Xtreme BOTS 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 BOTS 15 Pound Class
Internal Inspection Checklist

<table>
<thead>
<tr>
<th>General Inspection</th>
<th>Low-Pressure Pneumatic System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure covers on all sharp points/edges/corners</td>
<td>Verify that system is depressurized</td>
</tr>
<tr>
<td>Secure restraints for all pinch/motion hazards</td>
<td>Tank is rated for at least 1.5x stored pressure</td>
</tr>
<tr>
<td>No use of disallowed construction materials</td>
<td>Tank max volume less than 8 cu. ft.</td>
</tr>
<tr>
<td>Any restricted-use materials are used correctly</td>
<td>Tank has pressure-reliefs or blowout plugs</td>
</tr>
<tr>
<td>No Internal Combustion Engine</td>
<td>Tank has a shut-off valve</td>
</tr>
<tr>
<td>No stored high-pressure pneumatics</td>
<td>Pneumatic components are correctly rated</td>
</tr>
<tr>
<td>No hydraulic system</td>
<td>Components are mounted securely within chassis</td>
</tr>
<tr>
<td>Bot name on exterior in 1/4” or larger letters</td>
<td>Components are undamaged</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical Inspection</th>
<th>External Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master switches mechanically shut off batteries</td>
<td>Equipment setup/removal takes less than 2 minutes</td>
</tr>
<tr>
<td>Master switches are 2-position &amp; fully-enclosed</td>
<td>Equipment does not interfere with operations</td>
</tr>
<tr>
<td>Master switch access requires no parts removal</td>
<td>Homing/Targeting laser is class II or below</td>
</tr>
<tr>
<td>Access to all switches is outside weapons paths</td>
<td></td>
</tr>
<tr>
<td>Batteries are allowed type (SLA, NiCd, NiMH, Li-on)</td>
<td></td>
</tr>
<tr>
<td><strong>Lithium Polymer (LiPo) batteries are prohibited</strong></td>
<td></td>
</tr>
<tr>
<td>Batteries are mounted securely within chassis</td>
<td></td>
</tr>
<tr>
<td>Battery terminals/connections are insulated</td>
<td></td>
</tr>
<tr>
<td>Primary electrical terminals are covered/insulated</td>
<td></td>
</tr>
<tr>
<td>All wiring properly installed and insulated</td>
<td></td>
</tr>
<tr>
<td>Maximum voltage does not exceed 28 VDC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radio Control Equipment</th>
<th>Additional Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses IFI, FM R/C or allowed custom controller</td>
<td>MultiBot meets all specific requirements</td>
</tr>
<tr>
<td>R/C system not AM, pre-1991, or 72MHz</td>
<td>StompBot complies with &quot;Walker’ requirements</td>
</tr>
<tr>
<td>R/C system has two sets of crystals</td>
<td>Any lighting/sound system can be deactivated</td>
</tr>
<tr>
<td>Custom equipment complies with FCC regulations</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Powered Weapons</th>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weapons are not electrical/electromagnetic</td>
<td></td>
</tr>
<tr>
<td>Weapons do not use heat, fire or explosive</td>
<td></td>
</tr>
<tr>
<td>Weapons are non-fouling and non-obscurring</td>
<td></td>
</tr>
<tr>
<td>Weapons/Flywheels are securely attached</td>
<td></td>
</tr>
<tr>
<td>Spring-powered weapon has manual safety release</td>
<td></td>
</tr>
<tr>
<td>Deactivated weapons pose no hazard to people nearby</td>
<td></td>
</tr>
<tr>
<td>Projectile tether length does not exceed 4’</td>
<td></td>
</tr>
<tr>
<td>Less than 30 minutes to change modular weapon</td>
<td></td>
</tr>
</tbody>
</table>
Xtreme BOTS 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: 8/1/12
## Xtreme BOTS 15 Pound Class
## Functional Test Checklist

### Bot Weight and Appearance
- Bot total weight is: __________ pounds
- Appearance is acceptable
- Name of bot is easily readable

### 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

### Pneumatics Check
- **Pressurize the system**
  - No problems pressurizing
  - Verify pressures do not exceed 150 psi

### Large Spring Arming/Disarming
- **Arm the spring using radio control**
  - Large spring can be armed remotely
- **Transmitter OFF while spring is armed**
- **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

### 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

### 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

### 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.

### Motion System
- **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

### 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

---

**Revision Date: 8/1/12**