

TEAM NUMBER: _____

INSPECTOR: _____

INITIALS (after passing): _____

DATE (after passing): ____/____/____

A ROBOT is expected to comply with rules in Section 9 and 10 of the 2021 INFINITE RECHARGE Game Manual. Rules not explicitly called out on this checklist are still expected to be followed.

Self-Inspection and check off Please fill in data requested in the spaces provided.

- ____ **ROBOT Weight** (must be \leq 125 lbs (~56kg) excluding bumpers and battery). <R5> **ROBOT** = _____ (lbs /kg)
- ____ **Starting Configuration** – Parts may not extend beyond the vertical projection of the FRAME PERIMETER. <R2>
- ____ **Starting Volume – FRAME PERIMETER** = _____ (in/cm) (Not greater than 120in. or ~304 cm) and not taller than 45 in. (~114 cm) <R3> **ROBOT Height** = _____ (in/cm)
- ____ **Playing Configuration** – ROBOT may not extend beyond the FRAME PERIMETER by more than 12 in. (~30 cm) <R4>
- ____ **Standard Bumpers** - must follow all specifications in Sec. 9.5, **BUMPER rules**. Please check if your bumpers comply.

Mechanical Systems

- ____ **No sharp edges, protrusions, or hazards for participants, robots, arena, or field.** <G23, G26, R6, R7 & R8>
- ____ **No Unsafe Energy Storage Devices** - carefully consider safety of stored energy or pneumatic systems <R8, R39>
- ____ **Decorations** - Cannot interfere with other robots' electronics or sensors, be in spirit of "Gracious Professionalism". <R8>

Electrical Systems

- ____ **Main Robot Battery** - A single 12 volt, 17-18.2 Ah robot battery, securely fastened inside robot. <R32, R36, R37>
- ____ **Other Batteries** – Integral to COTS computing device or camera or COTS USB < 100Wh (20,000mAh at 5V) and 2.5Amp max output per port used for COTS computing device and accessories only. <R33>
- ____ **PDP Visibility** –The single PDP and PDP breakers must be visible for inspection. <R44 >
- ____ **Main Breaker Accessibility** – the single 120A main breaker must be readily accessible with labeling preferred. <R43>
- ____ **Allowable PD Breakers** - Only VB3-A, MX5-A or MX5-L Series (40A or lower), Snap-Action breakers may be inserted in the PDP <R50>
- ____ **Robot Radio** – A single OpenMesh OM5P-AN or OM5P-AC radio must be powered via a VRM +12 volt, 2 amp output. The VRM must connect to the dedicated +12 volt output on the PDP. Radio LEDs are visible. <R47,R48,R58, R64>
- ____ **CAN BUS** – The roboRIO and PDP must be connected via CAN wiring even if no other CAN devices are used. <R72>
- ____ **roboRIO Power** – Only the roboRIO must be connected to dedicated power terminals on PDP. <R46>
- ____ **Wire** – All power wire must be copper and meet the wiring conventions for main and branch wiring in R40, Fig.9-10 and R53.
- ____ **Wire Colors** – All power wire must be color coded - red, white, brown, yellow, or black w/stripe for +24, +12, +5 VDC supply (positive) wires and black or blue for common (negative) for supply return wires <R55>
- ____ **Actuators** – Any electrical solenoid actuators are max. 1 in. stroke and no greater than 10 watts@12V continuous duty <R27>
- ____ **Motor/Actuator Power** –Each motor controller meets rules in <R29, R30 & Table 9-2>
- ____ **Custom Circuits, Sensors and Additional Electronics** - cannot directly control speed controllers, relays, actuators or servos. Custom Circuits may not produce voltage exceeding 24V.<R45 & R56>
- ____ **Pneumatic Control Module (PCM)** - PCM modules (if used) are connected to roboRIO and PDP via CAN bus <R71>

Pneumatic System using one on-board compressor (n/a for robots that do not use pneumatics)

- ____ **Compressor** - Only one (on robot only) KOP, or equivalent powered by a PCM or Relay module <R30 & Table 9-2, R79>
- ____ **Compressor Control** – A Pressure Switch must be wired directly to the PCM or roboRIO to control compressor. <R85>
- ____ **All pneumatic devices** must be unmodified, meet working pressure specifications, and be connected as in Section 9-9.
- ____ **All pneumatic system** gauges, regulators, tubing, valves, and all pneumatic components must meet rules in Section 9-9.

Power On Check (Driver Station must be tethered to the Robot)

- ____ **Confirm Pneumatics Operation** – Meets requirements in Section 9-9 for max pressure, compressor operation and vent pressure.
- ____ **Robot Signal Light(s)** - Confirm that the RSL flashes in sync with roboRIO. <R65>
- ____ **Verify Team Number on DS** – (Event only) team has programmed the Wireless Bridge at kiosk for this event. < R61>
- ____ **Software Versions** – The roboRIO image (FRC_2021_v3 or later) and DS (21.0 or later) must be loaded <R57 & R88>
- ____ **Power Off** – Disable robot and open Main Breaker to remove power from the robot, confirm all LEDs are off, actuate pneumatic vent plug valve and confirm that all pressure is vented to atmosphere and all gauges read 0 psi pressure.

Team Compliance Statement

We, the Team Mentor and Team Captain, attest by our signing below, that our team's ROBOT was built by our team and we are not aware of any rules it violates. We confirm that it and its MAJOR MECHANISMS are products of our team's work.

Team Captain: _____

Team Mentor: _____