

Team Number: \_\_\_\_\_ School & Team Name: \_\_\_\_\_

Student Names: \_\_\_\_\_

## CHECK-IN & TESTING (6 MINUTES TO SET UP AND TEST BOOMILEVER)

- |                      |             |   |
|----------------------|-------------|---|
| 1. _____             | 4.Part I.c. | Team's submitted <b>Estimated Load Supported</b> in grams (used as first tiebreaker)  |
| 2. <u>T</u> <u>F</u> | 6.d.iii.    | Boomilever is able to be loaded (e.g. can accommodate and hold Loading Assembly, participants wear eye protection). (If false, team does not test and is placed in Tier 3.) |
| 3. _____             | 4.Part I.b. | <b>Mass of Boomilever</b> (in grams to the nearest 0.01 g or best precision available)  |

### Construction & Competition Parameters:

- |   |   |                           |  |
|---|---|---------------------------|--|
| T | F | 2.a.                      | Team enters only one Boomilever, built prior to the competition.   |
| T | F | 2.c.                      | Participants do not bring any equipment such as levels or squares.   |
| T | F | 3.a.                      | The Boomilever is a single structure with no separate, loose, sliding, or detachable pieces.   |
| T | F | 3.a.i-iii.                | The Boomilever is constructed of wood and bonded by adhesive with no other materials used. Besides ink barcodes or markings from the construction process, the wood is not painted, soaked or coated in glue, color enhanced, or affixed with tape/preprinted/paper labels. Adhesive tapes are not used.   |
| T | F | 3.e.                      | Students are able to answer questions regarding the design, construction, and operation of the device.   |
| T | F | 4.Part I.d.               | Alterations, substitutions, and repairs are not made to the Boomilever after the check-in process is started.  |
| T | F | 4.Part II.a.              | Once participants enter the event area to compete, they do not leave or receive outside assistance, materials, or communication until they are finished competing.   |
| T | F | 4.Part II.c./<br>5.b.ii.  | Participants place the Boomilever on the Testing Wall and assemble the Loading Assembly as required to load the Boomilever. Participants do not adjust the Mounting Hook. If the Loading Assembly is disassembled & reassembled, it retains the original sequence with no loose pieces, and the Loading Block is mounted on the eye bolt and trapped between the "eye" of the eye bolt and the wing nut such that the opposing force is on the bottom of the Loading Block. The bucket is mounted to allow enough clearance above the floor for the bucket to tilt or the Boomilever to deflect. |
| T | F | 3.b./<br>4.Part II.e.i.   | Boomilever is only attached to the Testing Wall by the Mounting Hook. The attachment is a pulling force on the inside radius of the J-bolt, and the Boomilever does not thrust back against the wall during loading.   |
| T | F | 3.c./<br>4.Part II.e.ii.  | The Boomilever supports the Loading Assembly so that the loading point (the centerline of the chain) is between 40 cm and 45 cm from the Testing Wall as measured horizontally.  |
| T | F | 3.d./<br>4.Part II.e.iii. | Before and throughout loading, no portion of the Boomilever touches the Testing Wall between the Contact Width Lines (drawn 4.0 cm to the right and left side of the center of the hole for the Mounting Hook) or below the Contact Depth Line (drawn 20 cm for Division B and 15 cm for Division C below the center of the hole for the Mounting Hook). (If during loading the Boomilever begins to touch these regions, loading stops, per 4.g.)   |
| T | F | 4.Part II.d.              | Once loading of sand has begun, the Boomilever is not further adjusted.  |
| T | F | 4.Part II.f.              | Participants do not directly contact the bucket and only stabilize the bucket by using the tips of the provided Bucket Stabilizing Sticks.   |

### 4. T    F    ALL CONSTRUCTION AND COMPETITION PARAMETERS ABOVE ARE MET (IF FALSE, TIER 2)

5. \_\_\_\_\_ 4.h.    **Load Supported** (mass of Loading Assembly and sand in bucket, in grams; up to 15,000 g)

6.a. **SCORE** = (  $\frac{\text{Load Supported (g) + Bonus}}{\text{Boomilever Mass (g)}}$  ) = \_\_\_\_\_

- 6.d. Tier 1: holding any load and meeting all construction parameters and competition requirements;  
Tier 2: holding any load with any violations of construction parameters and/or competition requirements;  
Tier 3: unable to be loaded (e.g. cannot accommodate or hold Loading Assembly, no eye protection worn)

6. T    F    General Rule: The team is disqualified. (Notify the team and their coach as soon as possible.)