

# GRAVITY VEHICLE C - 2021



TEAM NUMBER  C  TEAM NAME \_\_\_\_\_

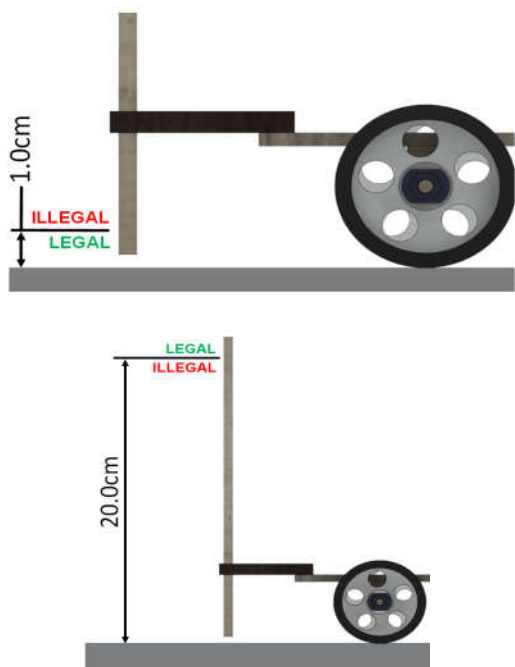
STUDENT NAMES \_\_\_\_\_ FINAL SCORE \_\_\_\_\_

| <b>INSTRUCTIONS:</b> This Checklist provides a list of possible violations to aid in inspection and running of the event |   | <b>Violation Found</b> |               |               |
|--|---|------------------------|---------------|---------------|
| <b>Event Parameters</b>  | Mark Violations with 'X' Below; Circle 'Y' to the right if a Violation is found for matching rule   | \\/\                   |               |               |
| <b>2.a. Impounded</b>  | Not Impounded: [ ] Vehicle [ ] Ramp [ ] Alignment Device(s), if any [ ] Spare parts, if any   | <b>1</b>               | <b>Y</b>      | <b>N</b>      |
| <b>2.c. Design Questions</b>   | [ ] Cannot Answer [ ] Built by others [ ] _____   | <b>2</b>               | <b>Y</b>      | <b>N</b>      |
| <b>Practice Log</b>  |   |                        |               |               |
| <b>4.a. Parameters</b>   | Missing: [ ] Target Distance [ ] Vehicle Distance from Target<br>[ ] 3th Parameter (e.g. # of axle turns, drive arm length, alignment angle, ...)<br>[ ] Fewer than 10 practice runs recorded [ ] Missing Team Name [ ] Missing Team Number                               | <b>3</b>               | <b>Y</b>      | <b>N</b>      |
| <b>4.b. Impounded</b>  | [ ] Log not Impounded   | <b>4</b>               | <b>Y</b>      | <b>N</b>      |
| <b>Construction Parameters</b>   |   |                        |               |               |
| <b>3.c. Vehicle Mass</b>   | [ 1 ] [ 2 ] [ 3 ] Vehicle Mass > 2.000 kg   | <b>RUN #1</b>          | <b>RUN #2</b> | <b>RUN #3</b> |
| <b>3.d. Electronic/Electric</b>  | [ 1 ] [ 2 ] [ 3 ] Electronic or Electric Device(s) Used (except calculator)   | Y N                    | Y N           | Y N           |
| <b>3.e. Dowel Rod</b>  | [ 1 ] [ 2 ] [ 3 ] Not approximately 1/4" round<br>[ 1 ] [ 2 ] [ 3 ] > 1cm from floor [ 1 ] [ 2 ] [ 3 ] < 20cm above floor<br>[ 1 ] [ 2 ] [ 3 ] Not approximately perpendicular<br>[ 1 ] [ 2 ] [ 3 ] Part of vehicle (excluding wheels) extending > 0.5cm beyond dowel rod | Y N                    | Y N           | Y N           |
| <b>3.a. Energy</b>   | <b>[ 1 ] [ 2 ] [ 3 ] Propulsive energy coming from other than gravitational potential energy</b><br><b>[ 1 ] [ 2 ] [ 3 ] Vehicle in horizontal position on ramp</b>   | Y N                    | Y N           | Y N           |
| <b>3.a. Release Mechanism</b>  | <b>[ 1 ] [ 2 ] [ 3 ] Release mechanism not included as part of ramp</b>   | Y N                    | Y N           | Y N           |
| <b>3.b. Energy Converters</b>  | <b>[ 1 ] [ 2 ] [ 3 ] Kinetic energy sources other than gravitational are not at lowest state in ready to run</b>  | Y N                    | Y N           | Y N           |
| <b>3.f. Dimensions</b>   | <b>Vehicle and Ramp combined size in Ready to Run</b><br><b>Including the release mechanism (excluding Pencil)</b><br><b>[ 1 ] [ 2 ] [ 3 ] Base &gt; 50.0cm by 50.0cm [ 1 ] [ 2 ] [ 3 ] Height &gt; 100.0cm</b>   | Y N                    | Y N           | Y N           |
| <b>3.g. Vehicle Parts</b>  | [ 1 ] [ 2 ] [ 3 ] All parts do not move as a whole<br>[ 1 ] [ 2 ] [ 3 ] Parts fell off the vehicle or ramp<br>[ 1 ] [ 2 ] [ 3 ] Parts other than wheels in contacted with ground  | Y N                    | Y N           | Y N           |
| <b>DOES THE VEHICLE HAVE A CONSTRUCTION VIOLATION ABOVE? (ANY 'YES' ABOVE IS A 'YES')</b>                                |   | <b>5</b>               | <b>9</b>      | <b>13</b>     |
|  |   | Y N                    | Y N           | Y N           |
| <b>The Competition</b>   |   |                        |               |               |
| <b>5.a. Outside Help</b>   | [ 1 ] [ 2 ] [ 3 ] Competitors left after starting to compete<br>[ 1 ] [ 2 ] [ 3 ] or received outside assistance, materials, or communication   | Y N                    | Y N           | Y N           |
| <b>5.c. Electric Tools</b>   | [ 1 ] [ 2 ] [ 3 ] Used electric tools (except calculator)   | Y N                    | Y N           | Y N           |
| <b>5.d. Start Line</b>   | <b>[ 1 ] [ 2 ] [ 3 ] Ramp/Vehicle in front of start line</b><br><b>[ 1 ] [ 2 ] [ 3 ] Ramp/Vehicle will not remain in place untouched</b>  | Y N                    | Y N           | Y N           |
| <b>5.f. Sighting Device</b>  | [ 1 ] [ 2 ] [ 3 ] Electric sighting/aiming used<br>[ 1 ] [ 2 ] [ 3 ] Sighting/aiming left on track during run<br><b>[ 1 ] [ 2 ] [ 3 ] Sighting/aiming left on vehicle causes vehicle mass &gt; 2.000kg</b>  | Y N                    | Y N           | Y N           |
| <b>5.g. Rolling On Floor</b>   | [ 1 ] [ 2 ] [ 3 ] Vehicle was rolled on floor of the track  | Y N                    | Y N           | Y N           |
| <b>5.h. Cleaning</b>   | [ 1 ] [ 2 ] [ 3 ] Substances applied to vehicle without ES prior approval<br>[ 1 ] [ 2 ] [ 3 ] Substances damage or left residue on the floor or floor wet  | Y N                    | Y N           | Y N           |
| <b>5.i. Pencil/Followed</b>  | [ 1 ] [ 2 ] [ 3 ] Pencil not used to start [ 1 ] [ 2 ] [ 3 ] Vehicle was pushed or held<br>[ 1 ] [ 2 ] [ 3 ] Ramp touched or held during release<br>[ 1 ] [ 2 ] [ 3 ] Competitors did not wait to be called to retrieve their vehicle                                     | Y N                    | Y N           | Y N           |
| <b>DOES THE VEHICLE HAVE A COMPETITION VIOLATION ABOVE? (ANY 'YES' ABOVE IS A 'YES')</b>                                 |   | <b>6</b>               | <b>10</b>     | <b>14</b>     |
|  |   | Y N                    | Y N           | Y N           |
| <b>Run Parameters</b>  |   |                        |               |               |
| <b>7.d. Distance</b>   | Distance (point to point) from the Measurement Point to the Target Point measured to the nearest 0.1 cm   | <b>7</b>               | <b>11</b>     | <b>15</b>     |
| <b>5.k. Failed Run</b>   | [ 1 ] [ 2 ] [ 3 ] Started before ES is ready<br>[ 1 ] [ 2 ] [ 3 ] Picked up before measurement<br>[ 1 ] [ 2 ] [ 3 ] Time and/or distance cannot be measured<br>[ 1 ] [ 2 ] [ 3 ] Does not occur in 10 minutes   | <b>8</b>               | <b>12</b>     | <b>16</b>     |
| <b>Competitors informed of run's violations at end of run and before next run</b>  |   | [ ]                    | [ ]           | [ ]           |
| <b>General Rule</b>  | Disqualified (notify the team and their coach as soon as possible)<br>Reason _____  | <b>17</b>              | <b>Y</b>      | <b>N</b>      |

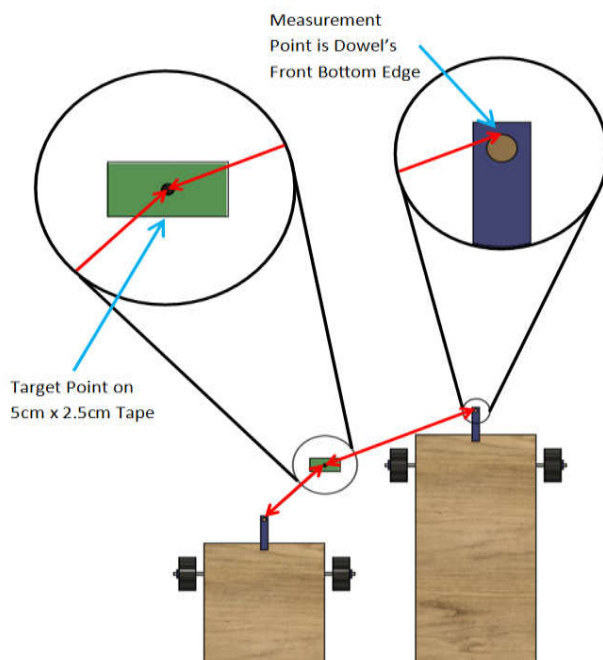
Bold and Italic Text are Ready-to-Run Checks

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**Rule 3.d** - 1/4" round wooden dowel requirements



**Rule 7.d** - Vehicle Distance is a point-to-point distance from the Measurement Point to the Target Point



**Rule 3.f** The Vehicle and the Ramp including the release mechanism, in the ready-to-run configuration, must completely fit within an imaginary rectangular box with a 50.0cm x 50.0cm base and a height of 100.0 cm. A starting pencil used as part of the release mechanism may extend beyond the dimensions of the imaginary box.

