TCRL Safety inspection Checklist

15# Internal Inspection

School or Organization _____ Inspector _____

Robot Name _____ Final Pass Time _____

Pit # _____ Weight _____ ☐ Pass ☐ No Pass

Type of Controller _____

General Inspection
- ☐ Name of robot on exterior in ½" letters min
- ☐ Appearance is acceptable
- ☐ Safety covers installed and secure
- ☐ Safety restraints installed and secure
- ☐ No disallowed materials
- ☐ Restricted material complies with rules

Electrical Inspection
- ☐ Drive switch mechanically shuts off batteries
- ☐ Weapon switch mechanically shuts off batteries
- ☐ Master switches are 2-position and enclosed
- ☐ Master switch access requires no parts removal
- ☐ Access to all switches is outside weapon path
- ☐ External light for each switch is visible
- ☐ Battery type (SLA, NiCad, NiMh, Li-Ion, LifePO4)
- ☐ Batteries are mounted securely within chassis
- ☐ Battery terminals/connections covered/insulated
- ☐ Maximum voltage does not exceed limit (24V)

Powered Weapons
- ☐ Weapons are not electrical/electromagnetic
- ☐ Weapons do not use heat, fire or explosives
- ☐ Weapons are non-fouling
- ☐ Weapons/flywheels are securely attached
- ☐ Deactivated weapons pose no hazard to people
- ☐ Less than 20 minutes to charge modular weapon

Large Springs
- ☐ Deactivated springs have less than 5lbs. force
- ☐ All springs are mounted securely
- ☐ Manual safety release design is approved

Pneumatic System

Verify that system is completely depressurized
- ☐ LPA or CO2 disposable cartridges are allowed
- ☐ Tanks have pressure-reliefs or blowout plugs
- ☐ Tanks are mounted securely within chassis
- ☐ Tanks are properly rated and tested
- ☐ Max Capacity limit (8 cu.ft.) at 70^0 F

Mark max fill pressure on ALL tanks
- ☐ Low pressure shut-off valves meet requirements
- ☐ Pressure regulator mounted directly to tank
- ☐ Pressure regulator has lock-down mechanism
- ☐ Mark max pressure on regulators
- ☐ LPA 150psi max at 70^0 F
- ☐ CO2 853psi max at 70^0 F
- ☐ 150psi max on low pressure side
- ☐ Armor is required to secure any vessels
- ☐ Pneumatic components are correctly rated
- ☐ Pneumatic components are mounted securely
- ☐ No damage to any pneumatic components
- ☐ Pressure purge valves meet requirements
- ☐ Purge & shut-offs are outside weapons area
- ☐ No heat source close to pneumatic components
- ☐ Access for tank filling is safe and stable
- ☐ Refilling system approved

Additional Items
- ☐ Multi-bot meets all specific requirements
- ☐ Any lighting/sound system can be deactivated

Fail: Items to be fixed & Comments

TCRL Safety inspection Checklist
15# Functional Inspection

Robot Name _____ Inspector _____

Pit # _____ Weight _____ Final Pass Time _____

☐ Pass ☐ No Pass

Pneumatic System
Verify that system is completely pressurized
☐ Tank pressures do not exceed sticker limits
☐ Regulated pressures do not exceed sticker limits
Add colored tape to top and bottom of robot

Move robot to test box or arena

Activation of robot
Verify robot is completely De-activated
Check that all Master Switches are off
Activate the robot
☐ Robot is in full fight-ready configuration
☐ No robot movement when transmitter is turned on

Turn the transmitter ON
☐ Activation requires no more than 1 person
☐ Person NOT in weapon path during activation
☐ Activation can be done within 45 seconds
☐ No panels/parts removal during activation
☐ Activation Safety procedure is acceptable

Motion System Fail-Safe Test
Move the robot under control
☐ Robot motion control is continuous, not random
☐ Reliable control of the motion-producing parts
☐ Motion speed greater than 1 foot-per-second
☐ Move the robot at high speed
☐ Turn transmitter OFF during motion

Move the robot at high speed
Turn transmitter OFF during motion
☐ Power to drive system stops when transmitter is shut off

Powered Weapon Systems Testing
Start EACH weapon system moving
☐ Weapons systems are reliably controlled
Turn transmitter OFF while weapon is ON
☐ Power to weapon system stops when transmitter is shut off
☐ Spinning parts come to a full stop within 30 seconds after transmitter is shut off
☐ Weapon will NOT cause damage to arena

Deactivation of robot
Turn the transmitter ON
Deactivate the robot
☐ Deactivation requires no more than 1 person
☐ Person NOT in weapon path during Deactivation
☐ Critical Deactivation in less than 15 seconds
☐ Complete Deactivation in less than 60 seconds
☐ No panels/parts removal during deactivation
☐ Deactivation safety procedure is acceptable

Fail: Items to be fixed & Comments

Inspector Signature

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Team Representative Signature

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