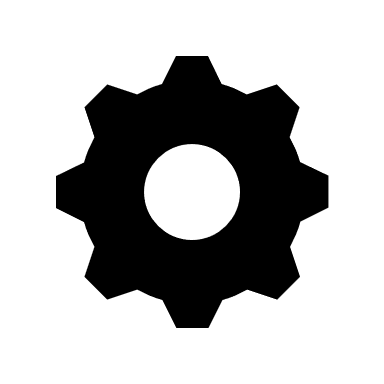
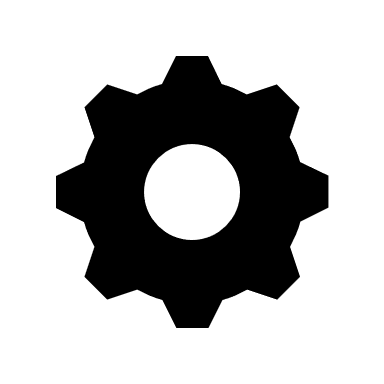
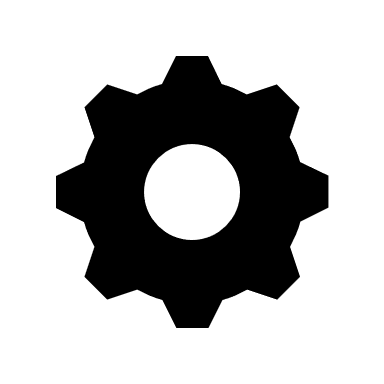
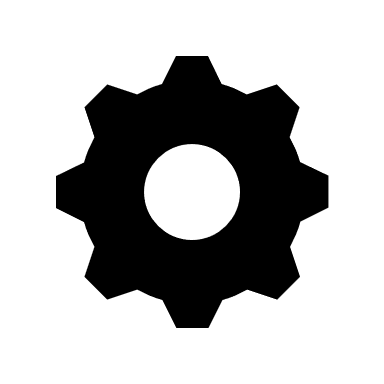
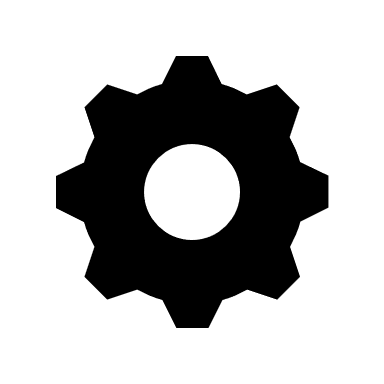
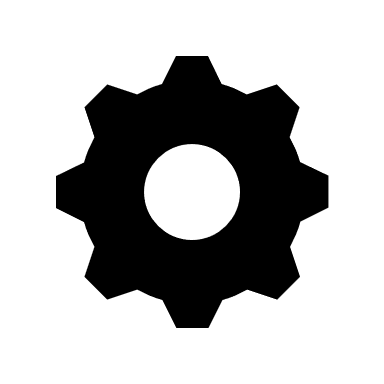


Forms - 2019



# **Form Completion Instructions**

# Forms must be completed and sent to **lheiss@purdue.edu** in Word Doc or PDF form by **Friday, March 1st 6:00pm ET**. Please refer to the Purdue National Chain Reaction Competition Handbook or email [lheiss@purdue.edu](mailto:lheiss@purdue.edu) with any questions.

Last minute changes to forms may be submitted with no penalty to judges during the pre-competition machine evaluation that will occur after machine set-up. At this time, one team representative will accompany the judges during the pre-competition checks for steps, safety hazards, and steps that purposefully leave the resting volume.

All teams need to complete the following 4 forms

1. Safety Hazards
2. Step Identification
3. Volume Calculation
4. Steps that Leave Resting Volume

Add rows to tables and space to the document as needed.

**Please complete the following information:**

**Team Name:**

**University:**

**Safety Hazards Form**

We strive to create a fun and safe environment for all competitors, judges, and spectators. To accomplish this goal, we need your help in ensuring that your machines are safe for all persons involved in the competition.

Safety guidelines are outlined in **Section V** of the handbook.

Please identify all potentially hazardous steps according to the categories outlined below and provide a brief description of why the step is safe.

# Electrical Objects

Includes all battery and electricity powered units.

|  |  |  |
| --- | --- | --- |
| Step Identification (Number, Name) | Potential Hazard | Why the step is safe |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Flying Objects

Pieces that completely detach from the machine.

|  |  |  |
| --- | --- | --- |
| Step Identification (Number, Name) | Potential Hazard | Why the step is safe |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Sharp Objects

Encompasses all pieces that could cause bodily harm (ex. Scissors, sharp wires, razor blades, etc.)

|  |  |  |
| --- | --- | --- |
| Step Identification (Number, Name) | Potential Hazard | Why the step is safe |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# All Other

For any potentially hazardous steps that do not apply to the categories outlined above

|  |  |  |
| --- | --- | --- |
| Step Identification (Number, Name) | Potential Hazard | Why the step is safe |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Step Identification Form**

A minimum of **30 steps** must be outlined below and attempted on the competition day to receive full points in the “Steps” subcategory of Objective scoring. Only the first 40 steps need to be identified. Any steps after the final step (the one that completes the challenge) will not be counted.

A step, as defined in the handbook, is a **nonrepetitive transfer of energy** and must abide by this definition to be counted.

Please identify each step (the first 40) in the order of execution.

|  |  |  |
| --- | --- | --- |
| Number | Name | Brief Description |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |
| 11 |  |  |
| 12 |  |  |
| 13 |  |  |
| 14 |  |  |
| 15 |  |  |
| 16 |  |  |
| 17 |  |  |
| 18 |  |  |
| 19 |  |  |
| 20 |  |  |
| 21 |  |  |
| 22 |  |  |
| 23 |  |  |
| 24 |  |  |
| 25 |  |  |
| 26 |  |  |
| 27 |  |  |
| 28 |  |  |
| 29 |  |  |
| 30 |  |  |
| 31 |  |  |
| 32 |  |  |
| 33 |  |  |
| 34 |  |  |
| 35 |  |  |
| 36 |  |  |
| 37 |  |  |
| 38 |  |  |
| 39 |  |  |
| 40 |  |  |

|  |  |  |
| --- | --- | --- |
| **Final Step** | **Name** | **Brief Description** |
|  |  |  |

**Volume Calculation**

To calculate the volume, determine a base area for your machine and multiply this area by the longest height. The resting volume must not exceed **400 cubic feet**.

Base Area Drawing and Dimensions (Please insert diagram)

Longest Height (in feet):

Total Resting Volume (in cubic feet):

**Steps That Leave Resting Volume**

Steps that leave the resting volume (e.g. a swinging pendulum) are allowed as long as the step does not leave the 12 ft x 12 ft x 8 ft competition space and are identified below.

|  |  |  |
| --- | --- | --- |
| Step Number | Step Name | Brief Description |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |