

## Robot Inspection Checklist

Team Number: \_\_\_\_\_

Robot Inspection Status (circle): **READY / NOT READY**

Tea	Insp	Robot Size Inspection	Rule #
		Robot is presented at inspection with all mechanisms (including all components of each mechanism), configurations, and decorations that will be used on the Robot.	<I06>
		Separately test the Robot in all of its unique starting (pre-match setup) configurations. The Robot fits within the Sizing Tool without exerting undue force on the Sizing Tool sides and top.	<I06> <RG02>
✓	✓	<b>General Robot Rules</b>	<b>Rule #</b>
		Robot does not contain any components that could damage the Playing Field or other Robots.	<RG01>a&b
		Robot does not contain materials that are hazardous.	<RG01>c
		Robot poses no obvious unnecessary risk of entanglement.	<RG01>d
		Robot does not contain sharp edges or corners.	<RG01>e
		Robot does not contain animal-based, liquid, or gel materials.	<RG01>f&g
		Robot does not contain materials that would cause a delay of game if released.	<RG01>h
		Robot does not contain elements that electrically ground the Robot frame to the Playing Field.	<RG01>i
		Robot does not contain closed gas, hydraulic, or vacuum based devices.	<RG01>j,k&l
		Team number is visible from at least 2 opposite sides and meets requirements.	<RG03>
		Alliance Markers are present and meet requirements.	<RG04>
		Energy used by the Robot shall come only from approved sources.	<RG05>
		Robot is not capable of detaching its own components.	<RG06>
✓	✓	<b>Robot Mechanical Parts and Materials Rules</b>	<b>Rule #</b>
		All components on the Robot are from allowable raw materials and Commercial Off The Shelf products.	<RM01> <RM02> <RM06>
✓	✓	<b>Robot Electrical Parts and Materials Rules</b>	<b>Rule #</b>
		Exactly one Main Power Switch is installed properly, labeled, readily accessible, and visible. The TETRIX, REV, MATRIX, and AndyMark switches are the only allowed Main Power Switch.	<RE01>
		All batteries are securely attached to the Robot in a location where they will not make direct contact with other Robots or the Playing Field.	<RE02>
		Exactly one (1) Robot Main Battery Pack of an approved type is on the Robot and it is properly connected to the Main Power Switch and either the REV Expansion Hub or REV Control Hub.	<RE03> <RE05>a, b(i&ii)
		Where present, fuses must not be replaced with fuses of higher rating than originally installed or according to manufacturer's specifications. Fuses are single use only.	<RE04>

		12V Power: REV Control Hub, REV Expansion Hubs, REV Servo Power Modules, REV SPARKmini Motor Controllers, Power Distribution Blocks, Voltage/Current Sensors, 12V Input Power LED Controllers are connected to 12V power by connecting directly to the Robot main power switch, a pass-through power connector on a REV Control Hub or REV Expansion Hub, or a Power Distribution Block.	<RE05>b
		Allowed sensors only receive power from the REV Expansion Hub or REV Control Hub via analog, digital, encoder, or I2C ports.	<RE05>c
		The smartphone Robot Controller Android device (if used) is powered by its internal battery or by the built-in charging feature of the REV Expansion Hub.	<RE05>f
		Exactly one Robot Controller (a) smartphone Android Device + REV Expansion Hub or b) REV Control Hub) is required. One additional REV Expansion Hub is allowed.	<RE06>
		The only allowed Motor and Servo Controllers are: REV Expansion Hub, REV Control Hub, REV Servo Power Module, REV SPARKmini Motor Controller, and VEX Motor Controller 29.	<RE08>
		Robot contains no more than eight (8) DC motors of the allowed models.	<RE09>
		Robot contains no more than twelve (12) servos. They must be compatible with the attached REV Expansion Hub, REV Control Hub, REV Servo Power Module, or VEX Motor Controller 29 and not exceed the manufacturer specifications for the controller.	<RE10>
		Robot contains only allowed sensors and they are connected to allowed ports on the REV Expansion Hub or the REV Control Hub.	<RE11>a
		Logic Level Converters and I2C Sensor Adapter Cables are allowed to connect sensors to a compatible REV Control Hub or REV Expansion Hub port.	<RE11>b
		Simple I2C multiplexors, I2C to SPI protocol converters are allowed to connect sensors to an I2C port. COTS I2C to SPI protocol converters are allowed.	<RE11>e&f
		Focused light sources are not allowed except for a) sensors containing class 1, non-visible spectrum lasers or b) integrated light sources within otherwise legal devices. Light sources are powered by allowed methods.	<RE12>a, c, f, & g
		Video recording devices, if used, are powered by an internal battery and their wireless communication capability is turned off.	<RE13>a
		Vision Cameras must be UVC compatible and are connected directly to a REV Control Hub, or to the Robot Controller through a powered USB Hub.	<RE13>b(ii)
		Only single image sensor devices are allowed. Vision Sensors follow sensor rules in <RE11>. Stereoscopic cameras are not allowed.	<RE13>b(iii)
		Power and motor control wires have 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.	<RE14>f
		Power, motor control, servo, sensor, and LED wires are the correct size.	<RE14>i
		If electronics are grounded to the Robot frame, the only approved method is the REV Robotics Resistive Grounding Strap. If needed, the REV Robotics Anderson Powerpole to XT30 adapter may connect to the Resistive Grounding Strap. No other grounding straps or cables are allowed.	<RE14>k
		Approved electrical and electronic devices may be modified to make them more usable; they may not be modified internally or in any way that affects their safety.	<RE15>
✓	✓	<b>Wheel/Tread Playing Field Damage Test - Optional</b>	<b>Rule #</b>
		Robot did not damage the Playing Field tile. [This is an optional test that is performed only when an Inspector believes that the drivetrain tread may damage a Playing Field tile.]	<I07>

✓	✓	<b>Team Game Element Inspection – Optional Game Element</b>	<b>Rule #</b>
		Team must present all of their Alliance specific TGEs for inspection. The element must be entirely red or blue.	<TE01> <TE02>
		The TGE satisfies the Robot Mechanical Parts and Materials Rules in section 7.3.2 and does not contain any fiducial markers or retroreflective materials.	<TE03>
		Max. size of the TGE is 4 inches (10.16 cm) by 4 inches (10.16 cm) by 4 inches (10.16 cm). The min. size of the TGE is 3 inches (7.62 cm) by 3 inches (7.62 cm) by 3 inches (7.62 cm).	<TE04>
		The TGE is labeled with their Team number (numerals only) and they meet requirements.	<TE05>
		The TGE does not contain electronics, or any other part or material that violates Robot construction rules outlined in section 7.3.	<TE06>
		The TGE does not use or resemble any current season's COTS scoring elements.	<TE06>c <TE07>
✓	✓	<b>Team Scoring Element Inspection – Optional Scoring Element</b>	<b>Rule #</b>
		Teams must present all of their Alliance specific TSEs for inspection. The predominant color of the TSE must match the Team's assigned Alliance for the Match (red or blue).	<DR01> <DR03>
		The TSE must have the general configuration of an airplane with a defined fuselage and wings.	<DR02>
		The TSE is labeled with their Team number (numerals only). Numbers may be: a) laser or ink jet printed, or b) handwritten in either pencil, ink pen, or felt-tip marker.	<DR04> <DR05>
		The TSE must be made of a single, continuous sheet no larger than 8 ½ x 11 or A4 with a paper weight specification of no more than 20lb. No other materials (tape, paperclips, staples, etc.) are allowed.	<DR05>

General Comment(s) or Reason(s) for Failure (if any):


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Robot Inspector