

Important: All volunteers supporting events in the United States and Canada must be screened and assigned using the Volunteer Management System and are required to complete their certification test using the [online volunteer certification](#) system.

This test is provided publicly for team use and Volunteers outside of North America without a *FIRST* Dashboard Account use this document to self-certify.

Revision History	
Revision	Description
V25-26.1	Initial 2025-26 Season Release

Questions

- Q1. The Lead Robot Inspector passes a ROBOT during inspection. On the field, the Head Referee states that it violates the rules and refuses to allow the ROBOT to compete. Who makes the final decision to allow the ROBOT to compete?
- A. Lead ROBOT inspector
 - B. Event Director
 - C. Head Referee
 - D. *FIRST* Technical Advisor
- Q2. Exactly one ROBOT main power switch must control all power provided by the ROBOT main battery pack.
- A. True
 - B. False
- Q3. The maximum allowed number of DC motors on a ROBOT is:
- A. 4
 - B. 6
 - C. 8
 - D. 12
- Q4. A team shows up at inspection with a grounding wire that drags on the playing field. They explain their design is to ground the robot to the playing field floor to protect against electrostatic discharge (ESD). Is this legal?
- A. Yes
 - B. No

- Q5. Possessed pre-loaded game elements may extend outside the 18 in. (45.70 cm) cube starting volume constraint.
- A. True
 - B. False
- Q6. Electrically grounding the ROBOT Control System electronics to the frame of the ROBOT is permitted using an unmodified REV Robotics, SWYFT Robotics, or AndyMark Resistive Grounding Strap.
- A. True
 - B. False
- Q7. The maximum allowed number of servos on a ROBOT is
- A. 6
 - B. 8
 - C. 10
 - D. 12
- Q8. The following are required for a ROBOT SIGN to be legal (select all that apply)
- A. Must be placed on two surfaces of the ROBOT, ≥ 90 degrees apart
 - B. Contain the team number, with numbers approx. 2.25 in. (5.70 cm) tall
 - C. Numbers must be stacked vertically
 - D. Numbers can be powered to illuminate/reveal numbers
 - E. Sign must indicate alliance color, with a solid red or blue background
- Q9. Allowed exceptions to the maximum 18 in. (45.70 cm) cube ROBOT starting size constraint include (select all that apply):
- A. Pre-loaded game elements may extend outside the starting size constraint.
 - B. The ROBOT SIGN may extend outside the starting size constraint.
 - C. Flexible materials may extend up to 0.25 inches (0.65 cm) beyond the starting size constraint.
 - D. COMPONENTS used strictly for decoration may extend outside the starting size constraint.
- Q10. A secondary ROBOT power switch downstream of the main power switch is allowed.
- A. True
 - B. False
- Q11. Powered USB hubs can only be powered through (select all that apply)
- A. An approved COTS battery pack per rule R602
 - B. The ROBOT main battery
 - C. The 5V auxiliary on the REV Expansion Hub or REV Control Hub
 - D. Regulated voltage from a CUSTOM CIRCUIT

- Q12. Rule R105 limits horizontal ROBOT expansion to a maximum of
- A. 18 in. x 18 in. (45.70 cm x 45.70 cm)
 - B. 24 in. x 24 in. (69.95 cm x 69.95 cm)
 - C. 20 in. x 42 in. (50.80 cm x 106.70 cm)
 - D. 30 in. x 50 in. (76.20 cm x 127.00 cm)
- Q13. A ROBOT is placed in the horizontal size boundary to be inspected. The ROBOT includes an arm that, if completely extended, exceeds the horizontal limit. However, the team can demonstrate that software will keep the arm within the horizontal limit. Does this ROBOT satisfy the rule and pass inspection?
- A. Yes
 - B. No
- Q14. Motor control wires must use consistent color coding with different colors used for the positive (red, white, brown, or black with a stripe) and negative/common (black or blue) wires.
- A. True
 - B. False
- Q15. A team has rule compliance problems with their ROBOT; what should you do?
- A. If the problems are major, kindly tell them that they have an incomplete inspection and should come back when they have fixed the problems.
 - B. Suggest that they get help from an experienced team.
 - C. Collaborate with the team to help them come up with a few possible solutions that will fix their problem.
 - D. All of the above.
- Q16. For which portions of inspection can the ROBOT provide powered assistance to meet the requirements? (select all that apply)
- A. STARTING CONFIGURATION size limit
 - B. Horizontal expansion limit
 - C. Vertical expansion limit
 - D. ROBOT SIGN visibility
- Q17. Which of the following are allowed on a ROBOT (Select all that apply)
- A. Gas springs.
 - B. Air-filled (pneumatic) wheels.
 - C. Ratcheting devices (wrenches, bearings, etc.).
 - D. COTS swerve drive modules.

- Q18. A servo extension wire (not integrated into the servo) is found to have one white and two black wires in its bonded ribbon. Which of the following criteria must be met in order for that extension wire to be legal? (select all that apply)
- A. The wire must be 22AWG or greater.
 - B. The servo must have integrated wires of the same (or reasonably similar) color.
 - C. The wires must have a clip-on ferrite near the connection point.
 - D. The extension wire cannot be plugged into a Servo Power Injector because that raises the voltage above SIGNAL LEVEL and color coding exceptions no longer apply.
- Q19. A ROBOT has a device that projects a very narrowly focused beam of light (e.g. a laser) in order to aim their ROBOT effectively. Which of the following statements is true:
- A. The device is legal, as long as the device doesn't violate R203 part I.
 - B. The device is legal, as long as the light doesn't flash greater than 2Hz.
 - C. The device is illegal, as R717 part C says lasers must be in the non-visible spectrum.
 - D. The device is legal, as the device clearly says it's Class 1 on the device (R717 part B)
- Q20. An inspector notices that a team is using a Control Hub and an Expansion Hub, and on the Control Hub there is an I2C LED controller plugged in (all of which is perfectly legal). The LEDs draw a significant amount of power, so an additional power source is required by the device. Which of the following statements are True? (select all that apply)
- A. Power from the +5 Aux port on the Expansion Hub may be used to provide 5V to the LEDs.
 - B. An external USB battery pack can be used to provide power for the LEDs.
 - C. A Servo Power Injector (REV Servo Hub, etc...) can be used to provide 6V for the LEDs.
 - D. Power from the 12V main power can be used to provide power for the LEDs.

Answer Key

Question	Correct Response	Explanation	Rule								
Q1	C	The Head REFEREE has the ultimate authority in the ARENA during the event. However, it should be noted that the HR should not be re-evaluating the inspection checklist, but looking at G rules (notably oversized, not identifiable, safety, unable to INIT an OpMode, etc). Regardless, if possible, HR/FTA/LRI and team should make good faith efforts to resolve the issue before making a final determination and provide the team tips for resolution.	Section 3.3 & Section 10.7								
Q2	A	Exactly one main power switch must control all power provided by the ROBOT battery pack to all power regulating devices on the ROBOT (except as specified by R602)	R609								
Q3	C	A ROBOT may not have more than 8 motors and 10 servos from the allowable actuator lists per R501 and R502 for all MECHANISMS used in all configurations.	R503								
Q4	B	no ROBOT COMPONENTS or MECHANISMS are designed to electrically ground the ROBOT frame to the FIELD.	R611.C								
Q5	A	pre-loaded SCORING ELEMENTS may extend outside the starting size constraint	R101.A								
Q6	A	<div><p><i>Table 12-6: Legal ROBOT Grounding Straps</i></p><table><tr><th>Grounding Strap</th><th>Part Number</th></tr><tr><td>AndyMark Resistive Grounding Strap</td><td>am-4648a</td></tr><tr><td>REV Resistive Grounding Strap</td><td>REV-31-1269</td></tr><tr><td>Swyft Grounding Cable</td><td>SR-Ground-01</td></tr></table></div>	Grounding Strap	Part Number	AndyMark Resistive Grounding Strap	am-4648a	REV Resistive Grounding Strap	REV-31-1269	Swyft Grounding Cable	SR-Ground-01	R611
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Q7	C	A ROBOT may not have more than 8 motors and 10 servos from the allowable actuator lists per R501 and R502 for all MECHANISMS used in all configurations.	R503								
Q8	A, B, E	C is disallowed by R403.C “numbers may not be vertically stacked” D is disallowed by R403.E “cannot be powered or rely on power from any sources to illuminate/reveal numbers.”	R401 , R402 , R403								
Q9	A	In the STARTING CONFIGURATION (the physical configuration in which a ROBOT starts a MATCH), the ROBOT must be fully self-contained within an 18 in. (45.70 cm) wide, by 18 in. (45.70 cm) long, by 18 in. (45.70 cm) high volume. The only exception is that: A. pre-loaded SCORING ELEMENTS may extend outside the starting size constraint.	R101.A								
Q10	A	secondary power switches can be used on the 12V line downstream of the main power switch. There is no requirement that it be among the allowed main power switches.	R609.C								

Q11	A, C	Powered USB hubs used on the ROBOT can only be powered through one of the following ways: A. an approved COTS USB battery Pack per R602, or B. the 5V auxiliary power port on the REV Expansion Hub or REV Control Hub.	R617
Q12	A	After the start of the MATCH, ROBOTS may expand horizontally but must remain within a fixed 18 in. (45.70 cm) by 18 in. (45.70 cm) when fully expanded per G414.	R105.A
Q13	B	After the MATCH has started, ROBOTS may expand beyond the STARTING CONFIGURATION but are still subject to sizing constraints relative to the ROBOT, based on the initial STARTING CONFIGURATION. ROBOTS must be physically constrained to fit within these limits without the use of software.	R105
Q14	B	All non-SIGNAL LEVEL wiring with a constant polarity (i.e., except for outputs of motor controllers...). Motor wires are therefore exempt from this rule.	R616.C
Q15	D	It is important that an inspector does give a few tips on how to solve the inspection issues. An inspector is there to help the team get passed!	
Q16	A	In the STARTING CONFIGURATION, ROBOTS must be fully self-supported (i.e., does not exert force on the sides or top of a sizing tool). ROBOTS may accomplish this using any combination of: A. mechanical means while powered-off, and/or B. initializing an OpMode that pre-positions servos and motors to a desired stationary position. OpMode may control motors and servos to hold their position to maintain the STARTING CONFIGURATION.	R102
Q17	B, C	A is illegal per R207, D is illegal per R303 as swerve modules are multi-DoF and there are no exceptions for them.	R207 , R303
Q18	A, B	Servo extension wires must be 22AWG or greater, and color coding requirements are exempted if the original integrated wires are of the same color.	R616 , R615
Q19	C	Per R717, lasers must be in the non-visible spectrum.	R717
Q20	D	Option A violates R619 part A since power is being sourced from a different device than the hub the I2C is plugged into. Option B violates R602 part E. Option C violates R619 part C.	R619 , R602