

# Robot Inspection Checklist

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

Robot Inspection Status (circle): **PASS / FAIL**

| ✓ | 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 during the competition.  | <I7>             |
|   | Separately test the Robot in all of its unique starting (pre-match setup) configurations. The Robot fits within the Sizing Box without exerting undue force on the sizing box sides and top.   | <RG02>           |
|   | Robot Motion Warning Label is attached if servo motors move during the Robot initialization.   | <RG02>b          |
| ✓ | General Robot Rules  | Rule #           |
|   | 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 are designed to electrically ground the Robot frame to the Playing Field.   | <RG01>i          |
|   | Robot does not contain pneumatics.   | <RG01>j          |
|   | Robot Controller is accessible and visible by competition personnel.   | <RG03>           |
|   | Alliance Flag Holder is present and adequately holds the Flag during normal Robot operation.   | <RG04>           |
|   | Team number is visible from at least 2 sides (180 deg. apart). Numerals must be at least 6.35 cm high (2.5 inches), at least in 1.27 cm (0.5 inches) stroke width.   | <RG05>           |
|   | Energy used by the Robot, (i.e., stored at the start of a Match), shall come only from approved sources.   | <RG06>           |
|   | Robot is not capable of launching its own components.  | <RG07>           |
|   | Team understands that Robots may not launch a Game Element more than a distance of 4.88 m (16 ft.) in the air or more than 1.83 m (6 ft.) high. [Teams are not required to demonstrate compliance during the routine Robot Inspection that occurs before the Qualification Matches.]   | <RG08>           |
| ✓ | Robot Mechanical Parts and Materials Rules   | Rule #           |
|   | All components on the Robot are from allowable raw materials and Commercial Off The Shelf products.  | <RM01><br><RM02> |
| ✓ | Robot Electrical Parts and Materials Rules   | Rule #           |
|   | Separate Main Power Switch OR Core Power Distribution Module Switch (if used as main power switch) is installed properly, labeled, and readily accessible and visible to competition personnel.  | <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 Core Power Distribution Module.  | <RE03>           |
|   | Where present, fuses must not be replaced with fuses of higher rating than originally installed or according to manufacturer's specifications.   | <RE04>           |
|   | Allowed electronic devices are only powered by power ports on the Core Power Distribution Module except for: Core Power Distribution Module, allowed sensors connected to the Core Device Interface Module and the Core Legacy Module, light sources, and allowed video cameras. The Robot Controller is only powered by its internal battery. | <RE05>           |
|   | Robot uses exactly one (1) of the following Android devices as its Robot Controller: ZTE Speed, Motorola Moto G 2 <sup>nd</sup> Generation, Motorola Moto G 3 <sup>rd</sup> Generation, Google Nexus 5, or Samsung   | <RE06>           |

|   |  |               |
|---|--|---------------|
|   | Galaxy S5. The Android device's USB interface only connects to the Core Power Distribution Module.   |               |
|   | Exactly one (1) Core Power Distribution Module is mounted on the Robot.  | <RE07>a       |
|   | No more than two (2) Core Device Interface Modules are mounted on the Robot.   | <RE07>b       |
|   | No more than two (2) Core Legacy Modules are mounted on the Robot.   | <RE07>c       |
|   | No more than two (2) Legacy MATRIX DC Motor/Servo Controllers (unified module) are allowed.  | <RE07>e       |
|   | Either a combination of Modern Robotics and Legacy HiTechnic motor and servo controllers (any combination), OR Legacy MATRIX motor and servo controllers (no more than two) are mounted on the Robot.                  | <RE08>        |
|   | Robot contains a no more than eight (8) DC motors of the allowed models and they are compatible with the attached Motor Controller and Robot Main Battery.   | <RE09>        |
|   | Robot contains no more than twelve (12) servos. They must be compatible with the attached servo controller and not exceed the manufacturer specifications for the controller.  | <RE10>        |
|   | Robot contains only allowed sensors and they are connected only to the Core Device Interface Module, Core Legacy Module, or compatible simple I2C multiplexers that are connected to the Core Device Interface Module. | <RE11>        |
|   | Light sources (including LEDs) are not focused or directed in any way and they are powered by allowed methods.   | <RE12>        |
|   | Video recording devices, if used, are powered by an internal battery and their wireless communication capability is turned off.  | <RE13>        |
|   | Power and 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.                      | <RE14>g       |
|   | Power, motor control, servo and encoder wires are the correct size.  | <RE14>j       |
|   | 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 Performed at the Discretion of the Inspector</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.]                                   | <l8>          |

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

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I hereby state that all of the above is true, and to the best of my knowledge all Robot construction rules and regulations of the *FIRST*® Tech Challenge have been abided by.

\_\_\_\_\_  
Robot Inspector

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Team Student Representative