need to be addressed on the Control Hub. Note that a team can use the <u>REV Robotics</u> <u>Hardware Client software</u> to update a Control Hub's firmware, Hub OS software, and its robot controller app.		



Android Smartphone Device

An Android smartphone device connects to the expansion hub through an external USB connection.

Field Inspection Steps for the Robot Controller		
P45 ant Coopie 99:445 909:455 900:455 900 900:455 900 900:455 900 900 900 900 900 900 900 900 900 9	Have the team unlock the device to get to the main screen.	
Coogle+	Make sure there are no apps running on the Robot Controller. This image shows multiple apps running. Click "Remove All' to stop all other apps from running.	
	Ask a team member to power the robot "Off" using the Main Power Switch. The team's Main Power Switch should be clearly labeled, as outlined in the Robot Inspection Rules. Make sure the robot remains off for a minimum of 5 seconds.	



Field Inspection Steps	for the Robot Controller
ZTE-108	The default app should start automatically once the robot is powered on, and should show:
Active Configuration File: Network - connected Robot Status: running Op Mode: Stop Robot	Wi-Fi Direct – enabled Robot Status: running
Active Configuration File: No current file! Active Configuration File: No current file! Sean Press this button to scan for attached devices Press this button to scan for attached devices Devices: Devices: Devices: FTC Robot Controller Motor: Controller: Motor: Controller: Open FTC Robot Controller Open FTC Robot Controller	If the <i>FIRST</i> Tech Challenge robot controller App pops up with a message that says, "Open FTC robot controller when this USB device is connected?" hand the device back to the team. The team will need to check the box "Use by default for this USB Device" and click "OK".
When this USB device is connected? Image: Several configuration Image: Several configuration	In some instances, this message may come up several times. Make sure that the team checks the box each time until the message no longer comes up. This box should come up once for every module on the robot. If it does not pop-up multiple times, then the team has likely accepted some modules previously.
Image: Choose an app for the USB device	If the following dialog box opens after the robot is turned on, please tell the team to uninstall one of the apps off of the robot controller. This message means the phone has two different robot controller apps installed, which could cause issues for the team during competition.
FTC Robot Controller	
Play Store Settings Video Player	



Field Inspection Steps	for the Robot Controller
<complex-block></complex-block>	Locate the "Settings" icon on the robot controller. This could be on the default screen, or it could be under additional applications.
Status Battery Status, battery level, etc. Legal information 4G settings Model number N9130 Android version 4.4.4 Baseband version N9130B01 Kernel version 3.10.28.91 d09266-00247-g6a6f8a8b 21.0.28.91 d09266-00247-g6a6f8a8b SW Version SW Version	Scroll to the bottom of the "Settings" menu and click "About Phone". The next screen will display the Android operating system, and Inspectors should make sure the robot controller has the correct version of the operating system: <u>7.0 or higher</u> • Motorola Moto G4 Play • Motorola Moto G5 • Motorola Moto G5 • Motorola Moto G5 Plus • Motorola Moto E4 • Motorola Moto E5 • Motorola Moto G5 Play
Image: Setting sett	After checking the operating system version, hit the back button on the bottom of the screen. In the "Settings" Menu, check to make sure the devices Airplane Mode is "ON", and Bluetooth is set to "OFF".



Field Inspection Steps for the Robot Controller		
 Settings WIRELESS & NETWORKS Airplane mo Ni-Fi Wi-Fi Nobile networks Data Usage Mobile Hots DEF More DEVICE Sound Display 	Click the "Wi-Fi" button to check Wi-Fi connections.	
Vot Connected Connected Image: Connected Image: Connected Image: Connected I	Check that the Wi-Fi is on, and verify it is connected. The second image shows that the device is connected to a Wi-Fi network. If the device is connected to a network, make sure to disconnect and forget the device from that network. Go to the next step prior to leaving this screen.	
Image: Secured with WPA2 (WPS Image: Secured with WPS Image	Click the 3 dots in the bottom right-hand corner of the screen, then go to "Advanced" then select Wi- Fi direct.	



Field Inspection Steps	for the Robot Controller
Connected Connected Connected Connected Connected Connected REMEMBERED GROUPS SEARCH FOR DEVICES	The robot controller device should have the team number listed followed by "-RC" (robot controller).
A 4.31 pm Wi-Fi Direct ZTE-035 My Wi-Fi direct PEER DEVICES DIRECT-58.HP ENVY Available REMEMBERED GROUPS DIRECT-GX-ZTE-036 SEARCHING RENAME DEVICE	Check to see if there are any listings under "Remembered Groups". If there are remembered groups other than the team's driver station, the team should be sure to erase the remembered group. To remove the remembered group, click on the remembered group name and answer the prompt "Forget this group?" by pressing the "OK" button.



Screen Steps: Manual Field Inspection for Driver Station

Teams can use a REV Driver Hub or a legal Android Smartphone. The REV Driver Hub steps and the Smartphone steps are virtually identical, but some visuals will be different. For the REV Driver Hub, skip any steps marked "*ANDROID SMARTPHONE STEP ONLY*".

Field Inspection Steps for the Driver Station	
Production Produc	Have the team unlock the device to get to the main screen.
Coogle Coogle Coller	Make sure there are no apps running on the Driver Station. This image shows multiple apps running. Click "Remove All' to stop all other apps from running.



Field Inspection Steps	for the Driver Station
9:45 am 009:455 009:455 009:405 000:000 00:000 00:000 00:000 00:000 00:000 00:000 00:000 00:000 00:000 00:000 00:0000 00:0000 </th <th>Locate the "Settings" icon on the driver station. This could be on the default screen, or it could be under additional applications.</th>	Locate the "Settings" icon on the driver station. This could be on the default screen, or it could be under additional applications.
Settings Settings Settings Security Backup & reset Accounts Add account System Accessibility Printing Activate this device System updates System updates About phone Sw Version Sw Version	ANDROID SMARTPHONE STEP ONLY Scroll to the bottom of the "Settings" menu and click "About Phone". The next screen will display the Android Operating System, and Inspectors should make sure the driver station has the correct version of the operating system: 7.0 or higher Motorola Moto G4 Play Motorola Moto G5 Motorola Moto G5 Motorola Moto E4 Motorola Moto E5 Motorola Moto G5 Play
 Settings WIRELESS & NETWORKS Airplane mo WI-Fi WI-Fi Bluetooth DFF Mobile networks Data Usage Mobile Hots DFF More DEVICE Sound Display 	In the "Settings" Menu, check to make sure the devices Airplane Mode is "ON", and Bluetooth is set to "OFF". NOTE: REV Driver Hubs don't have a cellular chip, so Airplane Mode is not a requirement for the REV Driver Hub.



	Field Inspection Step	s for the Driver Station
 Elimination Elimination Elimination Elimination Mobile network Mobile network Mobile Hots More DEVICE Sound Display 	I 1:59 pm DRKS DN ON OFF s., OFF	Click the Wi-Fi button to check Wi-Fi connections.
✓ Not Connected	Connected	Check that the Wi-Fi is on, and verify it is connected.
Image: Constraint of the second with WPA2 (WPS of the second withe second with WPA2 (WPS of the second with WPA2 (WPS of the secon	Image: Second with WPA2 Image: Second with WPA2 SEEP.Academy Image: Second with WPA2 FIRST_MCAuliffe Image: Second with WPA2 FIRST_Remote Image: Second with WPA2 Secured with WPA2 Image: Second with WPA2 FIRST_Remote Image: Second with WPA2 Secured with WPA2 Image: Secured with WPA2	The second image shows that the device is connected to a Wi-Fi network. If the device is connected to a network, make sure to disconnect the device from that network and "forget" that Wi-Fi network. Go to the next step prior to leaving this screen.
☞ III	Saving screenshot	ANDROID SMARTPHONE STEP ONLY
DIRECT-F0-ZTE-058 Secured with WPA2 (WPS 47 Car available) FTC5thFloor Secured with WPA2 (WPS 47 Car available)	DIRECT-F0-ZTE-058 Secured with WPA2 (WPS 4) TCSthFloor Secured with WPA2 (WPS 4) Secured with WPA2 (WPA 4) S	Click the 3 dots in the bottom right-hand corner of the screen. This will bring up a new menu, click "Wi-Fi Direct"
SEEPublic 🗣	SEEPublic	
SEEAcademy Secured with WPA/WPA2	SEEAcademy Secured with V Scan FIRST-5-So Secured with V WPS Pin Entry	
FIRST_McAuliffe Secured with WPA2	FIRST_Mc ⁴ Secured with V Wi-Fi Direct	
linksys	linksys Advanced	
() + :	() + :	



Field Inspection Steps for the Driver Station	
I I I I I I I I I I I I I I I I I I I	ANDROID SMARTPHONE STEP ONLY
1234-DS Connected PEER DEVICES	The driver station device should have the team number listed followed by "–DS".
1234-RC Connected REMEMBERED GROUPS	NOTE: In these screenshots, you will also see "Remembered Groups". If there are remembered groups other than the robot controller, the team should be sure to erase the remembered group.
SEARCH FOR DEVICES	To remove a remembered group, click on the remembered group name and answer the prompt "Forget this group?" by pressing the "OK" button.



Screen Steps: Robot Operation Inspection

Robot Operation Inspection		
Image: State Stat	On the driver station home screen, click the "FTC Driver's Station" icon.	
INT. MOTO G1 INT. MOTO G2 INT. MOTO G2 ITms ITms ITms ITms ITms ITms ITms ITms Item	Click the down white arrow from the app and choose the Driver-Controlled program to run the field inspection test.	
JOSH-ZTE-DS I JOSH-ZTE-DS I JOSH-ZTE-RC Ping: JOSH-ZTE-RC Ping: Select Op Mode TeleOp Mode INIT Status: Robot is stopped	Choose the "Autonomous Op Mode" to test the robot on the field.	



Robot Operation Inspection		
JOSH-ZTE-DS JOSH-ZTE-DS User 1 User 2 Network: Ping: JOSH-ZTE-RC 2ms	On the driver station, click the "INIT" button, then click the "START" button to run the autonomous program.	
36.0% no voltage sensor Autonomous Op Mode Image: Comparison of the comparison	While the ROBOT is moving, and before the AUTO program has completed, abruptly STOP the OpMode. Verify that the ROBOT has stopped. This ensures that the ROBOT can be properly stopped in case of emergency. In this test, do not allow the AUTO OpMode to complete. If the ROBOT does not stop properly, have the team consult with a CSA if one is available.	
Select Op Mode K9IrSeeker K9Irseeker K9TeleOp NullOp PushBotAuto PushBotDriveTouch PushBotDriveTouch PushBotNreek PushBotSquare Stop Robot	Use the other drop-down arrow to select a TELEOP OpMode.	
INT. MOTO G1 With Direct: With Direct: Prg INT. MOTO G2 Prg Ims Time Prg Ims Time Prg Ims Time Prg Ims Status: Robot is stopped	On the driver station, click the "INIT" button	



Robot Operati	on Inspection
INT. MOTO G1 IIII B6.0% Wifi Direct Prog. Zms Prog. Zms Prog. Zms Find Status: Robot is stopped	Click the Start button to run the program. Have the team use the joysticks on the gamepad to make sure the driver station is communicating with the robot controller.
INT. MOTO G1 Uuer 1 Uuer 2 : Uuer 2 Uuer 2 : Uuer 2 Uuer 2 : Uuer 2 Uuer 2 : Uuer 2 Uuer 2 : Prog Ims Tros	Next, click the stop button. This should stop the robot right away. Once again move the joysticks to make sure the robot controller has received the stop command, and no longer moves.



Screen Steps: Self-Inspection App

Inspection Ap	p Instructions
Image: Coogle+ Image: Coogle Account	Make sure there are no apps running on the robot controller or driver station.
On provinent to tack an in-control account of create a new unit?	This image shows multiple apps running.
Gallery Dent Report	Click "Remove All' to stop all other apps from running.
The answer is that a large data and a set of the answer is the answ	
ZTE-016 Active Configuration: Network: active, disconnected Robot Status: stopped, scanning for USB	Select the driver station or robot controller App. Select the 3 dots in the upper right-hand corner, and then select "Self Inspect". This should be run for both the driver station and robot controller apps.
Settings Restart Robot Configure Robot Programming Mode Self Inspect	Time saving tip: If the driver station and robot controllers are connected with Wi-Fi Direct, the driver station is capable of remotely viewing the Self Inspection results for the robot controller.
About Exit	
FTC Inspect: 1.0 Manufacturer: zte Model: N9130	Any text in GREEN means the phone has the proper settings. Anything identified in RED does not meet requirements and must be corrected.
OS Version: $4.4.4$ Battery Level: 80% Airplane Mode: \checkmark Bluetooth:OffWiFi Enabled: \checkmark WiFi Connected:YesWiFi Direct Name:ZTE-016Apps Installed: \checkmark	In this example, Wi-Fi is connected but it is red, which means they are connected to an access point. That access point is likely a router that would connect them to the internet. The team must also rename their phone to the standards outlined in Game Manual Part 1, section 7.3.5.
Robot Controller: 2.35 Driver Station: X ZTE Channel Changer: √ Software courtesy of Team HazMat 9277 & 10650	Inspectors should manually check the name of the phone to ensure the phone is named correctly.



Inspection App Instructions		
FTC Inspect: 1.0		This example shows that the team has met all requirements and can pass the software part of
Manufacturer:	zte	the field inspection!
Model:	N9130	
OS Version:	4.4.4	
Battery Level:	79%	
Airplane Mode:	\checkmark	
Bluetooth:	Off	
WiFi Enabled:	\checkmark	
WiFi Connected:	No	
WiFi Direct Name:	9999-rc	
Apps Installed:	\checkmark	
Robot Controller:	2.35	
Driver Station:	×	
ZTE Channel Chang	ger: 🗸	
Software courtesy of Tear 9277 & 10650	m HazMat	



Useful Links and Information

On-Call Support Numbers

On-Call Support These numbers are for <u>volunteer support only</u> . 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: Call or use the built-in chat feature on FTC Live	(603)206-2450

Pre-Event Support

Mon – Fri	8:30am – 5:00pm Eastern Time (UTC-4 or UTC-5)
Phone:	(603)666-3906
Email:	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 <u>firsttechchallenge@firstinspires.org</u>. Thank you!