Rubber Band-Powered Vehicle Contest  
*Sponsored by the American Society of Mechanical Engineers*

**Foreword**

Each school **MUST** preregister by **February 12, 2020** by visiting [http://www.oef.org/programs/engineering-fair/event-registration](http://www.oef.org/programs/engineering-fair/event-registration). To expedite the check-in process, please complete the contest entry form prior to arrival, also found on the OEF website under the Engineering Fair tab. A limited number of entry forms will be available the day of the Engineering Fair. Prizes will be awarded to winning entries from **registered** schools (*entries from unregistered schools will **NOT** be eligible for prizes*).

**Design Statement**

Prior to competition, design and build a rubber band-powered vehicle which can carry a one-pound "load" the greatest distance in a straight line.

**Materials & Restrictions**

There are no restrictions on materials, size, weight or number of wheels. However, the only energy source permitted is the elastic energy of **one** rubber band, size #64 (approx. ¼" wide by 3½" long by 1/32" thick).

Commercially assembled vehicles are **NOT** permitted. However, commercially manufactured components may be used as parts of the vehicle. The "load" will be a 16 oz. box (including contents) of Arm & Hammer Pure Baking Soda (approx. size: 3½" x 4½" x 2").

**Objective**

To design a wheel-driven vehicle, powered only by **one** rubber band (size specified above), which will transport a one-pound "load" (specified above) the farthest distance (on a level, industrial type, carpeted floor) while remaining within the boundaries of a 3 ft. wide parallel track (marked off with masking tape). Speed is not a criteria.

**Rules**

1. Only official rubber bands (provided by judges at the Fair) must be used during the competition. The rubber band may **NOT** be cut and must remain with the vehicle throughout the run (**NOTE**: rubber band may be dragging from the vehicle at the end of the run).

2. Guard rails or a similar holding device must be part of the design on top of the vehicle to hold the "load" (load supplied by judges at the Fair). The "load" may **NOT** be tied or strapped to the vehicle (i.e., baking soda box must be easily placed on and removed from the vehicle).

3. Up to **three** runs will be permitted within a **5-minute** time frame. Repairs and adjustments will be permitted between runs.

4. The vehicle must be self-starting (i.e., no pushing, external power starts, etc.). Contestants are permitted to hold the vehicle behind the starting line and simply "let go".

5. Propulsion of the vehicle must be through the wheels (i.e., no propellers, no launching mechanism). Transferring the energy of the rubber band to wheels via gears, fly wheels, etc., is encouraged. No remote control devices are permitted.
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Judging & Scoring

1. Students will receive a Rubber Band-Powered Vehicle Entry Form (RBPV-EF) at the registration desk. **Students must submit this form at the contest registration before Noon.** Judges will then inspect the vehicle and assign an entry number indicating student’s turn in sequence of competing.

2. All entries must be registered at the contest location between 9:00 a.m. and 12:00 p.m. on Fair day. Competition will run until all registered entries have competed.

3. The vehicle will be inspected and registered at the track area just prior to competition.

4. After each run, distance traveled will be measured and recorded in feet and inches as follows:

   Starting line to . . .
   
   a. the front of the vehicle when it stops; or
   b. the point vehicle strays outside the 3-ft. wide track; or
   c. the spot where vehicle drops the “load” or any associated parts.

5. Final score will be the vehicle’s best run of up to three attempts allowed during the 5-minute time limit.

6. **Decision of judges, during all phases of the competition, is FINAL.** In the event of a tie, prizes will be equally distributed between winning entries.

Prizes and Distribution

Contest winners will be announced on the Engineer Fair web page at www.oef.org. Those entries winning prizes will be notified through their teacher of record by email the following business day.

First, Second and Third place winners in each category will receive medals. The winning classrooms of the First, Second and Third Place entries will receive a cash award. In the event of a tie, cash prizes will be equally distributed between winning entries.