BEST 2015
RETURNABLE AND NON-RETURNABLE ITEMS
Returnable and Non-Returnable Items

- What’s New for 2015
  - Returnable Parts Changes
  - Consumable Parts Changes
  - Kit Related Rule Changes

- Kit Hardware Overview
  - Returnable Hardware
  - Consumable Items

- Spare Parts
- Kit Assignments
- Words of Wisdom
Returnable Parts Changes

- Removed MXL Belt Items
- Added HTD Belt Items
- Removed 9V Cortex Backup Battery Holder
- Removed Optional 1/16” Allen Wrench
- Allow VEX Competition Retention Clips on the Cortex
Returnable Parts Changes

For Kansas Hub:

- All 7.2V batteries and chargers modified to single configuration (red/black connectors that require the adapters at cortex plug)
Belts, Pulleys, Roller blade wheel, axles, bearings are different parts this year.
Consumable Part Changes

- Added 3/4” Foam Board
- Removed 1/8” PVC Sheet
- Added 1/8” Polycarbonate Sheet
- Changed 1/4” Diameter Dowel from Hardwood to Oak (higher quality)
- Changed Length of #10 Socket Head Screw to 1” (3/4” is still allowed)
- Allow Bank Wrappers on Pennies
2013 Consumable Kit Changes (continued)

Consumable Kit Changes

Increase Length to 1’ (3/4” still okay)
2015 Consumable Kit Changes

Per the Random Elimination Protocol for 2015
- Removed 3/8” Plywood
- Removed Heavy Door Spring
- Removed 2.5” Hinges
2015 Consumable Kit Changes

Consumable Kit Elimination Items
V Competition Retention Clip
2015 Kit Related Rule Changes

- Allow Use of Video Capture on the Robot
Kit Hardware Overview

- Returnable Equipment
  - Included Parts Summary
  - Returnable Kit Issues
  - Kit Return Policy

- Consumable Items
- igus Donated Parts
- Team Acquired Parts
RETURNABLE EQUIPMENT
INCLUDED PARTS SUMMARY

- VEX Control System
  - Joystick
  - CORTEX Microcontroller
  - VEXnet Keys
  - USB A-A Cable
  - VEX Programming Cable
  - Motor Controls
  - Interface Cables
  - Screw Terminal I/F Cables

- Battery Sets
  - 7.2 Volt Batteries
  - Large Battery Charger
  - Joystick AAA Batteries
  - Joystick Battery Charger
  - Cortex Battery Adaptor

- Servo Set
  - Servos
  - Servo Horns, Arms
  - 24”, 40” Extension Wires
  - Servo Power Adapter Cables

- VEX Motor Set
  - Large Motors
  - Small Motors

- Drive Component Set
  - Pulleys
  - Belts
  - Ball Bearings
  - Shoulder Bolt
  - 76mm Roller Blade & Axle
RETURNABLE PARTS

Servo & Arms

The servos and arms are returnable parts.

The arms may be modified as necessary. However, all arms must be returned.
Returnable Kit Issues

All Batteries and chargers have been modified to use Red / Black connectors requiring adapters.

**IMPORTANT**
Leave the adapter connected to the cortex – to preclude wear on this connection.
RETURNABLE KIT ISSUES (CONT.)

• Decoration of your robot is encouraged, but do not get paint on any returnable component.

• Do not put Velcro on any returnable equipment.

• Do not open CORTEX or Joystick (except to charge/replace batteries).

• Teams – requested to clean solder from motor terminals – please return them as you got them!
Kit Return Policy

• Teams may return the kit to Kansas BEST at the end of Game Day in the large plastic box.

• Use picture summary included in Returnable kit to inventory all parts prior to returning. Provide this picture summary with check marks indicating the specific part is in the returned box.
**Kit Return Policy (Continued)**

- Teams not returning kits on game day must coordinate at parts table
- Team Coach signature required (on Delayed Return list at parts table) for return after Game day.
- All kits must be returned by April 1, 2016
- Teams may be charged for missing parts
- Packaging, boxes, etc. for (new) individual parts does not need to be returned
Kit Return Policy (Continued)

- Expectations for returned kit parts
  - Inventory picture sheet filled out
  - Motor Terminals cleaned (soldered wire connections)
  - AAA Batteries removed from Joystick
  - Tape or decorations removed
  - Plastic Box returned with parts
10 matching black nylon hex nuts are in hardware sack
SPARE PARTS

- Returnable Equipment
  - Limited number of spares
  - No guarantee of spare equipment
  - First review technical data and try to troubleshoot the problem.
  - Document your problem. Attach a note to the item to assist with warranty.
  - You must arrange to exchange and pickup spares. Contact Karen Reynolds, karen.reynolds@wichita.edu

- Consumable Items
  - BEST does not provide spares
  - You may replace with like items (see rules)
# Kit Assignments

<table>
<thead>
<tr>
<th>Kit No.</th>
<th>Team</th>
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<tbody>
<tr>
<td>1.</td>
<td>Herington HS</td>
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<td>2.</td>
<td>Bishop Carroll HS</td>
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<td>3.</td>
<td>Wichita West HS</td>
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<td>4.</td>
<td>Derby HS</td>
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<td>5.</td>
<td>Augusta HS</td>
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<td>6.</td>
<td>Kansas City Christian</td>
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<td>7.</td>
<td>Campus HS</td>
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<td>8.</td>
<td>Circle HS</td>
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<td>9.</td>
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<td>Wichita Southeast HS</td>
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<td>11.</td>
<td>Council Grove HS</td>
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<td>12.</td>
<td>Wichita East HS</td>
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<td>13.</td>
<td>Kapaun Mt. Carmel</td>
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<td>14.</td>
<td>Bueker MS</td>
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<td>15.</td>
<td>El Dorado HS</td>
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<td>16.</td>
<td>Ft. Scott HS</td>
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<td>17.</td>
<td>Andale HS</td>
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<td>18.</td>
<td>Garden City HS</td>
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<td>19.</td>
<td>Ambassadors for Christ</td>
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<td>Wichita Homeschool</td>
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<td>Rose Hill HS</td>
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<td>23.</td>
<td>Riverbend Int’l School</td>
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<td>Wichita Collegiate HS</td>
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<td>25.</td>
<td>Panther Creek</td>
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<td>Valley Center HS</td>
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<td>27.</td>
<td>Washburn Rural HS</td>
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<td>28.</td>
<td>West Franklin HS</td>
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<td>29.</td>
<td>Pike Valley HS</td>
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<tr>
<td>30.</td>
<td>Andover Central HS</td>
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Some Words of Wisdom

- You are responsible for “returnable equipment”
  - Accurately inventory returned parts using provided picture summary.
  - Return parts on game day or on approved return date.
  - Secure equipment to your robot.
  - Leave the Battery Adapter attached to the Cortex
  - Do not over tighten mounting screws
  - Protect it from impacts.
  - Do Not disassemble components (except to install batteries))
  - Do Not get paint on it!

- Be creative!
- Have Fun!
- Good luck!
MORE WORDS OF WISDOM

Read the Rules
And
Technical Data again