Xtreme Collegiate Clash 15 Pound Class
Internal Inspection Request Form

Team Name: _____ Bot Name: _____

School Name: _____ Pit #: _____

To prepare for Internal Inspection:

1) Set up your pit table area

- Put your bot on the table or the floor, but be sure to place it such that the wheels, legs or other motion-producing components are suspended in the air by at least 1/4 inch.
- Unpack and arrange your tools. You may need them for inspection.

2) Weigh your bot

- If you think your bot might be overweight, check-weigh it on an official Bots scale. You can use the scale anytime it's not being used by Bots personnel.

3) Open up your bot for inspection

- Remove external panels to expose the interior.
- Expose batteries and electrical system wiring.
- Expose any pneumatic system components.
- Keep all safety covers and restraints on, if possible.

4) Notify Safety/Tech that your bot is ready

- Fill out your team name, bot name and pit number on the top of this form.
- Take this form to the Safety/Tech Area and notify the safety administrator that your bot is ready for the internal inspection.
- Do not bring your bot to the Safety/Tech Area. A safety inspector will come to your pit table.
- Have someone at your pit table at all times when waiting for inspection.

(To be completed by Bots inspector) Pass ❒ Fail ❒ Time: _____

Inspector: _____ _____
(print name) (signature)

Fail - Items to Fix: _____

_____

_____

Xtreme Collegiate Clash 15 Pound Class
Internal Inspection Checklist

General Inspection

- ❑ Secure covers on all sharp points/edges/corners
- ❑ Secure restraints for all pinch/motion hazards
- ❑ No use of disallowed construction materials
- ❑ Any restricted-use materials are used correctly
- ❑ No Internal Combustion Engine
- ❑ No stored high-pressure pneumatics
- ❑ No hydraulic system
- ❑ Bot name on exterior in 1/4" or larger letters

Electrical Inspection

- ❑ Master switches mechanically shut off batteries
- ❑ Master switches are 2-position & fully-enclosed
- ❑ Master switch access requires no parts removal
- ❑ Access to all switches is outside weapons paths
- ❑ Batteries are allowed type (SLA, NiCd, NiMH, Li-on) **Lithium Polymer (LiPo) batteries are prohibited**
- ❑ Batteries are mounted securely within chassis
- ❑ Battery terminals/connections are insulated
- ❑ Primary electrical terminals are covered/insulated
- ❑ All wiring properly installed and insulated
- ❑ Maximum voltage does not exceed 28 VDC

Radio Control Equipment

- ❑ Uses IFI, FM R/C or allowed custom controller
- ❑ R/C system not AM, pre-1991, or 72MHz
- ❑ R/C system has two sets of crystals
- ❑ Custom equipment complies with FCC regulations

Low-Pressure Pneumatic System

> ***Verify that system** is **depressurized***

- ❑ Tank is rated for at least 1.5x stored pressure
- ❑ Tank max volume less than 8 Cu. ft.
- ❑ Tank has pressure-reliefs or blowout plugs
- ❑ Tank has a shut-off valve
- ❑ Pneumatic components are correctly rated
- ❑ Components are mounted securely within chassis
- ❑ Components are undamaged
- ❑ Actuators are attached properly
- ❑ Pressure purge valve to relieve pressure
- ❑ Purge and shut-offs are outside weapons paths
- ❑ Access for tank filling is safe and stable

External Equipment

- ❑ Equipment setup/removal takes less than 2 minutes
- ❑ Equipment does not interfere with operations
- ❑ Homing/Targeting laser is class II or below

Additional Items

- ❑ MultiBot meets all specific requirements
- ❑ StompBot complies with "Walker' requirements
- ❑ Any lighting/sound system can be deactivated

Powered Weapons

- ❑ Weapons are not electrical/electromagnetic
- ❑ Weapons do not use heat, fire or explosive
- ❑ Weapons are non-fouling and non-obscuring
- ❑ Weapons/Flywheels are securely attached
- ❑ Spring-powered weapon has manual safety release
- ❑ Deactivated weapons pose no hazard to people nearby
- ❑ Projectile tether length does not exceed 4'
- ❑ Less than 30 minutes to change modular weapon

Notes:

Xtreme Collegiate Clash 15 Pound Class
Functional Test Request Form

Team Name: _____ Bot Name: _____

School Name: _____ Pit #: _____

To prepare for Functional Testing:

1) Charge the batteries

- Check/charge the primary and secondary power batteries.

2) Re-assemble the bot

- Install all internal components.
- Install all external covers and armor.
- Attach all safety covers and restraints.

3) Re-weigh the bot

- If you have to make significant changes to your bot to reduce the weight, notify the safety administrator, as you may need another internal inspection.

4) Notify Safety/Tech that your bot is ready

- Fill out your team name, bot name and pit number on the top of this form.
- Take this form to the Safety/Tech Area and notify the safety administrator that your bot is ready for the functional testing.
- Do not bring your bot to the Safety/Tech Area (except to weigh it). The safety registrar will notify you at your pit table when your bot will be tested.
- When you are notified, bring your bot, your transmitter and your adult supervisor to the Safety/Tech Area.

(To be completed by Bots inspector) Pass ❒ Fail ❒ Time: _____

Inspector: _____ _____
(print name) (signature)

Fail - Items to Fix: _____

_____

_____

Revision Date: 1/11/2017

Xtreme Collegiate Clash 15 Pound Class Functional Test Checklist

Bot Weight and Appearance

- ❑ Bot total weight is:_____pounds
  - > ***For a MultiBot, weigh segments separately and attach stickers indicating the weights***
- ❑ Appearance is acceptable
- ❑ Name of bot is easily readable

Pneumatics Check

- > ***Pressurize the system***
- ❑ No„problems pressurizing
- ❑ Verify pressures do not exceed 150 psi

Activation of Bot

- ❑ Bot is in full battle-ready configuration
  - > ***Verify that Bot is completely deactivated***
  - > ***Mount bot on a support that suspends the wheels, tracks or legs in the air.***
  - > ***Check that all Master Switches are OFF***
  - > ***Turn the transmitter ON***
- ❑ No bot movement when transmitter turned on
  - > ***Activate the Bot***
- ❑ Activation requires no more than 1 person
- ❑ Person not in weapons path during Activation
- ❑ Activation can be done within 30 seconds
- ❑ No panels/parts removal during Activation
- ❑ Activation safety is not sequence-dependent

Motion System Fail-Safe Test

- > ***Move the motion system forward/backward***
- ❑ Bot motion control is continuous, not on/off
- ❑ Reliable control of the motion-producing parts
- ❑ Motion speed greater than 6 inches-per-second
  - > **Move *the motion system at high speed***
  - > ***Transmitter OFF with motion at speed***
- ❑ Drive power to motion system stops when transmitter is shut off.

Powered Weapon Systems Testing

- > ***Start each weapon system moving***
- ❑ Weapons systems are reliably controlled
  - > ***Transmitter OFF while weapon is moving***
- ❑ Drive power to weapon systems stops when transmitter is shut off
- ❑ Spinning part comes to a full stop within 30 seconds after transmitter shut-off.
- ❑ Weapon will not cause damage to Bot

Large Spring Arming/Disarming

- > ***Arm the spring using radio control***
- ❑ Large spring can be armed remotely
  - > ***Transmitter OFF while spring is armed***
- ❑ No motion or disarming at transmitter turn-off
  - > ***Manually release the spring***
- ❑ Spring can be manually released in 30 seconds
- ❑ No body part in weapon path during release

Autonomous Features

- > ***Cycle the transmitter OFF, then ON***
- ❑ Autonomous features start up disabled
  - > ***Remotely activate autonomous features***
- ❑ Light indicates autonomous features activated
- ❑ No erratic behavior during autonomous operation
  - > ***Shut OFF transmitter***
- ❑ All autonomous features cease functioning

Deactivation of Bot

- > ***Turn Transmitter ON (if necessary)***
- > ***Deactivate the Bot***
- ❑ Deactivation requires no more than 1 person
- ❑ Person not in path of weapons during deactivation
- ❑ Complete deactivation in less than 45 seconds
- ❑ No panels/parts removal during deactivation
- ❑ Deactivation safety is not sequence-dependent