Inspection Guide

Overview

The VEX IQ robot inspection process often provides the first opportunity for teams and inspectors to learn and share on event day. While the inspection process ensures that the robots meet the requirements to play in exciting matches, it just as importantly serves as an opportunity for teams and inspectors to share their knowledge, skills, accomplishments, and interest in robotics. Your warm greeting, positive interactions, and enthusiastic support will make the robot inspection process an invaluable learning experience for everyone involved, on event day and beyond.

Supplies

Following are supplies that are recommended to complete an effective inspection of the VEX IQ robot. The Game Manual, VEX IQ Robot Inspection Checklist, and additional resources are available on this site: www.roboticseducation.org/vex-iq-challenge/viq-event-documents/.

- One VEX IQ Robot Inspection Checklist (attached) per team, plus spare copies and pens
- Documentation in a printed and/or electronic format, including the Game Manual, updated related game rulings from the VEX IQ Forum at www.vexiqforum.com/, VEX IQ official products listed on www.vexrobotics.com/vexiq/products and the mechanical and structural VEX Robotics by HEXBUG Construction components on www.hexbug.com/vex. This documentation can be shared among more than one inspection station, if needed.
- A measuring tape or 15” ruler to measure robot size. Four VEX IQ field tiles and one straight sidewall section or a nearby available field may also be used to help measure robot size.
- #32 and #64 rubber bands. Inspectors can use these as an example of legal products.
- Small color coding labels or color stick-on dots can be used to attach to the robot license plate(s) to indicate that the robot has successfully passed inspection. Only legal VEX IQ components can be attached to the robot. Note that zip ties are not legal VEX IQ components.
- Extra official VEX IQ license plates or license plate template copies, printed from the REC Event Documents site, for those teams who do have official robot license plates.
- List of registered teams and/or a computer using Tournament Manager software, to track the progress of the robot inspection process.

Inspector Position Summary

The robot inspector ensures that each robot meets the requirements outlined in the Game Manual and the attached Robot Inspection Checklist. Each team may use **only one robot** for all VEX IQ Challenge matches. Robots must pass inspection before they are allowed to participate in official matches. If a robot does not pass its initial inspection, the team must make the needed modifications and return for a re-inspection, prior to participating in the official robot matches.

Inspector Training And Preparation

Please review these training resources and tips to prepare for your inspector role:

- Game Manual, Robot Inspection Checklist, and the Referee training videos, which are available on www.roboticseducation.org/vex-iq-challenge/viq-event-documents/.
- Schedule of training calls that are offered to help you prepare for your inspector role, available at www.roboticseducation.org/vex-iq-challenge/volunteer-for-vex-iq-challenge/.
- Check with your event coordinator to determine if training will also be offered on event day.
- Wear comfortable, appropriate team-neutral attire, including closed-toed shoes, on event day.

Inspection Tips

- Maintain all Inspection Checklists in the Inspection area at all times. Keep the checklists in team number order, with the "passed inspection" checklists separate from those for "re-inspection."
- Initial inspection stations can be converted to re-inspection stations as teams complete their initial inspections. Make sure that teams are directed to the appropriate inspection stations.
- For best robot performance, remind teams to install the latest software and hardware updates, which are available for download from this site: www.vexrobotics.com/vexiq/software/firmware.

Rules Summary

Following is a summary of the robot inspection rules. Review the Robot Inspection section of the **Game Manual** for complete rules: www.roboticseducation.org/vex-iq-challenge/viq-current-game/.

<R1> The team's Robot must pass inspection before being allowed to participate in any Matches.
- Significant changes to a robot require its re-inspection before participating in a Match.
- Teams may be requested to submit to random spot-inspections by event personnel.

<R2> Only one (1) robot will be allowed to participate per team in the VEX IQ Challenge.

<R3> The Robot should have their VEX IQ Challenge License Plates displayed on two opposing sides, with their VEX IQ Challenge Team Number clearly written on them.

<R4> At the start of each Match, the Robot must satisfy the following constraints: (1) Only contact the Floor (2) Fit within a 13" x 20" area, bounded by the Starting Position (3) Be no taller than 15." A Robot may not expand beyond its 13" x 20" starting area constraint at any time during the match, including the full range of motion by any appendages.

<R5> Teams using more than one Robot configuration at the beginning of matches must tell the inspector(s) and have the Robot inspected in its largest configuration(s).

<R6> Robots may be built ONLY from Official Robot Components from the VEX IQ product line, unless otherwise specifically noted within the rules, as fully outlined in the Game Manual:
- If there is a question about whether something is an official VEX IQ component, a team will be required to provide documentation to an inspector that proves the component's source.
- Products from the VEX EDR or VEXpro product line cannot be used for robot construction.
- 3D printed versions of VEX IQ components are not legal for use.
- Only mechanical/structural components from the VEX Robotics by HEXBUG product line, excluding all rubber bands, are legal for robot construction.
- Legal rubber bands must be identical in length and thickness to those in the VEX IQ product line, which includes #32 and #64 rubber bands, at this date.

<R8> Robots are allowed to use the following additional "non-VEX IQ" components:
- Appropriate non-functional decorations provided that these do not affect the robot performance in any significant way or affect the outcome of the match.

<R11> Robots may use up to six (6) VEX IQ Smart Motors, including those that are not connected.

<R12> The only allowable sources of electrical power for a VEX IQ Challenge Robot are any single (1) VEX IQ Robot Battery or six (6) AA batteries.

<R13> VEX IQ parts may not be modified in any way.

<R15> A robot is deemed successfully inspected when it has been recorded as "passed" by an inspector and the inspector and a student team member have signed the inspection form.

Resource Sites

- **REC Event Documents:** www.roboticseducation.org/vex-iq-challenge/viq-event-documents/
- **VEX IQ Forum:** www.vexiqforum.com/
- **VEX IQ Products:** www.vexrobotics.com/vexiq/products
- **VEX Robotics by HEXBUG Products:** www.hexbug.com/vex

Thank you for your invaluable support of the VEX IQ Challenge. Enjoy your event role!